

PROJECT MANUAL

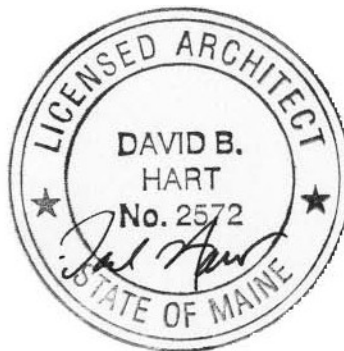
FOR

**University of Southern Maine
Curtainwall Replacement Project
Project # 2012-012**

at

Science A Wing, 70 Falmouth Street, Portland, ME 04104

UNIVERSITY OF SOUTHERN MAINE
PORTLAND, MAINE



Prepared by:

University of Southern Maine Facilities Management Department
February 8, 2013

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University of Maine , **UNIVERSITY OF SOUTHERN MAINE**

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PROJECT # 2012-012**

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Sheet Title

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Advertisement for Bids

Project Summary: **The University of Southern Maine, a member of the University of Maine System desires to procure construction services to replace a portion of the existing curtainwall at Science A Wing at 70 Falmouth Street, Portland, ME. Work includes but is not necessarily limited to: Selective Demolition, hazardous material removal, curtainwall, glazing, sealants, rough and finish carpentry, flashing, roof edge, gypsum wallboard, suspended acoustical ceilings, selective mechanical/electrical demolition, interior finishes, and painting.**

Sealed Bids in envelopes plainly marked for: **Science A Wing Curtainwall Replacement, University of Southern Maine, Portland Campus**, addressed to:

**University of Southern Maine, Portland Campus
Carol Potter, Facilities Management
25 Bedford St, Portland Maine. 04104**

Sealed Bids may also be hand delivered to **University of Southern Maine, Portland Campus, 25 Bedford St, Portland Maine. 04104**

All Sealed Bids must be delivered or mailed in sufficient time to reach **25 Bedford St, Portland Maine. 04104** by **2:30 p.m. FRIDAY MARCH 8, 2013** at which time they will be opened and read aloud. Bids received after the stated time will not be considered and will be returned unopened.

Bids must be accompanied by a satisfactory Bid Bond, as prescribed in Section 00 43 13, for 5% of the Bid (checks will not be accepted).

The University reserves the right to waive all formalities and reject any and all Bids or to accept any Bid.

The successful bidder will be required to furnish a 100% Performance Bond and 100% Payment Bond to cover the execution of the contract which shall be in conformity with the form of Bonds contained in Sections 00 61 13.13 and 00 61 13.16 of the Specifications and for the contract amount.

Electronic copies of the Plans and Specifications may be obtained by General Contractors from: **Turner Building Science & Design, LLC; 26 Pinewood Lane, Harrison, ME 04040. 207.583.4571 ext. 312, Ms. Audra Wrigley. Or Xpress Copy. (207) 775.2444.**

Printed copies may be obtained from:
Xpress Copy, 100 Fore Street, Portland, ME 04101. (207) 775.2444.

Cost for a set of printed bid documents is **the responsibility of the bidding contractor** which is not refundable.

The documents may be examined at:
**Facilities Management, Portland Campus, 25 Bedford St, Portland, Maine. 04104
Facilities Management, Gorham Campus, 30 University Way, Gorham, Maine, 04038**

A **Mandatory** pre-bid meeting will be held at **the Facilities Management offices at 25 Bedford Street Portland, ME ON TUESDAY FEBRUARY 19, 2013 AT 12:30 PM.**

Bidding general contractors are required to attend. Bidding subcontractors are strongly encouraged to attend.

Bid Documents will be available on or about February 8, 2013.

The University of Maine System in all its activities, subscribes and adheres to the provisions of the Civil Rights Act of 1964 as amended to date. General contractors, subcontractors, and product suppliers bidding on this project must subscribe and adhere to same. There shall be no discrimination in employment because of race, color, religion, sex, sexual orientation, including transgender status or gender expression, national origin or citizenship status, age, disability, genetic information, or veterans status in employment, education, and all other areas of the University.

UNIVERSITY OF MAINE, **University of Southern Maine,**
Robert W. Bertram, Executive Director of Facilities Management for
The University of Maine System Board of Trustees

NOTICE TO CONTRACTORS

(Advertisement)

The **UNIVERSITY OF SOUTHERN MAINE** is seeking bids for the following construction project:
**UNIVERSITY OF SOUTHERN MAINE, SCIENCE A WING CURTAINWALL
REPLACEMENT, PROJECT # 2012-012.**

Project Summary: **Removal of existing curtainwall and replacement with new curtainwall system. Work includes selective demolition, hazardous material removal, rough and finish carpentry, gypsum wallboard ceilings, curtainwall, roof edge, roof curb, selective mechanical/electrical, painting.**

Bids will be received until **2:30 PM FRIDAY MARCH 8, 2013** , at which time they will be opened and read aloud.

A **Mandatory** pre-bid meeting and building walk-through will be held at **25 BEDFORD STREET, PORTLAND, ME ON TUESDAY FEBRUARY 19, 2013 AT 12:30 PM.** Bidding contractors and subcontractors are strongly encouraged to attend.

Additional information may be obtained at: **<http://www.usm.maine.edu/facilities/current-projects>.** Click on "**Science A Wing Curtainwall Replacement**". Information may also be obtained from **Carol Potter, Facilities Management, University of Southern Maine, Portland, ME 207.228.8124.** or **cpotter@usm.maine.edu.**

Instructions to Bidders

1. At the time of the opening of bids, each bidder will be presumed to have inspected the site and to have read and to be thoroughly familiar with the plans and contract documents, including all addenda. The failure or omission of any bidder to receive or examine any form, instrument, or document shall not relieve any bidder from any obligation in respect to the bid. The Owner reserves the right to accept or reject any or all bids as may best serve the interests of the University of Maine System.
2. Subject to the University System's right, reserved herein, to accept or reject any or all bids, the General Contractor will be selected on the basis of the sum of the lowest base bid, plus such of the alternates as the University System desires to use.
3. The University System is exempt from the payment of Federal Excise Taxes on articles not for resale and the Federal Transportation Tax on all shipments. The Contractor shall quote less these taxes. Upon application, exemption certificates will be furnished when required.
4. No proposal may be withdrawn during a period of thirty (30) calendar days immediately following the opening thereof.
5. No contract may be assigned, sublet or transferred without the written consent of the University of Maine System.
6. All individuals not residents of this State must comply with the provisions of 14 M.R.S.A. §704-A.
7. The successful bidder, or bidders, will be required to furnish 100% Contract Bonds to cover the execution of the contract, in accordance with Article 23 of the General Conditions.
8. Contractors may be required to furnish a statement of their business experience, record of accomplishments, and financial responsibility, at the discretion of the University System.
9. The base bid shall be based on the materials, methods, equipment and products, as specified.
10. The Contractor shall submit his/her bid on the University provided Bid Form (00 41 13).
11. Any materials, methods, equipment and products not herein specified, but worthy of consideration by any General or Subcontractor, may be introduced by a separate letter attached to the regular bid. The Bidder shall state the cost comparison with the specified materials, methods, equipment and products, and the reason for the suggested substitution. It shall be understood by all bidders that the attached letter proposing substitutions shall not be used to determine the low bidder and that all bids are based on specified products.
12. Telegraphic or facsimile proposals will not be considered, but modification of proposals already submitted will be considered if received prior to the hour set for receipt of proposals. If the telegram or facsimile discloses the amount of the proposal, the proposal will be declared invalid. The bidder bears full responsibility to assure that the correction is delivered to the proper location and within the time required.
13. Where a bidder wishes a product to be considered an "approved equal" for bidding purposes, the product, along with all supporting documentation, shall be submitted to the architect for review a minimum of 10 calendar days prior to the bid opening date or the file bid due date, if file bids are required on the project. Products which are determined to be an "approved equal" for bidding purposes shall be listed in an addendum issued so as to be received by bidders no less than 72 hours prior to the bid date or the file bid due date if file bids are required.
14. Where the Proposal Form requires the tabulation of subcontractors other than "File Bidders," the Bidder shall list the name of the firm the bidder intends to use in the event the bidder receives the contract award.

15. Formal complaints relative to the administration of the bid system must be submitted, in writing, to the project owner or awarding authority, with a copy of the complaint submitted to the project designer.

Bid Form

BIDDER:

University of Maine **UNIVERSITY OF SOUTHERN MAINE**
c/o **Robert W. Betram**
Executive Director of Facilities Management
PO Box 9300, 25 Bedford Street, Portland, ME 04104-9300

Having carefully examined the form of contract, general conditions and plans and specifications contained therein for **Science A Wing Curtainwall Replacement**, as well as the premises and conditions affecting the work, we the undersigned propose to furnish all labor, equipment and materials necessary for and reasonably incidental to the construction and completion of this contract for the sum of

_____ Dollars (\$_____).

Alternate prices as follows:

Alternate #1 _____ Alternate #2 _____ Alternate #3 _____

This proposal includes the cost of 100% Performance Bond plus 100% Payment Bond.

The receipt of the following addenda to plans and specifications is hereby acknowledged:

ADDENDUM # _____ DATED _____ ADDENDUM # _____ DATED _____
ADDENDUM # _____ DATED _____ ADDENDUM # _____ DATED _____

Any material or materials not specified in the bidding document but worthy of consideration may be introduced by the bidder by a separate letter attached to this Proposal. A cost comparison must be included giving the comparison with the Material specified and the reason for the suggested substitution. The basic bid shall be as specified.

The undersigned agrees, if this bid is accepted to sign a contract and deliver it, along with the bonds and affidavits for all insurance specified within twelve (12) calendar days after the date of notification of such acceptance, except if the 12th day falls on a Saturday, Sunday or holiday, then the conditions will be fulfilled if the required documents are received before 12 o'clock noon on the day following the holiday, or the Monday following the Saturday or Sunday, and as a guarantee thereof, herewith submits a bid bond as required.

The undersigned agrees, if awarded the Contract, to complete the work on or before _____. The undersigned also agrees, if awarded the Contract, that no more than 80% of the contract amount will be sublet to other contractors.

Signed _____
By _____
Address _____

NOTE: If bidder is a corporation, write State of Incorporation, and if a partnership, give full names of all partners.

Bid Security Form

KNOW ALL BY THESE PRESENTS, THAT WE, the undersigned, as PRINCIPAL _____ and _____ as SURETY, are hereby held and firmly bound unto the Treasurer of the UNIVERSITY OF MAINE SYSTEM in the penal sum of _____ for the payment of which, well and truly to be made, we hereby jointly and severally bind ourselves, our heirs, executors, administrators, successors and assigns, signed this _____ day of _____, 20__.

The condition of the above obligation is such that whereas the Principal has submitted to _____ a certain proposal, attached hereto and hereby made a part hereof, to enter into a contract in writing for the _____.

NOW THEREFORE,

- (a) If said proposal shall be rejected, or, in the alternate
- (b) If said proposal shall be accepted and the Principal shall execute and deliver a contract in the form of contract attached hereto (properly completed in accordance with said proposal) and shall furnish a bond for faithful performance of said contract, and for the payment of all persons performing labor or furnishing material in connection therewith, and shall in all other respects perform the agreement created by the acceptance of said proposal, then this obligation shall be void, otherwise the same shall remain in force and effect: It being expressly understood and agreed that the liability of the surety for any and all claims hereunder shall, in no event, exceed the penal amount of this obligation as herein stated.

The Surety, for value received, hereby stipulates and agrees that the obligation of said Surety and its bond shall be in no way impaired or affected by any extension of the time within which the principal may accept such proposal, further said Surety does hereby waive notice of any such extension.

In the event suit is brought upon this bond by the Treasurer of the UNIVERSITY OF MAINE SYSTEM, Surety shall pay reasonable attorneys' fees and costs incurred by the Treasurer of the UNIVERSITY OF MAINE SYSTEM in such suit.

IN WITNESS WHEREOF, the Principal and Surety have hereunto set their hands and seals, and such of them as are corporations have caused their corporate seals to be hereto affixed and these presents to be signed by their proper officers, the day and year first set above.

PRINCIPAL

By:

L.S.

SURETY

SURETY ADDRESS

By:

L.S.

*** Date ***

*** Contractor ***

*** Address ***

*** City, State Zip ***

RE: Notice of Award *** Project Name and Campus ***

Dear *** Contractor Name ***:

You are hereby notified that the *** Campus *** acting on behalf of the University of Maine System accepts your Bid of ***\$* Total Amount including as statement as to any alternates that are included *** for the above named project, subject to final resolution of any bid protests and the parties' ability to establish and confirm final terms, as well as the execution of a written contract and your furnishing satisfactory bonds within twelve (12) calendar days as provided in the bidding documents.

This Notice of Award will permit you to proceed with the ordering of materials and scheduling the work so that the project can be completed on time. Should you fail to execute a contract or furnish satisfactory bonds within the stipulated time; the bid bond accompanying your proposal will be forfeited to the University of Maine System as liquidated damages.

Enclosed are three (3) originals of your contract agreement for signature. Further, please have your surety provide three (3) originals of the Performance Bond and the Payment Bond, as prescribed in Sections 00 61 13.13 and 00 61 13.16 of the bid document, and a properly executed "Power of Attorney." Please advise your surety agent that the bonds should carry the same date as this Notice of Award and the Contract Agreement. All copies of the signed contract, bonds and insurance certificates should be forwarded directly to this office. Once they are completely signed, a bound copy of the contract will be returned for your use.

Prior to your starting any work on the construction site, this office must receive Certificates of Liability Insurance as specified in Section Article 11 of AIA Document A201 – 2007 General Conditions of the Contract for Construction and Section 00 73 00.01 University of Maine System Supplemental Conditions. Please advise your surety that the certificate holder should be as follows: University of Maine System, 16 Central Street, Bangor, Maine 04401.

The day-to-day administrative and technical details of this project will be administered by the Project Manager. The Project Manager for this project is *** Project Manager's Name ***. All correspondence relative to the day-to-day administration of the project should be directed to *** Address ***.

A pre-construction conference on this project will be scheduled as soon as possible. This conference must be attended by your firm's authorized representative, as well as by your project superintendent.

Sincerely yours,

*** Chief Financial Officer Name ***

Chief Financial Officer

Enclosures

cc: UM System Office

UNIVERSITY OF MAINE SYSTEM

Construction Contract Agreement

THIS AGREEMENT is made and entered into the ____ day of ____ 20____, by and between the Contractor *Contractor and Address * and the University of Maine System acting by and through the University of *Campus and Address *.

WITNESSETH: That the Owner and the Contractor for the considerations hereinafter named agree as follows:

ARTICLE 1. SCOPE OF THE WORK

The Contractor shall furnish all of the materials and perform all of the work described in the Contract Documents entitled ____, prepared ____, acting as and in these Contract Documents entitled the Architect and/or Engineer.

ARTICLE 2: START AND TIME OF COMPLETION

The date of the commencement of work shall be the date of this Agreement or the following date ____ and shall be substantially completed on or before ____ subject to adjustments as provided in the Contract Documents.

The Contractor and the Contractor's surety, if any, shall be liable for and shall pay the Owner the following stipulated liquidated damages for each calendar day of delay after the date established for Substantial Completion until the Work is substantially complete: ____ Dollars \$____ per calendar day.

ARTICLE 3: THE CONTRACT SUM

The Owner shall pay the Contractor for the performance of the Contract as follows ____ Dollars \$____ subject to adjustments as provided in the Contract Documents

The Contract Sum is based upon the following alternatives and Unit Prices, if any, which are described in the Contract Documents and are hereby accepted by the Owner:

Alternate (1) _____	Alternate (2) _____	Alternate (3) _____
Unit Prices		
Item _____	Price _____	
Item _____	Price _____	

Final payment shall be made after completion and acceptance of the work as provided in the Contract Documents.

ARTICLE 4: THE CONTRACT DOCUMENTS

The Contract Documents for this project, except for modifications issued after execution of this agreement, consist of:

- .1 This agreement.
- .2 AIA Document A201-2007, General Conditions of the Contract for Construction, as modified by University of Maine System 00 73 00.01 Supplementary Conditions to A201-2007.
- .3 The Specifications as outlined in the Project Manual (Name and date).

- .4 The Drawings as listed in the Project Manual.
- .5 The Addenda (List the addenda and dates issued).
- .6 Other documents if any (List any other documents that are intended to be part of the Contract)

ARTICLE 5: OWNER’S REPRESENTATIVES

The Owner’s Representative on this project will be _____, who is authorized to sign contracts and other legal documents related to this project on behalf of the Owner.

The Owner’s Project Manager on this project will be _____.

The Owner and the Contractor hereby agree to the full performance of the covenants herein.

IN WITNESS WHEREOF, the parties hereto have executed this Agreement in triplicate on the day and year first above written.

UNIVERSITY OF MAINE SYSTEM

_____ Company

_____ Company

By: _____
 Signature Authority Name
 Signature Authorities Title
 University of Maine * Location *

By: _____
 Title

_____ Witness

_____ Witness

Performance Bond Form

Bond No. _____

KNOW ALL BY THESE PRESENTS THAT (1)_____ (2)_____ of (3) _____ and State of _____, as PRINCIPAL, and (4) _____, a corporation duly organized under the laws of the State of _____ and having a usual place of business in _____, as SURETY, are held and firmly bound unto the University of Maine System in the sum of _____ Dollars (\$_____), to be paid said Treasurer of the University of Maine System, or successor in office, for which payment well and truly to be made, Principal and Surety bind themselves, their heirs, executors and administrators, successors and assigns, jointly and severally by these presents.

The condition of this obligation is such that if the Principal shall promptly and faithfully perform the Contract entered into on the (5)_____ day of _____, A.D., 20_____ for the construction of (6)_____ then this obligation shall be null and void; otherwise, it shall remain in full force and effect.

The Surety hereby waives notice of any alteration or extension of time made by the University of Maine System.

Signed and sealed this (5)_____ day of _____, 20_____.

WITNESSES:

SIGNATURES:

LS
LS
LS

Bonding Company Agent:

Company: _____
Street: _____
City, State, Zip: _____
Telephone: _____

- (1.) Correct name of Contractor
- (2.) A corporation, a partnership, or an individual, as the case may be.
- (3.) Contractor's address with City name
- (4.) Correct name of Surety
- (5.) Same date as that of contract.
- (6.) Name of Project as designated in contract.

If Contractor is partnership, all partners should execute bond. A Power of Attorney document, together with a statement that it still is in effect shall be provided by the person executing this bond. Bond must be countersigned by a Resident Maine Agent.

****DO NOT ALTER LANGUAGE****

Payment Bond Form

Bond No. _____

KNOW ALL BY THESE PRESENTS THAT (1)_____ (2)_____ of _____ and State of _____, as Principal, and (3)_____, a corporation duly organized under the laws of the State of _____, and having a usual place of business in _____, as Surety, are held and firmly bound unto the University of Maine System in the sum of _____ Dollars (\$_____) for the use and benefit of claimants* as herein below defined, for the payment whereof Principal and Surety bind themselves, their heirs, executors and administrators, successors and assigns, jointly and severally by these presents.

The condition of this obligation is such that if the Principal shall promptly satisfy all claims and demands incurred for all labor and materials, used or required by the Principal in connection with the work contemplated in the Contract entered into on the (4)_____ day of _____, A.D., 20_____, for the construction of (5)_____, and shall fully reimburse the obligee for all outlay and expense which said obligee may incur in making good any default of said principal, then this obligation shall be null and void; otherwise, it shall remain in full force and effect.

*A Claimant is defined as one having a direct contract with the Principal or with a subcontractor of the Principal for labor, material, or both, used or reasonably required for use in the performance of the contract.

Signed and sealed this (6)_____ day of _____, 20_____.

WITNESS:

SIGNATURES”

_____	By	LS	_____
_____	By	LS	_____
_____	By	LS	_____

Bonding Company Agent:

Company: _____

Street: _____

City, State, Zip: _____

Telephone: _____

- (1.) Correct name of Contractor
- (2.) A corporation, a partnership, or an individual, as the case may be.
- (3.) Correct name of Surety
- (4.) Same date as that of contract.
- (5.) Name of Project as designated in contract.
- (6.) Same date as that of Contract.

If contractor is partnership, all partners should execute bond.

A Power of Attorney document, together with a statement that it still is in effect shall be provided by the person executing this bond.

Bond must be countersigned by a Resident Maine Agent.

****DO NOT ALTER LANGUAGE****


AIA® Document G715™ – 1991
Supplemental Attachment for ACORD Certificate of Insurance 25-S
(This document replaces AIA Document G705, Certificate of Insurance.)
PROJECT (Name and address):

INSURED UNIVERSITY OF MAINE SYSTEM
 16 Central Street, Bangor, ME 04401

	Yes	No	N/A
A. General Liability			
1. Does the General Aggregate apply to this Project only?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. Does this policy include coverage for:			
a. Premises - Operations?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b. Explosion, Collapse and Underground Hazards?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c. Personal Injury Coverage?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d. Products Coverage?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e. Completed Operations?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
f. Contractual Coverage for the Insured's obligations in A201?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. If coverage is written on a claims-made basis, what is the:			
a. Retroactive Date?			
b. Extended Reporting Date?			
B. Worker's Compensation			
1. If the Insured is exempt from Worker's Compensation statutes, does the Insured carry the equivalent Voluntary Compensation coverage?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
C. Final Payment Information			
1. Is this certificate being furnished in connection with the Contractor's request for final payment in accordance with the requirements of Sections 9.10.2 and 11.1.3 of AIA Document A201, General Conditions of the Contract for Construction?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. If so, and if the policy period extends beyond termination of the Contract for Construction, is Completed Operations coverage for this Project continued for the balance of the policy period?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
D. Termination Provisions			
1. Has each policy shown on the certificate and this Supplement been endorsed to provide the holder with 30 days notice of cancellation and/or expiration? List below any policies which do not contain this notice.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
E. Other Provisions			

 Authorized Representative

 Date of Issue

IMPORTANT

If the certificate holder is an ADDITIONAL INSURED, the policy(ies) must be endorsed. A statement on this certificate does not confer rights to the certificate holder in lieu of such endorsement(s).

If SUBROGATION IS WAIVED, subject to the terms and conditions of the policy, certain policies may require an endorsement. A statement on this certificate does not confer rights to the certificate holder in lieu of such endorsement(s).

DISCLAIMER

The Certificate of Insurance on the reverse side of this form does not constitute a contract between the issuing insurer(s), authorized representative or producer, and the certificate holder, nor does it affirmatively or negatively amend, extend or alter the coverage afforded by the policies listed thereon.

Sample

COMMERCIAL GENERAL LIABILITY COVERAGE FORM

Various provisions in this policy restrict coverage. Read the entire policy carefully to determine rights, duties and what is and is not covered.

Throughout this policy the words "you" and "your" refer to the Named Insured shown in the Declarations, and any other person or organization qualifying as a Named Insured under this policy. The words "we", "us" and "our" refer to the company providing this insurance.

The word "insured" means any person or organization qualifying as such under Section II – Who Is An Insured.

Other words and phrases that appear in quotation marks have special meaning. Refer to Section V – Definitions.

SECTION I – COVERAGES

COVERAGE A BODILY INJURY AND PROPERTY DAMAGE LIABILITY

1. Insuring Agreement

a. We will pay those sums that the insured becomes legally obligated to pay as damages because of "bodily injury" or "property damage" to which this insurance applies. We will have the right and duty to defend the insured against any "suit" seeking those damages. However, we will have no duty to defend the insured against any "suit" seeking damages for "bodily injury" or "property damage" to which this insurance does not apply. We may, at our discretion, investigate any "occurrence" and settle any claim or "suit" that may result. But:

- (1) The amount we will pay for damages is limited as described in Section III – Limits Of Insurance; and
- (2) Our right and duty to defend ends when we have used up the applicable limit of insurance in the payment of judgments or settlements under Coverages A or B or medical expenses under Coverage C.

No other obligation or liability to pay sums or perform acts or services is covered unless explicitly provided for under Supplementary Payments – Coverages A and B.

b. This insurance applies to "bodily injury" and "property damage" only if:

- (1) The "bodily injury" or "property damage" is caused by an "occurrence" that takes place in the "coverage territory";
- (2) The "bodily injury" or "property damage" occurs during the policy period; and
- (3) Prior to the policy period, no insured listed under Paragraph 1. of Section II – Who Is An Insured and no "employee" authorized by you to give or receive notice of an "occurrence" or claim, knew that the "bodily injury" or "property damage" had occurred, in whole or in part. If such a listed insured or authorized "employee" knew, prior to the policy period, that the "bodily injury" or "property damage" occurred, then any continuation, change or resumption of such "bodily injury" or "property damage" during or after the policy period will be deemed to have been known prior to the policy period.

c. "Bodily injury" or "property damage" which occurs during the policy period and was not, prior to the policy period, known to have occurred by any insured listed under Paragraph 1. of Section II – Who Is An Insured or any "employee" authorized by you to give or receive notice of an "occurrence" or claim, includes any continuation, change or resumption of that "bodily injury" or "property damage" after the end of the policy period.

d. "Bodily injury" or "property damage" will be deemed to have been known to have occurred at the earliest time when any insured listed under Paragraph 1. of Section II – Who Is An Insured or any "employee" authorized by you to give or receive notice of an "occurrence" or claim:

- (1) Reports all, or any part, of the "bodily injury" or "property damage" to us or any other insurer;
- (2) Receives a written or verbal demand or claim for damages because of the "bodily injury" or "property damage"; or
- (3) Becomes aware by any other means that "bodily injury" or "property damage" has occurred or has begun to occur.

- e. Damages because of "bodily injury" include damages claimed by any person or organization for care, loss of services or death resulting at any time from the "bodily injury".

2. Exclusions

This insurance does not apply to:

a. Expected Or Intended Injury

"Bodily injury" or "property damage" expected or intended from the standpoint of the insured. This exclusion does not apply to "bodily injury" resulting from the use of reasonable force to protect persons or property.

b. Contractual Liability

"Bodily injury" or "property damage" for which the insured is obligated to pay damages by reason of the assumption of liability in a contract or agreement. This exclusion does not apply to liability for damages:

- (1) That the insured would have in the absence of the contract or agreement; or
- (2) Assumed in a contract or agreement that is an "insured contract", provided the "bodily injury" or "property damage" occurs subsequent to the execution of the contract or agreement. Solely for the purposes of liability assumed in an "insured contract", reasonable attorney fees and necessary litigation expenses incurred by or for a party other than an insured are deemed to be damages because of "bodily injury" or "property damage", provided:
 - (a) Liability to such party for, or for the cost of, that party's defense has also been assumed in the same "insured contract"; and
 - (b) Such attorney fees and litigation expenses are for defense of that party against a civil or alternative dispute resolution proceeding in which damages to which this insurance applies are alleged.

c. Liquor Liability

"Bodily injury" or "property damage" for which any insured may be held liable by reason of:

- (1) Causing or contributing to the intoxication of any person;
- (2) The furnishing of alcoholic beverages to a person under the legal drinking age or under the influence of alcohol; or
- (3) Any statute, ordinance or regulation relating to the sale, gift, distribution or use of alcoholic beverages.

This exclusion applies only if you are in the business of manufacturing, distributing, selling, serving or furnishing alcoholic beverages.

d. Workers' Compensation And Similar Laws

Any obligation of the insured under a workers' compensation, disability benefits or unemployment compensation law or any similar law.

e. Employer's Liability

"Bodily injury" to:

- (1) An "employee" of the insured arising out of and in the course of:
 - (a) Employment by the insured; or
 - (b) Performing duties related to the conduct of the insured's business; or
- (2) The spouse, child, parent, brother or sister of that "employee" as a consequence of Paragraph (1) above.

This exclusion applies:

- (1) Whether the insured may be liable as an employer or in any other capacity; and
- (2) To any obligation to share damages with or repay someone else who must pay damages because of the injury.

This exclusion does not apply to liability assumed by the insured under an "insured contract".

f. Pollution

- (1) "Bodily injury" or "property damage" arising out of the actual, alleged or threatened discharge, dispersal, seepage, migration, release or escape of "pollutants":
- (a) At or from any premises, site or location which is or was at any time owned or occupied by, or rented or loaned to, any insured. However, this subparagraph does not apply to:
 - (i) "Bodily injury" if sustained within a building and caused by smoke, fumes, vapor or soot produced by or originating from equipment that is used to heat, cool or dehumidify the building, or equipment that is used to heat water for personal use, by the building's occupants or their guests;
 - (ii) "Bodily injury" or "property damage" for which you may be held liable, if you are a contractor and the owner or lessee of such premises, site or location has been added to your policy as an additional insured with respect to your ongoing operations performed for that additional insured at that premises, site or location and such premises, site or location is not and never was owned or occupied by, or rented or loaned to, any insured, other than that additional insured; or
 - (iii) "Bodily injury" or "property damage" arising out of heat, smoke or fumes from a "hostile fire";
 - (b) At or from any premises, site or location which is or was at any time used by or for any insured or others for the handling, storage, disposal, processing or treatment of waste;
 - (c) Which are or were at any time transported, handled, stored, treated, disposed of, or processed as waste by or for:
 - (i) Any insured; or
 - (ii) Any person or organization for whom you may be legally responsible; or
 - (d) At or from any premises, site or location on which any insured or any contractors or subcontractors working directly or indirectly on any insured's behalf are performing operations if the "pollutants" are brought on or to the premises, site or location in connection with such operations by such insured, contractor or subcontractor. However, this subparagraph does not apply to:
 - (i) "Bodily injury" or "property damage" arising out of the escape of fuels, lubricants or other operating fluids which are needed to perform the normal electrical, hydraulic or mechanical functions necessary for the operation of "mobile equipment" or its parts, if such fuels, lubricants or other operating fluids escape from a vehicle part designed to hold, store or receive them. This exception does not apply if the "bodily injury" or "property damage" arises out of the intentional discharge, dispersal or release of the fuels, lubricants or other operating fluids, or if such fuels, lubricants or other operating fluids are brought on or to the premises, site or location with the intent that they be discharged, dispersed or released as part of the operations being performed by such insured, contractor or subcontractor;
 - (ii) "Bodily injury" or "property damage" sustained within a building and caused by the release of gases, fumes or vapors from materials brought into that building in connection with operations being performed by you or on your behalf by a contractor or subcontractor; or
 - (iii) "Bodily injury" or "property damage" arising out of heat, smoke or fumes from a "hostile fire".
 - (e) At or from any premises, site or location on which any insured or any contractors or subcontractors working directly or indirectly on any insured's behalf are performing operations if the operations are to test for, monitor, clean up, remove, contain, treat, detoxify or neutralize, or in any way respond to, or assess the effects of, "pollutants".

(2) Any loss, cost or expense arising out of any:

- (a)** Request, demand, order or statutory or regulatory requirement that any insured or others test for, monitor, clean up, remove, contain, treat, detoxify or neutralize, or in any way respond to, or assess the effects of, "pollutants"; or
- (b)** Claim or "suit" by or on behalf of a governmental authority for damages because of testing for, monitoring, cleaning up, removing, containing, treating, detoxifying or neutralizing, or in any way responding to, or assessing the effects of, "pollutants".

However, this paragraph does not apply to liability for damages because of "property damage" that the insured would have in the absence of such request, demand, order or statutory or regulatory requirement, or such claim or "suit" by or on behalf of a governmental authority.

g. Aircraft, Auto Or Watercraft

"Bodily injury" or "property damage" arising out of the ownership, maintenance, use or entrustment to others of any aircraft, "auto" or watercraft owned or operated by or rented or loaned to any insured. Use includes operation and "loading or unloading".

This exclusion applies even if the claims against any insured allege negligence or other wrongdoing in the supervision, hiring, employment, training or monitoring of others by that insured, if the "occurrence" which caused the "bodily injury" or "property damage" involved the ownership, maintenance, use or entrustment to others of any aircraft, "auto" or watercraft that is owned or operated by or rented or loaned to any insured.

This exclusion does not apply to:

- (1)** A watercraft while ashore on premises you own or rent;
- (2)** A watercraft you do not own that is:
 - (a)** Less than 26 feet long; and
 - (b)** Not being used to carry persons or property for a charge;
- (3)** Parking an "auto" on, or on the ways next to, premises you own or rent, provided the "auto" is not owned by or rented or loaned to you or the insured;
- (4)** Liability assumed under any "insured contract" for the ownership, maintenance or use of aircraft or watercraft; or

(5) "Bodily injury" or "property damage" arising out of:

- (a)** The operation of machinery or equipment that is attached to, or part of, a land vehicle that would qualify under the definition of "mobile equipment" if it were not subject to a compulsory or financial responsibility law or other motor vehicle insurance law in the state where it is licensed or principally garaged; or
- (b)** the operation of any of the machinery or equipment listed in Paragraph **f.(2)** or **f.(3)** of the definition of "mobile equipment".

h. Mobile Equipment

"Bodily injury" or "property damage" arising out of:

- (1)** The transportation of "mobile equipment" by an "auto" owned or operated by or rented or loaned to any insured; or
- (2)** The use of "mobile equipment" in, or while in practice for, or while being prepared for, any prearranged racing, speed, demolition, or stunting activity.

i. War

"Bodily injury" or "property damage", however caused, arising, directly or indirectly, out of:

- (1)** War, including undeclared or civil war;
- (2)** Warlike action by a military force, including action in hindering or defending against an actual or expected attack, by any government, sovereign or other authority using military personnel or other agents; or
- (3)** Insurrection, rebellion, revolution, usurped power, or action taken by governmental authority in hindering or defending against any of these.

j. Damage To Property

"Property damage" to:

- (1)** Property you own, rent, or occupy, including any costs or expenses incurred by you, or any other person, organization or entity, for repair, replacement, enhancement, restoration or maintenance of such property for any reason, including prevention of injury to a person or damage to another's property;
- (2)** Premises you sell, give away or abandon, if the "property damage" arises out of any part of those premises;
- (3)** Property loaned to you;
- (4)** Personal property in the care, custody or control of the insured;

- (5) That particular part of real property on which you or any contractors or subcontractors working directly or indirectly on your behalf are performing operations, if the "property damage" arises out of those operations; or
- (6) That particular part of any property that must be restored, repaired or replaced because "your work" was incorrectly performed on it.

Paragraphs (1), (3) and (4) of this exclusion do not apply to "property damage" (other than damage by fire) to premises, including the contents of such premises, rented to you for a period of 7 or fewer consecutive days. A separate limit of insurance applies to Damage To Premises Rented To You as described in Section III – Limits Of Insurance.

Paragraph (2) of this exclusion does not apply if the premises are "your work" and were never occupied, rented or held for rental by you.

Paragraphs (3), (4), (5) and (6) of this exclusion do not apply to liability assumed under a side-track agreement.

Paragraph (6) of this exclusion does not apply to "property damage" included in the "products-completed operations hazard".

k. Damage To Your Product

"Property damage" to "your product" arising out of it or any part of it.

l. Damage To Your Work

"Property damage" to "your work" arising out of it or any part of it and included in the "products-completed operations hazard".

This exclusion does not apply if the damaged work or the work out of which the damage arises was performed on your behalf by a subcontractor.

m. Damage To Impaired Property Or Property Not Physically Injured

"Property damage" to "impaired property" or property that has not been physically injured, arising out of:

- (1) A defect, deficiency, inadequacy or dangerous condition in "your product" or "your work"; or
- (2) A delay or failure by you or anyone acting on your behalf to perform a contract or agreement in accordance with its terms.

This exclusion does not apply to the loss of use of other property arising out of sudden and accidental physical injury to "your product" or "your work" after it has been put to its intended use.

n. Recall Of Products, Work Or Impaired Property

Damages claimed for any loss, cost or expense incurred by you or others for the loss of use, withdrawal, recall, inspection, repair, replacement, adjustment, removal or disposal of:

- (1) "Your product";
- (2) "Your work"; or
- (3) "Impaired property";

if such product, work, or property is withdrawn or recalled from the market or from use by any person or organization because of a known or suspected defect, deficiency, inadequacy or dangerous condition in it.

o. Personal And Advertising Injury

"Bodily injury" arising out of "personal and advertising injury".

p. Electronic Data

Damages arising out of the loss of, loss of use of, damage to, corruption of, inability to access, or inability to manipulate electronic data.

As used in this exclusion, electronic data means information, facts or programs stored as or on, created or used on, or transmitted to or from computer software, including systems and applications software, hard or floppy disks, CD-ROMS, tapes, drives, cells, data processing devices or any other media which are used with electronically controlled equipment.

Exclusions c. through n. do not apply to damage by fire to premises while rented to you or temporarily occupied by you with permission of the owner. A separate limit of insurance applies to this coverage as described in Section III – Limits Of Insurance.

COVERAGE B PERSONAL AND ADVERTISING INJURY LIABILITY

1. Insuring Agreement

- a. We will pay those sums that the insured becomes legally obligated to pay as damages because of "personal and advertising injury" to which this insurance applies. We will have the right and duty to defend the insured against any "suit" seeking those damages. However, we will have no duty to defend the insured against any "suit" seeking damages for "personal and advertising injury" to which this insurance does not apply. We may, at our discretion, investigate any offense and settle any claim or "suit" that may result. But:

- (1) The amount we will pay for damages is limited as described in Section III – Limits Of Insurance; and

- (2) Our right and duty to defend end when we have used up the applicable limit of insurance in the payment of judgments or settlements under Coverages **A** or **B** or medical expenses under Coverage **C**.

No other obligation or liability to pay sums or perform acts or services is covered unless explicitly provided for under Supplementary Payments – Coverages **A** and **B**.

- b. This insurance applies to "personal and advertising injury" caused by an offense arising out of your business but only if the offense was committed in the "coverage territory" during the policy period.

2. Exclusions

This insurance does not apply to:

a. Knowing Violation Of Rights Of Another

"Personal and advertising injury" caused by or at the direction of the insured with the knowledge that the act would violate the rights of another and would inflict "personal and advertising injury".

b. Material Published With Knowledge Of Falsity

"Personal and advertising injury" arising out of oral or written publication of material, if done by or at the direction of the insured with knowledge of its falsity.

c. Material Published Prior To Policy Period

"Personal and advertising injury" arising out of oral or written publication of material whose first publication took place before the beginning of the policy period.

d. Criminal Acts

"Personal and advertising injury" arising out of a criminal act committed by or at the direction of the insured.

e. Contractual Liability

"Personal and advertising injury" for which the insured has assumed liability in a contract or agreement. This exclusion does not apply to liability for damages that the insured would have in the absence of the contract or agreement.

f. Breach Of Contract

"Personal and advertising injury" arising out of a breach of contract, except an implied contract to use another's advertising idea in your "advertisement".

g. Quality Or Performance Of Goods – Failure To Conform To Statements

"Personal and advertising injury" arising out of the failure of goods, products or services to conform with any statement of quality or performance made in your "advertisement".

h. Wrong Description Of Prices

"Personal and advertising injury" arising out of the wrong description of the price of goods, products or services stated in your "advertisement".

i. Infringement Of Copyright, Patent, Trademark Or Trade Secret

"Personal and advertising injury" arising out of the infringement of copyright, patent, trademark, trade secret or other intellectual property rights.

However, this exclusion does not apply to infringement, in your "advertisement", of copyright, trade dress or slogan.

j. Insureds In Media And Internet Type Businesses

"Personal and advertising injury" committed by an insured whose business is:

- (1) Advertising, broadcasting, publishing or telecasting;
- (2) Designing or determining content of websites for others; or
- (3) An Internet search, access, content or service provider.

However, this exclusion does not apply to Paragraphs **14.a.**, **b.** and **c.** of "personal and advertising injury" under the Definitions Section.

For the purposes of this exclusion, the placing of frames, borders or links, or advertising, for you or others anywhere on the Internet, is not by itself, considered the business of advertising, broadcasting, publishing or telecasting.

k. Electronic Chatrooms Or Bulletin Boards

"Personal and advertising injury" arising out of an electronic chatroom or bulletin board the insured hosts, owns, or over which the insured exercises control.

l. Unauthorized Use Of Another's Name Or Product

"Personal and advertising injury" arising out of the unauthorized use of another's name or product in your e-mail address, domain name or metatag, or any other similar tactics to mislead another's potential customers.

m. Pollution

"Personal and advertising injury" arising out of the actual, alleged or threatened discharge, dispersal, seepage, migration, release or escape of "pollutants" at any time.

n. Pollution-Related

Any loss, cost or expense arising out of any:

- (1) Request, demand, order or statutory or regulatory requirement that any insured or others test for, monitor, clean up, remove, contain, treat, detoxify or neutralize, or in any way respond to, or assess the effects of, "pollutants"; or
- (2) Claim or suit by or on behalf of a governmental authority for damages because of testing for, monitoring, cleaning up, removing, containing, treating, detoxifying or neutralizing, or in any way responding to, or assessing the effects of, "pollutants".

o. War

"Personal and advertising injury", however caused, arising, directly or indirectly, out of:

- (1) War, including undeclared or civil war;
- (2) Warlike action by a military force, including action in hindering or defending against an actual or expected attack, by any government, sovereign or other authority using military personnel or other agents; or
- (3) Insurrection, rebellion, revolution, usurped power, or action taken by governmental authority in hindering or defending against any of these.

COVERAGE C MEDICAL PAYMENTS**1. Insuring Agreement**

a. We will pay medical expenses as described below for "bodily injury" caused by an accident:

- (1) On premises you own or rent;
- (2) On ways next to premises you own or rent; or
- (3) Because of your operations; provided that:
 - (1) The accident takes place in the "coverage territory" and during the policy period;
 - (2) The expenses are incurred and reported to us within one year of the date of the accident; and
 - (3) The injured person submits to examination, at our expense, by physicians of our choice as often as we reasonably require.

b. We will make these payments regardless of fault. These payments will not exceed the applicable limit of insurance. We will pay reasonable expenses for:

- (1) First aid administered at the time of an accident;
- (2) Necessary medical, surgical, x-ray and dental services, including prosthetic devices; and
- (3) Necessary ambulance, hospital, professional nursing and funeral services.

2. Exclusions

We will not pay expenses for "bodily injury":

a. Any Insured

To any insured, except "volunteer workers".

b. Hired Person

To a person hired to do work for or on behalf of any insured or a tenant of any insured.

c. Injury On Normally Occupied Premises

To a person injured on that part of premises you own or rent that the person normally occupies.

d. Workers Compensation And Similar Laws

To a person, whether or not an "employee" of any insured, if benefits for the "bodily injury" are payable or must be provided under a workers' compensation or disability benefits law or a similar law.

e. Athletics Activities

To a person injured while practicing, instructing or participating in any physical exercises or games, sports, or athletic contests.

f. Products-Completed Operations Hazard

Included within the "products-completed operations hazard".

g. Coverage A Exclusions

Excluded under Coverage A.

SUPPLEMENTARY PAYMENTS – COVERAGES A AND B

1. We will pay, with respect to any claim we investigate or settle, or any "suit" against an insured we defend:

- a. All expenses we incur.
- b. Up to \$250 for cost of bail bonds required because of accidents or traffic law violations arising out of the use of any vehicle to which the Bodily Injury Liability Coverage applies. We do not have to furnish these bonds.

- c. The cost of bonds to release attachments, but only for bond amounts within the applicable limit of insurance. We do not have to furnish these bonds.
- d. All reasonable expenses incurred by the insured at our request to assist us in the investigation or defense of the claim or "suit", including actual loss of earnings up to \$250 a day because of time off from work.
- e. All costs taxed against the insured in the "suit".
- f. Prejudgment interest awarded against the insured on that part of the judgment we pay. If we make an offer to pay the applicable limit of insurance, we will not pay any prejudgment interest based on that period of time after the offer.
- g. All interest on the full amount of any judgment that accrues after entry of the judgment and before we have paid, offered to pay, or deposited in court the part of the judgment that is within the applicable limit of insurance.

These payments will not reduce the limits of insurance.

- 2. If we defend an insured against a "suit" and an indemnitee of the insured is also named as a party to the "suit", we will defend that indemnitee if all of the following conditions are met:
 - a. The "suit" against the indemnitee seeks damages for which the insured has assumed the liability of the indemnitee in a contract or agreement that is an "insured contract";
 - b. This insurance applies to such liability assumed by the insured;
 - c. The obligation to defend, or the cost of the defense of, that indemnitee, has also been assumed by the insured in the same "insured contract";
 - d. The allegations in the "suit" and the information we know about the "occurrence" are such that no conflict appears to exist between the interests of the insured and the interests of the indemnitee;
 - e. The indemnitee and the insured ask us to conduct and control the defense of that indemnitee against such "suit" and agree that we can assign the same counsel to defend the insured and the indemnitee; and
 - f. The indemnitee:
 - (1) Agrees in writing to:
 - (a) Cooperate with us in the investigation, settlement or defense of the "suit";

- (b) Immediately send us copies of any demands, notices, summonses or legal papers received in connection with the "suit";
 - (c) Notify any other insurer whose coverage is available to the indemnitee; and
 - (d) Cooperate with us with respect to coordinating other applicable insurance available to the indemnitee; and
- (2) Provides us with written authorization to:
 - (a) Obtain records and other information related to the "suit"; and
 - (b) Conduct and control the defense of the indemnitee in such "suit".

So long as the above conditions are met, attorneys' fees incurred by us in the defense of that indemnitee, necessary litigation expenses incurred by us and necessary litigation expenses incurred by the indemnitee at our request will be paid as Supplementary Payments. Notwithstanding the provisions of Paragraph **2.b.(2)** of Section I – Coverage A – Bodily Injury And Property Damage Liability, such payments will not be deemed to be damages for "bodily injury" and "property damage" and will not reduce the limits of insurance.

Our obligation to defend an insured's indemnitee and to pay for attorneys' fees and necessary litigation expenses as Supplementary Payments ends when:

- a. We have used up the applicable limit of insurance in the payment of judgments or settlements; or
- b. The conditions set forth above, or the terms of the agreement described in Paragraph f. above, are no longer met.

SECTION II – WHO IS AN INSURED

- 1. If you are designated in the Declarations as:
 - a. An individual, you and your spouse are insureds, but only with respect to the conduct of a business of which you are the sole owner.
 - b. A partnership or joint venture, you are an insured. Your members, your partners, and their spouses are also insureds, but only with respect to the conduct of your business.
 - c. A limited liability company, you are an insured. Your members are also insureds, but only with respect to the conduct of your business. Your managers are insureds, but only with respect to their duties as your managers.

- d. An organization other than a partnership, joint venture or limited liability company, you are an insured. Your "executive officers" and directors are insureds, but only with respect to their duties as your officers or directors. Your stockholders are also insureds, but only with respect to their liability as stockholders.
 - e. A trust, you are an insured. Your trustees are also insureds, but only with respect to their duties as trustees.
2. Each of the following is also an insured:
- a. Your "volunteer workers" only while performing duties related to the conduct of your business, or your "employees", other than either your "executive officers" (if you are an organization other than a partnership, joint venture or limited liability company) or your managers (if you are a limited liability company), but only for acts within the scope of their employment by you or while performing duties related to the conduct of your business. However, none of these "employees" or "volunteer workers" are insureds for:
 - (1) "Bodily injury" or "personal and advertising injury":
 - (a) To you, to your partners or members (if you are a partnership or joint venture), to your members (if you are a limited liability company), to a co-"employee" while in the course of his or her employment or performing duties related to the conduct of your business, or to your other "volunteer workers" while performing duties related to the conduct of your business;
 - (b) To the spouse, child, parent, brother or sister of that co-"employee" or "volunteer worker" as a consequence of Paragraph (1)(a) above;
 - (c) For which there is any obligation to share damages with or repay someone else who must pay damages because of the injury described in Paragraphs (1)(a) or (b) above; or
 - (d) Arising out of his or her providing or failing to provide professional health care services.
 - (2) "Property damage" to property:
 - (a) Owned, occupied or used by,
 - (b) Rented to, in the care, custody or control of, or over which physical control is being exercised for any purpose by you, any of your "employees", "volunteer workers", any partner or member (if you are a partnership or joint venture), or any member (if you are a limited liability company).
 - b. Any person (other than your "employee" or "volunteer worker"), or any organization while acting as your real estate manager.
 - c. Any person or organization having proper temporary custody of your property if you die, but only:
 - (1) With respect to liability arising out of the maintenance or use of that property; and
 - (2) Until your legal representative has been appointed.
 - d. Your legal representative if you die, but only with respect to duties as such. That representative will have all your rights and duties under this Coverage Part.
 - 3. Any organization you newly acquire or form, other than a partnership, joint venture or limited liability company, and over which you maintain ownership or majority interest, will qualify as a Named Insured if there is no other similar insurance available to that organization. However:
 - a. Coverage under this provision is afforded only until the 90th day after you acquire or form the organization or the end of the policy period, whichever is earlier;
 - b. Coverage **A** does not apply to "bodily injury" or "property damage" that occurred before you acquired or formed the organization; and
 - c. Coverage **B** does not apply to "personal and advertising injury" arising out of an offense committed before you acquired or formed the organization.
- No person or organization is an insured with respect to the conduct of any current or past partnership, joint venture or limited liability company that is not shown as a Named Insured in the Declarations.

SECTION III – LIMITS OF INSURANCE

- 1. The Limits of Insurance shown in the Declarations and the rules below fix the most we will pay regardless of the number of:
 - a. Insureds;
 - b. Claims made or "suits" brought; or
 - c. Persons or organizations making claims or bringing "suits".

2. The General Aggregate Limit is the most we will pay for the sum of:
 - a. Medical expenses under Coverage **C**;
 - b. Damages under Coverage **A**, except damages because of "bodily injury" or "property damage" included in the "products-completed operations hazard"; and
 - c. Damages under Coverage **B**.
3. The Products-Completed Operations Aggregate Limit is the most we will pay under Coverage **A** for damages because of "bodily injury" and "property damage" included in the "products-completed operations hazard".
4. Subject to 2. above, the Personal and Advertising Injury Limit is the most we will pay under Coverage **B** for the sum of all damages because of all "personal and advertising injury" sustained by any one person or organization.
5. Subject to 2. or 3. above, whichever applies, the Each Occurrence Limit is the most we will pay for the sum of:
 - a. Damages under Coverage **A**; and
 - b. Medical expenses under Coverage **C** because of all "bodily injury" and "property damage" arising out of any one "occurrence".
6. Subject to 5. above, the Damage To Premises Rented To You Limit is the most we will pay under Coverage **A** for damages because of "property damage" to any one premises, while rented to you, or in the case of damage by fire, while rented to you or temporarily occupied by you with permission of the owner.
7. Subject to 5. above, the Medical Expense Limit is the most we will pay under Coverage **C** for all medical expenses because of "bodily injury" sustained by any one person.

The Limits of Insurance of this Coverage Part apply separately to each consecutive annual period and to any remaining period of less than 12 months, starting with the beginning of the policy period shown in the Declarations, unless the policy period is extended after issuance for an additional period of less than 12 months. In that case, the additional period will be deemed part of the last preceding period for purposes of determining the Limits of Insurance.

SECTION IV – COMMERCIAL GENERAL LIABILITY CONDITIONS

1. Bankruptcy

Bankruptcy or insolvency of the insured or of the insured's estate will not relieve us of our obligations under this Coverage Part.

2. Duties In The Event Of Occurrence, Offense, Claim Or Suit

- a. You must see to it that we are notified as soon as practicable of an "occurrence" or an offense which may result in a claim. To the extent possible, notice should include:
 - (1) How, when and where the "occurrence" or offense took place;
 - (2) The names and addresses of any injured persons and witnesses; and
 - (3) The nature and location of any injury or damage arising out of the "occurrence" or offense.
- b. If a claim is made or "suit" is brought against any insured, you must:
 - (1) Immediately record the specifics of the claim or "suit" and the date received; and
 - (2) Notify us as soon as practicable.

You must see to it that we receive written notice of the claim or "suit" as soon as practicable.
- c. You and any other involved insured must:
 - (1) Immediately send us copies of any demands, notices, summonses or legal papers received in connection with the claim or "suit";
 - (2) Authorize us to obtain records and other information;
 - (3) Cooperate with us in the investigation or settlement of the claim or defense against the "suit"; and
 - (4) Assist us, upon our request, in the enforcement of any right against any person or organization which may be liable to the insured because of injury or damage to which this insurance may also apply.
- d. No insured will, except at that insured's own cost, voluntarily make a payment, assume any obligation, or incur any expense, other than for first aid, without our consent.

3. Legal Action Against Us

No person or organization has a right under this Coverage Part:

- a. To join us as a party or otherwise bring us into a "suit" asking for damages from an insured; or

- b.** To sue us on this Coverage Part unless all of its terms have been fully complied with.

A person or organization may sue us to recover on an agreed settlement or on a final judgment against an insured; but we will not be liable for damages that are not payable under the terms of this Coverage Part or that are in excess of the applicable limit of insurance. An agreed settlement means a settlement and release of liability signed by us, the insured and the claimant or the claimant's legal representative.

4. Other Insurance

If other valid and collectible insurance is available to the insured for a loss we cover under Coverages **A** or **B** of this Coverage Part, our obligations are limited as follows:

a. Primary Insurance

This insurance is primary except when **b.** below applies. If this insurance is primary, our obligations are not affected unless any of the other insurance is also primary. Then, we will share with all that other insurance by the method described in **c.** below.

b. Excess Insurance

This insurance is excess over:

- (1) Any of the other insurance, whether primary, excess, contingent or on any other basis:
 - (a) That is Fire, Extended Coverage, Builder's Risk, Installation Risk or similar coverage for "your work";
 - (b) That is Fire insurance for premises rented to you or temporarily occupied by you with permission of the owner;
 - (c) That is insurance purchased by you to cover your liability as a tenant for "property damage" to premises rented to you or temporarily occupied by you with permission of the owner; or
 - (d) If the loss arises out of the maintenance or use of aircraft, "autos" or watercraft to the extent not subject to Exclusion **g.** of Section **I** – Coverage **A** – Bodily Injury And Property Damage Liability.
- (2) Any other primary insurance available to you covering liability for damages arising out of the premises or operations, or the products and completed operations, for which you have been added as an additional insured by attachment of an endorsement.

When this insurance is excess, we will have no duty under Coverages **A** or **B** to defend the insured against any "suit" if any other insurer has a duty to defend the insured against that "suit". If no other insurer defends, we will undertake to do so, but we will be entitled to the insured's rights against all those other insurers.

When this insurance is excess over other insurance, we will pay only our share of the amount of the loss, if any, that exceeds the sum of:

- (1) The total amount that all such other insurance would pay for the loss in the absence of this insurance; and
- (2) The total of all deductible and self-insured amounts under all that other insurance.

We will share the remaining loss, if any, with any other insurance that is not described in this Excess Insurance provision and was not bought specifically to apply in excess of the Limits of Insurance shown in the Declarations of this Coverage Part.

c. Method Of Sharing

If all of the other insurance permits contribution by equal shares, we will follow this method also. Under this approach each insurer contributes equal amounts until it has paid its applicable limit of insurance or none of the loss remains, whichever comes first.

If any of the other insurance does not permit contribution by equal shares, we will contribute by limits. Under this method, each insurer's share is based on the ratio of its applicable limit of insurance to the total applicable limits of insurance of all insurers.

5. Premium Audit

- a. We will compute all premiums for this Coverage Part in accordance with our rules and rates.
- b. Premium shown in this Coverage Part as advance premium is a deposit premium only. At the close of each audit period we will compute the earned premium for that period and send notice to the first Named Insured. The due date for audit and retrospective premiums is the date shown as the due date on the bill. If the sum of the advance and audit premiums paid for the policy period is greater than the earned premium, we will return the excess to the first Named Insured.
- c. The first Named Insured must keep records of the information we need for premium computation, and send us copies at such times as we may request.

6. Representations

By accepting this policy, you agree:

- a. The statements in the Declarations are accurate and complete;
- b. Those statements are based upon representations you made to us; and
- c. We have issued this policy in reliance upon your representations.

7. Separation Of Insureds

Except with respect to the Limits of Insurance, and any rights or duties specifically assigned in this Coverage Part to the first Named Insured, this insurance applies:

- a. As if each Named Insured were the only Named Insured; and
- b. Separately to each insured against whom claim is made or "suit" is brought.

8. Transfer Of Rights Of Recovery Against Others To Us

If the insured has rights to recover all or part of any payment we have made under this Coverage Part, those rights are transferred to us. The insured must do nothing after loss to impair them. At our request, the insured will bring "suit" or transfer those rights to us and help us enforce them.

9. When We Do Not Renew

If we decide not to renew this Coverage Part, we will mail or deliver to the first Named Insured shown in the Declarations written notice of the non-renewal not less than 30 days before the expiration date.

If notice is mailed, proof of mailing will be sufficient proof of notice.

SECTION V – DEFINITIONS

1. "Advertisement" means a notice that is broadcast or published to the general public or specific market segments about your goods, products or services for the purpose of attracting customers or supporters. For the purposes of this definition:
 - a. Notices that are published include material placed on the Internet or on similar electronic means of communication; and
 - b. Regarding web-sites, only that part of a web-site that is about your goods, products or services for the purposes of attracting customers or supporters is considered an advertisement.
2. "Auto" means:
 - a. A land motor vehicle, trailer or semitrailer designed for travel on public roads, including any attached machinery or equipment; or

- b. Any other land vehicle that is subject to a compulsory or financial responsibility law or other motor vehicle insurance law in the state where it is licensed or principally garaged.

However, "auto" does not include "mobile equipment".

3. "Bodily injury" means bodily injury, sickness or disease sustained by a person, including death resulting from any of these at any time.
4. "Coverage territory" means:
 - a. The United States of America (including its territories and possessions), Puerto Rico and Canada;
 - b. International waters or airspace, but only if the injury or damage occurs in the course of travel or transportation between any places included in a. above; or
 - c. All other parts of the world if the injury or damage arises out of:
 - (1) Goods or products made or sold by you in the territory described in a. above;
 - (2) The activities of a person whose home is in the territory described in a. above, but is away for a short time on your business; or
 - (3) "Personal and advertising injury" offenses that take place through the Internet or similar electronic means of communication provided the insured's responsibility to pay damages is determined in a "suit" on the merits, in the territory described in a. above or in a settlement we agree to.
5. "Employee" includes a "leased worker". "Employee" does not include a "temporary worker".
6. "Executive officer" means a person holding any of the officer positions created by your charter, constitution, by-laws or any other similar governing document.
7. "Hostile fire" means one which becomes uncontrollable or breaks out from where it was intended to be.
8. "Impaired property" means tangible property, other than "your product" or "your work", that cannot be used or is less useful because:
 - a. It incorporates "your product" or "your work" that is known or thought to be defective, deficient, inadequate or dangerous; or
 - b. You have failed to fulfill the terms of a contract or agreement;
 if such property can be restored to use by:
 - a. The repair, replacement, adjustment or removal of "your product" or "your work"; or

- b. Your fulfilling the terms of the contract or agreement.
9. "Insured contract" means:
- a. A contract for a lease of premises. However, that portion of the contract for a lease of premises that indemnifies any person or organization for damage by fire to premises while rented to you or temporarily occupied by you with permission of the owner is not an "insured contract";
 - b. A sidetrack agreement;
 - c. Any easement or license agreement, except in connection with construction or demolition operations on or within 50 feet of a railroad;
 - d. An obligation, as required by ordinance, to indemnify a municipality, except in connection with work for a municipality;
 - e. An elevator maintenance agreement;
 - f. That part of any other contract or agreement pertaining to your business (including an indemnification of a municipality in connection with work performed for a municipality) under which you assume the tort liability of another party to pay for "bodily injury" or "property damage" to a third person or organization. Tort liability means a liability that would be imposed by law in the absence of any contract or agreement.
- Paragraph f. does not include that part of any contract or agreement:
- (1) That indemnifies a railroad for "bodily injury" or "property damage" arising out of construction or demolition operations, within 50 feet of any railroad property and affecting any railroad bridge or trestle, tracks, roadbeds, tunnel, underpass or crossing;
 - (2) That indemnifies an architect, engineer or surveyor for injury or damage arising out of:
 - (a) Preparing, approving, or failing to prepare or approve, maps, shop drawings, opinions, reports, surveys, field orders, change orders or drawings and specifications; or
 - (b) Giving directions or instructions, or failing to give them, if that is the primary cause of the injury or damage; or
 - (3) Under which the insured, if an architect, engineer or surveyor, assumes liability for an injury or damage arising out of the insured's rendering or failure to render professional services, including those listed in (2) above and supervisory, inspection, architectural or engineering activities.
10. "Leased worker" means a person leased to you by a labor leasing firm under an agreement between you and the labor leasing firm, to perform duties related to the conduct of your business. "Leased worker" does not include a "temporary worker".
11. "Loading or unloading" means the handling of property:
- a. After it is moved from the place where it is accepted for movement into or onto an aircraft, watercraft or "auto";
 - b. While it is in or on an aircraft, watercraft or "auto"; or
 - c. While it is being moved from an aircraft, watercraft or "auto" to the place where it is finally delivered;
- but "loading or unloading" does not include the movement of property by means of a mechanical device, other than a hand truck, that is not attached to the aircraft, watercraft or "auto".
12. "Mobile equipment" means any of the following types of land vehicles, including any attached machinery or equipment:
- a. Bulldozers, farm machinery, forklifts and other vehicles designed for use principally off public roads;
 - b. Vehicles maintained for use solely on or next to premises you own or rent;
 - c. Vehicles that travel on crawler treads;
 - d. Vehicles, whether self-propelled or not, maintained primarily to provide mobility to permanently mounted:
 - (1) Power cranes, shovels, loaders, diggers or drills; or
 - (2) Road construction or resurfacing equipment such as graders, scrapers or rollers;
 - e. Vehicles not described in a., b., c. or d. above that are not self-propelled and are maintained primarily to provide mobility to permanently attached equipment of the following types:
 - (1) Air compressors, pumps and generators, including spraying, welding, building cleaning, geophysical exploration, lighting and well servicing equipment; or
 - (2) Cherry pickers and similar devices used to raise or lower workers;
 - f. Vehicles not described in a., b., c. or d. above maintained primarily for purposes other than the transportation of persons or cargo.
- However, self-propelled vehicles with the following types of permanently attached equipment are not "mobile equipment" but will be considered "autos":

- (1) Equipment designed primarily for:
- (a) Snow removal;
 - (b) Road maintenance, but not construction or resurfacing; or
 - (c) Street cleaning;
- (2) Cherry pickers and similar devices mounted on automobile or truck chassis and used to raise or lower workers; and
- (3) Air compressors, pumps and generators, including spraying, welding, building cleaning, geophysical exploration, lighting and well servicing equipment.

However, "mobile equipment" does not include any land vehicles that are subject to a compulsory or financial responsibility law or other motor vehicle insurance law in the state where it is licensed or principally garaged. Land vehicles subject to a compulsory or financial responsibility law or other motor vehicle insurance law are considered "autos".

13. "Occurrence" means an accident, including continuous or repeated exposure to substantially the same general harmful conditions.
14. "Personal and advertising injury" means injury, including consequential "bodily injury", arising out of one or more of the following offenses:
- a. False arrest, detention or imprisonment;
 - b. Malicious prosecution;
 - c. The wrongful eviction from, wrongful entry into, or invasion of the right of private occupancy of a room, dwelling or premises that a person occupies, committed by or on behalf of its owner, landlord or lessor;
 - d. Oral or written publication, in any manner, of material that slanders or libels a person or organization or disparages a person's or organization's goods, products or services;
 - e. Oral or written publication, in any manner, of material that violates a person's right of privacy;
 - f. The use of another's advertising idea in your "advertisement"; or
 - g. Infringing upon another's copyright, trade dress or slogan in your "advertisement".
15. "Pollutants" mean any solid, liquid, gaseous or thermal irritant or contaminant, including smoke, vapor, soot, fumes, acids, alkalis, chemicals and waste. Waste includes materials to be recycled, reconditioned or reclaimed.

16. "Products-completed operations hazard":

- a. Includes all "bodily injury" and "property damage" occurring away from premises you own or rent and arising out of "your product" or "your work" except:
 - (1) Products that are still in your physical possession; or
 - (2) Work that has not yet been completed or abandoned. However, "your work" will be deemed completed at the earliest of the following times:
 - (a) When all of the work called for in your contract has been completed.
 - (b) When all of the work to be done at the job site has been completed if your contract calls for work at more than one job site.
 - (c) When that part of the work done at a job site has been put to its intended use by any person or organization other than another contractor or subcontractor working on the same project.

Work that may need service, maintenance, correction, repair or replacement, but which is otherwise complete, will be treated as completed.

- b. Does not include "bodily injury" or "property damage" arising out of:
 - (1) The transportation of property, unless the injury or damage arises out of a condition in or on a vehicle not owned or operated by you, and that condition was created by the "loading or unloading" of that vehicle by any insured;
 - (2) The existence of tools, uninstalled equipment or abandoned or unused materials; or
 - (3) Products or operations for which the classification, listed in the Declarations or in a policy schedule, states that products-completed operations are subject to the General Aggregate Limit.

17. "Property damage" means:

- a. Physical injury to tangible property, including all resulting loss of use of that property. All such loss of use shall be deemed to occur at the time of the physical injury that caused it; or

- b.** Loss of use of tangible property that is not physically injured. All such loss of use shall be deemed to occur at the time of the "occurrence" that caused it.

For the purposes of this insurance, electronic data is not tangible property.

As used in this definition, electronic data means information, facts or programs stored as or on, created or used on, or transmitted to or from computer software, including systems and applications software, hard or floppy disks, CD-ROMS, tapes, drives, cells, data processing devices or any other media which are used with electronically controlled equipment.

- 18.** "Suit" means a civil proceeding in which damages because of "bodily injury", "property damage" or "personal and advertising injury" to which this insurance applies are alleged. "Suit" includes:
 - a.** An arbitration proceeding in which such damages are claimed and to which the insured must submit or does submit with our consent; or
 - b.** Any other alternative dispute resolution proceeding in which such damages are claimed and to which the insured submits with our consent.
- 19.** "Temporary worker" means a person who is furnished to you to substitute for a permanent "employee" on leave or to meet seasonal or short-term workload conditions.
- 20.** "Volunteer worker" means a person who is not your "employee", and who donates his or her work and acts at the direction of and within the scope of duties determined by you, and is not paid a fee, salary or other compensation by you or anyone else for their work performed for you.

21. "Your product":

a. Means:

- (1)** Any goods or products, other than real property, manufactured, sold, handled, distributed or disposed of by:
 - (a)** You;
 - (b)** Others trading under your name; or
 - (c)** A person or organization whose business or assets you have acquired; and
- (2)** Containers (other than vehicles), materials, parts or equipment furnished in connection with such goods or products.

b. Includes

- (1)** Warranties or representations made at any time with respect to the fitness, quality, durability, performance or use of "your product"; and
 - (2)** The providing of or failure to provide warnings or instructions.
- c.** Does not include vending machines or other property rented to or located for the use of others but not sold.

22. "Your work":

a. Means:

- (1)** Work or operations performed by you or on your behalf; and
- (2)** Materials, parts or equipment furnished in connection with such work or operations.

b. Includes

- (1)** Warranties or representations made at any time with respect to the fitness, quality, durability, performance or use of "your work", and
- (2)** The providing of or failure to provide warnings or instructions.

POLICY NUMBER:

COMMERCIAL GENERAL LIABILITY
CG 20 10 07 04

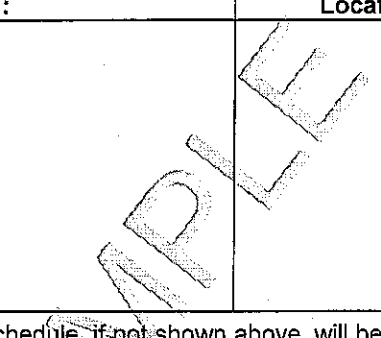
THIS ENDORSEMENT CHANGES THE POLICY. PLEASE READ IT CAREFULLY.

**ADDITIONAL INSURED – OWNERS, LESSEES OR
CONTRACTORS – SCHEDULED PERSON OR
ORGANIZATION**

This endorsement modifies insurance provided under the following:

COMMERCIAL GENERAL LIABILITY COVERAGE PART

SCHEDULE

Name Of Additional Insured Person(s) Or Organization(s):	Location(s) Of Covered Operations
	
Information required to complete this Schedule, if not shown above, will be shown in the Declarations.	

A. Section II – Who Is An Insured is amended to include as an additional insured the person(s) or organization(s) shown in the Schedule, but only with respect to liability for "bodily injury", "property damage" or "personal and advertising injury" caused, in whole or in part, by:

1. Your acts or omissions; or
2. The acts or omissions of those acting on your behalf;

in the performance of your ongoing operations for the additional insured(s) at the location(s) designated above.

B. With respect to the insurance afforded to these additional insureds, the following additional exclusions apply:

This insurance does not apply to "bodily injury" or "property damage" occurring after:

1. All work, including materials, parts or equipment furnished in connection with such work, on the project (other than service, maintenance or repairs) to be performed by or on behalf of the additional insured(s) at the location of the covered operations has been completed; or
2. That portion of "your work" out of which the injury or damage arises has been put to its intended use by any person or organization other than another contractor or subcontractor engaged in performing operations for a principal as a part of the same project.

POLICY NUMBER:

COMMERCIAL GENERAL LIABILITY
CG 20 37 07 04**THIS ENDORSEMENT CHANGES THE POLICY. PLEASE READ IT CAREFULLY.****ADDITIONAL INSURED – OWNERS, LESSEES OR
CONTRACTORS – COMPLETED OPERATIONS**

This endorsement modifies insurance provided under the following:

COMMERCIAL GENERAL LIABILITY COVERAGE PART

SCHEDULE

Name Of Additional Insured Person(s) Or Organization(s):	Location And Description Of Completed Operations
Information required to complete this Schedule, if not shown above, will be shown in the Declarations.	

Section II – Who Is An Insured is amended to include as an additional insured the person(s) or organization(s) shown in the Schedule, but only with respect to liability for "bodily injury" or "property damage" caused, in whole or in part, by "your work" at the location designated and described in the schedule of this endorsement performed for that additional insured and included in the "products-completed operations hazard".

POLICY NUMBER:

COMMERCIAL GENERAL LIABILITY
CG 25 04 03 97

THIS ENDORSEMENT CHANGES THE POLICY. PLEASE READ IT CAREFULLY.

DESIGNATED LOCATION(S) GENERAL AGGREGATE LIMIT

This endorsement modifies insurance provided under the following:

COMMERCIAL GENERAL LIABILITY COVERAGE PART

SCHEDULE

Designated Location(s):

(If no entry appears above, information required to complete this endorsement will be shown in the Declarations as applicable to this endorsement.)

- A.** For all sums which the insured becomes legally obligated to pay as damages caused by "occurrences" under **COVERAGE A (SECTION I)**, and for all medical expenses caused by accidents under **COVERAGE C (SECTION I)**, which can be attributed only to operations at a single designated "location" shown in the Schedule above:
1. A separate Designated Location General Aggregate Limit applies to each designated "location", and that limit is equal to the amount of the General Aggregate Limit shown in the Declarations.
 2. The Designated Location General Aggregate Limit is the most we will pay for the sum of all damages under **COVERAGE A**, except damages because of "bodily injury" or "property damage" included in the "products-completed operations hazard", and for medical expenses under **COVERAGE C** regardless of the number of:
 - a. Insureds;
 - b. Claims made or "suits" brought; or
 - c. Persons or organizations making claims or bringing "suits".
 3. Any payments made under **COVERAGE A** for damages or under **COVERAGE C** for medical expenses shall reduce the Designated Location General Aggregate Limit for that designated "location". Such payments shall not reduce the General Aggregate Limit shown in the Declarations nor shall they reduce any other Designated Location General Aggregate Limit for any other designated "location" shown in the Schedule above.
 4. The limits shown in the Declarations for Each Occurrence, Fire Damage and Medical Expense continue to apply. However, instead of being subject to the General Aggregate Limit shown in the Declarations, such limits will be subject to the applicable Designated Location General Aggregate Limit.

- B.** For all sums which the insured becomes legally obligated to pay as damages caused by "occurrences" under **COVERAGES A** (SECTION I), and for all medical expenses caused by accidents under **COVERAGES C** (SECTION I), which cannot be attributed only to operations at a single designated "location" shown in the Schedule above:
1. Any payments made under **COVERAGES A** for damages or under **COVERAGES C** for medical expenses shall reduce the amount available under the General Aggregate Limit or the Products-Completed Operations Aggregate Limit, whichever is applicable; and
 2. Such payments shall not reduce any Designated Location General Aggregate Limit.
- C.** When coverage for liability arising out of the "products-completed operations hazard" is provided, any payments for damages because of "bodily injury" or "property damage" included in the "products-completed operations hazard" will reduce the Products-Completed Operations Aggregate Limit, and not reduce the General Aggregate Limit nor the Designated Location General Aggregate Limit.
- D.** For the purposes of this endorsement, the **Definitions** Section is amended by the addition of the following definition:
- "Location" means premises involving the same or connecting lots, or premises whose connection is interrupted only by a street, roadway, waterway or right-of-way of a railroad.
- E.** The provisions of Limits Of Insurance (SECTION III) not otherwise modified by this endorsement shall continue to apply as stipulated.

Sample



AIA Document G702™ - 1992

Application and Certificate for Payment

TO OWNER: University of Maine System
16 Central Street, Bangor, ME
04401-5106

PROJECT: University of Maine System Project

APPLICATION NO: 001

PERIOD TO:

CONTRACT FOR:

CONTRACT DATE:

PROJECT NOS: / /

Distribution to:

OWNER:

ARCHITECT:

CONTRACTOR:

FIELD:

OTHER:

FROM CONTRACTOR:

VIA ARCHITECT:

CONTRACTOR'S APPLICATION FOR PAYMENT

Application is made for payment, as shown below, in connection with the Contract Continuation Sheet, AIA Document G703, is attached.

- 1. ORIGINAL CONTRACT SUM \$ 0.00
- 2. NET CHANGE BY CHANGE ORDERS \$ 0.00
- 3. CONTRACT SUM TO DATE (Line 1 ± 2) \$ 0.00
- 4. TOTAL COMPLETED & STORED TO DATE (Column G on G703) \$ 0.00

5. RETAINAGE:

- a. 0 % of Completed Work (Column D + E on G703) \$ 0.00
- b. 0 % of Stored Material (Column F on G703) \$ 0.00

Total Retainage (Lines 5a + 5b or Total in Column I of G703) \$ 0.00

6. TOTAL EARNED LESS RETAINAGE \$ 0.00

(Line 4 Less Line 5 Total)

7. LESS PREVIOUS CERTIFICATES FOR PAYMENT \$ 0.00

(Line 6 from prior Certificate)

8. CURRENT PAYMENT DUE \$ 0.00

9. BALANCE TO FINISH, INCLUDING RETAINAGE

(Line 3 less Line 6) \$ 0.00

CHANGE ORDER SUMMARY	ADDITIONS	DEDUCTIONS
Total changes approved in previous months by Owner	\$ 0.00	\$ 0.00
Total approved this Month	\$ 0.00	\$ 0.00
TOTALS	\$ 0.00	\$ 0.00
NET CHANGES by Change Order	\$	0.00

The undersigned Contractor certifies that to the best of the Contractor's knowledge, information and belief the Work covered by this Application for Payment has been completed in accordance with the Contract Documents, that all amounts have been paid by the Contractor for Work for which previous Certificates for Payment were issued and payments received from the Owner, and that current payment shown herein is now due.

CONTRACTOR:

By: _____ Date: _____

State of: _____

County of: _____

Subscribed and sworn to before me this _____ day of _____

Notary Public:

My Commission expires: _____

ARCHITECT'S CERTIFICATE FOR PAYMENT

In accordance with the Contract Documents, based on on-site observations and the data comprising this application, the Architect certifies to the Owner that to the best of the Architect's knowledge, information and belief the Work has progressed as indicated, the quality of the Work is in accordance with the Contract Documents, and the Contractor is entitled to payment of the AMOUNT CERTIFIED.

AMOUNT CERTIFIED \$ 0.00

(Attach explanation if amount certified differs from the amount applied. Initial all figures on this Application and on the Continuation Sheet that are changed to conform with the amount certified.)

ARCHITECT:

By: _____ Date: _____

This Certificate is not negotiable. The AMOUNT CERTIFIED is payable only to the Contractor named herein. Issuance, payment and acceptance of payment are without prejudice to any rights of the Owner or Contractor under this Contract.

Sales Tax Form

Date _____

TO: _____
Vendor Name

Vendor Address

Vendor City State Zip

I hereby certify under penalties of perjury, that:

I am engaged in the performance of a construction contract on a project for the University of Maine System which is a Sales Tax exempt organization under the Maine Sales and Use Tax Law, Section 1760, subsection 2 and 16;

This Project is titled: _____
Project Title

This project is located at: _____
Campus Name or Town

This certificate is issued to cover purchases of materials that will be permanently incorporated into the real property belonging to the exempt organization or government agency indicated above.

Signed: _____
Authorized Signature

FIRM _____



AIA[®] Document G707A[™] – 1994

Consent of Surety to Reduction in or Partial Release of Retainage

PROJECT: *(Name and address)*
University of Maine System
Project

ARCHITECT'S PROJECT NUMBER:

OWNER:

ARCHITECT:

CONTRACT FOR:

CONTRACTOR:

TO OWNER: *(Name and address)*
University of Maine System
16 Central Street
Bangor, ME 04401-5106

CONTRACT DATED:

SURETY:

OTHER:

In accordance with the provisions of the Contract between the Owner and the Contractor as indicated above, the
(Insert name and address of Surety)

on bond of
(Insert name and address of Contractor)

, SURETY,

hereby approves the reduction in or partial release of retainage to the Contractor as follows:

, CONTRACTOR,

The Surety agrees that such reduction in or partial release of retainage to the Contractor shall not relieve the Surety of any of its obligations to
(Insert name and address of Owner)

as set forth in said Surety's bond.

, OWNER,

IN WITNESS WHEREOF, the Surety has hereunto set its hand on this date:
(Insert in writing the month followed by the numeric date and year.)

(Surety)

(Signature of authorized representative)

Attest:
(Seal):

(Printed name and title)

STORED MATERIALS

University of Maine * Location *
 * Campus Address *

Project Title: _____
 Location: _____
 Contractor: _____

Materials and/or equipment (hereinafter "Materials") that have not yet been incorporated into the work may be delivered and suitably stored, at the site or some other location agreed upon by the Owner. The Materials listed below have been estimated at 100% of the cost and will be stored at _____. The Owner will reimburse the Contractor based upon the prices included on the Schedule of Values Form, 00 62 73(AIA G703), less the cost of installation. The Contractor must complete sufficient copies of this Stored Materials Form, 00 62 79, to accompany the Application for Payment. The Contractor shall secure the signature of its bonding company on all forms and shall also provide a Power of Attorney from the bonding company.

SCHEDULE

Qty	Material/Equipment	Item in AIA G703		Unit Wholesale Price	Extended Wholesale Price
		Item No	Unit Price		
Total					

Surety _____
Power of Attorney Must be Attached

By: _____
 Attorney-in-Fact

Date: _____

BILL OF SALE

The Contractor, _____, (will store/has stored) certain Materials (at the site of this project/at an approved warehouse/at bonded warehouse) and will be paid in accordance with the provisions of the General Conditions of the Contract for Construction. In consideration of the sum of \$_____ paid to the contractor by the Owner, and, in compliance with the provisions of the Contract, and, with the intention to be legally bound, the Contractor does hereby grant, bargain, sell and deliver unto the Owner, its successors and assigns, all and singular, the Materials described in the schedule above. The Contractor agrees that:

1. Contractor has good title to the Materials, free and clear of all liens and encumbrances, and title is granted to the Owner;
2. The Materials will be used only in the construction of the above referenced project, under the provisions of the Contract, and will not be diverted elsewhere without the prior written consent of the Owner;
3. The Materials have been delivered to and are at the places approved for storage, and they are clearly marked and identified as the property of the Owner and are stored in a safe and secure manner to protect from damage or loss;

4. The Contractor will pay all expenses in connection with the sale, delivery, storage, protection and insurance of Materials granted to the Owner.
5. The Contractor will remain responsible for the Materials, which will remain under its custody and control for all losses, and will fully indemnify the Owner for the cost of the Materials should the Materials be lost or damaged or stolen, regardless of exclusions in insurance policies required under this document. The contractor has insured the Materials against loss or damage by fire (with extended coverage), theft and burglary, with loss payable to the Owner;
6. The Contractor agrees that the quantities of Materials set forth in the Schedule of Values Form represents the maximum quantities for which it may be entitled to payment under the provisions of the contract;
7. The following information is included with this form:
 - (1) An Application for Payment;
 - (2) An invoice or copy of an invoice for Materials stored;
 - (3) Evidence of payment, or when payment has not been made, a letter on the Contractor's letterhead authorizing payment to be made jointly to the Contractor and the Supplier;
 - (4) Photographs showing the stored Materials and its location;
 - (5) a fire and theft insurance policy rider for the stored Materials.
 - (6) a warehouseman's receipt acknowledging that the Materials being stored at the warehouse are being held for the benefit of the Contractor or/or University.

Witness:

By: _____ (SEAL)
Principal/Contractor-Individual

Witness:

Principal/Contractor-Individual

_____ (SEAL)

_____ (SEAL)

_____ (SEAL)

_____ (SEAL)

Attest:

Principal/Contractor-Corporation

Secretary

By: _____
President


AIA[®] Document G716™ – 2004
Request for Information (“RFI”)

TO:
FROM:**PROJECT:**

University of Maine System Project

ISSUE DATE:**RFI No.** 001**PROJECT NUMBERS:** /**REQUESTED REPLY DATE:****COPIES TO:**

RFI DESCRIPTION: *(Fully describe the question or type of information requested.)*
REFERENCES/ATTACHMENTS: *(List specific documents researched when seeking the information requested.)*
SPECIFICATIONS:**DRAWINGS:****OTHER:**
SENDER'S RECOMMENDATION: *(If RFI concerns a site or construction condition, the sender may provide a recommended solution, including cost and/or schedule considerations.)*

RECEIVER'S REPLY: *(Provide answer to RFI, including cost and/or schedule considerations.)*

BY
DATE**COPIES TO**

Note: This reply is not an authorization to proceed with work involving additional cost, time or both. If any reply requires a change to the Contract Documents, a Change Order, Construction Change Directive or a Minor Change in the work must be executed in accordance with the Contract Documents.


AIA Document G710™ – 1992
Architect's Supplemental Instructions

PROJECT *(Name and address):*
University of Maine System Project

**ARCHITECT'S SUPPLEMENTAL
INSTRUCTION NO:**

OWNER:

ARCHITECT:

CONSULTANT:

CONTRACTOR:

FIELD:

OTHER:

OWNER *(Name and address):*
University of Maine System
16 Central Street
Bangor, ME 04401-5106

DATE OF ISSUANCE:

CONTRACT FOR:

FROM ARCHITECT *(Name and
address):*

CONTRACT DATE:

TO CONTRACTOR *(Name and
address):*

ARCHITECT'S PROJECT NUMBER:

The Work shall be carried out in accordance with the following supplemental instructions issued in accordance with the Contract Documents without change in Contract Sum or Contract Time. Proceeding with the Work in accordance with these instructions indicates your acknowledgment that there will be no change in the Contract Sum or Contract Time.

DESCRIPTION:

ATTACHMENTS:

(Here insert listing of documents that support description.)

ISSUED BY THE ARCHITECT:

(Signature)

(Printed name and title)


AIA Document G709™ – 2001
Work Changes Proposal Request

PROJECT *(Name and address):*
University of Maine
System Project

OWNER *(Name and address):*

FROM ARCHITECT *(Name and address):*

PROPOSAL REQUEST NUMBER:

DATE OF ISSUANCE:

CONTRACT FOR:

CONTRACT DATE:

ARCHITECT'S PROJECT NUMBER:

OWNER:

ARCHITECT:

CONSULTANT:

CONTRACTOR:

FIELD:

OTHER:

TO CONTRACTOR *(Name and address):*

Please submit an itemized proposal for changes in the Contract Sum and Contract Time for proposed modifications to the Contract Documents described herein. Within () days, the Contractor must submit this proposal or notify the Architect, in writing, of the date on which proposal submission is anticipated.

THIS IS NOT A CHANGE ORDER, A CONSTRUCTION CHANGE DIRECTIVE OR A DIRECTION TO PROCEED WITH THE WORK DESCRIBED IN THE PROPOSED MODIFICATIONS.

DESCRIPTION *(Insert a written description of the Work):*

ATTACHMENTS *(List attached documents that support description):*

REQUESTED BY THE ARCHITECT:

(Signature)

(Printed name and title)



AIA Document G701™ – 2001

Change Order

PROJECT <i>(Name and address):</i> University of Maine System Project	CHANGE ORDER NUMBER: DATE:	OWNER: <input type="checkbox"/>
TO CONTRACTOR <i>(Name and address):</i>	ARCHITECT'S PROJECT NUMBER: CONTRACT DATE: CONTRACT FOR:	ARCHITECT: <input type="checkbox"/> CONTRACTOR: <input type="checkbox"/> FIELD: <input type="checkbox"/> OTHER: <input type="checkbox"/>

THE CONTRACT IS CHANGED AS FOLLOWS:

(Include, where applicable, any undisputed amount attributable to previously executed Construction Change Directives)

The original Contract Sum was	\$	0.00
The net change by previously authorized Change Orders	\$	0.00
The Contract Sum prior to this Change Order was	\$	0.00
The Contract Sum will be increased by this Change Order in the amount of	\$	0.00
The new Contract Sum including this Change Order will be	\$	0.00

The Contract Time will be increased by Zero (0) days.

The date of Substantial Completion as of the date of this Change Order therefore is

NOTE: This Change Order does not include changes in the Contract Sum, Contract Time or Guaranteed Maximum Price which have been authorized by Construction Change Directive until the cost and time have been agreed upon by both the Owner and Contractor, in which case a Change Order is executed to supersede the Construction Change Directive.

NOT VALID UNTIL SIGNED BY THE ARCHITECT, CONTRACTOR AND OWNER.

_____ ARCHITECT <i>(Firm name)</i>	_____ CONTRACTOR <i>(Firm name)</i>	_____ OWNER <i>(Firm name)</i>
_____ ADDRESS	_____ ADDRESS	_____ ADDRESS
_____ BY <i>(Signature)</i>	_____ BY <i>(Signature)</i>	_____ BY <i>(Signature)</i>
_____ <i>(Typed name)</i>	_____ <i>(Typed name)</i>	_____ <i>(Typed name)</i>
_____ DATE	_____ DATE	_____ DATE


AIA[®] Document G704[™] – 2000
Certificate of Substantial Completion

PROJECT: PROJECT NUMBER: / OWNER:
(Name and address): CONTRACT FOR: General Construction ARCHITECT:
 University of Maine System Project CONTRACT DATE: CONTRACTOR:
TO OWNER: TO CONTRACTOR: FIELD:
(Name and address): *(Name and address):* OTHER:
 University of Maine System
 16 Central Street
 Bangor, ME 04401-5106

PROJECT OR PORTION OF THE PROJECT DESIGNATED FOR PARTIAL OCCUPANCY OR USE SHALL INCLUDE:

The Work performed under this Contract has been reviewed and found, to the Architect's best knowledge, information and belief, to be substantially complete. Substantial Completion is the stage in the progress of the Work when the Work or designated portion is sufficiently complete in accordance with the Contract Documents so that the Owner can occupy or utilize the Work for its intended use. The date of Substantial Completion of the Project or portion designated above is the date of issuance established by this Certificate, which is also the date of commencement of applicable warranties required by the Contract Documents, except as stated below:

Warranty
Date of Commencement

ARCHITECT
BY
DATE OF ISSUANCE

A list of items to be completed or corrected is attached hereto. The failure to include any items on such list does not alter the responsibility of the Contractor to complete all Work in accordance with the Contract Documents. Unless otherwise agreed to in writing, the date of commencement of warranties for items on the attached list will be the date of issuance of the final Certificate of Payment or the date of final payment.

Cost estimate of Work that is incomplete or defective: \$0.00

The Contractor will complete or correct the Work on the list of items attached hereto within Zero (0) days from the above date of Substantial Completion.

CONTRACTOR
BY
DATE

The Owner accepts the Work or designated portion as substantially complete and will assume full possession at (time) on (date).

OWNER
BY
DATE

The responsibilities of the Owner and Contractor for security, maintenance, heat, utilities, damage to the Work and insurance shall be as follows:

(Note: Owner's and Contractor's legal and insurance counsel should determine and review insurance requirements and coverage.)

**University of Maine System
Certificate of Completion
(Final)**

CONTRACT DATED:

PROJECT NAME:

SUSTANTIAL COMPLETION DATE:

FINAL COMPLETION is defined, in accordance with Article 9 of the General Conditions, as the date certified by the Architect when all the Work of the Project is fully complete, the Close-Out requirements of Paragraph 9.10 of the General Conditions have been completed, including the Close-Out Meeting and approval of Close-Out by the Architect, in accordance with Subparagraph 9.10.2, and the Contract fully performed in accordance with the Contract Documents, and the Contractor entitled to final payment.

The CONTRACTOR certifies that the Work is fully completed and was completed on or before _____, 20____, and submits herewith:

- Application for Final Payment (AIA G702, or equal)
- Affidavit of Payments (AIA G706, or equal)
- Consent of Surety (AIA G707, or equal)
- Release of Liens (AIA G706A, or equal)
- Waiver of Lien

CONTRACTOR:

By: _____ Date: _____

The Architect has inspected the Work and has determined that the Date of Final Completion was _____, 20____.

ARCHITECT:

By: _____ Date: _____

The OWNER hereby accepts the Work as fully complete and will make final payment.

By: _____
 * Campus Signature Authority *
 * Title *
 University of Maine
 Date: _____

AIA[®] Document G706[™] – 1994

Contractor's Affidavit of Payment of Debts and Claims

PROJECT: <i>(Name and address)</i> University of Maine System Project	ARCHITECT'S PROJECT NUMBER:	OWNER: <input type="checkbox"/>
		ARCHITECT: <input type="checkbox"/>
		CONTRACTOR: <input type="checkbox"/>
	CONTRACT FOR: General Construction	SURETY: <input type="checkbox"/>
TO OWNER: <i>(Name and address)</i>	CONTRACT DATED:	OTHER: <input type="checkbox"/>

STATE OF:
COUNTY OF:

The undersigned hereby certifies that, except as listed below, payment has been made in full and all obligations have otherwise been satisfied for all materials and equipment furnished, for all work, labor, and services performed, and for all known indebtedness and claims against the Contractor for damages arising in any manner in connection with the performance of the Contract referenced above for which the Owner or Owner's property might in any way be held responsible or encumbered.

EXCEPTIONS:

SUPPORTING DOCUMENTS ATTACHED HERETO:

- Consent of Surety to Final Payment. Whenever Surety is involved, Consent of Surety is required. AIA Document G707, Consent of Surety, may be used for this purpose

Indicate Attachment Yes No

CONTRACTOR: *(Name and address)*

BY: _____
(Signature of authorized representative)

(Printed name and title)

The following supporting documents should be attached hereto if required by the Owner:

- Contractor's Release or Waiver of Liens, conditional upon receipt of final payment.
- Separate Releases or Waivers of Liens from Subcontractors and material and equipment suppliers, to the extent required by the Owner, accompanied by a list thereof.
- Contractor's Affidavit of Release of Liens (AIA Document G706A).

Subscribed and sworn to before me on this date:

Notary Public:
My Commission Expires:

 **AIA**® Document G706A™ – 1994

Contractor's Affidavit of Release of Liens

PROJECT: <i>(Name and address)</i> University of Maine System Project2	ARCHITECT'S PROJECT NUMBER:	OWNER: <input type="checkbox"/>
	CONTRACT FOR: General Construction	ARCHITECT: <input type="checkbox"/>
TO OWNER: <i>(Name and address)</i> University of Maine System 16 Central Street Bangor, ME 04401-5106	CONTRACT DATED:	CONTRACTOR: <input type="checkbox"/>
		SURETY: <input type="checkbox"/>
		OTHER: <input type="checkbox"/>

STATE OF: Maine
COUNTY OF:

The undersigned hereby certifies that to the best of the undersigned's knowledge, information and belief, except as listed below, the Releases or Waivers of Lien attached hereto include the Contractor, all Subcontractors, all suppliers of materials and equipment, and all performers of Work, labor or services who have or may have liens or encumbrances or the right to assert liens or encumbrances against any property of the Owner arising in any manner out of the performance of the Contract referenced above.

EXCEPTIONS:

SUPPORTING DOCUMENTS ATTACHED HERETO:

1. Contractor's Release or Waiver of Liens, conditional upon receipt of final payment.
2. Separate Releases or Waivers of Liens from Subcontractors and material and equipment suppliers, to the extent required by the Owner, accompanied by a list thereof.

CONTRACTOR: *(Name and address)*

BY:

(Signature of authorized representative)

(Printed name and title)

Subscribed and sworn to before me on this date:

Notary Public:

My Commission Expires:

WAIVER OF LIEN

Date:
State of Maine
County of

TO: Office of Facilities
University of Maine System
16 Central Street
Bangor, ME 04401

SUBJECT

Project Name _____
Project Location _____

Upon receipt of the sum of _____ (being the balance due us under the existing contract or subcontract agreement for work on the Subject Project) the undersigned agrees that it will waive and release the University of Maine System from any and all lien or claim or right to lien on the Subject Project under the Statutes of the State of Maine relating to liens for labor, materials and/or subcontracts furnished for the Subject Project on premises belonging to the University of Maine System.

Signed: _____
Authorized Signature

Title _____

Firm Name: _____

NOTARY

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

Signature Notary Public

AIA[®] Document G707[™] – 1994

Consent Of Surety to Final Payment

PROJECT: *(Name and address)*
University of Maine System Project

ARCHITECT'S PROJECT NUMBER:

OWNER:

CONTRACT FOR:

ARCHITECT:

TO OWNER: *(Name and address)*
University of Maine System
16 Central Street
Bangor, ME 04401-5106

CONTRACT DATED:

CONTRACTOR:

SURETY:

OTHER:

In accordance with the provisions of the Contract between the Owner and the Contractor as indicated above, the
(Insert name and address of Surety)

on bond of
(Insert name and address of Contractor)

, SURETY,

hereby approves of the final payment to the Contractor, and agrees that final payment to the Contractor shall not relieve the Surety
of any of its obligations to
(Insert name and address of Owner)

, CONTRACTOR,

as set forth in said Surety's bond.

, OWNER,

IN WITNESS WHEREOF, the Surety has hereunto set its hand on this date:
(Insert in writing the month followed by the numeric date and year.)

(Surety)

(Signature of authorized representative)

Attest:
(Seal):

(Printed name and title)



AIA[®] Document A201[™] – 2007

General Conditions of the Contract for Construction

for the following PROJECT:

(Name and location or address)

University of Maine System Project

THE OWNER:

(Name, legal status and address)

University of Maine System
16 Central Street
Bangor, ME 04401-5106

THE ARCHITECT:

(Name, legal status and address)

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ADDITIONS AND DELETIONS:

The author of this document has added information needed for its completion. The author may also have revised the text of the original AIA standard form. An *Additions and Deletions Report* that notes added information as well as revisions to the standard form text is available from the author and should be reviewed. A vertical line in the left margin of this document indicates where the author has added necessary information and where the author has added to or deleted from the original AIA text.

This document has important legal consequences. Consultation with an attorney is encouraged with respect to its completion or modification.

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User Notes:

(895711814)

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ARTICLE 1 GENERAL PROVISIONS**§ 1.1 BASIC DEFINITIONS****§ 1.1.1 THE CONTRACT DOCUMENTS**

The Contract Documents are enumerated in the Agreement between the Owner and Contractor (hereinafter the Agreement) and consist of the Agreement, Conditions of the Contract (General, Supplementary and other Conditions), Drawings, Specifications, Addenda issued prior to execution of the Contract, other documents listed in the Agreement and Modifications issued after execution of the Contract. A Modification is (1) a written amendment to the Contract signed by both parties, (2) a Change Order, (3) a Construction Change Directive or (4) a written order for a minor change in the Work issued by the Architect. Unless specifically enumerated in the Agreement, the Contract Documents do not include the advertisement or invitation to bid, Instructions to Bidders, sample forms, other information furnished by the Owner in anticipation of receiving bids or proposals, the Contractor's bid or proposal, or portions of Addenda relating to bidding requirements.

§ 1.1.2 THE CONTRACT

The Contract Documents form the Contract for Construction. The Contract represents the entire and integrated agreement between the parties hereto and supersedes prior negotiations, representations or agreements, either written or oral. The Contract may be amended or modified only by a Modification. The Contract Documents shall not be construed to create a contractual relationship of any kind (1) between the Contractor and the Architect or the Architect's consultants, (2) between the Owner and a Subcontractor or a Sub-subcontractor, (3) between the Owner and the Architect or the Architect's consultants or (4) between any persons or entities other than the Owner and the Contractor. The Architect shall, however, be entitled to performance and enforcement of obligations under the Contract intended to facilitate performance of the Architect's duties.

§ 1.1.3 THE WORK

The term "Work" means the construction and services required by the Contract Documents, whether completed or partially completed, and includes all other labor, materials, equipment and services provided or to be provided by the Contractor to fulfill the Contractor's obligations. The Work may constitute the whole or a part of the Project.

§ 1.1.4 THE PROJECT

The Project is the total construction of which the Work performed under the Contract Documents may be the whole or a part and which may include construction by the Owner and by separate contractors.

§ 1.1.5 THE DRAWINGS

The Drawings are the graphic and pictorial portions of the Contract Documents showing the design, location and dimensions of the Work, generally including plans, elevations, sections, details, schedules and diagrams.

§ 1.1.6 THE SPECIFICATIONS

The Specifications are that portion of the Contract Documents consisting of the written requirements for materials, equipment, systems, standards and workmanship for the Work, and performance of related services.

§ 1.1.7 INSTRUMENTS OF SERVICE

Instruments of Service are representations, in any medium of expression now known or later developed, of the tangible and intangible creative work performed by the Architect and the Architect's consultants under their respective professional services agreements. Instruments of Service may include, without limitation, studies, surveys, models, sketches, drawings, specifications, and other similar materials.

§ 1.1.8 INITIAL DECISION MAKER

The Initial Decision Maker is the person identified in the Agreement to render initial decisions on Claims in accordance with Section 15.2 and certify termination of the Agreement under Section 14.2.2.

§ 1.2 CORRELATION AND INTENT OF THE CONTRACT DOCUMENTS

§ 1.2.1 The intent of the Contract Documents is to include all items necessary for the proper execution and completion of the Work by the Contractor. The Contract Documents are complementary, and what is required by one shall be as binding as if required by all; performance by the Contractor shall be required only to the extent consistent with the Contract Documents and reasonably inferable from them as being necessary to produce the indicated results.

§ 1.2.2 Organization of the Specifications into divisions, sections and articles, and arrangement of Drawings shall not control the Contractor in dividing the Work among Subcontractors or in establishing the extent of Work to be performed by any trade.

§ 1.2.3 Unless otherwise stated in the Contract Documents, words that have well-known technical or construction industry meanings are used in the Contract Documents in accordance with such recognized meanings.

§ 1.3 CAPITALIZATION

Terms capitalized in these General Conditions include those that are (1) specifically defined, (2) the titles of numbered articles or (3) the titles of other documents published by the American Institute of Architects.

§ 1.4 INTERPRETATION

In the interest of brevity the Contract Documents frequently omit modifying words such as "all" and "any" and articles such as "the" and "an," but the fact that a modifier or an article is absent from one statement and appears in another is not intended to affect the interpretation of either statement.

§ 1.5 OWNERSHIP AND USE OF DRAWINGS, SPECIFICATIONS AND OTHER INSTRUMENTS OF SERVICE

§ 1.5.1 The Architect and the Architect's consultants shall be deemed the authors and owners of their respective Instruments of Service, including the Drawings and Specifications, and will retain all common law, statutory and other reserved rights, including copyrights. The Contractor, Subcontractors, Sub-subcontractors, and material or equipment suppliers shall not own or claim a copyright in the Instruments of Service. Submittal or distribution to meet official regulatory requirements or for other purposes in connection with this Project is not to be construed as publication in derogation of the Architect's or Architect's consultants' reserved rights.

§ 1.5.2 The Contractor, Subcontractors, Sub-subcontractors and material or equipment suppliers are authorized to use and reproduce the Instruments of Service provided to them solely and exclusively for execution of the Work. All copies made under this authorization shall bear the copyright notice, if any, shown on the Instruments of Service. The Contractor, Subcontractors, Sub-subcontractors, and material or equipment suppliers may not use the Instruments of Service on other projects or for additions to this Project outside the scope of the Work without the specific written consent of the Owner, Architect and the Architect's consultants.

§ 1.6 TRANSMISSION OF DATA IN DIGITAL FORM

If the parties intend to transmit Instruments of Service or any other information or documentation in digital form, they shall endeavor to establish necessary protocols governing such transmissions, unless otherwise already provided in the Agreement or the Contract Documents.

ARTICLE 2 OWNER

§ 2.1 GENERAL

§ 2.1.1 The Owner is the person or entity identified as such in the Agreement and is referred to throughout the Contract Documents as if singular in number. The Owner shall designate in writing a representative who shall have express authority to bind the Owner with respect to all matters requiring the Owner's approval or authorization. Except as otherwise provided in Section 4.2.1, the Architect does not have such authority. The term "Owner" means the Owner or the Owner's authorized representative.

§ 2.1.2 The Owner shall furnish to the Contractor within fifteen days after receipt of a written request, information necessary and relevant for the Contractor to evaluate, give notice of or enforce mechanic's lien rights. Such information shall include a correct statement of the record legal title to the property on which the Project is located, usually referred to as the site, and the Owner's interest therein.

§ 2.2 INFORMATION AND SERVICES REQUIRED OF THE OWNER

§ 2.2.1 Prior to commencement of the Work, the Contractor may request in writing that the Owner provide reasonable evidence that the Owner has made financial arrangements to fulfill the Owner's obligations under the Contract. Thereafter, the Contractor may only request such evidence if (1) the Owner fails to make payments to the Contractor as the Contract Documents require; (2) a change in the Work materially changes the Contract Sum; or (3) the Contractor identifies in writing a reasonable concern regarding the Owner's ability to make payment when due. The Owner shall furnish such evidence as a condition precedent to commencement or continuation of the Work or the

portion of the Work affected by a material change. After the Owner furnishes the evidence, the Owner shall not materially vary such financial arrangements without prior notice to the Contractor.

§ 2.2.2 Except for permits and fees that are the responsibility of the Contractor under the Contract Documents, including those required under Section 3.7.1, the Owner shall secure and pay for necessary approvals, easements, assessments and charges required for construction, use or occupancy of permanent structures or for permanent changes in existing facilities.

§ 2.2.3 The Owner shall furnish surveys describing physical characteristics, legal limitations and utility locations for the site of the Project, and a legal description of the site. The Contractor shall be entitled to rely on the accuracy of information furnished by the Owner but shall exercise proper precautions relating to the safe performance of the Work.

§ 2.2.4 The Owner shall furnish information or services required of the Owner by the Contract Documents with reasonable promptness. The Owner shall also furnish any other information or services under the Owner's control and relevant to the Contractor's performance of the Work with reasonable promptness after receiving the Contractor's written request for such information or services.

§ 2.2.5 Unless otherwise provided in the Contract Documents, the Owner shall furnish to the Contractor one copy of the Contract Documents for purposes of making reproductions pursuant to Section 1.5.2.

§ 2.3 OWNER'S RIGHT TO STOP THE WORK

If the Contractor fails to correct Work that is not in accordance with the requirements of the Contract Documents as required by Section 12.2 or repeatedly fails to carry out Work in accordance with the Contract Documents, the Owner may issue a written order to the Contractor to stop the Work, or any portion thereof, until the cause for such order has been eliminated; however, the right of the Owner to stop the Work shall not give rise to a duty on the part of the Owner to exercise this right for the benefit of the Contractor or any other person or entity, except to the extent required by Section 6.1.3.

§ 2.4 OWNER'S RIGHT TO CARRY OUT THE WORK

If the Contractor defaults or neglects to carry out the Work in accordance with the Contract Documents and fails within a ten-day period after receipt of written notice from the Owner to commence and continue correction of such default or neglect with diligence and promptness, the Owner may, without prejudice to other remedies the Owner may have, correct such deficiencies. In such case an appropriate Change Order shall be issued deducting from payments then or thereafter due the Contractor the reasonable cost of correcting such deficiencies, including Owner's expenses and compensation for the Architect's additional services made necessary by such default, neglect or failure. Such action by the Owner and amounts charged to the Contractor are both subject to prior approval of the Architect. If payments then or thereafter due the Contractor are not sufficient to cover such amounts, the Contractor shall pay the difference to the Owner.

ARTICLE 3 CONTRACTOR

§ 3.1 GENERAL

§ 3.1.1 The Contractor is the person or entity identified as such in the Agreement and is referred to throughout the Contract Documents as if singular in number. The Contractor shall be lawfully licensed, if required in the jurisdiction where the Project is located. The Contractor shall designate in writing a representative who shall have express authority to bind the Contractor with respect to all matters under this Contract. The term "Contractor" means the Contractor or the Contractor's authorized representative.

§ 3.1.2 The Contractor shall perform the Work in accordance with the Contract Documents.

§ 3.1.3 The Contractor shall not be relieved of obligations to perform the Work in accordance with the Contract Documents either by activities or duties of the Architect in the Architect's administration of the Contract, or by tests, inspections or approvals required or performed by persons or entities other than the Contractor.

§ 3.2 REVIEW OF CONTRACT DOCUMENTS AND FIELD CONDITIONS BY CONTRACTOR

§ 3.2.1 Execution of the Contract by the Contractor is a representation that the Contractor has visited the site, become generally familiar with local conditions under which the Work is to be performed and correlated personal observations with requirements of the Contract Documents.

§ 3.2.2 Because the Contract Documents are complementary, the Contractor shall, before starting each portion of the Work, carefully study and compare the various Contract Documents relative to that portion of the Work, as well as the information furnished by the Owner pursuant to Section 2.2.3, shall take field measurements of any existing conditions related to that portion of the Work, and shall observe any conditions at the site affecting it. These obligations are for the purpose of facilitating coordination and construction by the Contractor and are not for the purpose of discovering errors, omissions, or inconsistencies in the Contract Documents; however, the Contractor shall promptly report to the Architect any errors, inconsistencies or omissions discovered by or made known to the Contractor as a request for information in such form as the Architect may require. It is recognized that the Contractor's review is made in the Contractor's capacity as a contractor and not as a licensed design professional, unless otherwise specifically provided in the Contract Documents.

§ 3.2.3 The Contractor is not required to ascertain that the Contract Documents are in accordance with applicable laws, statutes, ordinances, codes, rules and regulations, or lawful orders of public authorities, but the Contractor shall promptly report to the Architect any nonconformity discovered by or made known to the Contractor as a request for information in such form as the Architect may require.

§ 3.2.4 If the Contractor believes that additional cost or time is involved because of clarifications or instructions the Architect issues in response to the Contractor's notices or requests for information pursuant to Sections 3.2.2 or 3.2.3, the Contractor shall make Claims as provided in Article 15. If the Contractor fails to perform the obligations of Sections 3.2.2 or 3.2.3, the Contractor shall pay such costs and damages to the Owner as would have been avoided if the Contractor had performed such obligations. If the Contractor performs those obligations, the Contractor shall not be liable to the Owner or Architect for damages resulting from errors, inconsistencies or omissions in the Contract Documents, for differences between field measurements or conditions and the Contract Documents, or for nonconformities of the Contract Documents to applicable laws, statutes, ordinances, codes, rules and regulations, and lawful orders of public authorities.

§ 3.3 SUPERVISION AND CONSTRUCTION PROCEDURES

§ 3.3.1 The Contractor shall supervise and direct the Work, using the Contractor's best skill and attention. The Contractor shall be solely responsible for, and have control over, construction means, methods, techniques, sequences and procedures and for coordinating all portions of the Work under the Contract, unless the Contract Documents give other specific instructions concerning these matters. If the Contract Documents give specific instructions concerning construction means, methods, techniques, sequences or procedures, the Contractor shall evaluate the jobsite safety thereof and, except as stated below, shall be fully and solely responsible for the jobsite safety of such means, methods, techniques, sequences or procedures. If the Contractor determines that such means, methods, techniques, sequences or procedures may not be safe, the Contractor shall give timely written notice to the Owner and Architect and shall not proceed with that portion of the Work without further written instructions from the Architect. If the Contractor is then instructed to proceed with the required means, methods, techniques, sequences or procedures without acceptance of changes proposed by the Contractor, the Owner shall be solely responsible for any loss or damage arising solely from those Owner-required means, methods, techniques, sequences or procedures.

§ 3.3.2 The Contractor shall be responsible to the Owner for acts and omissions of the Contractor's employees, Subcontractors and their agents and employees, and other persons or entities performing portions of the Work for, or on behalf of, the Contractor or any of its Subcontractors.

§ 3.3.3 The Contractor shall be responsible for inspection of portions of Work already performed to determine that such portions are in proper condition to receive subsequent Work.

§ 3.4 LABOR AND MATERIALS

§ 3.4.1 Unless otherwise provided in the Contract Documents, the Contractor shall provide and pay for labor, materials, equipment, tools, construction equipment and machinery, water, heat, utilities, transportation, and other facilities and services necessary for proper execution and completion of the Work, whether temporary or permanent and whether or not incorporated or to be incorporated in the Work.

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§ 3.4.2 Except in the case of minor changes in the Work authorized by the Architect in accordance with Sections 3.12.8 or 7.4, the Contractor may make substitutions only with the consent of the Owner, after evaluation by the Architect and in accordance with a Change Order or Construction Change Directive.

§ 3.4.3 The Contractor shall enforce strict discipline and good order among the Contractor's employees and other persons carrying out the Work. The Contractor shall not permit employment of unfit persons or persons not properly skilled in tasks assigned to them.

§ 3.5 WARRANTY

The Contractor warrants to the Owner and Architect that materials and equipment furnished under the Contract will be of good quality and new unless the Contract Documents require or permit otherwise. The Contractor further warrants that the Work will conform to the requirements of the Contract Documents and will be free from defects, except for those inherent in the quality of the Work the Contract Documents require or permit. Work, materials, or equipment not conforming to these requirements may be considered defective. The Contractor's warranty excludes remedy for damage or defect caused by abuse, alterations to the Work not executed by the Contractor, improper or insufficient maintenance, improper operation, or normal wear and tear and normal usage. If required by the Architect, the Contractor shall furnish satisfactory evidence as to the kind and quality of materials and equipment.

§ 3.6 TAXES

The Contractor shall pay sales, consumer, use and similar taxes for the Work provided by the Contractor that are legally enacted when bids are received or negotiations concluded, whether or not yet effective or merely scheduled to go into effect.

§ 3.7 PERMITS, FEES, NOTICES, AND COMPLIANCE WITH LAWS

§ 3.7.1 Unless otherwise provided in the Contract Documents, the Contractor shall secure and pay for the building permit as well as for other permits, fees, licenses, and inspections by government agencies necessary for proper execution and completion of the Work that are customarily secured after execution of the Contract and legally required at the time bids are received or negotiations concluded.

§ 3.7.2 The Contractor shall comply with and give notices required by applicable laws, statutes, ordinances, codes, rules and regulations, and lawful orders of public authorities applicable to performance of the Work.

§ 3.7.3 If the Contractor performs Work knowing it to be contrary to applicable laws, statutes, ordinances, codes, rules and regulations, or lawful orders of public authorities, the Contractor shall assume appropriate responsibility for such Work and shall bear the costs attributable to correction.

§ 3.7.4 **Concealed or Unknown Conditions.** If the Contractor encounters conditions at the site that are (1) subsurface or otherwise concealed physical conditions that differ materially from those indicated in the Contract Documents or (2) unknown physical conditions of an unusual nature, that differ materially from those ordinarily found to exist and generally recognized as inherent in construction activities of the character provided for in the Contract Documents, the Contractor shall promptly provide notice to the Owner and the Architect before conditions are disturbed and in no event later than 21 days after first observance of the conditions. The Architect will promptly investigate such conditions and, if the Architect determines that they differ materially and cause an increase or decrease in the Contractor's cost of, or time required for, performance of any part of the Work, will recommend an equitable adjustment in the Contract Sum or Contract Time, or both. If the Architect determines that the conditions at the site are not materially different from those indicated in the Contract Documents and that no change in the terms of the Contract is justified, the Architect shall promptly notify the Owner and Contractor in writing, stating the reasons. If either party disputes the Architect's determination or recommendation, that party may proceed as provided in Article 15.

§ 3.7.5 If, in the course of the Work, the Contractor encounters human remains or recognizes the existence of burial markers, archaeological sites or wetlands not indicated in the Contract Documents, the Contractor shall immediately suspend any operations that would affect them and shall notify the Owner and Architect. Upon receipt of such notice, the Owner shall promptly take any action necessary to obtain governmental authorization required to resume the operations. The Contractor shall continue to suspend such operations until otherwise instructed by the Owner but shall continue with all other operations that do not affect those remains or features. Requests for adjustments in the Contract Sum and Contract Time arising from the existence of such remains or features may be made as provided in Article 15.

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§ 3.8 ALLOWANCES

§ 3.8.1 The Contractor shall include in the Contract Sum all allowances stated in the Contract Documents. Items covered by allowances shall be supplied for such amounts and by such persons or entities as the Owner may direct, but the Contractor shall not be required to employ persons or entities to whom the Contractor has reasonable objection.

§ 3.8.2 Unless otherwise provided in the Contract Documents,

- .1 allowances shall cover the cost to the Contractor of materials and equipment delivered at the site and all required taxes, less applicable trade discounts;
- .2 Contractor's costs for unloading and handling at the site, labor, installation costs, overhead, profit and other expenses contemplated for stated allowance amounts shall be included in the Contract Sum but not in the allowances; and
- .3 whenever costs are more than or less than allowances, the Contract Sum shall be adjusted accordingly by Change Order. The amount of the Change Order shall reflect (1) the difference between actual costs and the allowances under Section 3.8.2.1 and (2) changes in Contractor's costs under Section 3.8.2.2.

§ 3.8.3 Materials and equipment under an allowance shall be selected by the Owner with reasonable promptness.

§ 3.9 SUPERINTENDENT

§ 3.9.1 The Contractor shall employ a competent superintendent and necessary assistants who shall be in attendance at the Project site during performance of the Work. The superintendent shall represent the Contractor, and communications given to the superintendent shall be as binding as if given to the Contractor.

§ 3.9.2 The Contractor, as soon as practicable after award of the Contract, shall furnish in writing to the Owner through the Architect the name and qualifications of a proposed superintendent. The Architect may reply within 14 days to the Contractor in writing stating (1) whether the Owner or the Architect has reasonable objection to the proposed superintendent or (2) that the Architect requires additional time to review. Failure of the Architect to reply within the 14 day period shall constitute notice of no reasonable objection.

§ 3.9.3 The Contractor shall not employ a proposed superintendent to whom the Owner or Architect has made reasonable and timely objection. The Contractor shall not change the superintendent without the Owner's consent, which shall not unreasonably be withheld or delayed.

§ 3.10 CONTRACTOR'S CONSTRUCTION SCHEDULES

§ 3.10.1 The Contractor, promptly after being awarded the Contract, shall prepare and submit for the Owner's and Architect's information a Contractor's construction schedule for the Work. The schedule shall not exceed time limits current under the Contract Documents, shall be revised at appropriate intervals as required by the conditions of the Work and Project, shall be related to the entire Project to the extent required by the Contract Documents, and shall provide for expeditious and practicable execution of the Work.

§ 3.10.2 The Contractor shall prepare a submittal schedule, promptly after being awarded the Contract and thereafter as necessary to maintain a current submittal schedule, and shall submit the schedule(s) for the Architect's approval. The Architect's approval shall not unreasonably be delayed or withheld. The submittal schedule shall (1) be coordinated with the Contractor's construction schedule, and (2) allow the Architect reasonable time to review submittals. If the Contractor fails to submit a submittal schedule, the Contractor shall not be entitled to any increase in Contract Sum or extension of Contract Time based on the time required for review of submittals.

§ 3.10.3 The Contractor shall perform the Work in general accordance with the most recent schedules submitted to the Owner and Architect.

§ 3.11 DOCUMENTS AND SAMPLES AT THE SITE

The Contractor shall maintain at the site for the Owner one copy of the Drawings, Specifications, Addenda, Change Orders and other Modifications, in good order and marked currently to indicate field changes and selections made during construction, and one copy of approved Shop Drawings, Product Data, Samples and similar required submittals. These shall be available to the Architect and shall be delivered to the Architect for submittal to the Owner upon completion of the Work as a record of the Work as constructed.

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§ 3.12 SHOP DRAWINGS, PRODUCT DATA AND SAMPLES

§ 3.12.1 Shop Drawings are drawings, diagrams, schedules and other data specially prepared for the Work by the Contractor or a Subcontractor, Sub-subcontractor, manufacturer, supplier or distributor to illustrate some portion of the Work.

§ 3.12.2 Product Data are illustrations, standard schedules, performance charts, instructions, brochures, diagrams and other information furnished by the Contractor to illustrate materials or equipment for some portion of the Work.

§ 3.12.3 Samples are physical examples that illustrate materials, equipment or workmanship and establish standards by which the Work will be judged.

§ 3.12.4 Shop Drawings, Product Data, Samples and similar submittals are not Contract Documents. Their purpose is to demonstrate the way by which the Contractor proposes to conform to the information given and the design concept expressed in the Contract Documents for those portions of the Work for which the Contract Documents require submittals. Review by the Architect is subject to the limitations of Section 4.2.7. Informational submittals upon which the Architect is not expected to take responsive action may be so identified in the Contract Documents. Submittals that are not required by the Contract Documents may be returned by the Architect without action.

§ 3.12.5 The Contractor shall review for compliance with the Contract Documents, approve and submit to the Architect Shop Drawings, Product Data, Samples and similar submittals required by the Contract Documents in accordance with the submittal schedule approved by the Architect or, in the absence of an approved submittal schedule, with reasonable promptness and in such sequence as to cause no delay in the Work or in the activities of the Owner or of separate contractors.

§ 3.12.6 By submitting Shop Drawings, Product Data, Samples and similar submittals, the Contractor represents to the Owner and Architect that the Contractor has (1) reviewed and approved them, (2) determined and verified materials, field measurements and field construction criteria related thereto, or will do so and (3) checked and coordinated the information contained within such submittals with the requirements of the Work and of the Contract Documents.

§ 3.12.7 The Contractor shall perform no portion of the Work for which the Contract Documents require submittal and review of Shop Drawings, Product Data, Samples or similar submittals until the respective submittal has been approved by the Architect.

§ 3.12.8 The Work shall be in accordance with approved submittals except that the Contractor shall not be relieved of responsibility for deviations from requirements of the Contract Documents by the Architect's approval of Shop Drawings, Product Data, Samples or similar submittals unless the Contractor has specifically informed the Architect in writing of such deviation at the time of submittal and (1) the Architect has given written approval to the specific deviation as a minor change in the Work, or (2) a Change Order or Construction Change Directive has been issued authorizing the deviation. The Contractor shall not be relieved of responsibility for errors or omissions in Shop Drawings, Product Data, Samples or similar submittals by the Architect's approval thereof.

§ 3.12.9 The Contractor shall direct specific attention, in writing or on resubmitted Shop Drawings, Product Data, Samples or similar submittals, to revisions other than those requested by the Architect on previous submittals. In the absence of such written notice, the Architect's approval of a resubmission shall not apply to such revisions.

§ 3.12.10 The Contractor shall not be required to provide professional services that constitute the practice of architecture or engineering unless such services are specifically required by the Contract Documents for a portion of the Work or unless the Contractor needs to provide such services in order to carry out the Contractor's responsibilities for construction means, methods, techniques, sequences and procedures. The Contractor shall not be required to provide professional services in violation of applicable law. If professional design services or certifications by a design professional related to systems, materials or equipment are specifically required of the Contractor by the Contract Documents, the Owner and the Architect will specify all performance and design criteria that such services must satisfy. The Contractor shall cause such services or certifications to be provided by a properly licensed design professional, whose signature and seal shall appear on all drawings, calculations, specifications, certifications, Shop Drawings and other submittals prepared by such professional. Shop Drawings and other submittals related to the Work designed or certified by such professional, if prepared by others, shall bear such professional's written approval when submitted to the Architect. The Owner and the Architect shall be entitled to rely upon the adequacy, accuracy and

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completeness of the services, certifications and approvals performed or provided by such design professionals, provided the Owner and Architect have specified to the Contractor all performance and design criteria that such services must satisfy. Pursuant to this Section 3.12.10, the Architect will review, approve or take other appropriate action on submittals only for the limited purpose of checking for conformance with information given and the design concept expressed in the Contract Documents. The Contractor shall not be responsible for the adequacy of the performance and design criteria specified in the Contract Documents.

§ 3.13 USE OF SITE

The Contractor shall confine operations at the site to areas permitted by applicable laws, statutes, ordinances, codes, rules and regulations, and lawful orders of public authorities and the Contract Documents and shall not unreasonably encumber the site with materials or equipment.

§ 3.14 CUTTING AND PATCHING

§ 3.14.1 The Contractor shall be responsible for cutting, fitting or patching required to complete the Work or to make its parts fit together properly. All areas requiring cutting, fitting and patching shall be restored to the condition existing prior to the cutting, fitting and patching, unless otherwise required by the Contract Documents.

§ 3.14.2 The Contractor shall not damage or endanger a portion of the Work or fully or partially completed construction of the Owner or separate contractors by cutting, patching or otherwise altering such construction, or by excavation. The Contractor shall not cut or otherwise alter such construction by the Owner or a separate contractor except with written consent of the Owner and of such separate contractor; such consent shall not be unreasonably withheld. The Contractor shall not unreasonably withhold from the Owner or a separate contractor the Contractor's consent to cutting or otherwise altering the Work.

§ 3.15 CLEANING UP

§ 3.15.1 The Contractor shall keep the premises and surrounding area free from accumulation of waste materials or rubbish caused by operations under the Contract. At completion of the Work, the Contractor shall remove waste materials, rubbish, the Contractor's tools, construction equipment, machinery and surplus materials from and about the Project.

§ 3.15.2 If the Contractor fails to clean up as provided in the Contract Documents, the Owner may do so and Owner shall be entitled to reimbursement from the Contractor.

§ 3.16 ACCESS TO WORK

The Contractor shall provide the Owner and Architect access to the Work in preparation and progress wherever located.

§ 3.17 ROYALTIES, PATENTS AND COPYRIGHTS

The Contractor shall pay all royalties and license fees. The Contractor shall defend suits or claims for infringement of copyrights and patent rights and shall hold the Owner and Architect harmless from loss on account thereof, but shall not be responsible for such defense or loss when a particular design, process or product of a particular manufacturer or manufacturers is required by the Contract Documents, or where the copyright violations are contained in Drawings, Specifications or other documents prepared by the Owner or Architect. However, if the Contractor has reason to believe that the required design, process or product is an infringement of a copyright or a patent, the Contractor shall be responsible for such loss unless such information is promptly furnished to the Architect.

§ 3.18 INDEMNIFICATION

§ 3.18.1 To the fullest extent permitted by law the Contractor shall indemnify and hold harmless the Owner, Architect, Architect's consultants, and agents and employees of any of them from and against claims, damages, losses and expenses, including but not limited to attorneys' fees, arising out of or resulting from performance of the Work, provided that such claim, damage, loss or expense is attributable to bodily injury, sickness, disease or death, or to injury to or destruction of tangible property (other than the Work itself), but only to the extent caused by the negligent acts or omissions of the Contractor, a Subcontractor, anyone directly or indirectly employed by them or anyone for whose acts they may be liable, regardless of whether or not such claim, damage, loss or expense is caused in part by a party indemnified hereunder. Such obligation shall not be construed to negate, abridge, or reduce other rights or obligations of indemnity which would otherwise exist as to a party or person described in this Section 3.18.

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§ 3.18.2 In claims against any person or entity indemnified under this Section 3.18 by an employee of the Contractor, a Subcontractor, anyone directly or indirectly employed by them or anyone for whose acts they may be liable, the indemnification obligation under Section 3.18.1 shall not be limited by a limitation on amount or type of damages, compensation or benefits payable by or for the Contractor or a Subcontractor under workers' compensation acts, disability benefit acts or other employee benefit acts.

ARTICLE 4 ARCHITECT

§ 4.1 GENERAL

§ 4.1.1 The Owner shall retain an architect lawfully licensed to practice architecture or an entity lawfully practicing architecture in the jurisdiction where the Project is located. That person or entity is identified as the Architect in the Agreement and is referred to throughout the Contract Documents as if singular in number.

§ 4.1.2 Duties, responsibilities and limitations of authority of the Architect as set forth in the Contract Documents shall not be restricted, modified or extended without written consent of the Owner, Contractor and Architect. Consent shall not be unreasonably withheld.

§ 4.1.3 If the employment of the Architect is terminated, the Owner shall employ a successor architect as to whom the Contractor has no reasonable objection and whose status under the Contract Documents shall be that of the Architect.

§ 4.2 ADMINISTRATION OF THE CONTRACT

§ 4.2.1 The Architect will provide administration of the Contract as described in the Contract Documents and will be an Owner's representative during construction until the date the Architect issues the final Certificate For Payment. The Architect will have authority to act on behalf of the Owner only to the extent provided in the Contract Documents.

§ 4.2.2 The Architect will visit the site at intervals appropriate to the stage of construction, or as otherwise agreed with the Owner, to become generally familiar with the progress and quality of the portion of the Work completed, and to determine in general if the Work observed is being performed in a manner indicating that the Work, when fully completed, will be in accordance with the Contract Documents. However, the Architect will not be required to make exhaustive or continuous on-site inspections to check the quality or quantity of the Work. The Architect will not have control over, charge of, or responsibility for, the construction means, methods, techniques, sequences or procedures, or for the safety precautions and programs in connection with the Work, since these are solely the Contractor's rights and responsibilities under the Contract Documents, except as provided in Section 3.3.1.

§ 4.2.3 On the basis of the site visits, the Architect will keep the Owner reasonably informed about the progress and quality of the portion of the Work completed, and report to the Owner (1) known deviations from the Contract Documents and from the most recent construction schedule submitted by the Contractor, and (2) defects and deficiencies observed in the Work. The Architect will not be responsible for the Contractor's failure to perform the Work in accordance with the requirements of the Contract Documents. The Architect will not have control over or charge of and will not be responsible for acts or omissions of the Contractor, Subcontractors, or their agents or employees, or any other persons or entities performing portions of the Work.

§ 4.2.4 COMMUNICATIONS FACILITATING CONTRACT ADMINISTRATION

Except as otherwise provided in the Contract Documents or when direct communications have been specially authorized, the Owner and Contractor shall endeavor to communicate with each other through the Architect about matters arising out of or relating to the Contract. Communications by and with the Architect's consultants shall be through the Architect. Communications by and with Subcontractors and material suppliers shall be through the Contractor. Communications by and with separate contractors shall be through the Owner.

§ 4.2.5 Based on the Architect's evaluations of the Contractor's Applications for Payment, the Architect will review and certify the amounts due the Contractor and will issue Certificates for Payment in such amounts.

§ 4.2.6 The Architect has authority to reject Work that does not conform to the Contract Documents. Whenever the Architect considers it necessary or advisable, the Architect will have authority to require inspection or testing of the Work in accordance with Sections 13.5.2 and 13.5.3, whether or not such Work is fabricated, installed or completed. However, neither this authority of the Architect nor a decision made in good faith either to exercise or not to exercise such authority shall give rise to a duty or responsibility of the Architect to the Contractor, Subcontractors, material and equipment suppliers, their agents or employees, or other persons or entities performing portions of the Work.

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§ 4.2.7 The Architect will review and approve, or take other appropriate action upon, the Contractor's submittals such as Shop Drawings, Product Data and Samples, but only for the limited purpose of checking for conformance with information given and the design concept expressed in the Contract Documents. The Architect's action will be taken in accordance with the submittal schedule approved by the Architect or, in the absence of an approved submittal schedule, with reasonable promptness while allowing sufficient time in the Architect's professional judgment to permit adequate review. Review of such submittals is not conducted for the purpose of determining the accuracy and completeness of other details such as dimensions and quantities, or for substantiating instructions for installation or performance of equipment or systems, all of which remain the responsibility of the Contractor as required by the Contract Documents. The Architect's review of the Contractor's submittals shall not relieve the Contractor of the obligations under Sections 3.3, 3.5 and 3.12. The Architect's review shall not constitute approval of safety precautions or, unless otherwise specifically stated by the Architect, of any construction means, methods, techniques, sequences or procedures. The Architect's approval of a specific item shall not indicate approval of an assembly of which the item is a component.

§ 4.2.8 The Architect will prepare Change Orders and Construction Change Directives, and may authorize minor changes in the Work as provided in Section 7.4. The Architect will investigate and make determinations and recommendations regarding concealed and unknown conditions as provided in Section 3.7.4.

§ 4.2.9 The Architect will conduct inspections to determine the date or dates of Substantial Completion and the date of final completion; issue Certificates of Substantial Completion pursuant to Section 9.8; receive and forward to the Owner, for the Owner's review and records, written warranties and related documents required by the Contract and assembled by the Contractor pursuant to Section 9.10; and issue a final Certificate for Payment pursuant to Section 9.10.

§ 4.2.10 If the Owner and Architect agree, the Architect will provide one or more project representatives to assist in carrying out the Architect's responsibilities at the site. The duties, responsibilities and limitations of authority of such project representatives shall be as set forth in an exhibit to be incorporated in the Contract Documents.

§ 4.2.11 The Architect will interpret and decide matters concerning performance under, and requirements of, the Contract Documents on written request of either the Owner or Contractor. The Architect's response to such requests will be made in writing within any time limits agreed upon or otherwise with reasonable promptness.

§ 4.2.12 Interpretations and decisions of the Architect will be consistent with the intent of, and reasonably inferable from, the Contract Documents and will be in writing or in the form of drawings. When making such interpretations and decisions, the Architect will endeavor to secure faithful performance by both Owner and Contractor, will not show partiality to either and will not be liable for results of interpretations or decisions rendered in good faith.

§ 4.2.13 The Architect's decisions on matters relating to aesthetic effect will be final if consistent with the intent expressed in the Contract Documents.

§ 4.2.14 The Architect will review and respond to requests for information about the Contract Documents. The Architect's response to such requests will be made in writing within any time limits agreed upon or otherwise with reasonable promptness. If appropriate, the Architect will prepare and issue supplemental Drawings and Specifications in response to the requests for information.

ARTICLE 5 SUBCONTRACTORS

§ 5.1 DEFINITIONS

§ 5.1.1 A Subcontractor is a person or entity who has a direct contract with the Contractor to perform a portion of the Work at the site. The term "Subcontractor" is referred to throughout the Contract Documents as if singular in number and means a Subcontractor or an authorized representative of the Subcontractor. The term "Subcontractor" does not include a separate contractor or subcontractors of a separate contractor.

§ 5.1.2 A Sub-subcontractor is a person or entity who has a direct or indirect contract with a Subcontractor to perform a portion of the Work at the site. The term "Sub-subcontractor" is referred to throughout the Contract Documents as if singular in number and means a Sub-subcontractor or an authorized representative of the Sub-subcontractor.

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§ 5.2 AWARD OF SUBCONTRACTS AND OTHER CONTRACTS FOR PORTIONS OF THE WORK

§ 5.2.1 Unless otherwise stated in the Contract Documents or the bidding requirements, the Contractor, as soon as practicable after award of the Contract, shall furnish in writing to the Owner through the Architect the names of persons or entities (including those who are to furnish materials or equipment fabricated to a special design) proposed for each principal portion of the Work. The Architect may reply within 14 days to the Contractor in writing stating (1) whether the Owner or the Architect has reasonable objection to any such proposed person or entity or (2) that the Architect requires additional time for review. Failure of the Owner or Architect to reply within the 14 day period shall constitute notice of no reasonable objection.

§ 5.2.2 The Contractor shall not contract with a proposed person or entity to whom the Owner or Architect has made reasonable and timely objection. The Contractor shall not be required to contract with anyone to whom the Contractor has made reasonable objection.

§ 5.2.3 If the Owner or Architect has reasonable objection to a person or entity proposed by the Contractor, the Contractor shall propose another to whom the Owner or Architect has no reasonable objection. If the proposed but rejected Subcontractor was reasonably capable of performing the Work, the Contract Sum and Contract Time shall be increased or decreased by the difference, if any, occasioned by such change, and an appropriate Change Order shall be issued before commencement of the substitute Subcontractor's Work. However, no increase in the Contract Sum or Contract Time shall be allowed for such change unless the Contractor has acted promptly and responsively in submitting names as required.

§ 5.2.4 The Contractor shall not substitute a Subcontractor, person or entity previously selected if the Owner or Architect makes reasonable objection to such substitution.

§ 5.3 SUBCONTRACTUAL RELATIONS

By appropriate agreement, written where legally required for validity, the Contractor shall require each Subcontractor, to the extent of the Work to be performed by the Subcontractor, to be bound to the Contractor by terms of the Contract Documents, and to assume toward the Contractor all the obligations and responsibilities, including the responsibility for safety of the Subcontractor's Work, which the Contractor, by these Documents, assumes toward the Owner and Architect. Each subcontract agreement shall preserve and protect the rights of the Owner and Architect under the Contract Documents with respect to the Work to be performed by the Subcontractor so that subcontracting thereof will not prejudice such rights, and shall allow to the Subcontractor, unless specifically provided otherwise in the subcontract agreement, the benefit of all rights, remedies and redress against the Contractor that the Contractor, by the Contract Documents, has against the Owner. Where appropriate, the Contractor shall require each Subcontractor to enter into similar agreements with Sub-subcontractors. The Contractor shall make available to each proposed Subcontractor, prior to the execution of the subcontract agreement, copies of the Contract Documents to which the Subcontractor will be bound, and, upon written request of the Subcontractor, identify to the Subcontractor terms and conditions of the proposed subcontract agreement that may be at variance with the Contract Documents. Subcontractors will similarly make copies of applicable portions of such documents available to their respective proposed Sub-subcontractors.

§ 5.4 CONTINGENT ASSIGNMENT OF SUBCONTRACTS

§ 5.4.1 Each subcontract agreement for a portion of the Work is assigned by the Contractor to the Owner, provided that

- .1 assignment is effective only after termination of the Contract by the Owner for cause pursuant to Section 14.2 and only for those subcontract agreements that the Owner accepts by notifying the Subcontractor and Contractor in writing; and
- .2 assignment is subject to the prior rights of the surety, if any, obligated under bond relating to the Contract.

When the Owner accepts the assignment of a subcontract agreement, the Owner assumes the Contractor's rights and obligations under the subcontract.

§ 5.4.2 Upon such assignment, if the Work has been suspended for more than 30 days, the Subcontractor's compensation shall be equitably adjusted for increases in cost resulting from the suspension.

§ 5.4.3 Upon such assignment to the Owner under this Section 5.4, the Owner may further assign the subcontract to a successor contractor or other entity. If the Owner assigns the subcontract to a successor contractor or other entity, the

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Owner shall nevertheless remain legally responsible for all of the successor contractor's obligations under the subcontract.

ARTICLE 6 CONSTRUCTION BY OWNER OR BY SEPARATE CONTRACTORS

§ 6.1 OWNER'S RIGHT TO PERFORM CONSTRUCTION AND TO AWARD SEPARATE CONTRACTS

§ 6.1.1 The Owner reserves the right to perform construction or operations related to the Project with the Owner's own forces, and to award separate contracts in connection with other portions of the Project or other construction or operations on the site under Conditions of the Contract identical or substantially similar to these including those portions related to insurance and waiver of subrogation. If the Contractor claims that delay or additional cost is involved because of such action by the Owner, the Contractor shall make such Claim as provided in Article 15.

§ 6.1.2 When separate contracts are awarded for different portions of the Project or other construction or operations on the site, the term "Contractor" in the Contract Documents in each case shall mean the Contractor who executes each separate Owner-Contractor Agreement.

§ 6.1.3 The Owner shall provide for coordination of the activities of the Owner's own forces and of each separate contractor with the Work of the Contractor, who shall cooperate with them. The Contractor shall participate with other separate contractors and the Owner in reviewing their construction schedules. The Contractor shall make any revisions to the construction schedule deemed necessary after a joint review and mutual agreement. The construction schedules shall then constitute the schedules to be used by the Contractor, separate contractors and the Owner until subsequently revised.

§ 6.1.4 Unless otherwise provided in the Contract Documents, when the Owner performs construction or operations related to the Project with the Owner's own forces, the Owner shall be deemed to be subject to the same obligations and to have the same rights that apply to the Contractor under the Conditions of the Contract, including, without excluding others, those stated in Article 3, this Article 6 and Articles 10, 11 and 12.

§ 6.2 MUTUAL RESPONSIBILITY

§ 6.2.1 The Contractor shall afford the Owner and separate contractors reasonable opportunity for introduction and storage of their materials and equipment and performance of their activities, and shall connect and coordinate the Contractor's construction and operations with theirs as required by the Contract Documents.

§ 6.2.2 If part of the Contractor's Work depends for proper execution or results upon construction or operations by the Owner or a separate contractor, the Contractor shall, prior to proceeding with that portion of the Work, promptly report to the Architect apparent discrepancies or defects in such other construction that would render it unsuitable for such proper execution and results. Failure of the Contractor so to report shall constitute an acknowledgment that the Owner's or separate contractor's completed or partially completed construction is fit and proper to receive the Contractor's Work, except as to defects not then reasonably discoverable.

§ 6.2.3 The Contractor shall reimburse the Owner for costs the Owner incurs that are payable to a separate contractor because of the Contractor's delays, improperly timed activities or defective construction. The Owner shall be responsible to the Contractor for costs the Contractor incurs because of a separate contractor's delays, improperly timed activities, damage to the Work or defective construction.

§ 6.2.4 The Contractor shall promptly remedy damage the Contractor wrongfully causes to completed or partially completed construction or to property of the Owner or separate contractors as provided in Section 10.2.5.

§ 6.2.5 The Owner and each separate contractor shall have the same responsibilities for cutting and patching as are described for the Contractor in Section 3.14.

§ 6.3 OWNER'S RIGHT TO CLEAN UP

If a dispute arises among the Contractor, separate contractors and the Owner as to the responsibility under their respective contracts for maintaining the premises and surrounding area free from waste materials and rubbish, the Owner may clean up and the Architect will allocate the cost among those responsible.

ARTICLE 7 CHANGES IN THE WORK**§ 7.1 GENERAL**

§ 7.1.1 Changes in the Work may be accomplished after execution of the Contract, and without invalidating the Contract, by Change Order, Construction Change Directive or order for a minor change in the Work, subject to the limitations stated in this Article 7 and elsewhere in the Contract Documents.

§ 7.1.2 A Change Order shall be based upon agreement among the Owner, Contractor and Architect; a Construction Change Directive requires agreement by the Owner and Architect and may or may not be agreed to by the Contractor; an order for a minor change in the Work may be issued by the Architect alone.

§ 7.1.3 Changes in the Work shall be performed under applicable provisions of the Contract Documents, and the Contractor shall proceed promptly, unless otherwise provided in the Change Order, Construction Change Directive or order for a minor change in the Work.

§ 7.2 CHANGE ORDERS

§ 7.2.1 A Change Order is a written instrument prepared by the Architect and signed by the Owner, Contractor and Architect stating their agreement upon all of the following:

- .1 The change in the Work;
- .2 The amount of the adjustment, if any, in the Contract Sum; and
- .3 The extent of the adjustment, if any, in the Contract Time.

§ 7.3 CONSTRUCTION CHANGE DIRECTIVES

§ 7.3.1 A Construction Change Directive is a written order prepared by the Architect and signed by the Owner and Architect, directing a change in the Work prior to agreement on adjustment, if any, in the Contract Sum or Contract Time, or both. The Owner may by Construction Change Directive, without invalidating the Contract, order changes in the Work within the general scope of the Contract consisting of additions, deletions or other revisions, the Contract Sum and Contract Time being adjusted accordingly.

§ 7.3.2 A Construction Change Directive shall be used in the absence of total agreement on the terms of a Change Order.

§ 7.3.3 If the Construction Change Directive provides for an adjustment to the Contract Sum, the adjustment shall be based on one of the following methods:

- .1 Mutual acceptance of a lump sum properly itemized and supported by sufficient substantiating data to permit evaluation;
- .2 Unit prices stated in the Contract Documents or subsequently agreed upon;
- .3 Cost to be determined in a manner agreed upon by the parties and a mutually acceptable fixed or percentage fee; or
- .4 As provided in Section 7.3.7.

§ 7.3.4 If unit prices are stated in the Contract Documents or subsequently agreed upon, and if quantities originally contemplated are materially changed in a proposed Change Order or Construction Change Directive so that application of such unit prices to quantities of Work proposed will cause substantial inequity to the Owner or Contractor, the applicable unit prices shall be equitably adjusted.

§ 7.3.5 Upon receipt of a Construction Change Directive, the Contractor shall promptly proceed with the change in the Work involved and advise the Architect of the Contractor's agreement or disagreement with the method, if any, provided in the Construction Change Directive for determining the proposed adjustment in the Contract Sum or Contract Time.

§ 7.3.6 A Construction Change Directive signed by the Contractor indicates the Contractor's agreement therewith, including adjustment in Contract Sum and Contract Time or the method for determining them. Such agreement shall be effective immediately and shall be recorded as a Change Order.

§ 7.3.7 If the Contractor does not respond promptly or disagrees with the method for adjustment in the Contract Sum, the Architect shall determine the method and the adjustment on the basis of reasonable expenditures and savings of those performing the Work attributable to the change, including, in case of an increase in the Contract Sum, an amount

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for overhead and profit as set forth in the Agreement, or if no such amount is set forth in the Agreement, a reasonable amount. In such case, and also under Section 7.3.3.3, the Contractor shall keep and present, in such form as the Architect may prescribe, an itemized accounting together with appropriate supporting data. Unless otherwise provided in the Contract Documents, costs for the purposes of this Section 7.3.7 shall be limited to the following:

- .1 Costs of labor, including social security, old age and unemployment insurance, fringe benefits required by agreement or custom, and workers' compensation insurance;
- .2 Costs of materials, supplies and equipment, including cost of transportation, whether incorporated or consumed;
- .3 Rental costs of machinery and equipment, exclusive of hand tools, whether rented from the Contractor or others;
- .4 Costs of premiums for all bonds and insurance, permit fees, and sales, use or similar taxes related to the Work; and
- .5 Additional costs of supervision and field office personnel directly attributable to the change.

§ 7.3.8 The amount of credit to be allowed by the Contractor to the Owner for a deletion or change that results in a net decrease in the Contract Sum shall be actual net cost as confirmed by the Architect. When both additions and credits covering related Work or substitutions are involved in a change, the allowance for overhead and profit shall be figured on the basis of net increase, if any, with respect to that change.

§ 7.3.9 Pending final determination of the total cost of a Construction Change Directive to the Owner, the Contractor may request payment for Work completed under the Construction Change Directive in Applications for Payment. The Architect will make an interim determination for purposes of monthly certification for payment for those costs and certify for payment the amount that the Architect determines, in the Architect's professional judgment, to be reasonably justified. The Architect's interim determination of cost shall adjust the Contract Sum on the same basis as a Change Order, subject to the right of either party to disagree and assert a Claim in accordance with Article 15.

§ 7.3.10 When the Owner and Contractor agree with a determination made by the Architect concerning the adjustments in the Contract Sum and Contract Time, or otherwise reach agreement upon the adjustments, such agreement shall be effective immediately and the Architect will prepare a Change Order. Change Orders may be issued for all or any part of a Construction Change Directive.

§ 7.4 MINOR CHANGES IN THE WORK

The Architect has authority to order minor changes in the Work not involving adjustment in the Contract Sum or extension of the Contract Time and not inconsistent with the intent of the Contract Documents. Such changes will be effected by written order signed by the Architect and shall be binding on the Owner and Contractor.

ARTICLE 8 TIME

§ 8.1 DEFINITIONS

§ 8.1.1 Unless otherwise provided, Contract Time is the period of time, including authorized adjustments, allotted in the Contract Documents for Substantial Completion of the Work.

§ 8.1.2 The date of commencement of the Work is the date established in the Agreement.

§ 8.1.3 The date of Substantial Completion is the date certified by the Architect in accordance with Section 9.8.

§ 8.1.4 The term "day" as used in the Contract Documents shall mean calendar day unless otherwise specifically defined.

§ 8.2 PROGRESS AND COMPLETION

§ 8.2.1 Time limits stated in the Contract Documents are of the essence of the Contract. By executing the Agreement the Contractor confirms that the Contract Time is a reasonable period for performing the Work.

§ 8.2.2 The Contractor shall not knowingly, except by agreement or instruction of the Owner in writing, prematurely commence operations on the site or elsewhere prior to the effective date of insurance required by Article 11 to be furnished by the Contractor and Owner. The date of commencement of the Work shall not be changed by the effective date of such insurance.

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§ 8.2.3 The Contractor shall proceed expeditiously with adequate forces and shall achieve Substantial Completion within the Contract Time.

§ 8.3 DELAYS AND EXTENSIONS OF TIME

§ 8.3.1 If the Contractor is delayed at any time in the commencement or progress of the Work by an act or neglect of the Owner or Architect, or of an employee of either, or of a separate contractor employed by the Owner; or by changes ordered in the Work; or by labor disputes, fire, unusual delay in deliveries, unavoidable casualties or other causes beyond the Contractor's control; or by delay authorized by the Owner pending mediation and arbitration; or by other causes that the Architect determines may justify delay, then the Contract Time shall be extended by Change Order for such reasonable time as the Architect may determine.

§ 8.3.2 Claims relating to time shall be made in accordance with applicable provisions of Article 15.

§ 8.3.3 This Section 8.3 does not preclude recovery of damages for delay by either party under other provisions of the Contract Documents.

ARTICLE 9 PAYMENTS AND COMPLETION

§ 9.1 CONTRACT SUM

The Contract Sum is stated in the Agreement and, including authorized adjustments, is the total amount payable by the Owner to the Contractor for performance of the Work under the Contract Documents.

§ 9.2 SCHEDULE OF VALUES

Where the Contract is based on a stipulated sum or Guaranteed Maximum Price, the Contractor shall submit to the Architect, before the first Application for Payment, a schedule of values allocating the entire Contract Sum to the various portions of the Work and prepared in such form and supported by such data to substantiate its accuracy as the Architect may require. This schedule, unless objected to by the Architect, shall be used as a basis for reviewing the Contractor's Applications for Payment.

§ 9.3 APPLICATIONS FOR PAYMENT

§ 9.3.1 At least ten days before the date established for each progress payment, the Contractor shall submit to the Architect an itemized Application for Payment prepared in accordance with the schedule of values, if required under Section 9.2., for completed portions of the Work. Such application shall be notarized, if required, and supported by such data substantiating the Contractor's right to payment as the Owner or Architect may require, such as copies of requisitions from Subcontractors and material suppliers, and shall reflect retainage if provided for in the Contract Documents.

§ 9.3.1.1 As provided in Section 7.3.9, such applications may include requests for payment on account of changes in the Work that have been properly authorized by Construction Change Directives, or by interim determinations of the Architect, but not yet included in Change Orders.

§ 9.3.1.2 Applications for Payment shall not include requests for payment for portions of the Work for which the Contractor does not intend to pay a Subcontractor or material supplier, unless such Work has been performed by others whom the Contractor intends to pay.

§ 9.3.2 Unless otherwise provided in the Contract Documents, payments shall be made on account of materials and equipment delivered and suitably stored at the site for subsequent incorporation in the Work. If approved in advance by the Owner, payment may similarly be made for materials and equipment suitably stored off the site at a location agreed upon in writing. Payment for materials and equipment stored on or off the site shall be conditioned upon compliance by the Contractor with procedures satisfactory to the Owner to establish the Owner's title to such materials and equipment or otherwise protect the Owner's interest, and shall include the costs of applicable insurance, storage and transportation to the site for such materials and equipment stored off the site.

§ 9.3.3 The Contractor warrants that title to all Work covered by an Application for Payment will pass to the Owner no later than the time of payment. The Contractor further warrants that upon submittal of an Application for Payment all Work for which Certificates for Payment have been previously issued and payments received from the Owner shall, to the best of the Contractor's knowledge, information and belief, be free and clear of liens, claims, security interests or

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encumbrances in favor of the Contractor, Subcontractors, material suppliers, or other persons or entities making a claim by reason of having provided labor, materials and equipment relating to the Work.

§ 9.4 CERTIFICATES FOR PAYMENT

§ 9.4.1 The Architect will, within seven days after receipt of the Contractor's Application for Payment, either issue to the Owner a Certificate for Payment, with a copy to the Contractor, for such amount as the Architect determines is properly due, or notify the Contractor and Owner in writing of the Architect's reasons for withholding certification in whole or in part as provided in Section 9.5.1.

§ 9.4.2 The issuance of a Certificate for Payment will constitute a representation by the Architect to the Owner, based on the Architect's evaluation of the Work and the data comprising the Application for Payment, that, to the best of the Architect's knowledge, information and belief, the Work has progressed to the point indicated and that the quality of the Work is in accordance with the Contract Documents. The foregoing representations are subject to an evaluation of the Work for conformance with the Contract Documents upon Substantial Completion, to results of subsequent tests and inspections, to correction of minor deviations from the Contract Documents prior to completion and to specific qualifications expressed by the Architect. The issuance of a Certificate for Payment will further constitute a representation that the Contractor is entitled to payment in the amount certified. However, the issuance of a Certificate for Payment will not be a representation that the Architect has (1) made exhaustive or continuous on-site inspections to check the quality or quantity of the Work, (2) reviewed construction means, methods, techniques, sequences or procedures, (3) reviewed copies of requisitions received from Subcontractors and material suppliers and other data requested by the Owner to substantiate the Contractor's right to payment, or (4) made examination to ascertain how or for what purpose the Contractor has used money previously paid on account of the Contract Sum.

§ 9.5 DECISIONS TO WITHHOLD CERTIFICATION

§ 9.5.1 The Architect may withhold a Certificate for Payment in whole or in part, to the extent reasonably necessary to protect the Owner, if in the Architect's opinion the representations to the Owner required by Section 9.4.2 cannot be made. If the Architect is unable to certify payment in the amount of the Application, the Architect will notify the Contractor and Owner as provided in Section 9.4.1. If the Contractor and Architect cannot agree on a revised amount, the Architect will promptly issue a Certificate for Payment for the amount for which the Architect is able to make such representations to the Owner. The Architect may also withhold a Certificate for Payment or, because of subsequently discovered evidence, may nullify the whole or a part of a Certificate for Payment previously issued, to such extent as may be necessary in the Architect's opinion to protect the Owner from loss for which the Contractor is responsible, including loss resulting from acts and omissions described in Section 3.3.2, because of

- .1 defective Work not remedied;
- .2 third party claims filed or reasonable evidence indicating probable filing of such claims unless security acceptable to the Owner is provided by the Contractor;
- .3 failure of the Contractor to make payments properly to Subcontractors or for labor, materials or equipment;
- .4 reasonable evidence that the Work cannot be completed for the unpaid balance of the Contract Sum;
- .5 damage to the Owner or a separate contractor;
- .6 reasonable evidence that the Work will not be completed within the Contract Time, and that the unpaid balance would not be adequate to cover actual or liquidated damages for the anticipated delay; or
- .7 repeated failure to carry out the Work in accordance with the Contract Documents.

§ 9.5.2 When the above reasons for withholding certification are removed, certification will be made for amounts previously withheld.

§ 9.5.3 If the Architect withholds certification for payment under Section 9.5.1.3, the Owner may, at its sole option, issue joint checks to the Contractor and to any Subcontractor or material or equipment suppliers to whom the Contractor failed to make payment for Work properly performed or material or equipment suitably delivered. If the Owner makes payments by joint check, the Owner shall notify the Architect and the Architect will reflect such payment on the next Certificate for Payment.

§ 9.6 PROGRESS PAYMENTS

§ 9.6.1 After the Architect has issued a Certificate for Payment, the Owner shall make payment in the manner and within the time provided in the Contract Documents, and shall so notify the Architect.

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§ 9.6.2 The Contractor shall pay each Subcontractor no later than seven days after receipt of payment from the Owner the amount to which the Subcontractor is entitled, reflecting percentages actually retained from payments to the Contractor on account of the Subcontractor's portion of the Work. The Contractor shall, by appropriate agreement with each Subcontractor, require each Subcontractor to make payments to Sub-subcontractors in a similar manner.

§ 9.6.3 The Architect will, on request, furnish to a Subcontractor, if practicable, information regarding percentages of completion or amounts applied for by the Contractor and action taken thereon by the Architect and Owner on account of portions of the Work done by such Subcontractor.

§ 9.6.4 The Owner has the right to request written evidence from the Contractor that the Contractor has properly paid Subcontractors and material and equipment suppliers amounts paid by the Owner to the Contractor for subcontracted Work. If the Contractor fails to furnish such evidence within seven days, the Owner shall have the right to contact Subcontractors to ascertain whether they have been properly paid. Neither the Owner nor Architect shall have an obligation to pay or to see to the payment of money to a Subcontractor, except as may otherwise be required by law.

§ 9.6.5 Contractor payments to material and equipment suppliers shall be treated in a manner similar to that provided in Sections 9.6.2, 9.6.3 and 9.6.4.

§ 9.6.6 A Certificate for Payment, a progress payment, or partial or entire use or occupancy of the Project by the Owner shall not constitute acceptance of Work not in accordance with the Contract Documents.

§ 9.6.7 Unless the Contractor provides the Owner with a payment bond in the full penal sum of the Contract Sum, payments received by the Contractor for Work properly performed by Subcontractors and suppliers shall be held by the Contractor for those Subcontractors or suppliers who performed Work or furnished materials, or both, under contract with the Contractor for which payment was made by the Owner. Nothing contained herein shall require money to be placed in a separate account and not commingled with money of the Contractor, shall create any fiduciary liability or tort liability on the part of the Contractor for breach of trust or shall entitle any person or entity to an award of punitive damages against the Contractor for breach of the requirements of this provision.

§ 9.7 FAILURE OF PAYMENT

If the Architect does not issue a Certificate for Payment, through no fault of the Contractor, within seven days after receipt of the Contractor's Application for Payment, or if the Owner does not pay the Contractor within seven days after the date established in the Contract Documents the amount certified by the Architect or awarded by binding dispute resolution, then the Contractor may, upon seven additional days' written notice to the Owner and Architect, stop the Work until payment of the amount owing has been received. The Contract Time shall be extended appropriately and the Contract Sum shall be increased by the amount of the Contractor's reasonable costs of shut-down, delay and start-up, plus interest as provided for in the Contract Documents.

§ 9.8 SUBSTANTIAL COMPLETION

§ 9.8.1 Substantial Completion is the stage in the progress of the Work when the Work or designated portion thereof is sufficiently complete in accordance with the Contract Documents so that the Owner can occupy or utilize the Work for its intended use.

§ 9.8.2 When the Contractor considers that the Work, or a portion thereof which the Owner agrees to accept separately, is substantially complete, the Contractor shall prepare and submit to the Architect a comprehensive list of items to be completed or corrected prior to final payment. Failure to include an item on such list does not alter the responsibility of the Contractor to complete all Work in accordance with the Contract Documents.

§ 9.8.3 Upon receipt of the Contractor's list, the Architect will make an inspection to determine whether the Work or designated portion thereof is substantially complete. If the Architect's inspection discloses any item, whether or not included on the Contractor's list, which is not sufficiently complete in accordance with the Contract Documents so that the Owner can occupy or utilize the Work or designated portion thereof for its intended use, the Contractor shall, before issuance of the Certificate of Substantial Completion, complete or correct such item upon notification by the Architect. In such case, the Contractor shall then submit a request for another inspection by the Architect to determine Substantial Completion.

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§ 9.8.4 When the Work or designated portion thereof is substantially complete, the Architect will prepare a Certificate of Substantial Completion that shall establish the date of Substantial Completion, shall establish responsibilities of the Owner and Contractor for security, maintenance, heat, utilities, damage to the Work and insurance, and shall fix the time within which the Contractor shall finish all items on the list accompanying the Certificate. Warranties required by the Contract Documents shall commence on the date of Substantial Completion of the Work or designated portion thereof unless otherwise provided in the Certificate of Substantial Completion.

§ 9.8.5 The Certificate of Substantial Completion shall be submitted to the Owner and Contractor for their written acceptance of responsibilities assigned to them in such Certificate. Upon such acceptance and consent of surety, if any, the Owner shall make payment of retainage applying to such Work or designated portion thereof. Such payment shall be adjusted for Work that is incomplete or not in accordance with the requirements of the Contract Documents.

§ 9.9 PARTIAL OCCUPANCY OR USE

§ 9.9.1 The Owner may occupy or use any completed or partially completed portion of the Work at any stage when such portion is designated by separate agreement with the Contractor, provided such occupancy or use is consented to by the insurer as required under Section 11.3.1.5 and authorized by public authorities having jurisdiction over the Project. Such partial occupancy or use may commence whether or not the portion is substantially complete, provided the Owner and Contractor have accepted in writing the responsibilities assigned to each of them for payments, retainage, if any, security, maintenance, heat, utilities, damage to the Work and insurance, and have agreed in writing concerning the period for correction of the Work and commencement of warranties required by the Contract Documents. When the Contractor considers a portion substantially complete, the Contractor shall prepare and submit a list to the Architect as provided under Section 9.8.2. Consent of the Contractor to partial occupancy or use shall not be unreasonably withheld. The stage of the progress of the Work shall be determined by written agreement between the Owner and Contractor or, if no agreement is reached, by decision of the Architect.

§ 9.9.2 Immediately prior to such partial occupancy or use, the Owner, Contractor and Architect shall jointly inspect the area to be occupied or portion of the Work to be used in order to determine and record the condition of the Work.

§ 9.9.3 Unless otherwise agreed upon, partial occupancy or use of a portion or portions of the Work shall not constitute acceptance of Work not complying with the requirements of the Contract Documents.

§ 9.10 FINAL COMPLETION AND FINAL PAYMENT

§ 9.10.1 Upon receipt of the Contractor's written notice that the Work is ready for final inspection and acceptance and upon receipt of a final Application for Payment, the Architect will promptly make such inspection and, when the Architect finds the Work acceptable under the Contract Documents and the Contract fully performed, the Architect will promptly issue a final Certificate for Payment stating that to the best of the Architect's knowledge, information and belief, and on the basis of the Architect's on-site visits and inspections, the Work has been completed in accordance with terms and conditions of the Contract Documents and that the entire balance found to be due the Contractor and noted in the final Certificate is due and payable. The Architect's final Certificate for Payment will constitute a further representation that conditions listed in Section 9.10.2 as precedent to the Contractor's being entitled to final payment have been fulfilled.

§ 9.10.2 Neither final payment nor any remaining retained percentage shall become due until the Contractor submits to the Architect (1) an affidavit that payrolls, bills for materials and equipment, and other indebtedness connected with the Work for which the Owner or the Owner's property might be responsible or encumbered (less amounts withheld by Owner) have been paid or otherwise satisfied, (2) a certificate evidencing that insurance required by the Contract Documents to remain in force after final payment is currently in effect and will not be canceled or allowed to expire until at least 30 days' prior written notice has been given to the Owner, (3) a written statement that the Contractor knows of no substantial reason that the insurance will not be renewable to cover the period required by the Contract Documents, (4) consent of surety, if any, to final payment and (5), if required by the Owner, other data establishing payment or satisfaction of obligations, such as receipts, releases and waivers of liens, claims, security interests or encumbrances arising out of the Contract, to the extent and in such form as may be designated by the Owner. If a Subcontractor refuses to furnish a release or waiver required by the Owner, the Contractor may furnish a bond satisfactory to the Owner to indemnify the Owner against such lien. If such lien remains unsatisfied after payments are made, the Contractor shall refund to the Owner all money that the Owner may be compelled to pay in discharging such lien, including all costs and reasonable attorneys' fees.

§ 9.10.3 If, after Substantial Completion of the Work, final completion thereof is materially delayed through no fault of the Contractor or by issuance of Change Orders affecting final completion, and the Architect so confirms, the Owner shall, upon application by the Contractor and certification by the Architect, and without terminating the Contract, make payment of the balance due for that portion of the Work fully completed and accepted. If the remaining balance for Work not fully completed or corrected is less than retainage stipulated in the Contract Documents, and if bonds have been furnished, the written consent of surety to payment of the balance due for that portion of the Work fully completed and accepted shall be submitted by the Contractor to the Architect prior to certification of such payment. Such payment shall be made under terms and conditions governing final payment, except that it shall not constitute a waiver of claims.

§ 9.10.4 The making of final payment shall constitute a waiver of Claims by the Owner except those arising from

- .1 liens, Claims, security interests or encumbrances arising out of the Contract and unsettled;
- .2 failure of the Work to comply with the requirements of the Contract Documents; or
- .3 terms of special warranties required by the Contract Documents.

§ 9.10.5 Acceptance of final payment by the Contractor, a Subcontractor or material supplier shall constitute a waiver of claims by that payee except those previously made in writing and identified by that payee as unsettled at the time of final Application for Payment.

ARTICLE 10 PROTECTION OF PERSONS AND PROPERTY

§ 10.1 SAFETY PRECAUTIONS AND PROGRAMS

The Contractor shall be responsible for initiating, maintaining and supervising all safety precautions and programs in connection with the performance of the Contract.

§ 10.2 SAFETY OF PERSONS AND PROPERTY

§ 10.2.1 The Contractor shall take reasonable precautions for safety of, and shall provide reasonable protection to prevent damage, injury or loss to

- .1 employees on the Work and other persons who may be affected thereby;
- .2 the Work and materials and equipment to be incorporated therein, whether in storage on or off the site, under care, custody or control of the Contractor or the Contractor's Subcontractors or Sub-subcontractors; and
- .3 other property at the site or adjacent thereto, such as trees, shrubs, lawns, walks, pavements, roadways, structures and utilities not designated for removal, relocation or replacement in the course of construction.

§ 10.2.2 The Contractor shall comply with and give notices required by applicable laws, statutes, ordinances, codes, rules and regulations, and lawful orders of public authorities bearing on safety of persons or property or their protection from damage, injury or loss.

§ 10.2.3 The Contractor shall erect and maintain, as required by existing conditions and performance of the Contract, reasonable safeguards for safety and protection, including posting danger signs and other warnings against hazards, promulgating safety regulations and notifying owners and users of adjacent sites and utilities.

§ 10.2.4 When use or storage of explosives or other hazardous materials or equipment or unusual methods are necessary for execution of the Work, the Contractor shall exercise utmost care and carry on such activities under supervision of properly qualified personnel.

§ 10.2.5 The Contractor shall promptly remedy damage and loss (other than damage or loss insured under property insurance required by the Contract Documents) to property referred to in Sections 10.2.1.2 and 10.2.1.3 caused in whole or in part by the Contractor, a Subcontractor, a Sub-subcontractor, or anyone directly or indirectly employed by any of them, or by anyone for whose acts they may be liable and for which the Contractor is responsible under Sections 10.2.1.2 and 10.2.1.3, except damage or loss attributable to acts or omissions of the Owner or Architect or anyone directly or indirectly employed by either of them, or by anyone for whose acts either of them may be liable, and not attributable to the fault or negligence of the Contractor. The foregoing obligations of the Contractor are in addition to the Contractor's obligations under Section 3.18.

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§ 10.2.6 The Contractor shall designate a responsible member of the Contractor's organization at the site whose duty shall be the prevention of accidents. This person shall be the Contractor's superintendent unless otherwise designated by the Contractor in writing to the Owner and Architect.

§ 10.2.7 The Contractor shall not permit any part of the construction or site to be loaded so as to cause damage or create an unsafe condition.

§ 10.2.8 INJURY OR DAMAGE TO PERSON OR PROPERTY

If either party suffers injury or damage to person or property because of an act or omission of the other party, or of others for whose acts such party is legally responsible, written notice of such injury or damage, whether or not insured, shall be given to the other party within a reasonable time not exceeding 21 days after discovery. The notice shall provide sufficient detail to enable the other party to investigate the matter.

§ 10.3 HAZARDOUS MATERIALS

§ 10.3.1 The Contractor is responsible for compliance with any requirements included in the Contract Documents regarding hazardous materials. If the Contractor encounters a hazardous material or substance not addressed in the Contract Documents and if reasonable precautions will be inadequate to prevent foreseeable bodily injury or death to persons resulting from a material or substance, including but not limited to asbestos or polychlorinated biphenyl (PCB), encountered on the site by the Contractor, the Contractor shall, upon recognizing the condition, immediately stop Work in the affected area and report the condition to the Owner and Architect in writing.

§ 10.3.2 Upon receipt of the Contractor's written notice, the Owner shall obtain the services of a licensed laboratory to verify the presence or absence of the material or substance reported by the Contractor and, in the event such material or substance is found to be present, to cause it to be rendered harmless. Unless otherwise required by the Contract Documents, the Owner shall furnish in writing to the Contractor and Architect the names and qualifications of persons or entities who are to perform tests verifying the presence or absence of such material or substance or who are to perform the task of removal or safe containment of such material or substance. The Contractor and the Architect will promptly reply to the Owner in writing stating whether or not either has reasonable objection to the persons or entities proposed by the Owner. If either the Contractor or Architect has an objection to a person or entity proposed by the Owner, the Owner shall propose another to whom the Contractor and the Architect have no reasonable objection. When the material or substance has been rendered harmless, Work in the affected area shall resume upon written agreement of the Owner and Contractor. By Change Order, the Contract Time shall be extended appropriately and the Contract Sum shall be increased in the amount of the Contractor's reasonable additional costs of shut-down, delay and start-up.

§ 10.3.3 To the fullest extent permitted by law, the Owner shall indemnify and hold harmless the Contractor, Subcontractors, Architect, Architect's consultants and agents and employees of any of them from and against claims, damages, losses and expenses, including but not limited to attorneys' fees, arising out of or resulting from performance of the Work in the affected area if in fact the material or substance presents the risk of bodily injury or death as described in Section 10.3.1 and has not been rendered harmless, provided that such claim, damage, loss or expense is attributable to bodily injury, sickness, disease or death, or to injury to or destruction of tangible property (other than the Work itself), except to the extent that such damage, loss or expense is due to the fault or negligence of the party seeking indemnity.

§ 10.3.4 The Owner shall not be responsible under this Section 10.3 for materials or substances the Contractor brings to the site unless such materials or substances are required by the Contract Documents. The Owner shall be responsible for materials or substances required by the Contract Documents, except to the extent of the Contractor's fault or negligence in the use and handling of such materials or substances.

§ 10.3.5 The Contractor shall indemnify the Owner for the cost and expense the Owner incurs (1) for remediation of a material or substance the Contractor brings to the site and negligently handles, or (2) where the Contractor fails to perform its obligations under Section 10.3.1, except to the extent that the cost and expense are due to the Owner's fault or negligence.

§ 10.3.6 If, without negligence on the part of the Contractor, the Contractor is held liable by a government agency for the cost of remediation of a hazardous material or substance solely by reason of performing Work as required by the Contract Documents, the Owner shall indemnify the Contractor for all cost and expense thereby incurred.

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§ 10.4 EMERGENCIES

In an emergency affecting safety of persons or property, the Contractor shall act, at the Contractor's discretion, to prevent threatened damage, injury or loss. Additional compensation or extension of time claimed by the Contractor on account of an emergency shall be determined as provided in Article 15 and Article 7.

ARTICLE 11 INSURANCE AND BONDS**§ 11.1 CONTRACTOR'S LIABILITY INSURANCE**

§ 11.1.1 The Contractor shall purchase from and maintain in a company or companies lawfully authorized to do business in the jurisdiction in which the Project is located such insurance as will protect the Contractor from claims set forth below which may arise out of or result from the Contractor's operations and completed operations under the Contract and for which the Contractor may be legally liable, whether such operations be by the Contractor or by a Subcontractor or by anyone directly or indirectly employed by any of them, or by anyone for whose acts any of them may be liable:

- .1 Claims under workers' compensation, disability benefit and other similar employee benefit acts that are applicable to the Work to be performed;
- .2 Claims for damages because of bodily injury, occupational sickness or disease, or death of the Contractor's employees;
- .3 Claims for damages because of bodily injury, sickness or disease, or death of any person other than the Contractor's employees;
- .4 Claims for damages insured by usual personal injury liability coverage;
- .5 Claims for damages, other than to the Work itself, because of injury to or destruction of tangible property, including loss of use resulting therefrom;
- .6 Claims for damages because of bodily injury, death of a person or property damage arising out of ownership, maintenance or use of a motor vehicle;
- .7 Claims for bodily injury or property damage arising out of completed operations; and
- .8 Claims involving contractual liability insurance applicable to the Contractor's obligations under Section 3.18.

§ 11.1.2 The insurance required by Section 11.1.1 shall be written for not less than limits of liability specified in the Contract Documents or required by law, whichever coverage is greater. Coverages, whether written on an occurrence or claims-made basis, shall be maintained without interruption from the date of commencement of the Work until the date of final payment and termination of any coverage required to be maintained after final payment, and, with respect to the Contractor's completed operations coverage, until the expiration of the period for correction of Work or for such other period for maintenance of completed operations coverage as specified in the Contract Documents.

§ 11.1.3 Certificates of insurance acceptable to the Owner shall be filed with the Owner prior to commencement of the Work and thereafter upon renewal or replacement of each required policy of insurance. These certificates and the insurance policies required by this Section 11.1 shall contain a provision that coverages afforded under the policies will not be canceled or allowed to expire until at least 30 days' prior written notice has been given to the Owner. An additional certificate evidencing continuation of liability coverage, including coverage for completed operations, shall be submitted with the final Application for Payment as required by Section 9.10.2 and thereafter upon renewal or replacement of such coverage until the expiration of the time required by Section 11.1.2. Information concerning reduction of coverage on account of revised limits or claims paid under the General Aggregate, or both, shall be furnished by the Contractor with reasonable promptness.

§ 11.1.4 The Contractor shall cause the commercial liability coverage required by the Contract Documents to include (1) the Owner, the Architect and the Architect's Consultants as additional insureds for claims caused in whole or in part by the Contractor's negligent acts or omissions during the Contractor's operations; and (2) the Owner as an additional insured for claims caused in whole or in part by the Contractor's negligent acts or omissions during the Contractor's completed operations.

§ 11.2 OWNER'S LIABILITY INSURANCE

The Owner shall be responsible for purchasing and maintaining the Owner's usual liability insurance.

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§ 11.3 PROPERTY INSURANCE

§ 11.3.1 Unless otherwise provided, the Owner 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 as provided in Section 9.10 or until no person or entity other than the Owner has an insurable interest in the property required by this Section 11.3 to be covered, whichever is later. This insurance shall include interests of the Owner, the Contractor, Subcontractors and Sub-subcontractors in the Project.

§ 11.3.1.1 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, falsework, 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.

§ 11.3.1.2 If the Owner does not intend to purchase such property insurance required by the Contract and with all of the coverages in the amount described above, the Owner shall so inform the Contractor in writing prior to commencement of the Work. The Contractor may then effect insurance that will protect the interests of the Contractor, Subcontractors and Sub-subcontractors in the Work, and by appropriate Change Order the cost thereof shall be charged to the Owner. If the Contractor is damaged by the failure or neglect of the Owner to purchase or maintain insurance as described above, without so notifying the Contractor in writing, then the Owner shall bear all reasonable costs properly attributable thereto.

§ 11.3.1.3 If the property insurance requires deductibles, the Owner shall pay costs not covered because of such deductibles.

§ 11.3.1.4 This property insurance shall cover portions of the Work stored off the site, and also portions of the Work in transit.

§ 11.3.1.5 Partial occupancy or use in accordance with Section 9.9 shall not commence until the insurance company or companies providing property insurance have consented to such partial occupancy or use by endorsement or otherwise. The Owner and the Contractor shall take reasonable steps to obtain consent of the insurance company or companies and shall, without mutual written consent, take no action with respect to partial occupancy or use that would cause cancellation, lapse or reduction of insurance.

§ 11.3.2 BOILER AND MACHINERY INSURANCE

The Owner shall purchase and maintain boiler and machinery insurance required by the Contract Documents or by law, which shall specifically cover such insured objects during installation and until final acceptance by the Owner; this insurance shall include interests of the Owner, Contractor, Subcontractors and Sub-subcontractors in the Work, and the Owner and Contractor shall be named insureds.

§ 11.3.3 LOSS OF USE INSURANCE

The Owner, at the Owner's option, may purchase and maintain such insurance as will insure the Owner against loss of use of the Owner's property due to fire or other hazards, however caused. The Owner waives all rights of action against the Contractor for loss of use of the Owner's property, including consequential losses due to fire or other hazards however caused.

§ 11.3.4 If the Contractor requests in writing that insurance for risks other than those described herein or other special causes of loss be included in the property insurance policy, the Owner shall, if possible, include such insurance, and the cost thereof shall be charged to the Contractor by appropriate Change Order.

§ 11.3.5 If during the Project construction period the Owner insures properties, real or personal or both, at or adjacent to the site by property insurance under policies separate from those insuring the Project, or if after final payment

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property insurance is to be provided on the completed Project through a policy or policies other than those insuring the Project during the construction period, the Owner shall waive all rights in accordance with the terms of Section 11.3.7 for damages caused by fire or other causes of loss covered by this separate property insurance. All separate policies shall provide this waiver of subrogation by endorsement or otherwise.

§ 11.3.6 Before an exposure to loss may occur, the Owner shall file with the Contractor a copy of each policy that includes insurance coverages required by this Section 11.3. Each policy shall contain all generally applicable conditions, definitions, exclusions and endorsements related to this Project. Each policy shall contain a provision that the policy will not be canceled or allowed to expire, and that its limits will not be reduced, until at least 30 days' prior written notice has been given to the Contractor.

§ 11.3.7 WAIVERS OF SUBROGATION

The Owner and Contractor waive all rights against (1) each other and any of their subcontractors, sub-subcontractors, agents and employees, each of the other, and (2) the Architect, Architect's consultants, separate contractors described in Article 6, if any, and any of their subcontractors, sub-subcontractors, agents and employees, for damages caused by fire or other causes of loss to the extent covered by property insurance obtained pursuant to this Section 11.3 or other property insurance applicable to the Work, except such rights as they have to proceeds of such insurance held by the Owner as fiduciary. The Owner or Contractor, as appropriate, shall require of the Architect, Architect's consultants, separate contractors described in Article 6, if any, and the subcontractors, sub-subcontractors, agents and employees of any of them, by appropriate agreements, written where legally required for validity, similar waivers each in favor of other parties enumerated herein. The policies shall provide such waivers of subrogation by endorsement or otherwise. A waiver of subrogation shall be effective as to a person or entity even though that person or entity would otherwise have a duty of indemnification, contractual or otherwise, did not pay the insurance premium directly or indirectly, and whether or not the person or entity had an insurable interest in the property damaged.

§ 11.3.8 A loss insured under the Owner's property insurance shall be adjusted by the Owner as fiduciary and made payable to the Owner as fiduciary for the insureds, as their interests may appear, subject to requirements of any applicable mortgagee clause and of Section 11.3.10. The Contractor shall pay Subcontractors their just shares of insurance proceeds received by the Contractor, and by appropriate agreements, written where legally required for validity, shall require Subcontractors to make payments to their Sub-subcontractors in similar manner.

§ 11.3.9 If required in writing by a party in interest, the Owner as fiduciary shall, upon occurrence of an insured loss, give bond for proper performance of the Owner's duties. The cost of required bonds shall be charged against proceeds received as fiduciary. The Owner shall deposit in a separate account proceeds so received, which the Owner shall distribute in accordance with such agreement as the parties in interest may reach, or as determined in accordance with the method of binding dispute resolution selected in the Agreement between the Owner and Contractor. If after such loss no other special agreement is made and unless the Owner terminates the Contract for convenience, replacement of damaged property shall be performed by the Contractor after notification of a Change in the Work in accordance with Article 7.

§ 11.3.10 The Owner as fiduciary shall have power to adjust and settle a loss with insurers unless one of the parties in interest shall object in writing within five days after occurrence of loss to the Owner's exercise of this power; if such objection is made, the dispute shall be resolved in the manner selected by the Owner and Contractor as the method of binding dispute resolution in the Agreement. If the Owner and Contractor have selected arbitration as the method of binding dispute resolution, the Owner as fiduciary shall make settlement with insurers or, in the case of a dispute over distribution of insurance proceeds, in accordance with the directions of the arbitrators.

§ 11.4 PERFORMANCE BOND AND PAYMENT BOND

§ 11.4.1 The Owner shall have the right to require the Contractor to furnish bonds covering faithful performance of the Contract and payment of obligations arising thereunder as stipulated in bidding requirements or specifically required in the Contract Documents on the date of execution of the Contract.

§ 11.4.2 Upon the request of any person or entity appearing to be a potential beneficiary of bonds covering payment of obligations arising under the Contract, the Contractor shall promptly furnish a copy of the bonds or shall authorize a copy to be furnished.

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ARTICLE 12 UNCOVERING AND CORRECTION OF WORK**§ 12.1 UNCOVERING OF WORK**

§ 12.1.1 If a portion of the Work is covered contrary to the Architect's request or to requirements specifically expressed in the Contract Documents, it must, if requested in writing by the Architect, be uncovered for the Architect's examination and be replaced at the Contractor's expense without change in the Contract Time.

§ 12.1.2 If a portion of the Work has been covered that the Architect has not specifically requested to examine prior to its being covered, the Architect may request to see such Work and it shall be uncovered by the Contractor. If such Work is in accordance with the Contract Documents, costs of uncovering and replacement shall, by appropriate Change Order, be at the Owner's expense. If such Work is not in accordance with the Contract Documents, such costs and the cost of correction shall be at the Contractor's expense unless the condition was caused by the Owner or a separate contractor in which event the Owner shall be responsible for payment of such costs.

§ 12.2 CORRECTION OF WORK**§ 12.2.1 BEFORE OR AFTER SUBSTANTIAL COMPLETION**

The Contractor shall promptly correct Work rejected by the Architect or failing to conform to the requirements of the Contract Documents, whether discovered before or after Substantial Completion and whether or not fabricated, installed or completed. Costs of correcting such rejected Work, including additional testing and inspections, the cost of uncovering and replacement, and compensation for the Architect's services and expenses made necessary thereby, shall be at the Contractor's expense.

§ 12.2.2 AFTER SUBSTANTIAL COMPLETION

§ 12.2.2.1 In addition to the Contractor's obligations under Section 3.5, if, within one year after the date of Substantial Completion of the Work or designated portion thereof or after the date for commencement of warranties established under Section 9.9.1, or by terms of an applicable special warranty required by the Contract Documents, any of the Work is found to be not in accordance with the requirements of the Contract Documents, the Contractor shall correct it promptly after receipt of written notice from the Owner to do so unless the Owner has previously given the Contractor a written acceptance of such condition. The Owner shall give such notice promptly after discovery of the condition. During the one-year period for correction of Work, if the Owner fails to notify the Contractor and give the Contractor an opportunity to make the correction, the Owner waives the rights to require correction by the Contractor and to make a claim for breach of warranty. If the Contractor fails to correct nonconforming Work within a reasonable time during that period after receipt of notice from the Owner or Architect, the Owner may correct it in accordance with Section 2.4.

§ 12.2.2.2 The one-year period for correction of Work shall be extended with respect to portions of Work first performed after Substantial Completion by the period of time between Substantial Completion and the actual completion of that portion of the Work.

§ 12.2.2.3 The one-year period for correction of Work shall not be extended by corrective Work performed by the Contractor pursuant to this Section 12.2.

§ 12.2.3 The Contractor shall remove from the site portions of the Work that are not in accordance with the requirements of the Contract Documents and are neither corrected by the Contractor nor accepted by the Owner.

§ 12.2.4 The Contractor shall bear the cost of correcting destroyed or damaged construction, whether completed or partially completed, of the Owner or separate contractors caused by the Contractor's correction or removal of Work that is not in accordance with the requirements of the Contract Documents.

§ 12.2.5 Nothing contained in this Section 12.2 shall be construed to establish a period of limitation with respect to other obligations the Contractor has under the Contract Documents. Establishment of the one-year period for correction of Work as described in Section 12.2.2 relates only to the specific obligation of the Contractor to correct the Work, and has no relationship to the time within which the obligation to comply with the Contract Documents may be sought to be enforced, nor to the time within which proceedings may be commenced to establish the Contractor's liability with respect to the Contractor's obligations other than specifically to correct the Work.

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§ 12.3 ACCEPTANCE OF NONCONFORMING WORK

If the Owner prefers to accept Work that is not in accordance with the requirements of the Contract Documents, the Owner may do so instead of requiring its removal and correction, in which case the Contract Sum will be reduced as appropriate and equitable. Such adjustment shall be effected whether or not final payment has been made.

ARTICLE 13 MISCELLANEOUS PROVISIONS**§ 13.1 GOVERNING LAW**

The Contract shall be governed by the law of the place where the Project is located except that, if the parties have selected arbitration as the method of binding dispute resolution, the Federal Arbitration Act shall govern Section 15.4.

§ 13.2 SUCCESSORS AND ASSIGNS

§ 13.2.1 The Owner and Contractor respectively bind themselves, their partners, successors, assigns and legal representatives to covenants, agreements and obligations contained in the Contract Documents. Except as provided in Section 13.2.2, neither party to the Contract shall assign the Contract as a whole without written consent of the other. If either party attempts to make such an assignment without such consent, that party shall nevertheless remain legally responsible for all obligations under the Contract.

§ 13.2.2 The Owner may, without consent of the Contractor, assign the Contract to a lender providing construction financing for the Project, if the lender assumes the Owner's rights and obligations under the Contract Documents. The Contractor shall execute all consents reasonably required to facilitate such assignment.

§ 13.3 WRITTEN NOTICE

Written notice shall be deemed to have been duly served if delivered in person to the individual, to a member of the firm or entity, or to an officer of the corporation for which it was intended; or if delivered at, or sent by registered or certified mail or by courier service providing proof of delivery to, the last business address known to the party giving notice.

§ 13.4 RIGHTS AND REMEDIES

§ 13.4.1 Duties and obligations imposed by the Contract Documents and rights and remedies available thereunder shall be in addition to and not a limitation of duties, obligations, rights and remedies otherwise imposed or available by law.

§ 13.4.2 No action or failure to act by the Owner, Architect or Contractor shall constitute a waiver of a right or duty afforded them under the Contract, nor shall such action or failure to act constitute approval of or acquiescence in a breach there under, except as may be specifically agreed in writing.

§ 13.5 TESTS AND INSPECTIONS

§ 13.5.1 Tests, inspections and approvals of portions of the Work shall be made as required by the Contract Documents and by applicable laws, statutes, ordinances, codes, rules and regulations or lawful orders of public authorities. Unless otherwise provided, the Contractor shall make arrangements for such tests, inspections and approvals with an independent testing laboratory or entity acceptable to the Owner, or with the appropriate public authority, and shall bear all related costs of tests, inspections and approvals. The Contractor shall give the Architect timely notice of when and where tests and inspections are to be made so that the Architect may be present for such procedures. The Owner shall bear costs of (1) tests, inspections or approvals that do not become requirements until after bids are received or negotiations concluded, and (2) tests, inspections or approvals where building codes or applicable laws or regulations prohibit the Owner from delegating their cost to the Contractor.

§ 13.5.2 If the Architect, Owner or public authorities having jurisdiction determine that portions of the Work require additional testing, inspection or approval not included under Section 13.5.1, the Architect will, upon written authorization from the Owner, instruct the Contractor to make arrangements for such additional testing, inspection or approval by an entity acceptable to the Owner, and the Contractor shall give timely notice to the Architect of when and where tests and inspections are to be made so that the Architect may be present for such procedures. Such costs, except as provided in Section 13.5.3, shall be at the Owner's expense.

§ 13.5.3 If such procedures for testing, inspection or approval under Sections 13.5.1 and 13.5.2 reveal failure of the portions of the Work to comply with requirements established by the Contract Documents, all costs made necessary by

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such failure including those of repeated procedures and compensation for the Architect's services and expenses shall be at the Contractor's expense.

§ 13.5.4 Required certificates of testing, inspection or approval shall, unless otherwise required by the Contract Documents, be secured by the Contractor and promptly delivered to the Architect.

§ 13.5.5 If the Architect is to observe tests, inspections or approvals required by the Contract Documents, the Architect will do so promptly and, where practicable, at the normal place of testing.

§ 13.5.6 Tests or inspections conducted pursuant to the Contract Documents shall be made promptly to avoid unreasonable delay in the Work.

§ 13.6 INTEREST

Payments due and unpaid under the Contract Documents shall bear interest from the date payment is due at such rate as the parties may agree upon in writing or, in the absence thereof, at the legal rate prevailing from time to time at the place where the Project is located.

§ 13.7 TIME LIMITS ON CLAIMS

The Owner and Contractor shall commence all claims and causes of action, whether in contract, tort, breach of warranty or otherwise, against the other arising out of or related to the Contract in accordance with the requirements of the final dispute resolution method selected in the Agreement within the time period specified by applicable law, but in any case not more than 10 years after the date of Substantial Completion of the Work. The Owner and Contractor waive all claims and causes of action not commenced in accordance with this Section 13.7.

ARTICLE 14 TERMINATION OR SUSPENSION OF THE CONTRACT

§ 14.1 TERMINATION BY THE CONTRACTOR

§ 14.1.1 The Contractor may terminate the Contract if the Work is stopped for a period of 30 consecutive days through no act or fault of the Contractor or a Subcontractor, Sub-subcontractor or their agents or employees or any other persons or entities performing portions of the Work under direct or indirect contract with the Contractor, for any of the following reasons:

- .1 Issuance of an order of a court or other public authority having jurisdiction that requires all Work to be stopped;
- .2 An act of government, such as a declaration of national emergency that requires all Work to be stopped;
- .3 Because the Architect has not issued a Certificate for Payment and has not notified the Contractor of the reason for withholding certification as provided in Section 9.4.1, or because the Owner has not made payment on a Certificate for Payment within the time stated in the Contract Documents; or
- .4 The Owner has failed to furnish to the Contractor promptly, upon the Contractor's request, reasonable evidence as required by Section 2.2.1.

§ 14.1.2 The Contractor may terminate the Contract if, through no act or fault of the Contractor or a Subcontractor, Sub-subcontractor or their agents or employees or any other persons or entities performing portions of the Work under direct or indirect contract with the Contractor, repeated suspensions, delays or interruptions of the entire Work by the Owner as described in Section 14.3 constitute in the aggregate more than 100 percent of the total number of days scheduled for completion, or 120 days in any 365-day period, whichever is less.

§ 14.1.3 If one of the reasons described in Section 14.1.1 or 14.1.2 exists, the Contractor may, upon seven days' written notice to the Owner and Architect, terminate the Contract and recover from the Owner payment for Work executed, including reasonable overhead and profit, costs incurred by reason of such termination, and damages.

§ 14.1.4 If the Work is stopped for a period of 60 consecutive days through no act or fault of the Contractor or a Subcontractor or their agents or employees or any other persons performing portions of the Work under contract with the Contractor because the Owner has repeatedly failed to fulfill the Owner's obligations under the Contract Documents with respect to matters important to the progress of the Work, the Contractor may, upon seven additional days' written notice to the Owner and the Architect, terminate the Contract and recover from the Owner as provided in Section 14.1.3.

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§ 14.2 TERMINATION BY THE OWNER FOR CAUSE**§ 14.2.1** The Owner may terminate the Contract if the Contractor

- .1 repeatedly refuses or fails to supply enough properly skilled workers or proper materials;
- .2 fails to make payment to Subcontractors for materials or labor in accordance with the respective agreements between the Contractor and the Subcontractors;
- .3 repeatedly disregards applicable laws, statutes, ordinances, codes, rules and regulations, or lawful orders of a public authority; or
- .4 otherwise is guilty of substantial breach of a provision of the Contract Documents.

§ 14.2.2 When any of the above reasons exist, the Owner, upon certification by the Initial Decision Maker that sufficient cause exists to justify such action, may without prejudice to any other rights or remedies of the Owner and after giving the Contractor and the Contractor's surety, if any, seven days' written notice, terminate employment of the Contractor and may, subject to any prior rights of the surety:

- .1 Exclude the Contractor from the site and take possession of all materials, equipment, tools, and construction equipment and machinery thereon owned by the Contractor;
- .2 Accept assignment of subcontracts pursuant to Section 5.4; and
- .3 Finish the Work by whatever reasonable method the Owner may deem expedient. Upon written request of the Contractor, the Owner shall furnish to the Contractor a detailed accounting of the costs incurred by the Owner in finishing the Work.

§ 14.2.3 When the Owner terminates the Contract for one of the reasons stated in Section 14.2.1, the Contractor shall not be entitled to receive further payment until the Work is finished.

§ 14.2.4 If the unpaid balance of the Contract Sum exceeds costs of finishing the Work, including compensation for the Architect's services and expenses made necessary thereby, and other damages incurred by the Owner and not expressly waived, such excess shall be paid to the Contractor. If such costs and damages exceed the unpaid balance, the Contractor shall pay the difference to the Owner. The amount to be paid to the Contractor or Owner, as the case may be, shall be certified by the Initial Decision Maker, upon application, and this obligation for payment shall survive termination of the Contract.

§ 14.3 SUSPENSION BY THE OWNER FOR CONVENIENCE

§ 14.3.1 The Owner may, without cause, order the Contractor in writing to suspend, delay or interrupt the Work in whole or in part for such period of time as the Owner may determine.

§ 14.3.2 The Contract Sum and Contract Time shall be adjusted for increases in the cost and time caused by suspension, delay or interruption as described in Section 14.3.1. Adjustment of the Contract Sum shall include profit. No adjustment shall be made to the extent

- .1 that performance is, was or would have been so suspended, delayed or interrupted by another cause for which the Contractor is responsible; or
- .2 that an equitable adjustment is made or denied under another provision of the Contract.

§ 14.4 TERMINATION BY THE OWNER FOR CONVENIENCE

§ 14.4.1 The Owner may, at any time, terminate the Contract for the Owner's convenience and without cause.

§ 14.4.2 Upon receipt of written notice from the Owner of such termination for the Owner's convenience, the Contractor shall

- .1 cease operations as directed by the Owner in the notice;
- .2 take actions necessary, or that the Owner may direct, for the protection and preservation of the Work; and
- .3 except for Work directed to be performed prior to the effective date of termination stated in the notice, terminate all existing subcontracts and purchase orders and enter into no further subcontracts and purchase orders.

§ 14.4.3 In case of such termination for the Owner's convenience, the Contractor shall be entitled to receive payment for Work executed, and costs incurred by reason of such termination, along with reasonable overhead and profit on the Work not executed.

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ARTICLE 15 CLAIMS AND DISPUTES**§ 15.1 CLAIMS****§ 15.1.1 DEFINITION**

A Claim is a demand or assertion by one of the parties seeking, as a matter of right, payment of money, or other relief with respect to the terms of the Contract. The term "Claim" also includes other disputes and matters in question between the Owner and Contractor arising out of or relating to the Contract. The responsibility to substantiate Claims shall rest with the party making the Claim.

§ 15.1.2 NOTICE OF CLAIMS

Claims by either the Owner or Contractor must be initiated by written notice to the other party and to the Initial Decision Maker with a copy sent to the Architect, if the Architect is not serving as the Initial Decision Maker. Claims by either party must be initiated within 21 days after occurrence of the event giving rise to such Claim or within 21 days after the claimant first recognizes the condition giving rise to the Claim, whichever is later.

§ 15.1.3 CONTINUING CONTRACT PERFORMANCE

Pending final resolution of a Claim, except as otherwise agreed in writing or as provided in Section 9.7 and Article 14, the Contractor shall proceed diligently with performance of the Contract and the Owner shall continue to make payments in accordance with the Contract Documents. The Architect will prepare Change Orders and issue Certificates for Payment in accordance with the decisions of the Initial Decision Maker.

§ 15.1.4 CLAIMS FOR ADDITIONAL COST

If the Contractor wishes to make a Claim for an increase in the Contract Sum, written notice as provided herein shall be given before proceeding to execute the Work. Prior notice is not required for Claims relating to an emergency endangering life or property arising under Section 10.4.

§ 15.1.5 CLAIMS FOR ADDITIONAL TIME

§ 15.1.5.1 If the Contractor wishes to make a Claim for an increase in the Contract Time, written notice as provided herein shall be given. The Contractor's Claim shall include an estimate of cost and of probable effect of delay on progress of the Work. In the case of a continuing delay, only one Claim is necessary.

§ 15.1.5.2 If adverse weather conditions are the basis for a Claim for additional time, such Claim shall be documented by data substantiating that weather conditions were abnormal for the period of time, could not have been reasonably anticipated and had an adverse effect on the scheduled construction.

§ 15.1.6 CLAIMS FOR CONSEQUENTIAL DAMAGES

The Contractor and Owner waive Claims against each other for consequential damages arising out of or relating to this Contract. This mutual waiver includes

- .1 damages incurred by the Owner for rental expenses, for losses of use, income, profit, financing, business and reputation, and for loss of management or employee productivity or of the services of such persons; and
- .2 damages incurred by the Contractor for principal office expenses including the compensation of personnel stationed there, for losses of financing, business and reputation, and for loss of profit except anticipated profit arising directly from the Work.

This mutual waiver is applicable, without limitation, to all consequential damages due to either party's termination in accordance with Article 14. Nothing contained in this Section 15.1.6 shall be deemed to preclude an award of liquidated damages, when applicable, in accordance with the requirements of the Contract Documents.

§ 15.2 INITIAL DECISION

§ 15.2.1 Claims, excluding those arising under Sections 10.3, 10.4, 11.3.9, and 11.3.10, shall be referred to the Initial Decision Maker for initial decision. The Architect will serve as the Initial Decision Maker, unless otherwise indicated in the Agreement. Except for those Claims excluded by this Section 15.2.1, an initial decision shall be required as a condition precedent to mediation of any Claim arising prior to the date final payment is due, unless 30 days have passed after the Claim has been referred to the Initial Decision Maker with no decision having been rendered. Unless the Initial Decision Maker and all affected parties agree, the Initial Decision Maker will not decide disputes between the Contractor and persons or entities other than the Owner.

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§ 15.2.2 The Initial Decision Maker will review Claims and within ten days of the receipt of a Claim take one or more of the following actions: (1) request additional supporting data from the claimant or a response with supporting data from the other party, (2) reject the Claim in whole or in part, (3) approve the Claim, (4) suggest a compromise, or (5) advise the parties that the Initial Decision Maker is unable to resolve the Claim if the Initial Decision Maker lacks sufficient information to evaluate the merits of the Claim or if the Initial Decision Maker concludes that, in the Initial Decision Maker's sole discretion, it would be inappropriate for the Initial Decision Maker to resolve the Claim.

§ 15.2.3 In evaluating Claims, the Initial Decision Maker may, but shall not be obligated to, consult with or seek information from either party or from persons with special knowledge or expertise who may assist the Initial Decision Maker in rendering a decision. The Initial Decision Maker may request the Owner to authorize retention of such persons at the Owner's expense.

§ 15.2.4 If the Initial Decision Maker requests a party to provide a response to a Claim or to furnish additional supporting data, such party shall respond, within ten days after receipt of such request, and shall either (1) provide a response on the requested supporting data, (2) advise the Initial Decision Maker when the response or supporting data will be furnished or (3) advise the Initial Decision Maker that no supporting data will be furnished. Upon receipt of the response or supporting data, if any, the Initial Decision Maker will either reject or approve the Claim in whole or in part.

§ 15.2.5 The Initial Decision Maker will render an initial decision approving or rejecting the Claim, or indicating that the Initial Decision Maker is unable to resolve the Claim. This initial decision shall (1) be in writing; (2) state the reasons therefor; and (3) notify the parties and the Architect, if the Architect is not serving as the Initial Decision Maker, of any change in the Contract Sum or Contract Time or both. The initial decision shall be final and binding on the parties but subject to mediation and, if the parties fail to resolve their dispute through mediation, to binding dispute resolution.

§ 15.2.6 Either party may file for mediation of an initial decision at any time, subject to the terms of Section 15.2.6.1.

§ 15.2.6.1 Either party may, within 30 days from the date of an initial decision, demand in writing that the other party file for mediation within 60 days of the initial decision. If such a demand is made and the party receiving the demand fails to file for mediation within the time required, then both parties waive their rights to mediate or pursue binding dispute resolution proceedings with respect to the initial decision.

§ 15.2.7 In the event of a Claim against the Contractor, the Owner may, but is not obligated to, notify the surety, if any, of the nature and amount of the Claim. If the Claim relates to a possibility of a Contractor's default, the Owner may, but is not obligated to, notify the surety and request the surety's assistance in resolving the controversy.

§ 15.2.8 If a Claim relates to or is the subject of a mechanic's lien, the party asserting such Claim may proceed in accordance with applicable law to comply with the lien notice or filing deadlines.

§ 15.3 MEDIATION

§ 15.3.1 Claims, disputes, or other matters in controversy arising out of or related to the Contract except those waived as provided for in Sections 9.10.4, 9.10.5, and 15.1.6 shall be subject to mediation as a condition precedent to binding dispute resolution.

§ 15.3.2 The parties shall endeavor to resolve their Claims by mediation which, unless the parties mutually agree otherwise, shall be administered by the American Arbitration Association in accordance with its Construction Industry Mediation Procedures in effect on the date of the Agreement. A request for mediation shall be made in writing, delivered to the other party to the Contract, and filed with the person or entity administering the mediation. The request may be made concurrently with the filing of binding dispute resolution proceedings but, in such event, mediation shall proceed in advance of binding dispute resolution proceedings, which shall be stayed pending mediation for a period of 60 days from the date of filing, unless stayed for a longer period by agreement of the parties or court order. If an arbitration is stayed pursuant to this Section 15.3.2, the parties may nonetheless proceed to the selection of the arbitrator(s) and agree upon a schedule for later proceedings.

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§ 15.3.3 The parties shall share the mediator's fee and any filing fees equally. The mediation shall be held in the place where the Project is located, unless another location is mutually agreed upon. Agreements reached in mediation shall be enforceable as settlement agreements in any court having jurisdiction thereof.

§ 15.4 ARBITRATION

§ 15.4.1 If the parties have selected arbitration as the method for binding dispute resolution in the Agreement, any Claim subject to, but not resolved by, mediation shall be subject to arbitration which, unless the parties mutually agree otherwise, shall be administered by the American Arbitration Association in accordance with its Construction Industry Arbitration Rules in effect on the date of the Agreement. A demand for arbitration shall be made in writing, delivered to the other party to the Contract, and filed with the person or entity administering the arbitration. The party filing a notice of demand for arbitration must assert in the demand all Claims then known to that party on which arbitration is permitted to be demanded.

§ 15.4.1.1 A demand for arbitration shall be made no earlier than concurrently with the filing of a request for mediation, but in no event shall it be made after the date when the institution of legal or equitable proceedings based on the Claim would be barred by the applicable statute of limitations. For statute of limitations purposes, receipt of a written demand for arbitration by the person or entity administering the arbitration shall constitute the institution of legal or equitable proceedings based on the Claim.

§ 15.4.2 The award rendered by the arbitrator or arbitrators shall be final, and judgment may be entered upon it in accordance with applicable law in any court having jurisdiction thereof.

§ 15.4.3 The foregoing agreement to arbitrate and other agreements to arbitrate with an additional person or entity duly consented to by parties to the Agreement shall be specifically enforceable under applicable law in any court having jurisdiction thereof.

§ 15.4.4 CONSOLIDATION OR JOINDER

§ 15.4.4.1 Either party, at its sole discretion, may consolidate an arbitration conducted under this Agreement with any other arbitration to which it is a party provided that (1) the arbitration agreement governing the other arbitration permits consolidation, (2) the arbitrations to be consolidated substantially involve common questions of law or fact, and (3) the arbitrations employ materially similar procedural rules and methods for selecting arbitrator(s).

§ 15.4.4.2 Either party, at its sole discretion, may include by joinder persons or entities substantially involved in a common question of law or fact whose presence is required if complete relief is to be accorded in arbitration, provided that the party sought to be joined consents in writing to such joinder. Consent to arbitration involving an additional person or entity shall not constitute consent to arbitration of any claim, dispute or other matter in question not described in the written consent.

§ 15.4.4.3 The Owner and Contractor grant to any person or entity made a party to an arbitration conducted under this Section 15.4, whether by joinder or consolidation, the same rights of joinder and consolidation as the Owner and Contractor under this Agreement.

**University of Maine System
Supplementary Conditions
to**

AIA A201 2007 General Conditions of the Contract for Construction

§ 1.1.8 Add the following:

The Architect is the Initial Decision Maker for this Agreement.

§1.2.2 Add the following:

Where the Procurement Requirements include provisions that portions of the Work be File Bid in accordance with the requirements of the Maine Bid Depository System, the subcontracts for these portions of the work will cover the same scope of work as defined by the Procurement Requirements and the File Bid and shall have the same contract amount as listed in the successful bid.

§ 1.5.1 Add the following:

The provisions of this section shall not be deemed to modify the contract between the University of Maine System (the Owner) and the Architect under B102 2007 and B201 2007 and the University of Maine Supplementary Requirements to those documents regarding the Instruments of Service.

§ 1.5.2 Add the following:

The provisions of this section shall not be deemed to modify the contract between the University of Maine System (the Owner) and the Architect under B102 2007 and B201 2007 and the University of Maine Supplementary Requirements to those documents regarding the Instruments of Service.

§ 2.1.1.1 Insert the following:

§ 2.1.1.1 For the purpose of this Contract, the Owner is defined as: University of Maine System; 16 Central Street; Bangor, Maine 04401 acting through its duly authorized agent.

§2.2.1 Delete in its entirety

§3.4.2.1 Insert the following:

§ 3.4.2.1 After the Contract has been executed, the Owner and Architect may consider a formal request for substitution of products in place of those specified. The Owner shall deduct from the next payment made from the Contract Sum amounts paid to the Architect to evaluate the Contractor's proposed substitutions and to make agreed-upon changes in the Drawings and Specifications made necessary by the Owner's acceptance of the substitutions.

By making requests for substitutions, the Contractor:

.1 Represents that the Contractor has personally investigated the proposed substitute product and determined it is equal or superior in all respects to that specified;

.2 Represents that the Contractor will provide the same warranty for the substitution that the Contractor would for that specified;

.3 Certifies that the cost data presented is complete and includes all related costs, and waives all claims for additional costs related to the substitution which subsequently become apparent; and

.4 Will coordinate the installation of the accepted substitute, making such changes as may be required for the Work to be completed in all respects.

§3.4.4 Insert the following:

§ 3.4.4 If a wage scale prepared by the State of Maine Department of Labor, Bureau of Labor Standards, is included in the Contract Documents, such wage scale represents the minimum wages that must be paid in each category of labor employed on the project.

The provisions of Title 26 MRSA Chapter 15 Preference to Maine Workers and Contractors, apply to this project, including but not limited to:

§ 1310. Wage and benefits rates to be kept posted

A clearly legible statement of all fair minimum wage and benefits rates to be paid the several classes of laborers, workers and mechanics employed on the construction on the public work must be kept posted in a prominent and easily accessible place at the site by each contractor and subcontractor subject to sections 1304 to 1313.

§ 1311. Wage and benefit record of contractor

The contractor and each subcontractor in charge of the construction of a public work shall keep an accurate record showing the names and occupation of all laborers, workers and mechanics employed by them and all independent contractors working under contract with them in connection with the construction on the public works. The record must also show for all laborers, workers, mechanics and independent contractors the hours worked, the title of the job, the hourly rate or other method of remuneration and the actual wages or other compensation paid to each of the laborers, workers, mechanics and independent contractors. A copy of such a record must be kept at the job site and must be open at all reasonable hours to the inspection of the Bureau of Labor Standards and the public authority that let the contract and its officers and agents. It is not necessary to preserve those records for a period longer than 3 years after the termination of the contract. A copy of each such record must also be filed monthly with the public authority that let the contract. The filed record is a public record pursuant to Title 1, chapter 13, except that the public authority letting a contract shall adopt rules to protect the privacy of personal information

contained in the records filed with the public authority under this section, such as Social Security numbers and taxpayer identification numbers. The rules may not prevent the disclosure of information regarding the classification of workers or independent contractors and the remuneration they receive. Such rules are routine technical rules as defined by Title 5, chapter 375, subchapter 2-A.

§ 3.4.5 Insert the following:

§ 3.4.5 If a wage scale prepared by the U.S. Department of Labor pursuant to the provision of the Davis-Bacon Act is included in the Contract Documents, such wage scale represents the minimum wages that must be paid in each category of labor on the project. The requirements and responsibilities within the Davis-Bacon Act apply to this project.

§ 3.4.6 Insert the following:

§ 3.4.6 EQUAL EMPLOYMENT OPPORTUNITY

During the performance of this contract, the contractor agrees as follows:

§ 3.4.6.1 The contractor will not discriminate against any employee or applicant for employment because of race, color, religion, sex, sexual orientation, including transgender status or gender expression, national origin or citizenship status, ancestry, age, disability, genetic information, or veterans status. Such action shall include, but not be limited to, the following: employment, upgrading, demotions, transfers, recruitment or recruitment advertising; layoffs or terminations; rates of pay or other forms of compensation; and selection for training, including apprenticeship.

§ 3.4.6.2 The contractor will, in all solicitations or advertisements for employees placed by or on behalf of the contractor, state that all qualified applicants will receive consideration for employment without regard to race, color, religion, sex, sexual orientation, including transgender status or gender expression, national origin or citizenship status, ancestry, age, disability, genetic information, or veterans status.

§ 3.4.6.3 The contractor will send to each labor union or representative of the workers with which there is a collective or bargaining agreement in place, or other contract or understanding, whereby labor is being furnished for the performances of his contract, a notice, as set forth in Attachment A attached hereto, to be provided by the contracting department or agency, advising the said labor union or workers' representative of the contractor's commitment under the provisions of the contract, and shall post copies of the notice in conspicuous places available to employees and to applicants for employment.

§ 3.4.6.4 The contractor will cause the foregoing provisions to be inserted in all contracts for any work covered by this agreement so that such provisions will be binding upon each subcontractor.

§ 3.4.6.5 Contractors and subcontractors with contracts in excess of \$50,000 will also pursue in good faith affirmative action programs.

§ 3.6.1 Insert the following:

§ 3.6.1 The University of Maine System is exempt from payment of taxes under the Maine Sales and Use Tax Law Title 36 Section 1760 for taxes on materials that

are permanently incorporated into the real property belonging to the University of Maine System. The University of Maine System is also exempt from the payment of Federal Excise Taxes on articles not for resale and from the Federal Transportation Tax on all shipments; exemption certificates for these taxes will be furnished when required. All quotations shall be less these taxes. The contractor shall pay all other taxes that have been or are legally enacted.

§ 3.7.4 Replace the existing § 3.7.4 with the following:

§ 3.7.4 Concealed or Unknown Conditions. If the Contractor encounters conditions at the site that are (1) subsurface or otherwise concealed physical conditions that differ materially from those indicated in the Contract Documents or (2) unknown physical conditions of an unusual nature, that differ materially from those ordinarily found to exist and generally recognized as inherent in construction activities of the character provided for in the Contract Documents, the Contractor shall promptly provide notice to the Owner and the Architect before conditions are disturbed. The Architect will promptly investigate such conditions and, if the Architect determines that they differ materially and cause an increase or decrease in the Contractor's cost of, or time required for, performance of any part of the Work, will recommend an equitable adjustment in the Contract Sum or Contract Time, or both. If the Architect determines that the conditions at the site are not materially different from those indicated in the Contract Documents and that no change in the terms of the Contract is justified, the Architect shall promptly notify the Owner and Contractor in writing, stating the reasons. If either party disputes the Architect's determination or recommendation, that party may proceed as provided in Article 15.

§3.10.1.1 Insert the following:

§ 3.10.1.1 The Contractor shall provide an updated Construction Schedule with each Application for Payment reflecting actual construction progress and activities.

§ 3.12.11 Insert the following:

§ 3.12.11 The Architect's review of the Contractor's submittals will be limited to examination of an initial submission and two (2) resubmittals. The Architect's review of additional submittals will be made only with the consent of the Owner after notification by the Architect. The Owner shall deduct from the next payment made from the Contract Sum amounts paid to the Architect for evaluation of such additional submittals.

§ 3.15.3 Insert the following:

§ 3.15.3 Waste Management The University is committed to a resource management strategy which reduces to a minimum the production of waste material while reusing, recycling or composting as much as possible of the remaining materials. Contractor should strive to identify opportunities to reduce, reuse, or recycle waste from renovations or new construction, and will submit a construction waste management plan for the project.

§ 4.1.1 Replace the existing § 4.1.1 with the following:

§ 4.1.1 The Architect is a person or entity lawfully licensed to practice in the State of Maine. That person or entity is identified in the Agreement and is referred throughout the Contract Documents as if singular in number. Whenever the prime professional designer for the Work is an Engineer, the term Architect, wherever used in these documents shall have the term Engineer substituted for the term Architect. The Engineer shall be lawfully licensed to practice engineering in the State of Maine or an entity lawfully practicing engineering identified as such in the Agreement.

§ 4.2.1 Replace the existing § 4.2.1 with the following:

§ 4.2.1 The Architect will provide administration of the Contract as described in the Contract Documents, and will be an Owner's representative during construction until the date the final payment is due, and from time to time during the period for correction of Work described in § 12.2, and until the date the Architect issues the final Certificate for Payment. The Architect will have authority to act on behalf of the Owner only to the extent provided in the Contract Documents.

§ 4.2.2 Replace the existing § 4.2.2 with the following:

§ 4.2.2 The Architect will visit the site at intervals appropriate to the stage of construction, or as otherwise agreed with the Owner, to become generally familiar with the progress and quality of the portion of the Work completed, endeavor to guard the Owner against defects and deficiencies in the Work, and to determine in general if the Work observed is being performed in a manner indicating that the Work, when fully completed, will be in accordance with the Contract Documents. However, the Architect will not be required to make exhaustive or continuous on-site inspections to check the quality or quantity of the Work. The Architect will not have control over, charge of, or responsibility for, the construction means, methods, techniques, sequences or procedures, or for the safety precautions and programs in connection with the Work, since these are solely the Contractor's rights and responsibilities under the Contract Documents, except as provided in Section 3.3.1.

§ 4.2.2.1 The Contractor shall reimburse the Owner for compensation paid to the Architect for additional site visits made necessary by the fault, neglect as determined solely by the Owner, or request of the Contractor. The reimbursement shall be deducted from the next payment made from the Contract Sum following the Owner's payment to the Architect.

§ 4.2.3 Delete the word "reasonably" from the first sentence.

§ 4.2.10 Replace the existing § 4.2.10 with the following:

§ 4.2.10 If the Owner and Architect agree, the Architect will provide one or more project representatives to assist in carrying out the Architect's responsibilities at the site. The duties, responsibilities and limitations of authority of such project representatives shall be as set forth in the contract between the Architect, AIA B102 and B201-2007 and Supplemental Requirements to be incorporated in the Contract Documents and attached hereto as Exhibit A.

§ 5.2.1 Add the following:

§ 5.2.1.1 The Contractor shall provide Owner a list of all subcontractors and independent contractors on the job site and a record of the entity to whom that subcontractor or independent contractor is directly contracted and by whom that subcontractor or independent contractor is insured for workers' compensation purposes. The list shall be presented at the preconstruction meeting and, when changes occur, at each requisition meeting as necessary. Information from this list will be placed on Owner's web site and updated as needed as required by 26 MRSA §1302-A.

§ 5.2.1.2 Where the use of the Maine Bid Depository was required by the Procurement Requirements, Subcontractors included in the Contractor's Proposal shall be the Subcontractors for the defined Work unless a change has been approved by the Owner.

§ 7.1.4 Insert the following:

§ 7.1.4 The combined overhead and profit included in the total cost to the Owner of a change in the Work shall be based on a previously agreed upon unit pricing or on the following schedule allowing for appropriate allowances for contract duration:

- .1** For the Contractor, for Work performed by the Contractor's own forces, 20% of the cost.
- .2** For the Contractor, for Work performed by the Contractor's Subcontractors, 10% of the amount due the Subcontractors.
- .3** For each Subcontractor involved, for Work performed by the Subcontractor's own forces, 20% of the cost.
- .4** For each Subcontractor involved, for Work performed by the Subcontractor's Sub-subcontractors, 10% of the amount due the Sub-subcontractor.
- .5** Costs to which overhead and profit is to be applied shall be limited to the following:
 - .1** Costs of labor, including social security, old age and unemployment insurance, fringe benefits required by agreement or custom, and workers' compensation insurance;
 - .2** Costs of materials, supplies and equipment, including cost of transportation, whether incorporated or consumed;
 - .3** Rental costs of machinery and equipment, exclusive of hand tools, whether rented from the Contractor or others;
 - .4** Costs of premiums for all bonds, insurance, permit fees, and sales, use or similar taxes related to the Work; and

§ 7.1.5 When there is only an extension of Contract Time, the contractor delay claim is limited to additional costs related to supervision and field office personnel, which may be included in the overhead and profit calculation.

§ 7.1.6 In order to facilitate checking of quotations, all proposals, except those so minor that their propriety can be seen by inspection, shall be accompanied by complete itemization of costs including labor, materials and Subcontracts. Labor and materials shall be itemized in the manner prescribed above. Where major cost items are Subcontracts, they are to be itemized also. In no case will a change be approved without such itemization.

§ 9.3.1.3 Insert the following:

§ 9.3.1.3 The provisions of Title 5 M.R.S.A § 1746, as amended, pertain to this project. The University shall retain five percent (5%) of each payment due the Contractor as part of the security for the fulfillment of the Contract Agreement by the Contractor, the Contractor shall not withhold a greater percentage from subcontractors. The University may, if deemed expedient by the University, cause the Contractor to be paid temporarily or permanently from time to time during the progress of the work, such portion of the amount retained as the University deems prudent or desirable.

§ 9.5.1 The word “shall” will be substituted for the word “may” in all places in § 9.5.1.

§ 9.5.1.1 Replace with the following:

§ 9.5.1.1 Defective Work, i.e. Work that does not conform to the requirements of the contract, shall include, but not be limited to, non-conforming Work, disputed Work, incomplete Work, and unacceptable Work, which is not remedied.

§ 9.5.1.1.1 The Architect shall deduct and withhold from any certification for payment an amount equal to one hundred and fifty percent (150%) the value of any defective Work.

§ 9.6.8 Insert the following:

§ 9.6.8 All Progress Payments and Final Payment are subject to the requirements of the "Maine Prompt Pay Act" Title 10 M.R.S.A. § 201-A, as amended. Payments shall be made on a timely basis in accord with the requirements of this Statute; however, the Contractor waives interest on any late payment.

§ 9.10.1.1 Insert the following:

§ 9.10.1.1 Except with the consent of the Owner, the Architect will perform no more than three (3) site reviews to determine whether the Work or a designated portion thereof has attained Final Completion in accordance with the Contract Documents. The Owner shall be entitled to deduct from the Contract Sum amounts paid to the Architect for any additional site reviews.

§ 9.11 Insert the following:

§ 9.11 The Contractor and the Contractor’s surety, if any, shall be liable for and shall pay the Owner the sums stipulated as liquidated damages in the Contract Documents for each calendar day of delay after the date established for Substantial Completion in the Contract Documents until the Work is substantially complete.

§10.2.1 Add the following:

.4 If this Contract involves renovation, repair, or preparation of surfaces for painting in pre-1978 apartments, houses, or spaces used by child care facilities, Contractor shall use certified workers who follow the lead-safe work practices as required by the US Environmental Protection Agency's Renovation, Repair and Remolding rule described in 40 CFR § 745.85. Notification of the tenants or users under this rule will be the responsibility of the University.

§ 10.3.2 Replace the existing §10.3.2 with the following:

§ 10.3.2 Upon receipt of the Contractor's written notice, the Owner shall obtain the services of a licensed laboratory to verify the presence or absence of the material or substance reported by the Contractor and, in the event such material or substance is found to be present, to cause it to be rendered harmless. When the material or substance has been rendered harmless, Work in the affected area shall resume upon written agreement of the Owner and Contractor.

§ 11.1.3 Add the following:

Certificates of Insurance filed with the University of Maine System shall indicate the Certificate Holder as University of Maine System, 16 Central Street, Bangor, Maine 04401. The Project name, campus, and general liability insurance required policy form and two required endorsements noted in Paragraph 11.1.5.1 below shall be included on the Certificate. Contractor must provide renewal certificates at least 15 days prior to expiration.

§ 11.1.4 Add the following:

Neither the Contractor nor any Subcontractors or Suppliers shall commence work at the project site under this contract until the Contractor has provided the University with a standard ACORD certificate with an attached AIA Document G715-1991 listing all insurance coverages and limits required under this section. All required insurance shall be maintained throughout the term of this contract (including correction period, defined in 12.2.2.1) and be on a primary basis, noncontributory with any other insurance carried by the University. All required insurance shall be provided by companies that have a current A.M. Best insurance rating of A- or better and that are licensed or approved to do business in the State of Maine.

§ 11.1.5 Insert the following:

§ 11.1.5 COVERAGE LIMITS - The required insurance and coverage limits are as follows:

§ 11.1.5.1 General Liability -Contractor shall provide General Liability insurance with coverage for premises and operations, products and completed operations, explosion, collapse and underground hazards, broad form property damage, contractual, personal and advertising injury liabilities. Insurance shall be provided on a standard Insurance Services Office (ISO) Commercial General Liability Form CG 00 01 12 04 or equivalent and shall include the following three endorsements or their equivalent: 1) Additional Insured—Owners, Lessees or Contractors—Scheduled Person or

Organization (CG20 10 07 04) with the University of Maine System, 16 Central Street, Bangor, ME 04401 listed as additional insured; 2) Additional Insured—Owners, Lessees or Contractors—Completed Operations (CG 20 37 07 04) with the University of Maine System, 16 Central Street, Bangor, ME 04401 listed as additional insured; and 3) Designated Construction Project General Aggregate Limit (CG 25 03 03 97)) as the Aggregate limits shall apply on a per location or job basis. The policy form and endorsements must be included on the certificate of insurance. The below required minimum insurance limits shall not be construed as a limitation of the University's rights under any insurance with higher limits and no insurance shall be endorsed to include such a limitation. General Liability insurance required minimum limits:

.1 General Aggregate	\$2,000,000
.2 Products & Completed Operations Aggregate	\$2,000,000
.3 Personal Injury Aggregate	\$1,000,000
.4 Each Occurrence for Contracts Under \$1 million	\$1,000,000
.5 Each Occurrence for Contracts \$1 million and above	\$2,000,000
.6 Personal/Advertising Injury	\$1,000,000
.7 Medical Payments (Any One Person)	\$5,000

§ 11.1.5.2 Workers' Compensation - Contractor including Independent Contractors shall provide Worker's Compensation insurance with coverage on a statutory basis according to Maine Law and apply to all personnel on the job site. Workers' Compensation insurance required minimum limits:

.1 Coverage A (Workers' Compensation)	Statutory Limits
.2 Coverage B (Employers Liability)	
.1 Bodily injury by accident	\$500,000 each accident
.2 Bodily injury by disease	\$500,000 each employee
.3 Bodily injury by disease	\$500,000 policy limit

§ 11.1.5.3 Vehicle Liability Insurance - Contractor shall provide Vehicle Liability insurance with coverage for all owned, hired/rented and non-owned vehicles. Vehicle Liability insurance required minimum limit:

.1 Combined Single Limit	\$1,000,000 each accident
	or
.2 Split Limits	\$1,000,000 bodily injury \$1,000,000 property damage

§ 11.3.1 Replace all of the existing § 11.3.1 and its subparagraphs with the following:

~~[NOTE: THE PROJECT MANAGER WILL MANUALLY DELETE FROM THIS SECTION THE ONE NOT SELECTED TO DESCRIBE THE TYPE OF PROJECT.]~~

~~[FOR NEW, STAND-ALONE CONSTRUCTION AND MAJOR ADDITIONS USE THIS PARAGRAPH. Use for stand-alone buildings and major additions with fire walls and fire doors separating the addition from the existing building:]~~

~~§ 11.3.1 The Contractor shall secure "All Risk" type Builder's Risk Insurance, appropriate for the Project, with an insurance company lawfully authorized to do~~

~~business in the State of Maine, and shall maintain said insurance during the contract time. The insurance shall be written on a replacement cost basis and the amount of the insurance shall not be less than the full replacement cost of the Project and Project materials. The insurance shall cover, at a minimum, losses due to fire, smoke, explosion, hail, lightning, theft, vandalism, malicious mischief, wind, collapse, riot, aircraft, and increased cost of construction. Insurance shall also cover portions of the work located away from the site but intended for use at the site, and for portions of the work in transit. In the event of a loss, the insurance deductible and any uncovered loss will be assumed by the Contractor. The insurance shall name as the insured the Contractor, the Subcontractors, the Designer, and the University. The policy must be written as the primary insurance covering the project and include endorsement providing permission to occupy in advance of project completion. A certificate of insurance verifying coverage shall be forwarded simultaneously to the Designer and the University prior to starting any work at the site. If the Contractor fails to maintain the appropriate insurance, then the Contractor shall bear all reasonable costs attributed to that failure.~~

~~**[FOR RENOVATION, ALTERATION AND/OR ADDITION WORK USE THIS PARAGRAPH:]**~~

§ 11.3.1 For this project, Property Insurance coverage, up to the total amount of the Project, will be provided by the University by adding the Project to the University's existing master property insurance. Coverage shall be included for the Contractor and all Subcontractors, as their interests may appear, while involved in the Project and until the work is completed or the contractor is otherwise advised in writing. This insurance is limited to the "all risk" type coverage provided under the University's master property insurance for direct physical loss or damage to the building or building materials related to the project, subject to standard policy limitations and exclusions. The contractor is responsible for a \$10,000 per claim deductible. Any other insurance desired by the Contractor beyond that covered by the University's insurance, or to cover the \$10,000 deductible, is the responsibility of the Contractor. This contract stands as verification of the University's property insurance coverage on the project and no further verification will be provided.

§ 11.4.1 Replace the existing §11.4.1 with the following:

§ 11.4.1 The Contractor shall furnish a Performance Bond and a Payment Bond covering the faithful performance of the contract and payment of obligations arising thereof. Bonds may be obtained through the Contractor's usual source and the cost thereof shall be included in the Contract Sum. The amount of each bond shall be equal to 100% of the Contract Sum. Should the Contract Sum change during the contract and warranty periods, the amount of the Bonds will be changed to reflect the Contract Sum.

§ 11.4.1.1 The Contractor shall deliver the required bonds to the Owner at the same time as the signed Contract Agreement is delivered to the Owner. Prior to the commencement of the Work, the Contractor shall submit satisfactory evidence that such bonds will be furnished.

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

§ 11.4.1.3 The Contract Bonds shall continue in effect for one year after final acceptance of each contract to protect the Owner's interest in connection with the one year guarantee of workmanship and materials and to assure settlement of claims, for the payment of all bills for labor, materials, and equipment by the Contractor.

§ 13.6 Delete §13.6 in its entirety.

§ 14.1.1.4 Delete §14.1.1.4 in its entirety.

§ 14.1.3 Delete the words "and damages"

§ 14.4.3 Replace the existing §14.4.3 with the following:

§ 14.4.3 In case of such termination for the Owner's convenience, the Contractor shall be entitled to receive payment for the work executed and costs incurred by reason of such termination, but not overhead and profit on Work not executed.

§ 15.4.1 Replace the existing §15.4.1 with the following:

§ 15.4.1 The parties have selected arbitration as the method for binding dispute resolution in this Agreement, any claim, dispute or other matter in question arising out of or related to this Agreement subject to, but not resolved by, mediation shall be subject to arbitration, which unless the parties mutually agree otherwise, shall be administered by the American Arbitration Association in accordance with its Construction Industry Arbitration Rules in effect on the date of this Agreement, except that the parties shall select only one Arbitrator, and there shall be no discovery. A demand for arbitration shall be made in writing, delivered to the other party to this Agreement, and filed with the person or entity administering the arbitration. The party filing a notice of demand for arbitration must assert in the demand all Claims then known to that party on which arbitration is permitted to be defended.

Schedule of Liquidated Damages

Liquidated damages (a fixed amount set forth in the contract) agreed to by the owner and the contractor are intended to compensate the owner for unexcused delay in the performance of the contract. The parties agree that the purpose of the liquidated damages schedule below is to establish, in advance, a reasonable estimate of the damages that would be incurred by the owner if there is an unexcused delay, or a breach of contract, which causes the work to be extended beyond the contractual substantial completion date. This agreement of liquidated damages by the parties is made to establish the reasonableness of them to the actual damages an owner may have incur due to unexcused delays by the contractor, even though the actual damages may be an uncertain amount and unprovable.

The specific per diem rates for Liquidated Damages are * **\$ fill in amount / set forth below** *. By executing the Contract, the Contractor acknowledges that such an amount is not a penalty and that the daily amount set forth in the Contract is a reasonable per diem forecast of damages incurred by the Owner due to the Contractor's failure to complete the Work within the Contract Time.

Original Contract Amount		Per Diem Amount of Liquidated Damages
From	To	
More Than 0	and Including \$100,000	\$500
\$100,000	\$300,000	\$675
\$300,000	\$500,000	\$750
\$500,000	\$1,000,000	\$825
\$1,000,000	\$2,000,000	\$1,000
\$2,000,000	\$4,000,000	\$1,250
\$4,000,000	and more	\$1,500

THE MAINE HUMAN RIGHTS ACT GUARANTEES...

Equal Employment Rights

EQUAL EMPLOYMENT RIGHTS

1. The RIGHT to freedom from discrimination in employment.
2. The opportunity for an individual to secure employment without discrimination... is declared to be a CIVIL RIGHT.

The Maine Human Rights Act prohibits discrimination because of race, color, sex, sexual orientation, age, physical or mental disability, genetic pre-disposition, religion, ancestry or national origin.

The Maine Human Rights Act also prohibits discrimination because of filing a claim or asserting a right under the Worker's Comp Act or retaliation under the Whistleblower's Act.

UNLAWFUL EMPLOYMENT DISCRIMINATION

1. For any employer to fail or refuse to hire an applicant
2. For any employer to discharge an employee
3. For any employer to discriminate against an employee with respect to recruitment, tenure, promotion, transfer, or compensation
4. For any employment agency to fail or refuse to classify properly or refer for employment an applicant
5. For any labor organization to exclude from apprenticeship or membership an applicant
6. For any employer, employment agency, or labor organization prior to employment or admission to membership of an individual to ask questions, keep as record, use application form, issue any notice, employ a quota system
7. For any employer, employment agency, or labor organization to retaliate against a person who has opposed a violation of the Maine Human Rights Act

Because of race, color, sex, sexual orientation, age, physical or mental disability, genetic pre-disposition, religion, ancestry or national origin or because of asserting a claim under the Worker's Comp Act or Whistleblower's Act.

MAINE = HUMAN RIGHTS COMMISSION

IF YOU FEEL YOU HAVE BEEN DISCRIMINATED AGAINST, CONTACT THE COMMISSION OFFICE.
51 STATE HOUSE STATION, AUGUSTA, MAINE 04333-0051
PHONE (207) 624-6050 FAX (207) 624-6063 TTY 1-888-577-6690

(Rev. Dec. 28, 2005)

Printed under appropriation: 01094H1010012

Attachment A

THIS DOCUMENT MUST BE CLEARLY POSTED AT THE PERTAINING STATE FUNDED PREVAILING WAGE CONSTRUCTION SITE

State of Maine
 Department of Labor
 Bureau of Labor Standards
 Technical Services Division
 Augusta, Maine 04333-0045
 Telephone (207) 623-7906

Wage Determination - In accordance with 26 MRSA §1301 et. seq., this is a determination by the Bureau of Labor Standards, of the fair minimum wage rate to be paid laborers and workers employed on the below titled project.

Title of Project -----Science A Wing Curtain Wall Replacement UMS Project 6100203

Location of Project -Portland, Cumberland County

2013 Fair Minimum Wage Rates
 Building 2 Cumberland County
 (other than 1 or 2 family homes)

Occupation Title	Minimum Wage	Minimum Benefit	Total	Occupation Title	Minimum Wage	Minimum Benefit	Total
Asbestos/Lead Removal Worker	15.50	1.21	16.71	Ironworker - Reinforcing	20.00	2.55	22.55
Asphalt Raker	14.50	0.80	15.30	Ironworker - Structural	20.00	2.45	22.45
Backhoe Loader Operator	17.00	1.97	18.97	Laborers (Incl.Helpers & Tenders)	12.25	0.24	12.49
Boilermaker	22.50	8.20	30.70	Laborer - Skilled	15.00	1.22	16.22
Boom Truck (Truck Crane) Operator	25.75	14.46	40.21	Loader Operator - Front-End	15.88	1.50	17.38
Bricklayer	23.00	0.90	23.90	Mechanic- Maintenance	22.45	3.00	25.45
Bulldozer Operator	18.00	3.16	21.16	Mechanic- Refrigeration	23.00	3.13	26.13
Carpenter	18.58	2.81	21.39	Millwright	22.50	7.34	29.84
Carpenter - Acoustical	14.75	1.99	16.74	Oil/Fuel Burner Servicer & Installer (Licensed)	22.75	3.65	26.40
Carpenter - Rough	16.94	1.95	18.89	Painter	15.00	0.00	15.00
Cement Mason/Finisher	15.75	1.40	17.15	Paver Operator	17.00	3.00	20.00
Communication Equip Installer	25.64	1.67	27.31	Pipe/Steam/Sprinkler Fitter	21.38	4.02	25.40
Crane Operator =>15 Tons)	21.00	2.70	23.70	Plumber (Licensed)	22.75	3.71	26.46
Crusher Plant Operator	16.50	2.90	19.40	Plumber Helper/Trainee (Licensed)	15.00	2.59	17.59
Diver	20.00	5.12	25.12	Propane & Natural Gas Servicer & Inst (Licensed)	20.54	2.78	23.32
Driller - Well	16.00	2.25	18.25	Rigger	19.00	4.12	23.12
Dry-Wall Applicator	19.00	1.53	20.53	Roller Operator - Earth	13.00	0.39	13.39
Dry-Wall Taper & Finisher	20.00	0.00	20.00	Roller Operator - Pavement	17.25	5.16	22.41
Electrician - Licensed	24.57	6.00	30.57	Roofer	15.00	1.50	16.50
Electrician Helper/Cable Puller (Licensed)	15.37	4.02	19.39	Sheet Metal Worker	15.50	3.58	19.08
Elevator Constructor/Installer	50.83	23.84	74.67	Sider	14.00	2.44	16.44
Excavator Operator	18.75	2.67	21.42	Stone Mason	16.75	5.61	22.36
Flagger	9.03	0.00	9.03	Tile Setter	19.00	3.63	22.63
Fence Setter	13.63	0.58	14.21	Truck Driver - Light	15.00	2.29	17.29
Floor Layer	16.00	0.00	16.00	Truck Driver - Medium	15.00	1.24	16.24
Glazier	17.50	2.12	19.62	Truck Driver - Heavy	14.00	0.34	14.34
HVAC	22.50	4.01	26.51	Truck Driver - Tractor Trailer	15.00	3.76	18.76
Insulation Installer	18.00	1.92	19.92	Truck Driver - Mixer (Cement)	13.29	2.90	16.19

The Laborer classifications include a wide range of work duties. Therefore, if any specific occupation to be employed on this project is not listed in this determination, call the Bureau of Labor Standards at the above number for further clarification.


Welders are classified in the trade to which the welding is incidental.

Apprentices - The minimum wage rate for registered apprentices are those set forth in the standards and policies of the Maine State Apprenticeship and Training Council for approved apprenticeship programs.

Posting of Schedule - Posting of this schedule is required in accordance with 26 MRSA §1301 et. seq., by any contractor holding a State contract for construction valued at \$50,000 or more and any subcontractors to such a contractor.

Appeal - Any person affected by the determination of these rates may appeal to the Commissioner of Labor by filing a written notice with the Commissioner stating the specific grounds of the objection within ten (10) days from the filing of these rates with the Secretary of State.

Determination No: B2-011-2013
 Filing Date: January 10, 2013
 Expiration Date: 12-31-2013

A true copy
 Attest: 
 Pamela Taylor
 Director
 Bureau of Labor Standards

BLS 424BU (R2013) (Building 2 Cumberland)

SECTION 01 1000
SUMMARY

PART 1 GENERAL

1.01 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

1.02 SUMMARY

- A. This Section includes the following:
 - 1. Project Information
 - 2. Work covered by the Contract Documents.
 - 3. Type of the Contract.
 - 4. Work schedule.
 - 5. Work under other contracts.
 - 6. Use of premises.
 - 7. Owner's occupancy requirements.
 - 8. Work restrictions.
 - 9. Specification formats and conventions.
- B. Related Sections include the following:
 - 1. Division 01 Section "Temporary Facilities and Controls" for limitations and procedures governing temporary use of Owner's facilities.

1.03 PROJECT INFORMATION

- A. Project Identification: Science A Wing Curtainwall Replacement Project; USM Project # 2012-012
 - 1. Project Location: 70 Falmouth St., Portland, ME
- B. Owner: University of Maine System for the University of Southern Maine.
- C. Architect: Turner Building Science & Design, LLC: 26 Pinewood Lane, Harrison ME 04040

1.04 WORK COVERED BY CONTRACT DOCUMENTS

- A. The Project consists of the construction of the following but not necessarily limited to:
 - 1. Miscellaneous metals
 - 2. Rough carpentry
 - 3. Finish carpentry
 - 4. Gypsum board ceilings
 - 5. Hazardous Material Removal
 - 6. Curtainwall
 - 7. Glazing
 - 8. Painting
 - 9. Sealants, flashing
 - 10. Roof edge, curb
- B. Scope of demolition and removal work is shown on drawings and specified in Section 02 4100.
- C. HVAC: Temporarily remove existing heating system and associated components as required to accommodate new construction. Reinstall and balance as required to original operating conditions.
- D. Electrical Power and Lighting: Temporarily remove existing receptacles, devices, etc., components as required to accommodate new construction. Coordinate reinstall to like new with project construction.

- E. Technology and security systems: Owner to temporarily remove and reinstall as required to accommodate new construction. Coordinate with Owner.
- F. Owner will remove the following items before start of work:
 - 1. Loose furnishings.
 - 2. Owner items.
 - 3. Window treatments.

1.05 TYPE OF CONTRACT

- A. Project will be constructed under a single prime contract, design bid build.

1.06 WORK SCHEDULE

- A. Start date for work on site is May 13, 2013.
- B. Substantial completion date for the work is August 2, 2013.
- C. Final completion, including completion of interior punch list items shall be done by Friday August 9, 2013.

1.07 WORK UNDER OTHER CONTRACTS

- A. General: Cooperate fully with separate contractors so work on those contracts may be carried out smoothly, without interfering with or delaying work under this Contract. Coordinate the Work of this Contract with work performed under separate contracts.

1.08 USE OF PREMISES

- A. General: Contractor shall have limited use of premises for construction operations as indicated on Drawings by the Contract limits and/or as agreed too with Owner.
- B. Use of Site: Limit use of premises to areas within the Contract limits indicated and as agreed to with Owner. Do not disturb portions of Project site beyond areas in which the Work is indicated.
 - 1. Owner Occupancy: Allow for Owner occupancy of rooms and facilities adjacent to the work and use by the public.
 - 2. Driveways and Entrances: Keep driveways, parking, and entrances serving premises clear and available to Owner, Owner's employees, and emergency vehicles at all times. Do not use these areas for parking or storage of materials.
 - a. Schedule deliveries to minimize use of driveways and entrances.
 - b. Schedule deliveries to minimize space and time requirements for storage of materials and equipment on-site.
- C. Use of Existing Building: Maintain existing building in a weather tight condition throughout construction period. Repair damage caused by construction operations. Protect building and its occupants during construction period.
- D. Campus Tobacco Use Policy: A tobacco-free campus has been established at The University of Southern Maine to provide a healthy working and learning environment for the entire campus community.
 - 1. The University of Southern Maine is a tobacco-free campus. This policy applies to faculty, staff, students, contractors, vendors and visitors. The use of tobacco and all smoking products is not permitted on any university-owned property, which includes but is not limited to, buildings, university grounds, parking areas, campus walkways, recreational and sporting facilities, and university or personally-owned, rented or leased vehicles.
 - 2. Tobacco use by definition includes the possession of any lighted tobacco products, or the use of any type of smokeless tobacco, including but not limited to chew, snuff, snus, electronic cigarettes, and all other nicotine delivery devices that are non-FDA approved as cessation products.
 - 3. It is the shared responsibility of all members of the campus community to respect and abide by this policy. The successful implementation of this policy depends on the courtesy and cooperation of the entire campus community.

- E. Contractor will be provided with one set of keys and security cards necessary to access all areas of the project site. Contractor shall be responsible for, and keep keys and security cards in his possession, for the duration of the project. Final payment to contractor will not be released until keys and cards are returned to USM.

1.09 OWNER'S OCCUPANCY REQUIREMENTS

- A. Full Owner Occupancy: Owner will occupy adjacent site and existing building during entire construction period. Cooperate with Owner during construction operations to minimize conflicts and facilitate Owner usage. Perform the Work so as not to interfere with Owner's day-to-day operations. Maintain existing exits, unless otherwise indicated.
 - 1. Maintain access to existing walkways, corridors, and other adjacent occupied or used facilities. Do not close or obstruct walkways, corridors, or other occupied or used facilities without written permission from Owner and authorities having jurisdiction.
 - 2. Provide not less than 72 hours' notice to Owner of activities that will affect Owner's operations.
- B. Owner Occupancy of Completed Areas of Construction: Owner reserves the right to occupy and to place and install equipment in completed areas of building, before Substantial Completion, provided such occupancy does not interfere with completion of the Work. Such placement of equipment and partial occupancy shall not constitute acceptance of the total Work.
 - 1. Architect will prepare a Certificate of Substantial Completion for each specific portion of the Work to be occupied before Owner occupancy.
 - 2. Contractor shall obtain a Certificate of Occupancy from authorities having jurisdiction before Owner occupancy.
 - 3. Before partial Owner occupancy, mechanical and electrical systems shall be fully operational, and required tests and inspections shall be successfully completed. On occupancy, Owner will operate and maintain mechanical and electrical systems serving occupied portions of building.
 - 4. On occupancy, Owner will assume responsibility for maintenance and custodial service for occupied portions of building.

1.10 WORK RESTRICTIONS

- A. Existing Utility Interruptions: Do not interrupt utilities serving facilities occupied by Owner or others unless permitted under the following conditions and then only after arranging to provide temporary utility services according to requirements indicated:
 - 1. Notify Architect and Owner not less than three days in advance of proposed utility interruptions.
 - 2. Do not proceed with utility interruptions without Owner's written permission.
 - 3. Shutdowns shall be scheduled during after hours, or during semester breaks, when the facility is not occupied.
 - 4. Limit conduct of interior and exterior work to the hours of 7:00am - 5:00pm, Monday thru Friday, unless otherwise approved by Owner.

1.11 SPECIFICATION FORMATS AND CONVENTIONS

- A. Specification Format: The Specifications are organized into Divisions and Sections using the 50-division format and CSI/CSC's "2004 MasterFormat" numbering system.
 - 1. Section Identification: The Specifications use Section numbers and titles to help cross-referencing in the Contract Documents. Sections in the Project Manual are in numeric sequence; however, the sequence is incomplete because all available Section numbers are not used. Consult the table of contents at the beginning of the Project Manual to determine numbers and names of Sections in the Contract Documents.
 - 2. Division 1: Sections in Division 1 govern the execution of the Work of all Sections in the Specifications.
- B. Specification Content: The Specifications use certain conventions for the style of language and the intended meaning of certain terms, words, and phrases when used in particular situations. These conventions are as follows:

1. Abbreviated Language: Language used in the Specifications and other Contract Documents is abbreviated. Words and meanings shall be interpreted as appropriate. Words implied, but not stated, shall be inferred as the sense requires. Singular words shall be interpreted as plural, and plural words shall be interpreted as singular where applicable as the context of the Contract Documents indicates.
2. Imperative mood and streamlined language are generally used in the Specifications. Requirements expressed in the imperative mood are to be performed by Contractor. Occasionally, the indicative or subjunctive mood may be used in the Section Text for clarity to describe responsibilities that must be fulfilled indirectly by Contractor or by others when so noted.
 - a. The words "shall," "shall be," or "shall comply with," depending on the context, are implied where a colon (:) is used within a sentence or phrase.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION (NOT USED)

END OF SECTION

**SECTION 01 2300
ALTERNATES**

PART 1 GENERAL

1.01 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

1.02 SUMMARY

- A. This Section includes administrative and procedural requirements for alternates.

1.03 DEFINITIONS

- A. Alternate: An amount proposed by bidders and stated on the Bid Form for certain work defined in the Bidding Requirements that may be added to or deducted from the Base Bid amount if Owner decides to accept a corresponding change either in the amount of construction to be completed or in the products, materials, equipment, systems, or installation methods described in the Contract Documents.
 - 1. The cost or credit for each alternate is the net addition to or deduction from the Contract Sum to incorporate alternate into the Work. No other adjustments are made to the Contract Sum.
 - 2. Hold pricing for 90 days from date of bid opening to allow Owner time for project accounting. Alternates not accepted before contract signing may be added by Change Order later.

1.04 PROCEDURES

- A. Coordination: Modify or adjust affected adjacent work as necessary to completely integrate work of the alternate into Project.
 - 1. Include as part of each alternate, miscellaneous devices, accessory objects, and similar items incidental to or required for a complete installation whether or not indicated as part of alternate.
- B. Notification: Immediately following award of the Contract, notify each party involved, in writing, of the status of each alternate. Indicate if alternates have been accepted, rejected, or deferred for later consideration. Include a complete description of negotiated modifications to alternates.
- C. Execute accepted alternates under the same conditions as other work of the Contract.
- D. Schedule: A Schedule of Alternates is included at the end of this Section. Specification Sections referenced in schedule contain requirements for materials necessary to achieve the work described under each alternate.

1.05 P2 PRODUCTS (NOT USED)

PART 3 EXECUTION

2.01 SCHEDULE OF ALTERNATES

- A. Alternate No. 1 – Insulated metal panel: Provide 1" insulated aluminum metal panel in lieu of spandrel glazing. Color and texture of panel facings to be determined thru manufacturers standard color selections. Provide sample of aluminum panel for review and approval by Owner, should alternate be selected. See Section 074264 for MCM panel information.
- B. Alternate No. 2 –
- C. Alternate No. 3 –
- D. Alternate No. 4 –

END OF SECTION

SECTION 01 2600
CONTRACT MODIFICATION PROCEDURES

PART 1 GENERAL

1.01 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

1.02 SUMMARY

- A. This Section specifies administrative and procedural requirements for handling and processing Contract modifications.
- B. Related Sections include the following:
 - 1. Division 01 Section "Alternates" for administrative requirements for using alternate prices.
 - 2. Division 01 Section "Product Requirements" for administrative procedures for handling requests for substitutions made after Contract award.

1.03 MINOR CHANGES IN THE WORK

- A. Architect will issue supplemental instructions authorizing Minor Changes in the Work, not involving adjustment to the Contract Sum or the Contract Time, on AIA Document G710, "Architect's Supplemental Instructions."

1.04 PROPOSAL REQUESTS

- A. Owner-Initiated Proposal Requests: Architect will issue a detailed description of proposed changes in the Work that may require adjustment to the Contract Sum or the Contract Time. If necessary, the description will include supplemental or revised Drawings and Specifications.
 - 1. Proposal Requests issued by Architect are for information only. Do not consider them instructions either to stop work in progress or to execute the proposed change.
 - 2. Within 20 days after receipt of Proposal Request or earlier as specified in Proposal Request issued, submit a quotation estimating cost adjustments to the Contract Sum and the Contract Time necessary to execute the change.
 - a. Include a list of quantities of products required or eliminated and unit costs, with total amount of purchases and credits to be made. If requested, furnish survey data to substantiate quantities.
 - b. Indicate applicable taxes, delivery charges, equipment rental, and amounts of trade discounts.
 - c. Include costs of labor and supervision directly attributable to the change.
 - d. Include quotes on supplier's and subcontractor's letterhead for the requested change.
 - e. Include an updated Contractor's Construction Schedule that indicates the effect of the change, including, but not limited to, changes in activity duration, start and finish times, and activity relationship. Use available total float time before requesting an extension of the Contract Time.
- B. Contractor-Initiated Proposals: If latent or unforeseen conditions require modifications to the Contract, Contractor may propose changes by submitting a request for a change to Architect.
 - 1. Include a statement outlining reasons for the change and the effect of the change on the Work. Provide a complete description of the proposed change. Indicate the effect of the proposed change on the Contract Sum and the Contract Time.
 - 2. Include a list of quantities of products required or eliminated and unit costs, with total amount of purchases and credits to be made. If requested, furnish survey data to substantiate quantities.
 - 3. Indicate applicable taxes, delivery charges, equipment rental, and amounts of trade discounts.

4. Include costs of labor and supervision directly attributable to the change.
 5. Include an updated Contractor's Construction Schedule that indicates the effect of the change, including, but not limited to, changes in activity duration, start and finish times, and activity relationship. Use available total float time before requesting an extension of the Contract Time.
 6. Comply with requirements in Division 1 Section "Product Requirements" if the proposed change requires substitution of one product or system for product or system specified.
- C. Proposal Request Form: Use AIA Document G709 for Proposal Requests, or format as approved by the Owner.

1.05 ALLOWANCES

- A. Allowance Adjustment: To adjust allowance amounts, base each Change Order proposal on the difference between purchase amount and the allowance, multiplied by final measurement of work-in-place. If applicable, include reasonable allowances for cutting losses, tolerances, mixing wastes, normal product imperfections, and similar margins.
1. Include installation costs in purchase amount only where indicated as part of the allowance.
 2. If requested, prepare explanation and documentation to substantiate distribution of overhead costs and other margins claimed.
 3. Submit substantiation of a change in scope of work, if any, claimed in Change Orders related to unit-cost allowances.
 4. Owner reserves the right to establish the quantity of work-in-place by independent quantity survey, measure, or count.
- B. Submit claims for increased costs because of a change in scope or nature of the allowance described in the Contract Documents, whether for the Purchase Order amount or Contractor's handling, labor, installation, overhead, and profit. Submit claims within 21 days of receipt of the Change Order or Construction Change Directive authorizing work to proceed. Owner will reject claims submitted later than 21 days after such authorization.
1. Do not include Contractor's or subcontractor's indirect expense in the Change Order cost amount unless it is clearly shown that the nature or extent of work has changed from what could have been foreseen from information in the Contract Documents.
 2. No change to Contractor's indirect expense is permitted for selection of higher- or lower-priced materials or systems of the same scope and nature as originally indicated.

1.06 CHANGE ORDER PROCEDURES

- A. On Owner's approval of a Proposal Request, Architect will issue a University of Maine Change Order form for signatures of Owner and Contractor.

1.07 CONSTRUCTION CHANGE DIRECTIVE

- A. Construction Change Directive: Architect may issue a Construction Change Directive on AIA Document G714 . Construction Change Directive instructs Contractor to proceed with a change in the Work, for subsequent inclusion in a Change Order.
1. Construction Change Directive contains a complete description of change in the Work. It also designates method to be followed to determine change in the Contract Sum or the Contract Time.
- B. Documentation: Maintain detailed records on a time and material basis of work required by the Construction Change Directive.
1. After completion of change, submit an itemized account and supporting data necessary to substantiate cost and time adjustments to the Contract.

1.08 PRODUCTS (NOT USED)

1.09 EXECUTION (NOT USED)

END OF SECTION

SECTION 01 2900
PAYMENT PROCEDURES

PART 1 GENERAL

1.01 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

1.02 SUMMARY

- A. This Section specifies administrative and procedural requirements necessary to prepare and process Applications for Payment.
- B. Related Sections include the following:
 - 1. Division 1 Section "Contract Modification Procedures" for administrative procedures for handling changes to the Contract.
 - 2. Division 1 Section "Unit Prices" for administrative requirements governing use of unit prices.
 - 3. Division 1 Section "Construction Progress Documentation" for administrative requirements governing preparation and submittal of Contractor's Construction Schedule and Submittals Schedule.
 - 4. Division 1 Section "Operation and Maintenance Data" for concurrent submittal of Preliminary Operation and Maintenance Summary with schedule of values submittal.

1.03 DEFINITIONS

- A. Schedule of Values: A statement furnished by Contractor allocating portions of the Contract Sum to various portions of the Work and used as the basis for reviewing Contractor's Applications for Payment.

1.04 SCHEDULE OF VALUES

- A. Coordination: Coordinate preparation of the Schedule of Values with preparation of Contractor's Construction Schedule.
 - 1. Correlate line items in the Schedule of Values with other required administrative forms and schedules, including the following:
 - a. Application for Payment forms with Continuation Sheets.
 - b. Submittals Schedule.
 - c. Contractor's Construction Schedule.
 - 2. Submit the Schedule of Values to Architect at earliest possible date but no later than seven days before the date scheduled for submittal of initial Applications for Payment.
 - a. Submit Schedule of Values to the Architect in electronic format for review, comment and approval by the Owner.
 - 3. Subschedules: Where the Work is separated into phases requiring separately phased payments, provide subschedules showing values correlated with each phase of payment.
- B. Format and Content: Use the Project Manual table of contents as a guide to establish line items for the Schedule of Values. Provide at least one line item for each Specification Section.
 - 1. Cover Sheet Identification: Include the following Project identification on the Schedule of Values:
 - a. Project name and location.
 - b. Name of Architect.
 - c. Architect's project number.
 - d. Contractor's name and address.
 - e. Date of submittal.
 - f. Certification that Record Drawings have been updated and verified.
 - 2. Submit draft of Continuation Sheets.

3. Arrange the Schedule of Values in tabular form with separate columns to indicate the following for each item listed:
 - a. Related Specification Section or Division.
 - b. Description of the Work.
 - c. Name of subcontractor.
 - d. Name of manufacturer or fabricator.
 - e. Name of supplier.
 - f. Change Orders (numbers) that affect value.
 - g. Dollar value.
 - 1) Percentage of the Contract Sum to nearest one-hundredth percent, adjusted to total 100 percent.
 4. Provide a breakdown of the Contract Sum in enough detail to facilitate continued evaluation of Applications for Payment and progress reports. Coordinate with the Project Manual table of contents, providing at least one line item for each Specification Section. Provide several line items for principal subcontract amounts, where appropriate.
 - a. For each line item, provide a sublist breakdown as follows:
 - 1) Material.
 - 2) Labor.
 5. For Division 15 work, provide the following additional line item breakdown of the mechanical subcontractor's work for each Application for Payment.
 - a. Ductwork Systems.
 - b. HVAC Piping Systems.
 - c. HVAC Equipment.
 - d. HVAC Controls.
 - e. Plumbing, including fixtures and piping.
 6. Documentation: Submit proper documentation for the amounts being requisitioned from subcontractors and material suppliers with each Application for Payment.
 7. Round amounts to nearest whole dollar; total shall equal the Contract Sum.
 8. Provide a separate line item in the Schedule of Values for each part of the Work where Applications for Payment may include materials or equipment purchased or fabricated and stored, but not yet installed.
 - a. Differentiate between items stored on-site and items stored off-site. If specified, include evidence of insurance or bonded warehousing.
 - b. Only major long lead delivery items may be considered for off-site storage (Example: Long lead custom mechanical unit). Standard order and production materials and products shall be delivered to the site before including in Application of Payment on such items.
 9. Provide separate line items in the Schedule of Values for initial cost of materials, for each subsequent stage of completion, and for total installed value of that part of the Work.
 10. Allowances: Provide a separate line item in the Schedule of Values for each allowance. Show line-item value of unit-cost allowances, as a product of the unit cost, multiplied by measured quantity. Use information indicated in the Contract Documents to determine quantities.
 11. Each item in the Schedule of Values and Applications for Payment shall be complete.
 - a. Temporary facilities and other major cost items that are not direct cost of actual work-in-place may be shown either as separate line items in the Schedule of Values or distributed as general overhead expense, at Contractor's option.
 12. Schedule Updating: Update and resubmit the Schedule of Values before the next Applications for Payment when Change Orders or Construction Change Directives result in a change in the Contract Sum.
- C. The Contractor shall furnish to the Architect at the beginning of the project an expected monthly requisition estimate for the Owner's use in planning funding.

1.05 APPLICATIONS FOR PAYMENT

- A. Each Application for Payment shall be consistent with previous applications and payments as certified by Architect and paid for by Owner.
 - 1. Initial Application for Payment, Application for Payment at time of Substantial Completion, and final Application for Payment involve additional requirements.
- B. Payment Application Times: Progress Payment Applications shall be submitted to Architect not less than 7 days before monthly progress meeting. The period covered by each Application for Payment is one month, ending on the last day of the month.
 - 1. Submit electronic copy to Architect and to Owner for review and comment at least 7 days before monthly progress meeting. Upon receipt of review comments, prepare notarized paper copies and transmit for signing at the progress meeting.
- C. Payment Application Forms: Use AIA Document G702 and AIA Document G703 Continuation Sheets form for Applications for Payment.
- D. Application Preparation: Complete every entry on form. Notarize and execute by a person authorized to sign legal documents on behalf of Contractor. Architect will return incomplete applications without action.
 - 1. Entries shall match data on the Schedule of Values and Contractor's Construction Schedule. Use updated schedules if revisions were made.
 - 2. Include amounts of Change Orders and Construction Change Directives issued before last day of construction period covered by application.
- E. Transmittal: Submit 3 signed and notarized original copies of each Application for Payment to Architect by a method ensuring receipt within 24 hours. One copy shall include waivers of lien and similar attachments if required.
 - 1. Transmit each copy with a transmittal form listing attachments and recording appropriate information about application.
 - 2. Submit one electronic copy of Application for Payment.
- F. Waivers of Mechanic's Lien: With each Application for Payment, submit waivers of mechanic's liens from subcontractors, sub-subcontractors, and suppliers for construction period covered by the previous application.
 - 1. Submit partial waivers on each item for amount requested in previous application, after deduction for retainage, on each item.
 - 2. When an application shows completion of an item, submit final or full waivers.
 - 3. Owner reserves the right to designate which entities involved in the Work must submit waivers.
 - 4. Submit final Application for Payment with or preceded by final waivers from every entity involved with performance of the Work covered by the application who is lawfully entitled to a lien.
 - 5. Waiver Forms: Submit waivers of lien on University of Maine System Wavier of Lien form, executed in a manner acceptable to Owner.
- G. Record Drawing Updates: With each Application of Payment, record documents shall be maintained and current for all trades, available for viewing at a central location.
- H. Initial Application for Payment: Administrative actions and submittals that must precede or coincide with submittal of first Application for Payment include the following:
 - 1. List of subcontractors.
 - 2. Schedule of Values.
 - 3. Contractor's Construction Schedule (preliminary if not final).
 - 4. Products list.
 - 5. Schedule of unit prices.
 - 6. Submittals Schedule (preliminary if not final).
 - 7. List of Contractor's staff assignments.

8. List of Contractor's principal consultants.
 9. Copies of building permits and other required permits.
 10. Copies of authorizations and licenses from authorities having jurisdiction for performance of the Work.
 11. Initial progress report.
 12. Report of preconstruction conference.
 13. Certificates of insurance and insurance policies.
 14. Performance and payment bonds.
- I. Progress Applications for Payment: Administrative actions and submittals that must precede or coincide with submittal of progress Applications for Payment include the following:
1. Contractor's Construction Schedule update.
 2. Submittals for Work being requisitioned for are complete and approved.
 3. Submit list of completed tests, checklists, commissioning, reports, IDAT and similar requirements for the work are submitted and in compliance with the Contract Documents.
 4. Minutes of previous month's progress meeting have been distributed.
 5. Record drawings are current.
- J. Application for Payment at Substantial Completion: After issuing the Certificate of Substantial Completion, submit an Application for Payment showing 100 percent completion less retainage, for portion of the Work claimed as substantially complete.
1. Include documentation supporting claim that the Work is substantially complete and a statement showing an accounting of changes to the Contract Sum.
 2. This application shall reflect Certificates of Partial Substantial Completion issued previously for Owner occupancy of designated portions of the Work.
- K. Final Payment Application: Submit final Application for Payment with releases and supporting documentation not previously submitted and accepted, including, but not limited, to the following:
1. Evidence of completion of Project closeout requirements, record documents, operation and maintenance data, and demonstration and training.
 2. Insurance certificates for products and completed operations where required and proof that taxes, fees, and similar obligations were paid.
 3. Updated final statement, accounting for final changes to the Contract Sum.
 4. University of Maine System Waiver of Lien.
 5. AIA Document G707, "Consent of Surety to Final Payment."
 6. Evidence that claims have been settled.
 7. Final meter readings for utilities, a measured record of stored fuel, and similar data as of date of Substantial Completion or when Owner took possession of and assumed responsibility for corresponding elements of the Work.
 8. Final, liquidated damages settlement statement.

1.06 PRODUCTS (NOT USED)

1.07 EXECUTION (NOT USED)

END OF SECTION

SECTION 01 3100
PROJECT MANAGEMENT AND COORDINATION

PART 1 GENERAL

1.01 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

1.02 SUMMARY

- A. This Section includes administrative provisions for coordinating construction operations on Project including, but not limited to, the following:
 - 1. Coordination Drawings.
 - 2. Administrative and supervisory personnel.
 - 3. Project meetings.
 - 4. Submittal procedures
 - 5. Progress photographs
- B. Related Sections include the following:
 - 1. Division 01 Section "Construction Progress Documentation" for preparing and submitting Contractor's Construction Schedule.
 - 2. Division 01 Section "Execution Requirements" for procedures for coordinating general installation and field-engineering services, including establishment of benchmarks and control points.
 - 3. Division 01 Section "Closeout Procedures" for coordinating Contract closeout.

1.03 COORDINATION

- A. Coordination: Coordinate construction operations included in different Sections of the Specifications to ensure efficient and orderly installation of each part of the Work. Coordinate construction operations, included in different Sections that depend on each other for proper installation, connection, and operation.
 - 1. Schedule construction operations in sequence required to obtain the best results where installation of one part of the Work depends on installation of other components, before or after its own installation.
 - 2. Coordinate installation of different components with other contractors to ensure maximum accessibility for required maintenance, service, and repair.
 - 3. Make adequate provisions to accommodate items scheduled for later installation.
 - 4. Where availability of space is limited, coordinate installation of different components to ensure maximum performance and accessibility for required maintenance, service, and repair of all components, including mechanical and electrical. Coordinate location of pipes, conduits, ducts and similar items in confined areas to assure proper fit and access. Contractor is responsible for handling interferences created by the work of subcontractors (example, sprinkler pipe interfering with installation of duct work; duct work interfering with installation of tight fixtures).
- B. Coordinate with contractors doing work for the Owner under separate contracts.
- C. Prepare memoranda for distribution to each party involved, outlining special procedures required for coordination. Include such items as required notices, reports, and list of attendees at meetings.
 - 1. Prepare similar memoranda for Owner and separate contractors if coordination of their Work is required.
- D. Administrative Procedures: Coordinate scheduling and timing of required administrative procedures with other construction activities and activities of other contractors to avoid conflicts and to ensure orderly progress of the Work. Such administrative activities include, but are not limited to, the following:

1. Preparation of Contractor's Construction Schedule.
 2. Preparation of the Schedule of Values.
 3. Installation and removal of temporary facilities and controls.
 4. Delivery and processing of submittals.
 5. Progress meetings.
 6. Preinstallation conferences.
 7. Project closeout activities.
 8. Startup and adjustment of systems.
 9. Project closeout activities.
- E. Conservation: Coordinate construction activities to ensure that operations are carried out with consideration given to conservation of energy, water, and materials.

1.04 SUBMITTALS

- A. Coordination Drawings: Prepare Coordination Drawings as determined by the Contractor and subcontractors, if limited space availability necessitates maximum utilization of space for efficient installation of different components or if coordination is required for installation of products and materials fabricated by separate entities.
1. Content: Project-specific information, drawn accurately to scale. Do not base Coordination Drawings on reproductions of the Contract Documents or standard printed data. Include the following information, as applicable:
 - a. Indicate functional and spatial relationships of components of architectural, structural, civil, mechanical, and electrical systems.
 - b. Indicate required installation sequences.
 - c. Indicate dimensions shown on the Contract Drawings and make specific note of dimensions that appear to be in conflict with submitted equipment and minimum clearance requirements. Provide alternate sketches to Architect for resolution of such conflicts. Minor dimension changes and difficult installations will not be considered changes to the Contract.
- B. Key Personnel Names: Within 15 days of starting construction operations, submit a list of key personnel assignments, including superintendent and other personnel in attendance at Project site. Identify individuals and their duties and responsibilities; list addresses and telephone numbers, including home and office telephone numbers. Provide names, addresses, and telephone numbers of individuals assigned as standbys in the absence of individuals assigned to Project.
1. Post copies of list in Project meeting room, in temporary field office, and by each temporary telephone. Keep list current at all times.

1.05 ADMINISTRATIVE AND SUPERVISORY PERSONNEL

- A. General: In addition to Project superintendent, provide other administrative and supervisory personnel as required for proper performance of the Work.
1. Include special personnel required for coordination of operations with other contractors.

1.06 PROJECT MEETINGS

- A. General: Schedule and conduct meetings and conferences at Project site, unless otherwise indicated.
1. Attendees: Inform participants and others involved, and individuals whose presence is required, of date and time of each meeting. Notify Owner and Architect of scheduled meeting dates and times.
 2. Agenda: Prepare the meeting agenda. Distribute the agenda to all invited attendees.
 3. Minutes: Record significant discussions and agreements achieved. Distribute the meeting minutes to everyone concerned, including Owner and Architect, within three days of the meeting.

- B. Preconstruction Conference: Schedule a preconstruction conference before starting construction, at a time convenient to Owner and Architect, but no later than 15 days after execution of the Agreement. Hold the conference at 30 University Way, Gorham Campus or 25 Bedford Street Portland. Conduct the meeting to review responsibilities and personnel assignments.
1. Attendees: Authorized representatives of Owner, Architect, and their consultants; Contractor and its superintendent; major subcontractors; suppliers; and other concerned parties shall attend the conference. All participants at the conference shall be familiar with Project and authorized to conclude matters relating to the Work.
 2. Agenda: Discuss items of significance that could affect progress, including the following:
 - a. Tentative construction schedule.
 - b. Phasing.
 - c. Critical work sequencing and long-lead items.
 - d. Designation of key personnel and their duties.
 - e. Procedures for processing field decisions and Change Orders.
 - f. Procedures for requests for interpretations (RFIs).
 - g. Procedures for testing and inspecting.
 - h. Procedures for processing Applications for Payment.
 - i. Distribution of the Contract Documents.
 - j. Submittal procedures.
 - k. Progress photographs
 - l. Integrated Deliverables and Testing (IDAT).
 - m. Preparation of Record Documents.
 - n. Use of the premises.
 - o. Work restrictions.
 - p. Owner's occupancy requirements.
 - q. Responsibility for temporary facilities and controls.
 - r. Construction waste management and recycling.
 - s. Parking availability.
 - t. Office, work, and storage areas.
 - u. Equipment deliveries and priorities.
 - v. First aid.
 - w. Security.
 - x. Progress cleaning.
 - y. Working hours.
 - a`. USM campus operational protocols and procedures.
 3. Minutes: Record and distribute meeting minutes.
 - a. Include action items and responsible party.
- C. Preinstallation Conferences: Conduct a preinstallation conference at Project site before each construction activity that requires coordination with other construction.
1. Attendees: Installer and representatives of manufacturers and fabricators involved in or affected by the installation and its coordination or integration with other materials and installations that have preceded or will follow, shall attend the meeting. Advise Architect of scheduled meeting dates.
 2. Agenda: Review progress of other construction activities and preparations for the particular activity under consideration, including requirements for the following:
 - a. The Contract Documents.
 - b. Options.
 - c. Related requests for interpretations (RFIs).
 - d. Related Change Orders.
 - e. Purchases.

- f. Deliveries.
 - g. Submittals.
 - h. Review of mockups.
 - i. Possible conflicts.
 - j. Compatibility problems.
 - k. Time schedules.
 - l. Weather limitations.
 - m. Manufacturer's written recommendations.
 - n. Warranty requirements.
 - o. Compatibility of materials.
 - p. Acceptability of substrates.
 - q. Temporary facilities and controls.
 - r. Space and access limitations.
 - s. Regulations of authorities having jurisdiction.
 - t. Testing and inspecting requirements.
 - u. Installation procedures.
 - v. Coordination with other work.
 - w. Required performance results.
 - x. Protection of adjacent work.
 - y. Protection of construction and personnel.
 - a. Record drawing process.
3. Record significant conference discussions, agreements, and disagreements, including required corrective measures and actions.
 - a. Include action items and responsible party.
 4. Reporting: Distribute minutes of the meeting to each party present and to parties who should have been present.
 5. Do not proceed with installation if the conference cannot be successfully concluded. Initiate whatever actions are necessary to resolve impediments to performance of the Work and reconvene the conference at earliest feasible date.
- D. Monthly Progress Meetings: Conduct progress meetings at monthly intervals. Coordinate dates of meetings with preparation of payment requests.
1. Attendees: In addition to representatives of Owner and Architect, each contractor, subcontractor, supplier, and other entity concerned with current progress or involved in planning, coordination, or performance of future activities shall be represented at these meetings. All participants at the conference shall be familiar with Project and authorized to conclude matters relating to the Work.
 2. Agenda: Review and correct or approve minutes of previous progress meeting. Review other items of significance that could affect progress. Include topics for discussion as appropriate to status of Project.
 - a. Contractor's Construction Schedule: Review progress since the last meeting. Determine whether each activity is on time, ahead of schedule, or behind schedule, in relation to Contractor's Construction Schedule. Determine how construction behind schedule will be expedited; secure commitments from parties involved to do so. Discuss whether schedule revisions are required to ensure that current and subsequent activities will be completed within the Contract Time.
 - 1) Review schedule for next period.
 - b. Application for Payment: Contractor shall bring copy of Application for Payment to meeting. Review Application for Payment and required attachments, including LEED Progress Report, record drawing and documents status, waivers of mechanic's liens, list of completed tests, checklists, commissioning, reports, IDAT and similar requirements for the work are submitted and in compliance with the Contract Documents.

- c. Review present and future needs of each entity present, including the following:
 - 1) Interface requirements.
 - 2) Sequence of operations.
 - 3) Status of submittals.
 - 4) Deliveries.
 - 5) Off-site fabrication.
 - 6) Access.
 - 7) Site utilization.
 - 8) Temporary facilities and controls.
 - 9) Work hours.
 - 10) Hazards and risks.
 - 11) Progress cleaning.
 - 12) Quality and work standards.
 - 13) Status of correction of deficient items.
 - 14) Field observations.
 - 15) Requests for interpretations (RFIs).
 - 16) Status of proposal requests.
 - 17) Pending changes.
 - 18) Status of Change Orders.
 - 19) Pending claims and disputes.
 - 20) Documentation of information for payment requests.
- 3. Minutes: Record and distribute the meeting minutes.
 - a. Include action items and responsible party.
- 4. Reporting: Distribute minutes of the meeting to each party present and to parties who should have been present.
 - a. Schedule Updating: Revise Contractor's Construction Schedule after each progress meeting where revisions to the schedule have been made or recognized. Issue revised schedule concurrently with the report of each meeting.
- E. Coordination/Progress Meetings: Conduct Project coordination/progress meetings at weekly intervals. Project coordination meetings are in addition to specific meetings held for other purposes, such as progress meetings and preinstallation conferences.
 - 1. Attendees: In addition to representatives of Owner, each contractor, subcontractor, supplier, and other entity concerned with current progress or involved in planning, coordination, or performance of future activities shall be represented at these meetings. All participants at the conference shall be familiar with Project and authorized to conclude matters relating to the Work
 - 2. Agenda: Review and correct or approve minutes of the previous coordination meeting. Review other items of significance that could affect progress. Include topics for discussion as appropriate to status of Project.
 - a. Combined Contractor's Construction Schedule: Review progress since the last coordination meeting. Determine whether each contract is on time, ahead of schedule, or behind schedule, in relation to Combined Contractor's Construction Schedule. Determine how construction behind schedule will be expedited; secure commitments from parties involved to do so. Discuss whether schedule revisions are required to ensure that current and subsequent activities will be completed within the Contract Time.
 - b. Schedule Updating: Revise Combined Contractor's Construction Schedule after each coordination meeting where revisions to the schedule have been made or recognized. Issue revised schedule concurrently with report of each meeting.
 - c. Review present and future needs of each contractor present, including the following:
 - 1) Interface requirements.
 - 2) Sequence of operations.

- 3) Status of submittals.
 - 4) Deliveries.
 - 5) Off-site fabrication.
 - 6) Access.
 - 7) Site utilization.
 - 8) Temporary facilities and controls.
 - 9) Work hours.
 - 10) Hazards and risks.
 - 11) Progress cleaning.
 - 12) Quality and work standards.
 - 13) Change Orders.
3. Conduct coordination meetings with the mechanical, plumbing, sprinkler and electrical trades. Before the trades start work in an area of the building, review structural clearances and locations of ducts, pipes, conduits, light fixtures, equipment and other items that affect location and proper fit. Prepare coordination drawings where limited space availability necessitates maximum utilization of space for efficient installation of different components. Verify depths and clearances before fabrication of ductwork.
 4. Reporting: Record meeting results and distribute copies to everyone in attendance and to others affected by decisions or actions resulting from each meeting.
 - a. Include action items and responsible party.

1.07 P2 PRODUCTS (NOT USED)

1.08 P3 EXECUTION (NOT USED)

END OF SECTION

SECTION 01 3200
CONSTRUCTION PROGRESS DOCUMENTATION

PART 1 GENERAL

1.01 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

1.02 SUMMARY

- A. This Section includes administrative and procedural requirements for documenting the progress of construction during performance of the Work, including the following:
 - 1. Preliminary Construction Schedule.
 - 2. Contractor's Construction Schedule.
 - 3. Submittals Schedule.
 - 4. Field condition reports.
 - 5. Special reports.
- B. Related Sections include the following:
 - 1. Division 1 Section "Payment Procedures" for submitting the Schedule of Values.
 - 2. Division 1 Section "Project Management and Coordination" for submitting and distributing meeting and conference minutes.
 - 3. Division 1 Section "Submittal Procedures" for submitting schedules and reports.
 - 4. Division 1 Section "Quality Requirements" for submitting a schedule of tests and inspections.

1.03 DEFINITIONS

- A. Activity: A discrete part of a project that can be identified for planning, scheduling, monitoring, and controlling the construction project. Activities included in a construction schedule consume time and resources.
 - 1. Critical activities are activities on the critical path. They must start and finish on the planned early start and finish times.
 - 2. Predecessor Activity: An activity that precedes another activity in the network.
 - 3. Successor Activity: An activity that follows another activity in the network.
- B. Cost Loading: The allocation of the Schedule of Values for the completion of an activity as scheduled. The sum of costs for all activities must equal the total Contract Sum, unless otherwise approved by Architect.
- C. CPM: Critical path method, which is a method of planning and scheduling a construction project where activities are arranged based on activity relationships. Network calculations determine when activities can be performed and the critical path of Project.
- D. Critical Path: The longest connected chain of interdependent activities through the network schedule that establishes the minimum overall Project duration and contains no float.
- E. Event: The starting or ending point of an activity.
- F. Float: The measure of leeway in starting and completing an activity.
 - 1. Float time is not for the exclusive use or benefit of either Owner or Contractor, but is a jointly owned, expiring Project resource available to both parties as needed to meet schedule milestones and Contract completion date.
 - 2. Free float is the amount of time an activity can be delayed without adversely affecting the early start of the successor activity.
 - 3. Total float is the measure of leeway in starting or completing an activity without adversely affecting the planned Project completion date.
- G. Fragnet: A partial or fragmentary network that breaks down activities into smaller activities for greater detail.

- H. Major Area: A story of construction, a separate building, or a similar significant construction element.
- I. Milestone: A key or critical point in time for reference or measurement.
- J. Network Diagram: A graphic diagram of a network schedule, showing activities and activity relationships.
- K. Resource Loading: The allocation of manpower and equipment necessary for the completion of an activity as scheduled.

1.04 SUBMITTALS

- A. Submittals Schedule: Submit three copies of schedule. Arrange the following information in a tabular format:
 1. Scheduled date for first submittal.
 2. Specification Section number and title.
 3. Submittal category (action or informational).
 4. Name of subcontractor.
 5. Description of the Work covered.
 6. Scheduled date for Architect's final release or approval.
- B. Preliminary Construction Schedule: Submit two copies.
 1. Approval of cost-loaded preliminary construction schedule will not constitute approval of Schedule of Values for cost-loaded activities.
- C. Contractor's Construction Schedule: Submit two copies of initial schedule, large enough to show entire schedule for entire construction period.
- D. Field Condition Reports: Submit two copies at time of discovery of differing conditions.
- E. Special Reports: Submit two copies at time of unusual event.

1.05 COORDINATION

- A. Coordinate preparation and processing of schedules and reports with performance of construction activities and with scheduling and reporting of separate contractors.
- B. Coordinate Contractor's Construction Schedule with the Schedule of Values, list of subcontracts, Submittals Schedule, progress reports, payment requests, and other required schedules and reports.
 1. Secure time commitments for performing critical elements of the Work from parties involved.
 2. Coordinate each construction activity in the network with other activities and schedule them in proper sequence.

PART 2 PRODUCTS

2.01 SUBMITTALS SCHEDULE

- A. Preparation: Submit a schedule of submittals, arranged in chronological order by dates required by construction schedule. Include time required for review, resubmittal, ordering, manufacturing, fabrication, and delivery when establishing dates.
 1. Coordinate Submittals Schedule with list of subcontracts, the Schedule of Values, and Contractor's Construction Schedule.
 2. Initial Submittal: Submit concurrently with preliminary network diagram. Include submittals required during the first 60 days of construction. List those required to maintain orderly progress of the Work and those required early because of long lead time for manufacture or fabrication.
 3. Final Submittal: Submit concurrently with the first complete submittal of Contractor's Construction Schedule.

4. The Owner will review the schedule of submittals and identify the submittals that they want to receive a copy of at the same time that the Architect's copies are sent out.

2.02 CONTRACTOR'S CONSTRUCTION SCHEDULE, GENERAL

- A. Time Frame: Extend schedule from date established for the Notice to Proceed to date of Final Completion.
 1. Contract completion date shall not be changed by submission of a schedule that shows an early completion date, unless specifically authorized by Change Order.
- B. Activities: Treat each story or separate area as a separate numbered activity for each principal element of the Work. Comply with the following:
 1. Procurement Activities: Include procurement process activities for long lead items and major items, requiring a cycle of more than 60 days, as separate activities in schedule. Procurement cycle activities include, but are not limited to, submittals, approvals, purchasing, fabrication, and delivery.
 2. Submittal Review Time: Include review and resubmittal times indicated in Division 1 Section "Submittal Procedures" in schedule. Coordinate submittal review times in Contractor's Construction Schedule with Submittals Schedule.
 3. Startup and Testing Time: Include times for startup and testing.
 4. Mechanical Commissioning: Include adequate time and activities for mechanical commissioning activities. Coordinate milestones, events and duration of activities with Owner's Commissioning Agent.
 5. Substantial Completion: Indicate completion in advance of date established for Substantial Completion, and allow time for Architect's administrative procedures necessary for certification of Substantial Completion.
- C. Constraints: Include constraints and work restrictions indicated in the Contract Documents and as follows in schedule, and show how the sequence of the Work is affected.
 1. Phasing: Arrange list of activities on schedule by phase.
 2. Work by Owner: Include a separate activity for each portion of the Work performed by Owner.
 3. Owner-Furnished Products: Include a separate activity for each product. Include delivery date indicated in Division 1 Section "Summary." Delivery dates indicated stipulate the earliest possible delivery date.
- D. Milestones: Include milestones indicated in the Contract Documents in schedule, including, but not limited to, the Notice to Proceed, Mechanical Commissioning, Substantial Completion, and Final Completion.

2.03 BROAD SCOPE MILESTONE SCHEDULE

- A. Submit a separate general broad scope schedule to provide a basic progress report for the Owner's use with at least ten (10) appropriate items. Examples of broad scope line items to include are: Site Work, Cast-In-Place Concrete, Framing, Rough MEP, Building Envelope, Interior Finishes, Exterior Finishes, Final MEP, Commissioning, 2 Week IAQ Flush Out, Certificate of Occupancy, LEED Documentation Progress. Update schedule on a monthly basis for submission at project meetings.

2.04 REPORTS

- A. Field Condition Reports: Immediately on discovery of a difference between field conditions and the Contract Documents, prepare and submit a detailed report. Submit with a request for interpretation. Include a detailed description of the differing conditions, together with recommendations for changing the Contract Documents.

2.05 SPECIAL REPORTS

- A. General: Submit special reports to Architect within one day(s) of an occurrence. Distribute copies of report to parties affected by the occurrence.

- B. Reporting Unusual Events: When an event of an unusual and significant nature occurs at Project site, whether or not related directly to the Work, prepare and submit a special report. List chain of events, persons participating, response by Contractor's personnel, evaluation of results or effects, and similar pertinent information. Advise Owner in advance when these events are known or predictable.

PART 3 EXECUTION

3.01 CONTRACTOR'S CONSTRUCTION SCHEDULE

- A. Contractor's Construction Schedule Updating: At monthly intervals, update schedule to reflect actual construction progress and activities. Issue schedule one week before each regularly scheduled progress meeting.
 - 1. Revise schedule immediately after each meeting or other activity where revisions have been recognized or made. Issue updated schedule concurrently with the report of each such meeting.
 - 2. Include a report with updated schedule that indicates every change, including, but not limited to, changes in logic, durations, actual starts and finishes, and activity durations.
 - 3. As the Work progresses, indicate Actual Completion percentage for each activity.
- B. Distribution: Distribute copies of approved schedule to Architect, Owner, separate contractors, testing and inspecting agencies, and other parties identified by Contractor with a need-to-know schedule responsibility.
 - 1. Post copies in Project meeting rooms and temporary field offices.
 - 2. When revisions are made, distribute updated schedules to the same parties and post in the same locations. Delete parties from distribution when they have completed their assigned portion of the Work and are no longer involved in performance of construction activities.

END OF SECTION

SECTION 01 3300
SUBMITTAL PROCEDURES

PART 1 GENERAL

1.01 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

1.02 SUMMARY

- A. Section includes requirements for the submittal schedule and administrative and procedural requirements for submitting Shop Drawings, Product Data, Samples, and other submittals.
- B. Related Requirements:
 - 1. Section 012900 "Payment Procedures" for submitting Applications for Payment and the schedule of values.
 - 2. Section 013200 "Construction Progress Documentation" for submitting schedules and reports, including Contractor's construction schedule.
 - 3. Section 017823 "Operation and Maintenance Data" for submitting operation and maintenance manuals.
 - 4. Section 017839 "Project Record Documents" for submitting record Drawings, record Specifications, and record Product Data.

1.03 DEFINITIONS

- A. Action Submittals: Written and graphic information and physical samples that require Architect's responsive action. Action submittals are those submittals indicated in individual Specification Sections as "action submittals."
- B. Informational Submittals: Written and graphic information and physical samples that do not require Architect's responsive action. Submittals may be rejected for not complying with requirements. Informational submittals are those submittals indicated in individual Specification Sections as "informational submittals."

1.04 ACTION SUBMITTALS

- A. Submittal Schedule: Submit a schedule of submittals, arranged in chronological order by dates required by construction schedule. Include time required for review, ordering, manufacturing, fabrication, and delivery when establishing dates. Include additional time required for making corrections or revisions to submittals noted by Architect and additional time for handling and reviewing submittals required by those corrections.
 - 1. Coordinate submittal schedule with list of subcontracts, the schedule of values, and Contractor's construction schedule.
 - 2. Initial Submittal: Submit concurrently with startup construction schedule. Include submittals required during the first 60 days of construction. List those submittals required to maintain orderly progress of the Work and those required early because of long lead time for manufacture or fabrication.
 - 3. Final Submittal: Submit concurrently with the first complete submittal of Contractor's construction schedule.
 - a. Submit revised submittal schedule to reflect changes in current status and timing for submittals.
 - 4. Format: Arrange the following information in a tabular format:
 - a. Scheduled date for first submittal.
 - b. Specification Section number and title.
 - c. Submittal category: Action; informational.
 - d. Name of subcontractor.
 - e. Description of the Work covered.
 - f. Scheduled date for Architect's final release or approval.

- g. Scheduled date of fabrication.
- h. Scheduled dates for purchasing.
- i. Scheduled dates for installation.
- j. Activity or event number.

1.05 SUBMITTAL ADMINISTRATIVE REQUIREMENTS

- A. Architect's Digital Data Files: Electronic digital data files of the Contract Drawings will be provided by Architect for Contractor's use in preparing submittals.
 - 1. Architect will furnish Contractor one set of digital data drawing files of the Contract Drawings for use in preparing Shop Drawings and Project record drawings.
 - a. Architect makes no representations as to the accuracy or completeness of digital data drawing files as they relate to the Contract Drawings.
- B. Coordination: Coordinate preparation and processing of submittals with performance of construction activities.
 - 1. Coordinate each submittal with fabrication, purchasing, testing, delivery, other submittals, and related activities that require sequential activity.
 - 2. Submit all submittal items required for each Specification Section concurrently unless partial submittals for portions of the Work are indicated on approved submittal schedule.
 - 3. Submit action submittals and informational submittals required by the same Specification Section as separate packages under separate transmittals.
 - 4. Coordinate transmittal of different types of submittals for related parts of the Work so processing will not be delayed because of need to review submittals concurrently for coordination.
 - a. Architect reserves the right to withhold action on a submittal requiring coordination with other submittals until related submittals are received.
- C. Processing Time: Allow time for submittal review, including time for resubmittals, as follows. Time for review shall commence on Architect's receipt of submittal. No extension of the Contract Time will be authorized because of failure to transmit submittals enough in advance of the Work to permit processing, including resubmittals.
 - 1. Initial Review: Allow 15 days for initial review of each submittal. Allow additional time if coordination with subsequent submittals is required. Architect will advise Contractor when a submittal being processed must be delayed for coordination.
 - 2. Intermediate Review: If intermediate submittal is necessary, process it in same manner as initial submittal.
 - 3. Resubmittal Review: Allow 15 days for review of each resubmittal.
- D. Electronic Submittals: Identify and incorporate information in each electronic submittal file as follows:
 - 1. Assemble complete submittal package into a single indexed file incorporating submittal requirements of a single Specification Section and transmittal form with links enabling navigation to each item.
 - 2. Name file with submittal number or other unique identifier, including revision identifier.
 - a. File name shall use project identifier and Specification Section number followed by a decimal point and then a sequential number (e.g., LNHS-061000.01). Resubmittals shall include an alphabetic suffix after another decimal point (e.g., LNHS-061000.01.A).
 - 3. Provide means for insertion to permanently record Contractor's review and approval markings and action taken by Architect.
 - 4. Transmittal Form for Electronic Submittals: Use software-generated form from electronic project management software acceptable to Owner, containing the following information:
 - a. Project name.
 - b. Date.
 - c. Name and address of Architect.

- d. Name of Construction Manager.
 - e. Name of Contractor.
 - f. Name of firm or entity that prepared submittal.
 - g. Names of subcontractor, manufacturer, and supplier.
 - h. Category and type of submittal.
 - i. Submittal purpose and description.
 - j. Specification Section number and title.
 - k. Specification paragraph number or drawing designation and generic name for each of multiple items.
 - l. Drawing number and detail references, as appropriate.
 - m. Location(s) where product is to be installed, as appropriate.
 - n. Related physical samples submitted directly.
 - o. Indication of full or partial submittal.
 - p. Transmittal number, numbered consecutively.
 - q. Submittal and transmittal distribution record.
 - r. Other necessary identification.
 - s. Remarks.
- E. Options: Identify options requiring selection by Architect.
- F. Deviations and Additional Information: On an attached separate sheet, prepared on Contractor's letterhead, record relevant information, requests for data, revisions other than those requested by Architect on previous submittals, and deviations from requirements in the Contract Documents, including minor variations and limitations. Include same identification information as related submittal.
- G. Resubmittals: Make resubmittals in same form and number of copies as initial submittal.
- 1. Note date and content of previous submittal.
 - 2. Note date and content of revision in label or title block and clearly indicate extent of revision.
 - 3. Resubmit submittals until they are marked with approval notation from Architect's action stamp.
- H. Distribution: Furnish copies of final submittals to manufacturers, subcontractors, suppliers, fabricators, installers, authorities having jurisdiction, and others as necessary for performance of construction activities. Show distribution on transmittal forms.
- I. Use for Construction: Retain complete copies of submittals on Project site. Use only final action submittals that are marked with approval notation from Architect's action stamp.

PART 2 PRODUCTS

2.01 SUBMITTAL PROCEDURES

- A. General Submittal Procedure Requirements: Prepare and submit submittals required by individual Specification Sections. Types of submittals are indicated in individual Specification Sections.
- 1. Submit electronic submittals via email as PDF electronic files.
 - a. Architect will return annotated file. Annotate and retain one copy of file as an electronic Project record document file.
 - 2. Certificates and Certifications Submittals: Provide a statement that includes signature of entity responsible for preparing certification. Certificates and certifications shall be signed by an officer or other individual authorized to sign documents on behalf of that entity.
 - a. Provide a digital signature with digital certificate on electronically submitted certificates and certifications where indicated.
 - b. Provide a notarized statement on original paper copy certificates and certifications where indicated.

- B. Product Data: Collect information into a single submittal for each element of construction and type of product or equipment.
1. If information must be specially prepared for submittal because standard published data are not suitable for use, submit as Shop Drawings, not as Product Data.
 2. Mark each copy of each submittal to show which products and options are applicable.
 3. Include the following information, as applicable:
 - a. Manufacturer's catalog cuts.
 - b. Manufacturer's product specifications.
 - c. Standard color charts.
 - d. Statement of compliance with specified referenced standards.
 - e. Testing by recognized testing agency.
 - f. Application of testing agency labels and seals.
 - g. Notation of coordination requirements.
 - h. Availability and delivery time information.
 4. For equipment, include the following in addition to the above, as applicable:
 - a. Wiring diagrams showing factory-installed wiring.
 - b. Printed performance curves.
 - c. Operational range diagrams.
 - d. Clearances required to other construction, if not indicated on accompanying Shop Drawings.
 5. Submit Product Data before or concurrent with Samples.
 6. Submit Product Data in the following format:
 - a. PDF electronic file.
- C. Shop Drawings: Prepare Project-specific information, drawn accurately to scale. Do not base Shop Drawings on reproductions of the Contract Documents or standard printed data, unless submittal based on Architect's digital data drawing files is otherwise permitted.
1. Preparation: Fully illustrate requirements in the Contract Documents. Include the following information, as applicable:
 - a. Identification of products.
 - b. Schedules.
 - c. Compliance with specified standards.
 - d. Notation of coordination requirements.
 - e. Notation of dimensions established by field measurement.
 - f. Relationship and attachment to adjoining construction clearly indicated.
 - g. Seal and signature of professional engineer if specified.
 2. Submit Shop Drawings in the following format:
 - a. PDF electronic file.
- D. Samples: Submit Samples for review of kind, color, pattern, and texture for a check of these characteristics with other elements and for a comparison of these characteristics between submittal and actual component as delivered and installed.
1. Transmit Samples that contain multiple, related components such as accessories together in one submittal package.
 2. Identification: Attach label on unexposed side of Samples that includes the following:
 - a. Generic description of Sample.
 - b. Product name and name of manufacturer.
 - c. Sample source.
 - d. Number and title of applicable Specification Section.
 - e. Specification paragraph number and generic name of each item.
 3. For projects where electronic submittals are required, provide corresponding electronic submittal of Sample transmittal, digital image file illustrating Sample characteristics, and identification information for record.

4. Disposition: Maintain sets of approved Samples at Project site, available for quality-control comparisons throughout the course of construction activity. Sample sets may be used to determine final acceptance of construction associated with each set.
 - a. Samples that may be incorporated into the Work are indicated in individual Specification Sections. Such Samples must be in an undamaged condition at time of use.
 - b. Samples not incorporated into the Work, or otherwise designated as Owner's property, are the property of Contractor.
5. Samples for Initial Selection: Submit manufacturer's color charts consisting of units or sections of units showing the full range of colors, textures, and patterns available.
 - a. Number of Samples: Submit one full set(s) of available choices where color, pattern, texture, or similar characteristics are required to be selected from manufacturer's product line. Architect will return submittal with options selected.
6. Samples for Verification: Submit full-size units or Samples of size indicated, prepared from same material to be used for the Work, cured and finished in manner specified, and physically identical with material or product proposed for use, and that show full range of color and texture variations expected. Samples include, but are not limited to, the following: partial sections of manufactured or fabricated components; small cuts or containers of materials; complete units of repetitively used materials; swatches showing color, texture, and pattern; color range sets; and components used for independent testing and inspection.
 - a. Number of Samples: Submit three sets of Samples. Architect will retain two Sample sets; remainder will be returned. Mark up and retain one returned Sample set as a project record sample.
 - 1) Submit a single Sample where assembly details, workmanship, fabrication techniques, connections, operation, and other similar characteristics are to be demonstrated.
 - 2) If variation in color, pattern, texture, or other characteristic is inherent in material or product represented by a Sample, submit at least three sets of paired units that show approximate limits of variations.
- E. Product Schedule: As required in individual Specification Sections, prepare a written summary indicating types of products required for the Work and their intended location. Include the following information in tabular form:
 1. Type of product. Include unique identifier for each product indicated in the Contract Documents or assigned by Contractor if none is indicated.
 2. Manufacturer and product name, and model number if applicable.
 3. Number and name of room or space.
 4. Location within room or space.
 5. Submit product schedule in the following format:
 - a. PDF electronic file.
- F. Coordination Drawing Submittals: Comply with requirements specified in Section 013100 "Project Management and Coordination."
- G. Contractor's Construction Schedule: Comply with requirements specified in Section 013200 "Construction Progress Documentation."
- H. Application for Payment and Schedule of Values: Comply with requirements specified in Section 012900 "Payment Procedures."
- I. Closeout Submittals and Maintenance Material Submittals: Comply with requirements specified in Section 017700 "Closeout Procedures."
- J. Maintenance Data: Comply with requirements specified in Section 017823 "Operation and Maintenance Data."

- K. Qualification Data: Prepare written information that demonstrates capabilities and experience of firm or person. Include lists of completed projects with project names and addresses, contact information of architects and owners, and other information specified.
- L. Welding Certificates: Prepare written certification that welding procedures and personnel comply with requirements in the Contract Documents. Submit record of Welding Procedure Specification and Procedure Qualification Record on AWS forms. Include names of firms and personnel certified.
- M. Installer Certificates: Submit written statements on manufacturer's letterhead certifying that Installer complies with requirements in the Contract Documents and, where required, is authorized by manufacturer for this specific Project.
- N. Manufacturer Certificates: Submit written statements on manufacturer's letterhead certifying that manufacturer complies with requirements in the Contract Documents. Include evidence of manufacturing experience where required.
- O. Product Certificates: Submit written statements on manufacturer's letterhead certifying that product complies with requirements in the Contract Documents.
- P. Material Certificates: Submit written statements on manufacturer's letterhead certifying that material complies with requirements in the Contract Documents.
- Q. Material Test Reports: Submit reports written by a qualified testing agency, on testing agency's standard form, indicating and interpreting test results of material for compliance with requirements in the Contract Documents.
- R. Product Test Reports: Submit written reports indicating that current product produced by manufacturer complies with requirements in the Contract Documents. Base reports on evaluation of tests performed by manufacturer and witnessed by a qualified testing agency, or on comprehensive tests performed by a qualified testing agency.
- S. Research Reports: Submit written evidence, from a model code organization acceptable to authorities having jurisdiction, that product complies with building code in effect for Project. Include the following information:
 - 1. Name of evaluation organization.
 - 2. Date of evaluation.
 - 3. Time period when report is in effect.
 - 4. Product and manufacturers' names.
 - 5. Description of product.
 - 6. Test procedures and results.
 - 7. Limitations of use.
- T. Preconstruction Test Reports: Submit reports written by a qualified testing agency, on testing agency's standard form, indicating and interpreting results of tests performed before installation of product, for compliance with performance requirements in the Contract Documents.
- U. Compatibility Test Reports: Submit reports written by a qualified testing agency, on testing agency's standard form, indicating and interpreting results of compatibility tests performed before installation of product. Include written recommendations for primers and substrate preparation needed for adhesion.
- V. Field Test Reports: Submit written reports indicating and interpreting results of field tests performed either during installation of product or after product is installed in its final location, for compliance with requirements in the Contract Documents.
- W. IDAT
- X. Design Data: Prepare and submit written and graphic information, including, but not limited to, performance and design criteria, list of applicable codes and regulations, and calculations.

Include list of assumptions and other performance and design criteria and a summary of loads. Include load diagrams if applicable. Provide name and version of software, if any, used for calculations. Include page numbers.

2.02 DELEGATED-DESIGN SERVICES

- A. Performance and Design Criteria: Where professional design services or certifications by a design professional are specifically required of Contractor by the Contract Documents, provide products and systems complying with specific performance and design criteria indicated.
 - 1. If criteria indicated are not sufficient to perform services or certification required, submit a written request for additional information to Architect.
- B. Delegated-Design Services Certification: In addition to Shop Drawings, Product Data, and other required submittals, submit digitally signed PDF electronic file, signed and sealed by the responsible design professional, for each product and system specifically assigned to Contractor to be designed or certified by a design professional.
 - 1. Indicate that products and systems comply with performance and design criteria in the Contract Documents. Include list of codes, loads, and other factors used in performing these services.

PART 3 EXECUTION

3.01 CONTRACTOR'S REVIEW

- A. Action and Informational Submittals: Review each submittal and check for coordination with other Work of the Contract and for compliance with the Contract Documents. Note corrections and field dimensions. Mark with approval stamp before submitting to Architect.
- B. Project Closeout and Maintenance Material Submittals: See requirements in Section 017700 "Closeout Procedures."
- C. Approval Stamp: Stamp each submittal with a uniform, approval stamp. Include Project name and location, submittal number, Specification Section title and number, name of reviewer, date of Contractor's approval, and statement certifying that submittal has been reviewed, checked, and approved for compliance with the Contract Documents.

3.02 ARCHITECT'S ACTION

- A. Action Submittals: Architect will review each submittal, make marks to indicate corrections or revisions required, and return it. Architect will stamp each submittal with an action stamp and will mark stamp appropriately to indicate action.
- B. Informational Submittals: Architect will review each submittal and will not return it, or will return it if it does not comply with requirements. Architect will forward each submittal to appropriate party.
- C. Partial submittals prepared for a portion of the Work will be reviewed when use of partial submittals has received prior approval from Architect.
- D. Incomplete submittals are unacceptable, will be considered nonresponsive, and will be returned for resubmittal without review.
- E. Submittals not required by the Contract Documents will may be returned by the Architect without action.

END OF SECTION

SECTION 01 4000
QUALITY REQUIREMENTS

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. References and standards.
- B. Mock-ups.
- C. Control of installation.

1.02 REFERENCES AND STANDARDS

- A. For products and workmanship specified by reference to a document or documents not included in the Project Manual, also referred to as reference standards, comply with requirements of the standard, except when more rigid requirements are specified or are required by applicable codes.
- B. Conform to reference standard of date of issue current on date of Contract Documents, except where a specific date is established by applicable code.
- C. Obtain copies of standards where required by product specification sections.
- D. Maintain copy at project site during submittals, planning, and progress of the specific work, until Substantial Completion.
- E. Should specified reference standards conflict with Contract Documents, request clarification from Architect before proceeding.
- F. Neither the contractual relationships, duties, or responsibilities of the parties in Contract nor those of Architect shall be altered from the Contract Documents by mention or inference otherwise in any reference document.

PART 3 EXECUTION

2.01 CONTROL OF INSTALLATION

- A. Monitor quality control over suppliers, manufacturers, products, services, site conditions, and workmanship, to produce Work of specified quality.
- B. Comply with manufacturers' instructions, including each step in sequence.
- C. Should manufacturers' instructions conflict with Contract Documents, request clarification from Architect before proceeding.
- D. Comply with specified standards as minimum quality for the Work except where more stringent tolerances, codes, or specified requirements indicate higher standards or more precise workmanship.
- E. Have Work performed by persons qualified to produce required and specified quality.
- F. Verify that field measurements are as indicated on shop drawings or as instructed by the manufacturer.
- G. Secure products in place with positive anchorage devices designed and sized to withstand stresses, vibration, physical distortion, and disfigurement.

2.02 MOCK-UPS

- A. Tests will be performed under provisions identified in this section and identified in the respective product specification sections.
- B. Assemble and erect specified items with specified attachment and anchorage devices, flashings, seals, and finishes.
- C. Accepted mock-ups shall be a comparison standard for the remaining Work.

- D. Where mock-up has been accepted by Architect and is specified in product specification sections to be removed, remove mock-up and clear area when directed to do so.

2.03 DEFECT ASSESSMENT

- A. Replace Work or portions of the Work not conforming to specified requirements.
- B. If, in the opinion of Architect, it is not practical to remove and replace the Work, Architect will direct an appropriate remedy or adjust payment.

END OF SECTION

SECTION 01 4200

REFERENCES

PART 1 GENERAL

1.01 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

1.02 DEFINITIONS

- A. General: Basic Contract definitions are included in the Conditions of the Contract.
- B. "Approved": When used to convey Architect's action on Contractor's submittals, applications, and requests, "approved" is limited to Architect's duties and responsibilities as stated in the Conditions of the Contract.
- C. "Directed": A command or instruction by Architect. Other terms including "requested," "authorized," "selected," "required," and "permitted" have the same meaning as "directed."
- D. "Indicated": Requirements expressed by graphic representations or in written form on Drawings, in Specifications, and in other Contract Documents. Other terms including "shown," "noted," "scheduled," and "specified" have the same meaning as "indicated."
- E. "Regulations": Laws, ordinances, statutes, and lawful orders issued by authorities having jurisdiction, and rules, conventions, and agreements within the construction industry that control performance of the Work.
- F. "Furnish": Supply and deliver to Project site, ready for unloading, unpacking, assembly, installation, and similar operations.
- G. "Install": Operations at Project site including unloading, temporarily storing, unpacking, assembling, erecting, placing, anchoring, applying, working to dimension, finishing, curing, protecting, cleaning, and similar operations.
- H. "Provide": Furnish and install, complete and ready for the intended use.
- I. "Project Site": Space available for performing construction activities. The extent of Project site is shown on Drawings and may or may not be identical with the description of the land on which Project is to be built.

1.03 INDUSTRY STANDARDS

- A. Applicability of Standards: Unless the Contract Documents include more stringent requirements, applicable construction industry standards have the same force and effect as if bound or copied directly into the Contract Documents to the extent referenced. Such standards are made a part of the Contract Documents by reference.
- B. Publication Dates: Comply with standards in effect as of date of the Contract Documents unless otherwise indicated.

1.04 ABBREVIATIONS AND ACRONYMS

- A. Industry Organizations: Where abbreviations and acronyms are used in Specifications or other Contract Documents, they shall mean the recognized name of the entities indicated in Thomson Gale's "Encyclopedia of Associations" or in Columbia Books' "National Trade & Professional Associations of the U.S."
- B. Industry Organizations: Where abbreviations and acronyms are used in Specifications or other Contract Documents, they shall mean the recognized name of the entities in the following list. Names, telephone numbers, and Web sites are subject to change and are believed to be accurate and up-to-date as of the date of the Contract Documents.

1.05 ALUMINUM ASSOCIATION (THE) (703) 358-2960

- A. www.aluminum.org

- 1.06 ASSOCIATED AIR BALANCE COUNCIL (202) 737-0202**
A. www.aabchq.com
- 1.07 AMERICAN ARCHITECTURAL MANUFACTURERS ASSOCIATION (847) 303-5664**
A. www.aamanet.org
- 1.08 AASHTO AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS (202) 624-5800**
A. www.transportation.org
- 1.09 AMERICAN ASSOCIATION OF TEXTILE CHEMISTS AND COLORISTS (919) 549-8141**
A. www.aatcc.org
- 1.10 AIR BARRIER ASSOCIATION OF AMERICA (866) 956-5888**
A. www.airbarrier.org
- 1.11 AMERICAN BEARING MANUFACTURERS ASSOCIATION (202) 367-1155**
A. www.abma-dc.org
- 1.12 AMERICAN CONCRETE INSTITUTE (248) 848-3700**
A. www.concrete.org
- 1.13 AMERICAN CONCRETE PIPE ASSOCIATION (972) 506-7216**
A. www.concrete-pipe.org
- 1.14 ASSOCIATION OF EDISON ILLUMINATING COMPANIES, INC. (THE) (205) 257-2530**
A. www.aeic.org
- 1.15 AMERICAN FOREST & PAPER ASSOCIATION (800) 878-8878**
A. www.afandpa.org (202) 463-2700
- 1.16 AMERICAN GAS ASSOCIATION (202) 824-7000**
A. www.aga.org
- 1.17 ASSOCIATION OF HOME APPLIANCE MANUFACTURERS (202) 872-5955**
A. www.aham.org
- 1.18 AIR-CONDITIONING, HEATING, AND REFRIGERATION INSTITUTE, THE (703) 524-8800**
A. www.ahrinet.org
- 1.19 ASPHALT INSTITUTE (859) 288-4960**
A. www.asphaltinstitute.org
- 1.20 AMERICAN INSTITUTE OF ARCHITECTS (THE) (800) 242-3837**
A. www.aia.org (202) 626-7300
- 1.21 AMERICAN INSTITUTE OF STEEL CONSTRUCTION (800) 644-2400**
A. www.aisc.org (312) 670-2400
- 1.22 AMERICAN IRON AND STEEL INSTITUTE (202) 452-7100**
A. www.steel.org
- 1.23 AMERICAN INSTITUTE OF TIMBER CONSTRUCTION (303) 792-9559**
A. www.aitc-glulam.org
- 1.24 AMERICAN LUMBER STANDARD COMMITTEE, INCORPORATED (301) 972-1700**
A. www.alsc.org

- 1.25 AIR MOVEMENT AND CONTROL ASSOCIATION INTERNATIONAL, INC. (847) 394-0150**
 A. www.amca.org
- 1.26 AMERICAN NATIONAL STANDARDS INSTITUTE (202) 293-8020**
 A. www.ansi.org
- 1.27 ASSOCIATION OF OFFICIAL SEED ANALYSTS, INC. (405) 780-7372**
 A. www.aosaseed.com
- 1.28 APA - THE ENGINEERED WOOD ASSOCIATION (253) 565-6600**
 A. www.apawood.org
- 1.29 ARCHITECTURAL PRECAST ASSOCIATION (239) 454-6989**
 A. www.archprecast.org
- 1.30 AMERICAN PETROLEUM INSTITUTE (202) 682-8000**
 A. www.api.org
- 1.31 AIR-CONDITIONING & REFRIGERATION INSTITUTE (703) 524-8800**
 A. www.ari.org
- 1.32 ASPHALT ROOFING MANUFACTURERS ASSOCIATION (202) 207-0917**
 A. www.asphaltroofing.org
- 1.33 AMERICAN SOCIETY OF CIVIL ENGINEERS (800) 548-2723**
 A. www.asce.org (703) 295-6300
- 1.34 ASCE/SEI AMERICAN SOCIETY OF CIVIL ENGINEERS/STRUCTURAL ENGINEERING INSTITUTE**
 A. (See ASCE)
- 1.35 ASHRAE AMERICAN SOCIETY OF HEATING, REFRIGERATING AND AIR-CONDITIONING ENGINEERS (800) 527-4723**
 A. www.ashrae.org (404) 636-8400
- 1.36 ASME INTERNATIONAL (800) 843-2763**
 A. (American Society of Mechanical Engineers International) (973) 882-1170
 B. www.asme.org
- 1.37 AMERICAN SOCIETY OF SANITARY ENGINEERING (440) 835-3040**
 A. www.asse-plumbing.org
- 1.38 ASTM INTERNATIONAL (610) 832-9500**
 A. (American Society for Testing and Materials International)
 B. www.astm.org
- 1.39 ALLIANCE FOR TELECOMMUNICATIONS INDUSTRY SOLUTIONS(202) 628-6380**
 A. www.atis.org
- 1.40 AMERICAN WINDOW COVERING MANUFACTURERS ASSOCIATION**
 A. (Now WCMA)
- 1.41 ASSOCIATION OF THE WALL AND CEILING INDUSTRY (703) 534-8300**
 A. www.awci.org
- 1.42 ARCHITECTURAL WOODWORK INSTITUTE (571) 323-3636**
 A. www.awinet.org

- 1.43 AMERICAN WOOD PROTECTION ASSOCIATION (205) 733-4077**
 A. (Formerly: American Wood Preservers' Association)
 B. www.awpa.com
- 1.44 AMERICAN WELDING SOCIETY (800) 443-9353**
 A. www.aws.org (305) 443-9353
- 1.45 AMERICAN WATER WORKS ASSOCIATION (800) 926-7337**
 A. www.awwa.org (303) 794-7711
- 1.46 BUILDERS HARDWARE MANUFACTURERS ASSOCIATION (212) 297-2122**
 A. www.buildershardware.com
- 1.47 BRICK INDUSTRY ASSOCIATION (THE) (703) 620-0010**
 A. www.bia.org
- 1.48 BICSI, INC. (800) 242-7405**
 A. www.bicsi.org (813) 979-1991
- 1.49 BIFMA INTERNATIONAL (616) 285-3963**
 A. (Business and Institutional Furniture Manufacturer's Association International)
 B. www.bifma.com
- 1.50 BAKING INDUSTRY SANITATION STANDARDS COMMITTEE (866) 342-4772**
 A. www.bissc.org
- 1.51 CARPET CUSHION COUNCIL (610) 527-3880**
 A. www.carpetcushion.org
- 1.52 COPPER DEVELOPMENT ASSOCIATION (800) 232-3282**
 A. www.copper.org (212) 251-7200
- 1.53 CANADIAN ELECTRICITY ASSOCIATION (613) 230-9263**
 A. www.canelect.ca
- 1.54 CONSUMER ELECTRONICS ASSOCIATION (866) 858-1555**
 A. www.ce.org (703) 907-7600
- 1.55 CHEMICAL FABRICS & FILM ASSOCIATION, INC. (216) 241-7333**
 A. www.chemicalfabricsandfilm.com
- 1.56 COMPRESSED GAS ASSOCIATION (703) 788-2700**
 A. www.cganet.com
- 1.57 CELLULOSE INSULATION MANUFACTURERS ASSOCIATION (888) 881-2462**
 A. www.cellulose.org (937) 222-2462
- 1.58 CEILINGS & INTERIOR SYSTEMS CONSTRUCTION ASSOCIATION (630) 584-1919**
 A. www.cisca.org
- 1.59 CAST IRON SOIL PIPE INSTITUTE (423) 892-0137**
 A. www.cispi.org
- 1.60 CHAIN LINK FENCE MANUFACTURERS INSTITUTE (301) 596-2583**
 A. www.chainlinkinfo.org
- 1.61 COMPOSITE PANEL ASSOCIATION**
 A. www.pbmdf.com (703) 724-1128

- 1.62 CARPET AND RUG INSTITUTE (THE) (800) 882-8846**
 A. www.carpet-rug.com (706) 278-3176
- 1.63 COOL ROOF RATING COUNCIL (866) 465-2523**
 A. www.coolroofs.org (510) 485-7175
- 1.64 CONCRETE REINFORCING STEEL INSTITUTE (847) 517-1200**
 A. www.crsi.org (800) 328-6306
- 1.65 COOL ROOF RATING COUNCIL (866) 465-2523**
 A. www.coolroofs.org (510) 485-7175
- 1.66 CANADIAN STANDARDS ASSOCIATION (800) 463-6727**
 A. www.csa.ca (416) 747-4000
- 1.67 CSA INTERNATIONAL (866) 797-4272**
 A. (Formerly: IAS - International Approval Services) (416) 747-4000
 B. www.csa-international.org
- 1.68 CONSTRUCTION SPECIFICATIONS INSTITUTE (THE) (800) 689-2900**
 A. www.csinet.org(703) 684-0300
- 1.69 CEDAR SHAKE & SHINGLE BUREAU (604) 820-7700**
 A. www.cedarbureau.org
- 1.70 COOLING TECHNOLOGY INSTITUTE (281) 583-4087**
 A. (Formerly: Cooling Tower Institute)
 B. www.cti.org
- 1.71 DOOR AND HARDWARE INSTITUTE (703) 222-2010**
 A. www.dhi.org
- 1.72 ELECTRICAL COMPONENTS ASSOCIATION (703)907-8024**
 A. www.ec-central.org
- 1.73 ELECTRONIC INDUSTRIES ALLIANCE (703) 907-7500**
 A. www.eia.org
- 1.74 EIFS INDUSTRY MEMBERS ASSOCIATION (800) 294-3462**
 A. www.eima.com(770) 968-7945
- 1.75 ENGINEERS JOINT CONTRACT DOCUMENTS COMMITTEE (703) 295-6000**
 A. <http://content.asce.org/ejcdc/>
- 1.76 EXPANSION JOINT MANUFACTURERS ASSOCIATION, INC. (914) 332-0040**
 A. www.ejma.org
- 1.77 ESD ASSOCIATION (315) 339-6937**
 A. (Electrostatic Discharge Association)
 B. www.esda.org
- 1.78 ETL SEMCO INTERTEK ETL SEMCO (800) 967-5352**
 A. (Formerly: ITS - Intertek Testing Service NA)
 B. www.intertek-etlsemko.com
- 1.79 FEDERATION INTERNATIONALE DE BASKETBALL 41 22 545 00 00**
 A. (The International Basketball Federation)

- B. www.fiba.com
- 1.80 FEDERATION INTERNATIONALE DE VOLLEYBALL 41 21 345 35 35**
 A. (The International Volleyball Federation)
 B. www.fivb.ch
- 1.81 FM APPROVALS FM APPROVALS LLC (781) 762-4300**
 A. www.fmglobal.com
- 1.82 FM GLOBAL FM GLOBAL (401) 275-3000**
 A. (Formerly: FMG - FM Global)
 B. www.fmglobal.com
- 1.83 FLORIDA ROOFING, SHEET METAL & AIR CONDITIONING CONTRACTORS ASSOCIATION, INC. (407) 671-3772**
 A. www.floridarroof.com
- 1.84 FLUID SEALING ASSOCIATION (610) 971-4850**
 A. www.fluidsealing.com
- 1.85 FOREST STEWARDSHIP COUNCIL 49 228 367 66 0**
 A. www.fsc.org
- 1.86 GYPSUM ASSOCIATION**
 A. www.gypsum.org (301) 277-8686
- 1.87 GLASS ASSOCIATION OF NORTH AMERICA (785) 271-0208**
 A. www.glasswebsite.com
- 1.88 (PART OF GSI)**
- 1.89 GREEN SEAL (202) 872-6400**
 A. www.greenseal.org
- 1.90 GEOSYNTHETIC INSTITUTE (610) 522-8440**
 A. www.geosynthetic-institute.org
- 1.91 HYDRONICS INSTITUTE (908) 464-8200**
 A. www.gamanet.org
- 1.92 HI/GAMA HYDRONICS INSTITUTE/GAS APPLIANCE MANUFACTURERS ASSOCIATION (908) 464-8200**
 A. Division of Air-Conditioning, Heating, and Refrigeration Institute (AHRI)
 B. www.ahrinet.org
- 1.93 HOLLOW METAL MANUFACTURERS ASSOCIATION**
 A. (Part of NAAMM)
- 1.94 HARDWOOD PLYWOOD & VENEER ASSOCIATION (703) 435-2900**
 A. www.hpva.org
- 1.95 H. P. WHITE LABORATORY, INC. (410) 838-6550**
 A. www.hpwhite.com
- 1.96 INTERNATIONAL ASSOCIATION OF PROFESSIONAL SECURITY CONSULTANTS (515) 282-8192**
 A. www.iapsc.org

- 1.97 INTERNATIONAL CONFERENCE OF BUILDING OFFICIALS (888) 422-7233**
 A. www.iccsafe.org
- 1.98 INSULATED CABLE ENGINEERS ASSOCIATION, INC. (770) 830-0369**
 A. www.icea.net
- 1.99 INTERNATIONAL CONCRETE REPAIR INSTITUTE, INC. (847) 827-0830**
 A. www.icri.org
- 1.100 INTERNATIONAL CAST POLYMER ASSOCIATION (703) 525-0320**
 A. www.icpa-hq.org
- 1.101 INTERNATIONAL ELECTROTECHNICAL COMMISSION 41 22 919 02 11**
 A. www.iec.ch
- 1.102 INSTITUTE OF ELECTRICAL AND ELECTRONICS ENGINEERS, INC. (THE) (212) 419-7900**
 A. www.ieee.org
- 1.103 ILLUMINATING ENGINEERING SOCIETY OF NORTH AMERICA (703) 525-0320**
 A. www.iesna.org
- 1.104 INSTITUTE OF ENVIRONMENTAL SCIENCES AND TECHNOLOGY (847) 255-1561**
 A. www.iest.org
- 1.105 INSULATING GLASS MANUFACTURERS ALLIANCE (613) 233-1510**
 A. www.igmaonline.org
- 1.106 INDIANA LIMESTONE INSTITUTE OF AMERICA, INC. (812) 275-4426**
 A. www.iliai.com
- 1.107 INSTRUMENTATION, SYSTEMS, AND AUTOMATION SOCIETY, THE (919) 549-8411**
 A. www.isa.org
- 1.108 INTERNATIONAL ORGANIZATION FOR STANDARDIZATION 41 22 749 01 11**
 A. www.iso.ch
- 1.109 INTERNATIONAL SOLID SURFACE FABRICATORS ASSOCIATION (877) 464-7732**
 A. www.issfa.net (801) 341-7360
- 1.110 INTERTEK TESTING SERVICE NA**
 A. (Now ETL SEMCO)
- 1.111 INTERNATIONAL TELECOMMUNICATION UNION 41 22 730 51 11**
 A. www.itu.int/home
- 1.112 KITCHEN CABINET MANUFACTURERS ASSOCIATION (703) 264-1690**
 A. www.kcma.org
- 1.113 LIGHT GAUGE STEEL ENGINEERS ASSOCIATION (202) 263-4488**
 A. www.arcat.com
- 1.114 LAMINATING MATERIALS ASSOCIATION**
 A. (Now part of CPA)
- 1.115 LIGHTNING PROTECTION INSTITUTE (800) 488-6864**
 A. www.lightning.org
- 1.116 METAL BUILDING MANUFACTURERS ASSOCIATION (216) 241-7333**
 A. www.mbma.com

- 1.117 METAL CONSTRUCTION ASSOCIATION (847) 375-4718**
 A. www.metalconstruction.org
- 1.118 MAPLE FLOORING MANUFACTURERS ASSOCIATION, INC. (888) 480-9138**
 A. www.maplefloor.org
- 1.119 METAL FRAMING MANUFACTURERS ASSOCIATION, INC. (312) 644-6610**
 A. www.metalframingmfg.org
- 1.120 MATERIAL HANDLING**
 A. (Now MHIA)
- 1.121 MATERIAL HANDLING INDUSTRY OF AMERICA (800) 345-1815**
 A. www.mhia.org (704) 676-1190
- 1.122 MARBLE INSTITUTE OF AMERICA (440) 250-9222**
 A. www.marble-institute.com
- 1.123 MASTER PAINTERS INSTITUTE (888) 674-8937**
 A. www.paintinfo.com (604) 298-7578
- 1.124 MANUFACTURERS STANDARDIZATION SOCIETY OF THE VALVE AND FITTINGS INDUSTRY INC. (703) 281-6613**
 A. www.mss-hq.com
- 1.125 NATIONAL ASSOCIATION OF ARCHITECTURAL METAL MANUFACTURERS (630) 942-6591**
 A. www.naamm.org
- 1.126 NACE INTERNATIONAL (800) 797-6223**
 A. (National Association of Corrosion Engineers International) (281) 228-6200
 B. www.nace.org
- 1.127 NATIONAL AIR DUCT CLEANERS ASSOCIATION (202) 737-2926**
 A. www.nadca.com
- 1.128 NATIONAL ASSOCIATION FOR GIRLS AND WOMEN IN SPORT (800) 213-7193, EXT. 453**
 A. www.aahperd.org/nagws/
- 1.129 NORTH AMERICAN INSULATION MANUFACTURERS ASSOCIATION (703) 684-0084**
 A. www.naima.org
- 1.130 NATIONAL BUILDING GRANITE QUARRIES ASSOCIATION, INC. (800) 557-2848**
 A. www.nbgqa.com
- 1.131 NATIONAL COLLEGIATE ATHLETIC ASSOCIATION (THE) (317) 917-6222**
 A. www.ncaa.org
- 1.132 NATIONAL CONCRETE MASONRY ASSOCIATION (703) 713-1900**
 A. www.ncma.org
- 1.133 NATIONAL CABLE & TELECOMMUNICATIONS ASSOCIATION (202) 222-2300**
 A. www.ncta.com
- 1.134 NATIONAL ENVIRONMENTAL BALANCING BUREAU (301) 977-3698**
 A. www.nebb.org
- 1.135 NATIONAL ELECTRICAL CONTRACTORS ASSOCIATION (301) 657-3110**
 A. www.necanet.org

- 1.136 NORTHEASTERN LUMBER MANUFACTURERS' ASSOCIATION (207) 829-6901**
 A. www.nelma.org
- 1.137 NATIONAL ELECTRICAL MANUFACTURERS ASSOCIATION (703) 841-3200**
 A. www.nema.org
- 1.138 INTERNATIONAL ELECTRICAL TESTING ASSOCIATION (888) 300-6382**
 A. www.netaworld.org (269) 488-6382
- 1.139 NATIONAL FEDERATION OF STATE HIGH SCHOOL ASSOCIATIONS (317) 972-6900**
 A. www.nfhs.org
- 1.140 NFPA (800) 344-3555**
 A. (National Fire Protection Association) (617) 770-3000
 B. www.nfpa.org
- 1.141 NATIONAL FENESTRATION RATING COUNCIL (301) 589-1776**
 A. www.nfrc.org
- 1.142 NATIONAL GLASS ASSOCIATION (866) 342-5642**
 A. www.glass.org (703) 442-4890
- 1.143 NATIONAL HARDWOOD LUMBER ASSOCIATION (800) 933-0318**
 A. www.natlhardwood.org (901) 377-1818
- 1.144 NATIONAL LUMBER GRADES AUTHORITY (604) 524-2393**
 A. www.nlga.org
- 1.145 NOFMA: THE WOOD FLOORING MANUFACTURERS ASSOCIATION (901) 526-5016**
 A. (Formerly: National Oak Flooring Manufacturers Association)
 B. www.nofma.org
- 1.146 NATIONAL ORNAMENTAL & MISCELLANEOUS METALS ASSOCIATION (888) 516-8585**
 A. www.nomma.org
- 1.147 NATIONAL ROOFING CONTRACTORS ASSOCIATION (800) 323-9545**
 A. www.nrca.net (847) 299-9070
- 1.148 NATIONAL READY MIXED CONCRETE ASSOCIATION (888) 846-7622**
 A. www.nrmca.org (301) 587-1400
- 1.149 NSF INTERNATIONAL (800) 673-6275**
 A. (National Sanitation Foundation International) (734) 769-8010
 B. www.nsf.org
- 1.150 NATIONAL STONE, SAND & GRAVEL ASSOCIATION (800) 342-1415**
 A. www.nssga.org(703) 525-8788
- 1.151 NATIONAL TERRAZZO & MOSAIC ASSOCIATION, INC. (THE) (800) 323-9736**
 A. www.ntma.com (540) 751-0930
- 1.152 NATIONAL WOOD FLOORING ASSOCIATION (800) 422-4556**
 A. www.nwfa.org (636) 519-9663
- 1.153 PRECAST/PRESTRESSED CONCRETE INSTITUTE (312) 786-0300**
 A. www.pci.org

- 1.154 PLUMBING & DRAINAGE INSTITUTE (800) 589-8956**
 A. [www.pdionline.org](http://pdionline.org) (978) 557-0720
- 1.155 PVC GEOMEMBRANE INSTITUTE (217) 333-3929**
 A. <http://pgi-tp.cee.uiuc.edu>
- 1.156 POST-TENSIONING INSTITUTE (248) 848-3180**
 A. www.post-tensioning.org
- 1.157 RESEARCH COUNCIL ON STRUCTURAL CONNECTIONS**
 A. www.boltcouncil.org
- 1.158 RESILIENT FLOOR COVERING INSTITUTE**
 A. www.rfci.com (706) 882-3833
- 1.159 REDWOOD INSPECTION SERVICE**
 A. www.redwoodinspection.com (925) 935-1499
- 1.160 SAE INTERNATIONAL (877) 606-7323**
 A. www.sae.org (724) 776-4841
- 1.161 SCAQMD SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT (909) 396-2000**
 A. www.aqmd.com
- 1.162 SOCIETY OF CABLE TELECOMMUNICATIONS ENGINEERS (800) 542-5040**
 A. www.scte.org (610) 363-6888
- 1.163 STEEL DECK INSTITUTE (847) 458-4647**
 A. www.sdi.org
- 1.164 STEEL DOOR INSTITUTE (440) 899-0010**
 A. www.steeldoor.org
- 1.165 SCIENTIFIC EQUIPMENT AND FURNITURE ASSOCIATION (877) 294-5424**
 A. www.sefalabs.com (516) 294-5424
- 1.166 SEI/ASCE STRUCTURAL ENGINEERING INSTITUTE/AMERICAN SOCIETY OF CIVIL ENGINEERS**
 A. (See ASCE)
- 1.167 SECURITY INDUSTRY ASSOCIATION (866) 817-8888**
 A. www.siaonline.org (703) 683-2075
- 1.168 STEEL JOIST INSTITUTE (843) 626-1995**
 A. www.steeljoist.org
- 1.169 SCREEN MANUFACTURERS ASSOCIATION (561) 533-0991**
 A. www.smacentral.org
- 1.170 SMACNA SHEET METAL AND AIR CONDITIONING CONTRACTORS' (703) 803-2980**
 A. National Association
 B. www.smacna.org
- 1.171 SOCIETY OF MOTION PICTURE AND TELEVISION ENGINEERS (914) 761-1100**
 A. www.smpte.org

- 1.172 SPRAY POLYURETHANE FOAM ALLIANCE (800) 523-6154**
 A. (Formerly: SPI/SPFD - The Society of the Plastics Industry, Inc.; Spray Polyurethane Foam Division)
 B. www.sprayfoam.org
- 1.173 SOUTHERN PINE INSPECTION BUREAU (THE) (850) 434-2611**
 A. www.spib.org
- 1.174 SINGLE PLY ROOFING INDUSTRY (781) 647-7026**
 A. www.spri.org
- 1.175 SPECIALTY STEEL INDUSTRY OF NORTH AMERICA (800) 982-0355**
 A. www.ssina.com (202) 342-8630
- 1.176 SSPC: THE SOCIETY FOR PROTECTIVE COATINGS (877) 281-7772**
 A. www.sspc.org (412) 281-2331
- 1.177 STEEL TANK INSTITUTE (847) 438-8265**
 A. www.steeltank.com
- 1.178 STEEL WINDOW INSTITUTE (216) 241-7333**
 A. www.steelwindows.com
- 1.179 SUBMERSIBLE WASTEWATER PUMP ASSOCIATION (847) 681-1868**
 A. www.swpa.org
- 1.180 TILT-UP CONCRETE ASSOCIATION (319) 895-6911**
 A. www.tilt-up.org
- 1.181 TILE COUNCIL OF NORTH AMERICA, INC. (864) 646-8453**
 A. www.tileusa.com
- 1.182 TUBULAR EXCHANGER MANUFACTURERS ASSOCIATION (914) 332-0040**
 A. www.tema.org
- 1.183 TIA/EIA TELECOMMUNICATIONS INDUSTRY ASSOCIATION/ELECTRONIC INDUSTRIES ALLIANCE (703) 907-7700**
 A. www.tiaonline.org
- 1.184 THE MASONRY SOCIETY (303) 939-9700**
 A. www.masonrysociety.org
- 1.185 TRUSS PLATE INSTITUTE, INC. (703) 683-1010**
 A. www.tpinst.org
- 1.186 TURFGRASS PRODUCERS INTERNATIONAL (800) 405-8873**
 A. www.turfgrasssod.org (847) 649-5555
- 1.187 TILE ROOFING INSTITUTE (312) 670-4177**
 A. www.tilerroofing.org
- 1.188 UNDERWRITERS LABORATORIES INC. (877) 854-3577**
 A. www.ul.com (847) 272-8800
- 1.189 UNI-BELL PVC PIPE ASSOCIATION (972) 243-3902**
 A. www.uni-bell.org

- 1.190 USA VOLLEYBALL (888) 786-5539**
 A. www.usavolleyball.org (719) 228-6800
- 1.191 U.S. GREEN BUILDING COUNCIL (800) 795-1747**
 A. www.usgbc.org
- 1.192 UNITED STATES INSTITUTE FOR THEATRE TECHNOLOGY, INC. (800) 938-7488**
 A. www.usitt.org (315) 463-6463
- 1.193 WASTEC WASTE EQUIPMENT TECHNOLOGY ASSOCIATION (800) 424-2869**
 A. www.wastec.org (202) 244-4700
- 1.194 WEST COAST LUMBER INSPECTION BUREAU (800) 283-1486**
 A. www.wclib.org (503) 639-0651
- 1.195 WINDOW COVERING MANUFACTURERS ASSOCIATION (212) 297-2122**
 A. www.wcmanet.org
- 1.196 WINDOW & DOOR MANUFACTURERS ASSOCIATION (800) 223-2301**
 A. (Formerly: NWWDA - National Wood Window and Door Association) (312) 321-6802
 B. www.wdma.com
- 1.197 WOODWORK INSTITUTE (FORMERLY: WIC - WOODWORK INSTITUTE OF CALIFORNIA) (916) 372-9943**
 A. www.wicnet.org
- 1.198 WOOD MOULDING & MILLWORK PRODUCERS ASSOCIATION (800) 550-7889**
 A. www.wmmpa.com (530) 661-9591
- 1.199 WESTERN STATES ROOFING CONTRACTORS ASSOCIATION (800) 725-0333**
 A. www.wsrca.com (650) 570-5441
- 1.200 WESTERN WOOD PRODUCTS ASSOCIATION (503) 224-3930**
 A. www.wwpa.org
 B. Code Agencies: Where abbreviations and acronyms are used in Specifications or other Contract Documents, they shall mean the recognized name of the entities in the following list. Names, telephone numbers, and Web sites are subject to change and are believed to be accurate and up-to-date as of the date of the Contract Documents.
- 1.201 DEUTSCHES INSTITUT FUR NORMUNG E.V. 49 30 2601-0**
 A. www.din.de
- 1.202 INTERNATIONAL ASSOCIATION OF PLUMBING AND MECHANICAL OFFICIALS (909) 472-4100**
 A. www.iapmo.org
- 1.203 INTERNATIONAL CODE COUNCIL (888) 422-7233**
 A. www.iccsafe.org
- 1.204 ICC-ES ICC EVALUATION SERVICE, INC. (800) 423-6587**
 A. www.icc-es.org(562) 699-0543
 B. Federal Government Agencies: Where abbreviations and acronyms are used in Specifications or other Contract Documents, they shall mean the recognized name of the entities in the following list. Names, telephone numbers, and Web sites are subject to change and are believed to be accurate and up-to-date as of the date of the Contract Documents.

- 1.205 ARMY CORPS OF ENGINEERS (202) 761-0011**
 A. www.usace.army.mil
- 1.206 CONSUMER PRODUCT SAFETY COMMISSION (800) 638-2772**
 A. www.cpsc.gov (301) 504-7923
- 1.207 DEPARTMENT OF COMMERCE (202) 482-2000**
 A. www.commerce.gov
- 1.208 DEPARTMENT OF DEFENSE (215) 697-6257**
 A. <http://dodssp.daps.dla.mil>
- 1.209 DEPARTMENT OF ENERGY (202) 586-9220**
 A. www.energy.gov
- 1.210 ENVIRONMENTAL PROTECTION AGENCY (202) 272-0167**
 A. www.epa.gov
- 1.211 FEDERAL AVIATION ADMINISTRATION (866) 835-5322**
 A. www.faa.gov
- 1.212 FEDERAL COMMUNICATIONS COMMISSION (888) 225-5322**
 A. www.fcc.gov
- 1.213 FOOD AND DRUG ADMINISTRATION (888) 463-6332**
 A. www.fda.gov
- 1.214 GENERAL SERVICES ADMINISTRATION (800) 488-3111**
 A. www.gsa.gov
- 1.215 DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT (202) 708-1112**
 A. www.hud.gov
- 1.216 LAWRENCE BERKELEY NATIONAL LABORATORY (510) 486-4000**
 A. www.lbl.gov
- 1.217 NATIONAL COOPERATIVE HIGHWAY RESEARCH PROGRAM**
 A. (See TRB)
- 1.218 NATIONAL INSTITUTE OF STANDARDS AND TECHNOLOGY (301) 975-6478**
 A. www.nist.gov
- 1.219 OCCUPATIONAL SAFETY & HEALTH ADMINISTRATION (800) 321-6742**
 A. www.osha.gov (202) 693-1999
- 1.220 PUBLIC BUILDINGS SERVICE**
 A. (See GSA)
- 1.221 OFFICE OF PUBLIC HEALTH AND SCIENCE (202) 690-7694**
 A. <http://www.hhs.gov/ophs/>
- 1.222 RURAL UTILITIES SERVICE (202) 720-9540**
 A. (See USDA)
- 1.223 STATE DEPARTMENT (202) 647-4000**
 A. www.state.gov
- 1.224 TRANSPORTATION RESEARCH BOARD (202) 334-2934**
 A. <http://gulliver.trb.org>

- 1.225 DEPARTMENT OF AGRICULTURE (202) 720-2791**
 A. www.usda.gov
- 1.226 U.S. PHARMACOPEIA (800) 227-8772**
 A. www.usp.org
- 1.227 POSTAL SERVICE (202) 268-2000**
 A. www.usps.com
 B. Standards and Regulations: Where abbreviations and acronyms are used in Specifications or other Contract Documents, they shall mean the recognized name of the standards and regulations in the following list. Names, telephone numbers, and Web sites are subject to change and are believed to be accurate and up-to-date as of the date of the Contract Documents.
- 1.228 AMERICANS WITH DISABILITIES ACT (ADA) (800) 872-2253**
 A. Architectural Barriers Act (ABA) (202) 272-0080
 B. Accessibility Guidelines for Buildings and Facilities
 C. Available from U.S. Access Board
 D. www.access-board.gov
- 1.229 CODE OF FEDERAL REGULATIONS (866) 512-1800**
 A. Available from Government Printing Office (202) 512-1800
 B. www.gpoaccess.gov/cfr/index.html
- 1.230 DEPARTMENT OF DEFENSE MILITARY SPECIFICATIONS AND STANDARDS (215) 697-2664**
 A. Available from Department of Defense Single Stock Point
 B. <http://dodssp.daps.dla.mil>
- 1.231 DEFENSE SUPPLY CENTER COLUMBUS**
 A. (See FS)
- 1.232 FED-STD FEDERAL STANDARD**
 A. (See FS)
- 1.233 FEDERAL SPECIFICATION (215) 697-2664**
 A. Available from Department of Defense Single Stock Point
 B. <http://dodssp.daps.dla.mil/>
 C. Available from Defense Standardization Program
 D. www.dsp.dla.mil
 E. Available from General Services Administration (202) 619-8925
 F. www.gsa.gov
 G. Available from National Institute of Building Sciences (202) 289-7800
 H. www.wbdg.org/ccb
- 1.234 FEDERAL TEST METHOD STANDARD**
 A. (See FS)
- 1.235 (SEE MILSPEC)**
- 1.236 MIL-STD (SEE MILSPEC)**
- 1.237 MILSPEC MILITARY SPECIFICATION AND STANDARDS (215) 697-2664**
 A. Available from Department of Defense Single Stock Point

B. <http://dodssp.daps.dla.mil>

1.238 UNIFORM FEDERAL ACCESSIBILITY STANDARDS (800) 872-2253

- A. Available from Access Board (202) 272-0080
- B. www.access-board.gov
- C. State Government Agencies: Where abbreviations and acronyms are used in Specifications or other Contract Documents, they shall mean the recognized name of the entities in the following list. Names, telephone numbers, and Web sites are subject to change and are believed to be accurate and up-to-date as of the date of the Contract Documents.

1.239 STATE OF CALIFORNIA, DEPARTMENT OF CONSUMER AFFAIRS BUREAU OF HOME FURNISHINGS AND THERMAL INSULATION (800) 952-5210

- A. www.dca.ca.gov/bhfti (916) 574-2041

1.240 CALIFORNIA CODE OF REGULATIONS (916) 323-6815

- A. www.calregs.com

1.241 CALIFORNIA DEPARTMENT OF HEALTH SERVICES (916) 445-4171

- A. www.dhcs.ca.gov

1.242 CALIFORNIA DEPARTMENT OF PUBLIC HEALTH, INDOOR AIR QUALITY SECTION

- A. www.cal-iaq.org

1.243 CALIFORNIA PUBLIC UTILITIES COMMISSION (415) 703-2782

- A. www.cpuc.ca.gov

1.244 TEXAS FOREST SERVICE

- A. Forest Resource Development (979) 458-6606
- B. <http://txforestservice.tamu.edu>

1.245 P2 PRODUCTS (NOT USED)

1.246 P3 EXECUTION (NOT USED)

END OF SECTION

SECTION 01 4216
DEFINITIONS

PART 1 GENERAL

1.01 SUMMARY

- A. Other definitions are included in individual specification sections.

1.02 DEFINITIONS

- A. Furnish: To supply, deliver, unload, and inspect for damage.
- B. Install: To unpack, assemble, erect, apply, place, finish, cure, protect, clean, start up, and make ready for use.
- C. Product: Material, machinery, components, equipment, fixtures, and systems forming the work result. Not materials or equipment used for preparation, fabrication, conveying, or erection and not incorporated into the work result. Products may be new, never before used, or re-used materials or equipment.
- D. Provide: To furnish and install.
- E. Supply: Same as Furnish.

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION - NOT USED

END OF SECTION

SECTION 01 5000
TEMPORARY FACILITIES AND CONTROLS

PART 1 GENERAL

1.01 RELATED DOCUMENTS

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

1.02 SUMMARY

- A. This Section includes requirements for temporary facilities and controls, including temporary utilities, support facilities, and security and protection facilities.
- B. Temporary utilities include, but are not limited to, the following:
 - 1. Water service.
 - 2. Sanitary facilities, including toilets, and drinking-water facilities.
 - 3. Heating facilities.
 - 4. Ventilation.
 - 5. Electric power service.
 - 6. Lighting.
 - 7. Telephone service.
 - 8. Internet service.
- C. Support facilities include, but are not limited to, the following:
 - 1. Waste disposal facilities.
 - 2. Lifts and hoists.
 - 3. Construction aids and miscellaneous services and facilities.
- D. Security and protection facilities include, but are not limited to, the following:
 - 1. Environmental protection.
 - 2. Tree and plant protection.
 - 3. Perimeter enclosure fence for the site.
 - 4. Security enclosure and lockup.
 - 5. Barricades, warning signs, and lights.
 - 6. Covered walkways.
 - 7. Temporary enclosures.
 - 8. Fire protection.
- E. Related Sections include the following:
 - 1. Division 01 Section "Submittal Procedures" for procedures for submitting copies of implementation and termination schedule and utility reports.
 - 2. Division 01 Section "Construction Waste Management" for handling and processing construction debris.
 - 3. Division 01 Section "Execution Requirements" for progress cleaning requirements.
 - 4. Divisions 02 through 33 for temporary heat, ventilation, and humidity requirements for products in those Sections.

1.03 USE CHARGES

- A. Electric Power Service Water Service and Heat: The use of existing power, water and heat will be allowed for Work.

1.04 QUALITY ASSURANCE

- A. The Contractor is responsible for the implementation, monitoring, and maintenance of job site safety program for the duration of the contract.

1.05 PROJECT CONDITIONS

- A. Temporary Utilities: At earliest feasible time, when acceptable to Owner, change over from use of temporary service to use of permanent service.
 - 1. Temporary Use of Permanent Facilities: Installer of each permanent service shall assume responsibility for operation, maintenance, and protection of each permanent service during its use as a construction facility before Owner's acceptance, regardless of previously assigned responsibilities.
- B. Conditions of Use: The following conditions apply to use of temporary services and facilities by all parties engaged in the Work:
 - 1. Keep temporary services and facilities clean and neat.
 - 2. Relocate temporary services and facilities as required by progress of the Work.
- C. Restrict use of noise-making tools and equipment to hours that will minimize complaints from persons or firms near the site. Construction noise from machinery, equipment, construction traffic, hammering and similar loud noises shall be restricted to the hours of 7:30 a.m. to 5:00 p.m. Obey State and local noise ordinances.
 - 1. Comply with Owner's requirements during hours when classes are being held.

PART 2 PRODUCTS

2.01 MATERIALS

- A. General: Provide new materials. Undamaged, previously used materials in serviceable condition may be used if approved by Architect. Provide materials suitable for use intended.
- B. Lumber and Plywood: Comply with requirements in Division 6 Section "Rough Carpentry."
- C. Tarpaulins: Fire-resistive labeled with flame-spread rating of 15 or less.
- D. Water: Potable.

2.02 EQUIPMENT

- A. General: Provide equipment suitable for use intended.
- B. Field Offices: Use of space within the building being renovated will be permitted.
- C. Fire Extinguishers: Hand carried, portable, UL rated. Provide class and extinguishing agent as indicated or a combination of extinguishers of NFPA-recommended classes for exposures.
 - 1. Comply with NFPA 10 and NFPA 241 for classification, extinguishing agent, and size required by location and class of fire exposure.
- D. Self-Contained Toilet Units: Single-occupant units of chemical, aerated recirculation, or combustion type; vented; fully enclosed with a glass-fiber-reinforced polyester shell or similar nonabsorbent material.
- E. Drinking-Water Fixtures: Containerized, tap-dispenser, bottled-water drinking-water units, including paper cup supply.
- F. Heating Equipment: Owner authorizes use of permanent heating system.
- G. Electrical Outlets: Properly configured, NEMA-polarized outlets to prevent insertion of 110- to 120-V plugs into higher-voltage outlets; equipped with ground-fault circuit interrupters, reset button, and pilot light.
- H. Lamps and Light Fixtures: Provide general service incandescent lamps of wattage required for adequate illumination. Provide guard cages or tempered-glass enclosures where exposed to breakage. Provide exterior fixtures where exposed to moisture.
- I. Security Fence: Perimeter security fencing shall be minimum 4 feet high, orange tensor fencing with post supports to maintain position. Provide access and entry control gates for vehicle traffic and workers as necessary.

PART 3 EXECUTION

3.01 TEMPORARY UTILITY INSTALLATION

- A. Water Service: Obtain water required for the work from location designated by the Owner.
- B. Electrical Service: Provide required power chords and connect to existing power supply.
- C. Sanitary Facilities: Provide temporary toilets and drinking-water fixtures. Comply with regulations and health codes for type, number, location, operation, and maintenance of fixtures and facilities.
 - 1. Disposable Supplies: Provide toilet tissue, paper towels, paper cups, and similar disposable materials for each facility. Maintain adequate supply. Provide covered waste containers for disposal of used material.
 - 2. Toilets: Install self-contained toilet units. Shield toilets to ensure privacy.
 - 3. Drinking-Water Facilities: Provide bottled-water, drinking-water units.
 - 4. Use of the Owner's existing toilet facilities will not be permitted.
- D. Heating: Heating will be by existing heating system within the facility. Provide temporary protection to reduce heat loss for the work where existing construction is disturbed at exterior wall openings.
- E. Ventilation and Humidity Control: Provide temporary ventilation required by construction activities for curing or drying of completed installations or for protecting installed construction from adverse effects of high humidity. Coordinate ventilation requirements to produce ambient condition required and minimize energy consumption.
- F. Telephone Service: Provide temporary cellular telephone service with voice mail throughout construction period.
- G. Internet Service: Provide laptop computer service for daily use at the site. Wireless internet connection is available at the site for the contractor's use..

3.02 SUPPORT FACILITIES INSTALLATION

- A. Construction and Waste Disposal Facilities: Provide waste-collection containers in sizes adequate to handle waste from construction operations. Containerize and clearly label hazardous, dangerous, or unsanitary waste materials separately from other waste. Comply with Division 1 Section "Execution Requirements" for progress cleaning requirements.
 - 1. Provide separate containers, clearly labeled, for each type of waste material to be deposited.
 - 2. Comply with Section "Construction Waste Management."
- B. Contractor's Field Office: Contractor will be permitted to work out of the area being renovated. Keep area clean and orderly
 - 1. The Contractor is responsible for cleaning of their floors, including access routes to the office area, and emptying trash.
- C. Lifts and Hoists: Provide facilities for hoisting materials and personnel. Truck cranes and similar devices used for hoisting materials are considered "tools and equipment" and not temporary facilities.

3.03 SECURITY AND PROTECTION FACILITIES INSTALLATION

- A. Environmental Protection: Provide protection, operate temporary facilities, and conduct construction in ways and by methods that comply with environmental regulations and that minimize possible air, waterway, and subsoil contamination or pollution or other undesirable effects. Avoid using tools and equipment that produce harmful noise. Restrict use of noisemaking tools and equipment to hours that will minimize complaints from persons or firms near Project site.

- B. Tree and Plant Protection: Install temporary fencing located as indicated or outside the drip line of trees to protect vegetation from construction damage. Protect tree root systems from damage.
- C. Security Fence: Before work begins, install an enclosure fence at exterior construction area where work occurs. Provide access and entry control gates for vehicle traffic and workers as necessary. Fencing shall be such to limit access to the work area by pedestrian traffic around the site. Install in a manner that will prevent people, dogs, and other animals from easily entering the site, except by the entrance gates.
 - 1. Locate fence so as to not hinder site work or progress on the building. Relocate without additional expense as needed during progress of the work.
 - 2. Provide signage to warn people to "keep out" and area is dangerous to non-construction personnel. Locate signs as recommended by AGC and USM requirements.
- D. Security Enclosure and Lockup: Install substantial temporary enclosure around partially completed areas of the building. Provide lockable entrances to prevent unauthorized entrance, vandalism, theft, and similar violations of security.
- E. Barricades, Warning Signs, and Lights: Comply with standards and code requirements for erecting structurally adequate barricades. Paint with appropriate colors, graphics, and warning signs to inform personnel and public of possible hazard. Where appropriate and needed, provide lighting, including flashing red or amber lights.
- F. Temporary Enclosures: Provide temporary enclosures for protection of construction, in progress and completed, from unauthorized entry, exposure, foul weather, other construction operations, and similar activities. Provide temporary weathertight enclosure for building exterior.
 - 1. Where heating is needed and permanent enclosure is not complete, provide insulated temporary enclosures. Coordinate enclosure with ventilating and material drying or curing requirements to avoid dangerous conditions and effects.
- G. Temporary Dust Partitions:
 - 1. Provide temporary dust partitions isolating the work from occupied spaces before starting any demolition and remove after work is completed. Obtain approval from Architect before removal of partitions.
 - 2. Construct temporary dust partitions out of metal studs and 1/2" fire-retardant plywood on one side. Seal all gaps and around perimeter with duct tape. Temporary doors for partitions shall be 3'-0" x 6'-8" hollow core doors with standard mortise hardware, closers, weatherstripping and keyed locksets to match Owner's. Insulate partition to provide noise protection to occupied areas.
 - 3. All temporary dust partitions in place less than 10 days may be fire-retardant vinyl and adequately supported sealed with duct tape.
 - 4. Hang vinyl around area while stud and plywood temporary partition is being constructed.
 - 5. Insulate and weatherproof temporary partitions and doors exposed to exterior and exposed to unheated spaces.
- H. Temporary Fire Protection: Until fire-protection needs are supplied by permanent facilities, install and maintain temporary fire-protection facilities of types needed to protect against reasonably predictable and controllable fire losses. Comply with NFPA 241. Comply with USM campus requirements.
 - 1. Provide fire extinguishers, installed on walls on mounting brackets, visible and accessible from space being served, with sign mounted above.
 - a. Field Offices: Class A stored-pressure water-type extinguishers.
 - b. Other Locations: Class ABC dry-chemical extinguishers or a combination of extinguishers of NFPA-recommended classes for exposures.

- c. Locate fire extinguishers where convenient and effective for their intended purpose; provide not less than one extinguisher on each floor at or near each usable stairwell.
 - 2. Store combustible materials in containers in fire-safe locations.
 - 3. Maintain unobstructed access to fire extinguishers, fire hydrants, temporary fire-protection facilities, stairways, and other access routes for firefighting. Prohibit smoking in hazardous fire-exposure areas.
 - 4. Supervise welding operations, combustion-type temporary heating units, and similar sources of fire ignition.
 - 5. Permanent Fire Protection: At earliest feasible date in each area of Project, complete installation of permanent fire-protection facility, including connected services, and place into operation and use. Instruct key personnel on use of facilities.
 - 6. Develop and supervise an overall fire-prevention and first-aid fire-protection program for personnel at Project site. Review needs with local fire department and establish procedures to be followed. Instruct personnel in methods and procedures. Post warnings and information.
- I. Covered Walkway: Erect a structurally adequate, protective covered walkway for passage of persons at exits from the building with potential danger from falling objects. Comply with regulations of authorities having jurisdiction.

3.04 OPERATION, TERMINATION, AND REMOVAL

- A. Supervision: Enforce strict discipline in use of temporary facilities. To minimize waste and abuse, limit availability of temporary facilities to essential and intended uses.
- B. Maintenance: Maintain facilities in good operating condition until removal. Protect from damage caused by freezing temperatures and similar elements.
 - 1. Maintain operation of temporary enclosures, heating, cooling, humidity control, ventilation, and similar facilities on a 24-hour basis where required to achieve indicated results and to avoid possibility of damage.
 - 2. Snow removal: Provide snow removal necessary to do the work and maintain access to materials and temporary facilities
- C. Flooring Protection: Protect flooring against mars, marks, indentations, and other damage from construction operations and placement of equipment and fixtures during construction period. Use protection methods indicated or recommended by flooring manufacturer.
 - 1. Cover flooring with undyed, untreated building paper at high traffic areas until inspection for Substantial Completion.
 - 2. Do not move heavy and sharp objects directly over flooring. Place plywood or hardboard panels over flooring and under objects while they are being moved. Slide or roll objects over panels without moving panels.
- D. Restoration of Roadways and Pavement: Roadways, pavements and curbs that are broken, damaged, settled, or otherwise defective as a result of receiving, handling, storage of materials or the performance of any work under this Contract, shall be fully restored to the satisfaction of the authorities having jurisdiction.
- E. Termination and Removal: Remove each temporary facility when need for its service has ended, when it has been replaced by authorized use of a permanent facility, or no later than Substantial Completion. Complete or, if necessary, restore permanent construction that may have been delayed because of interference with temporary facility. Repair damaged Work, clean exposed surfaces, and replace construction that cannot be satisfactorily repaired.
 - 1. Materials and facilities that constitute temporary facilities are the property of Contractor. Owner reserves right to take possession of Project identification signs.

2. At Substantial Completion, clean and renovate permanent facilities used during construction period. Comply with final cleaning requirements in Division 1 Section "Closeout Procedures."

END OF SECTION

SECTION 01 6000
PRODUCT REQUIREMENTS

PART 1 GENERAL

1.01 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

1.02 SUMMARY

- A. Section includes administrative and procedural requirements for selection of products for use in Project; product delivery, storage, and handling; manufacturers' standard warranties on products; special warranties; and comparable products.
- B. Related Requirements:
 - 1. Section 012500 "Substitution Procedures" for requests for substitutions.
 - 2. Section 014200 "References" for applicable industry standards for products specified.

1.03 DEFINITIONS

- A. Products: Items obtained for incorporating into the Work, whether purchased for Project or taken from previously purchased stock. The term "product" includes the terms "material," "equipment," "system," and terms of similar intent.
 - 1. Named Products: Items identified by manufacturer's product name, including make or model number or other designation shown or listed in manufacturer's published product literature, that is current as of date of the Contract Documents.
 - 2. New Products: Items that have not previously been incorporated into another project or facility. Products salvaged or recycled from other projects are not considered new products.
 - 3. Comparable Product: Product that is demonstrated and approved through submittal process to have the indicated qualities related to type, function, dimension, in-service performance, physical properties, appearance, and other characteristics that equal or exceed those of specified product.
- B. Basis-of-Design Product Specification: A specification in which a specific manufacturer's product is named and accompanied by the words "basis-of-design product," including make or model number or other designation, to establish the significant qualities related to type, function, dimension, in-service performance, physical properties, appearance, and other characteristics for purposes of evaluating comparable products of additional manufacturers named in the specification.

1.04 ACTION SUBMITTALS

- A. Comparable Product Requests: Submit request for consideration of each comparable product. Identify product or fabrication or installation method to be replaced. Include Specification Section number and title and Drawing numbers and titles.
 - 1. Include data to indicate compliance with the requirements specified in "Comparable Products" Article.
 - 2. Engineer's Action: If necessary, Engineer will request additional information or documentation for evaluation within one week of receipt of a comparable product request. Engineer will notify Contractor of approval or rejection of proposed comparable product request within 15 days of receipt of request, or seven days of receipt of additional information or documentation, whichever is later.
 - a. Form of Approval: As specified in Section 013300 "Submittal Procedures."
 - b. Use product specified if Engineer does not issue a decision on use of a comparable product request within time allocated.
- B. Basis-of-Design Product Specification Submittal: Comply with requirements in Section 013300 "Submittal Procedures." Show compliance with requirements.

1.05 QUALITY ASSURANCE

- A. Compatibility of Options: If Contractor is given option of selecting between two or more products for use on Project, select product compatible with products previously selected, even if previously selected products were also options.
 - 1. Each contractor is responsible for providing products and construction methods compatible with products and construction methods of other contractors.
 - 2. If a dispute arises between contractors over concurrently selectable but incompatible products, Engineer will determine which products shall be used.

1.06 PRODUCT DELIVERY, STORAGE, AND HANDLING

- A. Deliver, store, and handle products using means and methods that will prevent damage, deterioration, and loss, including theft and vandalism. Comply with manufacturer's written instructions.
- B. Delivery and Handling:
 - 1. Schedule delivery to minimize long-term storage at Project site and to prevent overcrowding of construction spaces.
 - 2. Coordinate delivery with installation time to ensure minimum holding time for items that are flammable, hazardous, easily damaged, or sensitive to deterioration, theft, and other losses.
 - 3. Deliver products to Project site in an undamaged condition in manufacturer's original sealed container or other packaging system, complete with labels and instructions for handling, storing, unpacking, protecting, and installing.
 - 4. Inspect products on delivery to determine compliance with the Contract Documents and to determine that products are undamaged and properly protected.
- C. Storage:
 - 1. Store products to allow for inspection and measurement of quantity or counting of units.
 - 2. Store materials in a manner that will not endanger Project structure.
 - 3. Store products that are subject to damage by the elements, under cover in a weathertight enclosure above ground, with ventilation adequate to prevent condensation.
 - 4. Protect foam plastic from exposure to sunlight, except to extent necessary for period of installation and concealment.
 - 5. Comply with product manufacturer's written instructions for temperature, humidity, ventilation, and weather-protection requirements for storage.
 - 6. Protect stored products from damage and liquids from freezing.

1.07 PRODUCT WARRANTIES

- A. Warranties specified in other Sections shall be in addition to, and run concurrent with, other warranties required by the Contract Documents. Manufacturer's disclaimers and limitations on product warranties do not relieve Contractor of obligations under requirements of the Contract Documents.
 - 1. Manufacturer's Warranty: Written warranty furnished by individual manufacturer for a particular product and specifically endorsed by manufacturer to Owner.
 - 2. Special Warranty: Written warranty required by the Contract Documents to provide specific rights for Owner.
- B. Special Warranties: Prepare a written document that contains appropriate terms and identification, ready for execution.
 - 1. Manufacturer's Standard Form: Modified to include Project-specific information and properly executed.
 - 2. Specified Form: When specified forms are included with the Specifications, prepare a written document using indicated form properly executed.
 - 3. See other Sections for specific content requirements and particular requirements for submitting special warranties.

- C. Submittal Time: Comply with requirements in Section 017700 "Closeout Procedures."

PART 2 PRODUCTS

2.01 PRODUCT SELECTION PROCEDURES

- A. General Product Requirements: Provide products that comply with the Contract Documents, are undamaged and, unless otherwise indicated, are new at time of installation.
1. Provide products complete with accessories, trim, finish, fasteners, and other items needed for a complete installation and indicated use and effect.
 2. Standard Products: If available, and unless custom products or nonstandard options are specified, provide standard products of types that have been produced and used successfully in similar situations on other projects.
 3. Owner reserves the right to limit selection to products with warranties not in conflict with requirements of the Contract Documents.
 4. Where products are accompanied by the term "as selected," Engineer will make selection.
 5. Descriptive, performance, and reference standard requirements in the Specifications establish salient characteristics of products.
 6. Or Equal: For products specified by name and accompanied by the term "or equal," or "or approved equal," or "or approved," comply with requirements in "Comparable Products" Article to obtain approval for use of an unnamed product.
- B. Product Selection Procedures:
1. Product: Where Specifications name a single manufacturer and product, provide the named product that complies with requirements. Comparable products or substitutions for Contractor's convenience will not be considered.
 2. Manufacturer/Source: Where Specifications name a single manufacturer or source, provide a product by the named manufacturer or source that complies with requirements. Comparable products or substitutions for Contractor's convenience will not be considered.
 3. Products:
 - a. Restricted List: Where Specifications include a list of names of both manufacturers and products, provide one of the products listed that complies with requirements. Comparable products or substitutions for Contractor's convenience will be considered.
 4. Manufacturers:
 - a. Restricted List: Where Specifications include a list of manufacturers' names, provide a product by one of the manufacturers listed that complies with requirements. Comparable products or substitutions for Contractor's convenience will be considered.
 5. Basis-of-Design Product: Where Specifications name a product, or refer to a product indicated on Drawings, and include a list of manufacturers, provide the specified or indicated product or a comparable product by one of the other named manufacturers. Drawings and Specifications indicate sizes, profiles, dimensions, and other characteristics that are based on the product named. Comply with requirements in "Comparable Products" Article for consideration of an unnamed product by one of the other named manufacturers.

2.02 COMPARABLE PRODUCTS

- A. Conditions for Consideration: Engineer will consider Contractor's request for comparable product when the following conditions are satisfied. If the following conditions are not satisfied, Engineer may return requests without action, except to record noncompliance with these requirements:

1. Evidence that the proposed product does not require revisions to the Contract Documents, that it is consistent with the Contract Documents and will produce the indicated results, and that it is compatible with other portions of the Work.
2. Detailed comparison of significant qualities of proposed product with those named in the Specifications. Significant qualities include attributes such as performance, weight, size, durability, visual effect, and specific features and requirements indicated.
3. Evidence that proposed product provides specified warranty.
4. List of similar installations for completed projects with project names and addresses and names and addresses of Engineers and owners, if requested.
5. Samples, if requested.

2.03 EXECUTION (NOT USED)

END OF SECTION

SECTION 01 7300

EXECUTION

PART 1 GENERAL

1.01 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

1.02 SUMMARY

- A. Section includes general administrative and procedural requirements governing execution of the Work.
- B. Related Requirements:
 - 1. Section 011000 "Summary" for limits on use of Project site.
 - 2. Section 013300 "Submittal Procedures" for submitting surveys.
 - 3. Section 017700 "Closeout Procedures" for submitting final property survey with Project Record Documents, recording of Owner-accepted deviations from indicated lines and levels, and final cleaning.

1.03 DEFINITIONS

- A. Cutting: Removal of in-place construction necessary to permit installation or performance of other work.
- B. Patching: Fitting and repair work required to restore construction to original conditions after installation of other work.

1.04 QUALITY ASSURANCE

- A. Cutting and Patching: Comply with requirements for and limitations on cutting and patching of construction elements.
 - 1. Structural Elements: When cutting and patching structural elements, notify Engineer of locations and details of cutting and await directions from Engineer before proceeding. Shore, brace, and support structural elements during cutting and patching. Do not cut and patch structural elements in a manner that could change their load-carrying capacity or increase deflection
 - 2. Operational Elements: Do not cut and patch operating elements and related components in a manner that results in reducing their capacity to perform as intended or that results in increased maintenance or decreased operational life or safety.
 - 3. Other Construction Elements: Do not cut and patch other construction elements or components in a manner that could change their load-carrying capacity, that results in reducing their capacity to perform as intended, or that results in increased maintenance or decreased operational life or safety.
 - 4. Visual Elements: Do not cut and patch construction in a manner that results in visual evidence of cutting and patching. Do not cut and patch exposed construction in a manner that would, in Architect's opinion, reduce the building's aesthetic qualities. Remove and replace construction that has been cut and patched in a visually unsatisfactory manner.
- B. Manufacturer's Installation Instructions: Obtain and maintain on-site manufacturer's written recommendations and instructions for installation of products and equipment.

PART 2 PRODUCTS

2.01 MATERIALS

- A. General: Comply with requirements specified in other Sections.

- B. In-Place Materials: Use materials for patching identical to in-place materials. For exposed surfaces, use materials that visually match in-place adjacent surfaces to the fullest extent possible.
 - 1. If identical materials are unavailable or cannot be used, use materials that, when installed, will provide a match acceptable to Engineer for the visual and functional performance of in-place materials.

PART 3 EXECUTION

3.01 EXAMINATION

- A. Examination and Acceptance of Conditions: Before proceeding with each component of the Work, examine substrates, areas, and conditions, with Installer or Applicator present where indicated, for compliance with requirements for installation tolerances and other conditions affecting performance. Record observations.
 - 1. Examine roughing-in for mechanical and electrical systems to verify actual locations of connections before equipment and fixture installation.
 - 2. Examine walls, floors, and roofs for suitable conditions where products and systems are to be installed.
 - 3. Verify compatibility with and suitability of substrates, including compatibility with existing finishes or primers.
- B. Proceed with installation only after unsatisfactory conditions have been corrected. Proceeding with the Work indicates acceptance of surfaces and conditions.

3.02 PREPARATION

- A. Field Measurements: Field measurements are required to fit the Work properly. Recheck measurements before fabrication and installing each product. Where portions of the Work are indicated to fit to other construction, verify dimensions of other construction by field measurements before fabrication. Coordinate fabrication schedule with construction progress to avoid delaying the Work.
- B. Space Requirements: Verify space requirements and dimensions of items shown diagrammatically on Drawings.
- C. Review of Contract Documents and Field Conditions: Immediately on discovery of the need for clarification of the Contract Documents caused by differing field conditions outside the control of Contractor, submit a request for information to Architect.

3.03 INSTALLATION

- A. General: Locate the Work and components of the Work accurately, in correct alignment and elevation, as indicated.
 - 1. Make vertical work plumb and make horizontal work level.
 - 2. Where space is limited, install components to maximize space available for maintenance and ease of removal for replacement.
 - 3. Conceal pipes, ducts, and wiring in finished areas unless otherwise indicated.
- B. Comply with manufacturer's written instructions and recommendations for installing products in applications indicated.
- C. Install products at the time and under conditions that will ensure the best possible results. Maintain conditions required for product performance until Substantial Completion.
- D. Conduct construction operations so no part of the Work is subjected to damaging operations or loading in excess of that expected during normal conditions of occupancy.
- E. Sequence the Work and allow adequate clearances to accommodate movement of construction items on site and placement in permanent locations.
- F. Tools and Equipment: Do not use tools or equipment that produce harmful noise levels.

- G. Templates: Obtain and distribute to the parties involved templates for work specified to be factory prepared and field installed. Check Shop Drawings of other work to confirm that adequate provisions are made for locating and installing products to comply with indicated requirements.
- H. Attachment: Provide blocking and attachment plates and anchors and fasteners of adequate size and number to securely anchor each component in place, accurately located and aligned with other portions of the Work. Where size and type of attachments are not indicated, verify size and type required for load conditions.
 - 1. Mounting Heights: Where mounting heights are not indicated, mount components at heights directed by Engineer.
 - 2. Allow for building movement, including thermal expansion and contraction.
 - 3. Coordinate installation of anchorages. Furnish setting drawings, templates, and directions for installing anchorages, including sleeves, concrete inserts, anchor bolts, and items with integral anchors, that are to be embedded in concrete or masonry. Deliver such items to Project site in time for installation.
- I. Joints: Make joints of uniform width. Where joint locations in exposed work are not indicated, arrange joints for the best visual effect. Fit exposed connections together to form hairline joints.
- J. Hazardous Materials: Use products, cleaners, and installation materials that are not considered hazardous.

3.04 CUTTING AND PATCHING

- A. Cutting and Patching, General: Employ skilled workers to perform cutting and patching. Proceed with cutting and patching at the earliest feasible time, and complete without delay.
 - 1. Cut in-place construction to provide for installation of other components or performance of other construction, and subsequently patch as required to restore surfaces to their original condition.
- B. Existing Warranties: Remove, replace, patch, and repair materials and surfaces cut or damaged during installation or cutting and patching operations, by methods and with materials so as not to void existing warranties.
- C. Temporary Support: Provide temporary support of work to be cut.
- D. Protection: Protect in-place construction during cutting and patching to prevent damage. Provide protection from adverse weather conditions for portions of Project that might be exposed during cutting and patching operations.
- E. Adjacent Occupied Areas: Where interference with use of adjoining areas or interruption of free passage to adjoining areas is unavoidable, coordinate cutting and patching according to requirements in Section 011000 "Summary."
- F. Existing Utility Services and Mechanical/Electrical Systems: Where existing services/systems are required to be removed, relocated, or abandoned, bypass such services/systems before cutting to minimize interruption to occupied areas.
- G. Cutting: Cut in-place construction by sawing, drilling, breaking, chipping, grinding, and similar operations, including excavation, using methods least likely to damage elements retained or adjoining construction. If possible, review proposed procedures with original Installer; comply with original Installer's written recommendations.
 - 1. In general, use hand or small power tools designed for sawing and grinding, not hammering and chopping. Cut holes and slots neatly to minimum size required, and with minimum disturbance of adjacent surfaces. Temporarily cover openings when not in use.
 - 2. Finished Surfaces: Cut or drill from the exposed or finished side into concealed surfaces.
 - 3. Concrete and Masonry: Cut using a cutting machine, such as an abrasive saw or a diamond-core drill.

4. Excavating and Backfilling: Comply with requirements in applicable Sections where required by cutting and patching operations.
 5. Mechanical and Electrical Services: Cut off pipe or conduit in walls or partitions to be removed. Cap, valve, or plug and seal remaining portion of pipe or conduit to prevent entrance of moisture or other foreign matter after cutting.
 6. Proceed with patching after construction operations requiring cutting are complete.
- H. Patching: Patch construction by filling, repairing, refinishing, closing up, and similar operations following performance of other work. Patch with durable seams that are as invisible as practicable. Provide materials and comply with installation requirements specified in other Sections, where applicable.
1. Inspection: Where feasible, test and inspect patched areas after completion to demonstrate physical integrity of installation.
 2. Exposed Finishes: Restore exposed finishes of patched areas and extend finish restoration into retained adjoining construction in a manner that will minimize evidence of patching and refinishing.
 - a. Clean piping, conduit, and similar features before applying paint or other finishing materials.
 - b. Restore damaged pipe covering to its original condition.
 3. Floors and Walls: Where walls or partitions that are removed extend one finished area into another, patch and repair floor and wall surfaces in the new space. Provide an even surface of uniform finish, color, texture, and appearance. Remove in-place floor and wall coverings and replace with new materials, if necessary, to achieve uniform color and appearance.
 - a. Where patching occurs in a painted surface, prepare substrate and apply primer and intermediate paint coats appropriate for substrate over the patch, and apply final paint coat over entire unbroken surface containing the patch. Provide additional coats until patch blends with adjacent surfaces.
 4. Ceilings: Patch, repair, or rehang in-place ceilings as necessary to provide an even-plane surface of uniform appearance.
 5. Exterior Building Enclosure: Patch components in a manner that restores enclosure to a weathertight condition and ensures thermal and moisture integrity of building enclosure.
- I. Cleaning: Clean areas and spaces where cutting and patching are performed. Remove paint, mortar, oils, putty, and similar materials from adjacent finished surfaces.

3.05 PROGRESS CLEANING

- A. General: Clean Project site and work areas daily, including common areas. Enforce requirements strictly. Dispose of materials lawfully.
1. Comply with requirements in NFPA 241 for removal of combustible waste materials and debris.
 2. Do not hold waste materials more than seven days during normal weather or three days if the temperature is expected to rise above 80 deg F.
 3. Containerize hazardous and unsanitary waste materials separately from other waste. Mark containers appropriately and dispose of legally, according to regulations.
 - a. Use containers intended for holding waste materials of type to be stored.
- B. Site: Maintain Project site free of waste materials and debris.
- C. Work Areas: Clean areas where work is in progress to the level of cleanliness necessary for proper execution of the Work.
1. Remove liquid spills promptly.
 2. Where dust would impair proper execution of the Work, broom-clean or vacuum the entire work area, as appropriate.

- D. Installed Work: Keep installed work clean. Clean installed surfaces according to written instructions of manufacturer or fabricator of product installed, using only cleaning materials specifically recommended. If specific cleaning materials are not recommended, use cleaning materials that are not hazardous to health or property and that will not damage exposed surfaces.
- E. Concealed Spaces: Remove debris from concealed spaces before enclosing the space.
- F. Exposed Surfaces in Finished Areas: Clean exposed surfaces and protect as necessary to ensure freedom from damage and deterioration at time of Substantial Completion.

3.06 STARTING AND ADJUSTING

- A. Start equipment and operating components to confirm proper operation. Remove malfunctioning units, replace with new units, and retest.
- B. Adjust equipment for proper operation. Adjust operating components for proper operation without binding.
- C. Test each piece of equipment to verify proper operation. Test and adjust controls and safeties. Replace damaged and malfunctioning controls and equipment.
- D. Manufacturer's Field Service: Comply with qualification requirements in Section 014000 "Quality Requirements."

END OF SECTION

SECTION 01 7419

CONSTRUCTION WASTE MANAGEMENT AND DISPOSAL

PART 1 GENERAL

1.01 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

1.02 SUMMARY

- A. Section includes administrative and procedural requirements for the following:
 1. Salvaging nonhazardous demolition and construction waste.
 2. Recycling nonhazardous demolition and construction waste.
 3. Disposing of nonhazardous demolition and construction waste.
 4. Recycling of DEP-Regulated Universal waste.
- B. Related Requirements:
 1. Section 024119 "Selective Demolition" for disposition of waste resulting from partial demolition of buildings, structures, and site improvements.
 2. Refer to drawings for additional information.

1.03 DEFINITIONS

- A. Construction Waste: Building and site improvement materials and other solid waste resulting from construction, remodeling, renovation, or repair operations. Construction waste includes packaging.
- B. Demolition Waste: Building and site improvement materials resulting from demolition or selective demolition operations.
- C. Disposal: Removal off-site of demolition and construction waste and subsequent sale, recycling, reuse, or deposit in landfill or incinerator acceptable to authorities having jurisdiction.
- D. Recycle: Recovery of demolition or construction waste for subsequent processing in preparation for reuse.
- E. Reused or Salvaged: Recovery of demolition or construction waste and subsequent sale, donation, or reuse in another facility or incorporated into the Work.
- F. Universal Waste: Any waste designated by the Maine Department of Environmental Protection as Universal Waste i.e. fluorescent lamps, ballasts, thermostats and other lead and mercury containing devices. Information can be found on the DEP's website:
<<http://www.maine.gov/dep/index.html>>
- G. USM Waste Minimization Policy: This policy and additional Information on recycling and waste can be found on the USM Recycling Website:
<http://www.usm.maine.edu/sustainability/recycling>

1.04 PERFORMANCE REQUIREMENTS

- A. General: Practice efficient waste management in the use of materials in the course of the Work. Use all reasonable means to divert construction and demolition waste from landfills and incinerators by sorting prior to leaving the jobsite. Facilitate recycling and salvage of materials. All waste must be disposed of at facilities that operate in accordance with all local, state, and federal waste regulations. Documentation of compliance can be requested by the University of Southern Maine at any time.

1.05 SUBMITTALS

- A. Submit 'Anticipated Project Waste Sheet' before commencement of work.

- B. Submit 'Waste Reporting Sheet' monthly with each Pay Requisition during the course of the project and prior to Final Requisition.
 - 1. Include the following information on Waste Reporting Sheet:
 - a. Date of disposal
 - b. Type of material(s)
 - c. Method(s) of disposal: recycled, reused/salvaged, landfilled, incinerated.
 - d. Weight(s): attach copies of scale tickets to form (see below)
- C. Copies of scale tickets from waste facilities, including transfer and processing facilities, for each haul must be attached to monthly 'Project Waste Sheet' on which the waste is listed.
- D. Copies of Certificates of Recycling from DEP-approved consolidators for all hauls over the course of the project which involved Universal Waste must be attached to final Waste Reporting Sheet at conclusion of project.
- E. Copy of Certificate of Refrigerant Recovery must be attached to Waste Reporting Sheet on which device is listed. Refrigerant Recovery must be performed by an EPA-approved Refrigerant Recovery Technician.
- F. Provide "Construction Debris Removal Plan" for approval. Elevator and stairwells may be used by Contractor with approval from Owner and the proper protection installed.

1.06 QUALITY ASSURANCE

- A. Contractors must designate someone in their employ (a direct paid employee of the general contractor) to be the contact for waste reporting for the duration of the project.
- B. Refrigerant Recovery Technician Qualifications: Certified by EPA-approved certification program.
- C. Regulatory Requirements: Comply with hauling and disposal regulations of authorities having jurisdiction.
 - 1. For any questions or clarifications of waste handling procedures contact the USM project manager directly.

1.07 PRODUCTS (NOT USED)

PART 3 EXECUTION

2.01 RECYCLING / SALVAGING DEMOLITION AND CONSTRUCTION WASTE, GENERAL

- A. General: Recycle paper and beverage containers used by on-site workers in accordance with USM Waste Minimization policy.
- B. Preparation of Waste: Prepare and maintain recyclable and salvageable waste materials according to recycling or reuse facility requirements. Maintain materials free of dirt, adhesives, solvents, petroleum contamination, and other substances deleterious to the recycling or reusing process.
- C. Procedures: Separate recyclable and salvageable waste from other waste materials, trash, and debris. Sort recyclable waste by type at Project site to the maximum extent practical.
 - 1. Provide appropriately marked containers or bins for controlling recyclable waste until removed from Project site. Include list of acceptable and unacceptable materials at each container and bin.
 - 2. Inspect containers and bins for contamination and remove contaminated materials if found.

2.02 DISPOSAL OF WASTE

- A. General: Except for items or materials to be salvaged/reused or recycled, remove waste materials from Project site and legally dispose of them in a landfill or incinerator acceptable to authorities having jurisdiction.

1. Except as otherwise specified, do not allow waste materials that are to be disposed of accumulate on-site.
2. Remove and transport debris in a manner that will prevent spillage on adjacent surfaces and areas.

END OF SECTION



Anticipated Project Waste Sheet

Building, Campus: _____ Project Description: _____

Company Name: _____ Project Number: _____

Designated Contact: _____ Phone: _____ Date: _____

List types of waste materials anticipated throughout the duration of the project. Include demolition waste, bulky waste, product packaging, and anything generated that will need to be disposed of. Complete a second sheet if additional space is necessary. Include estimates of quantities, if able. In the second column describe proposed method of disposal, if known. In the third column estimate when the waste will be generated over the duration of the project.

Waste Materials / Quantities	Method of Disposal	Week # / Date

Questions: contact Steve Sweeney, Resource Recovery Supervisor, USM Facilities Management: (207) 780-4160



Waste Reporting Sheet

Building, Campus: _____ Description of Project: _____

Company Name: _____ Project Number: _____

Designated Contact: _____ Phone: _____ Date: _____

This form must be filled out and submitted monthly with each Pay Requisition throughout the duration of the project and once prior to Final Requisition. Attach all scale tickets for items listed on the form.

Disposal: Recycled, Reused, Salvaged, Donated, Incinerated, Landfilled. Include packaging material.

Project waste generated:

Date	Material	Weight	Disposal/ Destination

Questions: contact Steve Sweeney, Resource Recovery Supervisor, USM Facilities Management: (207) 780-4160

**SECTION 01 7700
CLOSEOUT PROCEDURES**

PART 1 GENERAL

1.01 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

1.02 SUMMARY

- A. This Section includes administrative and procedural requirements for contract closeout, including, but not limited to, the following:
1. Inspection procedures.
 2. Punchlist completion.
 3. Warranties.
 4. Final cleaning.
- B. Related Sections include the following:
1. Division 01 Section "Payment Procedures" for requirements for Applications for Payment for Substantial and Final Completion.
 2. Division 01 Section "Execution Requirements" for progress cleaning of Project site.
 3. Division 01 Section "Project Record Documents" for submitting Record Drawings, Record Specifications, and Record Product Data.
 4. Division 01 Section "Operation and Maintenance Data" for operation and maintenance manual requirements.
 5. Divisions 02 through 33 Sections for specific closeout and special cleaning requirements for the Work in those Sections.

1.03 SUBSTANTIAL COMPLETION

- A. Preliminary Procedures: Before requesting inspection for determining date of Substantial Completion, complete the following. List items below that are incomplete in request.
1. Prepare a list of items to be completed and corrected (punch list), the value of items on the list, and reasons why the Work is not complete.
 2. Advise Owner of pending insurance changeover requirements.
 3. Submit specific warranties, workmanship bonds, maintenance service agreements, final certifications, and similar documents.
 4. Obtain and submit releases permitting Owner unrestricted use of the Work and access to services and utilities. Include occupancy permits, operating certificates, and similar releases.
 5. Prepare and submit Project Record Documents, operation and maintenance manuals.
 6. Deliver tools, spare parts, extra materials, and similar items to location designated by Owner. Label with manufacturer's name and model number where applicable.
 7. Make final changeover of permanent locks and deliver keys to Owner. Advise Owner's personnel of changeover in security provisions.
 8. Complete startup testing of systems.
 9. Submit test/adjust/balance records.
 10. Terminate and remove temporary facilities from Project site, along with mockups, construction tools, and similar elements.
 11. Advise Owner of changeover in heat and other utilities.
 12. Submit changeover information related to Owner's occupancy, use, operation, and maintenance.
 13. Complete final cleaning requirements, including touchup painting.
 14. Touch up and otherwise repair and restore marred exposed finishes to eliminate visual defects.

15. Submit initial draft copy of operation and maintenance manuals at least 15 days before requesting inspection for Substantial Completion.
- B. Inspection: Submit a written request for inspection for Substantial Completion. On receipt of request, Architect will either proceed with inspection or notify Contractor of unfulfilled requirements. Architect will prepare the Certificate of Substantial Completion after inspection or will notify Contractor of items, either on Contractor's list or additional items identified by Architect, that must be completed or corrected before certificate will be issued.
1. Reinspection: Request reinspection when the Work identified in previous inspections as incomplete is completed or corrected.
 2. Results of completed inspection will form the basis of requirements for Final Completion.

1.04 FINAL COMPLETION

- A. Preliminary Procedures: Before requesting final inspection for determining date of Final Completion, complete the following:
1. Submit a final Application for Payment according to Division 1 Section "Payment Procedures."
 2. Submit certified copy of Architect's Substantial Completion inspection list of items to be completed or corrected (punch list), endorsed and dated by Architect. The certified copy of the list shall state that each item has been completed or otherwise resolved for acceptance.
 3. Submit evidence of final, continuing insurance coverage complying with insurance requirements.
 4. Instruct Owner's personnel in operation, adjustment, and maintenance of products, equipment, and systems.
- B. Inspection: Submit a written request for final inspection for acceptance. On receipt of request, Architect will either proceed with inspection or notify Contractor of unfulfilled requirements. Architect will prepare a final Certificate for Payment after inspection or will notify Contractor of construction that must be completed or corrected before certificate will be issued.
1. Reinspection: Request reinspection when the Work identified in previous inspections as incomplete is completed or corrected.

1.05 INSPECTION FEES

- A. If the Architect Performs Reinspections Due to Failure of the Work to Comply with the Claims of Status of Completion Made by the Contractor, Or, Should the Contractor fail to complete the work, Or, Should the Contractor fail to promptly correct warranty items or work later found to be deficient:
1. Owner will compensate Architect for such additional services.
 2. Owner will deduct the amount of such compensation from the final payment to the Contractor.
- B. If the Work is not completed by the date set in the Agreement, and the Architect needs to perform additional Contract Administrative and on site observation duties:
1. Owner will compensate Architect for such additional services.
 2. Owner will deduct the amount of such compensation from the final payment to the Contractor.

1.06 LIST OF INCOMPLETE ITEMS (PUNCH LIST)

- A. Preparation: Submit three copies of list. Include name and identification of each space and area affected by construction operations for incomplete items and items needing correction including, if necessary, areas disturbed by Contractor that are outside the limits of construction.
1. Organize list of spaces in sequential order.

2. Organize items applying to each space by major element, including categories for ceiling, individual walls, floors, equipment, and building systems.
3. Include the following information at the top of each page:
 - a. Project name.
 - b. Date.
 - c. Name of Architect.
 - d. Name of Contractor.
 - e. Page number.

1.07 WARRANTIES

- A. Submittal Time: Submit written warranties on request of Architect for designated portions of the Work where commencement of warranties other than date of Substantial Completion is indicated in the contract documents.
 1. Unless indicated otherwise, all warranties shall commence on the date of Substantial Completion.
- B. Partial Occupancy: Submit properly executed warranties within 15 days of completion of designated portions of the Work that are completed and occupied or used by Owner during construction period by separate agreement with Contractor.
- C. Organize warranty documents into an orderly sequence based on the table of contents of the Project Manual.
 1. Submit final warranties as a package for the entire project, assembled and identified as described below.
 2. Bind warranties and bonds in heavy-duty, D-ring, vinyl-covered, loose-leaf binders, thickness as necessary to accommodate contents but not greater than 2 inches, and sized to receive 8-1/2-by-11-inch paper. Do not over fill D-ring, allowing 1/2-inch space for future additions.
 3. Provide heavy paper dividers with plastic-covered tabs for each separate warranty. Mark tab to identify the product or installation. Provide a typed description of the product or installation, including the name of the product and the name, address, and telephone number of Installer.
 4. Identify each binder on the front and spine with the typed or printed title "WARRANTIES," Project name, and name of Contractor.
 5. Electronic Media: Submit copy of warranty binder on CD-R in .PDF format. Bookmark based on the table of contents, and for each warranty within each section.
- D. Provide additional electronic media copies of each warranty to include in operation and maintenance manuals.

PART 2 PRODUCTS

2.01 MATERIALS

- A. Cleaning Agents: Use cleaning materials and agents recommended by manufacturer or fabricator of the surface to be cleaned. Do not use cleaning agents that are potentially hazardous to health or property or that might damage finished surfaces.

PART 3 EXECUTION

3.01 FINAL CLEANING

- A. General: Provide final cleaning. Conduct cleaning and waste-removal operations to comply with local laws and ordinances and Federal and local environmental and antipollution regulations.
- B. Cleaning: Employ experienced workers or professional cleaners for final cleaning. Clean each surface or unit to condition expected in an average commercial building cleaning and maintenance program. Comply with manufacturer's written instructions.

1. Complete the following cleaning operations before requesting inspection for certification of Substantial Completion for entire Project or for a portion of Project:
 - a. Clean Project site, yard, and grounds, in areas disturbed by construction activities, including landscape development areas, of rubbish, waste material, litter, and other foreign substances.
 - b. Sweep paved areas broom clean. Remove petrochemical spills, stains, and other foreign deposits.
 - c. Rake grounds that are neither planted nor paved to a smooth, even-textured surface.
 - d. Remove tools, construction equipment, machinery, and surplus material from Project site.
 - e. Remove snow and ice to provide safe access to building.
 - f. Clean exposed exterior and interior hard-surfaced finishes to a dirt-free condition, free of stains, films, and similar foreign substances. Avoid disturbing natural weathering of exterior surfaces. Restore reflective surfaces to their original condition.
 - g. Remove debris and surface dust from limited access spaces, including roofs, plenums, shafts, trenches, equipment vaults, manholes, attics, and similar spaces.
 - h. Sweep concrete floors broom clean in unoccupied spaces.
 - i. Vacuum carpet and similar soft surfaces, removing debris and excess nap; shampoo if visible soil or stains remain.
 - j. Resilient flooring shall be scrubbed and cleaned with cleaner recommended by the flooring manufacturer just prior to occupation by Owner. No-wax floors shall be buffed in accordance with flooring manufacturer's requirements.
 - k. Floors to receive wax shall be waxed just prior to occupation by Owner. Waxing shall consist of three coats, properly buffed to a uniform sheen. Work shall be done by a floor care subcontractor. Coordinate selection of wax with flooring manufacturer and Owner's maintenance program.
 - l. Clean transparent materials, including mirrors and glass in doors and windows. Remove glazing compounds and other noticeable, vision-obscuring materials. Replace chipped or broken glass and other damaged transparent materials. Polish mirrors and glass, taking care not to scratch surfaces.
 - m. Remove labels that are not permanent.
 - n. Touch up and otherwise repair and restore marred, exposed finishes and surfaces. Replace finishes and surfaces that cannot be satisfactorily repaired or restored or that already show evidence of repair or restoration.
 - o. Do not paint over "UL" and similar labels, including mechanical and electrical nameplates.
 - p. Wipe surfaces of mechanical and electrical equipment, elevator equipment, and similar equipment. Remove excess lubrication, paint and mortar droppings, and other foreign substances.
 - q. Replace parts subject to unusual operating conditions.
 - r. Clean plumbing fixtures to a sanitary condition, free of stains, including stains resulting from water exposure.
 - s. Replace disposable air filters and clean permanent air filters that are exposed to the work. Clean exposed surfaces of diffusers, registers, and grills.
 - t. Clean ducts, blowers, and coils if units were operated without filters during construction.
 - u. Clean light fixtures, lamps, globes, and reflectors to function with full efficiency. Replace burned-out bulbs, and those noticeably dimmed by hours of use, and defective and noisy starters in fluorescent and mercury vapor fixtures to comply with requirements for new fixtures.

- v. Leave Project clean and ready for occupancy.
- C. Comply with safety standards for cleaning. Do not burn waste materials. Do not bury debris or excess materials on Owner's property. Do not discharge volatile, harmful, or dangerous materials into drainage systems. Remove waste materials from Project site and dispose of lawfully.

END OF SECTION

SECTION 01 7800
CLOSEOUT SUBMITTALS

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Project Record Documents.
- B. Operation and Maintenance Data.
- C. Warranties and bonds.

1.02 RELATED REQUIREMENTS

- A. Section 00 7200 - General Conditions: Performance bond and labor and material payment bonds, warranty, and correction of work.
- B. Section 01 3000 - Administrative Requirements: Submittals procedures, shop drawings, product data, and samples.
- C. Individual Product Sections: Specific requirements for operation and maintenance data.
- D. Individual Product Sections: Warranties required for specific products or Work.

1.03 SUBMITTALS

- A. Project Record Documents: Submit documents to Architect with claim for final Application for Payment.
- B. Operation and Maintenance Data:
 - 1. For equipment, or component parts of equipment put into service during construction and operated by Owner, submit completed documents within ten days after acceptance.
 - 2. Submit one copy of completed documents 15 days prior to final inspection. This copy will be reviewed and returned after final inspection, with Architect comments. Revise content of all document sets as required prior to final submission.
 - 3. Submit two sets of revised final documents in final form within 10 days after final inspection.
- C. Warranties and Bonds:
 - 1. For equipment or component parts of equipment put into service during construction with Owner's permission, submit documents within 10 days after acceptance.
 - 2. Make other submittals within 10 days after Date of Substantial Completion, prior to final Application for Payment.
 - 3. For items of Work for which acceptance is delayed beyond Date of Substantial Completion, submit within 10 days after acceptance, listing the date of acceptance as the beginning of the warranty period.

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION

3.01 PROJECT RECORD DOCUMENTS

- A. Maintain on site one set of the following record documents; record actual revisions to the Work:
 - 1. Drawings.
 - 2. Addenda.
 - 3. Change Orders and other modifications to the Contract.
- B. Ensure entries are complete and accurate, enabling future reference by Owner.
- C. Store record documents separate from documents used for construction.
- D. Record information concurrent with construction progress.
- E. Record Drawings : Legibly mark each item to record actual construction including:

1. Field changes of dimension and detail.
2. Details not on original Contract drawings.

3.02 OPERATION AND MAINTENANCE DATA

- A. For Each Product or System: List names, addresses and telephone numbers of Subcontractors and suppliers, including local source of supplies and replacement parts.
- B. Product Data: Mark each sheet to clearly identify specific products and component parts, and data applicable to installation. Delete inapplicable information.
- C. Drawings: Supplement product data to illustrate relations of component parts of equipment and systems, to show control and flow diagrams. Do not use Project Record Documents as maintenance drawings.
- D. Typed Text: As required to supplement product data. Provide logical sequence of instructions for each procedure, incorporating manufacturer's instructions.

3.03 OPERATION AND MAINTENANCE DATA FOR MATERIALS AND FINISHES

- A. For Each Product, Applied Material, and Finish:
- B. Instructions for Care and Maintenance: Manufacturer's recommendations for cleaning agents and methods, precautions against detrimental cleaning agents and methods, and recommended schedule for cleaning and maintenance.

3.04 WARRANTIES AND BONDS

- A. Obtain warranties and bonds, executed in duplicate by responsible Subcontractors, suppliers, and manufacturers, within 10 days after completion of the applicable item of work. Except for items put into use with Owner's permission, leave date of beginning of time of warranty until the Date of Substantial completion is determined.
- B. Verify that documents are in proper form, contain full information, and are notarized.
- C. Co-execute submittals when required.
- D. Retain warranties and bonds until time specified for submittal.

END OF SECTION

SECTION 01 7839
PROJECT RECORD DOCUMENTS

PART 1 GENERAL

1.01 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

1.02 SUMMARY

- A. This Section includes administrative and procedural requirements for Project Record Documents, including the following:
 - 1. Record Drawings.
 - 2. Record Specifications.
 - 3. Record Product Data.
 - 4. Record Shop Drawings.
- B. Related Sections include the following:
 - 1. Division 01 Section "Closeout Procedures" for general closeout procedures.
 - 2. Division 01 Section "Operation and Maintenance Data" for operation and maintenance manual requirements.
 - 3. Divisions 02 through 33 Sections for specific requirements for Project Record Documents of the Work in those Sections.

1.03 SUBMITTALS

- A. Record Drawings: Comply with the following:
 - 1. Number of Copies: Submit copies of Record Drawings as follows:
 - a. Submit one set(s) of marked-up Record Prints
- B. Record Specifications: Submit one hard copy and one copy on electronic media of Project's Specifications, including addenda and contract modifications.
- C. Record Shop Drawings and Product Data: Submit one hard copy and one copy on electronic media of each Product Data submittal.
 - 1. Where Record Shop Drawings and Product Data is required as part of operation and maintenance manuals, submit marked-up Shop Drawings and Product Data as an insert in manual instead of submittal as Record Shop Drawings and Product Data. Insert typewritten pages indicating drawing titles, descriptions of contents, and Record Shop Drawings and Product Data locations drawing locations that are part of operation and maintenance manuals.
 - 2. Electronic Media: In addition to paper copy, submit record copy of record Shop Drawings and Product Data specification on CD-R in .PDF format. Bookmark Product Data based on the table of contents.
- D. Directories: Material supplier directory and subcontractor directory.+

PART 2 PRODUCTS

2.01 RECORD DRAWINGS

- A. Record Prints: Maintain one set of blue- or black-line white prints of the Contract Drawings and Shop Drawings.
 - 1. Preparation: Mark Record Prints to show the actual installation where installation varies from that shown originally. Require individual or entity who obtained record data, whether individual or entity is Installer, subcontractor, or similar entity, to prepare the marked-up Record Prints.
 - a. Give particular attention to information on concealed elements that would be difficult to identify or measure and record later.
 - b. Accurately record information in an understandable drawing technique.

- c. Record data as soon as possible after obtaining it. Record and check the markup before enclosing concealed installations.
 - 2. Content: Types of items requiring marking include, but are not limited to, the following:
 - a. Dimensional changes to Drawings.
 - b. Revisions to details shown on Drawings.
 - c. Revisions to routing of piping and conduits.
 - d. Revisions to electrical circuitry.
 - e. Actual equipment locations.
 - f. Locations of concealed internal utilities.
 - g. Changes made by Change Order or Construction Change Directive.
 - h. Changes made following Architect's written orders.
 - i. Details not on the original Contract Drawings.
 - j. Field records for variable and concealed conditions.
 - k. Record information on the Work that is shown only schematically.
 - 3. Mark the Contract Drawings or Shop Drawings, whichever is most capable of showing actual physical conditions, completely and accurately. If Shop Drawings are marked, show cross-reference on the Contract Drawings.
 - 4. Mark record sets with erasable, red-colored pencil. Use other colors to distinguish between changes for different categories of the Work at same location.
 - 5. Mark important additional information that was either shown schematically or omitted from original Drawings.
 - 6. Note Construction Change Directive numbers, alternate numbers, Change Order numbers, and similar identification, where applicable.
- B. Format: Identify and date each Record Drawing; include the designation "PROJECT RECORD DRAWING" in a prominent location.
- 1. Record Prints: Organize Record Prints into manageable sets. Bind each set with durable paper cover sheets. Include identification on cover sheets.

2.02 RECORD SPECIFICATIONS

- A. Preparation: Mark Specifications to indicate the actual product installation where installation varies from that indicated in Specifications, addenda, and contract modifications.
- 1. Give particular attention to information on concealed products and installations that cannot be readily identified and recorded later.
 - 2. Mark copy with the proprietary name and model number of products, materials, and equipment furnished, including substitutions, change orders and product options selected.
 - 3. Record the name of manufacturer, supplier, Installer, and other information necessary to provide a record of selections made.
 - 4. For each principal product, indicate whether Record Product Data has been submitted in operation and maintenance manuals instead of submitted as Record Product Data.
 - 5. Note related Change Orders, Record Product Data, and Record Drawings where applicable.
 - 6. Electronic Media: Submit record copy of record specification on CD-R in .PDF format. Bookmark based on the table of contents.

2.03 RECORD SHOP DRAWINGS AND PRODUCT DATA

- A. Preparation: Mark Shop Drawings and Product Data to indicate the actual product installation where installation varies substantially from that indicated in Shop Drawings and Product Data submittal.
- 1. Give particular attention to information on concealed products and installations that cannot be readily identified and recorded later.
 - 2. Include significant changes in the product delivered to Project site and changes in manufacturer's written instructions for installation.

3. Note related Change Orders, Record Specifications, and Record Drawings where applicable.
4. Bind product data in heavy-duty, D-ring, vinyl-covered, loose-leaf binders, thickness as necessary to accommodate contents but not greater than 2 inches, and sized to receive 8-1/2-by-11-inch paper. Do not over fill D-ring, allowing 1/2 inch space for future additions.
5. Provide heavy paper dividers with plastic-covered tabs for each specification section with product data. Mark tab to identify the specification section. Provide a typed description of the product or installation, including the name of the product and the name, address, and telephone number of Installer.
6. Identify each binder on the front and spine with the typed or printed title "PRODUCT DATA," Project name, and name of Contractor.
7. Drawings: Attach reinforced, punched binder tabs on drawings and bind with text.
 - a. Maximum size of drawings to be included in the binders shall not exceed 11-by-17-inch. Fold drawings to same size as text pages and use as foldouts.
 - b. If drawings are too large to be used as foldouts, fold and place drawings in labeled envelopes and submit envelopes with manual. At appropriate locations in manual, insert typewritten pages indicating drawing titles, descriptions of contents, and drawing locations.
8. Electronic Media: Submit record copy of marked-up Shop Drawings and Product Data on CD-R in .PDF format. Bookmark based on the table of contents, and for each Shop Drawings and Product Data within each section. Where Record Shop Drawings and Product Data is required as part of operation and maintenance manuals, submit electronic media of marked-up Shop Drawings and Product Data as part of manual instead of submittal as Record Shop Drawings and Product Data.

2.04 MISCELLANEOUS RECORD SUBMITTALS

- A. Assemble miscellaneous records required by other Specification Sections for miscellaneous record keeping and submittal in connection with actual performance of the Work. Bind or file miscellaneous records and identify each, ready for continued use and reference.
- B. Subcontractor Directory: Name, address and telephone number for all major subcontractors, organized by specification section.
- C. Material Supplier Directory: Name, address and telephone number for major material suppliers, organized by specification section.

PART 3 EXECUTION

3.01 RECORDING AND MAINTENANCE

- A. Recording: Maintain one copy of each submittal during the construction period for Project Record Document purposes. Post changes and modifications to Project Record Documents as they occur; do not wait until the end of Project.
- B. Maintenance of Record Documents and Samples: Store Record Documents and Samples in the field office apart from the Contract Documents used for construction. Do not use Project Record Documents for construction purposes. Maintain Record Documents in good order and in a clean, dry, legible condition, protected from deterioration and loss. Provide access to Project Record Documents for Architect's reference during normal working hours.

END OF SECTION

**SECTION 02 4100
DEMOLITION**

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Building demolition including selective demolition of PCB containing materials..
- B. Selective demolition of building elements for alteration purposes.

1.02 RELATED REQUIREMENTS

- A. Section 00 3100 - Available Project Information: Existing building survey conducted by Owner; information about known asbestos materials. See attached report regarding PCB testing, locations, and removal.
- B. Section 01 1000 - Summary: Limitations on Contractor's use of site and premises.
- C. Section 01 1000 - Summary: Description of items to be salvaged or removed for re-use by Contractor.
- D. Section 01 5000 - Temporary Facilities and Controls: Site fences, security, protective barriers, and waste removal.
- E. Section 01 6000 - Product Requirements: Handling and storage of items removed for salvage and relocation.
- F. Section 01 7000 - Execution and Closeout Requirements: Project conditions; protection of bench marks, survey control points, and existing construction to remain; reinstallation of removed products; temporary bracing and shoring.
- G. Section 01 7419 - Construction Waste Management and Disposal: Limitations on disposal of removed materials; requirements for recycling.
- H. Section 02 8433 - PCB Building Material Abatement

PART 2 EXECUTION

2.01 SCOPE

- A. Temporarily remove fin tube radiation, covers, etc to allow for construction of new curtain wall system and renovations to interior walls. Store components in a safe and secure area. Reinstall existing mechanical components..
- B. Balance mechanical system to ensure proper operation following reinstallation of mechanical components.
- C. Temporarily remove and/or protect electrical devices, receptacles, fire alarm annunciators, speakers, etc. to allow for construction of new curtain wall system and renovation to interior walls. Store components in a safe and secure area. Reinstall existing electrical components. Ensure proper operation.
- D. Remove existing ceiling grid, ceiling tiles (ACT) in preparation for new curtainwall. Reinstall existing ceiling grid and ceiling tiles following completion of curtainwall installation.
- E. Remove existing plaster and/or gypsum wallboard ceilings, wall base, wood sills as indicated on drawings and as necessary to allow for construction of new curtainwall system.
- F. Intent is for existing flooring to remain. Contractor to take care to protect during construction. Replace damaged floor tiles caused by construction operations at no expense to the Owner.
- G. Remove other items indicated, for relocation, recycling, and reinstallation..
- H. Contractor must examine existing conditions to confirm extent of selective demolition. Not all items to be removed are shown. Contractor is responsible for providing bid which is inclusive of all items to satisfy intent of the work.
- I. Protect items to remain for duration of construction such as; sprinkler piping.

J. See Section 028433 for PCB abatement scope of work.

2.02 GENERAL PROCEDURES AND PROJECT CONDITIONS

- A. Comply with applicable codes and regulations for demolition operations and safety of adjacent structures and the public.
 - 1. Obtain required permits.
 - 2. Take precautions to prevent catastrophic or uncontrolled collapse of structures to be removed; do not allow worker or public access within range of potential collapse of unstable structures.
 - 3. Provide, erect, and maintain temporary barriers and security devices.
 - 4. Conduct operations to minimize effects on and interference with adjacent structures and occupants.
 - 5. Do not close or obstruct roadways or sidewalks without permit.
 - 6. Conduct operations to minimize obstruction of public and private entrances and exits; do not obstruct required exits at any time; protect persons using entrances and exits from removal operations.
 - 7. Obtain written permission from owners of adjacent properties when demolition equipment will traverse, infringe upon or limit access to their property.
- B. Do not begin removal until receipt of notification to proceed from Owner.
- C. Protect existing structures and other elements that are not to be removed.
 - 1. Provide bracing and shoring.
 - 2. Prevent movement or settlement of adjacent structures.
 - 3. Stop work immediately if adjacent structures appear to be in danger.

2.03 SELECTIVE DEMOLITION FOR ALTERATIONS

- A. Drawings showing existing construction and utilities are based on casual field observation and existing record documents only.
 - 1. Verify that construction and utility arrangements are as shown.
 - 2. Report discrepancies to Architect before disturbing existing installation.
 - 3. Beginning of demolition work constitutes acceptance of existing conditions that would be apparent upon examination prior to starting demolition.
- B. Remove existing work as indicated and as required to accomplish new work.
 - 1. Remove items indicated on drawings.
- C. Services (Including but not limited to HVAC, Electrical, and other miscellaneous components): Remove existing systems and equipment as indicated or temporarily remove components which will be reinstalled during construction.
 - 1. Maintain existing active systems that are to remain in operation; maintain access to equipment and operational components.
 - 2. Where existing active systems serve occupied facilities but are to be replaced with new services, maintain existing systems in service until new systems are complete and ready for service.
 - 3. Verify that abandoned services serve only abandoned facilities before removal.
 - 4. Remove abandoned pipe, ducts, conduits, and equipment, including those above accessible ceilings; remove back to source of supply where possible, otherwise cap stub and tag with identification.
- D. Protect existing work to remain.
 - 1. Prevent movement of structure; provide shoring and bracing if necessary.
 - 2. Perform cutting to accomplish removals neatly and as specified for cutting new work.
 - 3. Repair adjacent construction and finishes damaged during removal work.
 - 4. Patch as specified for patching new work.

2.04 DEBRIS AND WASTE REMOVAL

- A. Remove debris, junk, and trash from site.
- B. Remove from site all materials not to be reused on site; comply with requirements of Section 01 7419 - Waste Management.
- C. Leave site in clean condition, ready for subsequent work.
- D. Clean up spillage and wind-blown debris from public and private lands.

END OF SECTION

SECTION 02 84 33

PCB BUILDING MATERIAL ABATEMENT

PART 1 – GENERAL

1.1 GENERAL PROVISIONS

- A. Attention is directed to the CONTRACT AND GENERAL CONDITIONS and all Sections within DIVISION 01 – GENERAL REQUIREMENTS, which are hereby made a part of this Section to the Specifications.
- B. The General Contractor or Remediation Subcontractor shall be aware of all conditions of the Project and is responsible for verifying quantities and locations of all Work to be performed. Failure to do so shall not relieve the General Contractor or Remediation Subcontractor of its obligation to furnish all labor and materials necessary to perform the Work.
- C. All Work shall be performed in strict accordance with the Project Documents and all governing codes, rules, and regulations. Where conflicts occur between the Project Documents and applicable codes, rules, and regulations, the more stringent governing regulation shall apply.
- D. Working hours shall be as required and approved by the Owner. The Remediation Subcontractor shall coordinate and schedule all Work with the General Contractor, Owner, and Owner's representative.
- E. All PCB remediation activities for caulking and sealant materials classified as containing ≥ 50 ppm PCBs is to be conducted in accordance with the requirements of 40 CFR 761.62.

1.2 DESCRIPTION OF WORK

- A. Bulk samples of specific non-liquid building materials (i.e., caulking) at the existing Science Wing "A" Curtain Wall have been collected and tested for polychlorinated biphenyls (PCBs) by Woodard & Curran as described in their report *Results of Initial Assessment of PCBs and ACM in Building Sealants – Science A Wing* ("Report", August 9, 2012). This Report is included as a reference in this specification package. This Report provides information on the materials that were tested, analytical results, locations of confirmed PCB-containing materials, and a conceptual outline of a PCB waste management approach under 40 CFR 761.62. Detectable concentrations of PCBs were reported in two types of interior caulking (up to 144 parts per million [ppm]) and in one type of exterior caulking (up to 7.62 ppm). All PCB caulking associated with the existing curtain wall system, and all materials in direct contact with ≥ 50 ppm PCB caulking are scheduled for removal and off-site disposal as part of this Work. No PCB ≥ 50 ppm caulking materials (source materials) were found to be in contact with adjacent masonry building materials scheduled to remain in place.

- B. The General Contractor, or Remediation Subcontractor, is responsible for conducting all Work involving the removal, management, storage, and disposal of PCB waste materials in accordance with this specification, with all referenced documents included as part of this specification, with the standards and guidance documents listed below, and with all Federal, state and local regulations.
- C. The General Contractor or Remediation Subcontractor shall provide all labor, materials, and equipment necessary to complete the work of this Section, including but not limited to the following:
 - 1. As indicated on Drawing AD.1, exterior glazing sealants from both opaque and transparent panels of the existing curtain wall system are to be stripped and managed as ≥ 50 ppm PCB waste (*exterior glazing identified as Type EX-2 in the Report*).
 - 2. As indicated on Drawing AD.1, interior caulking and glazing sealants from both opaque and transparent panels are to be stripped and managed as ≥ 50 ppm PCB waste and material containing Chrysotile asbestos at 0.87% (*interior caulking and glazing Type IN-1 and IN-2 in the Report*).
 - 3. As indicated on Drawing AD.1, opaque panels and associated metal frames in direct contact with opaque panels are to be managed collectively with sealants as ≥ 50 ppm PCB waste.
- D. It is the intent of the Work described in this Section to manage the identified PCB waste materials for off-site disposal as part of the overall project. It is noted that not all caulking present on the existing curtain wall is regulated under 40 CFR 761 (i.e., the sealants reported by the analytical laboratory with PCBs < 50 ppm); however, it is the Owner's intent to remove and manage these materials collectively with the materials to be managed as ≥ 50 ppm PCB waste. The material waste profile prepared by the General Contractor or Remediation Subcontractor shall also indicate material with an asbestos content of 0.87% Chrysotile asbestos.
- E. All PCB Remediation Work is to be conducted by the General Contractor or Remediation Subcontractor.
- F. The work of this Section includes:
 - 1. Furnishing of all labor, materials, facilities, equipment, services, and insurance necessary to perform the work;
 - 2. Maintenance of work area/site security;
 - 3. Preparation of work area, including installation of work zone barriers and decontamination areas as required;
 - 4. Removal, segregation, and collection of any PCB-containing materials encountered during the project work;
 - 5. Clean-up and final decontamination of all work areas;

6. Implementation of a worker protection program in compliance with all applicable regulations;
 7. Proper storage, wrapping/bagging, labeling, transportation and off-site disposal of all waste generated as part of PCB remediation activities
- G. The Contractor shall utilize reasonable measures to prevent PCB-containing materials from migrating out of the work area. This shall include, at a minimum, ground cover or staging/lift covers consisting of polyethylene sheeting or equivalent, engineering controls to minimize dust (i.e., wetting the material prior to cutting), and using only minimum impact techniques/tools to remove PCB-containing materials. Work areas shall be cleaned at the end of each work day, and wastes shall be collected and stored as specified in Part 3 of this Section.
- H. Unit Rates: N/A
- I. Related work specified elsewhere: 02 41 00 Selective Demolition

1.3 SUBMITTALS

- A. Submit the documents listed below for review and approval prior to the commencement of the Work in accordance with DIVISION 01 – GENERAL REQUIREMENTS:
1. Certificates of required insurance evidencing that the required coverages are in effect.
 2. Contractor Work Plan: Provide plans that clearly indicate the following:
 - a. All Work area containments or engineering controls.
 - b. Locations and types of any containment or decontamination enclosures.
 - c. Entrances and exits to the Work areas or containments.
 - d. Type of remediation activity/technique for each Work area/containment.
 - e. Ground / Floor surface protection (to minimize disturbance of the exterior roof deck and interior flooring scheduled to remain in place);
 - f. Sequence of Work activities.
 - g. Means and methods for the removal of PCB wastes.
 - h. Products, equipment, and materials to be used on the project, including specifications.
 - i. Decontamination methods and products.
 - j. Proposed location and construction of waste storage areas (to be coordinated with the General Contractor as part of the overall project activities).

- k. Waste transport routes to the waste storage containers.
 - i. Waste disposal facility proposed for waste acceptance, and uniform hazardous waste profile form.
 - 3. Health & Safety Plan developed specific to the Work activities. All workers will follow applicable Federal and State regulations regarding the work activities, including but not limited to OSHA regulations, fall protection standards, respiratory protection, ladder/scaffolding safety, personal protective equipment, etc.
 - 4. Disposal Site/Landfill Permit from applicable regulatory agency.
 - 5. Waste Transporter Permits and other transportation documentation.
 - B. On-Site Submittals: Refer to Part 3.1D for all submittals, documentation, and postings required to be maintained on-site during remediation activities.
 - C. Project Close-out Submittals: Within 30 days after completion, submit the documents listed below:
 - 1. Originals of all waste disposal manifests and certificates of disposal.
 - 2. Daily progress log, including the entry/exit log.
 - 3. Disposal Site/Landfill Permit from applicable regulatory agency.
- 1.4 DELIVERY, STORAGE, AND HANDLING
- A. Deliver materials to project site in original unopened containers.
 - B. Store and handle materials in compliance with manufacturer's recommendations.
- 1.5. PERMITS AND APPLICABLE STANDARDS
- A. Comply with all applicable Federal, State, and local laws, rules, and regulations pertaining to Work practices, protection of Workers, authorized visitors to the Work area, persons, and property adjacent to the Work.
 - B. Perform PCB related Work in accordance with applicable Federal and State regulations, including but not limited to 40 CFR 761 (*Polychlorinated Biphenyls Manufacturing, Processing, Distribution in Commerce, and Use Prohibitions*), 29 CFR 1926 (*Safety and Health Regulations for Construction*), and Maine Department of Environmental Protection (DEP) Hazardous Waste Management Regulations, Chapters 850 through 857 (06-096), as specified herein. Where more stringent requirements are specified, adhere to the more stringent requirements.
 - C. Asbestos is regulated under 29 CFR 1926.1101 and under Chapter 425 of the Maine DEP Solid Waste Management Rules. Although an asbestos-containing material is defined as any material containing at least 1% asbestos by volume (and results of the tested materials were reported below that threshold), more stringent criteria are

sometimes applicable to the management and disposal of materials reported with asbestos at any fraction, depending on the selected disposal facility.

- D. Maintain current licenses or registrations pursuant to Maine DEP and EPA regulations for all Work related to this Project, including the removal, handling, transport, and disposal of hazardous materials and/or waste.
- D. Obtain all permits required to complete the work, including but not limited to utility work permits, discharge permits, or any other permits required by the city or town in which the work will be conducted as applicable.

1.6 TRAINING

- A. Each employee conducting PCB remediation activities shall have completed 40 Hour Hazardous Waste Operations and Emergency Response Training per 29 CFR 1910.120 (HAZWOPER Training) and hold a current 8-hour Annual Refresher Certificate.
- B. Establish a respirator program as required by ANSI Z88.2 and 29 CFR 1910.134 and provide respirator training and fit testing for those workers conducting removal or remediation activities that require the use of a respirator.

1.7 PROJECT MONITORING

- A. The Owner or Owner's Representative shall engage the services of an Environmental Consultant (the Consultant) who shall serve on behalf of the Owner in regard to the performance of the Work, provide direction as required throughout the Work, monitor the work for compliance with 40 CFR 761, and perform general recordkeeping.
- B. The General Contractor shall promote cooperation of its personnel with the Consultant for the sampling and Project monitoring functions. The General Contractor and Remediation Subcontractor shall comply with all direction given by the Consultant during the course of the Project with regard to the PCB remediation work.
- C. The General Contractor and Remediation Subcontractor shall provide access to all areas required by the Owner's Consultant for the purposes of inspection and verification.

1.8 DEFINITIONS

- A. All terms not defined herein shall have the meaning given in the applicable publications and regulations.
 - 1. ANSI: American National Safety Institute
 - 2. Authorized Visitors: Any visitor authorized by the Owner, the Engineer or any representative of a regulatory agency or other agency having jurisdiction over the project.

3. Consultant: Authorized representative of the Owner. For the purposes of this Section, the Consultant (or, Owner's Representative) refers to Woodard & Curran.
4. Contractor: Refers to the General Contractor and/or Remediation Subcontractor responsible for the Work.
5. Critical Barrier: An impermeable partition erected to constitute a work area closure.
6. Engineering Controls: Any surface that inhibits the movement of contaminated media.
7. HEPA Filter: Equipment with a High Efficiency Particulate Air (HEPA) filter, greater than 99.97 percent efficiency by 0.3-micron DOP test, and complying with ANSI Z9.2 (1979).
8. Maine DEP: Maine Department of Environmental Protection.
9. MSDS: Material Safety Data Sheet
10. MSHA: Mine Safety and Health Administration
11. NESHAP: National Emission Standards for Hazardous Air Pollutants
12. NIOSH: National Institute of Occupational Safety and Health
13. OSHA: Occupational, Safety and Health Administration
14. Owner: University of Southern Maine
15. PCB: Polychlorinated Biphenyl
16. PCB Remediation: Procedures to control releases from PCB-containing materials. In this case, remediation includes removal and/or decontamination.
17. PCB wastes: Building caulking and sealant materials and debris, adjacent material debris in direct contact with those caulking and sealant materials, disposable clothing and protective equipment, plastic sheeting and tape, exhaust systems or vacuum filters, or any remediation equipment that is or has been contaminated with PCBs and cannot be decontaminated in accordance with Paragraph 3.5 of this Section. All PCB wastes are to be managed as ≥ 50 ppm PCB waste regardless of analytical data.
18. PPE: Personal protective equipment.
19. Remediation Contractor: Contractor (or Subcontractor) responsible for conducting the work associated with the removal, handling, packaging, transportation and disposal of PCB waste materials.

20. Removal: All herein specified procedures necessary to strip PCB-containing materials from designated areas and to dispose of these materials at a permitted facility.
21. Respirator: A device designed to protect the wearer from the inhalation of harmful atmospheres.
22. Subcontractor: Any contractor working for the General Contractor.
23. USDOT: United States Department of Transportation
24. Work: PCB Remediation work as described in this Section.

PART 2 - PRODUCTS

2.1 PROTECTIVE CLOTHING

- A. All personnel must utilize proper Personal Protective Equipment (PPE) during all work activities. Proper PPE may vary depending on the job task, but may include disposable gloves, disposable rubber boots, steel-toe boots, Tyvek suits, respirators, hard hats, hearing protection, and/or eye protection.
- B. Provide sufficient quantities of protective clothing to assure that enough complete disposable outfits are available for each individual performing remediation Work each day.
- C. Authorized visitors shall be provided with suitable protective clothing, headgear, eye protection, and footwear whenever they enter the Work Area. No unauthorized visitors will be allowed to enter the Work Area.

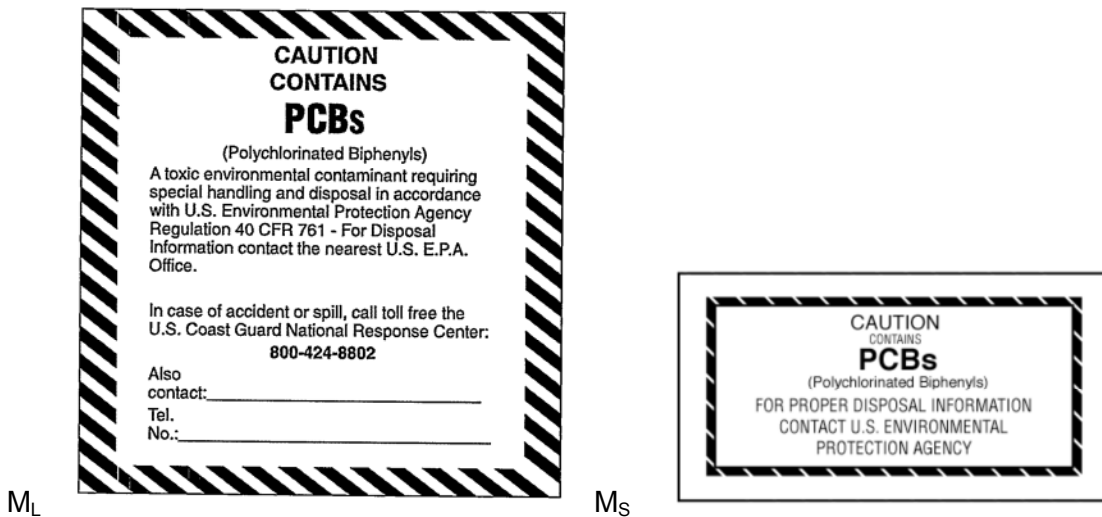
2.2 RESPIRATORY PROTECTION

- A. Select respirators from those approved by the Mine Safety and Health Administration (MSHA), and/or the National Institute for Occupational Safety and Health (NIOSH), Department of Health and Human Services.
- B. Respirators shall be individually fit-tested to personnel under the direction of an Industrial Hygienist on a yearly basis. Fit-tested respirators shall be permanently marked to identify the individual fitted, and use shall be limited to that individual. The General Contractor and Remediation Subcontractor shall maintain fit-test records for each employee using a respirator.
- C. No respirators shall be issued to personnel without such personnel participating in a respirator training program.
- D. High Efficiency Particulate Air (HEPA) respirator filters shall be approved by NIOSH and shall conform to the OSHA requirements in 29 CFR 1910.134.
- E. Provide a storage area where respirators will be kept in a clean environment.

- F. Provide and make available a sufficient quantity of respirator filters so that filter changes can be made as necessary during the work day. Filters will be removed and discarded during the decontamination process at a frequency at least as often as recommended by the manufacturer's specifications. Filters cannot be reused.
- G. Filters used with negative pressure air purifying respirators shall not be used any longer than one eight (8) hour work day.

2.3 SIGNS AND LABELS, CONTAINERS

- A. Provide warning signs and barrier tapes at all approaches to PCB Work Areas. Locate signs at such distance that personnel may read the sign and take the necessary protective steps required before entering the area.
- B. Provide the appropriate "Large PCB Marking" or "Small PCB Marking" (M_L or M_S per 40 CFR 761) as shown below, of sufficient size to be clearly legible, for display on waste containers (bags, boxes, roll-offs or drums) which will be used to contain or transport ≥ 50 ppm PCB contaminated material, in accordance with 40 CFR 761. In addition, U.S. Department of Transportation (DOT) 49 CFR Parts 171 and 172 requires the name and UN number of the material to be on the bags or drums, and, if shipped in bulk (roll-offs, Gaylord boxes, etc.) the bulk container must also be labeled: Polychlorinated biphenyl, solid mixture UN 3432, waste code M002.



- C. Provide 6 mil polyethylene disposal bags with PCB caution labels.
 - 1. The "Small PCB Label" (M_S per 40 CFR 761) may be used as shown above. Bags shall also be labeled with U.S. DOT required markings per 49 CFR 172, Polychlorinated biphenyl, solid mixture UN 3432.
 - 2. Labeled PCB waste containers or bags shall not be used for non-PCB waste or trash. Any material placed in labeled containers or bags, whether turned inside out or not shall be handled and disposed of as PCB waste.

- D. A secure, lined, and covered waste container (roll-off or equivalent), 55-gallon DOT-approved steel containers, or equivalent will be staged for the collection of PCB wastes generated during the work activities in accordance with 40 CFR 761.65;
- E. All containers will be properly labeled and marked in accordance with applicable State requirements and the requirements of the selected disposal facility.

2.4 TOOLS AND MATERIALS

- A. Tools used for the removal of caulking or other PCB materials shall be used in a manner that minimizes dust generation, as appropriate.
- B. All dry vacuuming performed under this contract shall be performed with High Efficiency Particulate Absolute (HEPA) filter equipped industrial vacuums conforming to ANSI Z9.2.
- C. Any power tools used to drill, cut into, or otherwise disturb PCB material shall be manufacturer equipped with HEPA filtered local exhaust ventilation.
- D. All polyethylene (plastic) sheeting used during the Work (including but not limited to sheeting used for barriers, fixed objects, walls, floors, ceilings, waste containers) shall be at least 6 mil fire retardant sheeting.

PART 3 - EXECUTION

3.1 GENERAL REQUIREMENTS

- A. The work of this section consists of, but is not limited to:
 - 1. Furnishing of all labor, materials, facilities, equipment, services, and insurance necessary to perform the work;
 - 2. Maintenance of work area/site security;
 - 3. Preparation of work area, including installation of containment and decontamination areas as required;
 - 4. Installation of protective measures for surrounding surfaces (floors, roof deck, etc.);
 - 5. Removal and segregation of PCB-containing materials;
 - 6. Clean-up and final decontamination of all work areas;
 - 7. Implementation of a worker protection program in compliance with all applicable regulations; and
 - 8. Proper storage, wrapping/bagging, labeling, transportation and disposal of all waste generated as part of PCB remediation activities.

- B. Preparation of Submittals as required by paragraph 1.3 of this Section;
- C. The Contractor is responsible for immediately reporting any breach in work zone barriers, health and safety incidents, and/or any on-site visits by a regulatory agency to the Owner.
- D. Maintain the following documentation on-site during remediation activities:
 - 1. Medical approval, fit test reports, Worker Acknowledgments, and Training certificates
 - 2. Project documents (remediation plan, work plan, drawings, specifications, etc.)
 - 3. Material Safety Data Sheets
 - 4. List of Emergency Contact Information
 - 5. Project logs (as applicable)

3.2 WORK AREA PREPARATION

- A. Access to the active work areas will be controlled through the use of controlled access points, polyethylene containment, and signage;
- B. Protective measures for the surrounding exterior roof deck materials and interior flooring scheduled to remain in place will be implemented/installed to minimize disturbance of the surfaces. Polysheeting will be placed on top of such protective measures in active work areas and replaced as needed when damaged.
- C. Polyethylene controls will be constructed at each area prior to work. A decontamination area for personnel and equipment will be erected at the control exit point;
- D. Wet wiping and water misting will be used as a dust suppressant as appropriate;
- E. All movable objects shall be removed from the work area. All non-movable objects shall be covered with 6 mil fire retardant polyethylene sheeting and sealed at the edges;
- F. All areas will be kept free from debris and maintained in a safe condition. At the end of each work day, the work areas and ground cover materials will be inspected and all dust and debris cleaned and placed in appropriate disposal containers;
- G. All powered tools will be equipped with appropriate tool guards and dust/debris collection systems (i.e., HEPA filters). Wet wiping and vacuuming of all tools and equipment in the work area will be performed at the completion of the work activity; and

3.3 REMOVAL OF PCB CONTAINING BUILDING MATERIALS

- A. The Work includes the removal and off-site disposal of PCB-containing building materials identified in Paragraph 1.2 of this Section:
 - 1. As indicated on Drawing AD.1, exterior glazing sealants from both opaque and transparent panels of the existing curtain wall system are to be stripped and managed as ≥ 50 ppm PCB waste (*exterior glazing identified as Type EX-2 in the Report*).
 - 2. As indicated on Drawing AD.1, interior caulking and glazing sealants from both opaque and transparent panels are to be stripped and managed as ≥ 50 ppm PCB waste and material containing Chrysotile asbestos at 0.87% (*interior caulking and glazing Type IN-1 and IN-2 in the Report*).
 - 3. As indicated on Drawing AD.1, opaque panels and associated metal frames in direct contact with opaque panels are to be managed collectively with sealants as ≥ 50 ppm PCB waste.
- B. Although the materials found to contain PCBs < 50 ppm have been determined to meet the definition of Excluded PCB Products and are excluded from 40 CFR 761 requirements, it is the Owner's intent to remove and manage these materials collectively with the materials to be managed as ≥ 50 ppm PCB waste. The material waste profile prepared by the General Contractor or Remediation Subcontractor shall also indicate material with an asbestos content of 0.87% Chrysotile asbestos.
- C. The General Contractor, or Remediation Subcontractor, shall not stockpile any PCB waste on-site that is not properly containerized and labeled in accordance with this Section.

3.4 INSPECTION AND VERIFICATION

- A. At the end of each work day, inspect and verify that the work areas are clean and free from dust and debris and secured to prevent unauthorized access.
- B. Following removal of PCB containing materials, inspections will be performed by Owner's consultant to verify completion of the remediation activities. The General Contractor or Remediation Subcontractor shall provide the Consultant access to all work areas for inspection activities as required.
- C. Inspect all waste storage containers and waste transport routes to verify proper waste handling, storage, and labeling in accordance with all applicable federal and state regulations.
- D. Prior to removal of the containment structures, verify that all Work is completed in accordance these specifications.

3.5 EQUIPMENT AND AREA DECONTAMINATION

- A. When remediation of PCB materials is complete as described in Paragraph 3.4, the area decontamination process shall consist of vacuuming (with a HEPA filter), wet

wiping/mopping and a repeated vacuuming (with a HEPA filter) of the entire work area. All surfaces in and around the work area must be free of dust generated during the work.

- B. Decontaminate all tools and equipment before removal from the work area in accordance with 40 CFR 761.79.
- C. If dust or debris has migrated to areas of the building other than the immediate work area, those areas shall be incorporated into the work area and thoroughly decontaminated to ensure all visible dust generated by the activity is eliminated.
- D. Remove dust barriers and other protective sheeting. Place in disposable construction bags and dispose of as PCB waste.
- E. Visually inspect the area for any remaining dust or debris. Vacuum (with HEPA filter) and wet wipe until space is clean.
- F. Upon completion of decontamination and removing temporary dust barriers, a final inspection shall be performed by the General Contractor, Remediation Subcontractor, and Owner or Owner's Representative. If the cleaning or the work is found to be deficient (i.e., not meeting the criteria established in this Section), the General Contractor or Remediation Subcontractor will complete the work or re-clean the affected areas at no additional expense to the Owner.

3.6 TRANSPORTATION AND DISPOSAL

- A. All ≥ 50 ppm PCB-containing sealants, building materials in direct contact with those sealants, and other generated waste materials (e.g., poly sheeting, PPE, and decontamination materials) shall be disposed of as ≥ 50 ppm PCB waste at an out of state hazardous waste landfill (Waste Management's Model City Landfill or equivalent facility). All materials with < 50 ppm PCB-containing sealants shall be disposed of collectively with the ≥ 50 ppm PCB waste. All PCB wastes are identified by Maine DEP as toxic wastes (T) and are assigned the Hazardous Waste Number M002.
- B. All PCB materials are to be placed in appropriate waste containers and labeled as described in Paragraph 2.3 of this Section. The storage area for PCB waste will be approved by the Owner prior to beginning the PCB remediation activities.
- C. Transporter and Disposal Site shall be approved by the Owner.
- D. Give twenty-four (24) hour notification prior to removing any waste from the site. Waste shall be removed from the site only during normal working hours unless otherwise specified. No waste may be taken from the site unless the General Contractor or Remediation Subcontractor are present and the Owner authorizes the release of the waste as described herein. All waste manifests and waste documents for PCB wastes are to be signed by the Owner.
- E. All waste generated as part of the PCB project shall be removed from the site within 30 calendar days after successful completion of the Work described in this Section.

- F. Upon arrival at the Project Site, the Transporter must possess and present to the General Contractor or Remediation Subcontractor a valid Waste Transporter Permit for the subject waste.
- G. The Transporter, with the General Contractor and Remediation Subcontractor, shall inspect all material in the transport container prior to taking possession and signing the Manifests.
- H. The Remediation Subcontractor, Hazardous Waste Disposal Contractor, Transporter and landfill shall document the generation, transport and disposal of the waste by use of the Uniform Hazardous Waste Manifest. This record is a legally required document, which identifies the generator, transporter(s), temporary storage location(s) and disposal site for any PCB-waste material. Certificates of Disposal shall also be generated and placed with the project records.
- I. Supply and complete the manifests and all other required waste disposal documentation in accordance with all applicable federal and state regulations. All manifests and other waste documentation shall be signed by the Owner or a designated representative. Copies of all waste documentation shall be provided to the Owner or designated representative prior to removing the waste from the Site.
- J. Do not permit any off-site transfers of the waste or allow the waste to be transported or combined with any other off-site wastes. The Transporter must travel directly to the disposal site as identified on the manifest with no unauthorized stops.

END OF SECTION 02 84 33



August 9, 2012

Carol M. Potter, LEED AP, CSI CCCA
Building Construction Engineer
University of Southern Maine
Facilities Management
96 Falmouth Street, PO Box 9300
Portland, ME 04104-9300

Re: **Results of Initial Assessment of PCBs and ACM in Building Sealants – Science A Wing**
University of Southern Maine, Portland, Maine

Dear Ms. Potter:

Woodard & Curran, Inc. has prepared this letter report to present the findings of the initial assessment of polychlorinated biphenyls (PCBs) and asbestos-containing materials (ACM) in caulking or sealants associated with one set of windows at the Science A Wing, which is located at the University of Southern Maine (USM) campus in Portland, Maine. This work was performed consistent with Woodard & Curran's June 13, 2012 proposal. Included in this letter report are the details of the inventory and sampling approach, the rationale for the samples selected for analysis, bulk sample results, and proposed next steps based on these findings.

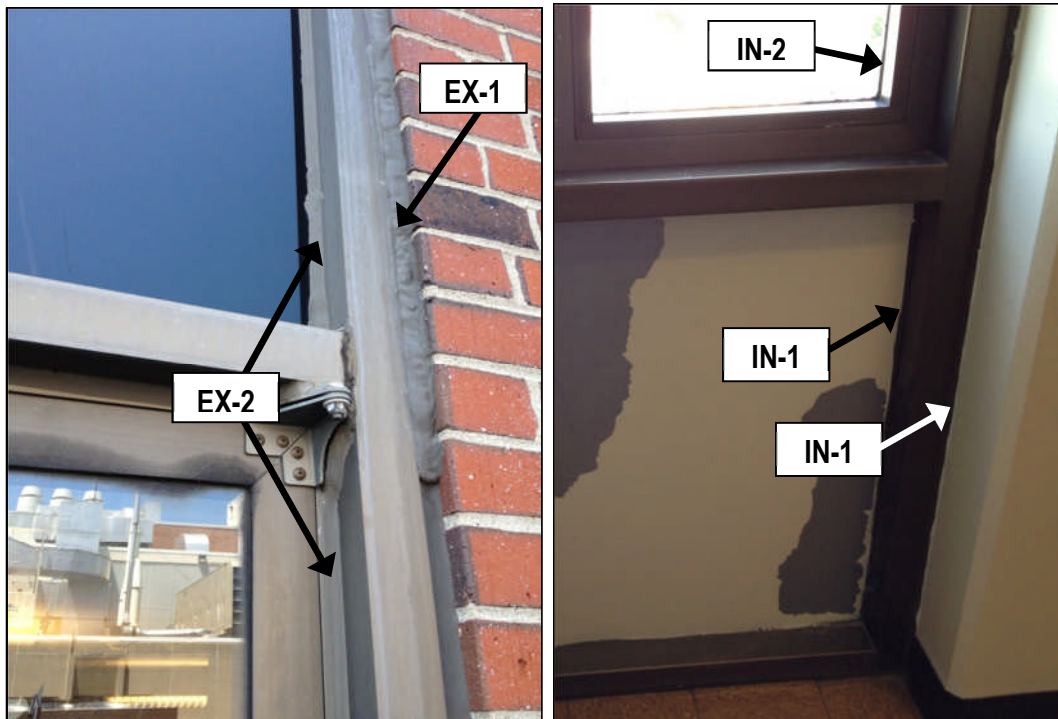
Background

The Science A Wing was constructed during a time frame when sealants and caulking were often manufactured with PCBs and/or ACM. Woodard & Curran's understanding of the project is that planned renovation work at the Science A Wing will include replacing a strip of window and panel elements on the east elevation of Floors 3 through 6, as shown in the photo at right. This work will involve the disturbance of interior and exterior caulking or sealant materials associated with the windows. Woodard & Curran was retained to inventory and collect samples for laboratory analysis of PCBs and asbestos to determine whether certain materials may be subject to State or Federal PCB or asbestos regulations.

Initial Survey & Testing

On July 19, 2012, Woodard & Curran visually inspected and sampled representative caulking and sealants observed at interior and exterior window and panel joints. As summarized on Table 1, two types of interior caulking and two types of exterior caulking were observed, and samples were collected for laboratory analysis of PCBs and asbestos. Photographs of some of the sampled materials are provided below.





Samples were collected by trained Woodard & Curran employees following standard health & safety and environmental sampling practices. Bulk caulking samples were collected by cutting the applicable volume of caulking and placing the material into laboratory supplied sampling jars for PCB analysis and plastic Ziploc bags for asbestos analysis. Multiple samples were collected from materials that were observed with greater prevalence. The caulking and sealant samples collected are considered representative of suspect materials in direct contact with the windows scheduled for removal during the planned renovations at the Science A Wing.

Bulk Sample Analytical Results

Samples submitted for PCB analysis were transported under standard chain of custody procedures to Analytics Environmental Laboratory of Portsmouth, New Hampshire. Samples were extracted using USEPA Method 3540C (Soxhlet) and analyzed for PCBs by USEPA Method 8082. Laboratory analytical results for each of the four sealant types are summarized below:

- *Exterior Type EX-1*: non-detect for PCBs (PCB concentrations were not reported above the laboratory's minimum detection limits of 0.231 and 0.264 parts per million [ppm]);
- *Exterior Type EX-2*: reported with detectable concentrations of PCBs < 50 ppm in two samples (at 1.35 and 7.62 ppm);
- *Interior Type IN-2*: reported with detectable concentrations of PCBs < 50 ppm in one sample (at 38.1 ppm); and
- *Interior Type IN-1*: reported with PCBs < 50 ppm in one sample at a metal to concrete joint (19.4 ppm); and reported with PCBs ≥ 50 ppm in a second sample at a metal to metal joint (144 ppm). Under 40 CFR 761, 50 ppm is the regulatory threshold for a PCB bulk product waste.

Samples submitted for asbestos analysis were transported under standard chain of custody procedures to EMSL Analytical of Woburn, Massachusetts. Samples were analyzed for non-friable organically bound (NOB) asbestos by polarized light microscopy (PLM) via EPA Method 600/R-93/116. Analytical results indicated that asbestos was not detected in three of the four caulking types (i.e., samples were



reported as 100% non-fibrous material). The fourth type, IN-2, was reported with 0.87% Chrysotile asbestos.

A summary of the sample locations and reported laboratory results are provided in Table 1, and copies of the complete analytical laboratory reports are provided in Appendix A.

A data quality assessment was performed and included a review of sample collection and preservation methods, sample holding times, laboratory documentation, a review of the internal laboratory QA/QC procedures and results including surrogate recoveries, blank results, and laboratory control standard results. The assessment indicated that the data was deemed usable for its intended purposes (i.e., characterization and material profiling), and no qualifications were applied to the data.

Regulatory Summary and Conclusions

PCBs

As per 40 CFR Part 761, the continued use of caulking containing PCBs at concentrations greater than 50 ppm is prohibited. If materials containing PCBs \geq 50 ppm are turned into waste (e.g. removed during a renovation project), then they would be defined as PCB bulk product waste and disposal would be required as per 40 CFR 761.62.

This condition applies to the IN-1 type of interior caulking in the configuration where it is present at metal to metal joints integral to the windows (i.e., non-masonry joints). This type of joint was observed at the interior side of the panels beneath the windows on all floors within the proposed work area.

Materials containing PCBs $<$ 50 ppm, which includes caulking types EX-2 and IN-2, may fall into one of two categories:

- (1) The materials may meet the definition of *Excluded PCB Products*¹ per 40 CFR 761.3 and are not subject to the use requirements of 40 CFR 761; or
- (2) The PCBs may have been “released” to the caulking from a previous caulking containing PCBs \geq 50 ppm and would be considered a PCB Remediation Waste subject to the requirements of 40 CFR 761.61.

To make this determination, additional information regarding the past renovation history of the building may be necessary (e.g., details or dates of past window replacements). It is the responsibility of the Owner to provide a burden of proof that the age of the sampled materials date back to the original building construction (or at least prior to 1984) in order to meet the Excluded PCB Product definition. If the Owner determines that the sampled materials meet the Excluded Product definition, these materials would not be subject to the use requirements of 40 CFR 761.

Although the PCB $<$ 50 ppm materials may meet the Excluded Product definition, the presence of $<$ 50 ppm PCBs in caulking sealants associated with certain interior and exterior window sealants warrants

¹ With regard to caulking, Excluded PCB Products means PCB materials reported at $<$ 50 ppm, including but not limited to (refer to 40 CFR 761.3 for the full definition):

- (2) Products contaminated with Aroclor or other PCB materials from historic PCB uses (investment casting waxes are one example) provided that in the cases of paragraphs (1) through (4) of this definition:
 - (i) The products or source of the products containing $<$ 50 ppm concentration PCBs were legally manufactured, processed, distributed in commerce, or used before October 1, 1984.
 - (ii) The products or source of the products containing $<$ 50 ppm concentrations PCBs were legally manufactured, processed, distributed in commerce, or used, i.e., pursuant to authority granted by EPA regulation, by exemption petition, by settlement agreement, or pursuant to other Agency- approved programs;
 - (iii) The resulting PCB concentration (i.e. $<$ 50 ppm) is not a result of dilution, or leaks and spills of PCBs $>$ 50 ppm.

special management and disposal procedures (i.e., removal under proper controls to minimize potential contaminant spread, and waste profiled accordingly to a facility that can accept this waste).

Asbestos

Asbestos is regulated under 29 CFR 1926.1101 and under Chapter 425 of the Maine Department of Environmental Protection (DEP) Solid Waste Management Rules. Although an asbestos-containing material is defined as any material containing at least 1% asbestos by volume (and results from this project site were reported below that threshold), more stringent criteria are sometimes applicable to the management and disposal of materials reported with asbestos at any fraction.

As noted in Woodard & Curran's June 13, 2012 proposal, Woodard & Curran is not licensed to provide professional services with regards to developing plans or specifications for asbestos abatement. As such, it is our recommendation that USM contact a Certified Industrial Hygienist to determine what restrictions or requirements may apply to the work based on the laboratory analytical results for the sampled materials (e.g., DEP notification, preparation of an asbestos abatement plan, verification of disposal facility options, etc.).

Next Steps

The next step in this process is to discuss regulatory options and select a remedial approach that can be integrated with the existing project plans. Project specifications and a remediation plan will then be developed so that the window caulking materials are properly managed for off-site disposal in conjunction with the planned building renovation project. Depending on the selected approach, the work may or may not require EPA involvement or a plan submittal to EPA.

Given the presence of PCBs ≥ 50 ppm in the IN-1 type caulking at metal to metal joints integral to the windows (i.e., not in contact with adjacent masonry or other building materials scheduled to remain in place), the most straightforward option is to manage the caulking and metal components in direct contact with the caulking collectively as a PCB bulk product waste under 40 CFR 761.62. Under this option, the collective waste stream is managed for disposal as PCB waste ≥ 50 ppm. Alternatively, the caulking could be removed, the metal components decontaminated, and verification samples would be required to confirm that unrestricted use cleanup levels had been met before the components could be segregated for disposal. This alternate option would need to involve EPA via a Plan submittal and approval.

Woodard & Curran appreciates the opportunity to assist USM on this project. If you have any questions or require further information, please feel free to contact me by email at awallace@woodardcurran.com or by phone at (207) 774-2112.

Sincerely,

WOODARD & CURRAN INC.



Amy Wallace, P.E.
Project Engineer



Jeffrey A. Hamel, LSP, LEP
Senior Vice President

Enclosures: Table 1 – Initial PCB Inventory & Sampling Results
Analytical Laboratory Reports



**Table 1
Initial PCB and ACM Inventory & Sampling Results
Science A Wing - University of Southern Maine, Portland**

Physical Description	Joint Type	Sample Location	Sample Date	Sample ID	PCB Detection Limit (ppm)	PCB Result (ppm)	Asbestos Result
Interior Caulking							
Type IN-1: Dark brown, tough, intact caulking joint	Metal to metal horizontal & vertical joints; metal to concrete vertical joints	5th floor lobby window; metal to concrete	07/19/12	SWA-CBK-001	1.42	19.4	ND
		6th floor stairwell window; metal to metal panel	07/19/12	SWA-CBK-003	8.02	144	ND
Type IN-2: Gray, dry, crumbly, brittle glazing sealant	Metal window frames to glass window panes (horizontal & vertical joints)	5th floor lobby window; metal to glass	07/19/12	SWA-CBK-002	3.23	38.1	0.87%
Exterior Caulking							
Type EX-1: Dark brown, thick bead, rubbery, intact caulking over foam backer rod	Metal to brick vertical joints; metal to concrete vertical joints	3rd floor north vertical joint of northern window; metal to brick	07/19/12	SWA-CBK-004	0.231	ND	ND
		3rd floor north vertical joint of southern window; metal to concrete	07/19/12	SWA-CBK-005	0.264	ND	ND
Type EX-2: Dark brown, slightly cracked / dusty outer appearance, intact, flexible, rubbery	Metal to metal horizontal & vertical joints	3rd floor lower horizontal joint of northern window	07/19/12	SWA-CBK-006	1.52	7.62	ND
		3rd floor north vertical joint of southern window	07/19/12	SWA-CBK-007	0.264	1.35	ND

Notes:

1. PCB samples were extracted by USEPA Method 3540C (Soxhlet) and analyzed by USEPA Method 8082.
2. PCB bulk sample results are presented in parts per million (ppm).
3. ND = Not detected above laboratory's minimum reporting limit, as indicated. For asbestos samples listed as ND, the lab reported these results as 100% Non-fibrous
4. All detected concentrations of asbestos were reported as Chrysotile.

**EMSL Analytical, Inc.**

7 Constitution Way, Suite 107, Woburn, MA 01801

Phone/Fax: (781) 933-8411 / (781) 933-8412

bostonlab@emsl.com

EMSL Order:	131203511
CustomerID:	WOOD77
CustomerPO:	
ProjectID:	

Attn: **Amy Wallace**
Woodard & Curran
41 Hutchins Drive

Portland, ME 04102

Phone: (207) 774-2112
 Fax: (207) 774-2112
 Received: 07/20/12 9:00 AM
 Analysis Date: 7/26/2012
 Collected: 7/19/2012

Project: **USM Science Wing A**

Test Report: Asbestos Analysis of Non-Friable Organically Bound Materials by PLM via EPA 600/R-93/116 section 2.3

SAMPLE ID	DESCRIPTION	APPEARANCE	% MATRIX MATERIAL	% NON-ASBESTOS FIBERS	ASBESTOS TYPES
SWA-CBK-001 131203511-0001	No Location Given - No Description Given	Brown Non-Fibrous Homogeneous	100	None	No Asbestos Detected
SWA-CBK-002 131203511-0002	No Location Given - No Description Given	Brown Non-Fibrous Homogeneous	99.1	None	0.87% Chrysotile
SWA-CBK-003 131203511-0003	No Location Given - No Description Given	Brown Non-Fibrous Homogeneous	100	None	No Asbestos Detected
SWA-CBK-004 131203511-0004	No Location Given - No Description Given	Brown Non-Fibrous Homogeneous	100	None	No Asbestos Detected
SWA-CBK-005 131203511-0005	No Location Given - No Description Given	Brown Non-Fibrous Homogeneous	100	None	No Asbestos Detected
SWA-CBK-006 131203511-0006	No Location Given - No Description Given	Brown Non-Fibrous Homogeneous	100	None	No Asbestos Detected
SWA-CBK-007 131203511-0007	No Location Given - No Description Given	Brown Non-Fibrous Homogeneous	100	None	No Asbestos Detected
SWA-CBKD-008 131203511-0008	No Location Given - No Description Given	Brown Non-Fibrous Homogeneous	100	None	No Asbestos Detected

Analyst(s)

Steve Grise (8)

Renaldo Drakes, Laboratory Manager
or other approved signatory

EMSL maintains liability limited to cost of analysis. This report relates only to the samples reported and may not be reproduced, except in full, without written approval by EMSL. EMSL bears no responsibility for sample collection activities or analytical method limitations. Interpretation and use of test results are the responsibility of the client. Non-friable organically bound materials present a problem matrix and therefore EMSL recommends gravimetric reduction prior to analysis. This report contains data that is (are) not covered by the NVLAP accreditation. Samples received in good condition unless otherwise noted. Unless requested by the client, building materials manufactured with multiple layers (i.e. linoleum, wallboard, etc.) are reported as a single sample.

Samples analyzed by EMSL Analytical, Inc. Woburn, MA

Initial report from 07/26/2012 17:12:27

July 27, 2012

Ms. Amy Wallace
Woodard & Curran
41 Hutchins Drive
Portland ME 04102

**RE: Analytical Results Case Narrative
Analytics # 73375
USM Science Wing A Project No: 225894**

Dear Ms. Wallace;

Enclosed please find the analytical results for samples submitted for the above-mentioned project. The attached Cover Page lists the sample IDs, Lab tracking numbers and collection dates for the samples included in this deliverable.

Samples were analyzed for Polychlorinated Biphenyls (PCBs) by EPA Method 8082.

Unless otherwise noted in the Non-conformance Summary listed below, all of the quality control (QC) criteria including initial calibration, calibration verification, surrogate recovery, holding time and method accuracy/precision for these analyses were within acceptable limits.

This Level II data package has been assembled in the following order:

- Case Narrative/Non-Conformance Summary
- Sample Log Sheet - Cover Page
- PCB Form 1 Data Sheet for Samples and Blanks
 - Chromatograms
- PCB Form 10 Confirmation Results
- PCB Form 3 MS/MSD (LCS) Recoveries
- Chain of Custody (COC) Forms

QC NON-CONFORMANCE SUMMARY

Sample Receipt:

No exceptions.

PCBs by EPA Method 8082:

No results were reported below the quantitation limit.

Samples 73375-1, 73375-2, 73375-3 and 73375-6 required dilution due to PCB concentrations that exceeded the calibration range of the instrument.

If you have any questions on these results, please do not hesitate to contact me.

Sincerely,
ANALYTICS Environmental Laboratory, LLC



Stephen L. Knollmeyer
Laboratory Director

Ms. Amy Wallace
Woodard & Curran
41 Hutchins Drive
Portland ME 04102

Report Number: 73375

Revision: Rev. 0

Re: USM Science Wing A (Project No: 225894)

Enclosed are the results of the analyses on your sample(s). Samples were received on 20 July 2012 and analyzed for the tests listed. Samples were received in acceptable condition, with the exceptions noted below or on the chain of custody. These results pertain to samples as received by the laboratory and for the analytical tests requested on the chain of custody. The results reported herein conform to the most current NELAC standards, where applicable, unless otherwise narrated in the body of the report. Please see individual reports for specific methodologies and references.

<u>Lab Number</u>	<u>Sample Date</u>	<u>Station Location</u>	<u>Analysis</u>	<u>Comments</u>
73375-1	07/19/12	SWA-CBK-001	EPA 8082 (PCBs only)	
73375-2	07/19/12	SWA-CBK-002	EPA 8082 (PCBs only)	
73375-3	07/19/12	SWA-CBK-003	EPA 8082 (PCBs only)	
73375-4	07/19/12	SWA-CBK-004	EPA 8082 (PCBs only)	
73375-5	07/19/12	SWA-CBK-005	EPA 8082 (PCBs only)	
73375-6	07/19/12	SWA-CBK-006	EPA 8082 (PCBs only)	
73375-7	07/19/12	SWA-CBK-007	EPA 8082 (PCBs only)	
73375-8	07/19/12	SWA-CBKD-008	EPA 8082 (PCBs only)	

Sample Receipt Exceptions: None

Analytics Environmental Laboratory is certified by the states of New Hampshire, Maine, Massachusetts, Connecticut, Rhode Island, Virginia, Maryland, and North Carolina, and is accredited by the Department of Defense (DOD) ELAP program. A list of actual certified parameters is available upon request.

If you have any questions on these results, please do not hesitate to contact us.

Authorized signature



Stephen L. Knollmeyer Lab. Director

Date

7/27/2012

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Surrogate Compound Limits

Matrix: Units:	Aqueous % Recovery	Solid % Recovery	Method
Volatile Organic Compounds - Drinking Water			
1,4-Difluorobenzene	70-130		EPA 524.2
Bromofluorobenzene	70-130		
1,2-Dichlorobenzene-d4	70-130		
Volatile Organic Compounds			
1,2-Dichloroethane-d4	70-120	70-120	EPA 624/8260B
Toluene-d8	85-120	85-120	
Bromofluorobenzene	75-120	75-120	
Semi-Volatile Organic Compounds			
2-Fluorophenol	20-110	35-105	EPA 625/8270C
d5-Phenol	15-110	40-100	
d5-nitrobenzene	40-110	35-100	
2-Fluorobiphenyl	50-110	45-105	
2,4,6-Tribromophenol	40-110	40-125	
d14-p-terphenyl	50-130	30-125	
PAH's by SIM			
d5-nitrobenzene	21-110	35-110	EPA 8270C
2-Fluorobiphenyl	36-121	45-105	
d14-p-terphenyl	33-141	30-125	
Pesticides and PCBs			
2,4,5,6-Tetrachloro-m-xylene (TCX)	46-122	40-130	EPA 608/8082
Decachlorobiphenyl (DCB)	40-135	40-130	
Herbicides			
Dichloroacetic acid (DCAA)	30-150	30-150	
Gasoline Range Organics/TPH Gasoline			
Trifluorotoluene TFT (FID)	60-140	60-140	MEDEP 4217/EPA 8015
Bromofluorobenzene (BFB) (FID)	60-140	60-140	
Trifluorotoluene TFT (PID)	60-140	60-140	
Bromofluorobenzene (BFB) (PID)	60-140	60-140	
Diesel Range Organics/TPH Diesel			
m-terphenyl	60-140	60-140	MEDEP 4125/EPA 8015/CT ETPH
Volatile Petroleum Hydrocarbons			
2,5-Dibromotoluene (PID)	70-130	70-130	MADEP VPH May 2004 Rev1.1
2,5-Dibromotoluene (FID)	70-130	70-130	
Extracatable Petroleum Hydrocarbons			
1-chloro-octadecane (aliphatic)	40-140	40-140	MADEP EPH May 2004 Rev1.1
o-Terphenyl (aromatic)	40-140	40-140	
2-Fluorobiphenyl (Fractionation)	40-140	40-140	
2-Bromonaphthalene (fractionation)	40-140	40-140	

PCB
DATA SUMMARIES

Ms. Amy Wallace
Woodard & Curran
41 Hutchins Drive
Portland ME 04102

July 27, 2012

SAMPLE DATA

CLIENT SAMPLE ID

Project Name: USM Science Wing A

Project Number: 225894

Field Sample ID: SWA-CBK-001

Lab Sample ID: 73375-1

Matrix: Solid

Percent Solid: 99

Dilution Factor: 43

Collection Date: 07/19/12

Lab Receipt Date: 07/20/12

Extraction Date: 07/23/12

Analysis Date: 07/26/12

PCB ANALYTICAL RESULTS		
COMPOUND	Quantitation Limit $\mu\text{g}/\text{kg}$	Results $\mu\text{g}/\text{kg}$
PCB-1016	1420	U
PCB-1221	1420	U
PCB-1232	1420	U
PCB-1242	1420	U
PCB-1248	1420	U
PCB-1254	1420	12600
PCB-1260	1420	6810
Surrogate Standard Recovery		
2,4,5,6-Tetrachloro-m-xylene	66	%
Decachlorobiphenyl	62	%
U=Undetected J=Estimated E=Exceeds Calibration Range B=Detected in Blank		

METHODOLOGY: Sample analysis conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 8082.
Sample preparation conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 3540C.
Sample cleanup was conducted according to SW-846 Method 3665A.

COMMENTS: Results are expressed on a dry weight basis.

Authorized signature 

PCB
COLUMN RELATIVE PERCENT DIFFERENCE

Instrument ID: M
GC Column #1: STX-CLPesticides I
Column ID: 0.25 mm
GC Column #2: STX-CLPesticides II
Column ID: 0.25 mm

SDG: 73375
Sample: 73375-1,1:5,,A/C
Data File: M60705.D
Dilution Factor: 42.9

COMPOUND	Column #1	Column #2	RPD	#
	SAMPLE RESULT (ug/kg)	SAMPLE RESULT (ug/kg)		
PCB 1260	6811	5911	14.2	
PCB 1254	12444	12642	1.6	

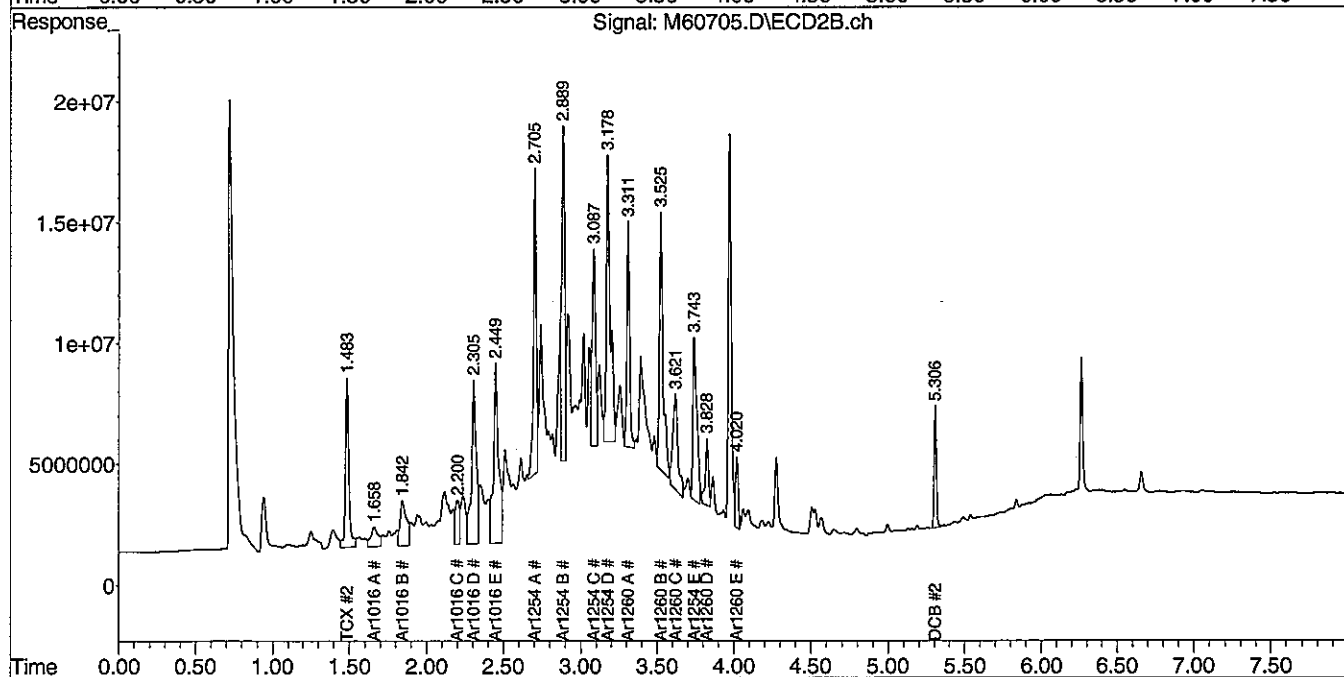
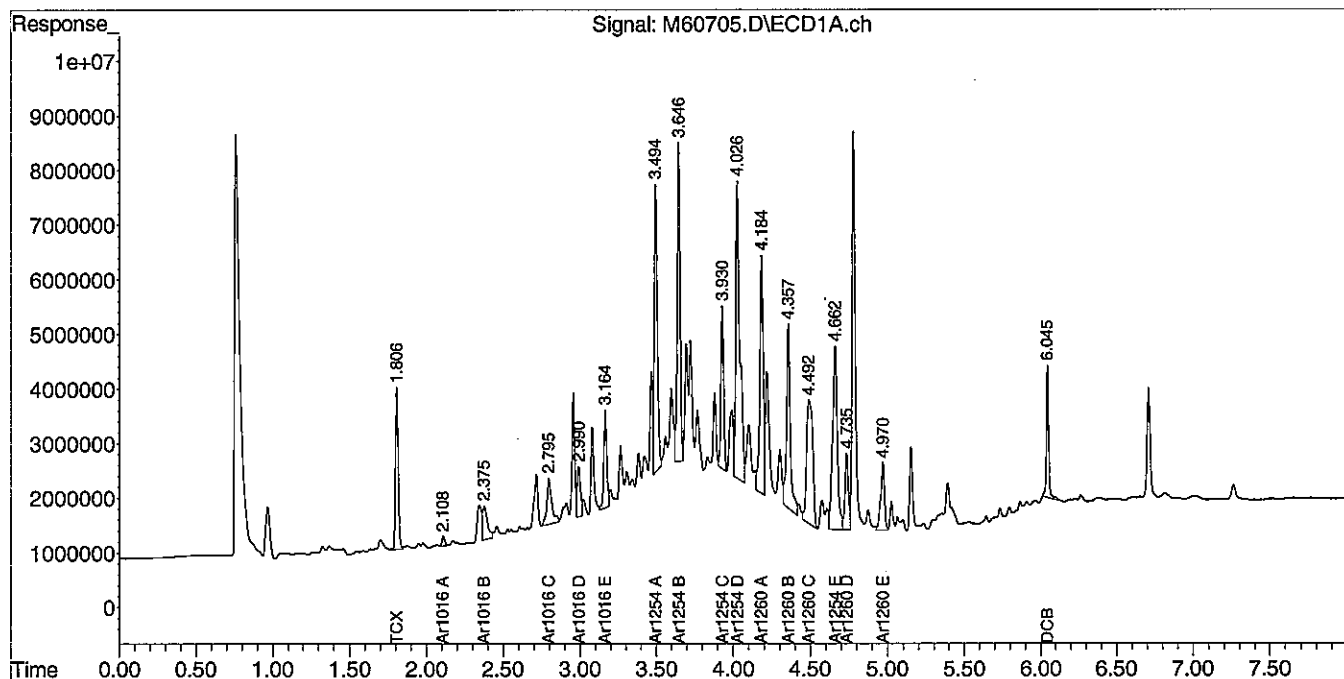
Column to be used to flag RPD values greater than QC limit of 40%
* Values outside QC limits

Comments: _____

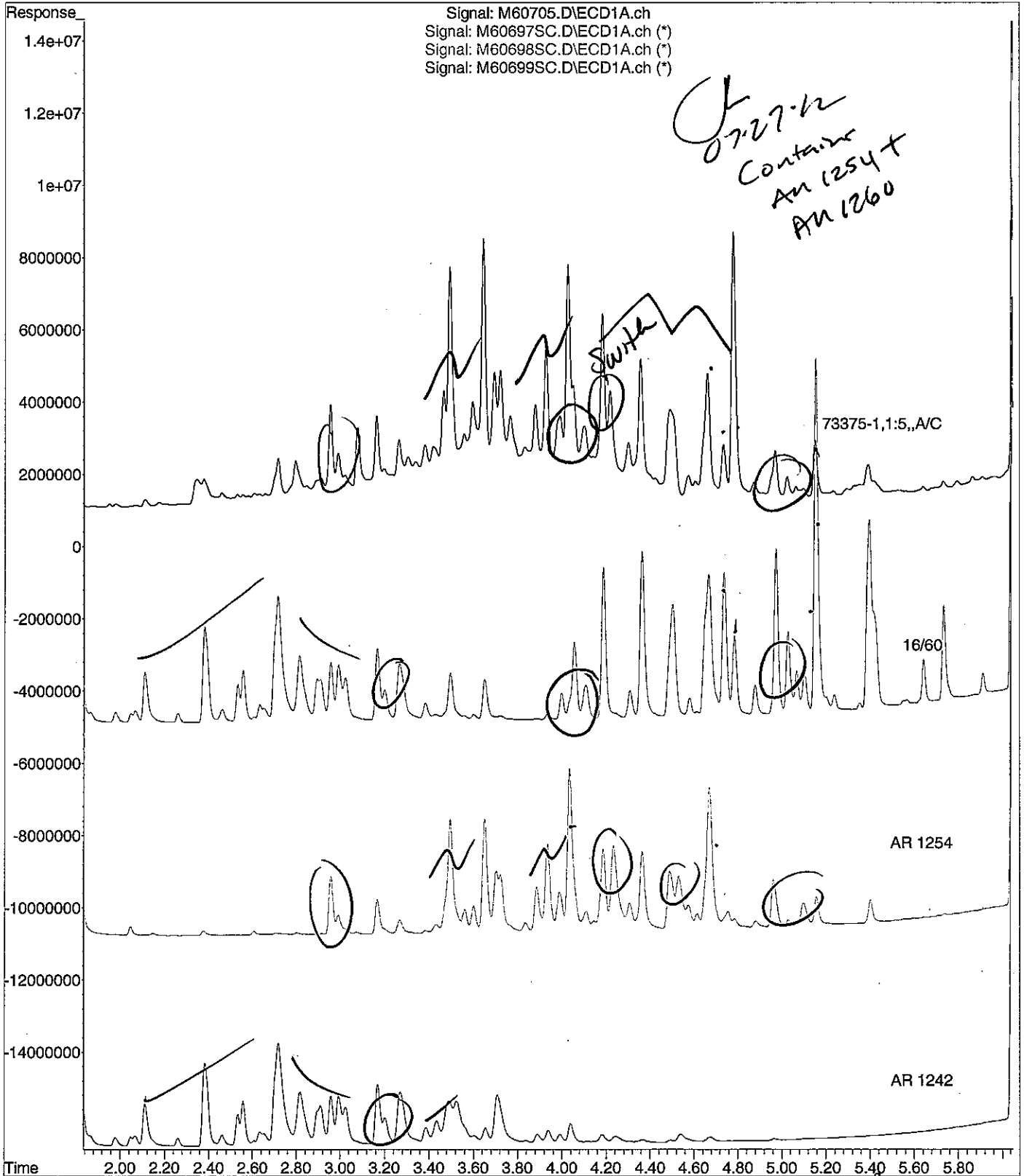
Data Path : C:\msdchem\1\DATA\072612-M\
 Data File : M60705.D
 Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch
 Acq On : 26 Jul 2012 8:22 pm
 Operator : JK
 Sample : 73375-1,1:5,,A/C
 Misc : SOIL
 ALS Vial : 28 Sample Multiplier: 1

Integration File signal 1: events.e
 Integration File signal 2: events2.e
 Quant Time: Jul 27 14:43:09 2012
 Quant Method : C:\msdchem\1\METHODS\PCB071612.M
 Quant Title : SW-846 METHOD 8082 Aroclor 1016/1260/1254
 QLast Update : Wed Jul 25 09:13:32 2012
 Response via : Initial Calibration
 Integrator: ChemStation

Volume Inj. : 2 uL
 Signal #1 Phase : STX-CLPPesticides Signal #2 Phase: STX-CLPPesticides
 Signal #1 Info : 30 m x 0.25mm x 0 Signal #2 Info : 30 m x 0.25mm x 0.25 um



File : C:\msdchem\1\DATA\072612-M\M60705.D
 Operator : JK
 Acquired : 26 Jul 2012 8:22 pm using AcqMethod PCB.M
 Instrument : Instrument M
 Sample Name: 73375-1,1:5,,A/C
 Misc Info : SOIL
 Vial Number: 28



JK
 7/27/12

Ms. Amy Wallace
Woodard & Curran
41 Hutchins Drive
Portland ME 04102

July 27, 2012

SAMPLE DATA

CLIENT SAMPLE ID

Project Name: USM Science Wing A
Project Number: 225894
Field Sample ID: SWA-CBK-002

Lab Sample ID: 73375-2
Matrix: Solid
Percent Solid: 99
Dilution Factor: 98
Collection Date: 07/19/12
Lab Receipt Date: 07/20/12
Extraction Date: 07/23/12
Analysis Date: 07/27/12

PCB ANALYTICAL RESULTS

COMPOUND	Quantitation Limit $\mu\text{g}/\text{kg}$	Results $\mu\text{g}/\text{kg}$
PCB-1016	3230	U
PCB-1221	3230	U
PCB-1232	3230	U
PCB-1242	3230	U
PCB-1248	3230	38100
PCB-1254	3230	U
PCB-1260	3230	U

Surrogate Standard Recovery		
2,4,5,6-Tetrachloro-m-xylene	80	%
Decachlorobiphenyl	78	%

U=Undetected J=Estimated E=Exceeds Calibration Range B=Detected in Blank

METHODOLOGY: Sample analysis conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 8082.
Sample preparation conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 3540C.
Sample cleanup was conducted according to SW-846 Method 3665A.

COMMENTS: Results are expressed on a dry weight basis.



PCB
COLUMN RELATIVE PERCENT DIFFERENCE

Instrument ID: M

SDG:

GC Column #1: STX-CLPesticides I

Sample: 73375-2,1:10,,A/C

Column ID: 0.25 mm

Data File: M60721.D

GC Column #2: STX-CLPesticides II

Dilution Factor: 98.3

Column ID: 0.25 mm

COMPOUND	Column #1	Column #2	RPD	#
	SAMPLE RESULT (ug/kg)	SAMPLE RESULT (ug/kg)		
PCB 1248	38112	37823	0.8	

Column to be used to flag RPD values greater than QC limit of 40%

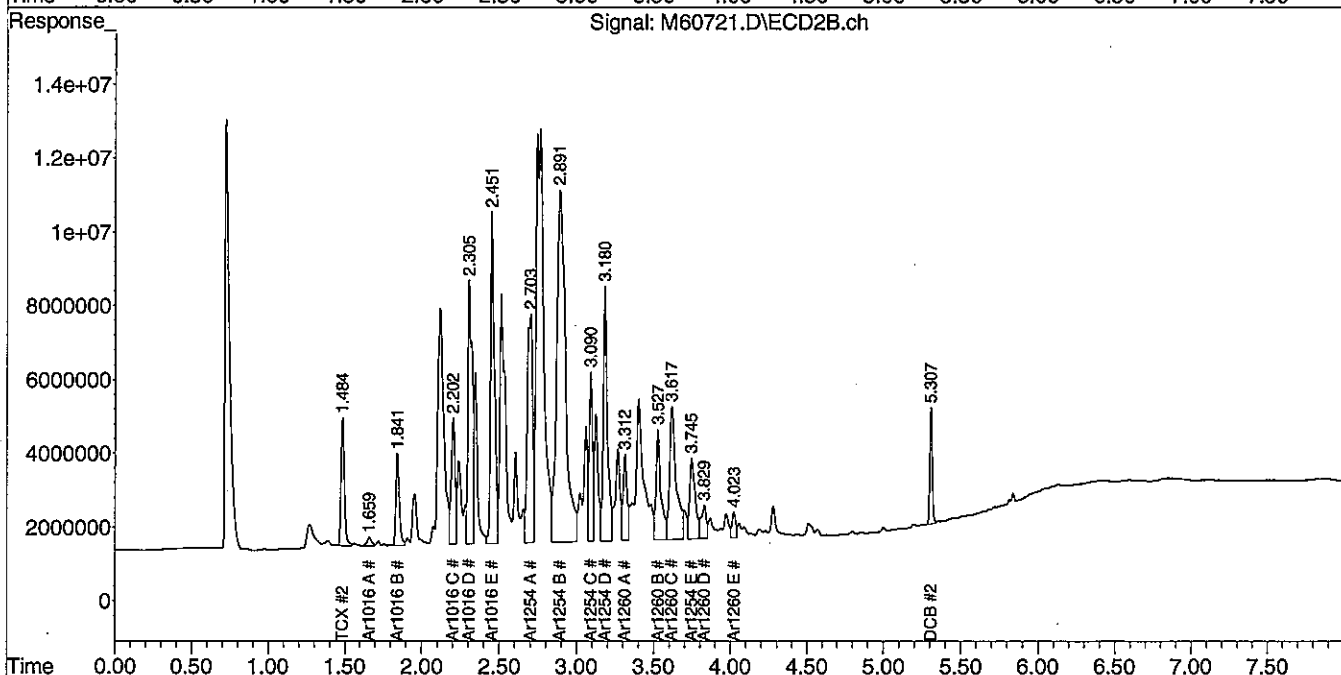
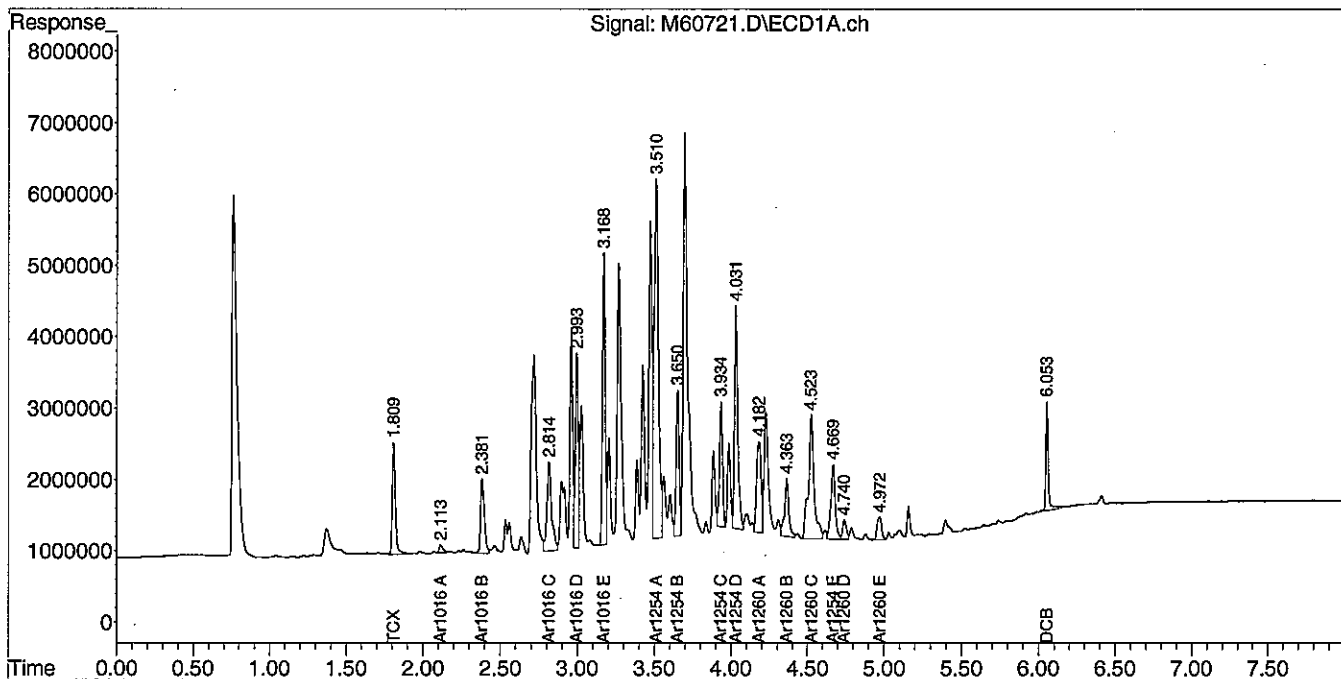
* Values outside QC limits

Comments: _____

Data Path : C:\msdchem\1\DATA\072712-M\
 Data File : M60721.D
 Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch
 Acq On : 27 Jul 2012 2:57 pm
 Operator : JK
 Sample : 73375-2,1:10,,A/C
 Misc : SOIL
 ALS Vial : 7 Sample Multiplier: 1

Integration File signal 1: events.e
 Integration File signal 2: events2.e
 Quant Time: Jul 27 16:10:43 2012
 Quant Method : C:\msdchem\1\METHODS\PCB071612.M
 Quant Title : SW-846 METHOD 8082 Aroclor 1016/1260/1254
 QLast Update : Wed Jul 25 09:13:32 2012
 Response via : Initial Calibration
 Integrator: ChemStation

Volume Inj. : 2 uL
 Signal #1 Phase : STX-CLPPesticides Signal #2 Phase: STX-CLPPesticides
 Signal #1 Info : 30 m x 0.25mm x 0 Signal #2 Info : 30 m x 0.25mm x 0.25 um



Ms. Amy Wallace
Woodard & Curran
41 Hutchins Drive
Portland ME 04102

July 27, 2012

SAMPLE DATA

CLIENT SAMPLE ID

Project Name: USM Science Wing A

Project Number: 225894

Field Sample ID: SWA-CBK-003

Lab Sample ID: 73375-3

Matrix: Solid

Percent Solid: 99

Dilution Factor: 243

Collection Date: 07/19/12

Lab Receipt Date: 07/20/12

Extraction Date: 07/23/12

Analysis Date: 07/26/12

PCB ANALYTICAL RESULTS		
COMPOUND	Quantitation Limit $\mu\text{g}/\text{kg}$	Results $\mu\text{g}/\text{kg}$
PCB-1016	8020	U
PCB-1221	8020	U
PCB-1232	8020	U
PCB-1242	8020	U
PCB-1248	8020	U
PCB-1254	8020	144000
PCB-1260	8020	U
Surrogate Standard Recovery		
2,4,5,6-Tetrachloro-m-xylene	*	%
Decachlorobiphenyl	*	%
U=Undetected J=Estimated E=Exceeds Calibration Range B=Detected in Blank		

METHODOLOGY: Sample analysis conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 8082.
Sample preparation conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 3540C.
Sample cleanup was conducted according to SW-846 Method 3665A.

COMMENTS: Results are expressed on a dry weight basis.
* The surrogates were diluted out.

PCB Report

Authorized signature



PCB
COLUMN RELATIVE PERCENT DIFFERENCE

Instrument ID: M
GC Column #1: STX-CLPesticides I
Column ID: 0.25 mm
GC Column #2: STX-CLPesticides II
Column ID: 0.25 mm

SDG: 73375
Sample: 73375-3,1:25,,A/C
Data File: M60707.D
Dilution Factor: 243.0

COMPOUND	Column #1	Column #2	RPD	#
	SAMPLE RESULT (ug/kg)	SAMPLE RESULT (ug/kg)		
PCB 1254	142384	143685	0.9	

Column to be used to flag RPD values greater than QC limit of 40%

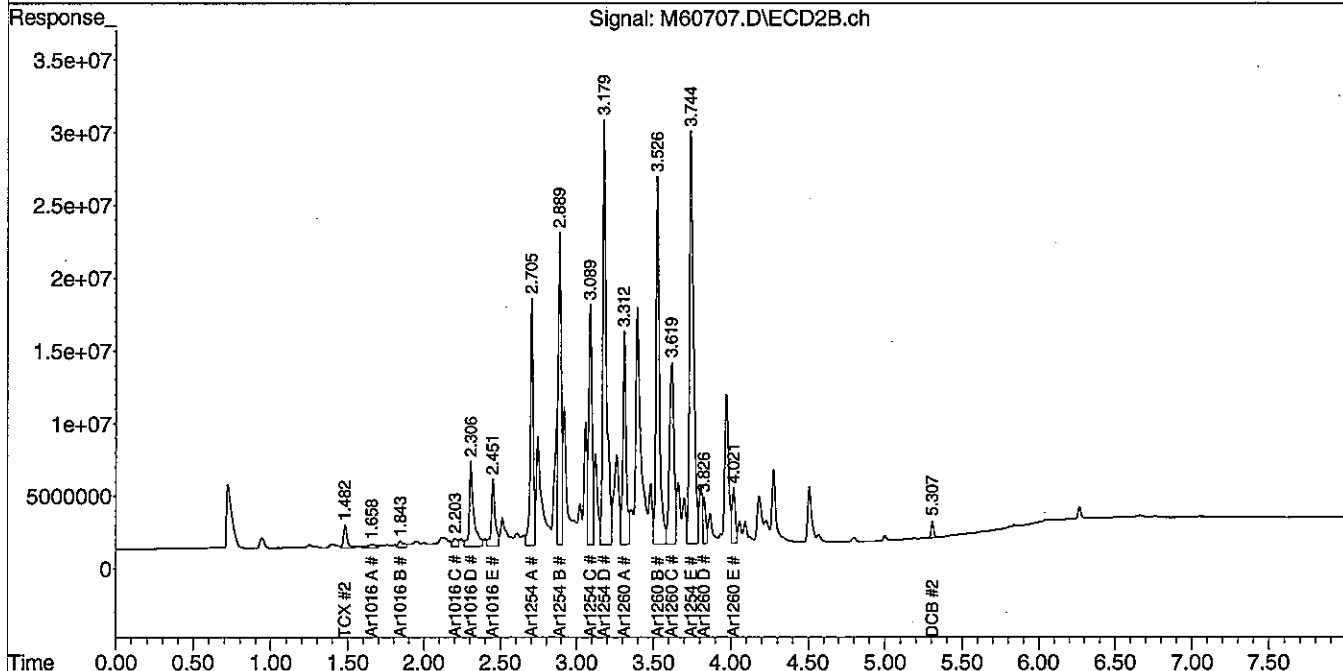
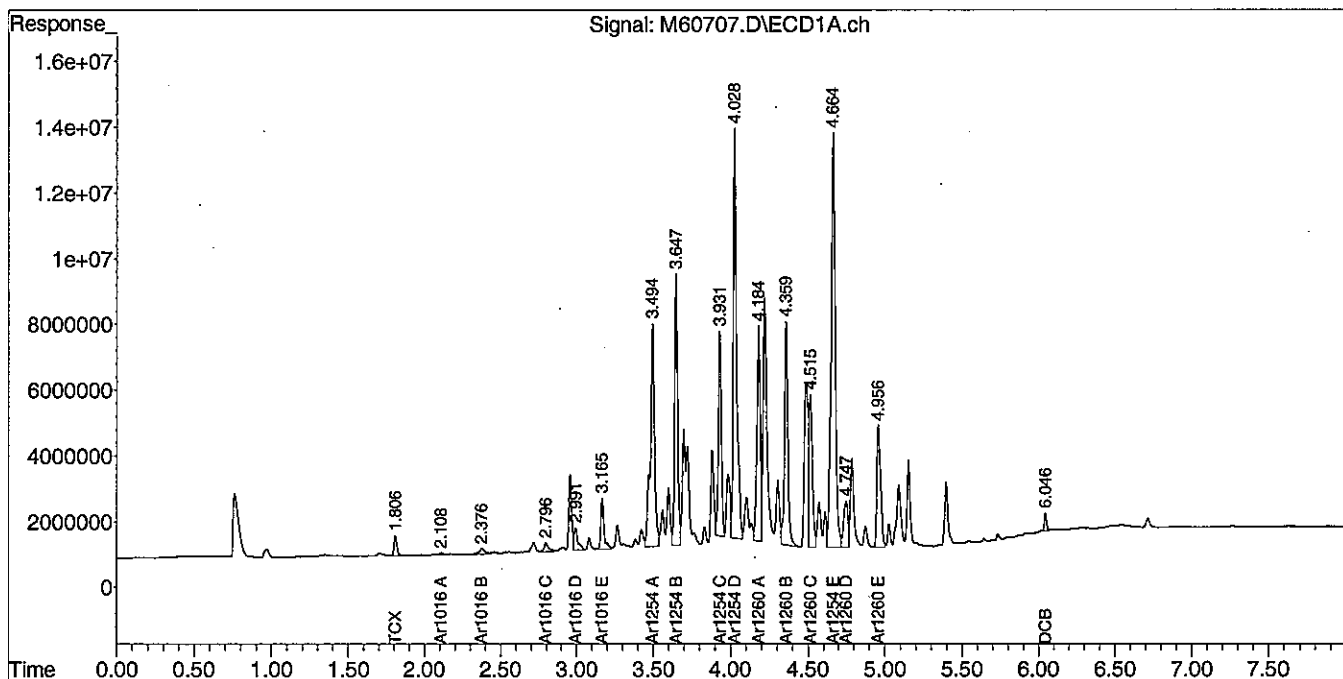
* Values outside QC limits

Comments: _____

Data Path : C:\msdchem\1\DATA\072612-M\
 Data File : M60707.D
 Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch
 Acq On : 26 Jul 2012 8:42 pm
 Operator : JK
 Sample : 73375-3,1:25,,A/C
 Misc : SOIL
 ALS Vial : 30 Sample Multiplier: 1

Integration File signal 1: events.e
 Integration File signal 2: events2.e
 Quant Time: Jul 27 14:46:26 2012
 Quant Method : C:\msdchem\1\METHODS\PCB071612.M
 Quant Title : SW-846 METHOD 8082 Aroclor 1016/1260/1254
 QLast Update : Wed Jul 25 09:13:32 2012
 Response via : Initial Calibration
 Integrator: ChemStation

Volume Inj. : 2 uL
 Signal #1 Phase : STX-CLPPesticides Signal #2 Phase: STX-CLPPesticides
 Signal #1 Info : 30 m x 0.25mm x 0 Signal #2 Info : 30 m x 0.25mm x 0.25 um



Ms. Amy Wallace
Woodard & Curran
41 Hutchins Drive
Portland ME 04102

July 27, 2012

SAMPLE DATA

CLIENT SAMPLE ID


Project Name: USM Science Wing A
Project Number: 225894
Field Sample ID: SWA-CBK-004

Lab Sample ID: 73375-4
Matrix: Solid
Percent Solid: 99
Dilution Factor: 7
Collection Date: 07/19/12
Lab Receipt Date: 07/20/12
Extraction Date: 07/23/12
Analysis Date: 07/25/12

PCB ANALYTICAL RESULTS		
COMPOUND	Quantitation Limit $\mu\text{g}/\text{kg}$	Results $\mu\text{g}/\text{kg}$
PCB-1016	231	U
PCB-1221	231	U
PCB-1232	231	U
PCB-1242	231	U
PCB-1248	231	U
PCB-1254	231	U
PCB-1260	231	U
Surrogate Standard Recovery		
2,4,5,6-Tetrachloro-m-xylene	58	%
Decachlorobiphenyl	83	%
U=Undetected J=Estimated E=Exceeds Calibration Range B=Detected in Blank		

METHODOLOGY: Sample analysis conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 8082.
Sample preparation conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 3540C.
Sample cleanup was conducted according to SW-846 Method 3665A.

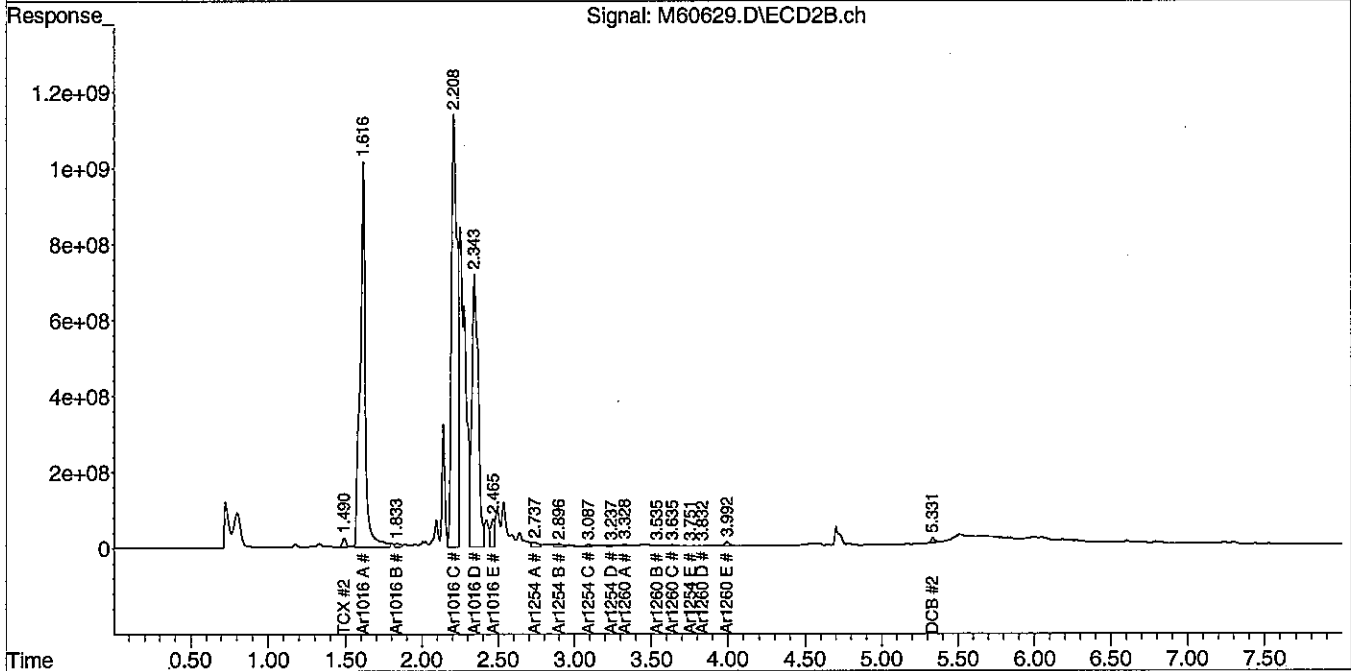
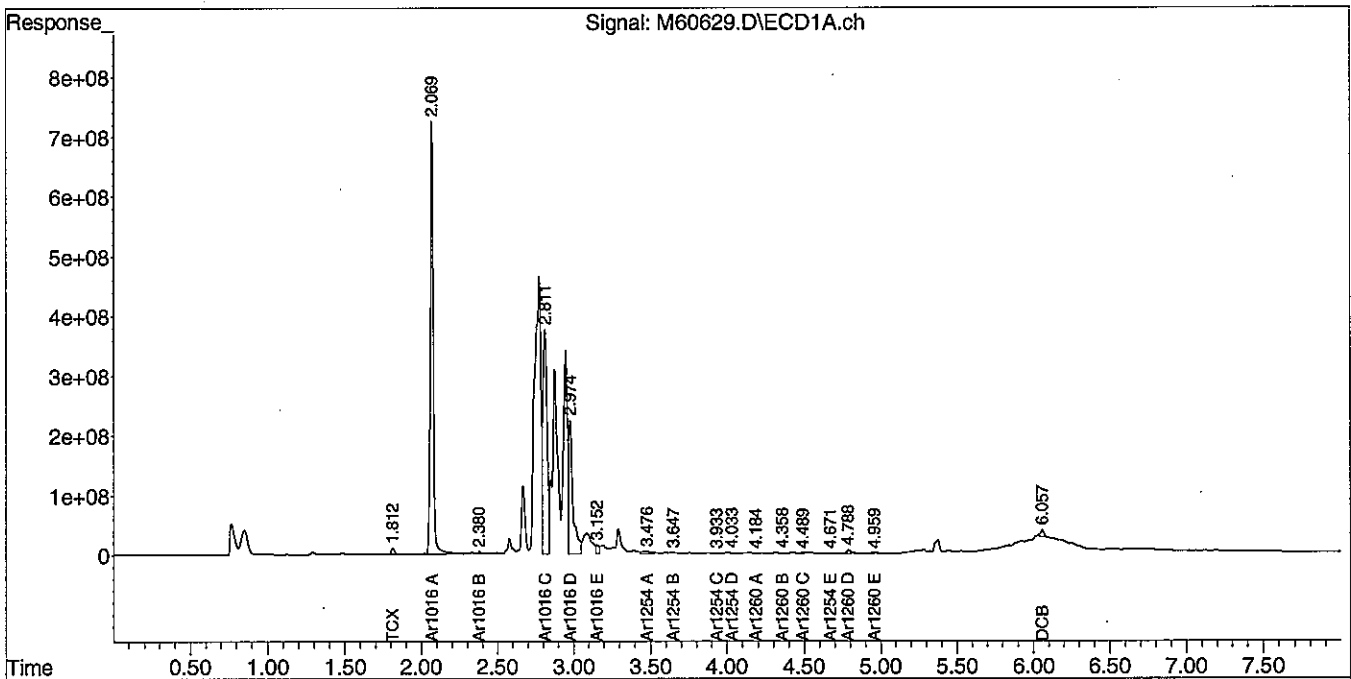
COMMENTS: Results are expressed on a dry weight basis.

Authorized signature 

Data Path : C:\msdchem\1\DATA\072512-M\
 Data File : M60629.D
 Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch
 Acq On : 25 Jul 2012 9:53 pm
 Operator : JK
 Sample : 73375-4,,A/C
 Misc : SOIL
 ALS Vial : 34 Sample Multiplier: 1

Integration File signal 1: events.e
 Integration File signal 2: events2.e
 Quant Time: Jul 27 11:35:14 2012
 Quant Method : C:\msdchem\1\METHODS\PCB071612.M
 Quant Title : SW-846 METHOD 8082 Aroclor 1016/1260/1254
 QLast Update : Wed Jul 25 09:13:31 2012
 Response via : Initial Calibration
 Integrator: ChemStation

Volume Inj. : 2 uL
 Signal #1 Phase : STX-CLPPesticides Signal #2 Phase: STX-CLPPesticides
 Signal #1 Info : 30 m x 0.25mm x 0 Signal #2 Info : 30 m x 0.25mm x 0.25 um



Ms. Amy Wallace
Woodard & Curran
41 Hutchins Drive
Portland ME 04102

July 27, 2012

SAMPLE DATA

CLIENT SAMPLE ID
Project Name: USM Science Wing A
Project Number: 225894
Field Sample ID: SWA-CBK-005

Lab Sample ID: 73375-5
Matrix: Solid
Percent Solid: 99
Dilution Factor: 8
Collection Date: 07/19/12
Lab Receipt Date: 07/20/12
Extraction Date: 07/23/12
Analysis Date: 07/25/12

PCB ANALYTICAL RESULTS		
COMPOUND	Quantitation Limit $\mu\text{g}/\text{kg}$	Results $\mu\text{g}/\text{kg}$
PCB-1016	264	U
PCB-1221	264	U
PCB-1232	264	U
PCB-1242	264	U
PCB-1248	264	U
PCB-1254	264	U
PCB-1260	264	U
<u>Surrogate Standard Recovery</u>		
2,4,5,6-Tetrachloro-m-xylene	58	%
Decachlorobiphenyl	68	%
U=Undetected J=Estimated E=Exceeds Calibration Range B=Detected in Blank		

METHODOLOGY: Sample analysis conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 8082.
Sample preparation conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 3540C.
Sample cleanup was conducted according to SW-846 Method 3665A.

COMMENTS: Results are expressed on a dry weight basis.

PCB Report

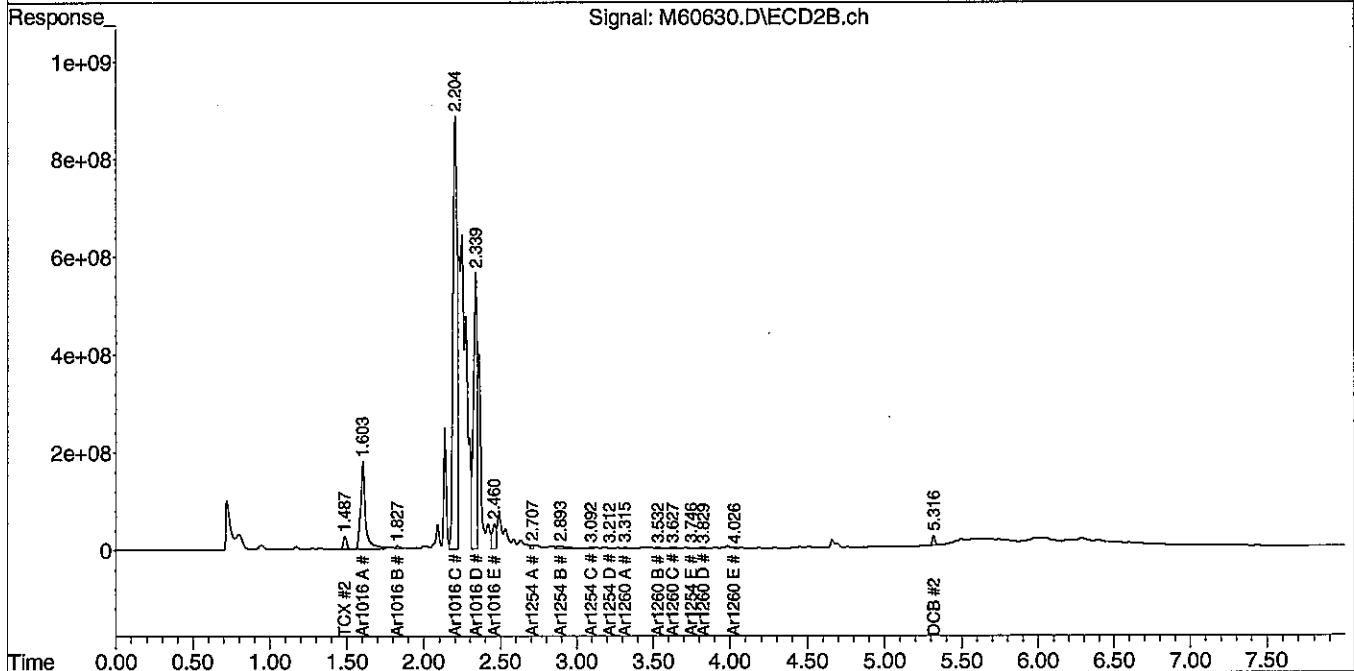
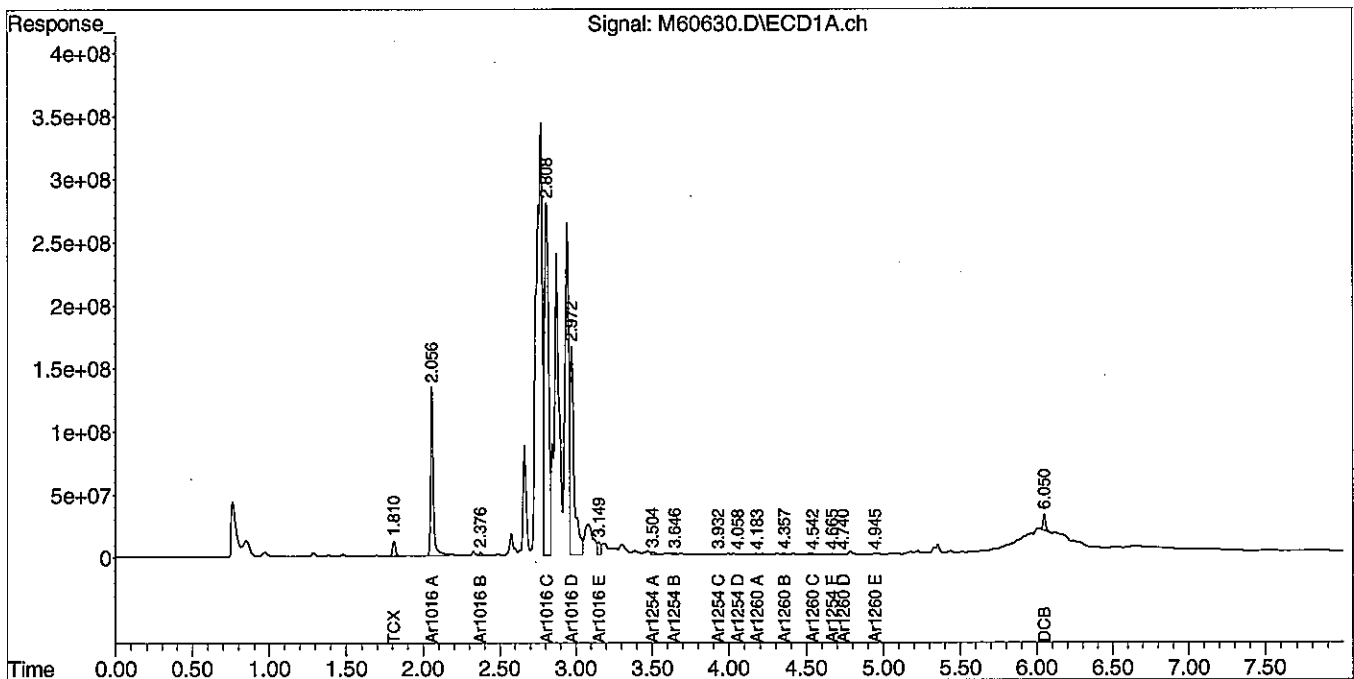
Authorized signature



Data Path : C:\msdchem\1\DATA\072512-M\
 Data File : M60630.D
 Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch
 Acq On : 25 Jul 2012 10:03 pm
 Operator : JK
 Sample : 73375-5,,A/C
 Misc : SOIL
 ALS Vial : 35 Sample Multiplier: 1

Integration File signal 1: events.e
 Integration File signal 2: events2.e
 Quant Time: Jul 27 11:35:54 2012
 Quant Method : C:\msdchem\1\METHODS\PCB071612.M
 Quant Title : SW-846 METHOD 8082 Aroclor 1016/1260/1254
 QLast Update : Wed Jul 25 09:13:31 2012
 Response via : Initial Calibration
 Integrator: ChemStation

Volume Inj. : 2 uL
 Signal #1 Phase : STX-CLPPesticides Signal #2 Phase: STX-CLPPesticides
 Signal #1 Info : 30 m x 0.25mm x 0 Signal #2 Info : 30 m x 0.25mm x 0.25 um



Ms. Amy Wallace
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41 Hutchins Drive
Portland ME 04102

July 27, 2012

SAMPLE DATA

CLIENT SAMPLE ID

Project Name: USM Science Wing A
Project Number: 225894
Field Sample ID: SWA-CBK-006

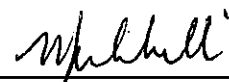
Lab Sample ID: 73375-6
Matrix: Solid
Percent Solid: 99
Dilution Factor: 46
Collection Date: 07/19/12
Lab Receipt Date: 07/20/12
Extraction Date: 07/23/12
Analysis Date: 07/25/12

PCB ANALYTICAL RESULTS

COMPOUND	Quantitation Limit $\mu\text{g}/\text{kg}$	Results $\mu\text{g}/\text{kg}$
PCB-1016	1520	U
PCB-1221	1520	U
PCB-1232	1520	U
PCB-1242	1520	U
PCB-1248	1520	U
PCB-1254	1520	7620
PCB-1260	1520	U
Surrogate Standard Recovery		
2,4,5,6-Tetrachloro-m-xylene	62	%
Decachlorobiphenyl	63	%
U=Undetected J=Estimated E=Exceeds Calibration Range B=Detected in Blank		

METHODOLOGY: Sample analysis conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 8082.
Sample preparation conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 3540C.
Sample cleanup was conducted according to SW-846 Method 3665A.

COMMENTS: Results are expressed on a dry weight basis.



PCB
COLUMN RELATIVE PERCENT DIFFERENCE

Instrument ID: M
GC Column #1: STX-CLPesticides I
Column ID: 0.25 mm
GC Column #2: STX-CLPesticides II
Column ID: 0.25 mm

SDG: 73375
Sample: 73375-6,1:5,,A/C
Data File: M60631.D
Dilution Factor: 46.2

COMPOUND	Column #1	Column #2	RPD	#
	SAMPLE RESULT (ug/kg)	SAMPLE RESULT (ug/kg)		
PCB 1254	6339	7618	18.3	

Column to be used to flag RPD values greater than QC limit of 40%

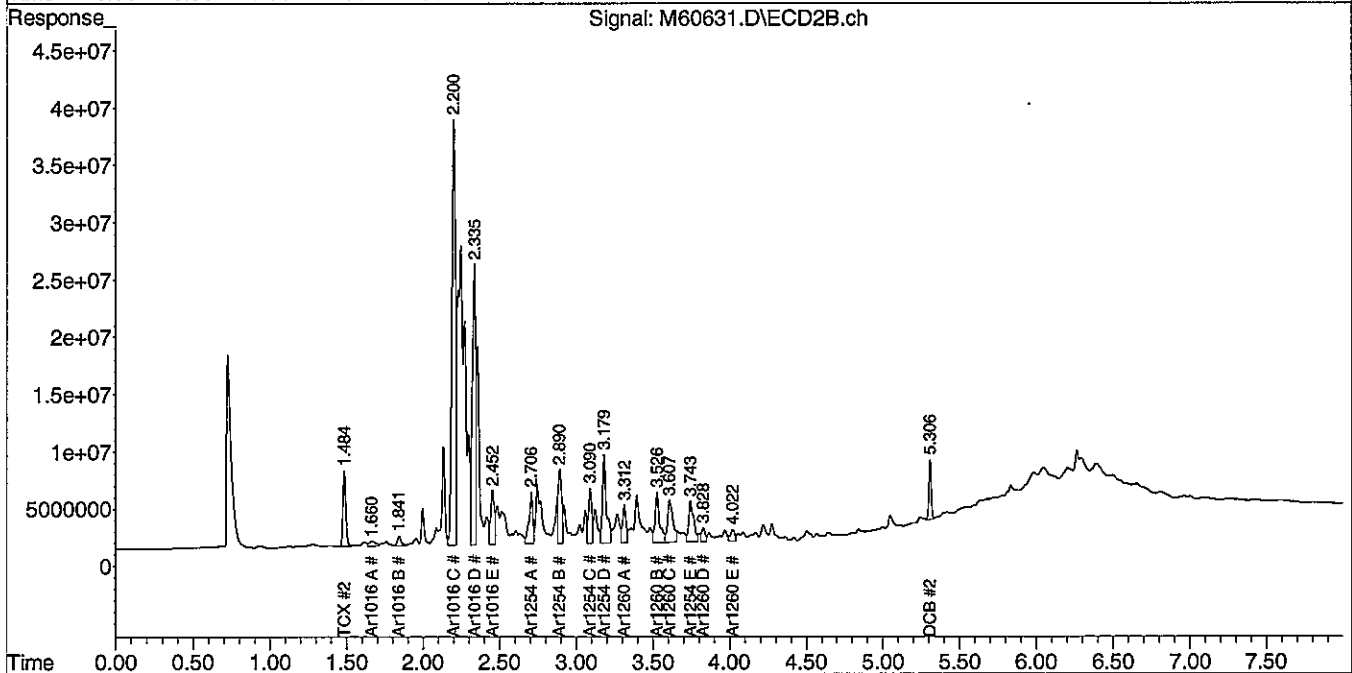
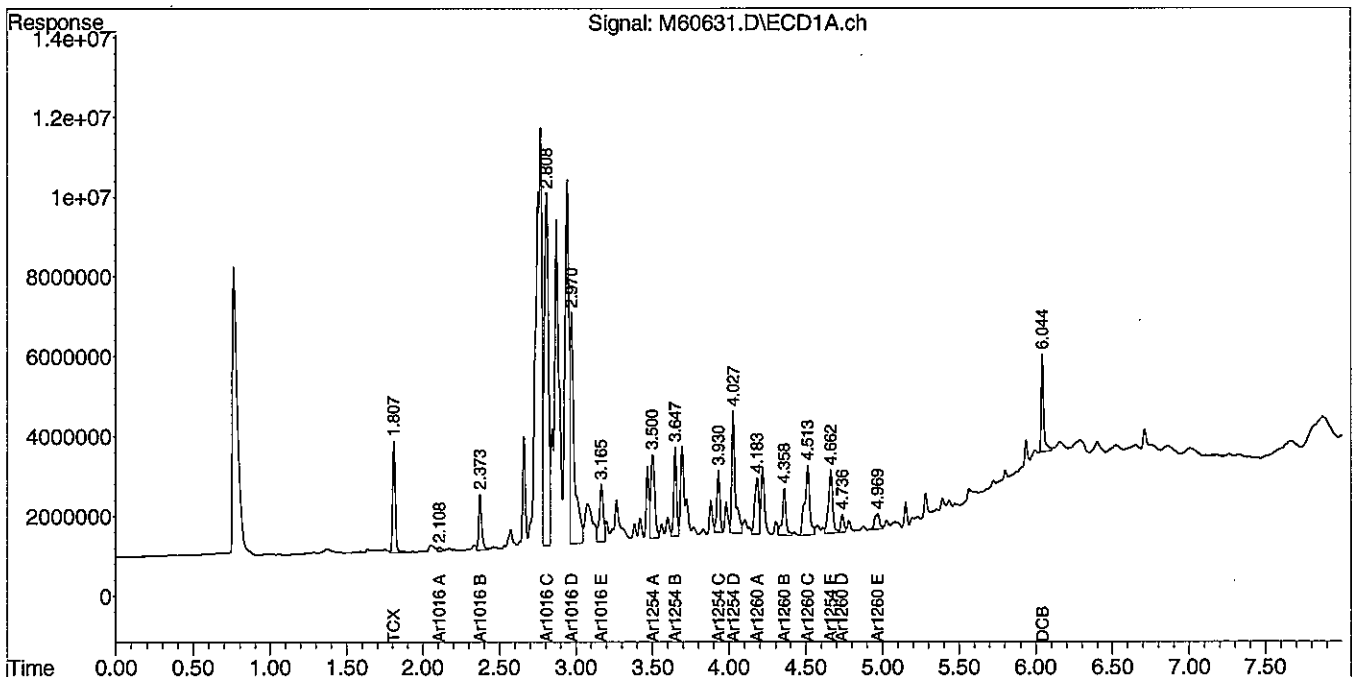
* Values outside QC limits

Comments: _____

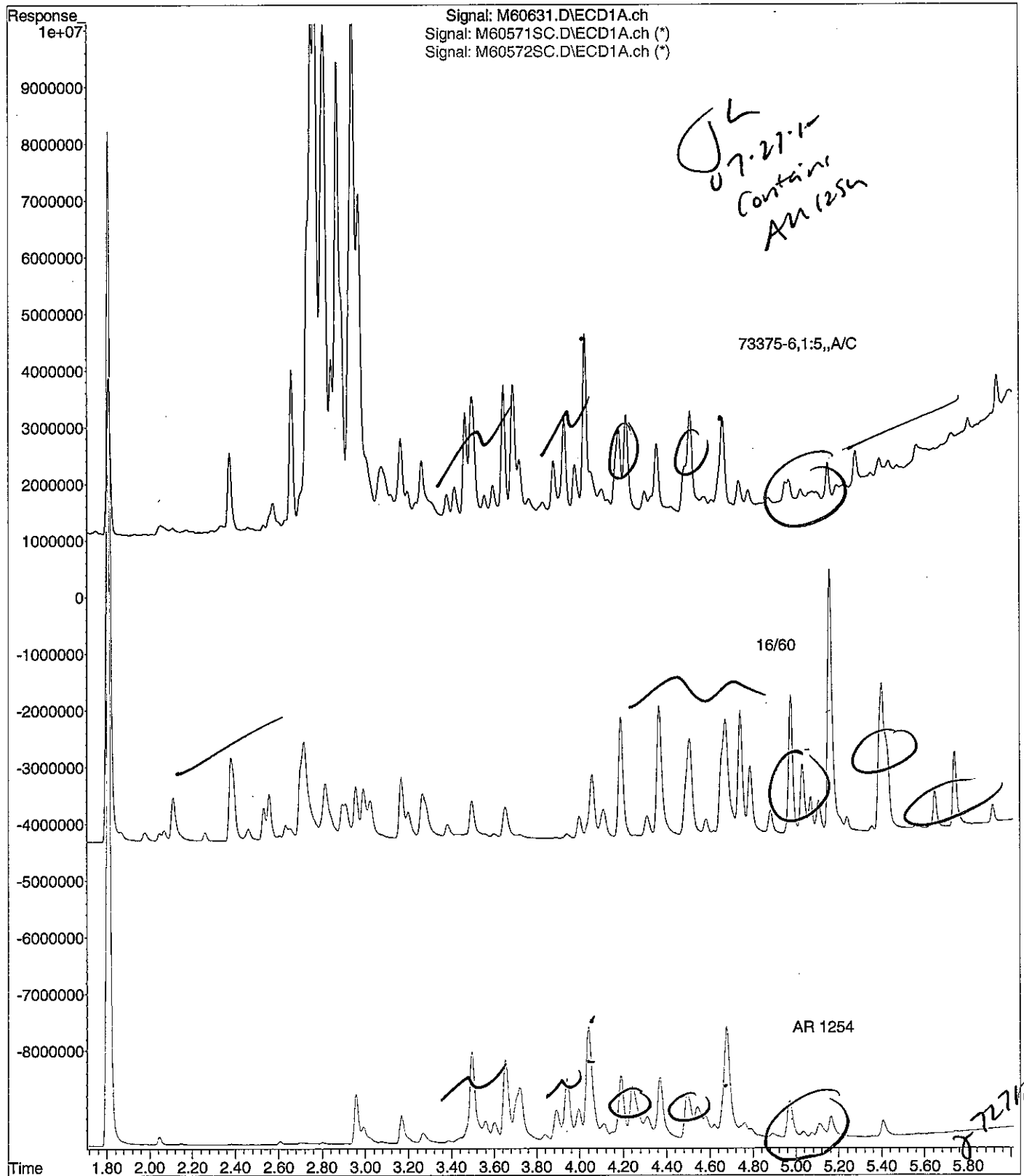
Data Path : C:\msdchem\1\DATA\072512-M\
 Data File : M60631.D
 Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch
 Acq On : 25 Jul 2012 10:13 pm
 Operator : JK
 Sample : 73375-6,1:5,,A/C
 Misc : SOIL
 ALS Vial : 36 Sample Multiplier: 1

Integration File signal 1: events.e
 Integration File signal 2: events2.e
 Quant Time: Jul 27 11:38:09 2012
 Quant Method : C:\msdchem\1\METHODS\PCB071612.M
 Quant Title : SW-846 METHOD 8082 Aroclor 1016/1260/1254
 QLast Update : Wed Jul 25 09:13:31 2012
 Response via : Initial Calibration
 Integrator: ChemStation

Volume Inj. : 2 uL
 Signal #1 Phase : STX-CLPPesticides Signal #2 Phase: STX-CLPPesticides
 Signal #1 Info : 30 m x 0.25mm x 0 Signal #2 Info : 30 m x 0.25mm x 0.25 um



File :C:\msdchem\1\DATA\072512-M\M60631.D
Operator : JK
Acquired : 25 Jul 2012 10:13 pm using AcqMethod PCB.M
Instrument : Instrument M
Sample Name: 73375-6,1:5,,A/C
Misc Info : SOIL
Vial Number: 36



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July 27, 2012

SAMPLE DATA

CLIENT SAMPLE ID

Project Name: USM Science Wing A
Project Number: 225894
Field Sample ID: SWA-CBK-007

Lab Sample ID: 73375-7
Matrix: Solid
Percent Solid: 99
Dilution Factor: 8
Collection Date: 07/19/12
Lab Receipt Date: 07/20/12
Extraction Date: 07/23/12
Analysis Date: 07/25/12

PCB ANALYTICAL RESULTS		
COMPOUND	Quantitation Limit $\mu\text{g}/\text{kg}$	Results $\mu\text{g}/\text{kg}$
PCB-1016	264	U
PCB-1221	264	U
PCB-1232	264	U
PCB-1242	264	U
PCB-1248	264	U
PCB-1254	264	1350
PCB-1260	264	U
Surrogate Standard Recovery		
2,4,5,6-Tetrachloro-m-xylene	73	%
Decachlorobiphenyl	71	%
U=Undetected J=Estimated E=Exceeds Calibration Range B=Detected in Blank		

METHODOLOGY: Sample analysis conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 8082.
Sample preparation conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 3540C.
Sample cleanup was conducted according to SW-846 Method 3665A.

COMMENTS: Results are expressed on a dry weight basis.

PCB Report

Authorized signature



PCB
COLUMN RELATIVE PERCENT DIFFERENCE

Instrument ID: M
GC Column #1: STX-CLPesticides I
Column ID: 0.25 mm
GC Column #2: STX-CLPesticides II
Column ID: 0.25 mm

SDG: 73375
Sample: 73375-7,,A/C
Data File: M60632.D
Dilution Factor: 8.4

COMPOUND	Column #1	Column #2	RPD	#
	SAMPLE RESULT (ug/kg)	SAMPLE RESULT (ug/kg)		
PCB 1254	1353	1333	1.5	

Column to be used to flag RPD values greater than QC limit of 40%

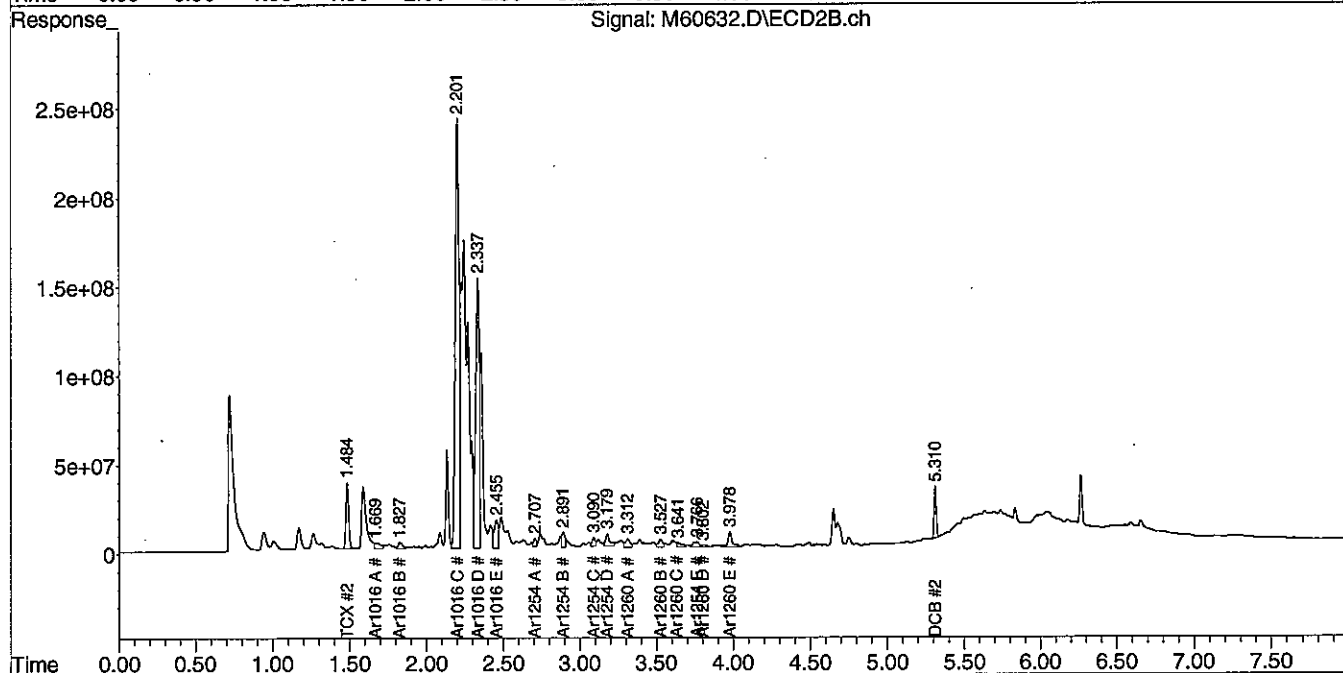
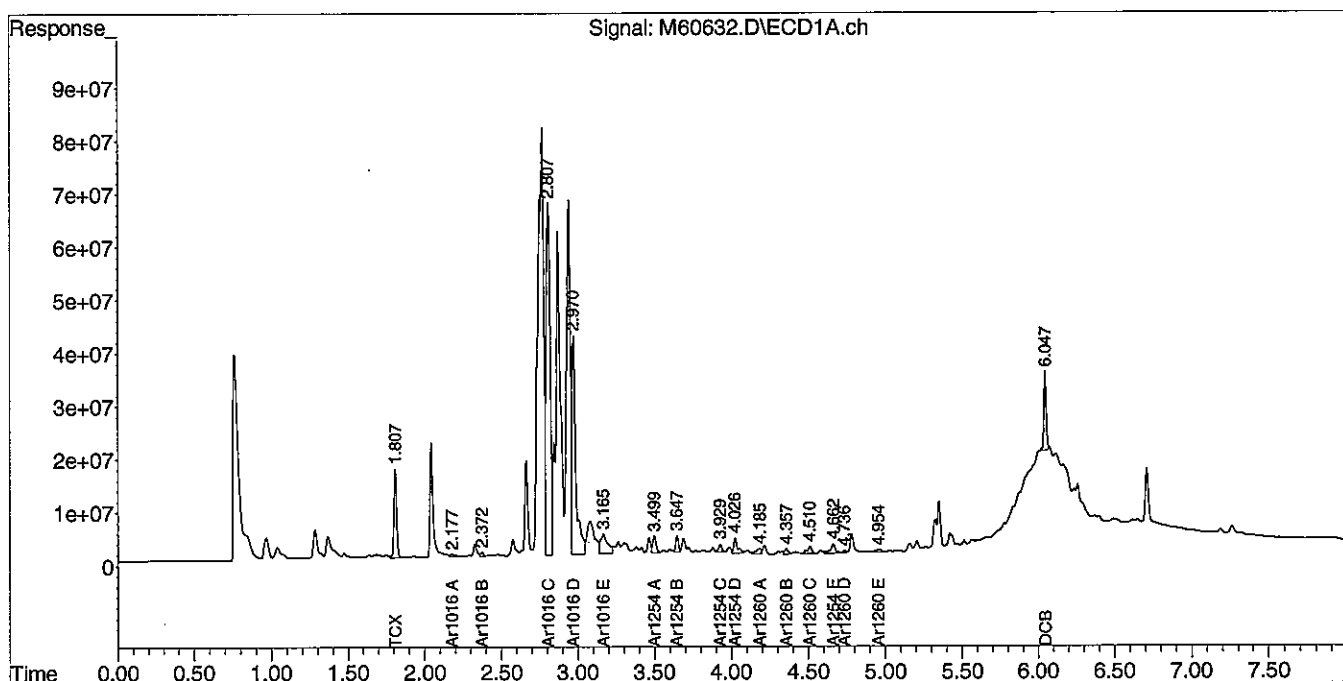
* Values outside QC limits

Comments: _____

Data Path : C:\msdchem\1\DATA\072512-M\
 Data File : M60632.D
 Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch
 Acq On : 25 Jul 2012 10:23 pm
 Operator : JK
 Sample : 73375-7,,A/C
 Misc : SOIL
 ALS Vial : 37 Sample Multiplier: 1

Integration File signal 1: events.e
 Integration File signal 2: events2.e
 Quant Time: Jul 27 11:40:38 2012
 Quant Method : C:\msdchem\1\METHODS\PCB071612.M
 Quant Title : SW-846 METHOD 8082 Aroclor 1016/1260/1254
 QLast Update : Wed Jul 25 09:13:31 2012
 Response via : Initial Calibration
 Integrator: ChemStation

Volume Inj. : 2 uL
 Signal #1 Phase : STX-CLPPesticides Signal #2 Phase: STX-CLPPesticides
 Signal #1 Info : 30 m x 0.25mm x 0 Signal #2 Info : 30 m x 0.25mm x 0.25 um



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July 27, 2012

SAMPLE DATA

CLIENT SAMPLE ID

Project Name: USM Science Wing A
Project Number: 225894
Field Sample ID: SWA-CBKD-008

Lab Sample ID: 73375-8
Matrix: Solid
Percent Solid: 99
Dilution Factor: 8
Collection Date: 07/19/12
Lab Receipt Date: 07/20/12
Extraction Date: 07/23/12
Analysis Date: 07/25/12

PCB ANALYTICAL RESULTS

COMPOUND	Quantitation Limit $\mu\text{g}/\text{kg}$	Results $\mu\text{g}/\text{kg}$
PCB-1016	264	U
PCB-1221	264	U
PCB-1232	264	U
PCB-1242	264	U
PCB-1248	264	U
PCB-1254	264	U
PCB-1260	264	U
Surrogate Standard Recovery		
2,4,5,6-Tetrachloro-m-xylene	64	%
Decachlorobiphenyl	93	%
U=Undetected J=Estimated E=Exceeds Calibration Range B=Detected in Blank		

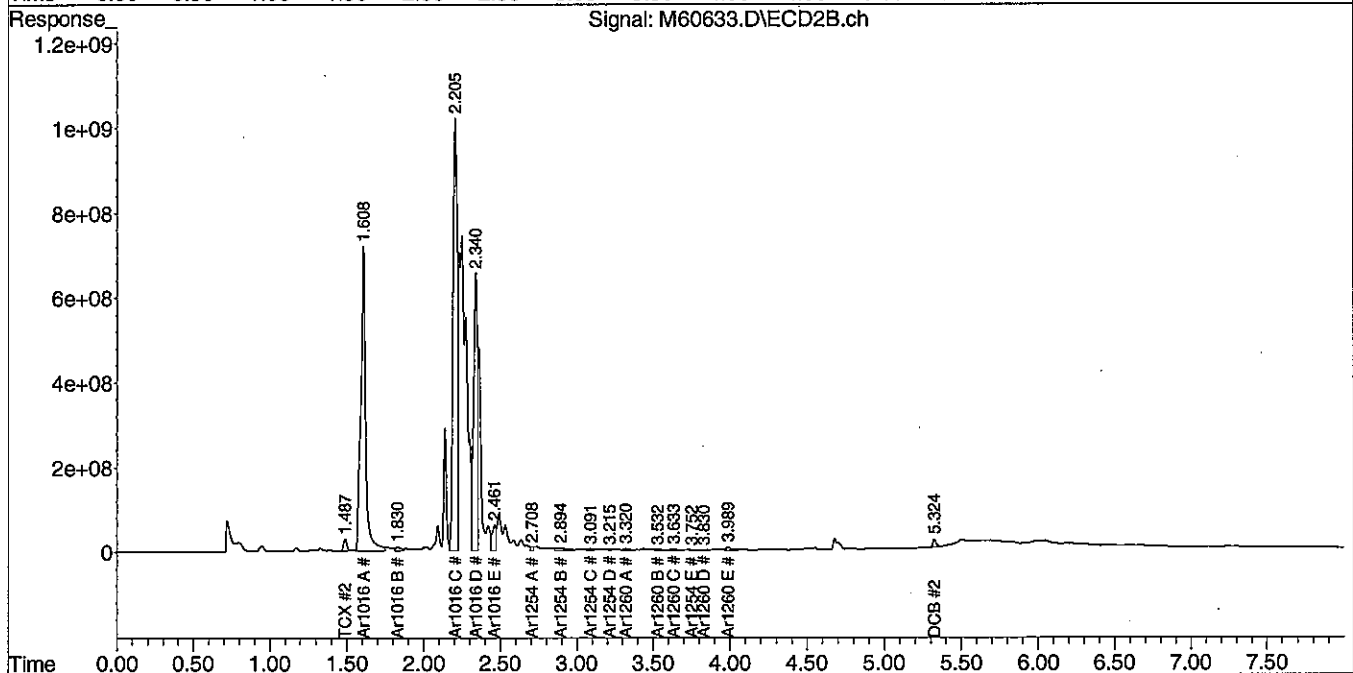
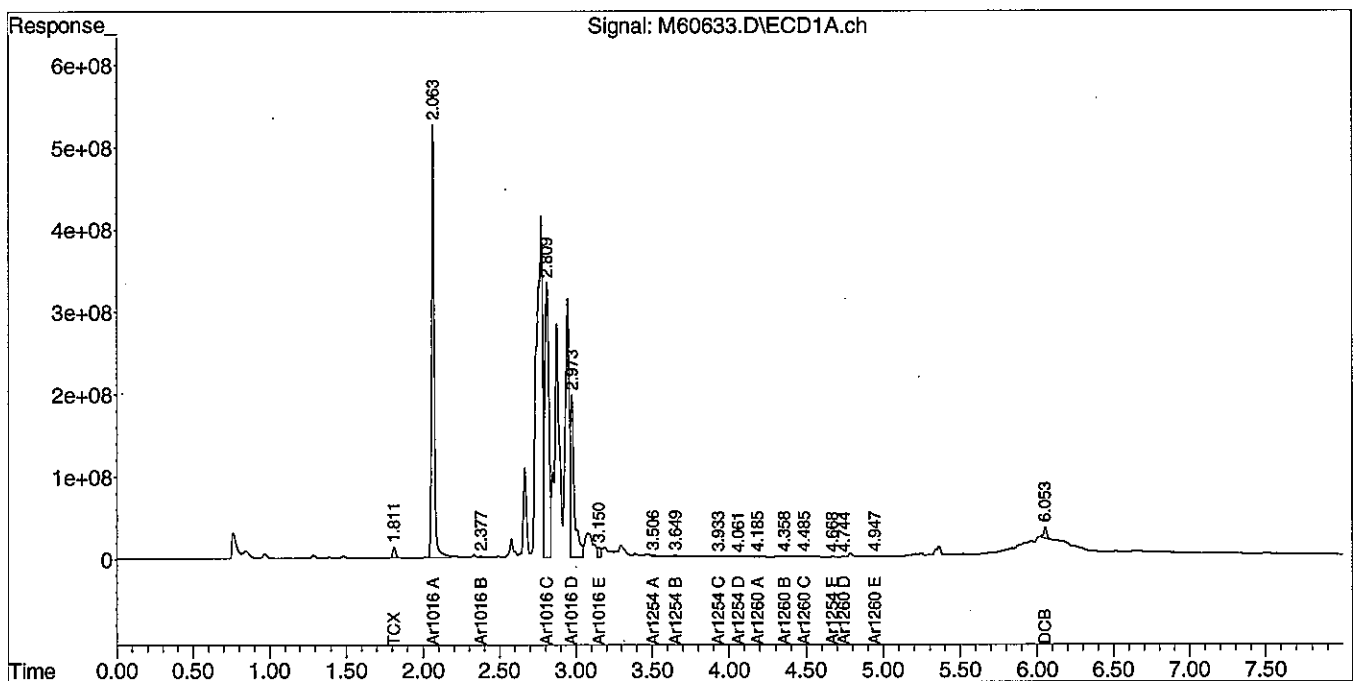
METHODOLOGY: Sample analysis conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 8082.
Sample preparation conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 3540C.
Sample cleanup was conducted according to SW-846 Method 3665A.

COMMENTS: Results are expressed on a dry weight basis.

Data Path : C:\msdchem\1\DATA\072512-M\
 Data File : M60633.D
 Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch
 Acq On : 25 Jul 2012 10:33 pm
 Operator : JK
 Sample : 73375-8,,A/C
 Misc : SOIL
 ALS Vial : 38 Sample Multiplier: 1

Integration File signal 1: events.e
 Integration File signal 2: events2.e
 Quant Time: Jul 27 11:42:29 2012
 Quant Method : C:\msdchem\1\METHODS\PCB071612.M
 Quant Title : SW-846 METHOD 8082 Aroclor 1016/1260/1254
 QLast Update : Wed Jul 25 09:13:31 2012
 Response via : Initial Calibration
 Integrator: ChemStation

Volume Inj. : 2 uL
 Signal #1 Phase : STX-CLPPesticides Signal #2 Phase: STX-CLPPesticides
 Signal #1 Info : 30 m x 0.25mm x 0 Signal #2 Info : 30 m x 0.25mm x 0.25 um



PCB
QC FORMS

Ms. Amy Wallace
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Portland ME 04102

July 27, 2012

SAMPLE DATA

CLIENT SAMPLE ID

Project Name: USM Science Wing A
Project Number: 225894
Field Sample ID: Lab QC

Lab Sample ID: B072312PSOX RR
Matrix: Soil
Percent Solid: 100
Dilution Factor: 1.0
Collection Date:
Lab Receipt Date:
Extraction Date: 07/23/12
Analysis Date: 07/25/12

PCB ANALYTICAL RESULTS

COMPOUND	Quantitation Limit µg/kg	Results µg/kg
PCB-1016	33	U
PCB-1221	33	U
PCB-1232	33	U
PCB-1242	33	U
PCB-1248	33	U
PCB-1254	33	U
PCB-1260	33	U
Surrogate Standard Recovery		
2,4,5,6-Tetrachloro-m-xylene	70	%
Decachlorobiphenyl	60	%
U=Undetected J=Estimated E=Exceeds Calibration Range B=Detected in Blank		

METHODOLOGY: Sample analysis conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 8082.
Sample preparation conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 3540C.
Sample cleanup was conducted according to SW-846 Method 3665A.

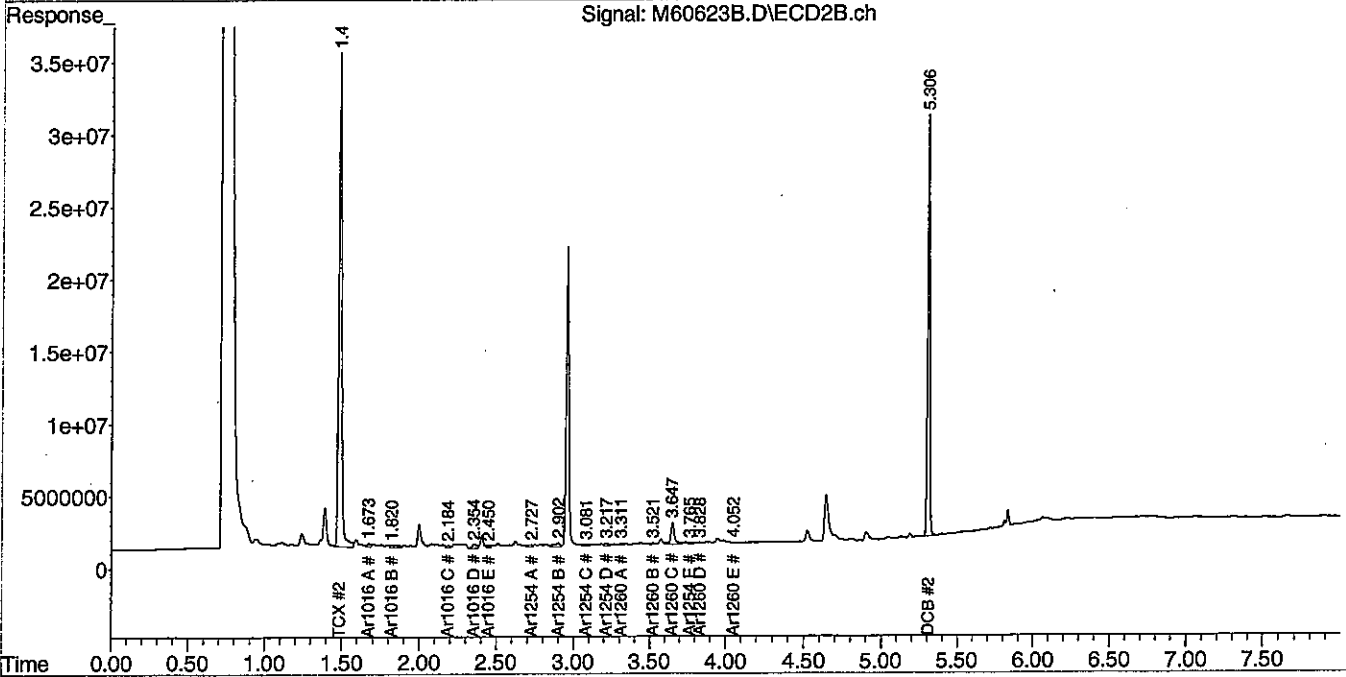
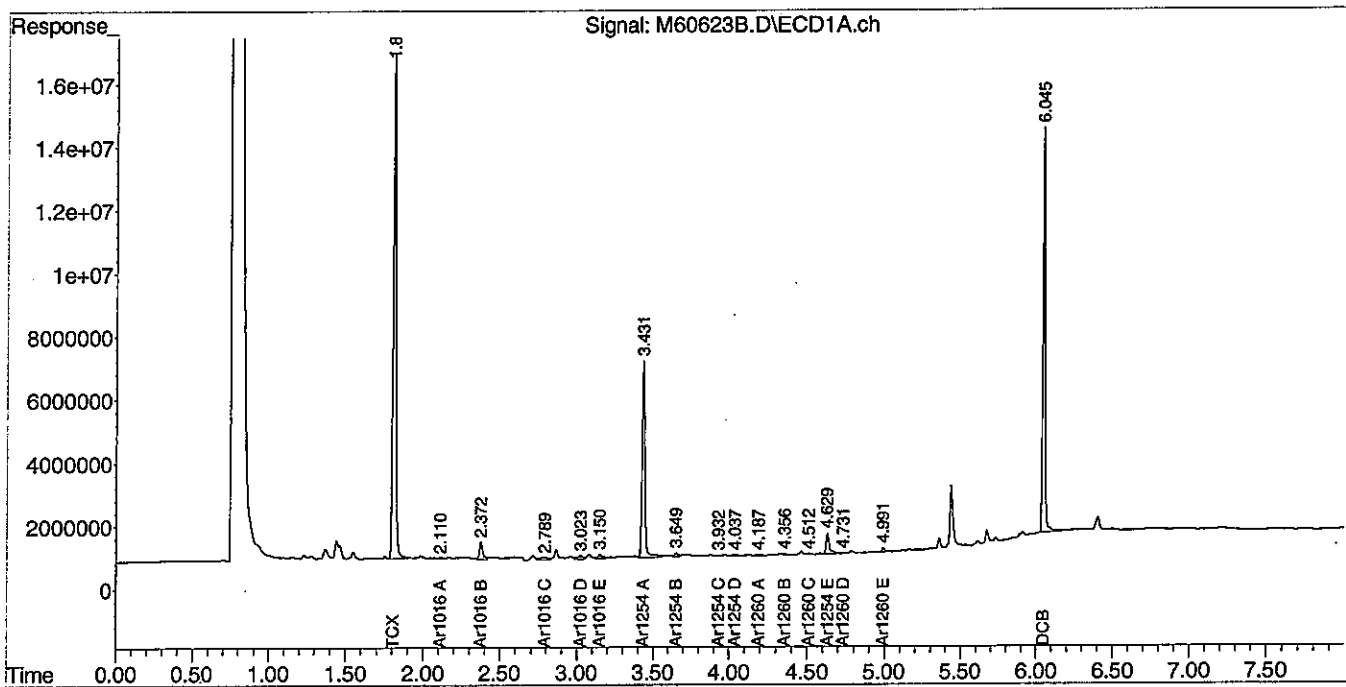
COMMENTS: Results are expressed on a dry weight basis.



Data Path : C:\msdchem\1\DATA\072512-M\
 Data File : M60623B.D
 Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch
 Acq On : 25 Jul 2012 8:53 pm
 Operator : JK
 Sample : B072312PSOX,RR,,A/C
 Misc : SOIL
 ALS Vial : 18 Sample Multiplier: 1

Integration File signal 1: events.e
 Integration File signal 2: events2.e
 Quant Time: Jul 26 16:37:42 2012
 Quant Method : C:\msdchem\1\METHODS\PCB071612.M
 Quant Title : SW-846 METHOD 8082 Aroclor 1016/1260/1254
 QLast Update : Wed Jul 25 09:13:31 2012
 Response via : Initial Calibration
 Integrator: ChemStation

Volume Inj. : 2 uL
 Signal #1 Phase : STX-CLPPesticides Signal #2 Phase: STX-CLPPesticides
 Signal #1 Info : 30 m x 0.25mm x 0 Signal #2 Info : 30 m x 0.25mm x 0.25 um



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July 27, 2012

SAMPLE DATA

CLIENT SAMPLE ID

Project Name: USM Science Wing A
Project Number: 225894
Field Sample ID: Lab QC

Lab Sample ID: B072312PSOX RR
Matrix: Soil
Percent Solid: 100
Dilution Factor: 1.0
Collection Date:
Lab Receipt Date:
Extraction Date: 07/23/12
Analysis Date: 07/26/12

PCB ANALYTICAL RESULTS		
COMPOUND	Quantitation Limit $\mu\text{g}/\text{kg}$	Results $\mu\text{g}/\text{kg}$
PCB-1016	33	U
PCB-1221	33	U
PCB-1232	33	U
PCB-1242	33	U
PCB-1248	33	U
PCB-1254	33	U
PCB-1260	33	U
Surrogate Standard Recovery		
2,4,5,6-Tetrachloro-m-xylene	68	%
Decachlorobiphenyl	65	%
U=Undetected J=Estimated E=Exceeds Calibration Range B=Detected in Blank		

METHODOLOGY: Sample analysis conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 8082.
 Sample preparation conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 3540C.
 Sample cleanup was conducted according to SW-846 Method 3665A.

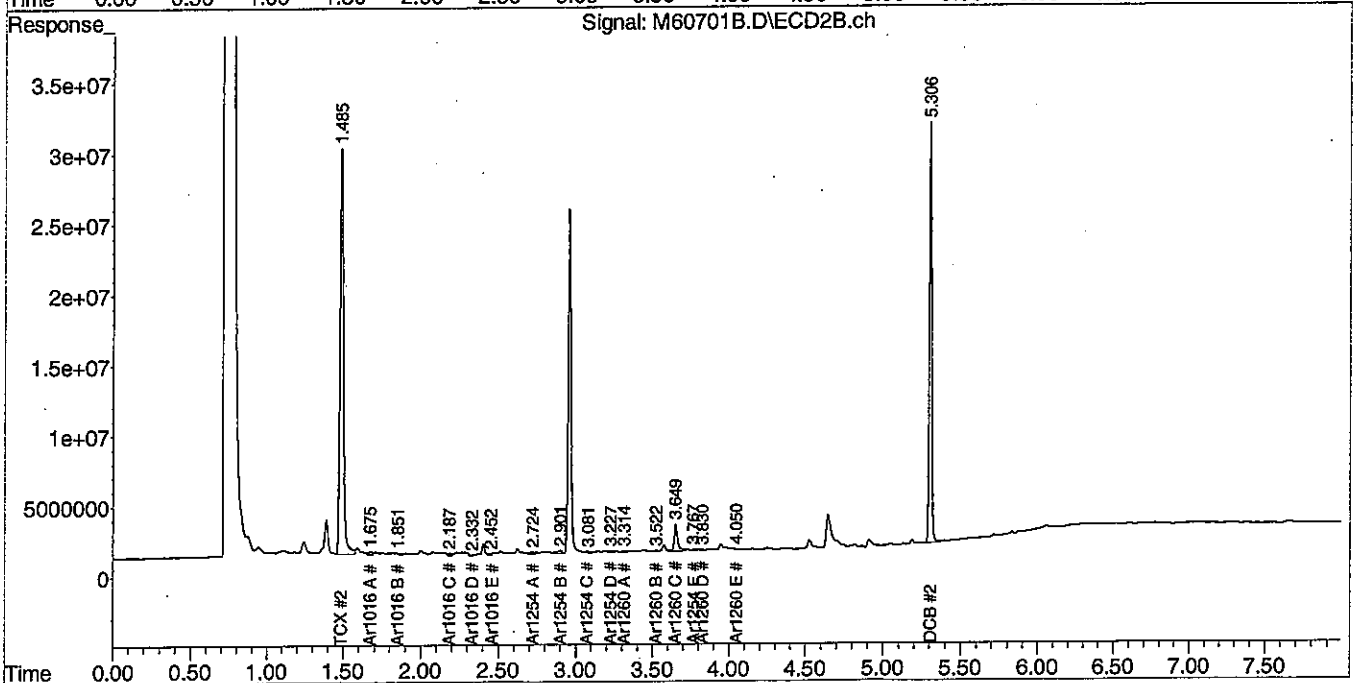
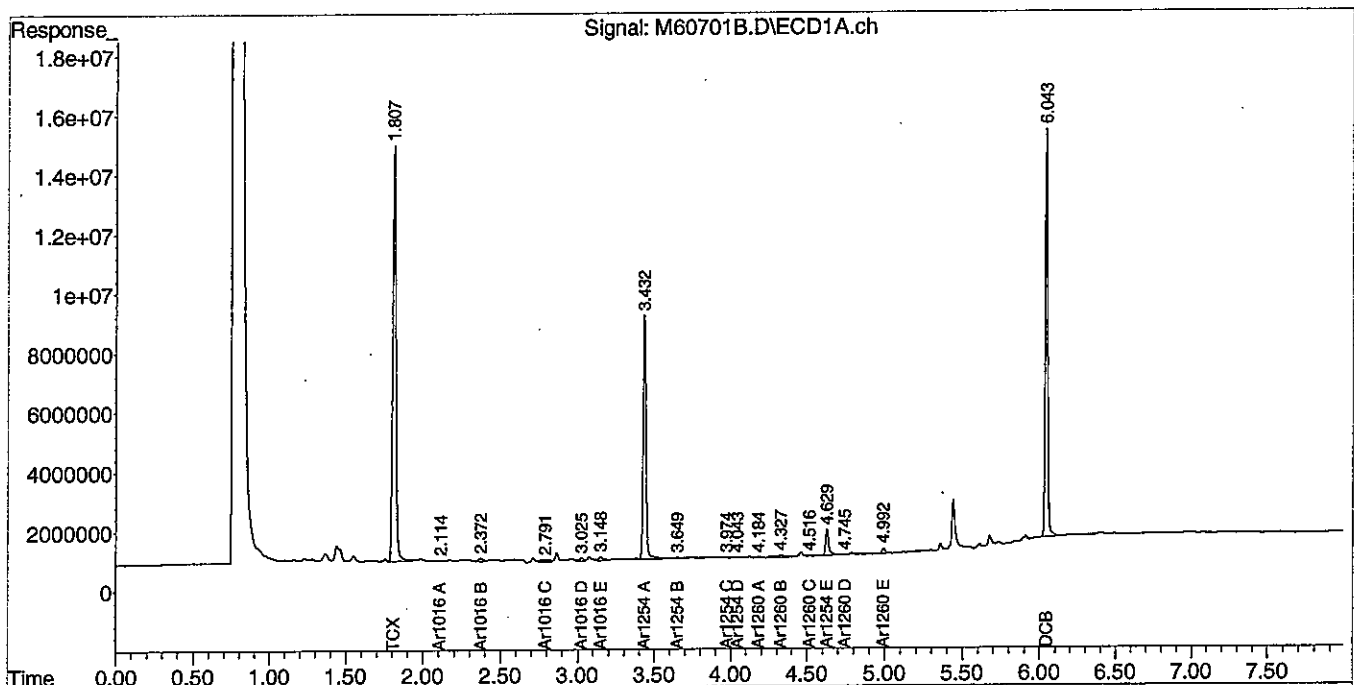
COMMENTS: Results are expressed on a dry weight basis.

Authorized signature 

Data Path : C:\msdchem\1\DATA\072612-M\
 Data File : M60701B.D
 Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch
 Acq On : 26 Jul 2012 7:42 pm
 Operator : JK
 Sample : B072312PSOX,RR2,,A/C
 Misc : SOIL
 ALS Vial : 24 Sample Multiplier: 1

Integration File signal 1: events.e
 Integration File signal 2: events2.e
 Quant Time: Jul 27 14:17:36 2012
 Quant Method : C:\msdchem\1\METHODS\PCB071612.M
 Quant Title : SW-846 METHOD 8082 Aroclor 1016/1260/1254
 QLast Update : Wed Jul 25 09:13:31 2012
 Response via : Initial Calibration
 Integrator: ChemStation

Volume Inj. : 2 uL
 Signal #1 Phase : STX-CLPPesticides Signal #2 Phase: STX-CLPPesticides
 Signal #1 Info : 30 m x 0.25mm x 0 Signal #2 Info : 30 m x 0.25mm x 0.25 mm



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Portland ME 04102

July 27, 2012

SAMPLE DATA

CLIENT SAMPLE ID
Project Name: USM Science Wing A
Project Number: 225894
Field Sample ID: Lab QC

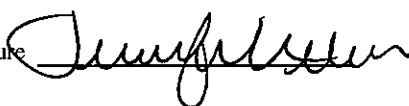
Lab Sample ID: B072312PSOX RR
Matrix: Soil
Percent Solid: 100
Dilution Factor: 1.0
Collection Date:
Lab Receipt Date:
Extraction Date: 07/23/12
Analysis Date: 07/27/12

PCB ANALYTICAL RESULTS

COMPOUND	Quantitation Limit $\mu\text{g}/\text{kg}$	Results $\mu\text{g}/\text{kg}$
PCB-1016	33	U
PCB-1221	33	U
PCB-1232	33	U
PCB-1242	33	U
PCB-1248	33	U
PCB-1254	33	U
PCB-1260	33	U
Surrogate Standard Recovery		
2,4,5,6-Tetrachloro-m-xylene	75	%
Decachlorobiphenyl	69	%
U=Undetected J=Estimated E=Exceeds Calibration Range B=Detected in Blank		

METHODOLOGY: Sample analysis conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 8082.
Sample preparation conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 3540C.
Sample cleanup was conducted according to SW-846 Method 3665A.

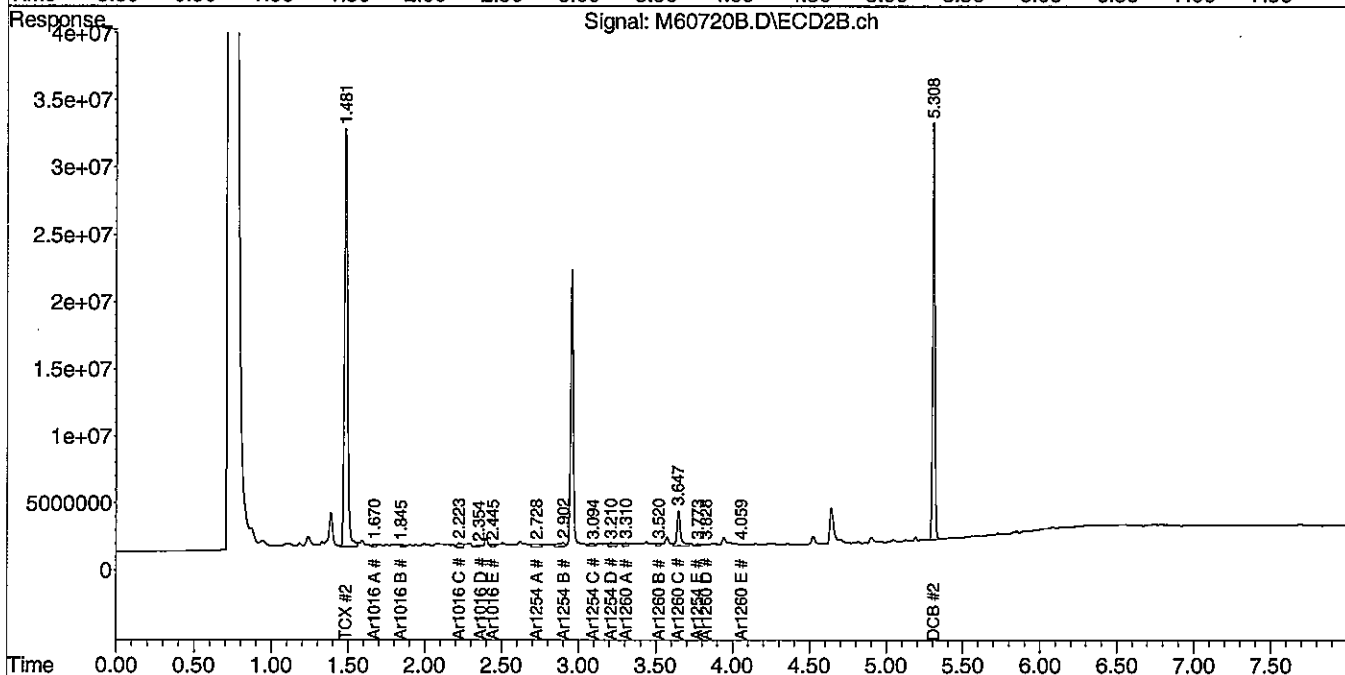
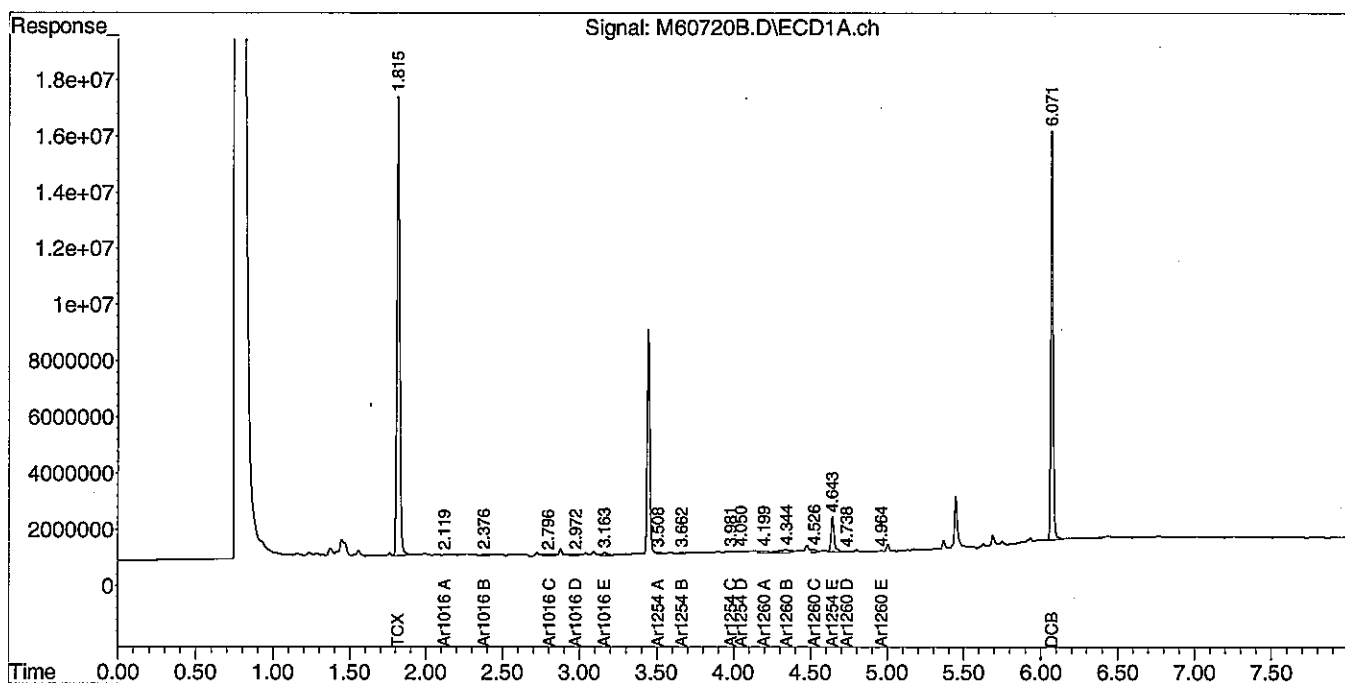
COMMENTS: Results are expressed on a dry weight basis.

Authorized signature 

Data Path : C:\msdchem\1\DATA\072712-M\
 Data File : M60720B.D
 Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch
 Acq On : 27 Jul 2012 2:47 pm
 Operator : JK
 Sample : B072312PSOX,RR3,,A/C
 Misc : SOIL
 ALS Vial : 6 Sample Multiplier: 1

Integration File signal 1: events.e
 Integration File signal 2: events2.e
 Quant Time: Jul 27 16:10:29 2012
 Quant Method : C:\msdchem\1\METHODS\PCB071612.M
 Quant Title : SW-846 METHOD 8082 Aroclor 1016/1260/1254
 QLast Update : Wed Jul 25 09:13:32 2012
 Response via : Initial Calibration
 Integrator: ChemStation

Volume Inj. : 2 uL
 Signal #1 Phase : STX-CLPPesticides Signal #2 Phase: STX-CLPPesticides
 Signal #1 Info : 30 m x 0.25mm x 0 Signal #2 Info : 30 m x 0.25mm x 0.25 um



PCB SOIL
LABORATORY CONTROL SAMPLE/DUPLICATE
PERCENT RECOVERY

Instrument ID: M

GC Column #1: STX-CLPesticides I

Column ID: 0.25 mm

GC Column #2: STX-CLPesticides II

Column ID: 0.25 mm

SDG: 73375

Non-spiked sample: B072312PSOX,RR,,A/C

Spike: L072312PSOX,RR,,A/C

Spike duplicate: LD072312PSOX,RR,,A/C

COMPOUND	LCS SPIKE	LCSD SPIKE	LOWER	UPPER	RPD	NON-SPIKE	SPIKE	SPIKE	SPIKE DUP	SPIKE DUP		
	ADDED (ug/kg)	ADDED (ug/kg)	LIMIT	LIMIT	LIMIT	RESULT (ug/kg)	RESULT (ug/kg)	% REC #	RESULT (ug/kg)	% REC #	RPD	#
PCB 1016	200	200	65	140	30	0	138	69	147	73	6.3	
PCB 1260	200	200	60	130	30	0	129	65	150	75	15.0	
PCB 1016 #2	200	200	65	140	30	0	131	66	144	72	9.3	
PCB 1260 #2	200	200	60	130	30	0	135	68	157	78	14.9	

Column to be used to flag recovery and RPD values outside of QC limits

* Values outside QC limits

LCS/LCSD spike added values have been weight adjusted.

Non-spike result of "0" used in place of "U" to allow calculation of spike recovery.

Comments: _____

CHAIN OF CUSTODIES

Chain Of Custody Form



195 Commerce Way, Suite E
 Portsmouth, NH 03801
 (800) 929-9906
 (603) 436-5111
 (603) 430-2151 Fax

For Analytics Use Only

Samples were: Hand-delivered

- 1) Shipped in good condition: 2.5°C
- 2) Temperature (°C): 2.5°C
- 3) Received in good condition: Y or N
- 4) pH checked by: JW 7/20/12
- 5) Labels checked by: JW 7/20/12

Matrix Key:
 C = Concrete
 WP = Waste Water
 SW = Surface Water
 E = Extract
 GW = Groundwater
 DW = Drinking Water
 S = Soil / Sludge
 O = Oil
 X = Other

Sample Identification	Sample Date	Sample Time	Field Filtered? Y or N	VOC: 8260 524.2 624	SVOC: 8270 625 PAH only SIM	Pesticides: 8081 608	PCB: 8082 608 Soxhlet Y or N	TPH: 8015 (Gas Range) ME4217	TPH: 8015 (Diesel Range) 8100M ME4125	EPH: Full or Ranges only TETPH	VPH: Full or Ranges only	Metals: RCRA8 pp13 TAL23 Other**	Preservation Code:	Circle and/or Write Required Analysis Followed by Preservation Code	Preservation Code:
SWA-CBK-001	7/19/12	12:41				X	X								
SWA-CBK-002	↓	12:44				X	X								
SWA-CBK-003		12:59				X	X								
SWA-CBK-004		13:12				X	X								
SWA-CBK-005		13:13				X	X								
SWA-CBK-006		13:18				X	X								
SWA-CBK-007		13:19				X	X								
SWA-CBK-008		13:13				X	X								

Matrix Key: C = Concrete, WP = Waste Water, SW = Surface Water, E = Extract, GW = Groundwater, DW = Drinking Water, S = Soil / Sludge, O = Oil, X = Other

Report Type: MCP* Level II* CTRCP* Level III* DOD* Level IV* Standard

State: NH MA ME CT RI Other: _____

State Standard: _____ (eg. S-1 or GW-1)
 EDD Required: Y* N
 Type: PDF

Project Requirements:
 *Fee may apply

Comments, Additional Analyses, or Special Instructions:
 ** List requested metals here

Email Results to: amy.wallace@woodwardcurran.com

Turnaround Time (TAT): 24 Hours* 48 Hours* 5 Days* 10 Days

*Fee may apply; lab approval required

Sampler Name (Print): Amy Wallace
 Relinquished By: Amy Wallace
 Relinquished By: Cold Storage

Date: 7/19/12 Time: 1600
 Date: 7/20/12 Time: 1230
 Date: _____ Time: _____

Received By: Cold Storage
 Received By: Sub May
 Received By: _____

Please note: For volatile analyses, a trip blank has been provided in the cooler. If you want the trip blank run and reported please write the trip blank on the COC. Trip Blank analyses will be charged unless other arrangements have been made.



environmental
laboratory LLC

ANALYTICS SAMPLE RECEIPT CHECKLIST

AEL LAB#: 73375
CLIENT: WOODARD
PROJECT: LSM SCIENCE WING

COOLER NUMBER: 259
NUMBER OF COOLERS: 1

A: PRELIMINARY EXAMINATION:

1. Cooler received by (initials): AM DATE COOLER RECEIVED/OPENED: 2/20/12

2. Circle one: Hand delivered Shipped
(No slip)

3. Did cooler come with a shipping slip? Y N

3a. Enter carrier name and airbill number here: _____

4. Were custody seals on the outside of cooler? Y N
How many & where: _____ Seal Date: _____ Seal Name: _____

5. Did the custody seals arrive unbroken and intact upon arrival? Y N

6. COC#: _____

7. Were Custody papers filled out properly (ink signed, legible, project information etc)? Y N

8. Were custody papers sealed in a plastic bag? Y N

9. Did you sign the COC in the appropriate place? Y N

10. Was enough ice used to chill the cooler? Y N Temp. of cooler: 2.5°C

B. Log-In: Date samples were logged in: 2/20/12 By: AM

11. Were all bottles sealed in separate plastic bags? Y N

12. Did all bottles arrive unbroken and were labels in good condition? Y N

13. Were all bottle labels complete (ID, Date, time, etc.) Y N

14. Did all bottle labels agree with custody papers? Y N

15. Were the correct containers used for the tests indicated? Y N

16. Were samples received at the correct pH? Y N

17. Was sufficient amount of sample sent for the tests indicated? Y N

18. Were all samples submitted within holding time? Y N

19. Were all containers used within expiration date? Y N

20. Were VOA samples absent of greater than pea-sized bubbles? Y N

(Note: Pea-sized bubbles or smaller are acceptable and are not considered to adversely affect volatiles data.)

*If NO, List Sample ID's, Lab #'s: _____

When bubbles are present in VOA samples they are labelled from smallest (or no bubbles) to largest. Lab to analyze VOA samples with no bubbles or smallest bubbles first

20. Laboratory labeling verified by (initials): AM Date: 2/20/12

**SECTION 06 1000
ROUGH CARPENTRY**

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Rough opening framing for doors, windows, and roof openings.
- B. Preservative treated wood materials.
- C. Concealed wood blocking, nailers, and supports.
- D. Miscellaneous wood nailers, furring, and grounds.

1.02 RELATED REQUIREMENTS

- A. Section 07 6200 - Sheet Metal Flashing and Trim: Sill flashings.
- B. Section 09 2116 - Gypsum Board Assemblies: Gypsum-based sheathing.

1.03 REFERENCE STANDARDS

- A. ASTM A153/A153M - Standard Specification for Zinc Coating (Hot-Dip) on Iron and Steel Hardware; 2009.
- B. PS 20 - American Softwood Lumber Standard; National Institute of Standards and Technology (Department of Commerce); 2005.

1.04 SUBMITTALS

- A. See Section 01 3000 - Administrative Requirements, for submittal procedures.

1.05 DELIVERY, STORAGE, AND HANDLING

- A. General: Cover wood products to protect against moisture. Support stacked products to prevent deformation and to allow air circulation.

PART 2 PRODUCTS

2.01 GENERAL REQUIREMENTS

- A. Dimension Lumber: Comply with PS 20 and requirements of specified grading agencies.
 - 1. If no species is specified, provide any species graded by the agency specified; if no grading agency is specified, provide lumber graded by any grading agency meeting the specified requirements.
 - 2. Grading Agency: Any grading agency whose rules are approved by the Board of Review, American Lumber Standard Committee (www.alsc.org) and who provides grading service for the species and grade specified; provide lumber stamped with grade mark unless otherwise indicated.
- B. Lumber fabricated from old growth timber is not permitted.

2.02 DIMENSION LUMBER FOR CONCEALED APPLICATIONS

- A. Sizes: Nominal sizes as indicated on drawings, Rough (unsurfaced).
- B. Moisture Content: S-dry or MC19.
- C. Miscellaneous Framing, Blocking, Nailers, Grounds, and Furring:
 - 1. Lumber: S4S, No. 2 or Standard Grade.
 - 2. Boards: Standard or No. 3.

2.03 ACCESSORIES

- A. Fasteners and Anchors:
 - 1. Metal and Finish: Hot-dipped galvanized steel per ASTM A 153/A 153M for high humidity and preservative-treated wood locations, unfinished steel elsewhere.
- B. Sill Flashing: As specified in Section 07 6200.

PART 3 EXECUTION

3.01 INSTALLATION - GENERAL

- A. Select material sizes to minimize waste.
- B. Reuse scrap to the greatest extent possible; clearly separate scrap for use on site as accessory components, including: shims, bracing, and blocking.

3.02 BLOCKING, NAILERS, AND SUPPORTS

- A. Provide framing and blocking members as indicated or as required to support finishes, fixtures, specialty items, and trim.

3.03 CLEANING

- A. Waste Disposal: Comply with the requirements of Section 01 7419.
 - 1. Comply with applicable regulations.
 - 2. Do not burn scrap on project site.
 - 3. Do not burn scraps that have been pressure treated.
 - 4. Do not send materials treated with pentachlorophenol, CCA, or ACA to co-generation facilities or "waste-to-energy" facilities.
- B. Do not leave any wood, shavings, sawdust, etc. on the ground or buried in fill.
- C. Prevent sawdust and wood shavings from entering the storm drainage system.

END OF SECTION

SECTION 06 2000
FINISH CARPENTRY

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Finish carpentry items.

1.02 RELATED REQUIREMENTS

- A. Section 06 1000 - Rough Carpentry: Support framing, grounds, and concealed blocking.

1.03 REFERENCE STANDARDS

- A. AWI/AWMAC/WI (AWS) - Architectural Woodwork Standards; 2009.

1.04 SUBMITTALS

- A. See Section 01 3000 - Administrative Requirements for submittal procedures.

1.05 QUALITY ASSURANCE

- A. Fabricator Qualifications: Company specializing in fabricating the products specified in this section with minimum five years of documented experience.

1.06 DELIVERY, STORAGE, AND HANDLING

- A. Protect work from moisture damage.

PART 2 PRODUCTS

2.01 FINISH CARPENTRY ITEMS

- A. Quality Grade: Unless otherwise indicated provide products of quality specified by AWI/AWMAC/WI Architectural Woodwork Standards for Premium Grade.
- B. Interior Woodwork Items:
 - 1. Window Sills: Clear fir or birch; prepare for transparent finish.

2.02 WOOD-BASED COMPONENTS

- A. Wood fabricated from old growth timber is not permitted.

2.03 SHOP FINISHING

- A. Sand work smooth and set exposed nails and screws.
- B. Apply wood filler in exposed nail and screw indentations.
- C. On items to receive transparent finishes, use wood filler that matches surrounding surfaces and is of type recommended for the applicable finish.
- D. Finish work in accordance with AWI/AWMAC/WI Architectural Woodwork Standards, Section 5 - Finishing for Grade specified and as follows:
 - 1. Transparent:
 - a. System - 12, Polyurethane, Water-based.
 - b. Sheen: Flat.

PART 3 EXECUTION

3.01 EXAMINATION

- A. Verify adequacy of backing and support framing.

3.02 INSTALLATION

- A. Install work in accordance with AWI/AWMAC/WI Architectural Woodwork Standards requirements for grade indicated.
- B. Set and secure materials and components in place, plumb and level.

- C. Carefully scribe work abutting other components, with maximum gaps of 1/32 inch (1 mm). Do not use additional overlay trim to conceal larger gaps.

3.03 TOLERANCES

- A. Maximum Variation from True Position: 1/16 inch (1.5 mm).
- B. Maximum Offset from True Alignment with Abutting Materials: 1/32 inch (0.7 mm).

END OF SECTION

SECTION 07 2119
FOAMED-IN-PLACE INSULATION

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Foamed-in-place insulation.
 - 1. In exterior wall joint/ cavity of curtainwall frame between curtainwall frame and adjacent materials.
 - 2. At junctions of dissimilar wall and roof materials, if required at roof edge modification.

1.02 REFERENCE STANDARDS

- A. ASTM E96/E96M - Standard Test Methods for Water Vapor Transmission of Materials; 2010.

1.03 SUBMITTALS

- A. See Section 01 3000 - Administrative Requirements, for submittal procedures.

1.04 QUALITY ASSURANCE

- A. Applicator Qualifications: Company specializing in performing work of the type specified, with minimum 3 years of experience.

1.05 FIELD CONDITIONS

- A. Do not apply foam when temperature is below that specified by the manufacturer for ambient air and substrate.

PART 2 PRODUCTS

2.01 MANUFACTURERS

- A. Infiltration Foamed-In-Place Insulation: Low Expansion
 - 1. BASF Polyurethane Foam Enterprises LLC: www.basf.us.
 - 2. Pur Fill 1G- by EFI Incorporated, Westborough, MA .
 - 3. Substitutions: See Section 01 6000 - Product Requirements.

2.02 MATERIALS

2.03 ACCESSORIES

- A. Primer: As required by insulation manufacturer.

PART 3 EXECUTION

3.01 EXAMINATION

- A. Verify work within construction spaces or crevices is complete prior to insulation application.
- B. Verify that surfaces are clean, dry, and free of matter that may inhibit insulation or overcoat adhesion.

3.02 APPLICATION

- A. Apply insulation in accordance with manufacturer's instructions.
- B. Confirm acceptance of low expansion foam insulation in frame of curtainwall by curtainwall manufacturer.

END OF SECTION

SECTION 07 4264
METAL COMPOSITE MATERIAL WALL PANELS

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Self-supporting exterior curtain wall system consisting of formed metal composite material (MCM) sheet, 1" thick, framing, secondary supports, and anchors to structure. Alternate #1.
- B. Base bid: MCM panel only, installed on interior side of curtainwall frame to conceal spandrel glazing. Insulation is not included in this base bid configuration.

1.02 RELATED REQUIREMENTS

- A. Section 07 9005 - Joint Sealers.
- B. Section 08 9110 Glazed Aluminum Curtainwall
- C. Section 01 2300 Alternates

1.03 REFERENCE STANDARDS

- A. ASTM A36/A36M - Standard Specification for Carbon Structural Steel; 2008.
- B. ASTM A123/A123M - Standard Specification for Zinc (Hot-Dip Galvanized) Coatings on Iron and Steel Products; 2012.
- C. ASTM A153/A153M - Standard Specification for Zinc Coating (Hot-Dip) on Iron and Steel Hardware; 2009.
- D. ASTM A276 - Standard Specification for Stainless Steel Bars and Shapes; 2010.
- E. ASTM A480/A480M - Standard Specification for General Requirements for Flat-Rolled Stainless and Heat-Resisting Steel Plate, Sheet, and Strip; 2012.
- F. ASTM A653/A653M - Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process; 2011.
- G. ASTM A666 - Standard Specification for Annealed or Cold-Worked Austenitic Stainless Steel Sheet, Strip, Plate, and Flat Bar; 2010.
- H. ASTM A792/A792M - Standard Specification for Steel Sheet, 55% Aluminum-Zinc Alloy-Coated by the Hot-Dip Process; 2010.
- I. ASTM D523 - Standard Test Method for Specular Gloss; 2008.
- J. ASTM D1781 - Standard Test Method for Climbing Drum Peel for Adhesives; 1998 (Reapproved 2012).
- K. ASTM D1929 - Standard Test Method for Determining Ignition Temperature of Plastics; 2012.
- L. ASTM D2244 - Standard Practice for Calculation of Color Differences from Instrumentally Measured Color Coordinates; 2011.
- M. ASTM D4214 - Standard Test Methods for Evaluating the Degree of Chalking of Exterior Paint Films; 2007.
- N. ASTM E84 - Standard Test Method for Surface Burning Characteristics of Building Materials; 2012.
- O. ASTM E283 - Standard Test Method for Determining the Rate of Air Leakage Through Exterior Windows, Curtain Walls and Doors Under Specified Pressure Differences Across the Specimen; 2004 (Reapproved 2012).
- P. ASTM E331 - Standard Test Method for Water Penetration of Exterior Windows, Curtain Walls and Doors By Uniform Static Air Pressure Difference; 2000 (Reapproved 2009).

1.04 SUBMITTALS

- A. Product Data - MCM Sheets: Manufacturer's data sheets on each product to be used, including thickness, physical characteristics, and finish, and:
 - 1. Finish manufacturer's data sheet showing physical and performance characteristics.
 - 2. Storage and handling requirements and recommendations.
 - 3. Fabrication instructions and recommendations.
 - 4. Specimen warranty for finish, as specified herein.
- B. Shop Drawings: Show layout and elevations, dimensions and thickness of panels, connections, details and location of joints, sealants and gaskets, method of anchorage, number of anchors, supports, reinforcement, trim, flashings, and accessories.
 - 1. Indicate panel numbering system.
 - 2. Differentiate between shop and field fabrication.
 - 3. Indicate substrates and adjacent work with which the wall system must be coordinated.
 - 4. Include large-scale details of anchorages and connecting elements.
 - 5. Include large-scale details or schematic, exploded or isometric diagrams to fully explain flashing at a scale of not less than 1-1/2 inches per 12 inches (1:10).
 - 6. Include design engineer's stamp or seal on shop drawings for attachments and anchors.
- C. Design Data: Submit structural calculations stamped by design engineer, for Architect's information and project record.
- D. Maintenance Data: Care of finishes and warranty requirements.
- E. Executed Warranty: Submit warranty and ensure that forms have been completed in Owner's name and registered with manufacturer.

1.05 QUALITY ASSURANCE

- A. Design Engineer's Qualifications: Design structural supports and anchorages under direct supervision of a Structural Engineer experienced in design of this type of Work and licensed in the State in which the Project is located.
- B. Testing Agency Qualifications: Independent agency experienced in testing assemblies of the type required for this project and having the necessary facilities for full-size mock-up testing of the type specified.

1.06 WARRANTY

- A. MCM Sheet Manufacturer's Finish Warranty: Provide manufacturer's written warranty stating that the finish will perform as follows for minimum of 5 years:
 - 1. Chalking: No more than that represented by a No.8 rating based on ASTM D4214.
 - 2. Color Retention: No fading or color change in excess of 5 Hunter color difference units, calculated in accordance with ASTM D2244.
 - 3. Gloss Retention: Minimum of 30 percent gloss retention, when tested in accordance with ASTM D523.

PART 2 PRODUCTS

2.01 MANUFACTURERS

- A. Metal Composite Material Sheet Manufacturers:
 - 1. 3A Composites USA; Alucobond: www.alucobondusa.com.
 - 2. Alcoa, Inc; _____: www.alcoa.com.
 - 3. ALPOLIC Materials; ALPOLIC / fr (fire resistant core): www.alpolic-usa.com.

2.02 WALL PANEL SYSTEM

- A. Wall Panel System: Metal panels, fasteners, and anchors designed to be supported by framing or other substrate provided by others; provide installed panel system capable of maintaining specified performance without defects, damage or failure.

1. Anchor panels to supporting framing without exposed fasteners.
- B. Performance Requirements:
1. Thermal Movement: Provide for free and noiseless vertical and horizontal thermal movement due to expansion and contraction under material temperature range of minus 20 degrees F (minus 29 degrees C) to 180 degrees F (82 degrees C) without buckling, opening of joints, undue stress on fasteners, or other detrimental effects; allow for ambient temperature at time of fabrication, assembly, and erection procedures.
 2. Air Infiltration: 0.06 cfm/sq ft (0.003 L/s/sq m) of wall area, maximum, when tested at 1.57 psf (0.075 kPa) in accordance with ASTM E283.
 3. Water Penetration: No water penetration under static pressure when tested in accordance with ASTM E331 at a differential of 10 percent of inward acting design load, 6.24 psf (0.299 kPa) minimum, after 15 minutes.
 - a. Water penetration is defined as the appearance of uncontrolled water on the interior face of the wall.
 - b. Design to drain leakage and condensation to the exterior face of the wall.
- C. Panels: One inch (2.5 mm) deep pans formed of metal composite material sheet by routing back edges of sheet, removing corners, and folding edges. Alternate #1 is the 1" thick insulated panel which replaces the spandrel glazing.
1. Reinforce corners with riveted aluminum angles.
 2. Provide concealed attachment to supporting structure by adhering attachment members to back of panel; attachment members may also function as stiffeners.
 3. Maintain maximum panel bow of 0.8 percent of panel dimension in width and length; provide stiffeners of sufficient size and strength to maintain panel flatness without showing local stresses or read-through on panel face.
 4. Secure members to back face of panels using structural silicone sealant approved by MCM sheet manufacturer.
 5. Fabricate panels under controlled shop conditions.
 6. Where final dimensions cannot be established by field measurement before commencement of manufacturing, make allowance for field adjustments without requiring field fabrication of panels.
 7. Fabricate as indicated on drawings and as recommended by MCM sheet manufacturer.
 - a. Make panel lines, breaks, curves and angles sharp and true.
 - b. Keep plane surfaces free from warp or buckle.
 - c. Keep panel surfaces free of scratches or marks caused during fabrication.
 8. Provide joint details providing a watertight and structurally sound wall panel system that allows no uncontrolled water penetration on inside face of panel system.
 9. For "dry" jointing, secure extrusions to returned pan edges with stainless steel rivets; provide means of concealed drainage with baffles and weeps for water that might accumulate in members of system.

2.03 MATERIALS

- A. Metal Composite Material (MCM) Sheet: Two sheets of aluminum sandwiching a solid core of extruded thermoplastic material formed in a continuous process with no glues or adhesives between dissimilar materials; core material free of voids and spaces; no foamed insulation material content.
1. Overall Sheet Thickness: 4 mm.
 2. Face Sheet Thickness: 0.019 inches (0.50 mm), minimum.
 3. Alloy: Manufacturer's standard, selected for best appearance and finish durability.
 4. Bond and Peel Strength: No adhesive failure of the bond between the core and the skin nor cohesive failure of the core itself below 22.4 inch-pound/inch (100 N-mm/mm) with no degradation in bond performance, when tested in accordance with ASTM D1781,

- simulating resistance to panel delamination, after 8 hours of submersion in boiling water and after 21 days of immersion in water at 70 degrees F (21 degrees C).
5. Surface Burning Characteristics: Flame spread index of 25, maximum; smoke developed index of 450, maximum; when tested in accordance with ASTM E84.
 6. Flammability: Self-ignition temperature of 650 degrees F (343 degrees C) or greater, when tested in accordance with ASTM D1929.
- B. Metal Framing Members: Include all sub-girts, zee-clips, base and sill angles and channels, hat-shaped and rigid channels, and furring channels required for complete installation.
 - C. Provide panel system manufacturer's and installer's standard corrosion resistant accessories, including fasteners, clips, anchorage devices and attachments.

PART 3 EXECUTION

3.01 EXAMINATION

- A. Verify dimensions, tolerances, and interfaces with other work.
- B. Verify substrate on-site to determine that conditions are acceptable for product installation in accordance with manufacturers written instructions.
- C. If substrate preparation is the responsibility of another installer, notify Architect of unsatisfactory preparation before proceeding.
- D. Notify Architect in writing of conditions detrimental to proper and timely completion of work. Do not proceed with erection until unsatisfactory conditions have been corrected.

3.02 INSTALLATION

- A. Do not install products that are defective, including warped, bowed, dented, and broken members, and members with damaged finishes.
- B. Comply with instructions and recommendations of MCM sheet manufacturer and wall system manufacturer, as well as with approved shop drawings.
- C. Install wall system securely allowing for necessary thermal and structural movement; comply with wall system manufacturer's instructions for installation of concealed fasteners.
- D. Do not handle or tool products during erection in manner that damages finish, decreases strength, or results in visual imperfection or failure in performance. Return component parts that require alteration to shop for refabrication, if possible, or for replacement with new parts.
- E. Do not form panels in field unless required by wall system manufacturer and approved by the Architect; comply with MCM sheet manufacturer's instructions and recommendations for field forming.
- F. Separate dissimilar metals; use gasket fasteners, isolation shims, or isolation tape where needed to eliminate possibility of electrolytic action between metals.
- G. Install square, plumb, straight, and true, accurately fitted, with tight joints and intersections maintaining the following installation tolerances:
 1. Variation From Plane or Location: 1/2 inch in 30 feet (10 mm in 10 m) of length and up to 3/4 inch in 300 feet (20 mm in 100 m), maximum.
 2. Deviation of Vertical Member From True Line: 0.1 inch in 25 feet (3 mm in 9 m) run, maximum.
 3. Deviation of Horizontal Member From True Line: 0.1 inch in 25 feet (3 mm in 9 m) run, maximum.
 4. Offset From True Alignment Between Two Adjacent Members Abutting End To End, In Line: 0.03 inch (0.75 mm), maximum.
- H. Replace damaged products.

END OF SECTION

SECTION 07 6200
SHEET METAL FLASHING AND TRIM

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Fabricated sheet metal items, including flashings, counterflashings, and sill flashing for curtainwall system.
- B. Rework, modification, adjustment to existing roof edge detail.

1.02 RELATED REQUIREMENTS

- A. Section 06 1000 - Rough Carpentry: Wood nailers.
- B. Section 07 9005 - Joint Sealers.
- C. Section 08 9110 Glazed Aluminum Curtainwall

1.03 REFERENCE STANDARDS

- A. AAMA 2604 - Voluntary Specification, Performance Requirements and Test Procedures for High Performance Organic Coatings on Aluminum Extrusions and Panels; 2010.
- B. ASTM B209 - Standard Specification for Aluminum and Aluminum-Alloy Sheet and Plate; 2010.
- C. ASTM B209M - Standard Specification for Aluminum and Aluminum-Alloy Sheet and Plate [Metric]; 2010.

PART 2 PRODUCTS

2.01 SHEET MATERIALS

- A. Aluminum: ASTM B209 (ASTM B209M); 0.032 inch (0.8 mm) thick; anodized finish of color as selected.
- B. Pre-Finished Aluminum: ASTM B209 (ASTM B209M); 0.032 inch (0.8 mm) thick; plain finish shop pre-coated with fluoropolymer coating.
 - 1. Fluoropolymer Coating: High Performance Organic Finish, AAMA 2604; multiple coat, thermally cured fluoropolymer finish system.
 - 2. Color: As selected by Architect from manufacturer's standard colors.

2.02 FABRICATION

- A. Form sections true to shape, accurate in size, square, and free from distortion or defects.
- B. Form pieces in longest possible lengths.
- C. Hem exposed edges on underside 1/2 inch (13 mm); miter and seam corners.
- D. Form material with flat lock seams, except where otherwise indicated. At moving joints, use sealed lapped, bayonet-type or interlocking hooked seams.
- E. Fabricate corners from one piece with minimum 18 inch (450 mm) long legs; seam for rigidity, seal with sealant.

PART 3 EXECUTION

3.01 INSTALLATION

- A. Secure flashings in place using concealed fasteners. Use exposed fasteners only where permitted.
- B. Apply plastic cement compound between metal flashings and felt flashings.
- C. Fit flashings tight in place. Make corners square, surfaces true and straight in planes, and lines accurate to profiles.

- D. Modify existing roof edge detail to accommodate new curtainwall system. This includes but is not limited to coping, blocking, sealants, fasteners for a complete installation.

END OF SECTION

**SECTION 07 8400
FIRESTOPPING**

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Firestopping systems.
- B. Firestopping of all joints and penetrations in fire-resistance rated and smoke-resistant assemblies, whether indicated on drawings or not, and other openings indicated. Typical at intersection of existing floor slab and curtainwall system.

1.02 REFERENCE STANDARDS

- A. ASTM E119 - Standard Test Methods for Fire Tests of Building Construction and Materials; 2012.

1.03 SUBMITTALS

- A. See Section 01 3000 - Administrative Requirements, for submittal procedures.

1.04 MOCK-UP

- A. Install one firestopping assembly representative of each fire rating design required on project.
 - 1. Where one design may be used for different penetrating items or in different wall constructions, install one assembly for each different combination.
 - 2. Where firestopping is intended to fill a linear opening, install minimum of 1 linear ft (1/3 linear m).
- B. If accepted, mock-up will represent minimum standard for the Work.
- C. If accepted, mock-up may remain as part of the Work. Remove and replace mock-ups not accepted.

PART 2 PRODUCTS

2.01 FIRESTOPPING - GENERAL REQUIREMENTS

- A. Manufacturers:
 - 1. A/D Fire Protection Systems Inc: www.adfire.com.
 - 2. 3M Fire Protection Products: www.3m.com/firestop.
 - 3. Hilti, Inc: www.us.hilti.com.
- B. Primers, Sleeves, Forms, Insulation, Packing, Stuffing, and Accessories: Type required for tested assembly design.

2.02 FIRESTOPPING SYSTEMS

- A. Firestopping Between Edge of Floor Slab and Curtain Wall (without Penetrations): Fiber firestopping with smoke seal coating;UL Design No. _____, F Rating 1 hour.

PART 3 EXECUTION

3.01 EXAMINATION

- A. Verify openings are ready to receive the work of this section.

3.02 PREPARATION

- A. Clean substrate surfaces of dirt, dust, grease, oil, loose material, or other matter that could adversely affect bond of firestopping material.
- B. Remove incompatible materials that could adversely affect bond.

3.03 INSTALLATION

- A. Install materials in manner described in fire test report and in accordance with manufacturer's instructions, completely closing openings.

B. Do not cover installed firestopping until inspected by authority having jurisdiction.

END OF SECTION

SECTION 07 9005
JOINT SEALERS

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Sealants and joint backing.
- B. Precompressed foam sealers.

1.02 RELATED REQUIREMENTS

- A. Section 01 6116 - Volatile Organic Compound (VOC) Content Restrictions.

1.03 REFERENCE STANDARDS

- A. ASTM C920 - Standard Specification for Elastomeric Joint Sealants; 2011.
- B. ASTM C1193 - Standard Guide for Use of Joint Sealants; 2011a.

1.04 SUBMITTALS

- A. See Section 01 3000 - Administrative Requirements, for submittal procedures.

1.05 QUALITY ASSURANCE

- A. Applicator Qualifications: Company specializing in performing the work of this section with minimum 3 years experience.

1.06 MOCK-UP

- A. Provide mock-up of sealant joints in conjunction with window under provisions of Section 01 4000.
- B. Construct mock-up with specified sealant types and with other components noted.
- C. Locate where directed.
- D. Mock-up may remain as part of the Work.

1.07 FIELD CONDITIONS

- A. Maintain temperature and humidity recommended by the sealant manufacturer during and after installation.

1.08 WARRANTY

- A. See Section 01 7800 - Closeout Submittals, for additional warranty requirements.
- B. Correct defective work within a five year period after Date of Substantial Completion.
- C. Warranty: Include coverage for installed sealants and accessories which fail to achieve airtight seal and watertight seal, exhibit loss of adhesion or cohesion, or do not cure.

PART 2 PRODUCTS

2.01 MANUFACTURERS

- A. Gunnable and Pourable Sealants:
 - 1. BASF Construction Chemicals-Building Systems: www.buildingsystems.basf.com.
 - 2. Dow Corning Corporation: www.dowcorning.com.
 - 3. Hilti, Inc: www.us.hilti.com.
 - 4. Pecora Corporation: www.pecora.com.
 - 5. Tremco Global Sealants: www.tremcosealants.com.
- B. Preformed Compressible Foam Sealers:
 - 1. EMSEAL Joint Systems, Ltd: www.emseal.com.
 - 2. Dayton Superior Corporation: www.daytonsuperior.com.
 - 3. Tremco Global Sealants: www.tremcosealants.com.

2.02 SEALANTS

- A. Sealants and Primers - General: Provide products having volatile organic compound (VOC) content as specified in Section 01 6116.
- B. General Purpose Exterior Sealant: Polyurethane; ASTM C920, Grade NS, Class 25, Uses M, G, and A; single component.
 - 1. Color: Match adjacent finished surfaces.
 - 2. Applications: Use for:
 - a. Joints between metal frames (curtainwall) and other materials.
 - b. Other exterior joints for which no other sealant is indicated.
 - 3. Polyurethane Products:
 - a. Pecora Corporation; DynaTrol I-XL General Purpose One Part Polyurethane Sealant: www.pecora.com.
 - b. BASF Construction Chemicals-Building Systems; ____: www.buildingsystems.basf.com.

2.03 ACCESSORIES

- A. Primer: Non-staining type, recommended by sealant manufacturer to suit application.
- B. Joint Backing: Round foam rod compatible with sealant; ASTM D 1667, closed cell PVC; oversized 30 to 50 percent larger than joint width.
- C. Bond Breaker: Pressure sensitive tape recommended by sealant manufacturer to suit application.

PART 3 EXECUTION

3.01 EXAMINATION

- A. Verify that substrate surfaces are ready to receive work.
- B. Verify that joint backing and release tapes are compatible with sealant.

3.02 PREPARATION

- A. Remove loose materials and foreign matter that could impair adhesion of sealant.
- B. Clean and prime joints in accordance with manufacturer's instructions.
- C. Perform preparation in accordance with manufacturer's instructions and ASTM C1193.
- D. Protect elements surrounding the work of this section from damage or disfigurement.

3.03 INSTALLATION

- A. Perform work in accordance with sealant manufacturer's requirements for preparation of surfaces and material installation instructions.
- B. Perform installation in accordance with ASTM C1193.
- C. Install bond breaker where joint backing is not used.
- D. Install sealant free of air pockets, foreign embedded matter, ridges, and sags.
- E. Apply sealant within recommended application temperature ranges. Consult manufacturer when sealant cannot be applied within these temperature ranges.
- F. Tool joints concave.

END OF SECTION

SECTION 08 8000

GLAZING

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Glass.
- B. Tempered glass
- C. Glazing compounds and accessories.
- D. Spandrel Glass with interior protective MCM panel. See Section 074264.
- E. Note: Alternate #1 replaces spandrel glass with 1" insulated aluminum panel. See Section 074264.

1.02 RELATED REQUIREMENTS

- A. Section 07 9005 - Joint Sealers: Sealant and back-up material.
- B. Section 074264 Metal Composite Panels
- C. Section 08 4413 - Glazed Aluminum Curtain Walls: Glazing furnished by wall manufacturer.
- D. Section 08 5113 - Aluminum Windows: Glazing furnished by window manufacturer.

1.03 REFERENCE STANDARDS

- A. ASTM C920 - Standard Specification for Elastomeric Joint Sealants; 2011.
- B. ASTM C1036 - Standard Specification for Flat Glass; 2011e1.
- C. ASTM C1048 - Standard Specification for Heat-Treated Flat Glass--Kind HS, Kind FT Coated and Uncoated Glass; 2012.
- D. ASTM C1193 - Standard Guide for Use of Joint Sealants; 2011a.
- E. ASTM E1300 - Standard Practice for Determining Load Resistance of Glass in Buildings; 2012a.
- F. ASTM E2190 - Standard Specification for Insulating Glass Unit Performance and Evaluation; 2010.
- G. GANA (GM) - GANA Glazing Manual; Glass Association of North America; 2009.
- H. GANA (SM) - GANA Sealant Manual; Glass Association of North America; 2008.

1.04 SUBMITTALS

- A. See Section 01 3000 - Administrative Requirements, for submittal procedures.
- B. Product Data on Glazing Compounds: Provide chemical, functional, and environmental characteristics, limitations, special application requirements. Identify available colors.

1.05 QUALITY ASSURANCE

- A. Perform Work in accordance with GANA Glazing Manual and GANA Sealant Manual for glazing installation methods.
- B. Installer Qualifications: Company specializing in performing the work of this section with minimum 3 years documented experience.

1.06 MOCK-UP

- A. See Section 01 4000 - Quality Requirements, for additional mock-up requirements.

1.07 FIELD CONDITIONS

- A. Do not install glazing when ambient temperature is less than 32 degrees F (0 degrees C). Refer to sealant and gasket manufacturer for installation requirements.

1.08 WARRANTY

- A. See Section 01 7800 - Closeout Submittals, for additional warranty requirements.
- B. Sealed Insulating Glass Units: Provide a five (5) year warranty to include coverage for seal failure, interpane dusting or misting, including replacement of failed units.

PART 2 PRODUCTS

2.01 GLAZING TYPES

- A. Type 1 - Sealed Insulating Glass Units: Vision glazing, low-E.
 - 1. Application(s): All exterior glazing unless otherwise indicated.
 - 2. Between-lite space filled with argon.
 - 3. Thermal Resistance (U-Value):.27, nominal.
 - 4. Total Solar Heat Gain Coefficient:.38, nominal.
 - 5. Total Visible Light Transmittance: 70 percent, nominal.
 - 6. Basis of Design: PPG Industries, Inc: www.ppgideascape.com.
 - 7. Outboard Lite: Annealed float glass, 1/4 inch (6 mm) thick, minimum.
 - a. Coating: PPG Solarban 60 on # 2 surface, no coating on #3 surface.
 - 8. Inboard Lite: Annealed float glass, 1/4 inch (6 mm) thick.
 - a. Tint: None (clear).
 - 9. Total Thickness: 1 inch (25 mm).
- B. Type 2 - Sealed Insulating tempered Glass Units: Spandrel glazing.
 - 1. Application: Exterior glazing where indicated.
 - 2. Outboard Lite: Annealed float glass, 1/4 inch (6 mm) thick, minimum.
 - a. Coating: Charcoal, on #2 surface.
 - 3. Inboard Lite: Heat-strengthened float glass, 1/4 inch (6 mm) thick.
 - a. Tint: Clear. Tempered
 - 4. Total Thickness: 1 inch (25 mm).
 - 5. Protective interior aluminum panel. See Section 074264.
 - 6. Note Alternate #1: 1" thick, insulated aluminum panel in place of spandrel glazing. See Section 074264 and alternate description.

2.02 EXTERIOR GLAZING ASSEMBLIES

- A. Structural Design Criteria: Select type and thickness to withstand dead loads and wind loads acting normal to plane of glass at design pressures calculated in accordance with ASCE 7.
 - 1. Use the procedure specified in ASTM E1300 to determine glass type and thickness.
 - 2. Limit glass deflection to 1/200 or flexure limit of glass, whichever is less, with full recovery of glazing materials.
 - 3. Thicknesses listed are minimum.
- B. Air and Vapor Seals: Provide completed assemblies that maintain continuity of building enclosure vapor retarder and air barrier:
 - 1. In conjunction with vapor retarder and joint sealer materials described in other sections.
 - 2. To maintain a continuous air barrier and vapor retarder throughout the glazed assembly from glass pane to heel bead of glazing sealant.

2.03 GLASS MATERIALS

- A. Float Glass Manufacturers:
 - 1. Guardian Industries Corp: www.sunguardglass.com.
 - 2. Pilkington North America Inc: www.pilkington.com/na.
 - 3. PPG Industries, Inc: www.ppgideascape.com.
 - 4. Substitutions: Refer to Section 01 6000 - Product Requirements.
- B. Float Glass: All glazing is to be float glass unless otherwise indicated.

1. Annealed Type: ASTM C1036, Type I, transparent flat, Class 1 clear, Quality Q3 (glazing select).
2. Heat-Strengthened and Fully Tempered Types: ASTM C1048.
3. Tinted Types: Color and performance characteristics as indicated.
4. Thicknesses: As indicated; for exterior glazing comply with specified requirements for wind load design regardless of specified thickness.

2.04 SEALED INSULATING GLASS UNITS

- A. Sealed Insulating Glass Units: Types as indicated.
 1. Durability: Certified by an independent testing agency to comply with ASTM E2190.
 2. Edge Spacers: Aluminum, bent and soldered corners.
 3. Edge Seal: Glass to elastomer with supplementary silicone sealant.
 4. Purge interpane space with dry hermetic air.

2.05 GLAZING COMPOUNDS

- A. Silicone Sealant _____: Single component; neutral curing; capable of water immersion without loss of properties; non-bleeding, non-staining; ASTM C 920, Type S, Grade NS, Class 25, Uses M, A, and G; cured Shore A hardness of 15 to 25; To be determined color.

2.06 GLAZING ACCESSORIES

- A. Glazing Tape: Preformed butyl compound with integral resilient tube spacing device; 10 to 15 Shore A durometer hardness; coiled on release paper; _____x_____ inch (_____x_____ mm) size; black color.
 1. Manufacturers:
 - a. Pecora Corporation: www.pecora.com.
 - b. Tremco Global Sealants: www.tremcosealants.com.
 - c. Substitutions: Refer to Section 01 6000 - Product Requirements.

PART 3 EXECUTION

3.01 EXAMINATION

- A. Verify that openings for glazing are correctly sized and within tolerance.
- B. Verify that surfaces of glazing channels or recesses are clean, free of obstructions that may impede moisture movement, weeps are clear, and ready to receive glazing.

3.02 PREPARATION

- A. Clean contact surfaces with solvent and wipe dry.
- B. Prime surfaces scheduled to receive sealant.
- C. Install sealants in accordance with ASTM C1193 and GANA Sealant Manual.
- D. Install sealant in accordance with manufacturer's instructions.

3.03 CLEANING

- A. Remove glazing materials from finish surfaces.
- B. Remove labels after Work is complete.
- C. Clean glass and adjacent surfaces.

END OF SECTION

SECTION 08 9110
GLAZED ALUMINUM CURTAINWALL (RELIANCE WALL)

PART 1 - GENERAL

1.01 SUMMARY

- A. Related Documents: Conditions of the Contract, Division 1 - General Requirements, and Drawings apply to Work of this Section.
- B. Section Includes:
 - 1. Aluminum curtain wall systems, complete with reinforcing, shims, anchors, and attachment devices.
 - 2. Accessories necessary to complete Work.
 - 3. Flashings
 - 4. Products Furnished But Not Installed Under this Section: Inserts and anchoring devices that are to be built into structure.
 - 5. Related Sections:
 - a. Section 01411 - Exterior Curtain Wall Testing.
 - b. Section 01430 - Mock-Ups.
 - c. Section 06100 - Rough Carpentry.
 - d. Section 07270 - Firestopping.
 - e. Section 07900 - Joint Sealers.
 - f. Section 08810 - Glass and Glazing.
 - g. Section 074264 - Metal Composite material wall panels
 - h. Section 012300 - Alternates

1.02 REFERENCES

- A. Aluminum Association (AA):
 - 1. DAF-45 Designation System for Aluminum Finishes.
 - 2. American Architectural Manufacturers Association (AAMA):
 - a. CW-DG-1 Aluminum Curtain Wall Design Guide Manual.
 - b. 501.2 Field Check of Metal Curtain Walls for Water Leakage.
 - c. 2605 Voluntary Specification for High Performance Organic Coatings on Architectural Extrusions and Panels.
 - d. 611 Voluntary Specification for Anodized Architectural Aluminum
 - 3. American National Standards Institute (ANSI):
 - a. Z97.1 Specifications and Methods of Test for Safety Glazing Material Used in Buildings.
 - 4. American Society for Testing and Materials (ASTM):
 - a. A123 Zinc (Hot-Dip Galvanized) Coatings on Iron and Steel Products.
 - b. A525 General Requirements for Steel Sheet, Zinc-Coated (Galvanized) by the Hot-Dip Process.
 - c. A526 Sheet Steel, Zinc Coated (Galvanized) by the Hot-Dip Process, Commercial Quality.
 - d. B209 Aluminum and Aluminum-Alloy Sheet and Plate.
 - e. B221 Aluminum-Alloy Extruded Bars, Rods, Wire, Shapes, and Tubes.
 - f. B308 Aluminum-Alloy 6061-T6 Standard Structural Shapes, Rolled or Extruded.
 - g. C716 Installing Lock-Strip Gaskets and Infill Glazing Materials.
 - h. C920 Elastomeric Joint Sealants.
 - i. E283 Rate of Air Leakage Through Exterior Windows, Curtain Walls, and Doors.
 - j. E330 Structural Performance of Exterior Windows, Curtain Walls, and Doors by Uniform Static Air Pressure Difference.
 - k. E331 Test Method for Water Penetration of Exterior Windows, Curtain Walls, and Doors by Uniform Static Air Pressure Difference.

- l. E773 Test Method for Seal Durability of Sealed Insulating Glass Units.
- m. E774 Sealed Insulating Glass Units.
- 5. Federal Specifications (FS):
 - a. TT-P-645A Primer, Paint, Zinc Chromate, Alkyd Type.
- 6. Glass Association of North America (GANA):

1.03 1.03 SYSTEM REQUIREMENTS

- A. General Standard: In addition to requirements shown or specified, comply with applicable provisions of Aluminum Curtain Wall Design Guide Manual for design, materials, fabrication and installation of component parts.
- B. Design Requirements:
 - 1. Metal stick framed systems with interior and exterior exposed metal framing.
 - 2. System manufacturer shall provide curtainwall systems, including necessary modifications to meet specified requirements and maintaining visual design concepts.
 - 3. Fabricate glazing systems for exterior glazing at vision areas and exterior glazing at spandrel areas.
 - 4. Perimeter conditions shall allow for installation tolerances, expansion and contraction of adjacent materials, and sealant manufacturer's recommended joint design.
 - 5. Drawings are diagrammatic and do not purport to identify nor solve problems of thermal or structural movement, glazing, anchorage or moisture disposal.
 - 6. Requirements shown by details are intended to establish basic dimension of unit, sight lines and profiles of members.
 - 7. Do not assume glass, sealants, and interior finishes contribute to framing member strength, stiffness, or lateral stability.
 - 8. Attachment considerations are to take into account site peculiarities and expansion and contraction movements so there is no possibility of loosening, weakening or fracturing connection between units and building structure or between units themselves.
 - 9. Anchors, fasteners and braces shall be structurally stressed not more than 50% of allowable stress when maximum loads are applied.
 - 10. Allow for expansion and contraction due to structural movement without detriment to appearance or performance.
 - 11. System shall drain to exterior face of wall, water entering joints and condensation occurring within system by drain holes and gutters of adequate size to evacuate water without infiltration to interior or the top of lower lites of glass.
 - 12. Provide concealed fastening.
 - 13. Metal faces are required to be visually flat under all lighting conditions, subject to acceptance of Architect.
 - 14. Use dense EPDM isolators to maintain adequate compression on glazing material.
 - 15. Provide uniform color and profile appearance at components exposed to view.
 - 16. Provide interior dense EPDM [closed cell EPDM sponge] gasket with sealed corners, with maximum 30% compression when glazed, to create a water and air seal. Provide exterior dense EPDM wedge gasket at the verticals and exterior EPDM gasket at the horizontals, with a maximum 30% compression when glazed, to create a water & air seal.
 - 17. Provide pre-punched pressure plates to ensure correct quantity and spacing of fasteners.
 - 18. Performance Requirements:
 - a. Air infiltration: Air leakage shall not exceed 0.06 cfm per square foot of surface area when tested in accordance with ASTM E283 at differential static pressure of 6.24 psf.
 - b. Water Resistance (static): No uncontrolled leakage when tested in accordance with ASTM E331 at test pressure of 15.0 psf as defined in AAMA 501.
 - c. Water Resistance (dynamic): No uncontrolled leakage when tested in accordance with ASTM E331 at test pressure of 15.0 psf as defined in AAMA 501.

- d. Uniform Load: A static air design load of 40 psf shall be applied in a positive and negative direction in accordance with ASTM E 330. At structural test load equal to 1.5 times the specified design load, no glass breakage or permanent set in the framing members in excess of 0.2% of their clear spans shall occur.
19. Structural Requirements:
- a. Wind loading: 30 PSF, Exposure C, Basic ground wind speed: 95 mph.
 - b. Deflection under uniform loading: When tested in accordance with ASTM E330 at design pressure, maximum deflection of exterior member shall not exceed L/175 for spans up to 13'-6" or L/240 + 1/4" for spans greater than 13'-6".
 - c. Parallel to wall and corner mullion deflections: 75% of glass edge bite or 3/8 inch, whichever is less.
 - d. Compression flanges of flexural members may be assumed to receive effective lateral bracing only from:
 - 1) Anchors to building structure and
 - 2) Horizontal glazing rails or interior trim, which are in actual contact with compression flange.
 - e. Where framing member reaction is resisted by continuous element, maximum assumed effective length of the resisting element is 4 times bearing length, but not more than 12 inches.
- C. Thermal Requirements: Framing systems shall accommodate expansion and contraction movement due to surface temperature differential of 180F without causing buckling, stress on glass, failure of joint seals, excessive stress on structural elements, reduction of performance or other detrimental effects.
- D. Thermal Transmittance (U-factor): When tested to AAMA Specification 1503, the thermal transmittance (U-Factor) shall not be more than .63 (with clear glass).
- E. Condensation Resistance (CRF): When tested to AAMA Specification 1503, the condensation resistance factor shall not be less than 66 (for the frame).
- F. Sound Transmission: When tested to ASTM E90, the Sound Transmission Class (STC) shall not be less than 33 based upon 1" insulating glass (1/4", 1/2" AS, 1/4"); OR, not less than 37 based upon 1" insulating glass (1/4" Lam, 1/2" AS, 1/4" Lam).
- 1. Interface:
 - a. Furnish inserts and anchoring devices, which need to be preset and built into structure to appropriate trade.
 - b. Supply on timely basis to avoid delay in Work.
 - c. Instruct other trades of proper location and position.
 - d. Furnish setting drawings, diagrams, templates and installation instructions.

1.04 SUBMITTALS

- A. General: Submit in accordance with Section 01300.
- B. Product Data:
 - 1. Submit manufacturer's descriptive literature for each manufactured products.
 - 2. Include information for factory finishes, accessories and other required components.
 - 3. Include color charts for finish indicating manufacturer's standard colors available for selection.
 - 4. Shop Drawings:
 - a. Submit drawings indicating elevations, detailed design, dimensions, member profiles, joint locations, arrangement of units, member connections, and thickness of various components.
 - b. Show following items:
 - 1) Details of special shapes.
 - 2) Reinforcing.

- 3) Drainage details and flow diagrams.
- 4) Anchorage system.
- 5) Interfacing with building construction.
- 6) Provisions for system expansion and contraction
- 7) Thermal breaks.
- c. Indicate glazing details, methods, [locations of various types and thickness of glass] [, emergency breakout locations,] and internal sealant requirements.
- d. Clearly indicate locations of exposed fasteners and joints for Architect's acceptance.
- e. Clearly show where and how manufacturer's system deviates from Contract Drawings and these Specifications.
5. Submit manufacturers samples indicating quality of finish in required colors.
6. Where normal texture or color variations are expected, include additional samples illustrating range of variation.
 - a. Submit samples of sealants for color selection.
7. Certificates:
 - a. Submit manufacturer's certification stating that installed system is in compliance with specified requirements.
8. Warranty: Submit specified warranties.
9. Provide structural calculations for curtainwall system by a licensed structural engineer in the State of Maine.

1.05 QUALITY ASSURANCE

- A. Single Source Responsibility:
 1. Provide curtainwall systems that are products of a single manufacturer.
 2. Engineer Qualifications: Professional Structural Engineer registered in State where Project is located.
 3. Installer Qualifications: Certified in writing by system manufacturer as qualified for specified systems.

1.06 PRE-INSTALLATION CONFERENCE

- A. Conduct pre-installation conference in accordance with Section 01200.

1.07 DELIVERY, STORAGE, AND HANDLING

- A. Comply with requirements of Section 01600.
- B. Protect finished surfaces to prevent damage.
- C. Do not use adhesive papers or sprayed coatings, which become firmly bonded when exposed to sun.
- D. Do not leave coating residue on surfaces.
- E. Deliver glass units with manufacturer's labels intact on interior side of glass. Ensure labels indicate glass thickness, unit location, glass strength and orientation of units in vertical position.
- F. Protect glass edges and corners to prevent chipping, cracking, and other similar damages.

1.08 PROJECT CONDITIONS

- A. Ensure ambient and surface temperatures and joint conditions are suitable for installation of materials.

1.09 WARRANTY

- A. Provide warranties in accordance with Section 01700.
- B. Provide written warranty in form acceptable to Owner jointly signed by manufacturer, installer and Contractor warranting work to be watertight, free from deflective materials, defective

workmanship, glass breakage due to defective design, and agreeing to replace components which fail within 1 year from date of Substantial Completion.

- C. Warranty shall cover following:
1. Complete watertight and airtight system installation within specified tolerances.
 2. Glass and glazing gaskets will not break or "pop" from frames due to design wind, expansion or contraction movement or structural loading.
 3. Glazing sealants and gaskets will remain free from abnormal deterioration or dislocation due to sunlight, weather or oxidation.

PART 2 - PRODUCTS

2.01 MANUFACTURERS AND PRODUCTS

- A. Subject to compliance with requirements indicated, provide products by one of the following:
1. Oldcastle BuildingEnvelope™, Terrell, TX.
 2. Wausau Window and Wall Systems; Wausau, WI: Superwall, 4 1/2" deep series. Similar to #6250.
 3. Portal Inc, Avon, MA
 4. Substitutions: Submit under provisions of Section 01630, a minimum of 10 days prior to bid date.

2.02 OLDCASTLE BUILDINGENVELOPE™ CURTAINWALL SYSTEMS INCLUDED IN THIS SECTION ARE AS FOLLOWS:

- A. RELIANCE WALL - Basis of Design
- B. 1" Glazing, 2-1/2" x 4-1/2" mullion profile; pressure glazed, front set, exterior glazed, stick wall system.
- C. Alternate #1: 1" aluminum insulated panel at spandrel.

2.03 FRAMING MATERIALS AND ACCESSORIES

- A. Aluminum:
1. ASTM B221, alloy 6063-T5 for extrusions; ASTM B209, alloy 5005-H16 for sheets; or other alloys and temper recommended by manufacturer appropriate for specified finish.
 2. Internal Reinforcing:
 - a. ASTM A36 for carbon steel; or ASTM B308 for structural aluminum.
 - b. Shapes and sizes to suit installation.
 - c. Shop coat steel components after fabrication with alkyd type zinc chromate primer complying with FS TT-P-645.
 3. Inserts and Anchorage Devices:
 - a. Manufacturer's standard formed or fabricated assemblies, steel or aluminum, of shapes, plates, bars or tubes.
 - b. Hot-dip galvanize steel assemblies after fabrication, comply with ASTM A123, 2.0 ounce minimum coating.
 4. Fasteners:
 - a. Non-magnetic stainless steel or cadmium plated steel coated with yellow or silver iridescence plating, compatible with materials being fastened.
 - b. Series 300 stainless steel for exposed locations. Cadmium plated steel with 0.0005 inch plating thickness and color chromate coated for concealed locations.
 - c. Provide nuts or washers of design having the means to prevent disengagement; deforming of fastener threads is not acceptable.
 - d. Provide concealed fasteners wherever possible.
 - e. For exposed locations, provide countersunk flathead fasteners with finish matching item fastened.
 5. Expansion Anchor Devices: Lead-shield or toothed-steel, drilled-in, expansion bolt anchors.

6. Shims: Non-staining, non-ferrous, type as recommended by system manufacturer.
7. Protective Coatings: Cold applied asphalt mastic complying with SSPC-Paint 12, compounded for 30 mil thickness for each coat; or alkyd type zinc chromate primer complying with FS TT-P-645.
8. Glazing Gaskets:
 - a. Compression type design, exterior replaceable, extruded EPDM. Interior is a dense EPDM [closed cell EPDM sponge] gasket.
 - b. Comply with ASTM C509 or C864.
 - c. Profile and hardness as necessary to maintain uniform pressure for watertight seal.
 - d. Manufacturer's standard black color.
9. Internal Sealants: Types recommended by system manufacturer to remain permanently non-hardening, non-migrating and weather-tight.
10. Spandrel Panels: Alternate #1.1" total thickness.
 - a. Type: Aluminum sheet, suitably reinforced on concealed surface for surface flatness, or prefabricated sandwich panels at manufacturer's option. See section 074264 for metal composite wall panels.
 - b. Surface flatness: 0.015 inch maximum deviation when measured with 6 inch rule.
 - c. Squareness: 0.002 inch maximum for each inch of length at panel edge.
 - d. Anchorage: Allow for expansion and contraction, to minimize oilcanning and distortion.
11. Metal composite wall panel: Provide on interior side of curtainwall frame in spandrel glazing locations to conceal glazing.

2.04 GLASS AND GLAZING ACCESSORIES

- A. Refer to Section 08810.

2.05 SYSTEM FABRICATION

- A. Take accurate field measurements to verify required dimensions prior to fabrication.
- B. Location of exposed joints is subject to Architect's acceptance.
- C. Provide dense EPDM continuous isolator to separate exterior pressure plates and interior framing members.
- D. Fabricate components in accord with approved shop drawings. Remove burrs and ease edges. Shop fabricate to greatest extent practicable to minimize field cutting, splicing, and assembly. Disassemble only to extent necessary for shipping and handling limitations.
- E. Steel Components:
 1. Clean surfaces after fabrication and immediately prior to application of primer in accord with SSPC-SP2 or SSPC-SP3 at manufacturer's option.
 2. Apply specified shop coat primer in accord with manufacturer's instructions to provide 2.0 minimum dry film thickness.
 3. Fabricate components true to detail and free from defects impairing appearance, strength or durability. [Fabricate custom extrusions indicated and as necessary for complete installation.]
 4. Fabricate components to allow for accurate and rigid fit of joints and corners. Match components carefully ensuring continuity of line and design. Ensure joints and connections will be flush and weather-tight. Ensure slip joints make full, tight contact and are weather-tight.
 5. Reinforce components as required at anchorage and support points, at joints, and at attachment points for interfacing work.
 6. Provide structural reinforcing within framing members where required to maintain rigidity and accommodate design loads.
 7. System design and sealants to accommodate internal weep and drainage system not visible to the exterior.

8. Head and sill extrusions act as gutter and weep water to exterior; do not penetrate sections with fasteners.
9. Allow for adequate clearance around perimeter of system to enable proper installation and for thermal movement within system.
10. Separate dissimilar metals with protective coating or preformed separators to prevent contact and corrosion.
11. Provide framing members to rigidly glaze spandrel panels and column covers within framing system.

2.06 FINISH

- A. Organic Coating (high performance fluorocarbon):
 1. Comply with requirements of AAMA 2605.
 2. Surfaces cleaned and given conversion coating pre-treatment prior to application of 0.3 mil dry film thickness of epoxy or acrylic primer following recommendations of finish coat manufacturer.
 3. Finish coat of [50%] [70%] minimum fluorocarbon resin fused to primed surfaces at temperature recommended by manufacturer, 1.0 mil minimum dry film thickness.
 4. Acceptable coatings are Trinar by Akzo Coatings, Inc.; Nubelar by Glidden Company; Fluoroceram by Morton International, Inc.; Duranar by PPG Industries Inc.; and Fluropon by Valspar Corporation.
 5. Provide in either 2, 3, or 4 coat system as required for color selected.
 6. Manufacturer's standard colors. Bright Silver #359X440 Premier Fluorospar Classic II as manufactured by Old Castle.
 7. Clear Anodized:
 - a. Conforming to AA-M12C22A31 and AAMA 607.1.
 - b. Architectural Class I, etched, medium matte, clear anodic coating, 0.7 mil minimum thickness.]

PART 3 - EXECUTION

3.01 EXAMINATION

- A. Examine conditions and proceed with Work in accordance with Section 01400.
- B. Verify dimensions, tolerances, and method of attachment with other Work.

3.02 INSTALLATION

- A. Install in accordance with manufacturer's instructions and applicable provisions of AAMA Aluminum Curtain Wall Design Guide Manual.
- B. Align assemblies plumb and level, free of warp or twist, aligning with adjacent Work.
- C. Tolerances:
 1. Limit variations from plumb and level:
 - a. 1/8 inch in 20'-0" vertically and horizontally.
 - b. 1/4 inch in 40'-0" either direction.
 - c. Limit offsets in theoretical end-to-end and edge-to-edge alignment:
 - 1) 1/16 inch where surfaces are flush or less than 1/2 inch out of flush and separated by not more than 2 inches.
 - 2) 1/8 inch for surfaces separated by more than 2 inches.
 - d. Step in face: 1/16 inch maximum.
 - e. Jog in alignment: 1/16 inch maximum.
 - f. Location: 1/4 inch maximum deviation of any member at any location.
 - g. Tolerances are not accumulative.
 2. Provide attachments and shims to permanently fasten system to building structure.
 3. Anchor securely in place, allowing for required movement, including expansion and contraction.

- 4. Separate dissimilar materials at contact points, including metal in contact with masonry or concrete surfaces, with protective coating or preformed separators to prevent contact and electrolytic action.
- D. Set sill members in bed of sealant. Set other members with internal sealants and baffles to provide weather-tight construction.
- E. Water Drainage: Each light of glass shall be compartmentalized using joint plugs and silicone sealant to divert water to the horizontal weep locations. Weep holes shall be located in the horizontal pressure plates and covers to divert water to the exterior of the building.
- F. Provide sill, head, and jamb flashings as indicated on drawings and/or as required to provide a complete and functional water protection and drainage system.

3.03 CLEANING

- A. Clean surfaces in compliance with manufacturer's recommendations; remove excess mastic, mastic smears, and other foreign materials.
- B. Clean metal surfaces exercising care to avoid damage.

END OF SECTION

SECTION 09 2116
GYPSUM BOARD ASSEMBLIES

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Metal channel ceiling framing.
- B. Gypsum wallboard.- ceilings patch/ repair
- C. Joint treatment and accessories.

1.02 REFERENCE STANDARDS

- A. ASTM C475/C475M - Standard Specification for Joint Compound and Joint Tape for Finishing Gypsum Board; 2002 (Reapproved 2007).
- B. ASTM C645 - Standard Specification for Nonstructural Steel Framing Members; 2011a.
- C. ASTM C754 - Standard Specification for Installation of Steel Framing Members to Receive Screw-Attached Gypsum Panel Products; 2011.
- D. ASTM C840 - Standard Specification for Application and Finishing of Gypsum Board; 2011.
- E. ASTM C954 - Standard Specification for Steel Drill Screws for the Application of Gypsum Panel Products or Metal Plaster Bases to Steel Studs From 0.033 in. (0.84 mm) to 0.112 in. (2.84 mm) in Thickness; 2011.
- F. ASTM C1002 - Standard Specification for Steel Self-Piercing Tapping Screws for the Application of Gypsum Panel Products or Metal Plaster Bases to Wood Studs or Steel Studs; 2007.
- G. ASTM C1047 - Standard Specification for Accessories for Gypsum Wallboard and Gypsum Veneer Base; 2010a.
- H. ASTM C1396/C1396M - Standard Specification for Gypsum Board; 2011.
- I. GA-216 - Application and Finishing of Gypsum Board; Gypsum Association; 2010.

1.03 SUBMITTALS

- A. See Section 01 3000 - Administrative Requirements, for submittal procedures.

PART 2 PRODUCTS

2.01 GYPSUM BOARD ASSEMBLIES

- A. Provide completed assemblies complying with ASTM C840 and GA-216.

2.02 METAL FRAMING MATERIALS

- A. Non-Loadbearing Framing System Components: ASTM C645; galvanized sheet steel, of size and properties necessary to comply with ASTM C754 for the spacing indicated, with maximum deflection of wall framing of L/240 at 5 psf (240 Pa).
 - 1. Ceiling Channels: C shaped.
 - 2. Furring: Hat-shaped sections, minimum depth of 7/8 inch (22 mm).
- B. Ceiling Hangers: Type and size as specified in ASTM C754 for spacing required.

2.03 BOARD MATERIALS

- A. Manufacturers - Gypsum-Based Board:
 - 1. Georgia-Pacific Gypsum: www.gpgypsum.com.
 - 2. National Gypsum Company: www.nationalgypsum.com.
 - 3. USG Corporation: www.usg.com.
- B. Gypsum Wallboard: Paper-faced gypsum panels as defined in ASTM C1396/C1396M; sizes to minimize joints in place; ends square cut.
 - 1. Application: Use for vertical surfaces and ceilings, unless otherwise indicated.

2. Thickness:
 - a. Vertical Surfaces: 5/8 inch (16 mm).

2.04 ACCESSORIES

- A. Finishing Accessories: ASTM C1047, galvanized steel or rolled zinc, unless otherwise indicated.
 1. Types: As detailed or required for finished appearance.
- B. Joint Materials: ASTM C475 and as recommended by gypsum board manufacturer for project conditions.
- C. Screws for Attachment to Steel Members Less Than 0.03 inch (0.7 mm) In Thickness, to Wood Members, and to Gypsum Board: ASTM C1002; self-piercing tapping type; cadmium-plated for exterior locations.
- D. Screws for Attachment to Steel Members From 0.033 to 0.112 inch (0.8 to 2.8 mm) in Thickness: ASTM C954; steel drill screws for application of gypsum board to loadbearing steel studs.

PART 3 EXECUTION

3.01 EXAMINATION

- A. Verify that project conditions are appropriate for work of this section to commence.

3.02 FRAMING INSTALLATION

- A. Metal Framing: Install in accordance with ASTM C754 and manufacturer's instructions.
- B. Standard Wall Furring: Install at masonry walls or ceilings scheduled to receive gypsum board, not more than 4 inches (100 mm) from floor and ceiling lines and abutting walls. Secure in place on alternate channel flanges at maximum 24 inches (600 mm) on center.
 1. Spacing: As permitted by standard.

3.03 BOARD INSTALLATION

- A. Comply with ASTM C 840, GA-216, and manufacturer's instructions. Install to minimize butt end joints, especially in highly visible locations.

3.04 INSTALLATION OF TRIM AND ACCESSORIES

- A. Control Joints: Place control joints consistent with lines of building spaces and as indicated.
- B. Corner Beads: Install at external corners, using longest practical lengths.

3.05 JOINT TREATMENT

- A. Finish gypsum board in accordance with levels defined in ASTM C840, as follows:
 1. Level 4: Walls and ceilings to receive paint finish or wall coverings, unless otherwise indicated.
- B. Tape, fill, and sand exposed joints, edges, and corners to produce smooth surface ready to receive finishes.
 1. Feather coats of joint compound so that camber is maximum 1/32 inch (0.8 mm).

END OF SECTION

SECTION 09 9000
PAINTING AND COATING

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Surface preparation.
- B. Field application of paints, stains, varnishes, and other coatings.
- C. Scope: Finish all interior and exterior surfaces exposed to view, unless fully factory-finished and unless otherwise indicated, including the following:
- D. Do Not Paint or Finish the Following Items:
 - 1. Items fully factory-finished unless specifically so indicated; materials and products having factory-applied primers are not considered factory finished.
 - 2. Items indicated to receive other finishes.
 - 3. Items indicated to remain unfinished.
 - 4. Fire rating labels, equipment serial number and capacity labels, and operating parts of equipment.
 - 5. Floors, unless specifically so indicated.
 - 6. Glass.
 - 7. Concealed pipes, ducts, and conduits.

1.02 REFERENCE STANDARDS

- A. 40 CFR 59, Subpart D - National Volatile Organic Compound Emission Standards for Architectural Coatings; U.S. Environmental Protection Agency; current edition.
- B. ASTM D4442 - Standard Test Methods for Direct Moisture Content Measurement of Wood and Wood-Base Materials; 2007.

1.03 SUBMITTALS

- A. See Section 01 3000 - Administrative Requirements, for submittal procedures.

1.04 DELIVERY, STORAGE, AND HANDLING

- A. Deliver products to site in sealed and labeled containers; inspect to verify acceptability.
- B. Container Label: Include manufacturer's name, type of paint, brand name, lot number, brand code, coverage, surface preparation, drying time, cleanup requirements, color designation, and instructions for mixing and reducing.
- C. Paint Materials: Store at minimum ambient temperature of 45 degrees F (7 degrees C) and a maximum of 90 degrees F (32 degrees C), in ventilated area, and as required by manufacturer's instructions.

1.05 FIELD CONDITIONS

- A. Do not apply materials when surface and ambient temperatures are outside the temperature ranges required by the paint product manufacturer.
- B. Follow manufacturer's recommended procedures for producing best results, including testing of substrates, moisture in substrates, and humidity and temperature limitations.

PART 2 PRODUCTS

2.01 MANUFACTURERS

- A. Provide all paint and coating products used in any individual system from the same manufacturer; no exceptions.
- B. Paints:
 - 1. Duron, Inc: www.duron.com.
 - 2. Glidden Professional: www.gliddenprofessional.com.

3. Benjamin Moore & Co: www.benjaminmoore.com.
 4. Pratt & Lambert Paints: www.prattandlambert.com.
 5. Sherwin-Williams Company: www.sherwin-williams.com.
- C. Transparent Finishes:
1. Sherwin-Williams Company: www.sherwin-williams.com.
 2. Benjamin Moore.
 3. Glidden Professional.
- D. Primer Sealers: Same manufacturer as top coats.
- E. Block Fillers: Same manufacturer as top coats.
- F. Substitutions: See Section 01 6000 - Product Requirements.

2.02 PAINTS AND COATINGS - GENERAL

- A. Paints and Coatings: Ready mixed, unless intended to be a field-catalyzed coating.
1. Provide paints and coatings of a soft paste consistency, capable of being readily and uniformly dispersed to a homogeneous coating, with good flow and brushing properties, and capable of drying or curing free of streaks or sags.
 2. Supply each coating material in quantity required to complete entire project's work from a single production run.
 3. Do not reduce, thin, or dilute coatings or add materials to coatings unless such procedure is specifically described in manufacturer's product instructions.
 4. Assume two color scheme pattern for all interior plaster/ gypsum board wall surfaces. Color scheme to be provided by Architect/ Owner.
- B. Primers: Where the manufacturer offers options on primers for a particular substrate, use primer categorized as "best" by the manufacturer.
- C. Volatile Organic Compound (VOC) Content:
1. Provide coatings that comply with the most stringent requirements specified in the following:
 - a. 40 CFR 59, Subpart D--National Volatile Organic Compound Emission Standards for Architectural Coatings.
 2. Determination of VOC Content: Testing and calculation in accordance with 40 CFR 59, Subpart D (EPA Method 24), exclusive of colorants added to a tint base and water added at project site; or other method acceptable to authorities having jurisdiction.

2.03 PAINT SYSTEMS - EXTERIOR

- A. Paint EC-OP - All Exterior Concrete and Masonry Surfaces Indicated to be Painted, Unless Otherwise Indicated: Including concrete.
1. Preparation as specified by manufacturer.
 2. Two top coats and one coat primer recommended by manufacturer.
 3. Primer On Concrete and Concrete Masonry: One heavy coat latex block filler (100 percent acrylic) squeegeed into pores., if required.

2.04 PAINT SYSTEMS - INTERIOR

- A. Paint I-TR - Transparent Finish on Wood, Unless Otherwise Indicated:
1. 2 top coats, no stain.
- B. Paint CI-OP-2L - Concrete/Masonry, Opaque, Latex, 2 Coat:
1. One coat of block filler. Confirm if required by manufacturer.
 2. Flat: Two coats of latex enamel; _____.
- C. Paint GI-OP-2LA - Gypsum Board/Plaster, Latex-Acrylic, 2 Coat:
1. One coat of alkyd primer sealer.
 2. Eggshell: Two coats of latex-acrylic enamel; _____.

PART 3 EXECUTION

3.01 EXAMINATION

- A. Verify that surfaces are ready to receive work as instructed by the product manufacturer.
- B. Examine surfaces scheduled to be finished prior to commencement of work. Report any condition that may potentially affect proper application.
- C. Test shop-applied primer for compatibility with subsequent cover materials.
- D. Measure moisture content of surfaces using an electronic moisture meter. Do not apply finishes unless moisture content of surfaces are below the following maximums:
 - 1. Gypsum Wallboard: 12 percent.
 - 2. Masonry, Concrete, and Concrete Unit Masonry: 12 percent.
 - 3. Interior Wood: 15 percent, measured in accordance with ASTM D4442.

3.02 PREPARATION

- A. Clean surfaces thoroughly and correct defects prior to coating application.
- B. Prepare surfaces using the methods recommended by the manufacturer for achieving the best result for the substrate under the project conditions.
- C. Remove or mask surface appurtenances, including electrical plates, hardware, light fixture trim, escutcheons, and fittings, prior to preparing surfaces or finishing.
- D. Seal surfaces that might cause bleed through or staining of topcoat.
- E. Remove mildew from impervious surfaces by scrubbing with solution of tetra-sodium phosphate and bleach. Rinse with clean water and allow surface to dry.
- F. Concrete and Unit Masonry Surfaces to be Painted: Remove dirt, loose mortar, scale, salt or alkali powder, and other foreign matter. Remove oil and grease with a solution of tri-sodium phosphate; rinse well and allow to dry. Remove stains caused by weathering of corroding metals with a solution of sodium metasilicate after thoroughly wetting with water. Allow to dry.
- G. Gypsum Board Surfaces to be Painted: Fill minor defects with filler compound. Spot prime defects after repair.
- H. Plaster Surfaces to be Painted: Fill hairline cracks, small holes, and imperfections with latex patching plaster. Make smooth and flush with adjacent surfaces. Wash and neutralize high alkali surfaces.
- I. Interior Wood Surfaces to Receive Transparent Finish: Wipe off dust and grit prior to sealing, seal knots, pitch streaks, and sappy sections with sealer. Fill nail holes and cracks after sealer has dried; sand lightly between coats. Prime concealed surfaces with gloss varnish reduced 25 percent with thinner.

3.03 APPLICATION

- A. Apply products in accordance with manufacturer's instructions.
- B. Do not apply finishes to surfaces that are not dry. Allow applied coats to dry before next coat is applied.
- C. Apply each coat to uniform appearance.
- D. Sand wood surfaces lightly between coats to achieve required finish.
- E. Vacuum clean surfaces of loose particles. Use tack cloth to remove dust and particles just prior to applying next coat.
- F. Wood to Receive Transparent Finishes: Tint fillers to match wood. Work fillers into the grain before set. Wipe excess from surface.

- G. Reinstall electrical cover plates, hardware, light fixture trim, escutcheons, and fittings removed prior to finishing.

END OF SECTION