The University of New Orleans

Science Lab Upgrades
Phase II

THE UNIVERSITY of NEW ORLEANS

H/S HOLLY & SMITH ARCHITECTS

H/S Project No. 21006

August 12, 2021

UNIVERSITY of NEW ORLEANS

BID SPECIFICATIONS FOR
JOB ENTITLED

SCIENCE LAB UPGRADES – PHASE II
SCIENCE BUILDING

Sealed Bid #BTB 2657REBID

Bid Date: SEPTEMBER 23, 2021

Bid Time: 2:00 p.m.

Mandatory Pre-Bid Conference:

Date: SEPTEMBER 13, 2021

10:00 a.m. at the

Lab 1008, Science Building

THE UNIVERSITY of NEW ORLEANS

SP5198

UNIVERSITY of NEW ORLEANS

BID SPECIFICATIONS FOR
JOB ENTITLED

SCIENCE LAB UPGRADES – PHASE II
SCIENCE BUILDING

PREPARED BY

UNIVERSITY OF NEW ORLEANS

PURCHASING OFFICE

Administration Annex, Room 1004-G

LAKEFRONT - NEW ORLEANS - LOUISIANA – 70148

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PURCHASING REPRESENTATIVE: Troy Bacino, Assistant Director
for Purchasing

(504)280-6172 FAX (504)280-6297 E-mail tabacino@uno.edu

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Date: August 12, 2021

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INSTRUCTIONS TO BIDDERS

ARTICLE I

PROJECT TITLE AND BID OPENING DATE & TIME

1.1 Project Title: **SCIENCE LAB UPGRADES – PHASE II**

Bid Opening Date & Time: **SEPTEMBER 23, 2021 at 2:00 p.m.**

Location of Bid Opening:

University of New Orleans Campus
Purchasing Office
Administration Annex, Room 1004G
New Orleans, Louisiana 70148

1.2 DEFINITIONS

1.2.1 The Bidding Documents include the following

1.2.2 All definitions set forth in the General Conditions of the Contract for Construction, AIA Documents A201, or in other Contract Documents are applicable to the Bidding Documents.

1.2.3 Addenda are written or graphic instruments issued by the Architect prior to the opening of bids which modify or interpret the bidding documents by addition, deletions, clarifications, or corrections.

1.2.4 A Bid is a complete and properly signed proposal to do the Work or designated portion thereof for the sums stipulated therein supported by data called for by the Bidding Documents.

1.2.5 Base Bid is the sum stated in the Bid for which the Bidder offers to perform the Work described as the base, to which work may be added for sums stated in Alternate Bids.

1.2.6 An Alternate Bid (or Alternate) is an amount stated in the Bid to be added to the amount of the Base Bid if the corresponding change in project scope or materials or methods of construction described in the Bidding Documents is accepted.

1.2.7 A Unit Price is an amount stated in the Bid as a price per unit of measurement for materials or services as described in the proposed Contract Documents.

1.2.8 A Bidder is one who submits a Bid for a prime contract with the Owner for the Work described in the proposed Contract Documents.

1.2.9 A Sub-bidder is one who submits a bid to a Bidder for materials or labor for a portion of the Work

ARTICLE 2

BIDDER'S REPRESENTATION

2.1 Each Bidder by making his bid represents that:

2.1.1 He has read and understands the Bidding Documents and his bid is made in accordance therewith.

2.1.2 He has visited the site and familiarized himself with the local conditions under which the work is to be performed.

The Bidder is advised to carefully consider all University physical features and activities and occupancies by faculty, staff and students, and to plan construction activities so as not to disrupt the normal operations and activities of the University except as expressly permitted by the University in writing. The Bidder shall be especially aware of existing electric, gas, water, telephone and/or other utilities and facilities which may be in the way of or adjacent to the Work, and shall take appropriate action to protect these utilities during the Work.

Every effort has been made to accurately show all pertinent surface and subsurface features accurately. For self-assurance, the Bidder may examine available drawings and documents related to University premises. Such examinations may be made only in the offices of the University Facility Services as part of the Mandatory Pre-Bid Conference.

2.1.3 His bid is based solely upon the materials, systems and equipment described in the Bidding Documents as advertised and as modified by addenda.

2.1.4 When a discrepancy or ambiguity arises between the written specifications and the drawings, the document which is more stringent, or which benefits the University more as determined by the Director, shall govern.

2.1.5 His bid is not based on any verbal instructions contrary to the Bidding Documents and addenda.

2.2 The Bidder must be fully qualified under any State or local licensing law for Contractors in effect at the time and at the location of the work before submitting his bid. In the State of Louisiana, only the bids of Contractors and Subcontractors duly licensed under Louisiana Revised Statutes 37:2150, et seq. will be considered, if applicable. The Contractor shall be responsible for determining that all of his Subbidders or prospective Subcontractors are duly licensed in accordance with law. (See paragraph 4.1.8)

2.3 The University reserves the right to examine the Successful Bidder's past payroll records and those of any subcontractor to determine whether the employees being used on the contract are regularly employed. The University also reserves the right to question the use of an employee whom it feels is unskilled or untrained on a task that requires a skill. If the bidder intends to use laborers or unskilled workmen on any aspect of the contract, the bidder must furnish a list of the tasks to be performed by said laborers and unskilled workmen with their bid.

2.4 If the Contractor is required to replace any employees because of their failure to comply with these requirements, any time lost on the job shall be the responsibility of the Contractor and shall not be an acceptable reason for requesting extensions of any completion deadlines or waiver of any liquidated damages specified elsewhere in the bid specifications.

2.5 In the event of inconsistencies within or between parts of the Contract Documents, or between the Contract Documents and applicable standards, codes, and ordinances, the Contractor shall: (1) Provide the better quality, upgrade, or quantity of Work, or (2) Comply

with the more stringent requirement, either or both in accordance with the Architect=s interpretation.

ARTICLE 3

BIDDING DOCUMENTS

3.1 Copies

3.1.1 Complete bid documents may be obtained from the University of New Orleans Purchasing Office.

The Bidding Documents consist of the Drawings, the Bid Instructions and all Addenda issued prior to bid opening. Changes to the work made after the contract signing shall be documented by Change Order.

These INSTRUCTIONS TO BIDDERS, including amendments and additions thereto, apply to each and every heading of the TECHNICAL SPECIFICATIONS with the same force as though repeated in full under each heading.

3.1.2 Complete sets of Bidding Documents shall be used in preparing bids; neither the University nor the Consultant assume any responsibility for errors or misinterpretations resulting from the use of incomplete sets of Bidding Documents.

3.1.3 The University or Consultant in making copies of the Bidding Documents available on the above terms, do so only for the purpose of obtaining bids on the work and do not confer a license or grant for any other use.

3.2 Interpretation or Correction of Bidding Documents

3.2.1 Bidders shall promptly notify the Architect of any ambiguity, inconsistency, or error which they may discover upon examination of the Bidding Documents or of the site and local conditions

3.2.2 Bidders requiring clarification or interpretation of the Bidding Documents shall make a written request to the Architect to reach him at least seven (7) days prior to the date for receipt of bids.

3.2.3 It shall be the Bidder's responsibility to make inquiry as to addenda issued. All issued addenda shall be acknowledged on the Bid Form and shall become part of the Contract. Neither the University nor its Consultant(s) will be responsible for any explanation or interpretations of the Documents not covered by written, issued addenda.

3.2.4 Any interpretation, correction or change of the Bidding Documents will be made by addendum. Interpretations, corrections or changes of the Bidding Documents made in any other manner will not be binding, and Bidders shall not rely upon such interpretations, corrections and changes.

3.3 Substitutions

3.3.1 The materials, products and equipment described in the Bidding Documents establish a standard of required function, dimension, appearance and quality to be met by any proposed substitution. No substitutions shall be allowed after bid opening.

3.3.2 No substitution will be considered unless written request for approval has been submitted by the Proposer and has been received by the Architect at least seven (7) days prior to the date for receipt of bids. Each such request shall include the name of the material or equipment for which it is to be substituted and a complete description of the proposed substitute including model numbers, drawings, cuts, performance and test data and any other information necessary for an evaluation.

A statement setting forth any changes in other materials, equipment or work that incorporation of the substitute would require shall be included. It shall be the responsibility of the proposer to include in his proposal all changes required of the Contract Documents if the proposed substitute is used. The burden of proof of the merit of the proposed substitute is upon the proposer. The Architect's decision of approval or disapproval of a proposed substitution shall be final.

Approval, if granted, is given contingent upon Contractor being responsible for any costs which may be necessary to modify the space or facilities needed to accommodate the materials and equipment approved.

3.3.3 If the Architect approves any proposed substitution, such approval will be set forth in an addendum. Bidders shall not rely upon approvals made in any other manner.

3.3.4 It is incumbent upon the bidder, once a substitution is accepted, to assure that the substitution will meet the requirements of the project as an acceptable and contributing operating component of the completed project. The bidder and proposer of the substation if used in the project shall provide all information, drawings and other necessary equipment, and coordination to ensure that the substitution will operate, fit and be able to be maintained as an acceptable operating component of the project.

3.4 Addenda

3.4.1 Addenda will be e-mailed or delivered to all Contractors in attendance at the mandatory Pre-Bid Conference or to all known bidders by the Purchasing Department of the University of New Orleans to have received a complete set of bidding documents if no mandatory Pre-Bid Conference is scheduled.

3.4.2 Copies of addenda will be made available for inspection wherever Bidding Documents are on file for that purpose.

3.4.3 Addenda shall not be issued within a period of seventy-two (72) hours prior to the time set for the opening of bids, excluding Saturdays, Sundays, and any other legal holidays; however, if the necessity arises to issue an addendum modifying plans and specifications within the seventy-two-hour (72) period prior to the time for the opening of bids, then the opening of bids shall be extended exactly one week, without the requirement of re-advertising.

3.4.4 The University shall have the right to extend the bid date by up to (30) thirty days without the requirement of re-advertising. Any such extension shall be made by addendum issued by the University of New Orleans Purchasing Office.

3.4.5 Each Bidder shall ascertain from the University of New Orleans Purchasing Office prior to submitting his bid that he has received all addenda issued, and he shall acknowledge their receipt on the Bid Form.

ARTICLE 4

BIDDING PROCEDURE

4.1 Form and Style of Bids

4.1.1 Bids shall be submitted on the forms provided by the University.

4.1.2 All blanks on the Bid Form shall be filled in by electronic means, typewriter or manually in ink. Signature is required manually by ink.

4.1.3 Where so indicated by the makeup of the Bid Form, sums shall be expressed in both words and figures, and in case of discrepancy between the two, the written words shall govern.

4.1.4 Any interlineations, alteration or erasure must be initialed by the signer of the bid or his authorized representative.

4.1.5 Bidders are cautioned to complete all alternates and unit prices should such be required in the Bid Form. Failure to submit alternate and unit prices will render the proposal informal and shall cause its rejection.

4.1.6 Bidder shall make no additional stipulations on the Bid Form nor qualify his bid in any other manner.

4.1.7 The bid shall include the legal name of Bidder and the bid shall be signed by the person or persons legally authorized to bind the Bidder to a Contract. The authority of the signature of the person submitting the bid shall be deemed sufficient and acceptable under any of the following conditions:

a. Signature on bid is that of any corporate officer or member of a partnership or partnership in commendam listed on most current annual report on file with Secretary of State.

b. Signature on bid is that of authorized representative of corporation, partnership, or other legal entity and bid is accompanied by corporate resolution, certification as to the corporate principal, or other documents indicating authority which are acceptable to the University

c. Corporation, partnership, or other legal entity has filed in the records of the Secretary of State, an affidavit, resolution or other acknowledged or authentic document indicating the names of all parties authorized to submit bids for public contracts. A bid submitted by an agency shall have a current Power of Attorney attached certifying agent's authority to bind Bidder. The name and license number on the envelope shall be the same as the entity identified on the Bid Form

By signing this bid, the bidder certifies compliance with the above

4.1.8 On any bid of Fifty Thousand Dollars ($50,000.00) or more, the Contractor shall certify that he is licensed under R. S. 37: 2150-2173 by placing his signature on the appropriate blank on the Bid Form.

The contractor shall place his Louisiana Contractor License Number on the appropriate blank on the Bid Form.

The Contractor shall be licensed by the Louisiana State Licensing Board for Contractors under Category I Building Construction.

Bids in excess of Fifty Thousand Dollars ($50,000.00) received from contractors not licensed under the above classification will not be considered.

4.2 Bid Security

4.2.1 No bid shall be considered or accepted unless the bid is accompanied by bid security. Bid Security must accompany the bid in the sealed envelope. Bidders to attach a certified check, cashier's check, or University of New Orleans Bid Bond Form in the amount of five percent (5%) of the sum of the base bid and all alternates, as an evidence of good faith. Bidders are hereby notified that Bank Checks, Official Bank Checks or similar are not acceptable as bid security. Certified or cashier's checks to be drawn on a bank insured by the Federal Deposit Insurance Corporation in favor of The University of New Orleans or the bid bond shall be written by a surety or insurance company currently on the U.S. Department of the Treasury Financial Management Service list of approved bonding companies which is published annually in the Federal Register, or by a Louisiana-domiciled insurance company with at least an A- rating in the latest printing of the A.M. Best's Key Rating Guide to write individual bonds up to ten percent of policyholder's surplus as shown in the A.M. Best's Key Rating Guide. If the bid security for this project is a Bond, then such Bond shall be submitted on the Bid Bond Form included in the specifications. Any Bond submitted other than on this bond form shall cause the bid to be rejected.

Bid Security furnished by the Contractor shall guarantee that the Contractor will, if awarded the work according to the terms of his proposal, enter into the Contract and furnish Performance and Payment Bonds as required by these Bidding Documents, within ten (10) days after written notice that the instrument is ready for his signature.

Should the Bidder refuse to enter into such Contract or fail to furnish such bonds, the amount of the bid security shall be forfeited to the University as liquidated damages, not as penalty.

4.2.2 The University will have the right to retain the bid security of Bidders until either (a) the Contract has been executed and bonds have been furnished, or (b) the specified time has elapsed so that bids may be withdrawn, or (c) all bids have been rejected.

4.3 Submission of Bids

4.3.1 Bids shall be sealed in the envelope furnished with bid documents and will be received until the time specified and at the place specified in these bid documents. It shall be the specific responsibility of the Bidder to deliver his sealed bid to the University of New Orleans Purchasing Office at the appointed place and prior to the announced time for the opening of bids. Late delivery of a bid for any reason, including late delivery by United States Mail, or express delivery, shall disqualify the bid. The bid envelope shall be identified legibly on the outside with the following:

a. Project Name and Owner
b. Architect
c. Date
d. Name , Address, and license number of the Bidder.

If the bid is sent by mail, the sealed envelope shall be enclosed in a separate mailing envelope with the notation "Bid Enclosed" on the face thereof. Such bids shall be sent by Registered or Certified Mail, Return Receipt Requested, addressed to: University of New Orleans, Purchasing Office, Administration Annex Building, Room 1004-G, New Orleans, Louisiana 70148. Bids sent by express delivery shall be delivered to: University of New Orleans, Purchasing Office, Administration Annex Building, Room 1004-G, Lakefront, New Orleans, Louisiana 70148.

4.3.2 Bids shall be deposited at the designated location prior to the time on the date for receipt of bids indicated in these Bid documents, or any extension thereof made by addendum. Bids received after the time and date for receipt of bids will be returned unopened.

4.3.3 Bidder shall assume full responsibility for timely delivery at location designated for receipt of bids.

4.3.4 Oral, telephonic, telegraphic, or faxed bids are invalid and shall not receive consideration.

4.3.5 The University shall not consider notations written on outside of bid envelope which have the effect of amending the bid. Written modifications enclosed in the bid envelope, and signed or initialed by the Contractor or his representative, shall be accepted.

4.36 The bid submission shall include the following documents:

a. Bid Form and *Unit Price Form if unit prices are included.*
b. Bid Security
c. Document authorizing execution of signature on Bid Form if not submitting as a sole proprietor.

4.4 Modification or Withdrawal of Bid

4.4.1 A bid may not be modified, withdrawn, or canceled by the Bidder for a period of thirty (30) calendar days for the period following the time and bid date designated for the receipt of bids, and Bidder so agrees in submitting his bid, except in accordance with R.S. 38:2214 which states, in part, "Bids containing patently obvious, unintentional, and substantial mechanical, clerical, or mathematical errors, or errors of unintentional omission of a substantial quantity of work, labor, material, or services made directly in the compilation of the bid, may be withdrawn by the contractor if clear and convincing sworn, written evidence of such errors is furnished to the University of New Orleans Purchasing Office within forty-eight hours of the bid opening excluding Saturdays, Sundays, and legal holidays. Such errors must be clearly shown by objective evidence drawn from inspection of the original work papers, documents, or materials used in the preparation of the bid sought to be withdrawn. If the University of New Orleans Purchasing Office determines that the error is a patently obvious mechanical, clerical, or mathematical error, or unintentional omission of a substantial quantity of work, labor, material, or services, as opposed to a judgment error, and the bid was submitted in good faith it shall accept the withdrawal and return the bid security to the contractor."

4.4.2 Prior to the time and date designated for receipt of bids, bids submitted early may be modified or withdrawn by notice to the University of New Orleans Purchasing Office at the place and prior to the time designated for receipt of bids.

4.4.3 Withdrawn bids may be resubmitted up to the time designated for the receipt of bids provided that they are then fully in conformance with these Instructions to Bidders.

4.4.4 Bid Security shall be in an amount sufficient for the bid as modified or resubmitted.

ARTICLE 5

CONSIDERATION OF BIDS

5.1 Opening of Bids

5.1.1 The properly identified Bids received on time will be opened publicly and will be read aloud, and a tabulation abstract of the amounts of the base bids and alternates, if any, will be made available to Bidders.

5.2 Rejection of Bids

5.2.1 The University shall have the right to reject any or all bids and in particular to reject a bid not accompanied by any required bid security or data required by the Bidding Documents or a bid in any way incomplete or irregular. The provisions and requirements of the Instructions to Bidders, the Advertisement for bids, and those required on the bid form shall not be considered as informalities and shall not be waived.

5.2.2 The University reserves the right to reject any and all bids at its discretion.

5.3 Acceptance of Bid

5.3.1 It is the intent of the University, if any alternates are accepted, to accept them in the order in which they are listed in the Bid Form. Determination of the Low Bidder shall be on the basis of the sum of the base bid and the alternates accepted. However, the University shall reserve the right to accept alternates in any order which does not affect determination of the Low Bidder.

5.3.2 University of New Orleans upon receipt of bids, shall act within thirty calendar days of such receipt to award contract to the lowest responsible bidder provided the Bid has been submitted in accordance with the requirements of the Bidding Documents is judged to be reasonable and does not exceed the funds available or reject all bids. However, University of New Orleans, by mutually written consent, may agree to extend the deadline of award by one or more extensions of thirty calendar days.

ARTICLE 6

PERFORMANCE AND PAYMENT BOND

6.1 Bond Required

6.1.1 The Contractor shall pay for and provide a Performance and Labor and Material

Payment Bond in the full amount of the bid within ten (10) days after written notice from the University or its Consultant that the work has been awarded to him. Bond furnished shall be a statutory bond and no modification, omissions, additions in or to the terms of the contract, in the plans and specifications or in the manner and mode of payment shall in any manner diminish, enlarge, or otherwise modify the obligations of the bond. Surety bond shall be written by a surety or insurance company currently on the U.S. Department of the Treasury Financial Management Service list of approved bonding companies which is published annually in the Federal Register or by an insurance company that is either domiciled in Louisiana or owned by Louisiana residents and is licensed to write surety bonds. For any public works project, no surety or insurance company shall write a bond which is in excess of the amount indicated as approved by the U.S. Department of the Treasury Financial Management Service list; companies authorized by this paragraph who are not on the treasury list shall not write a bond when the penalty exceeds fifteen percent of its capital and surplus, such capital and surplus being the amount by which the company's assets exceed its liabilities as reflected by the most recent financial statements filed by the company with the Department of Insurance. In addition, any surety bond written for a public works project shall be written by a surety or insurance company that is currently licensed to do business in the State of Louisiana. Bond shall be in favor of The University of New Orleans.

6.2 Time of Delivery and Form of Bond

6.2.1 The Bidder shall deliver the required bond to the University simultaneous with the execution of the Contract.

6.2.2 Bond shall be in the form furnished by University of New Orleans Purchasing Office, entitled CONTRACT BETWEEN OWNER AND CONTRACTOR AND PERFORMANCE AND PAYMENT BOND, a copy of which is included in the Contract Documents.

6.2.3 The Bidder shall require the Attorney-in-Fact who executes the required bond on behalf of the surety to affix thereto a certified and current copy of his power of Attorney.

ARTICLE 7

FORM OF AGREEMENT BETWEEN OWNER AND CONTRACTOR

7.1 Form to be Used

7.1.1 Form of the Contract to be used shall be furnished by the University of New Orleans Purchasing Office, a copy of which is bound in the Bidding Documents.

7.2 Post Bid Information & Award

7.2.1 Submissions: Within ten (10) days after the Bid, the following documents shall be submitted to the Owner. **Failure to submit these documents within the specified time frame will result in disqualification of the Bidder.**

a. Attestation Affidavit (Past Criminal Convictions of Bidders and Verification of Employees) form found within this bid package, in accordance with La. R.S. 38:2227 and LA. R.S. 38:2212.10.
b. Non-Collusion Affidavit form bound within this bid package, in accordance with La. R.S. 38:2224

7.2.2 The Bidder shall, prior to the award of a Contract for the Work, submit the following information to the Architect.

a. A designation of the work to be performed by the Bidder with his own forces.
b. The proprietary names and the suppliers of principal items or systems of material and equipment proposed for the work.
c. A list of names of the subcontractors or other persons or organizations (including those who are to furnish materials or equipment fabricated to a special design) proposed for the principal portions of the work.
d. A Schedule of Values set up by trade item with labor and material separated for each phase of work.
e. The name of the proposed superintendent along with a resume of same. The resume shall cover biographical data, past experience, and references.

7.2.3 The Bidder will be required to establish to the satisfaction of the Architect and the Owner the reliability and responsibility of the proposed Subcontractors to furnish and perform the work described in the Sections of the Specifications pertaining to such proposed Subcontractors' respective trades.

7.2.4 Prior to the award of the Contract, the Architect will notify the Bidder if either the Owner or the Architect, after due investigation, has reasonable and substantial objection to any person or organization on the Contractor's list of proposed Subcontractors.

7.2.5 Subcontractors and other persons and organizations proposed by the Bidder and accepted by the Owner and the Architect must be used on the work for which they were proposed and accepted and shall not be changed except with the written approval of the Owner and the Architect.

7.2.6 As soon as the contract has been fully awarded according to law, certified checks will be returned to all bidders other than the successful Bidder; the latter’s check will be returned on the signing of the Contract.

7.2.7 Upon the execution of the contract, University of New Orleans, within thirty days thereafter, shall issue to the contractor a Notice to Proceed with the project. However, upon mutual consent by both parties, the Notice to Proceed may be extended.

7.2.8 After the purchase order has been awarded, no changes will be made to any part without written approval from the Director of the Department issuing these bid documents. The proposed change will be submitted in writing, with a complete breakdown of all material and labor, and the individual cost of each.

7.3 Successful Bidder’s Delivery Schedule

7.3.1 The Successful Bidder will provide a delivery construction schedule. Submit within fifteen (15) days after the date established “Commencement of the Work”.

7.3.2 Schedule Updating: Revise the schedule after each meeting, event, or activity where schedule revisions have been recognized or made. Distribute updated schedule with in seventy-two (72) hours to Project Manager for review.

7.4 Affirmative Action/Non-Discrimination

7.4.1 If the amount of the Contract is over $10,000, the successful Bidder shall be required to execute the Equal Employment Opportunity Clause and Assurance of non-discrimination prior to the University entering into a contract. These documents will be in accordance with Chapter 60 of the rules and regulations, Office of Federal Contract Compliance, Equal Opportunity, U.S. Department of Labor.

7.5 Compliance Agreement

7.5.1 If the amount of the contract is $50,000 or more, the successful Bidder shall be required to execute the Affirmative Action Compliance agreement prior to the University entering into a contract.

7.6 Recording Contract

7.6.1 The Contractor at his own expense, shall record the original executed Contract and the Performance and Labor and Material Bond with the Recorder of Mortgages, Orleans Parish, within five (5) working days of Contract signing. A NOTICE OF THIS RECORDING SHALL BE SENT TO THE PURCHASING OFFICE BEFORE PURCHASE ORDER AND NOTICE TO PROCEED ARE ISSUED.

7.6.2 Recordation of certain Change Orders, see General Conditions 1.16 CHANGES TO THE WORK.

7.7 Payments

7.7.1 The Contract shall provide payment equal to not more than ninety per cent (90%) of the total contract amount upon completion of the work. The remaining ten per cent (10%) shall be paid forty-five (45) days after the acceptance of the work by the University, provided a clear lien certificate is provided by the Contractor.

7.7.2 University standard forms for "Schedule of Values" and "Payment Request" will be provided to the Contractor at the Pre-Construction Conference. An original invoice must accompany the UNO pay request forms. **ONLY PAYMENT REQUESTS SUBMITTED ON THE UNIVERSITY FORM WILL BE PROCESSED FOR PAYMENT. ALL OTHERS WILL BE RETURNED FOR COMPLIANCE TO THIS REQUIREMENT**.

7.7.3 When an engineer, designer, or architect is involved with the project, all pay requests must have his or her original signature on the original pay request forms **before** they are submitted to the University for processing.

7.7.4 No notice of completion, delivery memo, invoice, or other document will be signed, or approvals of any type given for any part of the job or delivery of any equipment or materials, except by the Director of the Department issuing these bidding documents, or his designee, such designation to be made in writing and signed by the Director. All work will be done during normal working hours unless the Director grants prior written approval, or the scope of Work requires that the work be done after hours.

7.8 Termination of Contract for Convenience

7.8.1 The University may, at any time, terminate the Contract for the University's

convenience and without cause. Upon receipt of written notice from the University of such termination for the University's convenience, the Contractor shall: cease operations as directed by the University in the notice; take actions necessary, or that the University may direct, for the protection and preservation of the Material, terminate all existing subcontracts and purchase orders and enter into no further subcontracts and purchase orders.

7.8.2 In case of such termination for the University's convenience, Contractor shall be entitled to receive payment for Work executed along with reasonable overhead and profit.

7.8.3 University shall not be responsible or otherwise liable for any demobilization costs or Incidental or consequential damages resulting from such termination.

7.9 Acceptance of the Work

7.9.1 Upon substantial completion of the Work, the University shall execute a certificate that the whole work provided for in this agreement has been completed and approved under the terms and conditions thereof.

The Contractor shall then file the acceptance of the whole work at his expense with the Recorder of Mortgage of the Parish of Orleans.

ARTICLE 8

COMPLETION TIME AND LIQUIDATED DAMAGES

8.1 Contract Time:

8.1.1 The Bidder agrees to guarantee completion of the work within **One Hundred and Thirty-Five (135)** calendar days starting from the Notice to Proceed, subject to extensions as may be granted or the Contractor will be subject to pay to the University liquidated damages in the amount stated on this document. The Bidder's attention is especially directed to the urgency of this work and that time is of the essence.

a. Extensions for weather conditions shall not be given unless weather conditions prevailing are deemed by the Architect to be abnormal.

8.2 Liquidated Damages

8.2.1 Time is of the essence and completion of the work must be within the Contract Time for Completion-stated in Paragraph 8.1.1, subject to such extensions as may be granted by the University for delays identified as beyond the Contractor's control.
The Contractor will be assessed **Three Hundred Dollars ($300.00)** for each consecutive calendar day during which the work remains incomplete beyond the Contract Completion date stated on the "Notice to Proceed" or as amended by Change order, Sundays and holidays included. This amount is agreed upon as the proper measure of liquidated damages which the University will sustain per day by the failure of the undersigned to complete the work at the stipulated time and is not to be construed in any sense as a penalty.

ARTICLE 9

PRE-BID CONFERENCE

9.1 A Mandatory Pre-Bid Conference shall be held at the project site. Provisions for the site inspection are included as part of the mandatory **Pre-Bid Conference to be held in Science Building, Room 1008 at 10:00 A.M. on September 13, 2021**. The Pre-Bid Conference shall also provide opportunity for a review of the Bid Documents. The purpose of the Pre-Bid Conference is to familiarize Bidders with the requirements of the Project and the intent of the Bidding Documents, and to receive comments and information from interested Bidders.

9.2 Any revision of the Bidding Documents made as a result of the Pre-Bid Conference shall not be valid unless included in an addendum issued in accordance with Paragraph 3.4.1 of the Instructions to Bidders.

ARTICLE 10

FEDERAL & STATE CLAUSES FOR CONTRACTS

10.1 Federal clauses, if applicable

10.1.1 Anti-Kickback Clause: The contractor hereby agrees to adhere to the mandate dictated by the Copeland "Anti-Kickback" Act which provides that each contractor or subgrantee shall be prohibited from inducing, by any means, any person employed in the completion of work, to give up any part of the compensation to which he is otherwise entitled.

10.1.2 Clean Air Act: For contracts over $150,000, the contractor hereby agrees to adhere to the provisions which require compliance with all applicable standards, orders or requirements issued under Section 306 of the Clean Air Act which prohibits the use under non-exempt federal contracts, grants or loans of facilities included on the EPA list of violating facilities.

10.1.3 Energy Policy and Conservation Act: The contractor hereby recognizes the mandatory standards and policies relating to energy efficiency which are contained in the State energy conservation plan issued in compliance with the Energy Policy and Conservation Act (P.L. 94-163).

10.1.4 Clean Water Act: For contracts over $150,000, the contractor hereby agrees to adhere to the provisions which require compliance with all applicable standards, orders or requirements issued under Section 508 of the Clean Water Act which

prohibits the use under non-exempt federal contracts, grants or loans of facilities included on the EPA list of violating facilities.

10.1.5 Anti-Lobbying and Debarment Act: The contractor will be expected to comply with federal statutes in the Anti-Lobbying Act and the Debarment Act.

10.2 Prohibition of discriminatory boycotts of Israel in accordance with LA R.S. 39:1602.1 , the following applies to any bid with a value of $100,000 or more and to vendors with five or more employees: by submitting a response to this solicitation, the bidder or proposer certifies and agrees that the following information is correct: in preparing its response, the bidder or proposer has considered all proposals submitted from qualified, potential subcontractors and suppliers, and has not, in the solicitation, selection, or commercial treatment of any subcontractor or supplier, refused to transact or terminated business

activities, or taken other actions intended to limit commercial relations, with a person or entity that is engaging in commercial transactions in Israel or Israel-controlled territories, with the specific intent to accomplish a boycott or divestment of Israel. The bidder has also not retaliated against any person or other entity for reporting such refusal, termination, or commercially limiting actions. The state reserves the right to reject the response of the bidder or proposer if this certification is subsequently determined to be false, and to terminate any contract awarded based on such a false response.

10.3 Certification of no federal suspension or debarment: By signing and submitting any bid for $25,000 or more, the bidder certifies that their company, any subcontractors, or principals are not suspended or debarred by the General Services Administration (GSA) in accordance with the requirements in "audit requirements in subpart F of the Office of Management and Budget's Uniform Administrative Requirements, Cost Principles, and Audit Requirements for federal awards" (formerly OMB Circular A-133).

A list of parties who have been suspended or debarred can be viewed via the internet at https://www.sam.gov.

10.4 In accordance with Louisiana law, all corporations (see LA R.S. 12:262.1) and limited liability companies (see LA R.S. 12:1308.2) must be registered and in good standing with the Louisiana Secretary of State in order to hold a purchase order and/or contract over $25,000.

ARTICLE 11

INSURANCE

10.1 The Contractor, prior to commencing work, shall provide at his expense, proof of insurance coverage with insurance companies licensed in the State of Louisiana. Insurance shall be placed with insurers with an A.M. Best's rating of no less than A-:VI.

10.2 Insurance requirements are set forth in "Supplement I" of these documents.

SUPPLEMENT I
INSURANCE REQUIREMENTS

***** INSURANCE *****

STANDARDIZED INSURANCE REQUIREMENTS FOR ALL AGENCY CONTRACTS

I. The following Indemnification Agreement shall be, and is hereby, a provision of the contract:

The other party agrees to protect, defend, indemnify, save and hold harmless the State of Louisiana, all State Departments, Agencies, Boards and Commissions, its officers, agents, servants and employees, including volunteers, from and against any and all claims, demands, expense and liability arising out of injury or death to any person or the damage, loss or destruction of any property which may occur or in any way grow out of any act or omission of the other party, its agents, servants, and employees, or any and all costs, expense and/or attorney fees incurred by the other party as a result of any claim, demands, and/or causes of action except of those claims, demands, and/or causes of action arising out of the negligence of the State of Louisiana, all State Departments, Agencies, Boards, Commissions, its agents, representatives, and/or employees. The other party agrees to investigate, handle, respond to, provide defense for and defend any such claims, demand, or suit at its sole expense and agrees to bear all other costs and expenses related thereto, even if it (claims, etc.) is groundless, false or fraudulent.

II. All policies and certificates of insurance of the Contractor/Subcontractor shall contain the following clauses:

A. The Contractor/Subcontractor's insurer will have no right of recovery or subrogation against the Agency, it being the intention of the parties that the insurance policies so affected shall protect both parties and the primary coverage for any and all losses covered by the below described insurance.

B. The Agency shall be named as an additional insured as regards negligence by the contractor (ISO Form CG 20 10 – current form approved for use in Louisiana).

C. The insurance companies issuing the policy or policies shall have no recourse against the Agency for payment of any premiums or for assessments under any form of policy.

D. Any and all deductibles in the below described insurance policies shall be assumed by and be for the amount of, and at the sole risk of the Contractor/Subcontractor.

III. INSURANCE: The Contractor/Subcontractor, prior to commencing work, shall provide at his own expense, proof of the following insurance coverages required by the contract to the Agency in insurance companies authorized in the State of Louisiana. Insurance is to be placed with insurers with an A. M. Best's rating of **A-:VI or higher**. This rating requirement may be waived for workers' compensation coverage only.

Thirty days prior notice of cancellation shall be given to the Agency by registered mail, return receipt requested, on all of the required coverage provided to the Agency. All notices will name the Contractor/Subcontractor and identify the contract number.

Insurance coverage specified in the GENERAL CONDITIONS (AIA Document A 201, 1997 Edition) to be provided by the Contractor, and any other insurance described below shall be furnished with the following minimum limits:

SUPPLEMENT I
INSURANCE REQUIREMENTS

***** INSURANCE *****

A. Workers' Compensation - Statutory - in compliance with the Compensation Law of the State. Exception: Employers liability to be $1,000,000 when work is to be over water and involves maritime exposures.

B. Commercial General Liability Insurance with a combined single limit per occurrence for bodily injury and property damage. This insurance shall include coverage for bodily injury and property damage, and include the following coverages:

1. Premises - Operations;
2. Broad Form Contractual Liability;
3. Products and Completed Operations;
4. Use of Contractors and Subcontractors;
5. Personal Injury;
6. Broad Form Property Damage;
7. Explosion, Collapse and Underground (XCU) Coverage.

NOTE: On the certificate of insurance, under the description of operations, the following wording is required: THE AGGREGATE LOSS LIMIT APPLIES TO EACH PROJECT, or a copy of ISO form CG 25-03 (current form approved for use in Louisiana) shall be submitted.

COMBINED SINGLE LIMIT (CSL) - AMOUNT OF INSURANCE REQUIRED

Type of Construction	Projects under $100,000	Projects $100,001 up to $1,000,000	Projects over $1,000,000
New Buildings:			
Each Occurrence/ Minimum Limit	$500,000	$1,000,000	$3,000,000
Aggregate (Applicable to this contract ONLY)	$500,000	$1,000,000	$3,000,000
Renovations:	**The building(s) value for this project is : $21,498,834**		
Each Occurrence/ Minimum Limit	$500,000**	$1,000,000**	$3,000,000**
Aggregate (Applicable to this contract ONLY)	$500,000**	$1,000,000**	$3,000,000**

While the minimum combined single limit of $500,000 is required for all renovations, the value of a building shall be multiplied by 10% and insurance requirements will be increased at $1,000,000 intervals and rounded to the nearest $1,000,000. Example: Renovation on $33,000,000 building would require $3,000,000 minimum combined single limit of coverage. Maximum limit required is $5,000,000 regardless of building value.

C. Business Automobile Liability Insurance with a combined single limit of $1,000,000 per occurrence for bodily injury and property damage, unless otherwise indicated. This insurance shall include for bodily injury and property damage the following coverages:

1. Owned automobiles;
2. Hired automobiles;
3. Non-owned automobiles.

D. An Umbrella Policy may be used to meet minimum requirements.

IV. All property losses shall be made payable to and adjusted with the Agency.

V. All policies of insurance shall be approved by the contracting Agency prior to the inception of any work.

VI. Other insurance required is as follows:

Owner's Protective Liability (OPL) Insurance shall be furnished by the Contractor and naming the State of Louisiana as the Named Insured for projects over $50,000.

	Projects under $100,000	Projects $100,001 up to $1,000,000	Projects over $1,000,000
CSL – Each Occurrence:	$500,000	$1,000,000	$3,000,000

VII. Property Insurance

The General Contractor shall purchase and maintain property insurance upon the entire work included in the contract for an amount equal to the greater of the full-completed value or the amount of the construction contract including any amendments thereto. The general contractor's policy shall provide "ALL RISK" Builder's Risk insurance (Extended to include the perils of wind, collapse, vandalism/malicious mischief, and theft, including theft of materials whether or not attached to any structure). The "All Risk" Builder's Risk insurance must also cover architect's and engineer's fees that may be necessary to provide plans and specifications and supervision of work for the repair and/or replacement of property damage caused by a covered peril not to exceed 10% of the cost of those repair and/or replacements

Flood coverage shall be provided by the Contractor on the first floor and below for projects North of the Interstate Corridor beginning at the Texas – Louisiana border at Interstate 10 east to the Baton Rouge junction of Interstate 12, East to Slidell junction with Interstate 10 to the Louisiana – Mississippi border. Flood sub-limit shall equal an amount no lower than 10% of the total contract cost per occurrence. Coverage for roofing projects shall not require flood coverage.

On projects south of this corridor, flood coverage shall be provided by the State of Louisiana, as the owner, through the National Flood Insurance Program (NFIP). The Contractor will be liable for the $5,000 deductible on the NFIP policy from the Notice to Proceed date through the Notice of Final Acceptance date of the project.

A specialty contractor shall purchase and maintain property insurance upon the system to be installed for an amount equal to the greater of the full-completed value or the amount of the contract including any amendments thereto. The specialty contractor may provide an installation floater with the same coverage as the "ALL RISK" Builder's Risk insurance policy.

***** INSURANCE *****

The policy must include the interest of the Owner, Contractor, and Subcontractors as their interest may appear. The contractor has the right to purchase coverage or self-insure any exposures not required by the bid specifications, but shall be held liable for all losses, deductibles, self-insurance for coverage not required.

Policies insuring projects involving additions, alterations or repairs to existing buildings or structures must include an endorsement providing the following:

In the event of a disagreement regarding a loss covered by this policy which may also be covered by the State of Louisiana, Policy of self-insurance or any commercial property insurance policy purchased by the State of Louisiana, Office of Risk Management (ORM) covering in excess of the State of Louisiana, policy of self-insurance, this company agrees to the following procedure to establish coverage and/or the amount of loss:

Any party to a loss may make a written demand for an appraisal of the matter in disagreement. Within 20 days of receipt of written demand, this company and either ORM or its commercial insurance company shall each select a competent and impartial appraiser and notify the other of the appraiser selected. The two appraisers will select a competent and impartial umpire. The appraisers will then identify the policy or policies under which the loss is insured and, if necessary, state separately the value of the property and the amount of loss that must be borne by each policy. If the appraisers fail to agree, they shall submit their differences to the umpire. A written decision by any two shall determine the policy or policies and the amount of loss. Each insurance company (or ORM) agree that the decision of the appraisers and the umpire, if involved, will be binding and final and that neither party will resort to litigation. Each of the two parties shall pay its chosen appraiser and bear the cost of the umpire equally.

VIII. If, at any time, any of the said policies shall be or become unsatisfactory to the Agency, as to form or substance, or if a company issuing any such policy shall be or become unsatisfactory to the Agency, the Contractor/Subcontractor shall promptly obtain a new policy, submit the same to the Agency for approval and submit a certificate thereof as herein above provided.

Upon failure of the Contractor/Subcontractor to furnish, deliver and maintain such insurance as above provided, this contract, at the election of the Agency, may be forthwith declared suspended, discontinued or terminated. Failure of the Contractor/Subcontractor to take out and/or to maintain or the taking out and/or maintenance of any required insurance shall not relieve the Contractor/Subcontractor from any liability under the contract, nor shall the insurance requirements be construed to conflict with the obligations of the Contractor/Subcontractor concerning indemnification. The Agency reserves the right to require complete, certified copies of all required insurance policies at any time.

SUPPLEMENT I
INSURANCE REQUIREMENTS

***** INSURANCE *****

INFORMATION FOR BIDDERS

RISKS AND INDEMNIFICATIONS ASSUMED BY THE CONTRACTOR

A. Neither the acceptance of the completed work or payment therefore shall release the Contractor/Subcontractor from his obligations from the insurance requirements or indemnification agreement.

1. Additional insurance may be required on an individual basis for extra hazardous contracts and specific service agreements. If such additional insurance is required for a specific contract, that requirement will be described in the "Special Conditions" of the contract specifications.
2. If any of the Property and Casualty insurance requirements are not complied with at their renewal dates, payments to the Contractor/Subcontractor will be withheld until those requirements have been met, or at the option of the Agency, the Agency may pay the Renewal Premium and withhold such payments from any monies due the Contractor/Subcontractor.
3. All property losses shall be made payable to and adjusted with the Agency.
4. All policies and certificates of insurance shall be approved by the contracting agency prior to the inception of any work.
5. Other coverages may be required by the Agency based on specific needs. If such other coverages are required for this contract, those coverages will be described in the "Special Conditions" of the contract specifications.
6. If at any time any of the foregoing policies shall be or become unsatisfactory to the Agency, as to form or substance, or if a company issuing any such policy shall be or become unsatisfactory to the Agency, the Contractor/Subcontractor shall, upon notice to that effect from the Agency, promptly obtain a new policy, submit the same to the Agency for approval and submit a certificate thereof as herein above provided. Upon failure of the Contractor/Subcontractor to furnish, deliver and maintain such insurance as above provided, this Contract, at the election of the Agency, may be forthwith declared suspended, discontinued or terminated. Failure of the Contractor/Subcontractor to take out and/or maintain or the taking out and/or maintenance of any required insurance, shall not relieve the Contractor/Subcontractor from any liability under the Contract, nor shall the insurance requirements be construed to conflict with or otherwise limit the obligations of the Contractor/Subcontractor concerning indemnification. The agency reserves the right to require complete, certified copies of all required insurance policies at any time.

SUBCONTRACTORS

Contractor shall include all subcontractors as insured's under its policies or shall furnish separate certificates for each subcontractor. All coverages for subcontractors shall be subject to all of the requirements stated herein.

CERTIFICATES OF INSURANCE

Contractor shall furnish the Agency with certificates of insurance affecting coverage required by this clause. The certificates for each insurance policy are to be signed by a person authorized by that

insurer to bind coverage on its behalf. The certificates are to be received and approved by the Agency before work commences. The Agency reserves the right to require complete, certified copies of all required insurance policies at any time.

INSURANCE REQUIREMENTS FOR CONTRACTORS

Contractor shall procure and maintain for the duration of the contract insurance against claims for injuries to persons or damages to property which may arise from or in connection with the performance of the work hereunder by the Contractor, his agents, representatives, employees or subcontractors. The cost of such insurance shall be included in the Contractor's bid.

A. MINIMUM SCOPE OF INSURANCE

Coverage shall be at least as broad as:

1. Insurance Services Office Commercial General Liability coverage "occurrence" form CG 00 01 (current form approved for use in Louisiana). "Claims Made" form is unacceptable.
2. Insurance Services Office form number CA 00 01 (current form approved for use in Louisiana) covering Automobile Liability. The policy shall provide coverage for owned, hired, and non-owned coverage. If an automobile is to be utilized in the execution of this contract, and the vendor/contractor does not own a vehicle, then proof of hired and non-owned coverage is sufficient.
3. Workers' Compensation insurance as required by the Labor Code of the State of Louisiana, including Employers Liability insurance.

B. MINIMUM LIMITS OF INSURANCE

Contractor shall maintain limits no less than:

1. Commercial General Liability: $1,000,000 combined single limit per occurrence for bodily injury, personal injury and property damage (or higher limits depending on size of contract.)
2. Automobile Liability: $1,000,000 combined single limit per accident, for bodily injury and property damage.
3. Workers Compensation and Employers Liability: Workers' Compensation limits as required by the Labor Code of the State of Louisiana and Employers Liability coverage. Exception: Employers liability limit is to be $1,000,000 when work is to be over water and involves maritime exposure.

C. DEDUCTIBLES AND SELF-INSURED RETENTIONS

Any deductibles or self-insured retentions must be declared to and approved by the Agency. At the option of the Agency, either 1) the insurer shall reduce or eliminate such deductibles or self-insured retentions as respects the Agency, its officers, officials, employees and volunteers, or 2) the Contractor shall procure a bond guaranteeing payment of losses and related investigations, claim administration and defense expenses.

***** INSURANCE *****

D. OTHER INSURANCE PROVISIONS

The policies are to contain, or be endorsed to contain, the following provisions:

1. General Liability and Automobile Liability Coverages

   a. The Agency, its officers, officials, employees, Boards and Commissions and volunteers are to be added as "additional insured" as respects liability arising out of activities performed by or on behalf of the Contractor; products and completed operations of the Contractor, premises owned, occupied or used by the Contractor. The coverage shall contain no special limitations on the scope of protection afforded to the Agency, its officers, officials, employees or volunteers. It is understood that the business auto policy under "Who is an Insured" automatically provides liability coverage in favor of the State of Louisiana.
   b. Any failure to comply with reporting provisions of the policy shall not affect coverage provided to the Agency, its officers, officials, employees, Boards and Commissions or volunteers.
   c. The Contractor's insurance shall apply separately to each insured against whom claim is made or suit is brought, except with respect to the limits of the insurer's liability.

2. Workers' Compensation and Employers' Liability Coverage

   The insurer shall agree to waive all rights of subrogation against the Agency, its officers, officials, employees and volunteers for losses arising from work performed by the Contractor for the Agency.

3. All Coverages

   Each insurance policy required by this clause shall be endorsed to state that coverage shall not be suspended, voided, canceled by either party, reduced in coverage or in limits except after thirty (30) days' prior written notice by certified mail, return receipt requested, has been given to the Agency.

E. ACCEPTABILITY OF INSURERS

Insurance is to be placed with insurers with an A.M. Best's rating of **A-:VI or higher**. This rating requirement may be waived for workers' compensation coverage only.

F. VERIFICATION OF COVERAGE

Contractor shall furnish the Agency with certificates of insurance effecting coverage required. The certificates for each insurance policy are to be signed by a person authorized by that insurer to bind coverage on its behalf. The certificates are to be received and approved by the Agency before work commences. The Agency reserves the right to require complete, certified copies of all required insurance policies at any time.

***** INSURANCE AND INDEMNIFICATION *****

**** EXHIBIT A ****

INDEMNIFICATION AGREEMENT

The _____ agrees to protect, defend, indemnify, save, and hold harmless the
{Contractor/Subcontractor/Lessee/Supplier}

State of Louisiana, all State Departments, Agencies, Boards and Commissions, its officers, agents, servants and employees, including volunteers, from and against any and all claims, demands, expenses and liability arising out of injury or death to any person or the damage, loss or destruction of any property which may occur or in any way grow out of any act or omission of _____ , its agents, servants, and
{Contractor/Subcontractor/Lessee/Supplier}

employees, or any and all costs, expenses and/or attorney fees incurred by

_____ as a result of any claims, demands, and/or causes of action except
{Contractor/Subcontractor/Lessee/Supplier}

those claims, demands, and/or causes of action arising out of the negligence of the State of Louisiana, all State Departments, Agencies, Boards, Commissions, its agents, representatives, and/or employees.

_____ agrees to investigate, handle, respond to, provide defense for and
{Contractor/Subcontractor/Lessee/Supplier}

defend any such claims, demands, or suits at its sole expense and agrees to bear all other costs and expenses related thereto, even if they (claims, etc.) are groundless, false or fraudulent.

Accepted by _____
Company Name

_____
Signature

_____
Title

Date Accepted _____

Is Certificate of Insurance Attached? _____Yes _____No

Contract No. _____ for _____
State Agency Number and Name

PURPOSE OF CONTRACT:_____

_____

_____

_____

AIA® Document A201® – 2017

General Conditions of the Contract for Construction

for the following PROJECT:
(Name and location or address)

The University of New Orleans
Chemistry Lab Upgrades – Phase II
Chemistry Building
2000 Lakeshore Drive
New Orleans, LA 70148

THE OWNER:
(Name, legal status and address)

The University of New Orleans
2000 Lakeshore Drive
New Orleans, LA 70148

THE ARCHITECT:
(Name, legal status and address)

Holly & Smith Architects, APAC
208 North Cate Street
Hammond, LA 70401

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.

For guidance in modifying this document to include supplementary conditions, see AIA Document A503™, Guide for Supplementary Conditions.

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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 or proposal 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. The Initial Decision Maker shall not show partiality to the Owner or Contractor and shall not be liable for results of interpretations or decisions rendered in good faith.

§ 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.

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§ 1.2.1.1 The invalidity of any provision of the Contract Documents shall not invalidate the Contract or its remaining provisions. If it is determined that any provision of the Contract Documents violates any law, or is otherwise invalid or unenforceable, then that provision shall be revised to the extent necessary to make that provision legal and enforceable. In such case the Contract Documents shall be construed, to the fullest extent permitted by law, to give effect to the parties' intentions and purposes in executing the Contract.

§ 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 retain all common law, statutory, and other reserved rights in their Instruments of Service, including copyrights. The Contractor, Subcontractors, Sub-subcontractors, and 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 the 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 suppliers are authorized to use and reproduce the Instruments of Service provided to them, subject to any protocols established pursuant to Sections 1.7 and 1.8, 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 suppliers may not use the Instruments of Service on other projects or for additions to the Project outside the scope of the Work without the specific written consent of the Owner, Architect, and the Architect's consultants.

§ 1.6 Notice

§ 1.6.1 Except as otherwise provided in Section 1.6.2, where the Contract Documents require one party to notify or give notice to the other party, such notice shall be provided in writing to the designated representative of the party to whom the notice is addressed and shall be deemed to have been duly served if delivered in person, by mail, by courier, or by electronic transmission if a method for electronic transmission is set forth in the Agreement.

§ 1.6.2 Notice of Claims as provided in Section 15.1.3 shall be provided in writing and shall be deemed to have been duly served only if delivered to the designated representative of the party to whom the notice is addressed by certified or registered mail, or by courier providing proof of delivery.

§ 1.7 Digital Data Use and Transmission

The parties shall agree upon protocols governing the transmission and use of Instruments of Service or any other information or documentation in digital form. The parties will use AIA Document E203™–2013, Building Information Modeling and Digital Data Exhibit, to establish the protocols for the development, use, transmission, and exchange of digital data.

§ 1.8 Building Information Models Use and Reliance

Any use of, or reliance on, all or a portion of a building information model without agreement to protocols governing the use of, and reliance on, the information contained in the model and without having those protocols set forth in AIA Document E203™–2013, Building Information Modeling and Digital Data Exhibit, and the requisite AIA Document

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G202™–2013, Project Building Information Modeling Protocol Form, shall be at the using or relying party's sole risk and without liability to the other party and its contractors or consultants, the authors of, or contributors to, the building information model, and each of their agents and employees.

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 Evidence of the Owner's Financial Arrangements

§ 2.2.1 Prior to commencement of the Work and upon written request by the Contractor, the Owner shall furnish to the Contractor reasonable evidence that the Owner has made financial arrangements to fulfill the Owner's obligations under the Contract. The Contractor shall have no obligation to commence the Work until the Owner provides such evidence. If commencement of the Work is delayed under this Section 2.2.1, the Contract Time shall be extended appropriately.

§ 2.2.2 Following commencement of the Work and upon written request by the Contractor, the Owner shall furnish to the Contractor reasonable evidence that the Owner has made financial arrangements to fulfill the Owner's obligations under the Contract only if (1) the Owner fails to make payments to the Contractor as the Contract Documents require; (2) the Contractor identifies in writing a reasonable concern regarding the Owner's ability to make payment when due; or (3) a change in the Work materially changes the Contract Sum. If the Owner fails to provide such evidence, as required, within fourteen days of the Contractor's request, the Contractor may immediately stop the Work and, in that event, shall notify the Owner that the Work has stopped. However, if the request is made because a change in the Work materially changes the Contract Sum under (3) above, the Contractor may immediately stop only that portion of the Work affected by the change until reasonable evidence is provided. If the Work is stopped under this Section 2.2.2, the Contract Time shall be extended appropriately and the Contract Sum shall be increased by the amount of the Contractor's reasonable costs of shutdown, delay and start-up, plus interest as provided in the Contract Documents.

§ 2.2.3 After the Owner furnishes evidence of financial arrangements under this Section 2.2, the Owner shall not materially vary such financial arrangements without prior notice to the Contractor.

§ 2.2.4 Where the Owner has designated information furnished under this Section 2.2 as "confidential," the Contractor shall keep the information confidential and shall not disclose it to any other person. However, the Contractor may disclose "confidential" information, after seven (7) days' notice to the Owner, where disclosure is required by law, including a subpoena or other form of compulsory legal process issued by a court or governmental entity, or by court or arbitrator(s) order. The Contractor may also disclose "confidential" information to its employees, consultants, sureties, Subcontractors and their employees, Sub-subcontractors, and others who need to know the content of such information solely and exclusively for the Project and who agree to maintain the confidentiality of such information.

§ 2.3 Information and Services Required of the Owner

§ 2.3.1 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.

§ 2.3.2 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.

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

§ 2.3.4 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.

§ 2.3.5 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.

§ 2.3.6 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.

§ 2.4 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.

§ 2.5 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 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 default or neglect. Such action by the Owner and amounts charged to the Contractor are both subject to prior approval of the Architect and the Architect may, pursuant to Section 9.5.1, withhold or nullify a Certificate for Payment in whole or in part, to the extent reasonably necessary to reimburse the Owner for 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. If current and future payments are not sufficient to cover such amounts, the Contractor shall pay the difference to the Owner. If the Contractor disagrees with the actions of the Owner or the Architect, or the amounts claimed as costs to the Owner, the Contractor may file a Claim pursuant to Article 15.

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 its 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.

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§ 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 2.3.4, 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 submit 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, subject to Section 15.1.7, 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. If the Contract Documents give specific instructions concerning construction means, methods, techniques, sequences, or procedures, the Contractor shall evaluate the jobsite safety thereof and shall be 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 notice to the Owner and Architect, and shall propose alternative means, methods, techniques, sequences, or procedures. The Architect shall evaluate the proposed alternative solely for conformance with the design intent for the completed construction. Unless the Architect objects to the Contractor's proposed alternative, the Contractor shall perform the Work using its alternative 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.

§ 3.4.2 Except in the case of minor changes in the Work approved by the Architect in accordance with Section 3.12.8 or ordered by the Architect in accordance with Section 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.

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§ 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

§ 3.5.1 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.

§ 3.5.2 All material, equipment, or other special warranties required by the Contract Documents shall be issued in the name of the Owner, or shall be transferable to the Owner, and shall commence in accordance with Section 9.8.4.

§ 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 14 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 that an equitable adjustment be made 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, stating the reasons. If either party disputes the Architect's determination or recommendation, that party may submit a Claim 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 notify the Owner and Architect of the name and qualifications of a proposed superintendent. Within 14 days of receipt of the information, the Architect may notify the Contractor, stating whether the Owner or the Architect (1) has reasonable objection to the proposed superintendent or (2) requires additional time for review. Failure of the Architect to provide notice 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 and Submittal Schedules

§ 3.10.1 The Contractor, promptly after being awarded the Contract, shall submit for the Owner's and Architect's information a Contractor's construction schedule for the Work. The schedule shall contain detail appropriate for the Project, including (1) the date of commencement of the Work, interim schedule milestone dates, and the date of Substantial Completion; (2) an apportionment of the Work by construction activity; and (3) the time required for completion of each portion of the Work. The schedule shall provide for the orderly progression of the Work to completion and shall not exceed time limits current under the Contract Documents. The schedule shall be revised at appropriate intervals as required by the conditions of the Work and Project.

§ 3.10.2 The Contractor, promptly after being awarded the Contract and thereafter as necessary to maintain a current submittal schedule, shall submit a submittal schedule for the Architect's approval. The Architect's approval shall not be unreasonably 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, or fails to provide submittals in accordance with the approved 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 make available, at the Project site, the Contract Documents, including Change Orders, Construction Change Directives, and other Modifications, in good order and marked currently to indicate field changes and selections made during construction, and the approved Shop Drawings, Product Data, Samples, and similar required submittals. These shall be in electronic form or paper copy, available to the Architect and Owner, and

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delivered to the Architect for submittal to the Owner upon completion of the Work as a record of the Work as constructed.

§ 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 how 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 the requirements of the Contract Documents by the Architect's approval of Shop Drawings, Product Data, Samples, or similar submittals, unless the Contractor has specifically notified the Architect 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 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.

§ 3.12.10.1 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

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specify all performance and design criteria that such services must satisfy. The Contractor shall be entitled to rely upon the adequacy and accuracy of the performance and design criteria provided in the Contract Documents. The Contractor shall cause such services or certifications to be provided by an appropriately 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 and accuracy of the services, certifications, and approvals performed or provided by such design professionals, provided the Owner and Architect have specified to the Contractor the performance and design criteria that such services must satisfy. Pursuant to this Section 3.12.10, the Architect will review and 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.

§ 3.12.10.2 If the Contract Documents require the Contractor's design professional to certify that the Work has been performed in accordance with the design criteria, the Contractor shall furnish such certifications to the Architect at the time and in the form specified by the Architect.

§ 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, 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, or patching shall be restored to the condition existing prior to the cutting, fitting, or 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 construction by the Owner or a Separate Contractor except with written consent of the Owner and of the Separate Contractor. Consent shall not be unreasonably withheld. The Contractor shall not unreasonably withhold, from the Owner or a Separate Contractor, its 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 and 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 the Owner shall be entitled to reimbursement from the Contractor.

§ 3.16 Access to Work

The Contractor shall provide the Owner and Architect with 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 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 an infringement of a copyright or patent is discovered by, or made known to, the Contractor, the Contractor shall be responsible for the loss unless the information is promptly furnished to the Architect.

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§ 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 that would otherwise exist as to a party or person described in this Section 3.18.

§ 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 Architect is the person or entity retained by the Owner pursuant to Section 2.3.2 and identified as such in the Agreement.

§ 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.

§ 4.2 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.

§ 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 promptly report to the Owner (1) known deviations from the Contract Documents, (2) known deviations from the most recent construction schedule submitted by the Contractor, and (3) 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

The Owner and Contractor shall include the Architect in all communications that relate to or affect the Architect's services or professional responsibilities. The Owner shall promptly notify the Architect of the substance of any direct communications between the Owner and the Contractor otherwise relating to the Project. Communications by and with the Architect's consultants shall be through the Architect. Communications by and with Subcontractors and suppliers shall be through the Contractor. Communications by and with Separate Contractors shall be through the Owner. The Contract Documents may specify other communication protocols.

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§ 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 13.4.2 and 13.4.3, whether or not the 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, suppliers, their agents or employees, or other persons or entities performing portions of the Work.

§ 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 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 order 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 Owner shall notify the Contractor of any change in the duties, responsibilities and limitations of authority of the Project representatives.

§ 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.

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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 the 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.

§ 5.2 Award of Subcontracts and Other Contracts for Portions of the Work

§ 5.2.1 Unless otherwise stated in the Contract Documents, the Contractor, as soon as practicable after award of the Contract, shall notify the Owner and Architect of the persons or entities proposed for each principal portion of the Work, including those who are to furnish materials or equipment fabricated to a special design. Within 14 days of receipt of the information, the Architect may notify the Contractor whether the Owner or the Architect (1) has reasonable objection to any such proposed person or entity or (2) requires additional time for review. Failure of the Architect to provide notice 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 for one previously selected if the Owner or Architect makes reasonable objection to such substitution.

§ 5.3 Subcontractual Relations

By appropriate written agreement, 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 that the Contractor, by these Contract 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; and
- **.2** assignment is subject to the prior rights of the surety, if any, obligated under bond relating to the Contract.

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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 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 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 term "Separate Contractor(s)" shall mean other contractors retained by the Owner under separate agreements. The Owner reserves the right to perform construction or operations related to the Project with the Owner's own forces, and with Separate Contractors retained under Conditions of the Contract substantially similar to those of this Contract, including those provisions of the Conditions of the Contract related to insurance and waiver of subrogation.

§ 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 any Separate Contractors and the Owner in reviewing their construction schedules. The Contractor shall make any revisions to its 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 or with Separate Contractors, the Owner or its Separate Contractors shall have the same obligations and rights that the Contractor has 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 notify the Architect of apparent discrepancies or defects in the construction or operations by the Owner or Separate Contractor that would render it unsuitable for proper execution and results of the Contractor's Work. Failure of the Contractor to notify the Architect of apparent discrepancies or defects prior to proceeding with the Work 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. The Contractor shall not be responsible for discrepancies or defects in the construction or operations by the Owner or Separate Contractor that are not apparent.

§ 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 that the Contractor wrongfully causes to completed or partially completed construction or to property of the Owner or Separate Contractor as provided in Section 10.2.5.

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§ 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. The Contractor shall proceed promptly with changes in the Work, 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 7.3.4.

§ 7.3.4 If the Contractor does not respond promptly or disagrees with the method for adjustment in the Contract Sum, the Architect shall determine 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 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 7.3.4 shall be limited to the following:

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.1 Costs of labor, including applicable payroll taxes, fringe benefits required by agreement or custom, workers' compensation insurance, and other employee costs approved by the Architect;
.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, directly related to the change; and
.5 Costs of supervision and field office personnel directly attributable to the change.

§ 7.3.5 If the Contractor disagrees with the adjustment in the Contract Time, the Contractor may make a Claim in accordance with applicable provisions of Article 15.

§ 7.3.6 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.

§ 7.3.7 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.

§ 7.3.8 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 may order minor changes in the Work that are consistent with the intent of the Contract Documents and do not involve an adjustment in the Contract Sum or an extension of the Contract Time. The Architect's order for minor changes shall be in writing. If the Contractor believes that the proposed minor change in the Work will affect the Contract Sum or Contract Time, the Contractor shall notify the Architect and shall not proceed to implement the change in the Work. If the Contractor performs the Work set forth in the Architect's order for a minor change without prior notice to the Architect that such change will affect the Contract Sum or Contract Time, the Contractor waives any adjustment to the Contract Sum or extension of the Contract Time.

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.

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§ 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, commence the Work prior to the effective date of insurance required to be furnished by the Contractor and Owner.

§ 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 (1) an act or neglect of the Owner or Architect, of an employee of either, or of a Separate Contractor; (2) by changes ordered in the Work; (3) by labor disputes, fire, unusual delay in deliveries, unavoidable casualties, adverse weather conditions documented in accordance with Section 15.1.6.2, or other causes beyond the Contractor's control; (4) by delay authorized by the Owner pending mediation and binding dispute resolution; or (5) by other causes that the Contractor asserts, and the Architect determines, justify delay, then the Contract Time shall be extended 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

§ 9.1.1 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.

§ 9.1.2 If unit prices are stated in the Contract Documents or subsequently agreed upon, and if quantities originally contemplated are materially changed so that application of such unit prices to the actual quantities causes substantial inequity to the Owner or Contractor, the applicable unit prices shall be equitably adjusted.

§ 9.2 Schedule of Values

Where the Contract is based on a stipulated sum or Guaranteed Maximum Price, the Contractor shall submit a schedule of values to the Architect before the first Application for Payment, allocating the entire Contract Sum to the various portions of the Work. The schedule of values shall be prepared in the form, and supported by the data to substantiate its accuracy, required by the Architect. This schedule, unless objected to by the Architect, shall be used as a basis for reviewing the Contractor's Applications for Payment. Any changes to the schedule of values shall be submitted to the Architect and supported by such data to substantiate its accuracy as the Architect may require, and unless objected to by the Architect, shall be used as a basis for reviewing the Contractor's subsequent 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. The application shall be notarized, if required, and supported by all data substantiating the Contractor's right to payment that the Owner or Architect require, such as copies of requisitions, and releases and waivers of liens from Subcontractors and 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.

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§ 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 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 encumbrances, in favor of the Contractor, Subcontractors, suppliers, or other persons or entities that 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 (1) issue to the Owner a Certificate for Payment in the full amount of the Application for Payment, with a copy to the Contractor; or (2) issue to the Owner a Certificate for Payment for such amount as the Architect determines is properly due, and notify the Contractor and Owner of the Architect's reasons for withholding certification in part as provided in Section 9.5.1; or (3) withhold certification of the entire Application for Payment, and notify the Contractor and Owner of the Architect's reason for withholding certification in whole 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 in the Application for Payment, that, to the best of the Architect's knowledge, information, and belief, the Work has progressed to the point indicated, the quality of the Work is in accordance with the Contract Documents, and that the Contractor is entitled to payment in the amount certified. 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. 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 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 suppliers for labor, materials or equipment;

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.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 either party disputes the Architect's decision regarding a Certificate for Payment under Section 9.5.1, in whole or in part, that party may submit a Claim in accordance with Article 15.

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

§ 9.5.4 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 supplier 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 Contractor shall reflect such payment on its next Application 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.

§ 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 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 and suppliers 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 or supplier, except as may otherwise be required by law.

§ 9.6.5 The Contractor's payments to 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 or provided by 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, create any fiduciary liability or tort liability on the part of the Contractor for breach of trust, or entitle any person or entity to an award of punitive damages against the Contractor for breach of the requirements of this provision.

§ 9.6.8 Provided the Owner has fulfilled its payment obligations under the Contract Documents, the Contractor shall defend and indemnify the Owner from all loss, liability, damage or expense, including reasonable attorney's fees and litigation expenses, arising out of any lien claim or other claim for payment by any Subcontractor or supplier of any tier. Upon receipt of notice of a lien claim or other claim for payment, the Owner shall notify the Contractor. If approved by the applicable court, when required, the Contractor may substitute a surety bond for the property against which the lien or other claim for payment has been asserted.

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§ 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' 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 shutdown, 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.

§ 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; establish responsibilities of the Owner and Contractor for security, maintenance, heat, utilities, damage to the Work and insurance; and 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 the Certificate. Upon such acceptance, and consent of surety if any, the Owner shall make payment of retainage applying to the 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 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.

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§ 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 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. 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 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, (3) a written statement that the Contractor knows of no 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, (5) documentation of any special warranties, such as manufacturers' warranties or specific Subcontractor warranties, and (6) if required by the Owner, other data establishing payment or satisfaction of obligations, such as receipts and 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, claim, security interest, or encumbrance. If a lien, claim, security interest, or encumbrance 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 the lien, claim, security interest, or encumbrance, 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, corrected, 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 the 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;
- **.3** terms of special warranties required by the Contract Documents; or
- **.4** audits performed by the Owner, if permitted by the Contract Documents, after final payment.

§ 9.10.5 Acceptance of final payment by the Contractor, a Subcontractor, or a 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

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.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, a Subcontractor, or a Sub-subcontractor; 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 implement, 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 the owners and users of adjacent sites and utilities of the safeguards.

§ 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. The Contractor may make a Claim for the cost to remedy the damage or loss to the extent such damage or loss is 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.

§ 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, notice of the 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 and Substances
§ 10.3.1 The Contractor is responsible for compliance with any requirements included in the Contract Documents regarding hazardous materials or substances. 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 notify the Owner and Architect of the condition.

§ 10.3.2 Upon receipt of the Contractor's 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 the material or substance or who are to perform the task of removal or safe containment of the material or substance. The Contractor and the Architect will

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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 by the amount of the Contractor's reasonable additional costs of shutdown, 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 hazardous 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 hazardous 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 reimburse the Owner for the cost and expense the Owner incurs (1) for remediation of hazardous materials or substances 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 reimburse the Contractor for all cost and expense thereby incurred.

§ 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 Insurance and Bonds

§ 11.1.1 The Contractor shall purchase and maintain insurance of the types and limits of liability, containing the endorsements, and subject to the terms and conditions, as described in the Agreement or elsewhere in the Contract Documents. The Contractor shall purchase and maintain the required insurance from an insurance company or insurance companies lawfully authorized to issue insurance in the jurisdiction where the Project is located. The Owner, Architect, and Architect's consultants shall be named as additional insureds under the Contractor's commercial general liability policy or as otherwise described in the Contract Documents.

§ 11.1.2 The Contractor shall provide surety bonds of the types, for such penal sums, and subject to such terms and conditions as required by the Contract Documents. The Contractor shall purchase and maintain the required bonds from a company or companies lawfully authorized to issue surety bonds in the jurisdiction where the Project is located.

§ 11.1.3 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.

§ 11.1.4 Notice of Cancellation or Expiration of Contractor's Required Insurance. Within three (3) business days of the date the Contractor becomes aware of an impending or actual cancellation or expiration of any insurance required by the Contract Documents, the Contractor shall provide notice to the Owner of such impending or actual cancellation or expiration. Upon receipt of notice from the Contractor, the Owner shall, unless the lapse in coverage arises from an act

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or omission of the Owner, have the right to stop the Work until the lapse in coverage has been cured by the procurement of replacement coverage by the Contractor. The furnishing of notice by the Contractor shall not relieve the Contractor of any contractual obligation to provide any required coverage.

§ 11.2 Owner's Insurance

§ 11.2.1 The Owner shall purchase and maintain insurance of the types and limits of liability, containing the endorsements, and subject to the terms and conditions, as described in the Agreement or elsewhere in the Contract Documents. The Owner shall purchase and maintain the required insurance from an insurance company or insurance companies lawfully authorized to issue insurance in the jurisdiction where the Project is located.

§ 11.2.2 Failure to Purchase Required Property Insurance. If the Owner fails to purchase and maintain the required property insurance, with all of the coverages and in the amounts described in the Agreement or elsewhere in the Contract Documents, the Owner shall inform the Contractor in writing prior to commencement of the Work. Upon receipt of notice from the Owner, the Contractor may delay commencement of the Work and may obtain insurance that will protect the interests of the Contractor, Subcontractors, and Sub-Subcontractors in the Work. When the failure to provide coverage has been cured or resolved, the Contract Sum and Contract Time shall be equitably adjusted. In the event the Owner fails to procure coverage, the Owner waives all rights against the Contractor, Subcontractors, and Sub-subcontractors to the extent the loss to the Owner would have been covered by the insurance to have been procured by the Owner. The cost of the insurance shall be charged to the Owner by a Change Order. If the Owner does not provide written notice, and the Contractor is damaged by the failure or neglect of the Owner to purchase or maintain the required insurance, the Owner shall reimburse the Contractor for all reasonable costs and damages attributable thereto.

§ 11.2.3 Notice of Cancellation or Expiration of Owner's Required Property Insurance. Within three (3) business days of the date the Owner becomes aware of an impending or actual cancellation or expiration of any property insurance required by the Contract Documents, the Owner shall provide notice to the Contractor of such impending or actual cancellation or expiration. Unless the lapse in coverage arises from an act or omission of the Contractor: (1) the Contractor, upon receipt of notice from the Owner, shall have the right to stop the Work until the lapse in coverage has been cured by the procurement of replacement coverage by either the Owner or the Contractor; (2) the Contract Time and Contract Sum shall be equitably adjusted; and (3) the Owner waives all rights against the Contractor, Subcontractors, and Sub-subcontractors to the extent any loss to the Owner would have been covered by the insurance had it not expired or been cancelled. If the Contractor purchases replacement coverage, the cost of the insurance shall be charged to the Owner by an appropriate Change Order. The furnishing of notice by the Owner shall not relieve the Owner of any contractual obligation to provide required insurance.

§ 11.3 Waivers of Subrogation

§ 11.3.1 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; (2) the Architect and Architect's consultants; and (3) Separate Contractors, 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 those losses are covered by property insurance required by the Agreement or other property insurance applicable to the Project, except such rights as they have to proceeds of such insurance. The Owner or Contractor, as appropriate, shall require similar written waivers in favor of the individuals and entities identified above from the Architect, Architect's consultants, Separate Contractors, subcontractors, and sub-subcontractors. The policies of insurance purchased and maintained by each person or entity agreeing to waive claims pursuant to this section 11.3.1 shall not prohibit this waiver of subrogation. This waiver of subrogation shall be effective as to a person or entity (1) even though that person or entity would otherwise have a duty of indemnification, contractual or otherwise, (2) even though that person or entity did not pay the insurance premium directly or indirectly, or (3) whether or not the person or entity had an insurable interest in the damaged property.

§ 11.3.2 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 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, to the extent permissible by such policies, the Owner waives all rights in accordance with the terms of Section 11.3.1 for damages caused by fire or other causes of loss covered by this separate property insurance.

§ 11.4 Loss of Use, Business Interruption, and Delay in Completion Insurance

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The Owner, at the Owner's option, may purchase and maintain insurance that will protect the Owner against loss of use of the Owner's property, or the inability to conduct normal operations, due to fire or other causes of loss. The Owner waives all rights of action against the Contractor and Architect for loss of use of the Owner's property, due to fire or other hazards however caused.

§11.5 Adjustment and Settlement of Insured Loss

§ 11.5.1 A loss insured under the property insurance required by the Agreement 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 11.5.2. The Owner shall pay the Architect and Contractor their just shares of insurance proceeds received by the Owner, and by appropriate agreements the Architect and Contractor shall make payments to their consultants and Subcontractors in similar manner.

§ 11.5.2 Prior to settlement of an insured loss, the Owner shall notify the Contractor of the terms of the proposed settlement as well as the proposed allocation of the insurance proceeds. The Contractor shall have 14 days from receipt of notice to object to the proposed settlement or allocation of the proceeds. If the Contractor does not object, the Owner shall settle the loss and the Contractor shall be bound by the settlement and allocation. Upon receipt, the Owner shall deposit the insurance proceeds in a separate account and make the appropriate distributions. Thereafter, if no other agreement is made or the Owner does not terminate the Contract for convenience, the Owner and Contractor shall execute a Change Order for reconstruction of the damaged or destroyed Work in the amount allocated for that purpose. If the Contractor timely objects to either the terms of the proposed settlement or the allocation of the proceeds, the Owner may proceed to settle the insured loss, and any dispute between the Owner and Contractor arising out of the settlement or allocation of the proceeds shall be resolved pursuant to Article 15. Pending resolution of any dispute, the Owner may issue a Construction Change Directive for the reconstruction of the damaged or destroyed Work.

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, the Contractor shall be entitled to an equitable adjustment to the Contract Sum and Contract Time as may be appropriate. If such Work is not in accordance with the Contract Documents, the costs of uncovering the Work, and the cost of correction, shall be at the Contractor's expense.

§ 12.2 Correction of Work

§ 12.2.1 Before Substantial Completion

The Contractor shall promptly correct Work rejected by the Architect or failing to conform to the requirements of the Contract Documents, discovered before 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 any 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 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 2.5.

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§ 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 of the Owner or Separate Contractors, whether completed or partially completed, 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.

§ 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, excluding that jurisdiction's choice of law rules. 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 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 the assignment.

§ 13.3 Rights and Remedies

§ 13.3.1 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.

§ 13.3.2 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 thereunder, except as may be specifically agreed upon in writing.

§ 13.4 Tests and Inspections

§ 13.4.1 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

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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 tests, inspections, or approvals that do not become requirements until after bids are received or negotiations concluded. The Owner shall directly arrange and pay for tests, inspections, or approvals where building codes or applicable laws or regulations so require.

§ 13.4.2 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 13.4.1, 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 13.4.3, shall be at the Owner's expense.

§ 13.4.3 If procedures for testing, inspection, or approval under Sections 13.4.1 and 13.4.2 reveal failure of the portions of the Work to comply with requirements established by the Contract Documents, all costs made necessary by such failure, including those of repeated procedures and compensation for the Architect's services and expenses, shall be at the Contractor's expense.

§ 13.4.4 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.

§ 13.4.5 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.

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

§ 13.5 Interest

Payments due and unpaid under the Contract Documents shall bear interest from the date payment is due at the rate the parties 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.

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, a Subcontractor, a Sub-subcontractor, their agents or employees, or any other persons or entities performing portions of the Work, 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 reasonable evidence as required by Section 2.2.

§ 14.1.2 The Contractor may terminate the Contract if, through no act or fault of the Contractor, a Subcontractor, a Sub-subcontractor, their agents or employees, or any other persons or entities performing portions of the Work, 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' notice to the Owner and Architect, terminate the Contract and recover from the Owner payment for Work executed, as well as reasonable overhead and profit on Work not executed, and costs incurred by reason of such termination.

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§ 14.1.4 If the Work is stopped for a period of 60 consecutive days through no act or fault of the Contractor, a Subcontractor, a Sub-subcontractor, or their agents or employees or any other persons or entities performing portions of the Work 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' notice to the Owner and the Architect, terminate the Contract and recover from the Owner as provided in Section 14.1.3.

§ 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 or suppliers in accordance with the respective agreements between the Contractor and the Subcontractors or suppliers;
- **.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 reasons described in Section 14.2.1 exist, and upon certification by the Architect that sufficient cause exists to justify such action, the Owner 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' 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 under 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 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.

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§ 14.4.3 In case of such termination for the Owner's convenience, the Owner shall pay the Contractor for Work properly executed; costs incurred by reason of the termination, including costs attributable to termination of Subcontracts; and the termination fee, if any, set forth in the Agreement.

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, a change in the Contract Time, 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. This Section 15.1.1 does not require the Owner to file a Claim in order to impose liquidated damages in accordance with the Contract Documents.

§ 15.1.2 Time Limits on Claims

The Owner and Contractor shall commence all Claims and causes of action against the other and arising out of or related to the Contract, whether in contract, tort, breach of warranty or otherwise, in accordance with the requirements of the binding dispute resolution method selected in the Agreement and within the 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 15.1.2.

§ 15.1.3 Notice of Claims

§ 15.1.3.1 Claims by either the Owner or Contractor, where the condition giving rise to the Claim is first discovered prior to expiration of the period for correction of the Work set forth in Section 12.2.2, shall be initiated by 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 under this Section 15.1.3.1 shall 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.

§ 15.1.3.2 Claims by either the Owner or Contractor, where the condition giving rise to the Claim is first discovered after expiration of the period for correction of the Work set forth in Section 12.2.2, shall be initiated by notice to the other party. In such event, no decision by the Initial Decision Maker is required.

§ 15.1.4 Continuing Contract Performance

§ 15.1.4.1 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.

§ 15.1.4.2 The Contract Sum and Contract Time shall be adjusted in accordance with the Initial Decision Maker's decision, subject to the right of either party to proceed in accordance with this Article 15. The Architect will issue Certificates for Payment in accordance with the decision of the Initial Decision Maker.

§ 15.1.5 Claims for Additional Cost

If the Contractor wishes to make a Claim for an increase in the Contract Sum, notice as provided in Section 15.1.3 shall be given before proceeding to execute the portion of the Work that is the subject of the Claim. Prior notice is not required for Claims relating to an emergency endangering life or property arising under Section 10.4.

§ 15.1.6 Claims for Additional Time

§ 15.1.6.1 If the Contractor wishes to make a Claim for an increase in the Contract Time, notice as provided in Section 15.1.3 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.

§ 15.1.6.2 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.

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§ 15.1.7 Waiver of 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 15.1.7 shall be deemed to preclude assessment of liquidated damages, when applicable, in accordance with the requirements of the Contract Documents.

§ 15.2 Initial Decision
§ 15.2.1 Claims, excluding those where the condition giving rise to the Claim is first discovered after expiration of the period for correction of the Work set forth in Section 12.2.2 or arising under Sections 10.3, 10.4, and 11.5, 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. If an initial decision has not been rendered within 30 days after the Claim has been referred to the Initial Decision Maker, the party asserting the Claim may demand mediation and binding dispute resolution without a 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.

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

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§ 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 15.1.7, 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.

§ 15.3.3 Either party may, within 30 days from the date that mediation has been concluded without resolution of the dispute or 60 days after mediation has been demanded without resolution of the dispute, demand in writing that the other party file for binding dispute resolution. If such a demand is made and the party receiving the demand fails to file for binding dispute resolution within 60 days after receipt thereof, then both parties waive their rights to binding dispute resolution proceedings with respect to the initial decision.

§ 15.3.4 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. The Arbitration shall be conducted in the place where the Project is located, unless another location is mutually agreed upon. 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.

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User Notes: (1416637268)

§ 15.4.4 Consolidation or Joinder

§ 15.4.4.1 Subject to the rules of the American Arbitration Association or other applicable arbitration rules, either party 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 Subject to the rules of the American Arbitration Association or other applicable arbitration rules, either party 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 those of the Owner and Contractor under this Agreement.

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BID BOND

FOR

UNIVERSITY OF NEW ORLEANS PROJECT

_____
(Date)

KNOW ALL MEN BY THESE PRESENTS:

That _____of

_____, as Principal, and

_____, as Surety, are held and firmly bound unto the State of Louisiana, and The University of New Orleans, in the full and just sum of five (5%) percent of the total amount of this proposal, including all alternates, lawful money of the United States, for payment of which sum, well and truly be made, we bind ourselves, our heirs, executors, administrators, successors and assigns, jointly and severally firmly by these presents.

Surety represents that it is listed on the current U.S. Department of the Treasury Financial Management Service list of approved bonding companies as approved for an amount equal to or greater than the amount for which it obligates itself in this instrument or that it is a Louisiana-domiciled insurance company with at least an A- rating in the latest printing of the A.M. Best's Key Rating Guide. If surety qualifies by virtue of its Best's listing, the Bond amount may not exceed ten percent of policyholders' surplus as shown in the latest A.M. Best's Key Rating Guide.

The Surety further represents that it is licensed to do business in the State of Louisiana and that this Bond is signed by surety's agent or attorney-in-fact. This Bid Bond is accompanied by appropriate power of attorney.

THE CONDITION OF THIS OBLIGATION IS SUCH that, whereas said Principal is herewith submitting its proposal to the obligee on a Contract for:

_____

_____

NOW, THEREFORE, if the said Contract be awarded to the Principal and the Principal shall, within such time as may be specified, enter into the Contract in writing and give a good and sufficient bond to secure the performance of the terms and conditions of the Contract with surety acceptable to the obligee, then this obligation shall be void; otherwise this obligation shall become due and payable.

_____ _____
PRINCIPAL (BIDDER) SURETY

BY_____ BY_____
AUTHORIZED OFFICER-OWNER-PARTNER AGENT OR ATTORNEY-IN-FACT
(SEAL)

CONTRACT BETWEEN UNIVERSITY AND CONTRACTOR

This agreement made and entered into at New Orleans, Louisiana, this____ day of_____, 200_, by and between The University of New Orleans, herein represented by Troy A. Bacino, Assistant Director of Purchasing, University of New Orleans, party of the first part and hereinafter sometimes called the

University; and _____
(Contractor)

herein represented by_____
(Name and title)

Party of the second part and hereinafter sometimes called the Contractor:

WITNESSETH, THAT the University and the Contractor, for the considerations hereinafter named, agree as follows, that:

1. The Advertisement for Bids (if advertised)
2. The Bid Proposal
3. The General Conditions and Instructions
4. Bonds
5. The Specifications
6. The Following Enumerated Plans:
7. The Following Enumerated Addenda:

are all hereby made a part of this Contract to the same extent as if incorporated here in full.

SAMPLE

CONTRACT BETWEEN UNIVERSITY AND CONTRACTOR

The Contractor agrees to furnish all materials, labor, tools, equipment and other facilities necessary and to perform all work required for:

_____

_____

In accordance with this Contract and their proposal dated _____ all in strict accord with the requirements of the Contract.

The work to be performed under this contract shall be commenced immediately after award is made to the successful bidder and notification by the University that the work shall start, and shall be fully completed within the time stated in the Instructions to Bidders, subject to pertinent provisions of the General Conditions of the Contract Documents.

The amount to be paid to the Contractor by the University, subject to modification on account of changes as herein provided and/or as may be agreed to in writing by both parties to this contract
is _____
(figures)

_____
(in words)

The University shall make payments on account of the Contract as provided in the Instructions and Specifications.

Performance and Payment Bond: To these presents personally came and intervened , herein acting for _____, a corporation organized and existing under the laws of the State of _____, and duly authorized to transact business in the state of Louisiana, as surety, who declared that having taken cognizance of this Contract and of the Construction Documents mentioned herein, he hereby in his capacity as its Attorney in Fact obligates his said company, as surety for the said Contractor, unto the said University, up to the sum of _____. The condition of this Performance and Payment Bond shall be that should the Contractor herein not perform the contract in accordance with the terms and conditions hereof, or should said Contractor not fully indemnify and save harmless the University, from all cost and damages which he may suffer by said Contractor's nonperformance or should said Contractor not pay all persons who have and fulfill obligations to perform labor and/or furnish materials in the prosecution of the work provided for herein, including by way of example workmen, laborers, mechanics, and furnishers of materials, machinery, equipment and fixtures, then said Surety agrees and is bound to so perform the Contract upon demand by the University and make said payments in accordance with law.

Provided, that any alterations which may be made in the terms, of the Contract or in the work to be done under it, or the giving by the University of any extensions of time for the performance of the Contract, or any other forbearance on the part of either the University or the Contractor to the other shall not in any way release the Contractor or the Surety from their liability hereunder, notice to the Surety of any such alterations, extensions or other forbearance being hereby waived.

SAMPLE

In Witness whereof, the parties hereto on the day and year first above written have executed this agreement in _____ counterparts, each of which shall, without proof or accountancy for the other counterparts, be deemed an original thereof.

This Performance and Payment Bond is accompanied by appropriate Power of Attorney.

WITNESSES:

_____ _____
(CONTRACTOR)

_____ BY:_____
(TITLE)

THE UNIVERSITY OF NEW ORLEANS

_____ BY:_____

_____ _____
(TITLE)

_____ _____
(SURETY)

_____ _____
(ATTORNEY-IN-FACT)

SAMPLE

STATE OF LOUISIANA
PARISH OF _____

AFFIDAVIT ATTESTING THAT PUBLIC CONTRACT
WAS NOT, NOR WILL NOT BE SECURED
THROUGH EMPLOYMENT OR PAYMENT OF SOLICITOR

KNOW ALL MEN BY THESE PRESENT, that a public contract is contemplated between the UNIVERSITY OF NEW ORLEANS and:

_____
(contractor)

represented by _____, _____
(title)

who attests that he is empowered and authorized to execute said documents.

FURTHER, _____, who being duly sworn, does depose and attest that:

(1) Affiant employed no person, corporation, firm, association, or other organization, either directly or indirectly, to secure the public contract under which he received payment, other than persons regularly employed by the affiant whose services in connection with the construction of the public building or project or in securing the public contract were in the regular course of their duties for affiant; and

(2) No part of the contract price received by affiant was paid or will be paid to any person, corporation, firm, association, or other organization for soliciting the contract, other than the payment of their normal compensation to persons regularly employed by the affiant whose services in connection with the construction of the public building or project were in the regular course of their duties for affiant.

WITNESSES:

_____ _____

BEFORE ME, the undersigned authority, personally appeared, who being duly sworn, deposes the states that the above is true and correct in all respects recited.

_____

SWORN TO AND SUBSCRIBED before me this __ day of ___, 20___

_____
NOTARY PUBLIC

SAMPLE

_____ _____

Name of Project **Project No.**

STATE OF _____

PARISH OF _____

ATTESTATIONS AFFIDAVIT

Before me, the undersigned notary public, duly commissioned and qualified in and for the parish and state aforesaid, personally came and appeared Affiant, who after being duly sworn, attested as follows:

LA. R.S. 38:2227 PAST CRIMINAL CONVICTIONS OF BIDDERS

A. No sole proprietor or individual partner, incorporator, director, manager, officer, organizer, or member who has a minimum of a ten percent (10%) ownership in the bidding entity named below has been convicted of, or has entered a plea of guilty or nolo contendere to any of the following state crimes or equivalent federal crimes:

(a) Public bribery (R.S. 14:118)
(b) Corrupt influencing (R.S. 14:120)
(c) Extortion (R.S. 14:66)
(d) Money laundering (R.S. 14:230)

B. Within the past five years from the project bid date, no sole proprietor or individual partner, incorporator, director, manager, officer, organizer, or member who has a minimum of a ten percent (10%) ownership in the bidding entity named below has been convicted of, or has entered a plea of guilty or nolo contendere to any of the following state crimes or equivalent federal crimes, during the solicitation or execution of a contract or bid awarded pursuant to the provisions of Chapter 10 of Title 38 of the Louisiana Revised Statutes:

(a) Theft (R.S. 14:67)
(b) Identity Theft (R.S. 14:67.16)
(c) Theft of a business record (R.S.14:67.20)
(d) False accounting (R.S. 14:70)
(e) Issuing worthless checks (R.S. 14:71)
(f) Bank fraud (R.S. 14:71.1)
(g) Forgery (R.S. 14:72)
(h) Contractors; misapplication of payments (R.S. 14:202)
(i) Malfeasance in office (R.S. 14:134)

LA. R.S. 38:2212.10 Verification of Employees

A. At the time of bidding, Appearer is registered and participates in a status verification system to verify that all new hires in the state of Louisiana are legal citizens of the United States or are legal aliens.

B. If awarded the contract, Appearer shall continue, during the term of the contract, to utilize a status verification system to verify the legal status of all new employees in the state of Louisiana.

C. If awarded the contract, Appearer shall require all subcontractors to submit to it a sworn affidavit verifying compliance with Paragraphs (A) and (B) of this Subsection.

SAMPLE

_____ _____

Name of Project **Project No.**

LA. R.S. 23:1726(B) Certification Regarding Unpaid Workers Compensation Insurance

A. R.S. 23:1726 prohibits any entity against whom an assessment under Part X of Chapter 11 of Title 23 of the Louisiana Revised Statutes of 1950 (Alternative Collection Procedures & Assessments) is in effect, and whose right to appeal that assessment is exhausted, from submitting a bid or proposal for or obtaining any contract pursuant to Chapter 10 of Title 38 of the Louisiana Revised Statutes of 1950 and Chapters 16 and 17 of Title 39 of the Louisiana Revised Statutes of 1950.

B. By signing this bid /proposal, Affiant certifies that no such assessment is in effect against the bidding / proposing entity.

_____ _____

NAME OF BIDDER **NAME OF AUTHORIZED SIGNATORY OF BIDDER**

_____ _____

DATE **TITLE OF AUTHORIZED SIGNATORY OF BIDDER**

_____

SIGNATURE OF AUTHORIZED SIGNATORY OF BIDDER/AFFIANT

Sworn to and subscribed before me by Affiant on the _____ day of _____ , 20___ .

_____

Notary Public

SAMPLE

AIA® Document A312™ – 2010

Payment Bond

CONTRACTOR:
(Name, legal status and address)

SURETY:
(Name, legal status and principal place of business)

OWNER:
(Name, legal status and address)
The University of New Orleans
2000 Lakeshore Drive
New Orleans, LA 70148

CONSTRUCTION CONTRACT
Date:
Amount: $ 0.00
Description:
(Name and location)
The University of New Orleans
Chemistry Lab Upgrades – Phase II
Chemistry Building
2000 Lakeshore Drive
New Orleans, LA 70148

BOND
Date:
(Not earlier than Construction Contract Date)

Amount: $
Modifications to this Bond: ☐ None ☐ See Section 18

CONTRACTOR AS PRINCIPAL
Company: *(Corporate Seal)*

Signature: _____
Name and Title:

SURETY
Company: *(Corporate Seal)*

Signature: _____
Name and Title:

(Any additional signatures appear on the last page of this Payment Bond.)

(FOR INFORMATION ONLY — Name, address and telephone)
AGENT or **BROKER:**

OWNER'S REPRESENTATIVE:
(Architect, Engineer or other party:)

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.

Any singular reference to Contractor, Surety, Owner or other party shall be considered plural where applicable.

Init.
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§ 1 The Contractor and Surety, jointly and severally, bind themselves, their heirs, executors, administrators, successors and assigns to the Owner to pay for labor, materials and equipment furnished for use in the performance of the Construction Contract, which is incorporated herein by reference, subject to the following terms.

§ 2 If the Contractor promptly makes payment of all sums due to Claimants, and defends, indemnifies and holds harmless the Owner from claims, demands, liens or suits by any person or entity seeking payment for labor, materials or equipment furnished for use in the performance of the Construction Contract, then the Surety and the Contractor shall have no obligation under this Bond.

§ 3 If there is no Owner Default under the Construction Contract, the Surety's obligation to the Owner under this Bond shall arise after the Owner has promptly notified the Contractor and the Surety (at the address described in Section 13) of claims, demands, liens or suits against the Owner or the Owner's property by any person or entity seeking payment for labor, materials or equipment furnished for use in the performance of the Construction Contract and tendered defense of such claims, demands, liens or suits to the Contractor and the Surety.

§ 4 When the Owner has satisfied the conditions in Section 3, the Surety shall promptly and at the Surety's expense defend, indemnify and hold harmless the Owner against a duly tendered claim, demand, lien or suit.

§ 5 The Surety's obligations to a Claimant under this Bond shall arise after the following:

§ 5.1 Claimants, who do not have a direct contract with the Contractor,

- **.1** have furnished a written notice of non-payment to the Contractor, stating with substantial accuracy the amount claimed and the name of the party to whom the materials were, or equipment was, furnished or supplied or for whom the labor was done or performed, within ninety (90) days after having last performed labor or last furnished materials or equipment included in the Claim; and
- **.2** have sent a Claim to the Surety (at the address described in Section 13).

§ 5.2 Claimants, who are employed by or have a direct contract with the Contractor, have sent a Claim to the Surety (at the address described in Section 13).

§ 6 If a notice of non-payment required by Section 5.1.1 is given by the Owner to the Contractor, that is sufficient to satisfy a Claimant's obligation to furnish a written notice of non-payment under Section 5.1.1.

§ 7 When a Claimant has satisfied the conditions of Sections 5.1 or 5.2, whichever is applicable, the Surety shall promptly and at the Surety's expense take the following actions:

§ 7.1 Send an answer to the Claimant, with a copy to the Owner, within sixty (60) days after receipt of the Claim, stating the amounts that are undisputed and the basis for challenging any amounts that are disputed; and

§ 7.2 Pay or arrange for payment of any undisputed amounts.

§ 7.3 The Surety's failure to discharge its obligations under Section 7.1 or Section 7.2 shall not be deemed to constitute a waiver of defenses the Surety or Contractor may have or acquire as to a Claim, except as to undisputed amounts for which the Surety and Claimant have reached agreement. If, however, the Surety fails to discharge its obligations under Section 7.1 or Section 7.2, the Surety shall indemnify the Claimant for the reasonable attorney's fees the Claimant incurs thereafter to recover any sums found to be due and owing to the Claimant.

§ 8 The Surety's total obligation shall not exceed the amount of this Bond, plus the amount of reasonable attorney's fees provided under Section 7.3, and the amount of this Bond shall be credited for any payments made in good faith by the Surety.

§ 9 Amounts owed by the Owner to the Contractor under the Construction Contract shall be used for the performance of the Construction Contract and to satisfy claims, if any, under any construction performance bond. By the Contractor furnishing and the Owner accepting this Bond, they agree that all funds earned by the Contractor in the performance of the Construction Contract are dedicated to satisfy obligations of the Contractor and Surety under this Bond, subject to the Owner's priority to use the funds for the completion of the work.

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§ 10 The Surety shall not be liable to the Owner, Claimants or others for obligations of the Contractor that are unrelated to the Construction Contract. The Owner shall not be liable for the payment of any costs or expenses of any Claimant under this Bond, and shall have under this Bond no obligation to make payments to, or give notice on behalf of, Claimants or otherwise have any obligations to Claimants under this Bond.

§ 11 The Surety hereby waives notice of any change, including changes of time, to the Construction Contract or to related subcontracts, purchase orders and other obligations.

§ 12 No suit or action shall be commenced by a Claimant under this Bond other than in a court of competent jurisdiction in the state in which the project that is the subject of the Construction Contract is located or after the expiration of one year from the date (1) on which the Claimant sent a Claim to the Surety pursuant to Section 5.1.2 or 5.2, or (2) on which the last labor or service was performed by anyone or the last materials or equipment were furnished by anyone under the Construction Contract, whichever of (1) or (2) first occurs. If the provisions of this Paragraph are void or prohibited by law, the minimum period of limitation available to sureties as a defense in the jurisdiction of the suit shall be applicable.

§ 13 Notice and Claims to the Surety, the Owner or the Contractor shall be mailed or delivered to the address shown on the page on which their signature appears. Actual receipt of notice or Claims, however accomplished, shall be sufficient compliance as of the date received.

§ 14 When this Bond has been furnished to comply with a statutory or other legal requirement in the location where the construction was to be performed, any provision in this Bond conflicting with said statutory or legal requirement shall be deemed deleted herefrom and provisions conforming to such statutory or other legal requirement shall be deemed incorporated herein. When so furnished, the intent is that this Bond shall be construed as a statutory bond and not as a common law bond.

§ 15 Upon request by any person or entity appearing to be a potential beneficiary of this Bond, the Contractor and Owner shall promptly furnish a copy of this Bond or shall permit a copy to be made.

§ 16 Definitions

§ 16.1 Claim. A written statement by the Claimant including at a minimum:

- **.1** the name of the Claimant;
- **.2** the name of the person for whom the labor was done, or materials or equipment furnished;
- **.3** a copy of the agreement or purchase order pursuant to which labor, materials or equipment was furnished for use in the performance of the Construction Contract;
- **.4** a brief description of the labor, materials or equipment furnished;
- **.5** the date on which the Claimant last performed labor or last furnished materials or equipment for use in the performance of the Construction Contract;
- **.6** the total amount earned by the Claimant for labor, materials or equipment furnished as of the date of the Claim;
- **.7** the total amount of previous payments received by the Claimant; and
- **.8** the total amount due and unpaid to the Claimant for labor, materials or equipment furnished as of the date of the Claim.

§ 16.2 Claimant. An individual or entity having a direct contract with the Contractor or with a subcontractor of the Contractor to furnish labor, materials or equipment for use in the performance of the Construction Contract. The term Claimant also includes any individual or entity that has rightfully asserted a claim under an applicable mechanic's lien or similar statute against the real property upon which the Project is located. The intent of this Bond shall be to include without limitation in the terms "labor, materials or equipment" that part of water, gas, power, light, heat, oil, gasoline, telephone service or rental equipment used in the Construction Contract, architectural and engineering services required for performance of the work of the Contractor and the Contractor's subcontractors, and all other items for which a mechanic's lien may be asserted in the jurisdiction where the labor, materials or equipment were furnished.

§ 16.3 Construction Contract. The agreement between the Owner and Contractor identified on the cover page, including all Contract Documents and all changes made to the agreement and the Contract Documents.

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§ 16.4 Owner Default. Failure of the Owner, which has not been remedied or waived, to pay the Contractor as required under the Construction Contract or to perform and complete or comply with the other material terms of the Construction Contract.

§ 16.5 Contract Documents. All the documents that comprise the agreement between the Owner and Contractor.

§ 17 If this Bond is issued for an agreement between a Contractor and subcontractor, the term Contractor in this Bond shall be deemed to be Subcontractor and the term Owner shall be deemed to be Contractor.

§ 18 Modifications to this bond are as follows:

(Space is provided below for additional signatures of added parties, other than those appearing on the cover page.)

CONTRACTOR AS PRINCIPAL		**SURETY**	
Company:	*(Corporate Seal)*	Company:	*(Corporate Seal)*
Signature:	_____	Signature:	_____
Name and Title:		Name and Title:	
Address:		Address:	

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Additions and Deletions Report for

AIA® Document A312™ – 2010

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PAGE 1

The University of New Orleans
2000 Lakeshore Drive
New Orleans, LA 70148

...

Amount: $ 0.00

...

The University of New Orleans
Chemistry Lab Upgrades – Phase II
Chemistry Building
2000 Lakeshore Drive
New Orleans, LA 70148

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User Notes: (1701997415)

Certification of Document's Authenticity

AIA® Document D401™ – 2003

I, , hereby certify, to the best of my knowledge, information and belief, that I created the attached final document simultaneously with its associated Additions and Deletions Report and this certification at 10:52:59 ET on 05/05/2021 under Order No. 4897197182 from AIA Contract Documents software and that in preparing the attached final document I made no changes to the original text of AIA® Document A312™ – 2010, Payment Bond, as published by the AIA in its software, other than those additions and deletions shown in the associated Additions and Deletions Report.

_____

(Signed)

_____

(Title)

_____

(Dated)

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AIA® Document A312™ – 2010

Performance Bond

CONTRACTOR:
(Name, legal status and address)

SURETY:
(Name, legal status and principal place of business)

OWNER:
(Name, legal status and address)
The University of New Orleans
2000 Lakeshore Drive
New Orleans, LA 70148

CONSTRUCTION CONTRACT
Date:
Amount: $ 0.00
Description:
(Name and location)
The University of New Orleans
Chemistry Lab Upgrades – Phase II
Chemistry Building
2000 Lakeshore Drive
New Orleans, LA 70148

BOND
Date:
(Not earlier than Construction Contract Date)

Amount: $
Modifications to this Bond: ☐ None ☐ See Section 16

CONTRACTOR AS PRINCIPAL
Company: *(Corporate Seal)*

Signature: _____
Name and Title:

SURETY
Company: *(Corporate Seal)*

Signature: _____
Name and Title:

(Any additional signatures appear on the last page of this Performance Bond.)

(FOR INFORMATION ONLY — Name, address and telephone)

AGENT or **BROKER:**

OWNER'S REPRESENTATIVE:
(Architect, Engineer or other party:)

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.

Any singular reference to Contractor, Surety, Owner or other party shall be considered plural where applicable.

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§ 1 The Contractor and Surety, jointly and severally, bind themselves, their heirs, executors, administrators, successors and assigns to the Owner for the performance of the Construction Contract, which is incorporated herein by reference.

§ 2 If the Contractor performs the Construction Contract, the Surety and the Contractor shall have no obligation under this Bond, except when applicable to participate in a conference as provided in Section 3.

§ 3 If there is no Owner Default under the Construction Contract, the Surety's obligation under this Bond shall arise after

.1 the Owner first provides notice to the Contractor and the Surety that the Owner is considering declaring a Contractor Default. Such notice shall indicate whether the Owner is requesting a conference among the Owner, Contractor and Surety to discuss the Contractor's performance. If the Owner does not request a conference, the Surety may, within five (5) business days after receipt of the Owner's notice, request such a conference. If the Surety timely requests a conference, the Owner shall attend. Unless the Owner agrees otherwise, any conference requested under this Section 3.1 shall be held within ten (10) business days of the Surety's receipt of the Owner's notice. If the Owner, the Contractor and the Surety agree, the Contractor shall be allowed a reasonable time to perform the Construction Contract, but such an agreement shall not waive the Owner's right, if any, subsequently to declare a Contractor Default;

.2 the Owner declares a Contractor Default, terminates the Construction Contract and notifies the Surety; and

.3 the Owner has agreed to pay the Balance of the Contract Price in accordance with the terms of the Construction Contract to the Surety or to a contractor selected to perform the Construction Contract.

§ 4 Failure on the part of the Owner to comply with the notice requirement in Section 3.1 shall not constitute a failure to comply with a condition precedent to the Surety's obligations, or release the Surety from its obligations, except to the extent the Surety demonstrates actual prejudice.

§ 5 When the Owner has satisfied the conditions of Section 3, the Surety shall promptly and at the Surety's expense take one of the following actions:

§ 5.1 Arrange for the Contractor, with the consent of the Owner, to perform and complete the Construction Contract;

§ 5.2 Undertake to perform and complete the Construction Contract itself, through its agents or independent contractors;

§ 5.3 Obtain bids or negotiated proposals from qualified contractors acceptable to the Owner for a contract for performance and completion of the Construction Contract, arrange for a contract to be prepared for execution by the Owner and a contractor selected with the Owner's concurrence, to be secured with performance and payment bonds executed by a qualified surety equivalent to the bonds issued on the Construction Contract, and pay to the Owner the amount of damages as described in Section 7 in excess of the Balance of the Contract Price incurred by the Owner as a result of the Contractor Default; or

§ 5.4 Waive its right to perform and complete, arrange for completion, or obtain a new contractor and with reasonable promptness under the circumstances:

.1 After investigation, determine the amount for which it may be liable to the Owner and, as soon as practicable after the amount is determined, make payment to the Owner; or

.2 Deny liability in whole or in part and notify the Owner, citing the reasons for denial.

§ 6 If the Surety does not proceed as provided in Section 5 with reasonable promptness, the Surety shall be deemed to be in default on this Bond seven days after receipt of an additional written notice from the Owner to the Surety demanding that the Surety perform its obligations under this Bond, and the Owner shall be entitled to enforce any remedy available to the Owner. If the Surety proceeds as provided in Section 5.4, and the Owner refuses the payment or the Surety has denied liability, in whole or in part, without further notice the Owner shall be entitled to enforce any remedy available to the Owner.

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§ 7 If the Surety elects to act under Section 5.1, 5.2 or 5.3, then the responsibilities of the Surety to the Owner shall not be greater than those of the Contractor under the Construction Contract, and the responsibilities of the Owner to the Surety shall not be greater than those of the Owner under the Construction Contract. Subject to the commitment by the Owner to pay the Balance of the Contract Price, the Surety is obligated, without duplication, for

.1 the responsibilities of the Contractor for correction of defective work and completion of the Construction Contract;

.2 additional legal, design professional and delay costs resulting from the Contractor's Default, and resulting from the actions or failure to act of the Surety under Section 5; and

.3 liquidated damages, or if no liquidated damages are specified in the Construction Contract, actual damages caused by delayed performance or non-performance of the Contractor.

§ 8 If the Surety elects to act under Section 5.1, 5.3 or 5.4, the Surety's liability is limited to the amount of this Bond.

§ 9 The Surety shall not be liable to the Owner or others for obligations of the Contractor that are unrelated to the Construction Contract, and the Balance of the Contract Price shall not be reduced or set off on account of any such unrelated obligations. No right of action shall accrue on this Bond to any person or entity other than the Owner or its heirs, executors, administrators, successors and assigns.

§ 10 The Surety hereby waives notice of any change, including changes of time, to the Construction Contract or to related subcontracts, purchase orders and other obligations.

§ 11 Any proceeding, legal or equitable, under this Bond may be instituted in any court of competent jurisdiction in the location in which the work or part of the work is located and shall be instituted within two years after a declaration of Contractor Default or within two years after the Contractor ceased working or within two years after the Surety refuses or fails to perform its obligations under this Bond, whichever occurs first. If the provisions of this Paragraph are void or prohibited by law, the minimum period of limitation available to sureties as a defense in the jurisdiction of the suit shall be applicable.

§ 12 Notice to the Surety, the Owner or the Contractor shall be mailed or delivered to the address shown on the page on which their signature appears.

§ 13 When this Bond has been furnished to comply with a statutory or other legal requirement in the location where the construction was to be performed, any provision in this Bond conflicting with said statutory or legal requirement shall be deemed deleted herefrom and provisions conforming to such statutory or other legal requirement shall be deemed incorporated herein. When so furnished, the intent is that this Bond shall be construed as a statutory bond and not as a common law bond.

§ 14 Definitions

§ 14.1 Balance of the Contract Price. The total amount payable by the Owner to the Contractor under the Construction Contract after all proper adjustments have been made, including allowance to the Contractor of any amounts received or to be received by the Owner in settlement of insurance or other claims for damages to which the Contractor is entitled, reduced by all valid and proper payments made to or on behalf of the Contractor under the Construction Contract.

§ 14.2 Construction Contract. The agreement between the Owner and Contractor identified on the cover page, including all Contract Documents and changes made to the agreement and the Contract Documents.

§ 14.3 Contractor Default. Failure of the Contractor, which has not been remedied or waived, to perform or otherwise to comply with a material term of the Construction Contract.

§ 14.4 Owner Default. Failure of the Owner, which has not been remedied or waived, to pay the Contractor as required under the Construction Contract or to perform and complete or comply with the other material terms of the Construction Contract.

§ 14.5 Contract Documents. All the documents that comprise the agreement between the Owner and Contractor.

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§ 15 If this Bond is issued for an agreement between a Contractor and subcontractor, the term Contractor in this Bond shall be deemed to be Subcontractor and the term Owner shall be deemed to be Contractor.

§ 16 Modifications to this bond are as follows:

(Space is provided below for additional signatures of added parties, other than those appearing on the cover page.)

CONTRACTOR AS PRINCIPAL		**SURETY**	
Company:	*(Corporate Seal)*	Company:	*(Corporate Seal)*
Signature:	_____	Signature:	_____
Name and Title:		Name and Title:	
Address:		Address:	

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LOUISIANA UNIFORM PUBLIC WORK BID FORM

TO: **The University of New Orleans**
Purchasing Office
Administration Annex, Room 1004-G
New Orleans, LA 70148
(Owner to provide name and address of owner)

BID FOR: **The University of New Orleans**
Science Lab Upgrades – Phase II
BTB #2657REBID
_____
(*Owner to provide name of project and other identifying information)*

The undersigned bidder hereby declares and represents that she/he: a) has carefully examined and understands the Bidding Documents, b) has not received, relied on, or based his bid on any verbal instructions contrary to the Bidding Documents or any addenda, c) has personally inspected and is familiar with the project site, and hereby proposes to provide all labor, materials, tools, appliances and facilities as required to perform, in a workmanlike manner, all work and services for the construction and completion of the referenced project, all in strict accordance with the Bidding Documents prepared by: Holly and Smith Architects, APAC and dated: 08/12/2021
(Owner to provide name of entity preparing bidding documents.)

Bidders must acknowledge all addenda. The Bidder acknowledges receipt of the following **ADDENDA:** (Enter the number the Designer has assigned to each of the addenda that the Bidder is acknowledging) _____ .

TOTAL BASE BID: For all work required by the Bidding Documents (including any and all unit prices designated "Base Bid" * but not alternates) the sum of:

_____Dollars ($ _____)

ALTERNATES: For any and all work required by the Bidding Documents for Alternates including any and all unit prices designated as alternates in the unit price description.

Alternate No. 1 *(ADD: Provide new finishes, fixtures, doors, millwork and plumbing in science lab 1024, as shown on sheet A201)* for the lump sum of:

_____Dollars ($ _____)

Alternate No. 2 *(ADD: In lieu of contractor provided, contractor installed acrylic water-based floor coating, install owner provided rubber flooring)* for the lump sum of:

_____Dollars ($ _____)

Alternate No. 3 *(Owner to provide description of alternate and state whether add or deduct)* for the lump sum of:
N/A_____Dollars ($_____)

NAME OF BIDDER: _____

ADDRESS OF BIDDER:_____

_____

LOUISIANA CONTRACTOR'S LICENSE NUMBER: _____

NAME OF AUTHORIZED SIGNATORY OF BIDDER: _____

TITLE OF AUTHORIZED SIGNATORY OF BIDDER: _____

SIGNATURE OF AUTHORIZED SIGNATORY OF BIDDER **: _____

DATE: _____

THE FOLLOWING ITEMS ARE TO BE INCLUDED WITH THE SUBMISSION OF THIS LOUISIANA UNIFORM PUBLIC WORK BID FORM:

* The Unit Price Form shall be used if the contract includes unit prices. Otherwise it is not required and need not be included with the form. The number of unit prices that may be included is not limited and additional sheets may be included if needed.

**** A CORPORATE RESOLUTION OR WRITTEN EVIDENCE** of the authority of the person signing the bid for the public work as prescribed by LA R.S. 38:2212(B)(5).

BID SECURITY in the form of a bid bond, certified check or cashier's check as prescribed by LA R.S. 38:2218(A) attached to and made a part of this bid.

LOUISIANA UNIFORM PUBLIC WORK BID FORM
UNIT PRICE FORM

TO: **The University of New Orleans**
Purchasing Office
Administration Annex, Room 1004-G
New Orleans, LA 70148
(Owner to provide name and address of owner)

BID FOR: **The University of New Orleans**
Science Lab Upgrades – Phase II
BTB #2657REBID
(*Owner to provide name of project and other identifying information)*

UNIT PRICES: This form shall be used for any and all work required by the Bidding Documents and described as unit prices. Amounts shall be stated in figures and only in figures.

DESCRIPTION:	☑ Base Bid or ❑ Alt.# ___ Full installation including adding power for an owner provided ductless vent hood.			
REF. NO.	QUANTITY:	UNIT OF MEASURE:	UNIT PRICE	UNIT PRICE EXTENSION *(Quantity times Unit Price)*
1	1	1 Unit		

DESCRIPTION:	❑ Base Bid or ❑ Alt.# ___			
REF. NO.	QUANTITY:	UNIT OF MEASURE:	UNIT PRICE	UNIT PRICE EXTENSION *(Quantity times Unit Price)*

DESCRIPTION:	❑ Base Bid or ❑ Alt.# ___			
REF. NO.	QUANTITY:	UNIT OF MEASURE:	UNIT PRICE	UNIT PRICE EXTENSION *(Quantity times Unit Price)*

DESCRIPTION:	❑ Base Bid or ❑ Alt.# ___			
REF. NO.	QUANTITY:	UNIT OF MEASURE:	UNIT PRICE	UNIT PRICE EXTENSION *(Quantity times Unit Price)*

DESCRIPTION:	❑ Base Bid or ❑ Alt.# ___			
REF. NO.	QUANTITY:	UNIT OF MEASURE:	UNIT PRICE	UNIT PRICE EXTENSION *(Quantity times Unit Price)*

DESCRIPTION:	❑ Base Bid or ❑ Alt.# ___			
REF. NO.	QUANTITY:	UNIT OF MEASURE:	UNIT PRICE	UNIT PRICE EXTENSION *(Quantity times Unit Price)*

DESCRIPTION:	❑ Base Bid or ❑ Alt.# ___			
REF. NO.	QUANTITY:	UNIT OF MEASURE:	UNIT PRICE	UNIT PRICE EXTENSION *(Quantity times Unit Price)*

DESCRIPTION:	❑ Base Bid or ❑ Alt.# ___			
REF. NO.	QUANTITY:	UNIT OF MEASURE:	UNIT PRICE	UNIT PRICE EXTENSION *(Quantity times Unit Price)*

DESCRIPTION:	❑ Base Bid or ❑ Alt.# ___			
REF. NO.	QUANTITY:	UNIT OF MEASURE:	UNIT PRICE	UNIT PRICE EXTENSION *(Quantity times Unit Price)*

Wording for "DESCRIPTION" is to be provided by the Owner.
All quantities are estimated. The contractor will be paid based upon actual quantities as verified by the Owner.

UNIVERSITY OF NEW ORLEANS	PAYMENT REQUEST #	Page____of ____
		Date:
Project:	Contractor: Mailing Address:	
SP# SB#		

CHANGE ORDER SUMMARY

Change Order History		ADDITIONS	DEDUCTIONS
Number	Date		
	TOTALS		
	Net Change by Change Orders		

ORIGINAL CONTRACT SUM.....	$_____
Net change by Change Orders.....	$_____
CONTRACT SUM TO DATE.....	$_____
TOTAL COMPLETED & STORED TO DATE..... (See Schedule of Values)	$_____
RETAINAGE_____%.....	$_____
TOTAL EARNED LESS RETAINAGE.....	$_____
LESS PREVIOUS PAYMENTS/APPLICATIONS.	$_____
PAYMENT DUE THIS REQUEST.....	$_____

UNO ONLY

FS

I CERTIFY THAT THE GOODS OR SERVICES REFERENCED ON THIS INVOICE HAVE BEEN RENDERED AND PAYMENT OF THESE CHARGES IS ACCEPTABLE AS INDICATED BELOW.

DATE RECEIVED: _____

DEPARTMENT CHAIRMAN/
AUTHORIZED REPRESENTATIVE: _____

_____APPROVED WITHOUT EXCEPTION

_____APPROVED WITH EXCEPTION(S) AS NOTED

PURCHASING

P.O. NO._____DATE_____V# _____

ACCOUNT NO._____OBJECT_____

BPO_____E.O. NO._____COMPLETE ( ) PARTIAL ( )

APPROVED_____DATE_____

APPROVALS

CONTRACTOR:	DATE:
ARCHITECT:	DATE:
FS:	DATE:

UNIVERSITY OF NEW ORLEANS						SCHEDULE OF VALUES:			Page___of ___ Date:
Project:						Contractor: Mailing Address:			
SP#		SB#		PO#					
A	B	C	D	E	F	G		H	I
ITEM NO.	DESCRIPTION OF WORK	SCHEDULED VALUE	WORK COMPLETED			TOTAL COMPLETED AND STORED TO DATE	%	BALANCE TO FINISH	RETAINAGE
			PREVIOUS APPLI	This Application					
				Work In Place	Stored Materials				
	TOTALS								

SECTION 011000 - SUMMARY

PART 1 - GENERAL

1.1 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.

1.2 SUMMARY

A. Section includes:

1. Project information.
2. Work covered by Contract Documents.
3. Phased construction.
4. Work by Owner.
5. Access to site.
6. Coordination with occupants.
7. Work restrictions.
8. Specification conventions.

B. Related Section:

1. Division 1 Section "Temporary Facilities and Controls" for limitations and procedures governing temporary use of Owner's facilities.

1.3 PROJECT INFORMATION

A. Project Identification: The University of New Orleans Science Lab Upgrades Phase II

1. Project Location: The University of New Orleans, 2000 Lakeshore Drive, Science Building, New Orleans, Louisiana 70148.

B. Owner: The University of New Orleans

1. Owner's Representative: Ms. Melanie Champagne, Director Construction and Design; Facility Services, Administration Building, Room 112, 2000 Lakeshore Drive, New Orleans, LA 70148; Phone: 504.280.3237.

C. Architect: Holly & Smith Architects, APAC; 2302 Magazine Street, New Orleans, LA 70130; Phone: 504.585.1315, Fax: 504.585.1316.

D. Project Web Site: A Project Web site administered by the Architect will be used for purposes of managing communication and documents during the construction stage.

1. See Division 1 Section "Project Management and Coordination" for Contractor's requirements for utilizing the Project Web site.

1.4 WORK COVERED BY CONTRACT DOCUMENTS

A. The Work of the Project is defined by the Contract Documents and consists of the following:
   a. Complete renovation of science lab 1008, storage 1008-A, and storage 1024-A. Demolition only of Science Lab 1024.

1.5 WORK BY OWNER

A. General: Cooperate fully with Owner so work may be carried out smoothly, without interfering with or delaying work under this Contract or work by Owner. Coordinate the Work of this Contract with work performed by Owner.

1.6 ACCESS TO SITE

A. General: Contractor shall have limited use of Project site for construction operations as indicated on Drawings by the Contract limits and as indicated by requirements of this Section.

B. Use of Site: Limit use of Project site to work in areas indicated. Do not disturb portions of Project site beyond areas in which the Work is indicated.

   1. Limits: Confine construction operations to the Limits of Construction as identified in the Architectural Drawings.
   2. Rights-of-Way: Coordinate all work outside of construction limits with those entities controlling the right-of-way and connections.
   3. Driveways, Walkways and Entrances: Keep driveways, loading areas, and entrances serving premises clear and available to Owner, Owner's employees, and emergency vehicles at all times. Do not use these areas for parking or storage of materials.

      a. Schedule deliveries to minimize use of driveways and entrances by construction operations.
      b. Schedule deliveries to minimize space and time requirements for storage of materials and equipment on-site.

C. Condition of Existing Building: Maintain portions of existing building affected by construction operations in a weathertight condition throughout construction period. Repair damage caused by construction operations.

1.7 COORDINATION WITH OCCUPANTS

A. Full Owner Occupancy: Owner will occupy site and existing building(s) 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 adjacent occupied or used facilities. Do not close or obstruct passage ways, 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.

1.8 WORK RESTRICTIONS

A. Work Restrictions, General: Comply with restrictions on construction operations.

1. Comply with limitations on use of public streets and other requirements of authorities having jurisdiction.

B. On-Site Work Hours: Limit work in the existing building to normal business working hours of 7 a.m. to 6 p.m., Monday through Friday, except as otherwise indicated.

1. Weekend Hours: Notify Owner 48 hours in advance prior to weekend Work. Provide Owner with anticipated Work hours.
2. Early Morning Hours: Comply with City of New Orleans regulations.

C. Existing Utility Interruptions: Do not interrupt utilities serving facilities occupied by Owner or others unless permitted under the following conditions and then only after providing temporary utility services according to requirements indicated:

1. Notify Owner not less than three (3) business days in advance of proposed utility interruptions.
2. Do not proceed with utility interruptions without Owner's written permission

D. Noise, Vibration, and Odors: Coordinate operations that may result in high levels of noise and vibration, odors, or other disruption to Owner occupancy with Owner.

1. Notify Owner not less than three days in advance of proposed disruptive operations.

E. Nonsmoking Building: Smoking is not permitted within the building or within 25 feet of entrances, operable windows, or outdoor air intakes once building is closed-in.

F. Controlled Substances: Use of tobacco products and other controlled substances within the existing building is not permitted.

G. Employee Identification: Provide identification tags for Contractor personnel working on the Project site. Require personnel to utilize identification tags at all times.

H. Employee Screening: Comply with Owner's requirements regarding drug and background screening of Contractor personnel working on the Project site.

1. Maintain list of approved screened personnel with Owner's Representative.

1.9 SPECIFICATION AND DRAWING CONVENTIONS

A. Specification Format: The Specifications are organized into Divisions and Sections using CSI/CSC's "MasterFormat 2004 Edition" numbering system.

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. Imperative mood and streamlined language are generally used in the Specifications. Requirements expressed in the imperative mood are to be performed by the 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 the 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.

2. 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.
3. Specification requirements are to be performed by Contractor unless specifically stated otherwise.

C. Division 1 General Requirements: Requirements of Sections in Division 1 apply to the Work of all Sections in the Specifications.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION

SECTION 012200 - UNIT PRICES

PART 1 - GENERAL

1.1 SUMMARY

A. Section includes administrative and procedural requirements for unit prices.

B. Related Requirements:

1. Section 012100 "Allowances" for procedures for using unit prices to adjust quantity allowances.

1.2 DEFINITIONS

A. Unit price is an amount incorporated into the Agreement, applicable during the duration of the Work as a price per unit of measurement for materials, equipment, or services, or a portion of the Work, added to or deducted from the Contract Sum by appropriate modification, if the scope of Work or estimated quantities of Work required by the Contract Documents are increased or decreased.

1.3 PROCEDURES

A. Unit prices include all necessary material, plus cost for delivery, installation, insurance, [applicable taxes,]overhead, and profit.

B. Measurement and Payment: See individual Specification Sections for work that requires establishment of unit prices. Methods of measurement and payment for unit prices are specified in those Sections.

C. Owner reserves the right to reject Contractor's measurement of work-in-place that involves use of established unit prices and to have this work measured, at Owner's expense, by an independent surveyor acceptable to Contractor.

D. List of Unit Prices: A schedule of unit prices is included in Part 3. Specification Sections referenced in the schedule contain requirements for materials described under each unit price.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION

3.1 SCHEDULE OF UNIT PRICES

A. Unit Price No. 1: Owner provided Contractor installed ductless fume hood.
1. Description: Full installation including adding power for a owner provided ductless vent hood.

2. Unit of Measurement: 1 Fume Hood

B.

END OF SECTION

SECTION 012300 - ALTERNATES

PART 1 - GENERAL

1.1 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.

1.2 SUMMARY

A. Section includes administrative and procedural requirements for alternates.

1.3 DEFINITIONS

A. The cost for each alternate is the net addition to the Contract Sum to incorporate alternate into the Work. No other adjustments are made to the Contract Sum.

1.4 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. Alternates described herein are shown on the drawings as completed portions of the work.
2. Notations are shown on the drawings referencing the alternate items listed herein.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION

3.1 SCHEDULE OF ALTERNATES

A. Add Alternate No. 1:Provide all labor, materials, equipment and incidentals as required to do the following: the following:
   1. ADD ALTERNATE 1: PROVIDE NEW FINISHES, FIXTURES, DOORS, MILLWORK, AND PLUMBING IN SCIENCE LAB 1024 AND VESTIBULE 1026-A, AS SHOWN ON SHEET A201.

B. Add Alternate No. 2: Provide all labor, materials, equipment and incidentals as required to do the following:
   1. ADD ALTERNATE 2: IN LIEU OF CONTRACTOR PROVIDED, CONTRACTOR INSTALLED ACRYLIC WATER BASED FLOOR COATING, INSTALL OWNER PROVIDED RUBBER FLOORING. INCLUDE FLOOR PREP AS RECOMMENDED BY MANUFACTURER. SEE SPECIFICATION SECTION 096516 AND SECTION 090561.13.

END OF SECTION

SECTION 012500 - SUBSTITUTION PROCEDURES

PART 1 - GENERAL

1.1 SUMMARY

A. Section includes administrative and procedural requirements for substitutions.

B. Related Requirements:

1. Section 016000 "Product Requirements" for requirements for submitting comparable product submittals for products by listed manufacturers.

1.2 DEFINITIONS

A. Substitutions: Changes in products, materials, equipment, and methods of construction from those required by the Contract Documents and proposed by Contractor.

1. Substitutions for Cause: Changes proposed by Contractor that are required due to changed Project conditions, such as unavailability of product, regulatory changes, or unavailability of required warranty terms.
2. Substitutions for Convenience: Changes proposed by Contractor or Owner that are not required in order to meet other Project requirements but may offer advantage to Contractor or Owner. (Substitutions for Convenience: Not allowed)

1.3 ACTION SUBMITTALS

A. Substitution Requests: Submit three copies of each request for consideration. Identify product or fabrication or installation method to be replaced. Include Specification Section number and title and Drawing numbers and titles.

1. Documentation: Show compliance with requirements for substitutions and the following, as applicable:

a. Statement indicating why specified product or fabrication or installation method cannot be provided, if applicable.
b. Coordination of information, including a list of changes or revisions needed to other parts of the Work and to construction performed by Owner and separate contractors that will be necessary to accommodate proposed substitution.
c. Detailed comparison of significant qualities of proposed substitutions with those of the Work specified. Include annotated copy of applicable Specification Section. Significant qualities may include attributes, such as performance, weight, size, durability, visual effect, sustainable design characteristics, warranties, and specific features and requirements indicated. Indicate deviations, if any, from the Work specified.
d. Product Data, including drawings and descriptions of products and fabrication and installation procedures.
e. Samples, where applicable or requested.
f. Certificates and qualification data, where applicable or requested.

g. List of similar installations for completed projects, with project names and addresses as well as names and addresses of architects and owners.
h. Material test reports from a qualified testing agency, indicating and interpreting test results for compliance with requirements indicated.
i. Research reports evidencing compliance with building code in effect for Project.
j. Detailed comparison of Contractor's construction schedule using proposed substitutions with products specified for the Work, including effect on the overall Contract Time. If specified product or method of construction cannot be provided within the Contract Time, include letter from manufacturer, on manufacturer's letterhead, stating date of receipt of purchase order, lack of availability, or delays in delivery.
k. Cost information, including a proposal of change, if any, in the Contract Sum.
l. Contractor's certification that proposed substitution complies with requirements in the Contract Documents, except as indicated in substitution request, is compatible with related materials and is appropriate for applications indicated.
m. Contractor's waiver of rights to additional payment or time that may subsequently become necessary because of failure of proposed substitution to produce indicated results.

2. Architect's Action: If necessary, Architect will request additional information or documentation for evaluation within seven (7) days of receipt of a request for substitution. Architect will notify Contractor through Construction Manager of acceptance or rejection of proposed substitution within seven (7) days of receipt of request, or seven (7) days of receipt of additional information or documentation, whichever is later.

a. Forms of Acceptance: Change Order, Construction Change Directive, or Architect's Supplemental Instructions for minor changes in the Work.
b. Use product specified if Architect does not issue a decision on use of a proposed substitution within time allocated.

1.4 QUALITY ASSURANCE

A. Compatibility of Substitutions: Investigate and document compatibility of proposed substitution with related products and materials. Engage a qualified testing agency to perform compatibility tests recommended by manufacturers.

1.5 PROCEDURES

A. Coordination: Revise or adjust affected work as necessary to integrate work of the approved substitutions.

1.6 SUBSTITUTIONS

A. Substitutions for Cause: Submit requests for substitution immediately on discovery of need for change, but not later than fifteen (15) days prior to time required for preparation and review of related submittals.

1. Conditions: Architect will consider Contractor's request for substitution when the following conditions are satisfied. If the following conditions are not satisfied, Architect will return requests without action, except to record noncompliance with these requirements:

a. Requested substitution is consistent with the Contract Documents and will produce indicated results.
b. Substitution request is fully documented and properly submitted.
c. Requested substitution will not adversely affect Contractor's construction schedule.
d. Requested substitution has received necessary approvals of authorities having jurisdiction.
e. Requested substitution is compatible with other portions of the Work.
f. Requested substitution has been coordinated with other portions of the Work.
g. Requested substitution provides specified warranty.
h. If requested substitution involves more than one contractor, requested substitution has been coordinated with other portions of the Work, is uniform and consistent, is compatible with other products, and is acceptable to all contractors involved.

B. Substitutions for Convenience: Not allowed.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 012500

SECTION 012600 - CONTRACT MODIFICATION PROCEDURES

PART 1 - GENERAL

1.1 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.

1.2 SUMMARY

A. Section includes administrative and procedural requirements for handling and processing Contract modifications.

1.3 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, as a Field Directive.

1.4 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. Change Proposal Requests issued by Architect are for information only and are not instructions either to stop work in progress or to execute the proposed change.
2. Within time specified in Proposal Request or 14 days, when not otherwise specified after receipt of proposal request, 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 a statement as to how it effects the Contractor's Construction Schedule that indicates the effect of the change, including, but not limited to, changes in activity duration, start and finish times, and activity relationship. Use available total float before requesting an extension of the Contract Time.
    e. Quotation Form: Use Change Proposal Quotation form included in Project Manual.

B. Contractor-Initiated Proposals: If latent or changed conditions require modifications to the Contract, Contractor may initiate a claim by submitting a request for a change to Architect for consideration and official acceptance by the architect. Prior to offering any detail listed below obtain authority to develop the information below from the architect. Comply with paragraph C-2 below prior to developing back-up information.

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 a statement as to how it effects the Contractor's Construction Schedule that indicates the effect of the change, including, but not limited to, changes in activity duration, start and finish times, and activity relationship. Use available total float before requesting an extension of the Contract Time.
6. Comply with requirements in Division 1 Section "Product Requirements" if the proposed change requires substitution of one product or system for product or system specified.
7. Proposal Request Form: Use Change Proposal Quotation form included in Project Manual.

C. Tracking of Change Requests: The Architect shall maintain and the contractor shall track the official Change Proposal Request (CPR) Log (also referred to as Request for Change (RFC)). The General Contractor is allowed to monitor and maintain their own system; however, the official contract system shall be maintained by the Architect.

1. Contractor-Initiated Proposals: Assignment of a Contractor-initiated proposal as a Change Proposal Request shall be by the Architect, after evaluation and upon determination that the claim is valid.

D. Change Proposal Quotations shall include only the values of labor and materials that are directly affected by the requested change. It shall not include the cost of labor and materials that are on-going during the course of the work for subcontractors, suppliers, and the general contractor. In addition, the requirements set forth in other sections of the contract documents and not allowing the cost of off-site subcontractors, suppliers and general contractor's expenses shall apply. The contractor shall adhere to the following when executing a Change Proposal Quotation:

1. If the work is concurrent with the ongoing construction of the project, and the work is, in the opinion of the architect, concurrent with the ongoing work in process, supervision and support personnel, including the Project Superintendent and all personnel on site shall not be included in the cost of the change.
2. If extensions of time are requested in the change and the work is, in the opinion of the architect, concurrent with the ongoing work in process, extensions of time will not be granted.
3. If extensions of time are requested because additional manpower is needed to execute the work and the work is, in the opinion of the architect, concurrent with the ongoing work in process, the lack of manpower will not be acceptable as a basis for an extension of time.
4. In all cases, the request for any supervision expenses can only be considered when an extension of time is granted that extends work beyond the substantial completion date set at the time the request is submitted and if the work is, in the opinion of the architect, nonconcurrent with the ongoing work in process

1.5 RESPONSE TO CHANGE PROPOSAL REQUEST

A. The Contractor is obligated to respond to the time frames as noted on the issued Change Proposal Request Form or advise the Architect in writing of the date on which the proposal submission will be submitted. Failure to do so obligates the Contractor to respond within the time frame indicated on the Change Proposal Request Form, but in no case shall the time frame exceed 14 days. Should the timeframe for receipt of the change proposal quotation exceed 14 days or the timeframe listed on the Change Proposal request Form if less than 14 days:

1. The Contractor shall not have grounds for a claim for a request for an extension of time.
2. The Contractor shall not have grounds for a claim for additional cost due to delay of the project.
3. The Contractor shall not have grounds for a claim for additional cost or extension of time for the development of conditions manifesting as a result of failure of the Contractor to meet the timeframes stipulated.

B. The contractor is obligated to respond to the change request in sufficient itemized form to be properly evaluated by the Architect and the Owner. At a minimum the following shall be included in the breakdown using the forms required by the owner or as indicated within these specifications:

1. Itemized labor with unit cost for each category of labor used.
2. Wages shall itemize direct cost and delineate a labor burden markup for applicable payroll taxes, worker compensation insurance, unemployment compensation, and social security taxes. As a means to be specific the following is to be included in the Labor Burden calculations:

    a. FICA
    b. Medicaid
    c. Employer FICA and Medicaid Match
    d. Worker’s Compensation
    e. FUTA
    f. SUTA
    g. All other components of labor burden not listed above are considered overhead and shall be included in overhead and profit multiplier that is allowed as per the General Conditions of the Contract for Construction. No other markups for labor burden will be considered.

3. Cost of materials, and supplies including the identification of each item and its cost.
4. Identify each piece of machinery and equipment and its individual cost. Only include the cost of the machinery for the time period in which it is being actively used.
5. Cost for estimating the change, schedule revisions, and management efforts associated with implementation of the change into the project shall not be included as line items, as they are tasks considered overhead in this contract.

C. Failure of the Contractor to provide information to properly evaluate the cost associated with the proposed change:

1. The Contractor shall not have grounds for a claim for a request for an extension of time.
2. The Contractor shall not have grounds for a claim for additional cost due to delay of the project.

3. The Contractor shall not have grounds for a claim for additional cost or extension of time for the development of conditions manifesting as a result of failure of the Contractor to meet the timeframes stipulated.

1.6 CHANGE ORDER PROCEDURES

A. Upon the Owner's approval of a Change Proposal Quotation, the Architect will issue a Change Order for signatures of Owner and Contractor on AIA Document G701.

1.7 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. At a minimum, the contractor shall meet the requirements noted in Paragraph 1.5B of this section plus all itemized timesheets for labor and receipts for material.
2. Owner reserves the right to monitor all construction change directives by whatever means necessary to document the work taking place. The contractor and all subcontractors, sub-subcontractors and suppliers shall fully cooperate with the owner and the owner's assigned representatives in these endeavors.

1.8 CONTRACTOR'S REQUESTS FOR INFORMATION (RFI)

A. The contractor shall maintain a log of all Requests for Information and shall issue them on a form acceptable to the architect. The log shall be available to the owner and architect at all times. Assignment of an RFI as a Change Proposal Quotation shall be done by the Architect, after evaluation and upon determination that the claim is valid.

B. Refer to Division 01 Section "Project Management and Coordination" for RFI requirements.

1.9 ARCHITECT'S REQUEST FOR INFORMATION (ARFI)

A. The contractor shall maintain a separate log of all Requests for Information from the Architect. The log shall be available to the owner and architect at all times. Assignment of an ARFI as a Change Proposal Quotation shall be done by the Architect, after evaluation and upon determination that the claim is valid.

B. Refer to Division 01 Section "Project Management and Coordination" for ARFI requirements.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION **012600**

CHANGE PROPOSAL QUOTATION

CPR No.: _____

PROJECT NAME: _____
H/S PROJECT No.: _____

Description of Work: _____

General Contractor Direct Costs - Breakdown No. 1 $ -
(See attached breakdown)

Total General Contractor Cost ____ % [ ]
(General Contract Direct Cost plus OH&P)

Subcontractor Cost Breakdowns
(See attached.)

Subcontractor Name	Break-down No.	A Total Direct Cost	B OH&P	C Total A+(A X B)
	2	$ -	____ %	
	3	$ -	____ %	
	4	$ -	____ %	
	5	$ -	____ %	
	6	$ -	____ %	
			____ %	
			____ %	
			____ %	

Subcontractor Direct Costs Total $ -
(Sum column A)

Subcontractor Direct Costs + Subcontractor OH&P _____
(Sum column C)

General Contractor OH&P on Subcontractor Direct Cost at ____ % _____
(Sum column A times General Contractor OH&P rate.)

Total Subcontractor Costs [ ]
(Subcontractor Direct Costs + OH&P + General Contractor OH&P)

Change Order Subtotal [ ]
(Sum of Total General Contractor Costs and Total Subcontractor Costs)

Performance and Payment Bond at ____ % _____
(Change Order Subtotal times Performance and Payment Bond rate)

Amount will be ☐ increased ☐ decreased ☒ unchanged by [ ]
(Sum of Change Order Subtotal and Performance and Payment Bond)

Days will be ☐ increased ☐ decreased ☒ unchanged by [ ]

Contractor Name: _____ **Date:** _____

CPR No.: 0

Breakdown #1 Worksheet (General Contractor Breakdown)

PROJECT NAME 0

Description of Work:

Direct Cost of Work :

A. Labor (Attach Unit Price Breakdown as Necessary)	Hourly Wage Rate Paid	Hours Worked	Total Cost
			-
			-
			-
			-
			-
			-
			-
			-
			-
	Add Labor Burden @	%	-
	LABOR TOTAL		-

B. Material (Attach Unit Price Breakdown as Necessary)	Unit Price*	Units Required	Total Cost
			-
			-
			-
			-
			-
			-
			-
			-
			-
			-
			-
			-
			-
			-
			-
			-
			-
			-
			-
			-
			-
			-
ATTACH ADDITIONAL DETAIL SHEETS AS NEEDED - PLACE TOTAL ON THIS LINE			
	Add Tax @	%	-
	MATERIAL TOTAL		-

C. Equipment (Attach Unit Price Breakdown as Necessary)	Unit Price*	Units Required	Total Cost
			-
			-
			-
			-
	Add Tax @	%	-
	EQUIPMENT TOTAL		-

TOTAL DIRECT COST FOR THIS BREAKDOWN (SUM A, B & C)		-
General Contractor (Direct Cost X OH&P)	%	-
Total General Contractor Cost		-

Contractor Name: _____ **Date:** _____

CPR No.: 0

Breakdown #2 Worksheet

PROJECT NAME 0

Description of Work:

Direct Cost of Work :

A. Labor (Attach Unit Price Breakdown as Necessary)	Hourly Wage Rate Paid	Hours Worked	Total Cost
			-
			-
			-
			-
			-
			-
			-
			-
			-
	Add Labor Burden @	%	-
	LABOR TOTAL		-

B. Material (Attach Unit Price Breakdown as Necessary)	Unit Price*	Units Required	Total Cost
			-
			-
			-
			-
			-
			-
			-
			-
			-
			-
			-
			-
			-
			-
			-
			-
			-
			-
			-
			-
ATTACH ADDITIONAL DETAIL SHEETS AS NEEDED - PLACE TOTAL ON THIS LINE			
	Add Tax @	%	-
	MATERIAL TOTAL		-

C. Equipment (Attach Unit Price Breakdown as Necessary)	Unit Price*	Units Required	Total Cost
			-
			-
			-
			-
	Add Tax @	%	-
	EQUIPMENT TOTAL		-

TOTAL DIRECT COST FOR THIS BREAKDOWN (SUM A, B & C)		-
Contractor / Subcontractor Overhead and Profit (Direct Cost X OH&P)	%	-
Total Contractor / Subcontractor Cost		-

Contractor / Subcontractor Name: _____ **Date:** _____

CPR No.: 0

Breakdown #3 Worksheet

PROJECT NAME 0

Description of Work:

Direct Cost of Work :

A. Labor (Attach Unit Price Breakdown as Necessary)	Hourly Wage Rate Paid	Hours Worked	Total Cost
			-
			-
			-
			-
			-
			-
			-
			-
			-
	Add Labor Burden @	%	-
	LABOR TOTAL		-

B. Material (Attach Unit Price Breakdown as Necessary)	Unit Price*	Units Required	Total Cost
			-
			-
			-
			-
			-
			-
			-
			-
			-
			-
			-
			-
			-
			-
			-
			-
			-
			-
ATTACH ADDITIONAL DETAIL SHEETS AS NEEDED - PLACE TOTAL ON THIS LINE			
	Add Tax @	%	-
	MATERIAL TOTAL		-

C. Equipment (Attach Unit Price Breakdown as Necessary)	Unit Price*	Units Required	Total Cost
			-
			-
			-
			-
	Add Tax @	%	-
	EQUIPMENT TOTAL		-

TOTAL DIRECT COST FOR THIS BREAKDOWN (SUM A, B & C)		-
Contractor / Subcontractor Overhead and Profit (Direct Cost X OH&P)	%	-
Total Contractor / Subcontractor Cost		-

Contractor / Subcontractor Name: _____ Date: _____

CPR No.: 0

Breakdown #4 Worksheet

PROJECT NAME 0

Description of Work:

Direct Cost of Work :

A. Labor (Attach Unit Price Breakdown as Necessary)	Hourly Wage Rate Paid	Hours Worked	Total Cost
			-
			-
			-
			-
			-
			-
			-
			-
			-
	Add Labor Burden @	%	-
	LABOR TOTAL		-

B. Material (Attach Unit Price Breakdown as Necessary)	Unit Price*	Units Required	Total Cost
			-
			-
			-
			-
			-
			-
			-
			-
			-
			-
			-
			-
			-
			-
			-
			-
			-
			-
ATTACH ADDITIONAL DETAIL SHEETS AS NEEDED - PLACE TOTAL ON THIS LINE			
	Add Tax @	%	-
	MATERIAL TOTAL		-

C. Equipment (Attach Unit Price Breakdown as Necessary)	Unit Price*	Units Required	Total Cost
			-
			-
			-
			-
	Add Tax @	%	-
	EQUIPMENT TOTAL		-

TOTAL DIRECT COST FOR THIS BREAKDOWN (SUM A, B & C)		-
Contractor / Subcontractor Overhead and Profit (Direct Cost X OH&P)	%	-
Total Contractor / Subcontractor Cost		-

Contractor / Subcontractor Name: _____ Date: _____

CPR No.: 0

Breakdown #5 Worksheet

PROJECT NAME 0

Description of Work:

Direct Cost of Work :

A. Labor (Attach Unit Price Breakdown as Necessary)	Hourly Wage Rate Paid	Hours Worked	Total Cost
			-
			-
			-
			-
			-
			-
			-
			-
			-
	Add Labor Burden @	%	-
	LABOR TOTAL		-

B. Material (Attach Unit Price Breakdown as Necessary)	Unit Price*	Units Required	Total Cost
			-
			-
			-
			-
			-
			-
			-
			-
			-
			-
			-
			-
			-
			-
			-
			-
			-
			-
ATTACH ADDITIONAL DETAIL SHEETS AS NEEDED - PLACE TOTAL ON THIS LINE			
	Add Tax @	%	-
	MATERIAL TOTAL		-

C. Equipment (Attach Unit Price Breakdown as Necessary)	Unit Price*	Units Required	Total Cost
			-
			-
			-
			-
	Add Tax @	%	-
	EQUIPMENT TOTAL		-

TOTAL DIRECT COST FOR THIS BREAKDOWN (SUM A, B & C)		-
Contractor / Subcontractor Overhead and Profit (Direct Cost X OH&P)	%	-
Total Contractor / Subcontractor Cost		-

Contractor / Subcontractor Name: _____ Date: _____

CPR No.: 0

Breakdown #6 Worksheet

PROJECT NAME 0

Description of Work:

Direct Cost of Work :

A. Labor (Attach Unit Price Breakdown as Necessary)	Hourly Wage Rate Paid	Hours Worked	Total Cost
			-
			-
			-
			-
			-
			-
			-
			-
			-
	Add Labor Burden @	%	-
	LABOR TOTAL		-

B. Material (Attach Unit Price Breakdown as Necessary)	Unit Price*	Units Required	Total Cost
			-
			-
			-
			-
			-
			-
			-
			-
			-
			-
			-
			-
			-
			-
			-
			-
			-
			-
ATTACH ADDITIONAL DETAIL SHEETS AS NEEDED - PLACE TOTAL ON THIS LINE			
	Add Tax @	%	-
	MATERIAL TOTAL		-

C. Equipment (Attach Unit Price Breakdown as Necessary)	Unit Price*	Units Required	Total Cost
			-
			-
			-
			-
	Add Tax @	%	-
	EQUIPMENT TOTAL		-

TOTAL DIRECT COST FOR THIS BREAKDOWN (SUM A, B & C)		-
Contractor / Subcontractor Overhead and Profit (Direct Cost X OH&P)	%	-
Total Contractor / Subcontractor Cost		-

Contractor / Subcontractor Name: _____ Date: _____

CPR No.: _____

Unit Price Breakdown

PROJECT NAME _____

Description of Work: _____

_____

_____

Unit Price Tabulation

Unit Price Description	Reference*	Unit Price	Units	Total

* Reference Legend: _____

_____

_____

Unit Price Total:
(Sum Total column)

Contractor / Subcontractor Name: _____ Date: _____

SECTION 012900 - PAYMENT PROCEDURES

PART 1 - GENERAL

1.1 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.

1.2 SUMMARY

A. This Section specifies administrative and procedural requirements necessary to prepare and process Applications for Payment.

1.3 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. Submittal schedule.

2. Submit the schedule of values to Architect at earliest possible date but no later than seven (7) days after the Pre-Construction Conference.

B. Format and Content: Use the Project Manual table of contents as a guide to establish line items for the schedule of values. Provide at least one line item for each Specification Section.

1. Identification: Include the following Project identification on the schedule of values:

   a. Project name and location.
   b. Name of Architect.
   c. Architect's project number.
   d. Owner’s project number.
   e. Contractor's name and address.
   f. Date of submittal.

2. Provide a breakdown of the Contract Sum in enough detail to facilitate continued evaluation of Applications for Payment and progress reports. Coordinate with the Project Manual table of contents. Provide multiple line items for principal subcontract amounts, where appropriate.
3. Break out all values as follows:

   a. Delivered cost of product with taxes paid.
   b. Total installation cost with overhead and profit.
   c. For each line item which has an installed value over $20,000, breakdown cost to list products and operations under each item.

4. Round amounts to nearest whole dollar; total shall equal the Contract Sum.
5. 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.
6. 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.
7. Each item in the schedule of values and Applications for Payment shall be complete. Include total cost and proportionate share of general overhead and profit for each item.
8. Schedule Updating: Include Change Orders as a new line item within the schedule of values. Change Orders which include multiple line items shall be shown as such on the schedule of values.

1.4 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. The Owner reserves the right to request additional cost information breakdowns in any format necessary as may be required for their needs in getting the project completed. This request shall be submitted to the Architect for processing to the Contractor. The Contractor shall submit the requested information to the Owner, through the Architect, within fourteen days of the request by the Architect.
2. Initial Application for Payment, Application for Payment at time of Substantial Completion, and final Application for Payment involve additional requirements.

B. Payment Application Times: The date for each progress payment is indicated in the Agreement between Owner and Contractor. The period of construction Work covered by each Application for Payment is the period indicated in the Agreement.

C. Application for Payment Forms: Use UNO Payment Request form and UNO Schedule of Values 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 executed before last day of construction period covered by application.
3. Submit a draft application to the architect for review prior to submitting the actual monthly application. Submit in sufficient time to allow field review by the architect and the architect’s consultants. Time draft submission to coincide with scheduled weekly meetings at the site.

E. Transmittal: Submit three (3) signed and notarized original copies of each Application for Payment to Architect by a method ensuring receipt within 24 hours.

1. Transmit each copy with a transmittal form listing attachments and recording appropriate information about application.

F. 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. Approved Schedule of Values.
3. Approved Contractor construction schedule.
4. Submittal schedule (preliminary if not final).
5. Copies of building permits.
6. Copies of authorizations and licenses from authorities having jurisdiction for performance of the Work.
7. Performance and Payment Bonds.
8. Certificates of insurance and insurance policies.

G. Payment of Stored Materials: The contractor shall not apply for any stored materials not delivered to the site. The following requirements shall be followed when applying for materials stored on site, but not in place:

1. Include the stored materials value in the “Stored Materials” column of the Application for Payment.
2. Attach invoice of stored material to Application for Payment.
3. Stored material payment application shall be only for the invoiced value, without subcontractor/general contractor overhead and profit.
4. The attached invoice shall include the following:

    a. Quantity of each different material included in application.
    b. Unit price of each different material in application.
    c. Extended cost of each different material in application.
    d. Signature of authorized party representing the supplier.

5. Failure to follow the information contained herein shall result in immediate rejection of the whole Application for Payment.
6. Do not apply for stored materials that are out of sequence with construction operations. The Architect’s decision on this matter is final.

H. Application for Payment at Substantial Completion: After issuing the Certificate of Substantial Completion, submit an Application for Payment showing 100 percent completion for portion of the Work claimed as substantially complete.

1. Include documentation supporting claim that the Work is substantially complete and a statement showing an accounting of changes to the Contract Sum.

I. Final Payment Application: Submit final Application for Payment with releases and supporting documentation not previously submitted and accepted, including, but not limited, to the following:

1. Evidence of completion of Project closeout requirements.
2. Insurance certificates for products and completed operations where required and proof that taxes, fees, and similar obligations were paid.
3. Updated final statement, accounting for final changes to the Contract Sum.
4. Clear Lien Certificate from Clerk of Court of jurisdiction where project is located.
5. AIA Document G707-1994, "Consent of Surety to Final Payment."
6. Evidence that claims have been settled.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION

SECTION 013100 - PROJECT MANAGEMENT AND COORDINATION

PART 1 - GENERAL

1.1 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.

1.2 SUMMARY

A. Section includes administrative provisions for coordinating construction operations on Project including, but not limited to, the following:

1. General project coordination procedures
2. Administrative and supervisory personnel.
3. Project Web site.
4. Project meetings.
5. Requests for Information (RFIs).
6. Supervision

B. Related Sections:

1. Division 01 Section “Summary of Work” for coordination and scheduling of equipment and movables by the Owner.
2. Division 01 Section “Construction Progress Documentation” for preparing and submitting the Contractor’s Construction Schedule.
3. Division 01 Section "Execution Requirements" for procedures for coordinating general installation and field-engineering services, including establishment of benchmarks and control points.
4. Division 01 Section “Closeout Procedures” for coordinating Contract closeout.

1.3 DEFINITIONS

A. RFI (Request for Information): Request from Contractor to Architect seeking interpretation or clarification of the Contract Documents.

B. ARFI (Architect’s Request for Information): Request for information from Architect to Contractor seeking clarifications or information from construction sources.

1.4 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 to ensure maximum performance and accessibility for required maintenance, service, and repair.
3. Make provisions to accommodate items scheduled for later installation, including items to be installed under separate contracts.

B. Administrative Procedures: Coordinate scheduling and timing of required administrative procedures with other construction activities 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.

1.5 ADMINISTRATIVE AND SUPERVISORY PERSONNEL

A. General: In addition to Project superintendant, provide other administrative and supervisory personnel as required for proper performance of the Work.

1.6 PROJECT WEB SITE

A. The General Contractor shall be required to access and use the Architect's project website for communication during construction for the activities noted below, and can be accessed at https://projects.hollyandsmith.com/UserWeb/. The Architect's project website shall host the information that the architect is using for tracking the work of the contract. This information is available until final acceptance of the project. The website is run by a program entitled Newforma InfoExchange, which is a project management program for which access by the General Contractor will be provided for all information indicated below for construction communications. The project website shall include the following project activities that require interface by the General Contractor:

1. RFI forms and logs of the architect.
2. Submission of RFI's
3. Submittal forms and logs of the Architect.
4. Transmission of submittals to Architect
5. Reminder and tracking functions issued by the architect.
6. Field review minutes of the Architect (Compliance Review)

B. The General Contractor shall become familiar with the operations of the Project Website and shall have the responsibility for continuous use of the website for the benefit of the project. This effort shall include, but is not limited to, the following:

1. Confirm that access has been granted for each of the functions itemized above for all assigned parties.

2. Become fluent with the operation of the website at a level that will allow ease of access and regular use.
3. Schooling all parties assigned to this project within the General Contractor's staff for access and use.

C. The project website is not intended to replace any General Contractor based project management software but is an enhancement to be used by the General Contractor for accessing information normally requested of the architect in preparation for meetings or general project management activities of the General Contractor.

D. The General Contractor shall use the information contained within the Project Website to update their project information in preparation for meetings, communications with the subcontractors, or other project management related activities.

1.7 PROJECT MEETINGS

A. General: Contractor shall 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: Entity responsible for conducting meeting will record significant discussions and agreements achieved. Distribute the meeting minutes to everyone concerned, including Owner and Architect, within three (3) days of the meeting.

B. Preconstruction Conference: Contractor shall schedule and conduct 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.

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, CPRs and Change Orders.
    f. Procedures for RFIs.
    g. Procedures for testing and inspecting.
    h. Procedures for processing Applications for Payment.
    i. Distribution of the Contract Documents.
    j. Submittal procedures.
    k. Preparation of record documents.
    l. Use of the premises and existing building, if applicable.
    m. Work restrictions.
    n. Working hours.
    o. Owner's occupancy requirements.
    p. Responsibility for temporary facilities and controls.
    q. Procedures for moisture and mold control.

r. Procedures for disruptions and shutdowns.
s. Construction waste management and recycling.
t. Parking availability.
u. Office, work, and storage areas.
v. Equipment deliveries and priorities.
w. First aid.
x. Security.
y. Progress cleaning.

3. Minutes: Entity responsible for conducting meeting will record and distribute meeting minutes.

C. Progress Meetings: Contractor shall conduct progress meetings at biweekly 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 meeting 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.
b. Review present and future needs of each entity present, including the following:

1) Interface requirements.
2) Sequence of operations.
3) Status of submittals.
4) Deliveries.
5) Off-site fabrication.
6) Access.
7) Site utilization.
8) Temporary facilities and controls.
9) Work hours.
10) Progress cleaning.
11) Quality and work standards.
12) Status of correction of deficient items.
13) Field observations.
14) Status of Requests for Information (RFIs)
15) Status of Architect’s Requests for Information (ARFIs), if applicable.
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: Entity responsible for conducting the meeting will record and distribute the meeting minutes to each party present and to parties requiring information.

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.

1.8 PROJECT SUPERINTENDANT

A. Project Superintendant:

1. General Contractor shall provide a full time on-site personnel to perform the duties of Project Superintendent for the duration of this project.
2. General Contractor shall designate a Project Superintendent for this project in the post-bid information prior to contract award. General Contractor shall, in designating the name of this Project Superintendent, warrant and represent that such Project Superintendent has completed two (2) projects of similar size and complexity in the capacity of Project Superintendent during the past 7 years.
3. Submit a resume as a component of post-bid information.

B. Project Manager:

1. General Contractor shall provide a full time staff member to perform the duties of Project Manager for the duration of this project.
2. General Contractor shall designate the Project Manager in the post-bid information prior to contract award. General Contractor shall, in designating the name of this Project Manager, warrant and represent that such Project Manager has a minimum of 2 years of construction experience and has completed a minimum of 2 projects of at least similar size and complexity in the capacity of Project Manager in the last 7 years.
3. Submit a resume as a component of post-bid information.

1.9 REQUESTS FOR INFORMATION (RFIs)

A. General: Immediately on discovery of the need for additional information or interpretation of the Contract Documents, Contractor shall prepare and submit an RFI through the Architect’s Project Website.

1. Architect will return RFIs submitted to Architect by other entities controlled by Contractor with no response.
2. Coordinate and submit RFIs in a prompt manner so as to avoid delays in Contractor's work or work of subcontractors.

B. Content of the RFI: Include a detailed, legible description of item needing information or interpretation and the following:

1. Project name.
2. Architect’s Project number.
3. Date.
4. Name of Contractor.
5. Name of Architect.
6. RFI number, numbered sequentially.
7. RFI subject.
8. Specification Section number and title and related paragraphs, as appropriate.
9. Drawing number and detail references, as appropriate.
10. Field dimensions and conditions, as appropriate.

11. Contractor's suggested resolution. If Contractor's solution(s) impacts the Contract Time or the Contract Sum, Contractor shall state impact in the RFI.
12. Contractor's signature.
13. Attachments: Include sketches, descriptions, measurements, photos, Product Data, Shop Drawings, coordination drawings, and other information necessary to fully describe items needing interpretation.

C. RFI Forms: Project website shall be used for submission of RFI's.

1. Identify each page of attachments with the RFI number and sequential page number.

D. Architect's Action: Architect will review each RFI, determine action required, and respond. Allow seven (7) working days for Architect's response for each RFI. RFIs received by Architect after 1:00 p.m. will be considered as received the following working day.

1. The following RFIs will be returned without action:

a. Requests for approval of submittals.
b. Requests for approval of substitutions.
c. Requests for coordination information already indicated in the Contract Documents.
d. Requests for adjustments in the Contract Time or the Contract Sum.
e. Requests for interpretation of Architect's actions on submittals.
f. Incomplete RFIs or inaccurately prepared RFIs.

2. Architect's action may include a request for additional information, in which case Architect's time for response will date from time of receipt of additional information.
3. Architect's action on RFIs that may result in a change to the Contract Time or the Contract Sum may be eligible for Contractor to submit a Change Proposal according to Division 01 Section "Contract Modification Procedures."

a. If Contractor believes the RFI response warrants change in the Contract Time or the Contract Sum, notify Architect in writing within ten (10) days of receipt of the RFI response.

E. On receipt of Architect's action, update the RFI log and immediately distribute the RFI response to affected parties. Review response and notify Architect within seven (7) days if Contractor disagrees with response.

F. RFI Log: Prepare, maintain, and submit a tabular log of RFIs organized by the RFI number. Submit log monthly. Include the following:

1. Project name.
2. Name and address of Contractor.
3. Name and address of Architect.
4. RFI number including RFIs that were voided.
5. RFI description.
6. Date the RFI was submitted.
7. Date Architect's response was received.
8. Identification of related Minor Change in the Work, Construction Change Directive, or Proposal Request, as appropriate.

1.10 ARCHITECT'S REQUEST FOR INFORMATION (ARFIs)

A. The Architect shall, from time-to-time, issue an Architect's Request for Information requiring a response from the Contractor.

1. ARFIs shall originate from the Architect
2. The Contractor shall respond to ARFIs in an efficient manner so as not to delay the progress of the Work.

B. Contractor's Action: Contractor shall review and respond in writing to ARFIs within seven (7) days unless a quicker response is required by the Architect at the issuance of the ARFI.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION

3.1 GENERAL COORDINATION PROVISIONS

A. Inspection of Conditions: Require the Installer of each major component to inspect both the substrate and conditions under which Work is to be performed. Do not proceed until unsatisfactory conditions have been corrected in an acceptable manner. Subsequent to this action, proceeding with work represents acceptance of conditions for installation by the installer.

B. In some cases the plans will call for blocking or other backup for mounting equipment, materials or other items in the project. Whether the item is called for or not elsewhere in the documents, the general contractor shall be responsible for providing blocking or other means of connection to receive wall, floor or wall / floor mounted equipment, materials or other items that need a permanent and / or positive connection to perform properly. Do not proceed with the installation of equipment, materials, or other items that need a permanent and or positive connection to properly perform until unsatisfactory conditions have been corrected in an acceptable manner to execute the work. Subsequent to this action, proceeding with the work represents acceptance of the conditions for installation by the general contractor.

3.2 CLEANING AND PROTECTION

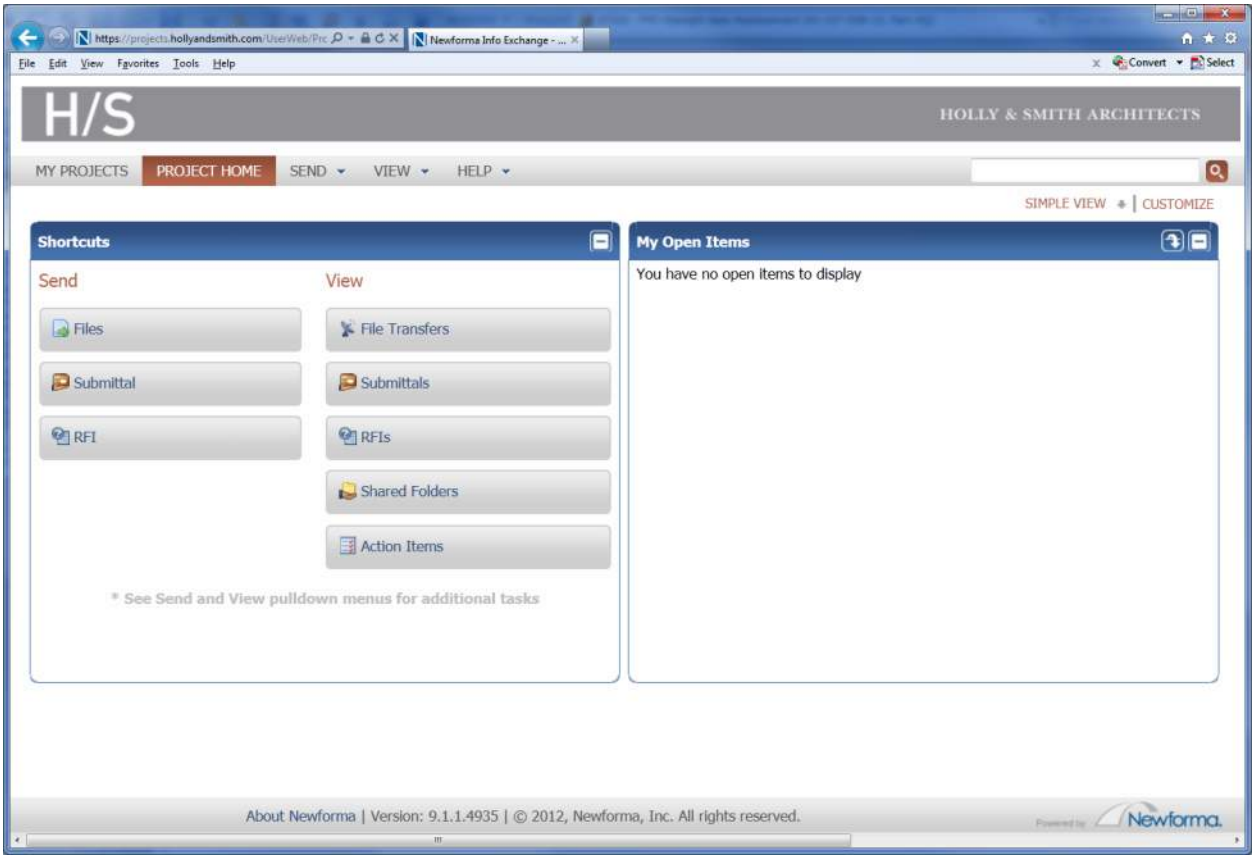
A. Clean and protect construction in progress and adjoining materials in place, during handling and installation. Apply protective covering where required to assure protection from damage or deterioration at Substantial Completion.

B. Clean and provide maintenance on completed construction as frequently as necessary through the remainder or the construction period. Adjust and lubricate operable components to assure operability without damaging effects.

C. Limiting Exposures: Supervise76=7666 construction operations to assure that no part of the construction completed or in progress, is subject to harmful, dangerous, damaging, or otherwise deleterious construction activities.

D.

END OF SECTION



Typical project page on Project Website

SECTION 013300 - SUBMITTAL PROCEDURES

PART 1 - GENERAL

1.1 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.

1.2 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 Sections:

1. Division 01 Section "Construction Progress Documentation" for submitting schedules and reports, including Contractor's construction schedule.
2. See Division 1 Section "Quality Requirements" for submitting test and inspection reports.
3. See Division 1 Section "Closeout Procedures" for submitting warranties.
4. Division 01 Section "Operation and Maintenance Data" for submitting operation and maintenance manuals.
5. Division 01 Section "Project Record Documents" for submitting record Drawings, record Specifications, and record Product Data.

1.3 DEFINITIONS

A. Action Submittals: Written and graphic information and physical samples that require Architect's responsive action.

1.4 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 modifications to submittals noted by the Architect and additional time for handling and reviewing submittals required by those corrections.

1.5 SUBMITTAL ADMINISTRATIVE REQUIREMENTS

A. Architect's Digital Data Files: Electronic copies of CAD Drawings of the Contract Drawings will be provided by Architect, at the Contractor’s written request, for Contractor's use in preparing submittals.

1. Architect will furnish, at their discretion, digital data drawing files of the Contract Drawings requested by the Contractor for use in preparing Shop 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. Contractor shall execute an Electronic Data Licensing agreement in the form of Agreement included in Project Manual at the end of this Section.
c. Contractor shall execute an Electronic Document Request on form included in Project Manual at the end of this Section.

B. Coordination: Coordinate preparation and processing of submittals with performance of construction activities.

1. Coordinate each submittal with fabrication, purchasing, testing, delivery, other submittals, and related activities that require sequential activity.
2. Coordinate transmittal of different types of submittals for related parts of the Work so processing will not be delayed because of need to review submittals concurrently for coordination.

a. Architect reserves the right to withhold action on a submittal requiring coordination with other submittals until related submittals are received.

C. Submittals Schedule: Comply with requirements in Division 1 Section “Construction Progress Documentation” for list of submittals and time requirements for scheduled performance of related construction activities.

D. 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 fifteen (15) days for initial review of each submittal. Allow additional time if coordination with subsequent submittals is required.
2. Intermediate Review: If intermediate submittal is necessary, process it in same manner as initial submittal.
3. Resubmittal Review: Allow fifteen (15) days for review of each resubmittal.

E. Identification and Information: Place a permanent label or title block on each paper copy submittal item, as well as each sample submittal item, for identification.

1. Indicate name of firm or entity that prepared each submittal on label or title block.
2. Provide a space approximately 4 by 5 incheson label or beside title block to record Contractor's review and approval markings and action taken by Architect.
3. Include the following information for processing and recording action taken:

a. Project name.
b. Date.
c. Name and address of Architect.
d. Name and address of Contractor.
e. Name and address of subcontractor.
f. Name and address of supplier.
g. Name of manufacturer.
h. Number and title of appropriate Specification Section.
i. Location(s) where product is to be installed, as appropriate.

F. Options: Identify options requiring selection by the Architect.

G. Deviations: 1Highlight, encircle, or otherwise specifically identify deviations from the Contract Documents on submittals.

H. Transmittal: Assemble each submittal individually and appropriately for transmittal and handling. Transmit each submittal using a transmittal form. Architect will return submittals, without review, received from sources other than Contractor.

I. Resubmittals: Make resubmittals in same form and number of copies as initial submittal.

1. Note date and content of previous submittal.
2. Note date and content of revision in label or title block and clearly indicate extent of revision.

J. Distribution: Furnish copies of final submittals to manufacturers, subcontractors, suppliers, fabricators, installers, authorities having jurisdiction, and others as necessary for performance of construction activities. Show distribution on transmittal forms.

K. Use for Construction: Use only final submittals that are marked with approval notation from Architect's action stamp.

PART 2 - PRODUCTS

2.1 SUBMITTAL PROCEEDURES

A. General Submittal Procedure Requirements:

1. Post electronic submittals as PDF electronic files directly to Project Web site specifically established for Project.

   a. Architect will return annotated file. Annotate and retain one copy of file as an electronic Project record document file.

2. Closeout Submittals and Maintenance Material Submittals: Comply with requirements specified in Division 01 Section "Closeout Procedures."
3. 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.
4. Test and Inspection Reports Submittals: Comply with requirements specified in Division 01 Section "Quality Requirements."

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 submittal to show which products and options are applicable.
3. Include the following information, as applicable:

   a. 1Manufacturer's written recommendations.
   b. 1Manufacturer's installation instructions.
   c. Manufacturer's catalog cuts.

d. Manufacturer's product specifications.
e. Standard color charts.
f. Statement of compliance with specified referenced standards.
g. Testing by recognized testing agency.
h. Application of testing agency labels and seals.
i. Notation of coordination requirements.
j. 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.

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.

1. Preparation: Fully illustrate requirements in the Contract Documents. Include the following information, as applicable:

a. Dimensions.
b. Identification of products.
c. Fabrication and installation drawings.
d. Roughing-in and setting diagrams.
e. Wiring diagrams showing field-installed wiring, including power, signal, and control wiring.
f. Shopwork manufacturing instructions.
g. Templates and patterns.
h. Schedules.
i. Notation of coordination requirements.
j. Notation of dimensions established by field measurement.
k. Relationship to adjoining construction clearly indicated.
l. Seal and signature of professional engineer if specified.
m. Wiring Diagrams: Differentiate between manufacturer-installed and field-installed wiring

2. Sheet Size: Except for templates, patterns, and similar full-size drawings, submit Shop Drawings on sheets at least 8-1/2 by 11 inches but no larger than 30 by 42 inches.

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. Provide corresponding electronic submittal of Sample transmittal, digital image file illustrating Sample characteristics, and identification information for record.
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.

3. 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.
4. Samples for Initial Selection: Submit manufacturer's color charts consisting of units or sections of units showing the full range of colors, textures, and patterns available.

   a. Number of Samples: Submit two (2) full sets of available choices where color, pattern, texture, or similar characteristics are required to be selected from manufacturer's product line. Architect will return submittal with options selected.

5. Samples for Verification: Submit full-size units or Samples of size indicated, prepared from same material to be used for the Work, cured and finished in manner specified, and physically identical with material or product proposed for use, and that show full range of color and texture variations expected. Samples include, but are not limited to, the following: partial sections of manufactured or fabricated components; small cuts or containers of materials; complete units of repetitively used materials; swatches showing color, texture, and pattern; color range sets; and components used for independent testing and inspection.

   a. Number of Samples: Submit two (2) sets of Samples. Architect will retain one (1) Sample sets; remainder will be returned.

      1) If variation in color, pattern, texture, or other characteristic is inherent in material or product represented by a Sample, submit at least three (3) 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.

F. Contractor's Construction Schedule: Comply with requirements specified in Division 01 Section "Construction Progress Documentation."

G. Application for Payment: Comply with requirements specified in Division 01 Section "Payment Procedures."

H. Schedule of Values: Comply with requirements specified in Division 01 Section "Payment Procedures."

I. Subcontract List: Prepare a written summary identifying individuals or firms proposed for each portion of the Work, including those who are to furnish products or equipment fabricated to a special design.

J. Coordination Drawings: Comply with requirements specified in Division 01 Section "Project Management and Coordination."

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. Material Certificates: Submit written statements on manufacturer's letterhead certifying that material complies with requirements in the Contract Documents.

M. 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.

N. Product Test Reports: Submit written reports indicating current product produced by manufacturer complies with requirements in the Contract Documents. Base reports on evaluation of tests performed by manufacturer and witnessed by a qualified testing agency, or on comprehensive tests performed by a qualified testing agency.

O. Maintenance Data: Comply with requirements specified in Division 01 Section "Operation and Maintenance Data."

PART 3 - EXECUTION

3.1 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: Refer to requirements in Division 01 Section "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.

3.2 ARCHITECT'S ACTION

A. General: Architect will not review submittals that do not bear Contractor's approval stamp and will return them without action.

B. Action Submittals: Architect will review each submittal, make marks to indicate corrections or modifications required, and return it. Architect will stamp each submittal with an action stamp and will mark stamp appropriately to indicate action taken, as follows:

1. Review Not Required.
2. No Exceptions Taken.
3. Make Corrections Noted.
4. Revise and Resubmit.
5. Review is only for general conformance with the design concept and the information given in the Contract Documents. Any action shown is subject to the requirements of the plans and specifications. Contractor is responsible for dimensions and quantities, which shall be confirmed and correlated at the jobsite; fabrication processes and techniques of construction; coordination of his/her work and that of all other trades; and the satisfactory execution of the work. Incomplete submittals are not acceptable, will be considered nonresponsive, and will be returned without review.

C. Submittals not required by the Contract Documents may not be reviewed and may be discarded.

H/S

ELECTRONIC DOCUMENT REQUEST

DATE: _____

CONTRACTOR: _____

PROJECT: _____

PROJECT NO: _____

Contractor has read and understands Electronic Data Agreement: ❑ Yes ❑ No
Signed copy of Electronic Data Agreement attached: ❑ Yes ❑ No

Purpose of Electronic Data Use:
❑ Shop Drawings ❑ As-Built Drawings ❑Other

Contractor is requesting an electronic copy of the following files:

Sheet No.	Description

ELECTRONIC DATA AGREEMENT

CONTRACTOR: _____

PROJECT: _____

Holly & Smith Architects (H/S) is providing electronic files for the contractor's convenience and use in the preparation of shop drawings, bid documents, as-built drawings, or other use as noted on the Electronic Document Request related to the above referenced project, subject to the following terms and conditions:

H/S electronic files were prepared in Autodesk Revit Architecture 2014 and we make no representation as to the compatibility of these files with your hardware or your software.

Data contained on these electronic files is part of H/S instruments of professional service and shall not be used by the Contractor, or anyone else receiving this data through or from the Contractor, for any purpose other than as a convenience in the preparation of shop drawings, as-built drawings, or other use as noted on the Electronic Document Request for the referenced project. Any other use or reuse by the contractor or by others will be at the contractor's sole risk and without liability or legal exposure to H/S. The contractor agrees to make no claim and hereby waives, to the fullest extent permitted by law, any claim or cause of action of any nature against H/S, its officers, directors, employees, agents, or sub-consultants which may arise out of, or in connection with, the contractor's use of the electronic files.

Furthermore, the contractor shall, to the fullest extent permitted by law, indemnify and hold harmless H/S from all claims, damages, losses, liabilities, and expenses, including attorney's fees and defense costs arising out of or resulting from use of these electronic files.

These electronic files are not Contract Documents. Significant differences may exist between these electronic files and corresponding hard copy contract documents due to addenda, change orders, or other revisions. Additional related work and materials may be shown on other drawings or may be required by the specifications. H/S makes no representation regarding the accuracy, completeness, or suitability of the electronic files received. Drawings may not be drawn to scale. In the event that a conflict arises between the issued contract documents and the electronic files, the issued contract documents shall govern. The contractor is responsible for determining if any conflict exists. By use of these electronic files, the contractor is not relieved of the duty to fully comply with the contract documents, including and without limitation, the need to check, confirm, and coordinate all dimensions and details, take field measurements, verify field conditions, and coordinate work with that of other contractors for the project.

Because of the potential that the information presented on the electronic files can be modified, unintentionally or otherwise, H/S removes its ownership and/or involvement for each electronic display.

Under no circumstances shall delivery of the electronic files for use by you be deemed a sale by H/S, and H/S makes no warranties, either expressed or implied, of merchantability and fitness for any particular purpose. In no event shall H/S be liable for any loss of profit or any consequential damages.

Because data stored in electronic media format can deteriorate or be modified inadvertently, the contractor agrees to perform acceptance tests on the electronic files within 30 days of receipt, after which the contractor shall be deemed to have accepted the data thus transferred. Any data errors detected within the 30-day acceptance period will be corrected by H/S.

Accepted by: _____ Date: _____

_____

Print Name and Company

SECTION 014000 - QUALITY REQUIREMENTS

PART 1 - GENERAL

1.1 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.

1.2 SUMMARY

A. Section includes administrative and procedural requirements for quality assurance and quality control.

B. Testing and inspecting services are required to verify compliance with requirements specified or indicated. These services do not relieve Contractor of responsibility for compliance with the Contract Document requirements.

1. Specified tests, inspections, and related actions do not limit Contractor's other quality-assurance and -control procedures that facilitate compliance with the Contract Document requirements.
2. Requirements for Contractor to provide quality-assurance and -control services required by Architect, Owner, or authorities having jurisdiction are not limited by provisions of this Section.

C. Related Sections:

1. Divisions 02 through 49 Sections for specific test and inspection requirements.

1.3 DEFINITIONS

A. Quality-Assurance Services: Activities, actions, and procedures performed before and during execution of the Work to guard against defects and deficiencies and substantiate that proposed construction will comply with requirements.

B. Quality-Control Services: Tests, inspections, procedures, and related actions during and after execution of the Work to evaluate that actual products incorporated into the Work and completed construction comply with requirements. Services do not include contract enforcement activities performed by Architect.

C. Product Testing: Tests and inspections that are performed by an NRTL, an NVLAP, or a testing agency qualified to conduct product testing and acceptable to authorities having jurisdiction, to establish product performance and compliance with specified requirements.

D. Field Quality-Control Testing: Tests and inspections that are performed on-site for installation of the Work and for completed Work.

E. Testing Agency: An entity engaged to perform specific tests, inspections, or both. Testing laboratory shall mean the same as testing agency.

F. Installer/Applicator/Erector: Contractor or another entity engaged by Contractor as an employee, Subcontractor, or Sub-subcontractor, to perform a particular construction operation, including installation, erection, application, and similar operations.

1. Using a term such as “carpentry” does not imply that certain construction activities must be performed by accredited or unionized individuals of a corresponding generic name, such as “carpenter.” It also does not imply that requirements specified apply exclusively to tradespeople of the corresponding generic name.

G. Experienced: When used with an entity or individual, "experienced" means having successfully completed a minimum of five (5) previous projects similar in nature, size, and extent to this Project; being familiar with special requirements indicated; and having complied with requirements of authorities having jurisdiction.

1.4 CONFLICTING REQUIREMENTS

A. General: If compliance with two or more standards is specified and the standards establish different or conflicting requirements for minimum quantities, material types or quality levels, comply with the most stringent requirement. Refer conflicting requirements that are different, but apparently equal or conflicting requirements relative to materials, to Architect for a decision before proceeding.

B. Minimum Quantity or Quality Levels: The quantity or quality level shown or specified shall be the minimum provided or performed. The actual installation may comply exactly with the minimum quantity or quality specified, or it may exceed the minimum within reasonable limits. To comply with these requirements, indicated numeric values are minimum or maximum, as appropriate, for the context of requirements. Refer uncertainties to Architect for a decision before proceeding.

1.5 SUBMITTALS

A. Qualification Data: For testing agencies specified in "Quality Assurance" Article to demonstrate their capabilities and experience. Include proof of qualifications in the form of a recent report on the inspection of the testing agency by a recognized authority.

B. Reports: Prepare and submit certified written reports that include the following:

1. Date of issue.
2. Project title and number.
3. Name, address, and telephone number of testing agency.
4. Dates and locations of samples and tests or inspections.
5. Names of individuals making tests and inspections.
6. Description of the Work and test and inspection method.
7. Identification of product and Specification Section.
8. Complete test or inspection data.
9. Test and inspection results and an interpretation of test results.
10. Record of temperature and weather conditions at time of sample taking and testing and inspecting.
11. Comments or professional opinion on whether tested or inspected Work complies with the Contract Document requirements.
12. Name and signature of laboratory inspector.
13. Recommendations on retesting and reinspecting.

C. Permits, Licenses, and Certificates: For Owner's records, submit copies of permits, licenses, certifications, inspection reports, releases, jurisdictional settlements, notices, receipts for fee payments, judgments, correspondence, records, and similar documents, established for compliance with standards and regulations bearing on performance of the Work.

1.6 QUALITY ASSURANCE

A. General: Qualifications paragraphs in this article establish the minimum qualification levels required; individual Specification Sections specify additional requirements.

B. Manufacturer Qualifications: A firm experienced in manufacturing products or systems similar to those indicated for this Project and with a record of successful in-service performance, as well as sufficient production capacity to produce required units.

C. Fabricator Qualifications: A firm experienced in producing products similar to those indicated for this Project and with a record of successful in-service performance, as well as sufficient production capacity to produce required units.

D. Installer Qualifications: A firm or individual experienced in installing, erecting, or assembling work similar in material, design, and extent to that indicated for this Project, whose work has resulted in construction with a record of successful in-service performance.

E. Specialists: Certain Specification Sections require that specific construction activities shall be performed by entities who are recognized experts in those operations. Specialists shall satisfy qualification requirements indicated and shall be engaged for the activities indicated.

1. Requirements of authorities having jurisdiction shall supersede requirements for specialists.

F. Testing Agency Qualifications: An NRTL, an NVLAP, or an independent agency with the experience and capability to conduct testing and inspecting indicated, as documented according to ASTM E 329; and with additional qualifications specified in individual Sections; and where required by authorities having jurisdiction, that is acceptable to authorities.

1. NRTL: A nationally recognized testing laboratory according to 29 CFR 1910.7.
2. NVLAP: A testing agency accredited according to NIST's National Voluntary Laboratory Accreditation Program.

G. Manufacturer's Authorized Representative Qualifications: An authorized representative of manufacturer who is trained and approved by manufacturer to observe and inspect installation of manufacturer's products that are similar in material, design, and extent to those indicated for this Project.

1.7 QUALITY CONTROL

A. Owner Responsibilities: Where quality-control services are indicated as Owner's responsibility, Owner will engage a qualified testing agency to perform these services.

1. Owner will furnish Contractor with names, addresses, and telephone numbers of testing agencies engaged and a description of types of testing and inspecting they are engaged to perform.

2. Costs for retesting and reinspecting construction that replaces or is necessitated by work that failed to comply with the Contract Documents will be charged to Contractor, and if not directly paid by the Contractor, the Contract Sum will be adjusted by Change Order.

B. Contractor Responsibilities: Tests and inspections not explicitly assigned to Owner are Contractor's responsibility. Unless otherwise indicated, provide quality-control services specified and those required by authorities having jurisdiction. Perform quality-control activities required of the Contractor by authorities having jurisdiction, whether specified or not.

1. Where services are indicated as Contractor's responsibility, engage a qualified testing agency to perform these quality-control services.

   a. Contractor shall not employ same entity engaged by Owner, unless agreed to in writing by Owner.

2. Notify testing agencies at least twenty-four (24) hours in advance of time when Work that requires testing or inspecting will be performed.
3. Where quality-control services are indicated as Contractor's responsibility, submit a certified written report, in duplicate, of each quality-control service.
4. Testing and inspecting requested by Contractor and not required by the Contract Documents are Contractor's responsibility.
5. Submit additional copies of each written report directly to authorities having jurisdiction, when they so direct.

C. Manufacturer's Field Services: Where indicated, engage a manufacturer's authorized representative to inspect field-assembled components and equipment installation, including service connections. Report results in writing as specified in Division 01 Section “Submittal Proceedures.”

D. Retesting/Reinspecting: Regardless of whether original tests or inspections were Contractor's responsibility, provide quality-control services, including retesting and reinspecting, for construction that replaced Work that failed to comply with the Contract Documents.

E. Testing Agency Responsibilities: Cooperate with Architect and Contractor in performance of duties. Provide qualified personnel to perform required tests and inspections.

1. Notify Architect and Contractor promptly of irregularities or deficiencies observed in the Work during performance of its services.
2. Determine the location from which test samples will be taken and in which in-situ tests are conducted.
3. Conduct and interpret tests and inspections and state in each report whether tested and inspected work complies with or deviates from requirements.
4. Submit a certified written report, in duplicate, of each test, inspection, and similar quality-control service through Contractor.
5. Do not release, revoke, alter, or increase the Contract Document requirements or approve or accept any portion of the Work.
6. Do not perform any duties of Contractor.

F. Associated Services: Cooperate with agencies performing required tests, inspections, and similar quality-control services, and provide reasonable auxiliary services as requested. Notify agency sufficiently in advance of operations to permit assignment of personnel. Provide the following:

1. Access to the Work.
2. Incidental labor and facilities necessary to facilitate tests and inspections.

3. Adequate quantities of representative samples of materials that require testing and inspecting. Assist agency in obtaining samples.
4. Facilities for storage and field curing of test samples.
5. Delivery of samples to testing agencies.
6. Preliminary design mix proposed for use for material mixes that require control by testing agency.
7. Security and protection for samples and for testing and inspecting equipment at Project site.

G. Coordination: Coordinate sequence of activities to accommodate required quality-assurance and -control services with a minimum of delay and to avoid necessity of removing and replacing construction to accommodate testing and inspecting.

1. Schedule times for tests, inspections, obtaining samples, and similar activities.

H. Mockups: Before installing portions of the Work requiring mockups, build mockups for each form of construction and finish required to comply with the following requirements, using materials indicated for the completed Work:

1. Build mockups in location and of size indicated or, if not indicated, as directed by Architect.
2. Notify Architect seven (7) days in advance of dates and times when mockups will be constructed.
3. Employ supervisory personnel who will oversee mockup construction. Employ workers that will be employed during the construction at the Project.
4. Demonstrate the proposed range of aesthetic effects and workmanship.
5. Obtain Architect's approval of mockups before starting work, fabrication, or construction.

a. Allow seven (7) days for initial review and each re-review of each mockup.

6. Maintain mockups during construction in an undisturbed condition as a standard for judging the completed Work.
7. Demolish and remove mockups when directed, unless otherwise indicated.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION

3.1 REPAIR AND PROTECTION

A. General: On completion of testing, inspecting, sample taking, and similar services, repair damaged construction and restore substrates and finishes.

1. Provide materials and comply with installation requirements specified in other Specification Sections or matching existing substrates and finishes. Restore patched areas and extend restoration into adjoining areas with durable seams that are as invisible as possible.

B. Protect construction exposed by or for quality-control service activities.

C. Repair and protection are Contractor's responsibility, regardless of the assignment of responsibility for quality-control services.

END OF SECTION

SECTION 014200 - REFERENCES

PART 1 - GENERAL

1.1 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.

1.2 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.

1.3 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.

C. Copies of Standards: Each entity engaged in construction on Project should be familiar with industry standards applicable to its construction activity. Copies of applicable standards are not bound with the Contract Documents.

1. Where copies of standards are needed to perform a required construction activity, obtain copies directly from publication source.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION

SECTION 015000 - TEMPORARY FACILITIES AND CONTROLS

PART 1 - GENERAL

1.1 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.

1.2 SUMMARY

A. Section includes requirements for temporary utilities, support facilities, and security and protection facilities.

B. Related Section:

1. Division 01 Section "Summary" for work restrictions and limitations on utility interruptions.
2. Division 01 Section "Submittal Procedures" for procedures for submitting copies of implementation and termination schedule and utility reports.
3. Division 01 Section "Execution Requirements" for progress cleaning requirements.

C. Temporary Utilities include, but are not limited to, the following:

1. Sewers and drainage.
2. Water service and distribution.
3. Sanitary facilities, including toilets, wash facilities, and drinking-water facilities.
4. Heating and cooling facilities (including chilled water).
5. Ventilation.
6. Electric power service.
7. Lighting.
8. Telephone service.

D. Support facilities include, but are not limited to, the following:

1. Project identification and temporary signs.
2. Waste disposal facilities.
3. Field offices.
4. Storage and fabrication sheds.
5. Construction aids and miscellaneous services and facilities.

E. Security and protection facilities include, but are not limited to, the following:

1. Security enclosure and lockup.
2. Barricades, warning signs, and lights.
3. Temporary enclosures.
4. Temporary partitions.
5. Fire protection.

1.3 DEFINITIONS

A. Permanent Enclosure: As determined by Architect, permanent or temporary roofing is complete, insulated, and weathertight; exterior walls are insulated and weathertight; and all openings are closed with permanent construction or substantial temporary enclosures.

1.4 USE CHARGES

A. General: Cost or use charges for temporary facilities are not chargeable to Owner or Architect and shall be included in the Contract Sum. Allow other entities to use temporary services and facilities without cost, including, but not limited to, the following:

1. Owner's construction forces.
2. Occupants of Project.
3. Architect.
4. Testing agencies.
5. Personnel of authorities having jurisdiction.

B. Water and Sewer Service from Existing System: Water from Owner's existing water system is available for use without metering and without payment of use charges. Provide connections and extensions of services as required for construction operations.

C. Electric Power Service from Existing System: Electric power from Owner's existing system is available for use without metering and without payment of use charges. Provide connections and extensions of services as required for construction operations.

1.5 INFORMATIONAL SUBMITTALS

A. Dust- and HVAC-Control Plan: Submit coordination drawing and narrative that indicates the dust- and HVAC-control measures proposed for use, proposed locations, and proposed time frame for their operation. Identify further options if proposed measures are later determined to be inadequate. Include the following:

1. Locations of dust-control partitions at each phase of work.
2. HVAC system isolation schematic drawing.
3. Location of proposed air-filtration system discharge.
4. Waste handling procedures.
5. Other dust-control measures.

1.6 QUALITY ASSURANCE

A. Standards: Comply with ANSI A10.6, NECA's "Temporary Electrical Facilities," and NFPA 241.

1. Trade Jurisdictions: Assigned responsibilities for installation and operation of temporary utilities are not intended to interfere with trade regulations and union jurisdictions.
2. Electric Service: Comply with NECA, NEMA, and UL standards and regulations for temporary electric service. Install service to comply with NFPA 70.

B. Tests and Inspections: Arrange for authorities having jurisdiction to test and inspect each temporary utility before use. Obtain required certifications and permits.

C. Accessible Temporary Egress: Comply with applicable provisions in the ADA Accessibility Guidelines .

1.7 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: Engage installer of each permanent service to 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.

PART 2 - PRODUCTS

2.1 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. Tarpaulins: Fire-resistive labeled with flame-spread rating of 15 or less.

C. Polyethylene Sheet: Reinforced, fire-resistive sheet, 10-mil minimum thickness, with flame-spread rating of 15 or less per ASTM E 84 and passing NFPA 701 Test Method 2.

D. Dust-Control Adhesive-Surface Walk-off Mats: Provide mats minimum 36 by 60 inches.

2.2 TEMPORARY FACILITIES AND EQUIPMENT

A. General: Provide equipment suitable for use intended.

B. 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.

C. 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.

D. Power Distribution System Circuits: Where permitted and overhead and exposed for surveillance, wiring circuits, not exceeding 125-V ac, 20-A rating, and lighting circuits may be nonmetallic sheathed cable.

PART 3 - EXECUTION

3.1 INSTALLATION, GENERAL

A. Locate facilities where they will serve Project adequately and result in minimum interference with performance of the Work. Relocate and modify facilities as required by progress of the Work.

B. Provide each facility ready for use when needed to avoid delay. Maintain and modify as required. Do not remove until facilities are no longer needed or are replaced by authorized use of completed permanent facilities.

3.2 TEMPORARY UTILITY INSTALLATION

A. Sanitary Facilities: Provide temporary toilets, wash facilities, and drinking water for use of construction personnel. Comply with requirements of authorities having jurisdiction for type, number, location, operation, and maintenance of fixtures and facilities.

1. Toilets: Use of Owner's existing toilet facilities will be permitted, as long as facilities are cleaned and maintained in a condition acceptable to Owner. At Substantial Completion, restore these facilities to condition existing before initial use.
2. 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.
3. Toilets: Install self-contained toilet units. Shield toilets to ensure privacy.
4. Drinking-Water Facilities: Provide bottled-water, drinking-water units.

B. Ventilation and Humidity Control: Provide temporary ventilation required by construction activities for curing or drying of completed installations or for protecting installed construction from adverse effects of high humidity. Select equipment that will not have a harmful effect on completed installations or elements being installed. Coordinate ventilation requirements to produce ambient condition required and minimize energy consumption.

C. Electric Power Service: Connect to Owner's existing electric power service. Maintain equipment in a condition acceptable to Owner.

D. Electric Distribution: Provide receptacle outlets adequate for connection of power tools and equipment.

1. Provide waterproof connectors to connect separate lengths of electrical power cords if single lengths will not reach areas where construction activities are in progress. Do not exceed safe length-voltage ratio.
2. Provide warning signs at power outlets other than 110 to 120 V.
3. Provide metal conduit, tubing, or metallic cable for wiring exposed to possible damage. Provide rigid steel conduits for wiring exposed on grades, floors, decks, or other traffic areas.
4. Provide metal conduit enclosures or boxes for wiring devices.
5. Provide 4-gang outlets, spaced so 100-foot extension cord can reach each area for power hand tools and task lighting. Provide a separate 125-V ac, 20-A circuit for each outlet

E. Lighting: Provide temporary lighting with local switching that provides adequate illumination for construction operations, observations, inspections, and traffic conditions.

1. Install and operate temporary lighting that fulfills security and protection requirements without operating entire system.
2. Provide one 100-W incandescent lamp per 500 sq. ft., uniformly distributed, for general lighting, or equivalent illumination.
3. Provide one 100-W incandescent lamp every 50 feet in traffic areas.
4. Provide one 100-W incandescent lamp per story in stairways and ladder runs, located to illuminate each landing and flight.
5. Install exterior-yard site lighting that will provide adequate illumination for construction operations, traffic conditions, and signage visibility when the Work is being performed

3.3 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. Security Enclosure and Lockup: Install temporary enclosure around partially completed areas of construction. Provide lockable entrances to prevent unauthorized entrance, vandalism, theft, and similar violations of security. Lock entrances at end of each work day.

C. 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.

D. Temporary Partitions: Provide floor-to-ceiling dustproof partitions to limit dust and dirt migration and to separate areas occupied by Owner from fumes and noise.

1. Construct dustproof partitions with gypsum wallboard with joints taped on occupied side, and fire-retardant-treated plywood on construction operations side.
2. Construct dustproof partitions with two layers of 6-mil polyethylene sheet on each side. Cover floor with two layers of 6-mil polyethylene sheet, extending sheets 18 inches up the sidewalls. Overlap and tape full length of joints. Cover floor with fire-retardant-treated plywood.

   a. Construct vestibule and airlock at each entrance through temporary partition with not less than 48 inches between doors. Maintain water-dampened foot mats in vestibule.

3. Where fire-resistance-rated temporary partitions are indicated or are required by authorities having jurisdiction, construct partitions according to the rated assemblies.
4. Insulate partitions to control noise transmission to occupied areas.
5. Seal joints and perimeter. Equip partitions with gasketed dustproof doors and security locks where openings are required.
6. Protect air-handling equipment.
7. Provide walk-off mats at each entrance through temporary partition.

E. 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.

1. Provide fire extinguishers, installed on walls on mounting brackets, visible and accessible from space being served, with sign mounted above.
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.
7. Provide hoses for fire protection of sufficient length to reach construction areas. Hang hoses with a warning sign stating that hoses are for fire-protection purposes only and are not to be removed. Match hose size with outlet size and equip with suitable nozzles.

3.4 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. 1Protect 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. 1Prevent water-filled piping from freezing. Maintain markers for underground lines. Protect from damage during excavation operations

C. Temporary Facility Changeover: 1Except for using permanent fire protection as soon as available, do not change over from using temporary security and protection facilities to permanent facilities until Substantial Completion.

D. Termination and Removal: Remove each temporary facility when need for its service has ended, when it has been replaced by authorized use of a permanent facility, or no later than 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 property of Contractor. Owner reserves right to take possession of Project identification signs.
2. At Substantial Completion, repair, renovate, and clean permanent facilities used during construction period. Comply with final cleaning requirements specified in Division 01 Section "Closeout Procedures."

END OF SECTION **015000**

SECTION 016000 - PRODUCT REQUIREMENTS

PART 1 - GENERAL

1.1 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.

1.2 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 Section:

1. Division 01 Section "Closeout Procedures" for submitting warranties for Contract closeout.
2. Divisions 02 through 49 Sections for specific requirements for warranties on products and installations specified to be warranted.
3. Refer to other sections of the Contract Documents for prior approval requirements.

1.3 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. Substitutions: Changes in products, materials, equipment, and methods of construction from those required by the Contract Documents and proposed by Contractor.

C. Prior Approvals: Acceptance of a product or material submitted before opening of bids, in accordance with the Contract Documents, by the Contractor or a potential supplier which are comparable to those specified, but which are not included in the list of approved products and/or manufacturers within the bid documents.

D. 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 1comparable products of other named manufacturers.

1.4 SUBMITTALS

A. Basis-of-Design Product Specification Submittal: Comply with requirements in Division 01 Section "Submittal Procedures." Show compliance with requirements.

B. Product Prior Approval Submittal: Comply with requirements in this Section and in Division 01 Section “Submittal Procedures.”

1. Prior Approval Request Form: Use facsimile of form provided in the Project Manual at the end of this Section. Architect may provide electronic copy of form upon request

C. Product Substitution Submittal: Comply with requirements in this Section and in Division 01 Section “Submittal Procedures.”

1. Substitution Request Form: Use facsimile of form provided in the Project Manual at the end of this Section. Architect may provide electronic copy of form upon request

1.5 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.

1.6 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. Store foam plastic from exposure to sunlight, except to extent necessary for period of installation and concealment.
5. Store cementitious products and materials on elevated platforms.
6. Comply with product manufacturer's written instructions for temperature, humidity, ventilation, and weather-protection requirements for storage.
7. Protect stored products from damage and liquids from freezing.

1.7 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: Preprinted 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 or to 1extend time limit provided by manufacturer's warranty.

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. Refer to Divisions 02 through 49. Sections for specific content requirements and particular requirements for submitting special warranties.
4. 1Submit a draft for approval before final execution.

C. Submittal Time: Comply with requirements in Division 01 Section "Closeout Procedures."

PART 2 - PRODUCTS

2.1 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. Where products are accompanied by the term "as selected," Architect will make selection.

4. Descriptive, performance, and reference standard requirements in the Specifications establish salient characteristics of products.

B. Product Selection Procedures:

1. Products: Where Specifications include a list of names of both manufacturers and products, provide one of the products listed that complies with requirements. Prior approval of comparable products will be considered in accordance with the Contract Documents.
2. Manufacturers: Where Specifications include a list of manufacturers' names, provide a product by one of the manufacturers listed that complies with requirements. Prior approval of comparable products will be considered in accordance with the Contract Documents. Substitutions for Contractor's convenience will not be considered, unless otherwise indicated.
3. Basis-of-Design Product: 1Where Specifications name a product and include a list of manufacturers, provide the specified product or a comparable product by one of the other named manufacturers. Drawings and Specifications indicate sizes, profiles, dimensions, and other characteristics that are based on the product named. Where specifications name a product and do not include a list of manufacturers, provide the product or its prior approved equal.
4. Available Products: Where Specifications include a list of names of both products and manufacturers, provide one of the products listed, or an unnamed product, that complies with requirements, provided it is prior approved
5. Available Manufacturers: Where Specifications include a list of manufacturers, provide a product by one of the manufacturers listed, or an unnamed manufacturer, that complies with requirements, provided it is prior approved.
6. Product Options: Where Specifications indicate that sizes, profiles, and dimensional requirements on Drawings are based on a specific product or system, provide the specified product or system.

C. Visual Matching Specification: Where Specifications require "match Architect's sample", provide a product that complies with requirements and matches Architect's sample. Architect's decision will be final on whether a proposed product matches.

D. Visual Selection Specification: Where Specifications include the phrase "as selected by Architect from manufacturer's full range" or similar phrase, select a product that complies with specified requirements. Architect will select color, gloss, pattern, density, or texture from manufacturer's product line that includes both standard and premium items.

2.2 COMPARABLE PRODUCTS

A. Conditions for Consideration, General: Architect will consider Contractor's request for comparable product when the following conditions are satisfied. If the following conditions are not satisfied, Architect 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 architects and owners, if requested.
5. Samples, if requested.

B. Prior Approval Requests: Architect will consider requests for prior approvals if received no later than seven (7) days prior to bid date.

1. Conditions upon which the Architect will consider a potential Contractor's or supplier's request for prior approval include, but are not limited to, the following:

   a. Requested product or material does not require revisions to the Contract Documents.
   b. Requested product or material is consistent with the Contract Documents and will produce indicated results.
   c. Requested product or material will not adversely affect Contractor's construction schedule.
   d. Requested product or material has received necessary approvals of authorities having jurisdiction.
   e. Requested product or material is compatible with other portions of the Work.
   f. Requested product or material provides specified warranty.

2. Architect's Action: If necessary, Architect will request additional information or documentation for evaluation within two (2) business days of receipt of a request for substitution. Architect will notify Contractor of acceptance or rejection of proposed substitution within three (3) days of receipt of request, or receipt of additional information or documentation, whichever is later.

C. Substitution Requests: Architect will consider requests for substitution if received within 60 days after the Notice to Proceed.

1. Conditions upon which the Architect will consider Contractor's request for substitution include, but are not limited to, the following:

   a. Requested substitution offers Owner a substantial advantage in cost, time, energy conservation, or other considerations, after deducting additional responsibilities Owner must assume. Owner's additional responsibilities may include compensation to Architect for redesign and evaluation services, increased cost of other construction by Owner, and similar considerations.
   b. Requested substitution does not require extensive revisions to the Contract Documents.
   c. Requested substitution is consistent with the Contract Documents and will produce indicated results.
   d. Requested substitution will not adversely affect Contractor's construction schedule.
   e. Requested substitution has received necessary approvals of authorities having jurisdiction.
   f. Requested substitution is compatible with other portions of the Work.
   g. Requested substitution has been coordinated with other portions of the Work.
   h. Requested substitution provides specified warranty.
   i. If requested substitution involves more than one contractor, requested substitution has been coordinated with other portions of the Work, is uniform and consistent, is compatible with other products, and is acceptable to all contractors involved.

2. Architect's Action: If necessary, Architect will request additional information or documentation for evaluation within seven (7) days of receipt of a request for substitution. Architect will notify Contractor of acceptance or rejection of proposed substitution within fifteen (15) days of receipt of request, or seven (7) days of receipt of additional information or documentation, whichever is later.

PART 3 - EXECUTION (Not Used)
END OF SECTION 016000

H/S

PRIOR APPROVAL REQUEST

Project: _____ H/S Project No.: _____

_____ Owner Project No.: _____

From: _____ To: _____

Date: _____

Specification Title: _____ Description: _____

Section: _____ Page: _____ Article/Paragraph: _____

Proposed Product for Prior Approval: _____

Manufacturer: _____ Address: _____ Phone: _____

Trade Name: _____ Model No.: _____

Installer: _____ Address: _____ Phone: _____

History: ☐ New product ☐ 2-5 years old ☐ 5-10 yrs old ☐ More than 10 years old

Differences between proposed product and specified product: _____

_____

_____

☐ Point-by-point comparative data attached - *REQUIRED BY ARCHITECT*

Supporting Data Attached: ☐ Drawings ☐ Product Data ☐ Samples ☐ Tests ☐ Reports ☐ Other

The Undersigned certifies:

- Proposed product has been fully investigated and determined to be equal or superior in all respects to specified product.
- Same warranty will be furnished for proposed product as for specified product.
- Same maintenance service and source of replacement parts, as applicable, is available.
- Proposed product will have no adverse effect on other trades and will not affect or delay progress schedule.
- Cost data as stated above is complete. Claims for additional costs related to accepted substitution which may subsequently become apparent are to be waived.
- Proposed substitution does not affect dimensions and functional clearances.
- Payment will be made for changes to building design, including A/E design, detailing, and construction costs caused by the substitution.
- Coordination, installation, and changes in the Work as necessary for accepted Prior Approved Product will be complete in all respects.

Submitted by: _____ Address: _____

Firm: _____ _____

Signature: _____ Telephone: _____

Attachments: _____

_____

_____

PRIOR APPROVAL REQUEST
(continued)

A/E's REVIEW AND ACTION

☐ Product approved - Make submittals in accordance with Specification Section 01330.
☐ Product approved as noted - Make submittals in accordance with Specification Section 01330.
☐ Product rejected - Use specified materials.
☐ Prior Approval Request received too late - Use specified materials.

Signed by:_____ Date:

Additional Comments: ☐ Contractor ☐ Subcontractor ☐ Supplier ☐ Manufacturer ☐ A/E ☐ _____

H/S

SUBSTITUTION REQUEST

Project: _____ H/S Project No.: _____

_____ Owner Project No.: _____

From: _____ To: _____

Date: _____

_____

Specification Title: _____ Description: _____

Section: _____ Page: _____ Article/Paragraph: _____

Proposed Substitution: _____

Manufacturer: _____ Address: _____ Phone: _____

Trade Name: _____ Model No.: _____

Installer: _____ Address: _____ Phone: _____

History: ☐ New product ☐ 2-5 years old ☐ 5-10 yrs old ☐ More than 10 years old

Differences between proposed substitution and specified product: _____

_____

_____

☐ Point-by-point comparative data attached - *REQUIRED BY ARCHITECT*

Reason for not providing specified item: _____

_____

Similar Installation:

Project: _____ Architect: _____

Address: _____ Owner: _____

_____ Date Installed: _____

Proposed substitution affects other parts of Work: ☐ No ☐ Yes; explain _____

_____

Savings to Owner for accepting substitution: _____ ($ _____).

Proposed substitution changes Contract Time: ☐ No ☐ Yes [Add] [Deduct] _____ days.

Supporting Data Attached: ☐ Drawings ☐ Product Data ☐ Samples ☐ Tests ☐ Reports ☐ _____

SUBSTITUTION REQUEST
(Continued)

The Undersigned certifies:

- Proposed substitution has been fully investigated and determined to be equal or superior in all respects to specified product.
- Same warranty will be furnished for proposed substitution as for specified product.
- Same maintenance service and source of replacement parts, as applicable, is available.
- Proposed substitution will have no adverse effect on other trades and will not affect or delay progress schedule.
- Cost data as stated above is complete. Claims for additional costs related to accepted substitution which may subsequently become apparent are to be waived.
- Proposed substitution does not affect dimensions and functional clearances.
- Payment will be made for changes to building design, including A/E design, detailing, and construction costs caused by the substitution.
- Coordination, installation, and changes in the Work as necessary for accepted substitution will be complete in all respects.

Submitted by: _____

Firm: _____

Address: _____

_____

Signature: _____

Telephone: _____

Attachments: _____

A/E's REVIEW AND ACTION

☐ Substitution approved - Make submittals in accordance with Specification Section 01330.
☐ Substitution approved as noted - Make submittals in accordance with Specification Section 01330.
☐ Substitution rejected - Use specified materials.
☐ Substitution Request received too late - Use specified materials.

Signed by: Date:

Additional Comments: ☐ Contractor ☐ Subcontractor ☐ Supplier ☐ Manufacturer ☐ A/E ☐ _____

SECTION 017300 – EXECUTION REQUIREMENTS

PART 1 - GENERAL

1.1 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.

1.2 SUMMARY

A. Section includes general administrative and procedural requirements governing execution of the Work including, but not limited to, the following:

1. Construction layout.
2. Field engineering and surveying.
3. Elevation Certificate
4. Installation of the Work.
5. Cutting and patching.
6. Coordination of Owner-installed products
7. Progress cleaning.
8. Starting and adjusting.
9. Protection of installed construction.
10. Correction of the Work.
11. Use Sound Construction Practices

B. Related Sections:

1. Division 01 Section "Project Management and Coordination" for procedures for coordinating field engineering with other construction activities.
2. Division 01 Section "Submittal Procedures" for submitting surveys and other documentation required for execution of the Work.
3. Division 01 Section "Closeout Procedures" for submitting final property survey with Project Record Documents, recording of Owner-accepted deviations from indicated lines and levels, and final cleaning.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION

3.1 SUPERVISION AND CONSTRUCTION PROCEDURES

A. The Contractor shall be responsible for implementing pre-installation planning and construction practices that are consistent with current industry standards. This requirement includes complete responsibility by the contractor to guard against defects in the work. This effort shall include all aspects of the construction process and shall be reviewed and attended to daily during the duration of the work under The Contract.

B. It shall be the Contractor's responsibility to review and coordinate the Contract Documents completely and call to the attention of the Architect, in writing, any concerns or recommendations in regard to potential or anticipated problem areas, prior to the execution of the Work. This includes but is not limited to details, assemblies, specifications, or any other intent of the Contract Documents as issued.

3.2 EXAMINATION

A. Existing Conditions: The existence and location of underground and other utilities and construction indicated as existing are not guaranteed. Before beginning sitework, investigate and verify the existence and location of underground utilities, mechanical and electrical systems, and other construction affecting the Work.

1. Before construction, verify the location and invert elevation at points of connection of sanitary sewer, storm sewer, and water-service piping; underground electrical services, and other utilities.
2. Furnish location data for work related to Project that must be performed by public utilities serving Project site.

3.3 PREPARATION

A. Field Measurements: Take field measurements as required to fit the Work properly. Recheck measurements before installing each product. Where portions of the Work are indicated to fit to other construction, verify dimensions of other construction by field measurements before fabrication. Coordinate fabrication schedule with construction progress to avoid delaying the Work.

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 , submit a Request for Information to Architect according to requirements in Division 01 Section "Project Management and Coordination."1 Include a detailed description of problem encountered, together with recommendations for changing the Contract Documents.

3.4 INSTALLATION

A. General: Locate the Work and components of the Work accurately, in correct alignment and elevation, as indicated.

1. Make vertical work plumb and make horizontal work level.
2. Where space is limited, install components to maximize space available for maintenance and ease of removal for replacement.
3. Conceal pipes, ducts, and wiring in finished areas, unless otherwise indicated.
4. Maintain minimum headroom clearance of 8 feet in spaces without a suspended ceiling.

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. Tools and Equipment: Do not use tools or equipment that produce harmful noise levels.

F. Templates: Obtain and distribute to the parties involved templates for work specified to be factory prepared and field installed. Check Shop Drawings of other work to confirm that adequate provisions are made for locating and installing products to comply with indicated requirements.

G. 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 Architect.
2. Allow for building movement, including thermal expansion and contraction.
3. Coordinate installation of anchorages. Furnish setting drawings, templates, and directions for installing anchorages, including sleeves, concrete inserts, anchor bolts, and items with integral anchors, that are to be embedded in concrete or masonry. Deliver such items to Project site in time for installation.

H. Joints: Make joints of uniform width. Where joint locations in exposed work are not indicated, arrange joints for the best visual effect. Fit exposed connections together to form hairline joints.

I. Hazardous Materials: Use products, cleaners, and installation materials that are not considered hazardous.

3.5 PROGRESS CLEANING

A. General: Clean Project site and work areas daily, including common areas. 1Coordinate progress cleaning for joint-use areas where more than one installer has worked. Enforce requirements strictly. Dispose of materials lawfully.

1. Comply with requirements in NFPA 241 for removal of combustible waste materials and debris.
2. Do not hold waste materials more than seven (7) days during normal weather or three (3) days if the temperature is expected to rise above 80 deg F.
3. Containerize hazardous and unsanitary waste materials separately from other waste. Mark containers appropriately and dispose of legally, according to regulations.

B. Site: Maintain Project site free of waste materials and debris. 1Keep adjacent streets and sidewalks free of debris, dirt and mud

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: Clean exposed surfaces and protect as necessary to ensure freedom from damage and deterioration at time of Substantial Completion.

G. Cutting and Patching: Clean areas and spaces where cutting and patching are performed. Completely remove paint, mortar, oils, putty, and similar materials.

1. Thoroughly clean piping, conduit, and similar features before applying paint or other finishing materials. Restore damaged pipe covering to its original condition

H. Waste Disposal: Do not bury or burn waste materials on-site. Do not wash waste materials down sewers or into waterways.

I. During handling and installation, clean and protect construction in progress and adjoining materials already in place. Apply protective covering where required to ensure protection from damage or deterioration at Substantial Completion.

J. Clean and provide maintenance on completed construction as frequently as necessary through the remainder of the construction period. Adjust and lubricate operable components to ensure operability without damaging effects.

K. Limiting Exposures: Supervise construction operations to assure that no part of the construction, completed or in progress, is subject to harmful, dangerous, damaging, or otherwise deleterious exposure during the construction period.

3.6 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 Division 01 Section "Quality Requirements."

3.7 PROTECTION OF INSTALLED CONSTRUCTION

A. Provide final protection and maintain conditions that ensure installed Work is without damage or deterioration at time of Substantial Completion.

B. Comply with manufacturer's written instructions for temperature and relative humidity.

3.8 CORRECTION OF THE WORK

A. Repair or remove and replace defective construction. Restore damaged substrates and finishes. 1Comply with requirements in Division 1 Section “Cutting and Patching.”

1. Repairing includes replacing defective parts, refinishing damaged surfaces, touching up with matching materials, and properly adjusting operating equipment.

B. Restore permanent facilities used during construction to their specified condition.

C. Remove and replace damaged surfaces that are exposed to view if surfaces cannot be repaired without visible evidence of repair.

D. Repair components that do not operate properly. Remove and replace operating components that cannot be repaired.

E. Remove and replace chipped, scratched, and broken glass or reflective surfaces.

END OF SECTION **017300**

SECTION 017329 – CUTTING AND PATCHING

PART 1 - GENERAL

1.1 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.

1.2 SUMMARY

A. This Section includes procedural requirements for cutting and patching.

B. See Divisions 02 through 49 Sections for specific requirements and limitations applicable to cutting and patching individual parts of the Work.

1.3 SUBMITTALS

A. Cutting and Patching Proposal: Submit a proposal describing procedures at least 10 days before the time cutting and patching will be performed, requesting approval to proceed. Include the following information:

1. Extent: Describe cutting and patching, show how they will be performed, and indicate why they cannot be avoided.
2. Changes to In-Place Construction: Describe anticipated results. Include changes to structural elements and operating components as well as changes in building's appearance and other significant visual elements.
3. Products: List products to be used and firms or entities that will perform the Work.
4. Dates: Indicate when cutting and patching will be performed.
5. Utility Services and Mechanical/Electrical Systems: List services/systems that cutting and patching procedures will disturb or affect. List services/systems that will be relocated and those that will be temporarily out of service. Indicate how long services/systems will be disrupted.
6. Structural Elements: Where cutting and patching involve adding reinforcement to structural elements, submit details and engineering calculations showing integration of reinforcement with original structure.
7. Architect's Approval: Obtain approval of cutting and patching proposal before cutting and patching. Approval does not waive right to later require removal and replacement of unsatisfactory work

1.4 QUALITY ASSURANCE

A. Structural Elements: Do not cut and patch structural elements in a manner that could change their load-carrying capacity or load-deflection ratio.

B. Operational Elements: Do not cut and patch operating elements and related components in a manner that results in reducing their capacity to perform as intended or that results in increased maintenance or decreased operational life or safety.

C. Miscellaneous Elements: Do not cut and patch miscellaneous elements or related components in a manner that could change their load-carrying capacity, that results in reducing their capacity to perform as intended, or that results in increased maintenance or decreased operational life or safety.

D. Visual Requirements: Do not cut and patch construction in a manner that results in visual evidence of cutting and patching. Do not cut and patch construction exposed on the exterior or in occupied spaces in a manner that would, in Architect's opinion, reduce the building's aesthetic qualities. Remove and replace construction that has been cut and patched in a visually unsatisfactory manner.

1.5 WARRANTY

A. Existing Warranties: Remove, replace, patch, and repair materials and surfaces cut or damaged during cutting and patching operations, by methods and with materials so as not to void existing warranties.

PART 2 - PRODUCTS

2.1 MATERIALS

A. General: Comply with requirements specified in other Sections.

B. 1In-Place Materials: Use materials identical to in-place materials. For exposed surfaces, use materials that visually match in-place adjacent surfaces to the fullest extent possible.

1. 1If identical materials are unavailable or cannot be used, use materials that, when installed, will match the visual and functional performance of in-place materials.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine surfaces to be cut and patched and conditions under which cutting and patching are to be performed.

1. 1Examine surfaces to be cut and patched and conditions under which cutting and patching are to be performed.
2. 1Proceed with installation only after unsafe or unsatisfactory conditions have been corrected.

3.2 PREPARATION

A. Temporary Support: Provide temporary support of Work to be cut.

B. Protection: Protect in-place construction during cutting and patching to prevent damage. Provide protection from adverse weather conditions for portions of Project that might be exposed during cutting and patching operations.

C. Adjoining Areas: Avoid interference with use of adjoining areas or interruption of free passage to adjoining areas.

D. Existing Utility Services and Mechanical/Electrical Systems: Where existing services/systems are required to be removed, relocated, or abandoned, bypass such services/systems before cutting to minimize and/or prevent interruption to occupied areas.

3.3 PERFORMANCE

A. 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. Cutting: Cut in-place construction by sawing, drilling, breaking, chipping, grinding, and similar operations, including excavation, using methods least likely to damage elements retained or adjoining construction. If possible, review proposed procedures with original Installer, comply with original Installer's written recommendations.

1. In general, use hand or small power tools designed for sawing and grinding, not hammering and chopping. Cut holes and slots as small as possible, neatly to size required, and with minimum disturbance of adjacent surfaces. Temporarily cover openings when not in use.
2. Finished Surfaces: Cut or drill from the exposed or finished side into concealed surfaces.
3. Concrete and Masonry: Cut using a cutting machine, such as an abrasive saw or a diamond-core drill.
4. 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.
5. Proceed with patching after construction operations requiring cutting are complete.

C. Patching: Patch construction by filling, repairing, refinishing, closing up, and similar operations following performance of other Work. Patch with durable seams that are as invisible as possible. Provide materials and comply with installation requirements specified in other Sections.

1. Exposed Finishes: Restore exposed finishes of patched areas and extend finish restoration into retained adjoining construction in a manner that will eliminate evidence of patching and refinishing.
2. 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.
3. Ceilings: Patch, repair, or rehang in-place ceilings as necessary to provide an even-plane surface of uniform appearance.

D. Cleaning: Clean areas and spaces where cutting and patching are performed. Completely remove paint, mortar, oils, putty, and similar materials.

END OF SECTION

SECTION 017419 - CONSTRUCTION WASTE MANAGEMENT AND DISPOSAL

PART 1 - GENERAL

1.1 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

1.2 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.

B. Related Sections:

1. Division 02 Section "Building Demolition" for disposition of waste resulting from demolition of buildings, structures, and site improvements.
2. Division 02 Section "Selective Demolition" for disposition of waste resulting from partial demolition of buildings, structures, and site improvements.
3. Division 04 Section "Unit Masonry Assemblies" for disposal requirements for masonry waste.

1.3 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. Salvage: Recovery of demolition or construction waste and subsequent sale or reuse in another facility.

F. Salvage and Reuse: Recovery of demolition or construction waste and subsequent incorporation into the Work.

1.4 SUBMITTALS

A. Waste Management Plan: Submit three (3) copies of plan within seven (7) days of date established for the Notice to Proceed.

B. Submit meeting minutes of waste management conference.

1.5 QUALITY ASSURANCE

A. Waste Management Conference: Conduct conference at Project site to comply with requirements in Division 01 Section "Project Management and Coordination."

1.6 WASTE MANAGEMENT PLAN

A. General: Develop a plan consisting of waste identification and waste reduction work plan. Distinguish between demolition and construction waste. Indicate quantities by weight or volume, but use same units of measure throughout waste management plan.

B. Waste Identification: Indicate anticipated types and quantities of demolition site-clearing and construction waste generated by the Work. Include estimated quantities and assumptions for estimates.

C. Waste Reduction Work Plan: List each type of waste and whether it will be salvaged, recycled, or disposed of in landfill or incinerator. Include points of waste generation, total quantity of each type of waste, quantity for each means of recovery, and handling and transportation procedures.

1. Salvaged Materials for Reuse: For materials that will be salvaged and reused in this Project, describe methods for preparing salvaged materials before incorporation into the Work.
2. Disposed Materials: Indicate how and where materials will be disposed of. Include name, address, and telephone number of each landfill and incinerator facility.
3. Handling and Transportation Procedures: Include method that will be used for separating recyclable waste including sizes of containers, container labeling, and designated location on Project site where materials separation will be located.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION

3.1 PLAN IMPLEMENTATION

A. General: Implement approved waste management plan. Provide handling, containers, storage, signage, transportation, and other items as required to implement waste management plan during the entire duration of the Contract.

B. Training: Train workers, subcontractors, and suppliers on proper waste management procedures, as appropriate for the Work occurring at Project site.

1. Distribute waste management plan to everyone concerned within three (3) days of submittal return.
2. Distribute waste management plan to entities when they first begin work on-site. Review plan procedures and locations established for salvage, recycling, and disposal.

C. Site Access and Temporary Controls: Conduct waste management operations to ensure minimum interference with roads, streets, walks, walkways, and other adjacent occupied and used facilities.

1. Designate and label specific areas on Project site necessary for separating materials that are to be salvaged, recycled, reused, donated, and sold.
2. Comply with Division 01 Section "Temporary Facilities and Controls" for controlling dust and dirt, environmental protection, and noise control.

3.2 SALVAGING DEMOLITION WASTE

A. Salvaged Items for Reuse in the Work:

1. Clean salvaged items.
2. Pack or crate items after cleaning. Identify contents of containers.
3. Store items in a secure area until installation.
4. Protect items from damage during transport and storage.
5. Install salvaged items to comply with installation requirements for new materials and equipment. Provide connections, supports, and miscellaneous materials necessary to make items functional for use indicated.

B. Salvaged Items for Owner's Use:

1. Clean salvaged items.
2. Pack or crate items after cleaning. Identify contents of containers.
3. Store items in a secure area until delivery to Owner.
4. Transport items to Owner's storage area designated by Owner.
5. Protect items from damage during transport and storage.

3.3 DISPOSAL OF WASTE

A. General: Except for items or materials to be salvaged, recycled, or otherwise reused, 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.

B. Burning: Do not burn waste materials.

C. Disposal: Transport waste materials off Owner's property and legally dispose of them.

END OF SECTION **017419**

SECTION 017700 - CLOSEOUT PROCEDURES

PART 1 - GENERAL

1.1 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.

1.2 SUMMARY

A. Section includes administrative and procedural requirements for contract closeout, including, but not limited to, the following:

1. Substantial Completion procedures.
2. Final Completion procedures.
3. Warranties.
4. Final cleaning.

B. Related Sections:

1. Division 01 Section "Payment Procedures" for requirements for Applications for Payment for Substantial and Final Completion
2. Division 01 Section "Operation and Maintenance Data" for operation and maintenance manual requirements.
3. Division 01 Section "Project Record Documents" for submitting Record Drawings, Record Specifications, and Record Product Data.
4. Division 01 Section "Demonstration and Training" for requirements for instructing Owner's personnel.
5. Divisions 02 through 49 Sections for specific closeout and special cleaning requirements for the Work in those Sections.

1.3 SUBSTANTIAL COMPLETION

A. Preliminary Procedures: Before requesting inspection for determining date of Substantial Completion, complete the following.

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, final completion construction photographic documentation, damage or settlement surveys, property surveys, and similar final record information.
6. Deliver tools, spare parts, extra materials, and similar items to location designated by Owner. Label with manufacturer's name and model number where applicable.

7. Make final changeover of permanent locks and deliver keys to Owner. Advise Owner's personnel of changeover in security provisions.
8. Complete startup testing of systems.
9. Submit test/adjust/balance records.
10. Terminate and remove temporary facilities from Project site, along with mockups, construction tools, and similar elements.
11. Advise Owner of changeover in heat and other utilities.
12. Submit changeover information related to Owner's occupancy, use, operation, and maintenance.
13. Complete final cleaning requirements, including touchup painting.
14. Touch up and otherwise repair and restore marred exposed finishes to eliminate visual defects.

B. Review: Submit a written request for review for Substantial Completion. On receipt of request, Architect will either proceed with review or notify Contractor of unfulfilled requirements. Architect will prepare the Certificate of Substantial Completion after review 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. Subsequent Review: Request a subsequent review when the Work identified in previous reviews as incomplete is completed or corrected.
2. Results of completed reviews will form the basis of requirements for Final Completion.
3. Should the Architect be caused to repeat reviews after Substantial Completion, Paragraph 9.10.1 of the General Conditions of the Contract for Construction shall take effect.

1.4 FINAL COMPLETION

A. Preliminary Procedures: Before requesting final inspection for determining final completion, complete the following:

1. Submit a final Application for Payment according to Division 01 Section "Payment Procedures."
2. Submit a letter certifying that the Architect's Substantial Completion review list of items to be completed or corrected (punch list) have been completed, and if not completed, provide an explanation for each item not complete. The letter 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. Submit pest-control final inspection report and warranty.
5. Instruct Owner's personnel in operation, adjustment, and maintenance of products, equipment, and systems.

B. Final Review: Submit a written request for final review for acceptance. On receipt of request, Architect will either proceed with review or notify Contractor of unfulfilled requirements. Architect will prepare a final Certificate for Payment after review or will notify Contractor of construction that must be completed or corrected before certificate will be issued.

1. Subsequent Review: Request a subsequent review when the Work identified in previous reviews as incomplete is completed or corrected.
2. If necessary, a subsequent review will be repeated and the contractor shall be bound to the requirements of Paragraph 9.10.1 of the General Conditions of the Contract for Construction and as revised in the Supplemental Conditions.

1.5 LIST OF INCOMPLETE ITEMS (PUNCH LIST)

A. Preparation: The General Contractor shall submit three (3) 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, starting with exterior areas first and proceeding from lowest floor to highest floor.
2. Organize items applying to each space by major element, including categories for ceiling, individual walls, floors, equipment, and building systems.

1.6 WARRANTIES

A. Submittal Time: Submit written warranties on request of Architect for designated portions of the Work.

B. Organize warranty documents into an orderly sequence based on the table of contents of the Project Manual.

1. Bind warranties and bonds in heavy-duty, 3-ring, vinyl-covered, loose-leaf binders, thickness as necessary to accommodate contents, and sized to receive 8-1/2-by-11-inch paper.
2. 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.
3. Identify each binder on the front and spine with the typed or printed title "WARRANTIES," Project name, and name of Contractor.
4. Scan warranties and bonds and assemble complete warranty and bond submittal package into a single indexed electronic PDF file with links enabling navigation to each item. Provide table of contents at beginning of document.

C. Provide additional copies of each warranty to include in operation and maintenance manuals.

PART 2 - PRODUCTS

2.1 MATERIALS

A. Cleaning Agents: Use cleaning materials and agents recommended by manufacturer or fabricator of the surface to be cleaned. Do not use cleaning agents that are potentially hazardous to health or property or that might damage finished surfaces.

PART 3 - EXECUTION

3.1 FINAL CLEANING

A. General: Perform final cleaning. Conduct cleaning and waste-removal operations to comply with local laws and ordinances and Federal and local environmental and antipollution regulations.

B. Cleaning: Employ experienced workers or professional cleaners for final cleaning. Clean each surface or unit to condition expected in an average commercial building cleaning and maintenance program. Comply with manufacturer's written instructions.

1. Complete the following cleaning operations before requesting inspection for certification of Substantial Completion for entire Project or for a portion of Project:

a. Clean Project site, yard, and grounds, in areas disturbed by construction activities, including landscape development areas, of rubbish, waste material, litter, and other foreign substances.
b. Sweep paved areas broom clean. Remove petrochemical spills, stains, and other foreign deposits.
c. Rake grounds that are neither planted nor paved to a smooth, even-textured surface.
d. Remove tools, construction equipment, machinery, and surplus material from Project site.
e. Clean exposed exterior and interior hard-surfaced finishes to a dirt-free condition, free of stains, films, and similar foreign substances. Avoid disturbing natural weathering of exterior surfaces. Restore reflective surfaces to their original condition.
f. Remove debris and surface dust from limited access spaces, including roofs, plenums, shafts, trenches, equipment vaults, manholes, attics, and similar spaces.
g. Sweep concrete floors broom clean in unoccupied spaces.
h. 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.
i. Remove labels that are not permanent.
j. Touch up and otherwise repair and restore marred, exposed finishes and surfaces. Replace finishes and surfaces that cannot be satisfactorily repaired or restored or that already show evidence of repair or restoration.

1) Do not paint over "UL" and other required labels and identification, including mechanical and electrical nameplates.

k. Replace parts subject to operating conditions during construction that may impede operation or reduce longevity.
l. Clean plumbing fixtures to a sanitary condition, free of stains, including stains resulting from water exposure.
m. Replace disposable air filters and clean permanent air filters. Clean exposed surfaces of diffusers, registers, and grills.

n. 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.

o. 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 017700

SECTION 017823 - OPERATION AND MAINTENANCE DATA

PART 1 - GENERAL

1.1 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.

1.2 SUMMARY

A. Section includes administrative and procedural requirements for preparing operation and maintenance manuals, including the following:

1. Operation manuals for systems, subsystems, and equipment.
2. Maintenance manuals for the care and maintenance of products, materials, finishes, systems, and equipment.

B. Related Sections:

1. Divisions 02 through 49 Sections for specific operation and maintenance manual requirements for the Work in those Sections.

1.3 SUBMITTALS

A. Manual Submittal: Submit two (2) copies of each manual in final form prior to requesting inspection for Substantial Completion and at least fifteen (15) days before commencing demonstration and training. Architect will return copy with comments.

1. Correct or modify each manual to comply with Architect's comments. Submit copies of each corrected manual within fifteen (15) days of receipt of Architect's.

PART 2 - PRODUCTS

2.1 GENERAL REQUIREMENTS FOR MANUALS

A. Organization: Unless otherwise indicated, organize each manual into a separate section for each system and subsystem, and a separate section for each piece of equipment not part of a system. Each manual shall contain the following materials, in the order listed:

1. Title page.
2. Table of contents.
3. Manual contents.

B. Title Page: Include the following information:

1. Subject matter included in manual.
2. Name and address of Project.

3. Name and address of Owner.
4. Date of submittal.
5. Name and contact information for Contractor.
6. Name and contact information for Architect.
7. Cross-reference to related systems in other operation and maintenance manuals.

C. Table of Contents: List each product included in manual, identified by product name, indexed to the content of the volume, and cross-referenced to Specification Section number in Project Manual.

D. Manual Contents: Organize into sets of manageable size. Arrange contents alphabetically by system, subsystem, and equipment. If possible, assemble instructions for subsystems, equipment, and components of one system into a single binder.

E. Manuals, Paper Copy: Submit manuals in the form of hard copy, bound and labeled volumes.

1. Binders: Heavy-duty, three-ring, vinyl-covered, loose-leaf binders, in thickness necessary to accommodate contents, sized to hold 8-1/2-by-11-inch paper; with clear plastic sleeve on spine to hold label describing contents and with pockets inside covers to hold folded oversize sheets.

   a. Identify each binder on front and spine, with printed title "OPERATION AND MAINTENANCE MANUAL," Project title or name,and subject matter of contents. Indicate volume number for multiple-volume sets.

2. Dividers: Heavy-paper dividers with plastic-covered tabs for each section of the manual. Mark each tab to indicate contents. Include typed list of products and major components of equipment included in the section on each divider, cross-referenced to Specification Section number and title of Project Manual.
3. Protective Plastic Sleeves: Transparent plastic sleeves designed to enclose diagnostic software storage media for computerized electronic equipment.
4. Drawings: Attach reinforced, punched binder tabs on drawings and bind with text.

   a. If oversize drawings are necessary, 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 bind envelopes in rear of manual. At appropriate locations in manual, insert typewritten pages indicating drawing titles, descriptions of contents, and drawing locations.

2.2 OPERATION MANUALS

A. Content: In addition to requirements in this Section, include operation data required in individual Specification Sections and the following information:

1. System, subsystem, and equipment descriptions. Use designations for systems and equipment indicated on Contract Documents.
2. Performance and design criteria if Contractor is delegated design responsibility.
3. Operating standards.
4. Operating procedures.
5. Operating logs.
6. Wiring diagrams.
7. Control diagrams.
8. Piped system diagrams.

9. Precautions against improper use.
10. License requirements including inspection and renewal dates.

B. Descriptions: Include the following:

1. Product name and model number. Use designations for products indicated on Contract Documents.
2. Manufacturer's name.
3. Equipment identification with serial number of each component.
4. Equipment function.
5. Operating characteristics.
6. Limiting conditions.
7. Performance curves.
8. Engineering data and tests.
9. Complete nomenclature and number of replacement parts.

C. Operating Procedures: Include the following, as applicable:

1. Startup procedures.
2. Equipment or system break-in procedures.
3. Routine and normal operating instructions.
4. Regulation and control procedures.
5. Instructions on stopping.
6. Normal shutdown instructions.
7. Seasonal and weekend operating instructions.
8. Required sequences for electric or electronic systems.
9. Special operating instructions and procedures.

D. Systems and Equipment Controls: Describe the sequence of operation, and diagram controls as installed.

E. Piped Systems: Diagram piping as installed, and identify color-coding where required for identification.

2.3 PRODUCT MAINTENANCE MANUALS

A. Content: Organize manual into a separate section for each product, material, and finish. Include source information, product information, maintenance procedures, repair materials and sources, and warranties and bonds, as described below.

B. Source Information: List each product included in manual, identified by product name and arranged to match manual's table of contents. For each product, list name, address, and telephone number of Installer or supplier and maintenance service agent, and cross-reference Specification Section number and title in Project Manual.

C. Product Information: Include the following, as applicable:

1. Product name and model number.
2. Manufacturer's name.
3. Color, pattern, and texture.
4. Material and chemical composition.
5. Reordering information for specially manufactured products.

D. Maintenance Procedures: Include manufacturer's written recommendations and the following:

1. Inspection procedures.
2. Types of cleaning agents to be used and methods of cleaning.
3. List of cleaning agents and methods of cleaning detrimental to product.
4. Schedule for routine cleaning and maintenance.
5. Repair instructions.

E. Repair Materials and Sources: Include lists of materials and local sources of materials and related services.

F. Warranties and Bonds: Include copies of warranties and bonds and lists of circumstances and conditions that would affect validity of warranties or bonds.

2.4 SYSTEMS AND EQUIPMENT MAINTENANCE MANUALS

A. Content: For each system, subsystem, and piece of equipment not part of a system, include source information, manufacturers' maintenance documentation, maintenance procedures, maintenance and service schedules, spare parts list and source information, maintenance service contracts, and warranty and bond information, as described below.

B. Source Information: List each system, subsystem, and piece of equipment included in manual, identified by product name and arranged to match manual's table of contents. For each product, list name, address, and telephone number of Installer or supplier and maintenance service agent, and cross-reference Specification Section number and title in Project Manual.

C. Manufacturers' Maintenance Documentation: Manufacturers' maintenance documentation including the following information for each component part or piece of equipment:

1. Standard maintenance instructions and bulletins.
2. Drawings, diagrams, and instructions required for maintenance, including disassembly and component removal, replacement, and assembly.
3. Identification and nomenclature of parts and components.
4. List of items recommended to be stocked as spare parts.

D. Maintenance Procedures: Include the following information and items that detail essential maintenance procedures:

1. Test and inspection instructions.
2. Troubleshooting guide.
3. Precautions against improper maintenance.
4. Disassembly; component removal, repair, and replacement; and reassembly instructions.
5. Aligning, adjusting, and checking instructions.
6. Demonstration and training video recording, if available.

E. Maintenance and Service Schedules: Include service and lubrication requirements, list of required lubricants for equipment, and separate schedules for preventive and routine maintenance and service with standard time allotment.

F. Spare Parts List and Source Information: Include lists of replacement and repair parts, with parts identified and cross-referenced to manufacturers' maintenance documentation and local sources of maintenance materials and related services.

G. Maintenance Service Contracts: Include copies of maintenance agreements with name and telephone number of service agent.

H. Warranties and Bonds: Include copies of warranties and bonds and lists of circumstances and conditions that would affect validity of warranties or bonds.

PART 3 - EXECUTION

3.1 MANUAL PREPARATION

A. Emergency Manual: Assemble a complete set of emergency information indicating procedures for use by emergency personnel and by Owner's operating personnel for types of emergencies indicated.

B. Product Maintenance Manual: Assemble a complete set of maintenance data indicating care and maintenance of each product, material, and finish incorporated into the Work.

C. Operation and Maintenance Manuals: Assemble a complete set of operation and maintenance data indicating operation and maintenance of each system, subsystem, and piece of equipment not part of a system.

D. Manufacturers' Data: Where manuals contain manufacturers' standard printed data, include only sheets pertinent to product or component installed. Mark each sheet to identify each product or component incorporated into the Work. If data include more than one item in a tabular format, identify each item using appropriate references from the Contract Documents. Identify data applicable to the Work and delete references to information not applicable.

E. Drawings: Prepare drawings supplementing manufacturers' printed data to illustrate the relationship of component parts of equipment and systems and to illustrate control sequence and flow diagrams. Coordinate these drawings with information contained in record Drawings to ensure correct illustration of completed installation.

1. Do not use original project record documents as part of operation and maintenance manuals.

F. Comply with Division 01 Section "Closeout Procedures" for schedule for submitting operation and maintenance documentation.

END OF SECTION **017823**

SECTION 017839 - PROJECT RECORD DOCUMENTS

PART 1 - GENERAL

1.1 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

1.2 SUMMARY

A. Section includes administrative and procedural requirements for project record documents, including the following:

1. Record Drawings.
2. Record Specifications.
3. Record Product Data.

B. Related Sections:

1. Division 01 Section "Operation and Maintenance Data" for operation and maintenance manual requirements.
2. Divisions 02 through 49 Sections for specific requirements for project record documents of the Work in those Sections.

1.3 SUBMITTALS

A. Record Drawings: Comply with the following:

1. Number of Copies: Submit one (1) set of marked-up Record Prints. Submit two (2) sets of disks with PDF electronic files of marked-up record prints.

B. Record Specifications: Submit one (1) paper copy of Project's Specifications, including addenda and contract modifications.

C. Record Product Data: Submit one (1) paper copy of each Product Data submittal.

PART 2 - PRODUCTS

2.1 RECORD DRAWINGS

A. Record Prints: Maintain one set of marked-up paper copies 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 provide information for preparation of corresponding 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. Record data as soon as possible after obtaining it.
c. Record and check the markup before enclosing concealed installations.

2. Mark the Contract Drawings and Shop Drawings completely and accurately. Utilize personnel proficient at recording graphic information in production of marked-up record prints.
3. Mark record sets with erasable, red-colored pencil. Use other colors to distinguish between changes for different categories of the Work at same location.
4. Mark all and 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 and newly prepared record Drawings into manageable sets. Bind each set with durable paper cover sheets. Include identification on cover sheets.
2. Identification: As follows:

a. Project name.
b. Date.
c. Designation "PROJECT RECORD DRAWINGS."
d. Name of Architect.
e. Name of Contractor.

2.2 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 and product options selected.
3. Record the name of manufacturer, supplier, Installer, and other information necessary to provide a record of selections made.
4. Note related Change Orders, record Product Data, and record Drawings where applicable.

B. Format: Submit record Specifications as paper copy and scanned PDF electronic file(s) of marked up paper copy of Specifications.

2.3 RECORD PRODUCT DATA

A. Preparation: Mark Product Data to indicate the actual product installation where installation varies substantially from that indicated in Product Data submittal.

1. Give particular attention to information on concealed products and installations that cannot be readily identified and recorded later.

2. 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.

B. Format: Submit record Product Data as paper copy and scanned PDF electronic file(s) of marked up paper copy of Product Data.

PART 3 - EXECUTION

3.1 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 **017839**

SECTION 024119 - SELECTIVE DEMOLITION

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Demolition and removal of selected portions of building or structure.

1.2 DEFINITIONS

A. Remove: Detach items from existing construction and legally dispose of them off-site unless indicated to be removed and salvaged or removed and reinstalled.

B. Remove and Reinstall: Detach items from existing construction, prepare for reuse, and reinstall where indicated.

C. Existing to Remain: Existing items of construction that are not to be permanently removed and that are not otherwise indicated to be removed, removed and salvaged, or removed and reinstalled.

1.3 FIELD CONDITIONS

A. Owner will occupy portions of building immediately adjacent to selective demolition area. Conduct selective demolition so Owner's operations will not be disrupted.

B. Conditions existing at time of inspection for bidding purpose will be maintained by Owner as far as practical.

C. Notify Architect of discrepancies between existing conditions and Drawings before proceeding with selective demolition.

1. materials are encountered, do not disturb; immediately notify Architect and Owner.

D. Storage or sale of removed items or materials on-site is not permitted.

E. Utility Service: Maintain existing utilities indicated to remain in service and protect them against damage during selective demolition operations.

1. Maintain fire-protection facilities in service during selective demolition operations.

1.4 WARRANTY

A. Existing Warranties: Remove, replace, patch, and repair materials and surfaces cut or damaged during selective demolition, by methods and with materials so as not to void existing warranties.

PART 2 - PRODUCTS

2.1 PEFORMANCE REQUIREMENTS

A. Regulatory Requirements: Comply with governing EPA notification regulations before beginning selective demolition. Comply with hauling and disposal regulations of authorities having jurisdiction.

B. Standards: Comply with ANSI/ASSE A10.6 and NFPA 241.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Verify that utilities have been disconnected and capped before starting selective demolition operations.

B. Survey existing conditions and correlate with requirements indicated to determine extent of selective demolition required.

C. When unanticipated mechanical, electrical, or structural elements that conflict with intended function or design are encountered, investigate and measure the nature and extent of conflict. Promptly submit a written report to Architect.

3.2 UTILITY SERVICES AND MECHANICAL/ELECTRICAL SYSTEMS

A. Existing Services/Systems to Remain: Maintain services/systems indicated to remain and protect them against damage.

1. Comply with requirements for existing services/systems interruptions specified in Section 011000 "Summary."

B. Existing Services/Systems to Be Removed, Relocated, or Abandoned: Locate, identify, disconnect, and seal or cap off indicated utility services and mechanical/electrical systems serving areas to be selectively demolished.

1. Owner will arrange to shut off indicated services/systems when requested by Contractor.
2. Arrange to shut off indicated utilities with utility companies.
3. If services/systems are required to be removed, relocated, or abandoned, provide temporary services/systems that bypass area of selective demolition and that maintain continuity of services/systems to other parts of building.
4. Disconnect, demolish, and remove fire-suppression systems, plumbing, and HVAC systems, equipment, and components indicated to be removed.

    a. Piping to Be Removed: Remove portion of piping indicated to be removed and cap or plug remaining piping with same or compatible piping material.
    b. Piping to Be Abandoned in Place: Drain piping and cap or plug piping with same or compatible piping material.
    c. Equipment to Be Removed: Disconnect and cap services and remove equipment.

d. Equipment to Be Removed and Reinstalled: Disconnect and cap services and remove, clean, and store equipment; when appropriate, reinstall, reconnect, and make equipment operational.
e. Equipment to Be Removed and Salvaged: Disconnect and cap services and remove equipment and deliver to Owner.
f. Ducts to Be Removed: Remove portion of ducts indicated to be removed and plug remaining ducts with same or compatible ductwork material.
g. Ducts to Be Abandoned in Place: Cap or plug ducts with same or compatible ductwork material.

C. Refrigerant: Remove refrigerant from mechanical equipment to be selectively demolished according to 40 CFR 82 and regulations of authorities having jurisdiction.

3.3 PREPARATION

A. Site Access and Temporary Controls: Conduct selective demolition and debris-removal operations to ensure minimum interference with roads, streets, walks, walkways, and other adjacent occupied and used facilities.

1. Comply with requirements for access and protection specified in Section 015000 "Temporary Facilities and Controls."

B. Temporary Facilities: Provide temporary barricades and other protection required to prevent injury to people and damage to adjacent buildings and facilities to remain.

C. Temporary Shoring: Provide and maintain shoring, bracing, and structural supports as required to preserve stability and prevent movement, settlement, or collapse of construction and finishes to remain, and to prevent unexpected or uncontrolled movement or collapse of construction being demolished.

3.4 SELECTIVE DEMOLITION, GENERAL

A. General: Demolish and remove existing construction only to the extent required by new construction and as indicated. Use methods required to complete the Work within limitations of governing regulations and as follows:

1. Neatly cut openings and holes plumb, square, and true to dimensions required. Use cutting methods least likely to damage construction to remain or adjoining construction. Use hand tools or small power tools designed for sawing or grinding, not hammering and chopping, to minimize disturbance of adjacent surfaces. Temporarily cover openings to remain.
2. Cut or drill from the exposed or finished side into concealed surfaces to avoid marring existing finished surfaces.
3. Do not use cutting torches until work area is cleared of flammable materials. At concealed spaces, such as duct and pipe interiors, verify condition and contents of hidden space before starting flame-cutting operations. Maintain portable fire-suppression devices during flame-cutting operations.
4. Locate selective demolition equipment and remove debris and materials so as not to impose excessive loads on supporting walls, floors, or framing.
5. Dispose of demolished items and materials promptly.

B. Removed and Reinstalled Items:

1. Clean and repair items to functional condition adequate for intended reuse.
2. Pack or crate items after cleaning and repairing. Identify contents of containers.
3. Protect items from damage during transport and storage.
4. Reinstall items in locations indicated. Comply with installation requirements for new materials and equipment. Provide connections, supports, and miscellaneous materials necessary to make item functional for use indicated.

C. Existing Items to Remain: Protect construction indicated to remain against damage and soiling during selective demolition. When permitted by Architect, items may be removed to a suitable, protected storage location during selective demolition and cleaned and reinstalled in their original locations after selective demolition operations are complete.

3.5 DISPOSAL OF DEMOLISHED MATERIALS

A. General: Except for items or materials indicated to be reused, salvaged, reinstalled, or otherwise indicated to remain Owner's property, remove demolished materials from Project site.

1. Do not allow demolished materials to accumulate on-site.
2. Remove and transport debris in a manner that will prevent spillage on adjacent surfaces and areas.
3. Remove debris from elevated portions of building by chute, hoist, or other device that will convey debris to grade level in a controlled descent.
4. Comply with requirements specified in Section 017419 "Construction Waste Management and Disposal."

B. Burning: Do not burn demolished materials.

C. Disposal: Transport demolished materials off Owner's property and legally dispose of them.

3.6 CLEANING

A. Clean adjacent structures and improvements of dust, dirt, and debris caused by selective demolition operations. Return adjacent areas to condition existing before selective demolition operations began.

END OF SECTION

SECTION 042000 - UNIT MASONRY

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Concrete masonry units (CMU's).
2. Face brick.

B. Related Sections:

1. Section 055000 "Metal Fabrications" for furnishing steel lintels and shelf angles for unit masonry.
2. Section 076200 "Sheet Metal Flashing and Trim" for furnishing manufactured reglets installed in masonry joints.

1.2 PRECONSTRUCTION TESTING

A. Preconstruction Testing Service: Owner may engage a qualified independent testing agency to perform preconstruction testing indicated below. Retesting of materials that fail to comply with specified requirements shall be done at Contractor's expense.

1. Clay Masonry Unit Test: For each type of unit required, according to ASTM C 67 for compressive strength.
2. Concrete Masonry Unit Test: For each type of unit required, according to ASTM C 140 for compressive strength.
3. Mortar Test (Property Specification): For each mix required, according to ASTM C 109 for compressive strength, ASTM C 1506 for water retention, and ASTM C 91 for air content.
4. Mortar Test (Property Specification): For each mix required, according to ASTM C 780 for compressive strength.
5. Grout Test (Compressive Strength): For each mix required, according to ASTM C 1019.

1.3 ACTION SUBMITTALS

A. Product Data: For each type of product indicated.

B. Shop Drawings: For reinforcing steel. Detail bending and placement of unit masonry reinforcing bars. Comply with ACI 315, "Details and Detailing of Concrete Reinforcement."

C. Samples for Verification: For each type and color of exposed masonry unit and colored mortar.

1.4 INFORMATIONAL SUBMITTALS

A. Material Certificates: For each type and size of product indicated. For masonry units include data on material properties and material test reports substantiating compliance with requirements.

B. Mix Designs: For each type of mortar and grout. Include description of type and proportions of ingredients.

1. Include test reports for mortar mixes required to comply with property specification. Test according to ASTM C 109 for compressive strength, ASTM C 1506 for water retention, and ASTM C 91 for air content.
2. Include test reports, according to ASTM C 1019, for grout mixes required to comply with compressive strength requirement.

1.5 QUALITY ASSURANCE

A. Masonry Standard: Comply with ACI 530.1/ASCE 6/TMS 602 unless modified by requirements in the Contract Documents.

B. Sample Panels: Build sample panels to verify selections made under sample submittals and to demonstrate aesthetic effects. Comply with requirements in Section 014000 "Quality Requirements" for mockups.

1. Build sample panels for typical exterior wall in sizes approximately 48 inches long by 48 inches high by full thickness.
2. Coordinate sample with window mock-up identified in Section 085113 as a single mock-up assembly showing all flashing and waterproofing conditions.

1.6 PROJECT CONDITIONS

A. Cold-Weather Requirements: Do not use frozen materials or materials mixed or coated with ice or frost. Do not build on frozen substrates. Remove and replace unit masonry damaged by frost or by freezing conditions. Comply with cold-weather construction requirements contained in ACI 530.1/ASCE 6/TMS 602.

B. Hot-Weather Requirements: Comply with hot-weather construction requirements contained in ACI 530.1/ASCE 6/TMS 602.

PART 2 - PRODUCTS

2.1 MASONRY UNITS, GENERAL

A. Defective Units: Referenced masonry unit standards may allow a certain percentage of units to contain chips, cracks, or other defects exceeding limits stated in the standard. Do not use units where such defects will be exposed in the completed Work.

B. Fire-Resistance Ratings: Where indicated, provide units that comply with requirements for fire-resistance ratings indicated as determined by testing according to ASTM E 119, by equivalent masonry thickness, or by other means, as acceptable to authorities having jurisdiction.

2.2 CONCRETE MASONRY UNITS

A. Shapes: Provide shapes indicated and for lintels, corners, jambs, sashes, movement joints, headers, bonding, and other special conditions.

B. CMUs: ASTM C 90.

1. Unit Compressive Strength: Provide units with minimum average net-area compressive strength of 2150 psi.
2. Density Classification: Normal weight.

2.3 MASONRY LINTELS

A. General: Provide one of the following:

B. Masonry Lintels: Prefabricated or built-in-place masonry lintels made from bond beam CMUs with reinforcing bars placed as indicated and filled with coarse grout.

2.4 BRICK

A. General: Provide shapes indicated and as follows:

1. For ends of sills and caps and for similar applications that would otherwise expose unfinished brick surfaces, provide units without cores or frogs and with exposed surfaces finished.
2. Provide special shapes for applications where shapes produced by sawing would result in sawed surfaces being exposed to view.

B. Face Brick: ASTM C 216, Grade SW, Type FBS.

1. Unit Compressive Strength: Provide units with minimum average net-area compressive strength of 3000 psi.
2. Initial Rate of Absorption: Less than 30 g/30 sq. in. per minute when tested per ASTM C 67.
3. Efflorescence: Provide brick that has been tested according to ASTM C 67 and is rated "not effloresced."
4. Size (Actual Dimensions): Match existing brick .
5. Blend as approved by Owner and Architect.

2.5 MORTAR AND GROUT MATERIALS

A. Hydrated Lime: ASTM C 207, Type S.

B. Masonry Cement: ASTM C 91.

1. Products: Subject to compliance with requirements, provide one of the following:

   a. Cemex S.A.B. de C.V.; Dixie Type S.
   b. Holcim (US) Inc.; Mortamix Masonry Cement.
   c. Lafarge North America Inc.; Magnolia Masonry Cement.

d. Lehigh Cement Company; Lehigh Masonry Cement.
e. Prior Approved equal.

C. Colored Cement Product (for brick): Packaged blend made from portland cement and hydrated lime or masonry cement and mortar pigments, all complying with specified requirements, and containing no other ingredients.

1. Colored Masonry Cement:

a. Products: Subject to compliance with requirements, provide one of the following:

1) Cemex S.A.B. de C.V.; Richcolor Masonry Cement.
2) Holcim (US) Inc.; Rainbow Mortamix Custom Color Masonry Cement.
3) Lafarge North America Inc.; U.S. Cement Custom Color Masonry Cement.
4) Lehigh Cement Company; Lehigh Custom Color Masonry Cement.
5) Prior Approved equal.

D. Aggregate for Mortar: ASTM C 144.

1. For joints less than 1/4 inch thick, use aggregate graded with 100 percent passing the No. 16 sieve.
2. White-Mortar Aggregates: Natural white sand or crushed white stone.
3. Colored-Mortar Aggregates: Natural sand or crushed stone of color necessary to produce required mortar color.

E. Aggregate for Grout: ASTM C 404.

F. Epoxy Pointing Mortar: ASTM C 395, epoxy-resin-based material formulated for use as pointing mortar for structural-clay tile facing units (and approved for such use by manufacturer of units); in color indicated or, if not otherwise indicated, as selected by Architect from manufacturer's colors.

G. Cold-Weather Admixture: Nonchloride, noncorrosive, accelerating admixture complying with ASTM C 494/C 494M, Type C, and recommended by manufacturer for use in masonry mortar of composition indicated.

1. Products: Subject to compliance with requirements, provide one of the following:

a. Euclid Chemical Company (The); Accelguard 80.
b. Grace Construction Products, W. R. Grace & Co. - Conn.; Morset.
c. Sonneborn Products, BASF Aktiengesellschaft; Trimix-NCA.
d. Prior Approved equal.

H. Water: Potable.

2.6 REINFORCEMENT

A. Uncoated Steel Reinforcing Bars: ASTM A 615 or ASTM A 996, Grade 60.

B. Masonry Joint Reinforcement, General: ASTM A 951/A 951M.

1. Interior Walls: Mill- galvanized, carbon steel.
2. Exterior Walls: Stainless steel.
3. Wire Size for Side Rods: 0.187-inch diameter.

4. Wire Size for Cross Rods: 0.187-inch diameter.
5. Wire Size for Veneer Ties: 0.187-inch diameter.
6. Spacing of Cross Rods, Tabs, and Cross Ties: Not more than 16 inches o.c.
7. Provide in lengths of not less than 10 feet, with prefabricated corner and tee units.

C. Masonry Joint Reinforcement for Single-Wythe Masonry: Either ladder or truss type with single pair of side rods.

D. Masonry Joint Reinforcement for Multiwythe Masonry:

1. Adjustable (two-piece) type, either ladder or truss design, with one side rod at each face shell of backing wythe and with separate adjustable ties with pintle-and-eye connections having a maximum adjustment of 1-1/4 inches. Size ties to extend at least halfway through facing wythe but with at least 5/8-inch cover on outside face. Ties have hooks or clips to engage a continuous horizontal wire in the facing wythe.

2.7 TIES AND ANCHORS

A. Materials: Provide ties and anchors specified in this article that are made from materials that comply with the following unless otherwise indicated.

1. Stainless Steel Wire: ASTM A 82; with ASTM A580/A, Type 304, coating.
2. Steel Plates, Shapes, and Bars: ASTM A 36.

B. Wire Ties, General: Unless otherwise indicated, size wire ties to extend at least halfway through veneer but with at least 5/8-inch cover on outside face. Outer ends of wires are bent 90 degrees and extend 2 inches parallel to face of veneer.

C. Individual Wire Ties: Rectangular units with closed ends and not less than 4 inches wide.

1. Wire: Fabricate from 3/16-inch-diameter, hot-dip stainless steel wire.

D. Adjustable Anchors for Connecting to Concrete: Provide anchors that allow vertical or horizontal adjustment but resist tension and compression forces perpendicular to plane of wall.

1. Connector Section: Dovetail tabs for inserting into dovetail slots in concrete and attached to tie section; formed from 0.060-inch-thick, steel sheet, galvanized after fabrication.
2. Tie Section: Triangular-shaped wire tie, sized to extend within 1 inch of masonry face, made from 0.187-inch-diameter, hot-dip galvanized steel wire.

E. Adjustable Masonry-Veneer Anchors:

1. General: Provide anchors that allow vertical adjustment but resist tension and compression forces perpendicular to plane of wall, for attachment over sheathing to metal studs, and as follows:

a. Structural Performance Characteristics: Capable of withstanding a 100-lbf load in both tension and compression without deforming or developing play in excess of 0.05 inch

2. Fabricate sheet metal anchor sections and other sheet metal parts from 0.075-inch-thick steel sheet, galvanized after fabrication.
3. Wire Ties: Triangular-, rectangular-, or T-shaped wire ties fabricated from 0.187-inch-diameter, stainless steel wire.

4. Screw-Attached, Masonry-Veneer Anchors, Type 1: Units consisting of a wire tie and a metal anchor section.

   a. Products: Subject to compliance with requirements, provide one of the following:

      1) Heckmann Building Products Inc.; 315-D with 316.
      2) Hohmann & Barnard, Inc.; DW-10
      3) Wire-Bond; 1004, Type III.
      4) Prior reviewed equal.

   b. Anchor Section: Rib-stiffened, sheet metal plate with screw holes top and bottom, having slotted holes for inserting wire tie.

5. Screw-Attached, Masonry-Veneer Anchors, Type 2: Units consisting of a wire tie and a metal anchor section.

   a. Products: Subject to compliance with requirements, provide one of the following:

      1) Heckmann Building Products Inc.; 213 with 282.
      2) Hohmann & Barnard, Inc.; HB-5213
      3) Wire-Bond; RJ-711.
      4) Prior reviewed equal.

   b. Anchor Section: Rib-stiffened, L-shaped sheet metal plate with screw holes, having holes for inserting pintle wire tie.

F. Anchor Bolts: Headed or L-shaped steel bolts complying with ASTM A 307, Grade A; with ASTM A 563 hex nuts and, where indicated, flat washers; hot-dip galvanized to comply with ASTM A 153, Class C; of dimensions indicated.

2.8 EMBEDDED FLASHING MATERIALS

A. Metal Flashing: Provide metal flashing complying with SMACNA's "Architectural Sheet Metal Manual" and as follows:

1. Metal Drip Edge: Fabricate from 22 gauge stainless steel. Extend at least 3 inches into wall and 1/2 inch out from wall, with outer edge bent down 30 degrees and hemmed.
2. Metal Sealant Stop: Fabricate from stainless steel. Extend at least 3 inchesinto wall and out to exterior face of wall. At exterior face of wall, bend metal back on itself for 3/4 inch and down into joint 1/4 inch to form a stop for retaining sealant backer rod.
3. Metal Expansion-Joint Strips: Fabricate from stainless steel to shapes indicated.

B. Flexible Flashing: Use one of the following unless otherwise indicated:

1. Copper-Laminated Flashing: 5-oz./sq. ft. copper sheet bonded between 2 layers of glass-fiber cloth. Use only where flashing is fully concealed in masonry.

   a. Products: Subject to compliance with requirements, provide one of the following:

      1) Advanced Building Products Inc.; Copper Fabric Flashing (thru-wall).
      2) Hohmann & Barnard, Inc.; Copper-Flex Thru-Wall Flashing.
      3) Wire-Bond; Copper Fabric Flashing (thru-wall).
      4) Prior Approved equal.

2. Interlap flexible flashing behind exterior sheathing as indicated on the drawings.

C. Solder and Sealants for Sheet Metal Flashings: As specified in Section 076200 "Sheet Metal Flashing and Trim."

D. Adhesives, Primers, and Seam Tapes for Flashings: Flashing manufacturer's standard products or products recommended by flashing manufacturer for bonding flashing sheets to each other and to substrates.

2.9 MISCELLANEOUS MASONRY ACCESSORIES

A. Compressible Filler: Premolded filler strips complying with ASTM D 1056, Grade 2A1; compressible up to 35 percent; formulated from neoprene.

B. Preformed Control-Joint Gaskets: Made from styrene-butadiene-rubber compound, complying with ASTM D 2000, Designation M2AA-805 or PVC, complying with ASTM D 2287, Type PVC-65406 and designed to fit standard sash block and to maintain lateral stability in masonry wall; size and configuration as indicated.

C. Bond-Breaker Strips: Asphalt-saturated, organic roofing felt complying with ASTM D 226, Type I (No. 15 asphalt felt).

D. Weep/Vent Products: Use one of the following unless otherwise indicated:

1. Cellular Plastic Weep/Vent: One-piece, flexible extrusion made from UV-resistant polypropylene copolymer, full height and width of head joint and depth 1/8 inch less than depth of outer wythe, in color selected from manufacturer's standard.

a. Products: Subject to compliance with requirements, provide one of the following:

1) Advanced Building Products Inc.; Mortar Maze weep vent.
2) Blok-Lok Limited; Cell-Vent.
3) Dayton Superior Corporation, Dur-O-Wal Division; Cell Vents.
4) Heckmann Building Products Inc.; No. 85 Cell Vent.
5) Hohmann & Barnard, Inc.; Quadro-Vent.
6) Wire-Bond; Cell Vent.
7) Prior Approved equal.

E. Cavity Drainage Material: Free-draining mesh, made from polymer strands that will not degrade within the wall cavity.

1. Products: Subject to compliance with requirements, provide one of the following:

a. Advanced Building Products Inc.; Mortar Break.
b. Archovations, Inc.; CavClear Masonry Mat.
c. Dayton Superior Corporation, Dur-O-Wal Division; Polytite MortarStop.
d. Mortar Net USA, Ltd.; Mortar Net.
e. Prior Approved equal.

2. Provide one of the following configurations:

a. Strips, full-depth of cavity and 10 inches high, with dovetail shaped notches 7 inches deep.

b. Strips, not less than 1 inch thick and 10 inches high, with dimpled surface designed to catch mortar droppings and prevent weep holes from clogging with mortar.

2.10 MASONRY CLEANERS

A. Proprietary Acidic Cleaner: Manufacturer's standard-strength cleaner designed for removing mortar/grout stains, efflorescence, and other new construction stains from new masonry without discoloring or damaging masonry surfaces. Use product expressly approved for intended use by cleaner manufacturer and manufacturer of masonry units being cleaned.

1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:

a. Diedrich Technologies, Inc.
b. EaCo Chem, Inc.
c. ProSoCo, Inc.
d. Prior Approved equal.

2.11 MORTAR AND GROUT MIXES

A. General: Do not use admixtures, including pigments, air-entraining agents, accelerators, retarders, water-repellent agents, antifreeze compounds, or other admixtures, unless otherwise indicated.

1. Do not use calcium chloride in mortar or grout.

B. Preblended, Dry Mortar Mix: Furnish dry mortar ingredients in form of a preblended mix. Measure quantities by weight to ensure accurate proportions, and thoroughly blend ingredients before delivering to Project site.

C. Mortar for Unit Masonry: Comply with ASTM C 270, Proportion Specification. Provide the following types of mortar for applications stated unless another type is indicated.

1. For masonry below grade or in contact with earth, use Type M.
2. For reinforced masonry, use Type S.
3. For mortar parge coats, use Type N.
4. For exterior, above-grade, load-bearing and non-load-bearing walls and parapet walls; for interior load-bearing walls; for interior non-load-bearing partitions; and for other applications where another type is not indicated, use Type N.
5. For interior non-load-bearing partitions, Type O may be used instead of Type N.

D. Pigmented Mortar: Use colored cement product or select and proportion pigments with other ingredients to produce color required. Do not add pigments to colored cement products.

1. Pigments shall not exceed 10 percent of portland cement by weight.
2. Pigments shall not exceed 5 percent of masonry cement by weight.

E. Colored-Aggregate Mortar: Produce required mortar color by using colored aggregates and natural color or white cement as necessary to produce required mortar color.

1. Mix to match Architect's sample.

F. Grout for Unit Masonry: Comply with ASTM C 476.

1. Use grout of type indicated or, if not otherwise indicated, of type (fine or coarse) that will comply with Table 1.15.1 in ACI 530.1/ASCE 6/TMS 602 for dimensions of grout spaces and pour height.
2. Proportion grout in accordance with ASTM C 476, Table 1 or paragraph 4.2.2 for specified 28-day compressive strength indicated, but not less than 2000 psi.
3. Provide grout with a slump of 8 to 11 inches as measured according to ASTM C 143.

PART 3 - EXECUTION

3.1 INSTALLATION, GENERAL

A. Use full-size units without cutting if possible. If cutting is required to provide a continuous pattern or to fit adjoining construction, cut units with motor-driven saws; provide clean, sharp, unchipped edges. Allow units to dry before laying unless wetting of units is specified. Install cut units with cut surfaces and, where possible, cut edges concealed.

B. Select and arrange units for exposed unit masonry to produce a uniform blend of colors and textures.

C. Wetting of Brick: Wet brick before laying if initial rate of absorption exceeds 30 g/30 sq. in. per minute when tested per ASTM C 67. Allow units to absorb water so they are damp but not wet at time of laying.

3.2 TOLERANCES

A. Dimensions and Locations of Elements:

1. For dimensions in cross section or elevation do not vary by more than plus 1/2 inch or minus 1/4 inch.
2. For location of elements in plan do not vary from that indicated by more than plus or minus 1/2 inch.
3. For location of elements in elevation do not vary from that indicated by more than plus or minus 1/4 inch in a story height or 1/2 inch total.

B. Lines and Levels:

1. For bed joints and top surfaces of bearing walls do not vary from level by more than 1/4 inch in 10 feet, or 1/2 inch maximum.
2. For conspicuous horizontal lines, such as lintels, sills, parapets, and reveals, do not vary from level by more than 1/8 inch in 10 feet, 1/4 inch in 20 feet, or 1/2 inchmaximum.
3. For vertical lines and surfaces do not vary from plumb by more than 1/4 inch in 10 feet, 3/8 inch in 20 feet, or 1/2 inch maximum.
4. For conspicuous vertical lines, such as external corners, door jambs, reveals, and expansion and control joints, do not vary from plumb by more than 1/8 inch in 10 feet, 1/4 inch in 20 feet, or 1/2 inch maximum.
5. For lines and surfaces do not vary from straight by more than 1/4 inch in 10 feet, 3/8 inch in 20 feet, or 1/2 inch maximum.

C. Joints:

1. For bed joints, do not vary from thickness indicated by more than plus or minus 1/8 inch, with a maximum thickness limited to 1/2 inch.
2. For head and collar joints, do not vary from thickness indicated by more than plus 3/8 inch or minus 1/4 inch.
3. For exposed head joints, do not vary from thickness indicated by more than plus or minus 1/8 inch.

3.3 LAYING MASONRY WALLS

A. Lay out walls in advance for accurate spacing of surface bond patterns with uniform joint thicknesses and for accurate location of openings, movement-type joints, returns, and offsets. Avoid using less-than-half-size units, particularly at corners, jambs, and, where possible, at other locations.

B. Bond Pattern for Exposed Masonry: Unless otherwise indicated, lay exposed masonry in running bond; do not use units with less than nominal 4-inch horizontal face dimensions at corners or jambs.

C. Built-in Work: As construction progresses, build in items specified in this and other Sections. Fill in solidly with masonry around built-in items.

D. Fill space between steel frames and masonry solidly with mortar unless otherwise indicated.

E. Fill cores in hollow CMUs with grout 24 inches under bearing plates, beams, lintels, posts, and similar items unless otherwise indicated.

3.4 MORTAR BEDDING AND JOINTING

A. Lay hollow CMUs as follows:

1. With face shells fully bedded in mortar and with head joints of depth equal to bed joints.
2. With webs fully bedded in mortar in all courses of piers, columns, and pilasters.
3. With webs fully bedded in mortar in grouted masonry, including starting course on footings.
4. With entire units, including areas under cells, fully bedded in mortar at starting course on footings where cells are not grouted.

B. Lay solid masonry units with completely filled bed and head joints; butter ends with sufficient mortar to fill head joints and shove into place. Do not deeply furrow bed joints or slush head joints.

C. Tool exposed joints slightly concave when thumbprint hard, using a jointer larger than joint thickness unless otherwise indicated.

D. Cut joints flush for masonry walls to receive plaster or other direct-applied finishes (other than paint) unless otherwise indicated.

3.5 COMPOSITE MASONRY

A. Bond wythes of composite masonry together using the following method:

1. Masonry Joint Reinforcement: Installed in horizontal mortar joints.

    a. Use adjustable (two-piece) type reinforcement.

B. Collar Joints: Solidly fill collar joints by parging face of first wythe that is laid and shoving units of other wythe into place.

C. Corners: Provide interlocking masonry unit bond in each wythe and course at corners unless otherwise indicated.

D. Intersecting and Abutting Walls: Unless vertical expansion or control joints are shown at juncture, bond walls together as follows:

1. Provide individual metal ties not more than 16 inches o.c.
2. Provide continuity with masonry joint reinforcement by using prefabricated T-shaped units.
3. Provide rigid metal anchors not more than 24 inches o.c. If used with hollow masonry units, embed ends in mortar-filled cores.

3.6 CAVITY WALLS

A. Bond wythes of cavity walls together using the following method:

1. Masonry Joint Reinforcement: Installed in horizontal mortar joints.

    a. Use adjustable (two-piece) type reinforcement.

B. Keep cavities clean of mortar droppings and other materials during construction. Bevel beds away from cavity, to minimize mortar protrusions into cavity. Do not attempt to trowel or remove mortar fins protruding into cavity.

C. Apply air barrier to face of backup wythe to comply with Section 072726 "Fluid-Applied Membrane Air Barriers."

3.7 MASONRY JOINT REINFORCEMENT

A. General: Install entire length of longitudinal side rods in mortar with a minimum cover of 5/8 inch on exterior side of walls, 1/2 inch elsewhere. Lap reinforcement a minimum of 6 inches.

1. Space reinforcement not more than 16 inches o.c.
2. Space reinforcement not more than 8 inches o.c. in foundation walls and parapet walls.
3. Provide reinforcement not more than 8 inches above and below wall openings and extending 12 inches beyond openings.

B. Interrupt joint reinforcement at control and expansion joints unless otherwise indicated.

C. Provide continuity at wall intersections by using prefabricated T-shaped units.

D. Provide continuity at corners by using prefabricated L-shaped units.

3.8 ANCHORING MASONRY TO CONCRETE

A. Anchor masonry to concrete where masonry abuts or faces concrete to comply with the following:

1. Provide an open space not less than 1 inch wide between masonry and concrete unless otherwise indicated. Keep open space free of mortar and other rigid materials.
2. Anchor masonry with anchors embedded in masonry joints and attached to structure.
3. Space anchors as indicated, but not more than 24 inches o.c. vertically and 36 inches o.c. horizontally.

3.9 ANCHORING MASONRY VENEERS

A. Anchor masonry veneers to wall framing with masonry-veneer anchors to comply with the following requirements:

1. Fasten screw-attached anchors through sheathing to wall framing with metal fasteners of type indicated. Use two fasteners unless anchor design only uses one fastener.
2. Embed connector sections and continuous wire in masonry joints. Provide not less than 2 inches of air space between back of masonry veneer and face of sheathing.
3. Locate anchor sections to allow maximum vertical differential movement of ties up and down.
4. Space anchors as indicated, but not more than 16 inches o.c. vertically and 16 inches o.c. horizontally with not less than 1 anchor for each 2.67 sq. ft. of wall area. Install additional anchors within 12 inches of openings and at intervals, not exceeding 36 inches, around perimeter.

3.10 FLASHING, WEEP HOLES, CAVITY DRAINAGE, AND VENTS

A. General: Install embedded flashing and weep holes in masonry at shelf angles, lintels, ledges, other obstructions to downward flow of water in wall, and where indicated.

B. Install flashing as follows unless otherwise indicated:

1. Prepare masonry surfaces so they are smooth and free from projections that could puncture flashing. Where flashing is within mortar joint, place through-wall flashing on sloping bed of mortar and cover with mortar. Before covering with mortar, seal penetrations in flashing with adhesive, sealant, or tape as recommended by flashing manufacturer.
2. At lintels and shelf angles, extend flashing a minimum of 6 inchesinto masonry at each end. At heads and sills, extend flashing 6 inches at ends and turn up not less than 2 inches to form end dams.

C. Install weep holes in head joints in exterior wythes of first course of masonry immediately above embedded flashing and as follows:

1. Use specified weep/vent products to form weep holes.
2. Space weep holes 24 inches o.c. unless otherwise indicated.
3. Cover cavity side of weep holes with plastic insect screening at cavities insulated with loose-fill insulation.

D. Place cavity drainage material in cavities to comply with configuration requirements for cavity drainage material in "Miscellaneous Masonry Accessories" Article.

E. When laying masonry, suspend a wooden board (mortar catch) in cavity on string set no more than 3 courses below brick being laid at all times. Raise mortar catch as wall is laid, cleaning off mortar caught by board every time it is raised.

3.11 REINFORCED UNIT MASONRY INSTALLATION

A. Temporary Formwork and Shores: Construct formwork and shores as needed to support reinforced masonry elements during construction.

1. Construct formwork to provide shape, line, and dimensions of completed masonry as indicated. Make forms sufficiently tight to prevent leakage of mortar and grout. Brace, tie, and support forms to maintain position and shape during construction and curing of reinforced masonry.
2. Do not remove forms and shores until reinforced masonry members have hardened sufficiently to carry their own weight and other loads that may be placed on them during construction.

B. Placing Reinforcement: Comply with requirements in ACI 530.1/ASCE 6/TMS 602.

C. Grouting: Do not place grout until entire height of masonry to be grouted has attained enough strength to resist grout pressure.

1. Comply with requirements in ACI 530.1/ASCE 6/TMS 602 for cleanouts and for grout placement, including minimum grout space and maximum pour height.
2. Limit height of vertical grout pours to not more than 60 inches.

3.12 FIELD QUALITY CONTROL

A. Testing and Inspecting: Owner may engage special inspectors to perform tests and inspections and prepare reports. Allow inspectors access to scaffolding and work areas, as needed to perform tests and inspections. Retesting of materials that fail to comply with specified requirements shall be done at Contractor's expense.

B. Inspections: Level 1 special inspections according to the "International Building Code."

1. Begin masonry construction only after inspectors have verified proportions of site-prepared mortar.
2. Place grout only after inspectors have verified compliance of grout spaces and of grades, sizes, and locations of reinforcement.
3. Place grout only after inspectors have verified proportions of site-prepared grout.

C. Testing Prior to Construction: One set of tests.

D. Testing Frequency: One set of tests for each 5000 sq. ft. of wall area or portion thereof.

E. Clay Masonry Unit Test: For each type of unit provided, according to ASTM C 67 for compressive strength.

F. Concrete Masonry Unit Test: For each type of unit provided, according to ASTM C 140 for compressive strength.

G. Mortar Aggregate Ratio Test (Proportion Specification): For each mix provided, according to ASTM C 780.

H. Mortar Test (Property Specification): For each mix provided, according to ASTM C 780. Test mortar for mortar air content and compressive strength.

I. Grout Test (Compressive Strength): For each mix provided, according to ASTM C 1019.

3.13 REPAIRING, POINTING, AND CLEANING

A. In-Progress Cleaning: Clean unit masonry as work progresses by dry brushing to remove mortar fins and smears before tooling joints.

B. Final Cleaning: After mortar is thoroughly set and cured, clean exposed masonry as follows:

1. Test cleaning methods on sample wall panel; leave one-half of panel uncleaned for comparison purposes.
2. Protect surfaces from contact with cleaner.
3. Wet wall surfaces with water before applying cleaners; remove cleaners promptly by rinsing surfaces thoroughly with clear water.
4. Clean brick by bucket-and-brush hand-cleaning method described in BIA Technical Notes 20.
5. Clean masonry with a proprietary acidic cleaner applied according to manufacturer's written instructions.
6. Clean concrete masonry by cleaning method indicated in NCMA TEK 8-2A applicable to type of stain on exposed surfaces.

3.14 MASONRY WASTE DISPOSAL

A. Excess Masonry Waste: Remove excess clean masonry waste that cannot be used as fill, as described above, and other masonry waste, and legally dispose of off Owner's property.

END OF SECTION

SECTION 064113 - WOOD-VENEER-FACED ARCHITECTURAL CABINETS

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Wood-veneer-faced architectural cabinets.
2. Wood furring, blocking, shims, and hanging strips for installing architectural cabinets that are not concealed within other construction.
3. Shop finishing of architectural cabinets.
4. Milwork Reveal Base

1.2 PREINSTALLATION MEETINGS

A. Preinstallation Conference: Conduct conference at Project site.

1.3 ACTION SUBMITTALS

A. Product Data: For each type of product.

1. Include data for fire-retardant treatment from chemical-treatment manufacturer and certification by treating plant that treated materials comply with requirements.

B. Shop Drawings: For architectural cabinets.

1. Include plans, elevations, sections, and attachment details.

C. Samples: For each exposed product and for each color and finish specified.

1.4 INFORMATIONAL SUBMITTALS

A. Qualification Data: For manufacturer.

B. Research reports.

C. Field quality control reports.

1.5 QUALITY ASSURANCE

A. Manufacturer's Qualifications: Employs skilled workers who custom fabricate products similar to those required for this Project and whose products have a record of successful in-service performance.

PART 2 - PRODUCTS

2.1 CABINETS, GENERAL

A. Quality Standard: Unless otherwise indicated, comply with the Architectural Woodwork Standards for grades of architectural cabinets indicated for construction, finishes, installation, and other requirements.

2.2 WOOD CABINETS FOR TRANSPARENT FINISH

A. Architectural Woodwork Standards Grade: Custom.

B. Type of Construction: Frameless.

C. Door and Drawer-Front Style: Reveal overlay.

1. Reveal Dimension: 1/2 inch.

D. Wood for Exposed Surfaces: As indicated on Drawings.

1. Species: Red Oak.
2. Cut: Rift cut/rift sawn.
3. Grain Direction: Vertically for doors and fixed panels, horizontally for drawer fronts.
4. Matching of Veneer Leaves: Book match.
5. Veneer Matching within Panel Face: Running match.

E. Drawer Construction: Fabricate with exposed fronts fastened to subfront with mounting screws from interior of body.

1. Join subfronts, backs, and sides with glued rabbeted joints supplemented by mechanical fasteners glued dovetail joints.

2.3 WOOD MATERIALS

A. Wood Products: Provide materials that comply with requirements of referenced quality standard for each type of architectural cabinet and quality grade specified unless otherwise indicated.

1. Do not use plain-sawn softwood lumber with exposed, flat surfaces more than 3 inches wide.
2. Wood Moisture Content: 5 to 10 percent.

B. Composite Wood and Agrifiber Products: Provide materials that comply with requirements of referenced quality standard for each type of architectural cabinet and quality grade specified unless otherwise indicated.

C. Composite Wood Products: Products shall be made without urea formaldehyde.

1. MDF: ANSI A208.2, Grade 130.
2. Softwood Plywood: DOC PS 1, medium-density overlay.
3. Veneer-Faced Panel Products (Hardwood Plywood): HPVA HP-1.

4. Thermoset Decorative Panels: Particleboard or MDF finished with thermally fused, melamine-impregnated decorative paper and complying with requirements of NEMA LD 3, Grade VGL, for Test Methods 3.3, 3.4, 3.6, 3.8, and 3.10.

2.4 FIRE-RETARDANT-TREATED MATERIALS

A. Fire-Retardant-Treated Materials, General: Where fire-retardant-treated materials are indicated, use materials that are acceptable to authorities having jurisdiction as determined by testing performed on identical products by a qualified testing agency.

1. Use treated materials that comply with requirements of referenced quality standard. Do not use materials that are warped, discolored, or otherwise defective.
2. Use fire-retardant-treatment formulations that do not bleed through or otherwise adversely affect finishes. Do not use colorants to distinguish treated materials from untreated materials.
3. Identify fire-retardant-treated materials with appropriate classification marking of qualified testing agency in the form of removable paper label or imprint on surfaces that will be concealed from view after installation.

2.5 CABINET HARDWARE AND ACCESSORIES

A. General: Provide cabinet hardware and accessory materials associated with architectural cabinets except for items specified in Section 087100 "Door Hardware."

1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:

   a. Accuride International.
   b. Blum, Julius & Co., Inc.
   c. CompX International, Inc.
   d. Hettich America L.P.
   e. Knape & Vogt Manufacturing Company.
   f. Prior Approved Equal

B. Butt Hinges: 2-3/4-inch, five-knuckle steel hinges made from 0.095-inch- thick metal, and as follows:

1. Semiconcealed Hinges for Flush Doors: BHMA A156.9, B01361.
2. Semiconcealed Hinges for Overlay Doors: BHMA A156.9, B01521.

C. Frameless Concealed Hinges (European Type): BHMA A156.9, B01602, 100 135 170 degrees of opening, self-closing.

D. Back-Mounted Pulls: BHMA A156.9, B02011.

E. Wire Pulls: Back mounted, solid metal plastic, 5 inches long, 2-1/2 inches deep, and 5/16 inch in diameter.

F. Catches: Push-in magnetic catches, BHMA A156.9, B03131.

G. Adjustable Shelf Standards and Supports: BHMA A156.9, B04071; with shelf rests, B04081.

H. Shelf Rests: BHMA A156.9, B04013; metal.

I. Drawer Slides: BHMA A156.9.

1. Grade 1 and Grade 2: Side mounted and extending under bottom edge of drawer.

   a. Type: Full extension.
   b. Material: Zinc-plated steel with polymer rollers.

2. Grade 1HD-100 and Grade 1HD-200: Side mounted; full full-overtravel-extension type; zinc-plated-steel, ball-bearing slides.
3. For drawers not more than 3 inches high and not more than 24 inches wide, provide Grade 1.
4. For drawers more than 3 inches high, but not more than 6 inches high and not more than 24 inches wide, provide Grade 1.
5. For drawers more than 6 inches high or more than 24 inches wide, provide Grade 1HD-200.
6. For computer keyboard shelves, provide Grade 1HD-100.
7. For trash bins not more than 20 inches high and 16 inches wide, provide Grade 1HD-200.

J. Slides for Sliding Glass Doors: BHMA A156.9, B07063; aluminum.

K. Door Locks: BHMA A156.11, E07121 equal to Stanley Security Solutions 5C series mortise deadbolt with interchangeable core, with A-451 strike. Right or left hand. Key same as classroom door in which cabinet is located.

L. Drawer Locks: BHMA A156.11, E07041.

M. Door and Drawer Silencers: BHMA A156.16, L03011.

N. Tempered Float Glass for Cabinet Doors: ASTM C 1048, Kind FT, Condition A, Type I, Class 1 (clear), Quality-Q3, 6 mm thick unless otherwise indicated.

1. Unframed Glass Doors: Seam exposed edges seamed before tempering.

O. Grommets for Cable Passage: 2-inch OD, molded-plastic grommets and matching plastic caps with slot for wire passage.

1. Color: Black Insert color.

P. Exposed Hardware Finishes: For exposed hardware, provide finish that complies with BHMA A156.18 for BHMA finish number indicated.

1. Satin Stainless Steel: BHMA 630.

Q. For concealed hardware, provide manufacturer's standard finish that complies with product class requirements in BHMA A156.9.

R. Fry Reglet Corp. 4" Millwork Reveal Base - Fry Reglet -MWRB50400

1. 1/2" -4" millwork reveal metal base.
2. Clear Anodized.

2.6 MISCELLANEOUS MATERIALS

A. Furring, Blocking, Shims, and Hanging Strips: Softwood or hardwood lumber, kiln-dried to less than 15 percent moisture content.

B. Anchors: Select material, type, size, and finish required for each substrate for secure anchorage. Provide metal expansion sleeves or expansion bolts for post-installed anchors. Use nonferrous-metal or hot-dip galvanized anchors and inserts at inside face of exterior walls and at floors.

C. Adhesives: Do not use adhesives that contain urea formaldehyde.

D. Adhesives: Use adhesives that meet the testing and product requirements of the California Department of Public Health's "Standard Method for the Testing and Evaluation of Volatile Organic Chemical Emissions from Indoor Sources Using Environmental Chambers."

2.7 FABRICATION

A. Sand fire-retardant-treated wood lightly to remove raised grain on exposed surfaces before fabrication.

B. Complete fabrication, including assembly and hardware application, to maximum extent possible before shipment to Project site. Disassemble components only as necessary for shipment and installation. Where necessary for fitting at site, provide ample allowance for scribing, trimming, and fitting.

C. Shop-cut openings to maximum extent possible to receive hardware, appliances, electrical work, and similar items. Locate openings accurately and use templates or roughing-in diagrams to produce accurately sized and shaped openings. Sand edges of cutouts to remove splinters and burrs.

D. Install glass to comply with applicable requirements in Section 088000 "Glazing" and in GANA's "Glazing Manual."

1. For glass in wood frames, secure glass with removable stops.
2. For exposed glass edges, polish and grind smooth.

2.8 SHOP FINISHING

A. General: Finish architectural cabinets at manufacturer's shop as specified in this Section. Defer only final touchup, cleaning, and polishing until after installation.

B. General: Shop finish transparent-finished architectural cabinets at manufacturer's shop as specified in this Section. See Section 099123 "Interior Painting" for field finishing of opaque-finished architectural cabinets.

C. General: Drawings indicate items that are required to be shop finished. Finish these items at manufacturer's shop as specified in this Section. See Section 099300 "Staining and Transparent Finishing" for field finishing of architectural cabinets.

D. Shop Priming: Shop apply the prime coat including backpriming, if any, for transparent-finished items specified to be field finished. See Section 099123 "Interior Painting" Section 099300 "Staining and Transparent Finishing" for material and application requirements.

E. Preparation for Finishing: Comply with referenced quality standard for sanding, filling countersunk fasteners, sealing concealed surfaces, and similar preparations for finishing architectural cabinets, as applicable to each unit of work.

1. Backpriming: Apply one coat of sealer or primer, compatible with finish coats, to concealed surfaces of cabinets.

F. Transparent Finish:

1. Architectural Woodwork Standards Grade: Premium Custom Economy Same as item to be finished.
2. Finish: System - 1, nitrocellulose lacquer 2, precatalyzed lacquer 3, postcatalyzed lacquer 4, water-based latex acrylic 5, conversion varnish 6, synthetic penetrating oil 7, catalyzed vinyl 8, water-based crosslinking acrylic 9, UV-curable acrylated epoxy, polyester, or urethane 10, water-based UV curable 11, catalyzed polyurethane 12, water-based polyurethane 13, catalyzed polyester.
3. Wash Coat for Closed-Grain Woods: Apply wash-coat sealer to cabinets made from closed-grain wood before staining and finishing.
4. Staining: None required Match approved sample for color Match Architect's sample.
5. Open Finish for Open-Grain Woods: Do not apply filler to open-grain woods.
6. Filled Finish for Open-Grain Woods: After staining, apply wash-coat sealer and allow to dry. Apply paste wood filler and wipe off excess. Tint filler to match stained wood.
7. Sheen: Flat, 15-30 Satin, 31-45 Semigloss, 46-60 Gloss, 61-100 gloss units measured on 60-degree gloss meter per ASTM D 523.

PART 3 - EXECUTION

3.1 INSTALLATION

A. Before installation, condition cabinets to humidity conditions in installation areas for not less than 72 hours.

B. Architectural Woodwork Standards Grade: Install cabinets to comply with quality standard grade of item to be installed.

C. Anchor cabinets to anchors or blocking built in or directly attached to substrates. Secure with countersunk, concealed fasteners and blind nailing. Use fine finishing nails or finishing screws for exposed fastening, countersunk and filled flush with cabinet surface.

1. For shop-finished items, use filler matching finish of items being installed.

D. Install cabinets level, plumb, and true in line to a tolerance of 1/8 inch in 96 inchesusing concealed shims.

1. Scribe and cut cabinets to fit adjoining work, refinish cut surfaces, and repair damaged finish at cuts.

2. Install cabinets without distortion so doors and drawers fit openings and are accurately aligned. Adjust hardware to center doors and drawers in openings and to provide unencumbered operation. Complete installation of hardware and accessory items as indicated.
3. Maintain veneer sequence matching of cabinets with transparent finish.
4. Fasten wall cabinets through back, near top and bottom, and at ends not more than 16 inches o.c. with No. 10 wafer-head sheet metal screws through metal backing or metal framing behind wall finish.

E. Shop Finishes: Touch up finishing after installation of architectural cabinets. Fill nail holes with matching filler.

F. Field Finishing: See Section 099300 "Staining and Transparent Finishing" for finishing of installed architectural cabinets.

3.2 FIELD QUALITY CONTROL

A. Inspections: Provide inspection of installed Work , including installation, complies with requirements of the Architectural Woodwork Standards for the specified grade.

END OF SECTION **064113**

SECTION 072619 – MOISTURE VAPOR EMISSION SYSTEM

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings, general provisions of the Contract, and other related construction documents such as Division 01, Division 03, and Division 09 specifications that apply to this Section

1.2 SUMMARY

A. This Section includes a single-coat, fast-curing, 100% solids epoxy moisture management system formulated to suppress excessive moisture vapor emissions in new or existing concrete prior to installing an ARDEX Underlayment.

1. ARDEX MC™ RAPID One-Coat Moisture Control System
2. ARDEX ArdiFix™ Two-Part, Low Viscosity Rigid Polyurethane
3. ARDEX AridSeal™ Rapid Plus Fast Setting Semi-Rigid Joint Sealant
4. ARDEX K 301™ Self-Leveling Exterior Concrete Topping
5. ARDEX MRP™ Moisture Resistant Patch
6. ARDEX HC 100R¢High-Capacity Rapid Self-Leveling Underlayment
7. ARDEX HC 100™ High-Capacity Self-Leveling Underlayment
8. ARDEX K15® Premium Self-Leveling Underlayment
9. ARDEX V1200™ Self-Leveling Flooring Underlayment

B. Related Sections include the following:

1. Section 033000, Cast-In-Place Concrete
2. Section 035400, Hydraulic Cement Underlayment for Existing Concrete Floors
3. Section 072600, Vapor Retarder
4. Division 09 Flooring Sections

1.3 REFERENCES

A. ASTM 109M, Compressive Strength Air-Cure Only

B. ASTM C348, Flexural Strength of Hydraulic-Cement Mortars

C. ASTM E84, Surface Burning Characteristics of Building Materials

D. ASTM F2170 - Relative Humidity in Concrete Floor Slabs Using in situ Probes

E. ASTM F1869 - Moisture Vapor Emission Rate of Concrete Subfloor Using Anhydrous Calcium Chloride

F. ASTM 710 - Standard Practice for Preparing Concrete Floors to Receive Resilient Flooring

G. ASTM C1708 – 12 Standard Test Methods for Self-Leveling Mortars Containing Hydraulic Cements

H. ASTM C1583 - Standard Test Method for Tensile Strength of Concrete Surfaces and the Bond Strength or Tensile Strength of Concrete Repair and Overlay Materials by Direct Tension

I. ASTM E96 - Standard Test Methods for Water Vapor Transmission of Materials

J. ASTM D1308 - Chemical Resistance of Finishes

1.4 SUBMITTALS

A. Product Data: Submit manufacturer's product data and installation instructions for each material and product used. Include manufacturer's Material Safety Data Sheets.

B. Qualification Data: For Installer

1.5 QUALITY ASSURANCE

A. Installation of the ARDEX product must be completed by a certified applicator, such as an ARDEX LevelMaster® Elite or Choice Contractor, using mixing equipment and tools approved by the manufacturer. Please contact ARDEX Engineered Cements (724) 203-5000 for a list of recommended installers.

B. Manufacturer Experience: Products used for work in this section shall be manufactured by companies which have successfully specialized in production of this type of work for not less than 10 years. Contact Manufacturer Representative prior to installation.

1.6 WARRANTY

A. Certified applicator must file a pre-installation checklist with the manufacturer and receive written confirmation of the approval to proceed in order to obtain the extended 10-year ARDEX MC™ RAPID Warranty.

B. ARDEX ARDIFLO™ Pump System Underlayments installed as part of a floor system, shall be installed in conjunction with the recommended ARDEX Tile & Stone Installation Materials or WW Henry Flooring Adhesive, as appropriate, to provide the ARDEX SystemOne 10-year comprehensive warranty.

1.7 DELIVERY, STORAGE AND HANDLING

A. Deliver products in original packaging, labeled with product identification, manufacturer, batch number and shelf life.

B. Store products in a dry area with temperature maintained between 50° and 85° F (10° and 29°

1. and Protect from direct sunlight.

C. Handle products in accordance with manufacturer's printed recommendations.

1.8 PROJECT CONDITIONS

A. Do not install material below 50° F (10° C) surface and air temperatures. These temperatures must also be maintained during and for 48 hours after the installation of products included in this section. Install quickly if substrate is warm and follow warm weather instructions available from the ARDEX Technical Service Department.

PART 2 - PRODUCTS

2.1 TOPICAL MOISTURE VAPOR EMMISION SYSTEM

A. One-Coat Moisture Control System for Concrete to Receive ARDEX Underlayments and Toppings

Acceptable Products:

1. ARDEX MC™ RAPID; Manufactured by ARDEX Engineered Cements: 400 Ardex Park Drive, Aliquippa, Pa 15001 USA 724-203-5000

   a. Performance and Physical Properties: Meet or exceed the following values for material cured at 70° F+/-3°F (21° C+/-3°C) and 50% +/-5%relative humidity:

      1) Application: Manual
      2) Material Requirements on CSP 3 Prepared Concrete: Max 270 sq. ft. per mixed unit for 10 mils
      3) Permeability (ASTM E96): <0.1 perms
      4) 14 pH solution (ASTM D1308): No effect
      5) Working Time: 20 minutes
      6) Pot Life: 20 minutes
      7) VOC: 0g/L, calculated SCAQMD 1168
      8) Walkable: Minimum of 4 hours
      9) Prime and Install Underlayment: Minimum 4 hours, maximum 24 hours

2.2 HYDRAULIC CEMENT UNDERLAYMENT

A. Hydraulic Cement-based Self-Leveling Underlayment.

1. Acceptable Products:

   a. ARDEX HC 100R™ High Capacity Rapid Self-Leveling Underlayment; Manufactured by ARDEX Engineered Cements: 400 Ardex Park Drive, **Aliquippa, Pa 15001 USA, (724) 203-5000,** www.ardexamericas.com

      1) Primer: ARDEX P 82™ Ultra Prime
      ARDEX HC 100™ High Capacity Self-Leveling Underlayment
      2) Primer: ARDEX P 82™ Ultra Prime
      ARDEX K15® Premium Self-Leveling Underlayment
      3) Primer: ARDEX P 82™ Ultra Price
      ARDEX V1200™ Self-Leveling Flooring Underlayment
      4) Primer: ARDEX P 82™ Ultra Prime

2. Performance and Physical Properties: Meet or exceed the following values for material cured at 70° F+/-3°F (21° C+/-3°C) and 50% +/-5% relative humidity:

a. Application: ARDEX ARDIFLO™ Pump System
b. Flow Time: 10 minutes
c. Initial Set: Approx. 30 minutes
d. Final Set: Approx. 90 minutes
e. Compressive Strength: Minimum 4000 psi at 28 days, ASTM C109M.
f. Flexural Strength: 1000 psi at 28 days, ASTM C78.
g. VOC: 0 g/l, calculated SCAQMD 1168

2.3 WATER: Water shall be clean, potable, and sufficiently cool (not warmer than 70°F).

PART 3 - –EXECUTION

3.1 PREPARATION

A. Concrete Subfloors: Prepare substrate in accordance with manufacturer's instructions.

1. Prior to proceeding please refer to ASTM F710 Standard Practice for Preparing Concrete Floors to Receive Resilient Flooring. All concrete subfloors must be sound, solid, clean, and free of all oil, grease, dirt, curing compounds and any substance that might act as a bond breaker before application.
2. Mechanical preparation of the surface is required to obtain a minimum ICRI concrete surface profile of 3 (CSP 3).
3. Prior to beginning the installation, measure the relative humidity within the concrete (ASTM F2170). Alternatively, you can also measure the surface relative humidity in accordance with ASTM F2420. For these relative humidity methods, the RH shall not exceed 100%.
4. If the concrete substrate is too uneven to provide a uniform film thickness of the ARDEX MC™ RAPID (typically CSP 6 or higher), the substrate can be pre-smoothed using ARDEX K 301™ Self-Leveling Exterior Concrete Topping or ARDEX MRP™ Moisture Resistant Patch.

B. Joint Preparation

1. Moving Joints – honor all expansion and isolation joints up through the moisture mitigation system and underlayment. A flexible sealing compound such as ARDEX ArdiSeal™ Rapid Plus may be installed.
2. Saw Cuts and Control Joints – fill all non-moving joints with ARDEX ArdiFix™ Joint Filler or ARDEX SD-F™ Feather Finish® as recommended by the manufacturer.

3.2 APPLICATION OF ARDEX MC™ RAPID:

A. Examine substrates and conditions under which materials will be installed. Do not proceed with installation until unsatisfactory conditions are corrected.

B. Coordinate installation with adjacent work to ensure proper sequence of construction. Protect adjacent areas from contact due to mixing and handling of materials.

C. Mixing: Comply with manufacturer's printed instructions and the following.

1. Each individual 22 lb. unit contains separate, pre-measured quantities of hardener (Part B) and the resin (Part A). After opening each container, stir the individual components thoroughly as described in (2) below before blending. The hardening agent (Part B) is added to the resin (Part A).
2. Pour all of the hardener into the resin portion and stir thoroughly for a minimum of 3 minutes using a low speed drill and an epoxy mixing paddle. Once mixed, pour some of the epoxy back into the hardener container, stir for 10 seconds, and then pour all of the contents back into the resin container. Mix for an additional 30 seconds before applying.

D. Application: Comply with manufacturer's printed instructions and the following.

1. Apply a coat of freshly mixed ARDEX MC™ RAPID to the prepared concrete surface in a uniform direction at an application rate of up to 270 sq. ft. per unit to achieve a coating thickness of 10 mils. Use a short-nap paint roller or notched squeegee for smoother surfaces, and a longer nap roller for more uneven substrates. To minimize the potential for pinhole formation, work the ARDEX MC™ RAPID into the surface with the roller to ensure maximum penetration. ARDEX MC™ RAPID can also be worked into the surface with a paintbrush for hard to reach areas and corners. Once the area is completely coated, allow to dry for a minimum of 4 hours (max. 24 hours). It is not necessary to re-test the substrate for moisture emissions prior to installing the floor covering.
2. For ARDEX Underlayment applications greater than 1/4” (6 mm), or if the ARDEX MC™ RAPID was not worked into the surface sufficiently enough to prevent pinholes, a second coat with sand broadcast is needed. No ARDEX P 82™ ULTRA PRIME is required for a second coat.

   a. Working at a 90° angle to the direction the first coat was applied; apply the ARDEX MC™ RAPID at a coverage rate of 10 mils. While this coat is still in a fresh state (maximum 20 minutes), broadcast an excess of fine sand (less than 1/50 of an inch in grain size or 98.5% passing sieve size #35 or #30) consistently over the entire area.

      Note: When broadcasting sand, use a NIOSH approved dust mask in conformance with OSHA requirements regarding the handling of sand. Do not stand or walk on the freshly applied epoxy when broadcasting the sand.

   b. Once an area has been completely covered with sand, the surface of the sand can be walked on, being careful not to expose the epoxy at any time. Use approximately 1 lb. of sand per square foot of area. Once the sand broadcast is complete, avoid all traffic over the surface for a minimum of 4 hours.
   c. After 4 hours, broom sweep and vacuum the surface to remove all loose sand. The clean, prepared surface of the sand is the priming system for the ARDEX Underlayment. No additional priming is required.
   d. Following the application of MC RAPID and primer or second coat of MC Rapid and sand broadcast, install ARDEX ARDIFLO™ Pump System Underlayment in accordance with printed instructions found in the corresponding technical brochure.
   e. It is not necessary to re-test the substrate for moisture emissions prior to installing the coating or floor covering.

3.3 FIELD QUALITY CONTROL

A. Where specified, field sampling of the ARDEX products is to be done by taking an entire unopened bag/unit of the product being installed to an independent testing facility to perform testing. There is no in-situ test method applicable for this system.

3.4 PROTECTION

A. Prior to the installation of the finish flooring, the surface of the underlayment should be protected from abuse by other trades by the use of plywood, Masonite or other suitable protection course.

END OF SECTION

SECTION 081113 - HOLLOW METAL FRAMES

PART 1 - GENERAL

1.1 SUMMARY

A. Section includes hollow-metal door frames.

1.2 DEFINITIONS

A. Minimum Thickness: Minimum thickness of base metal without coatings according to NAAMM-HMMA 803 or SDI A250.8.

1.3 ACTION SUBMITTALS

A. Product Data: For each type of product.

B. Shop Drawings: Include elevations, door edge details, frame profiles, metal thicknesses, preparations for hardware, and other details.

C. Samples for Initial Selection: For units with factory-applied color finishes.

D. Samples for Verification: For each type of exposed finish required.

E. Schedule: Prepared by or under the supervision of supplier, using same reference numbers for details and openings as those on Drawings.

1.4 INFORMATIONAL SUBMITTALS

A. Product test reports.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

A. Manufacturers: Subject to compliance with requirements, provide products by one of the following:

1. Amweld International, LLC.
2. Ceco Door Products; an Assa Abloy Group company.
3. Custom Metal Products.
4. MPI Group, LLC (The).
5. Premier Products, Inc.
6. Republic Doors and Frames.
7. Steelcraft; an Ingersoll-Rand company.
8. Prior approved equal.

2.2 REGULATORY REQUIREMENTS

A. Fire-Rated Assemblies: Complying with NFPA 80 and listed and labeled by a qualified testing agency acceptable to authorities having jurisdiction for fire-protection ratings and temperature-rise limits indicated, based on testing at positive pressure according to NFPA 252 or UL 10C.

1. Smoke- and Draft-Control Assemblies: Provide an assembly with gaskets listed and labeled for smoke and draft control by a qualified testing agency acceptable to authorities having jurisdiction, based on testing according to UL 1784 and installed in compliance with NFPA 105.

B. Fire-Rated, Borrowed-Light Assemblies: Complying with NFPA 80 and listed and labeled by a testing and inspecting agency acceptable to authorities having jurisdiction for fire-protection ratings indicated, based on testing according to NFPA 257 or UL 9.

2.3 INTERIOR DOOR FRAMES

A. Heavy-Duty Door Frames: SDI A250.8, Level 2.

1. Physical Performance: Level B according to SDI A250.4.
2. Frames:

a. Materials: Metallic-coated, steel sheet, minimum thickness of 16 gage.
b. Construction: Knock-Down.

1) Furnish components unassembled.
2) Factory prepare flush corner joints with steel reinforcing gussets not less than 0.032 in. thick, and/or with integral tabs and slots which securely interlock upon assembly.
3) Design corner joint to assure component profile alignment and frame performance, when field assembled by others, in accordance with the manufacturer’s installation instructions.

3. Exposed Finish: Prime.

B. Jamb Anchors:

1. Compression Type for Slip-on Frames: Adjustable compression anchors.

C. Floor Anchors: Formed from same material as frames, minimum thickness of 0.042 inch, and as follows:

1. Monolithic Concrete Slabs: Clip-type anchors, with two holes to receive fasteners.

2.4 MATERIALS

A. Cold-Rolled Steel Sheet: ASTM A 1008, Commercial Steel (CS), Type B; suitable for exposed applications.

B. Hot-Rolled Steel Sheet: ASTM A 1011, Commercial Steel (CS), Type B; free of scale, pitting, or surface defects; pickled and oiled.

C. Metallic-Coated Steel Sheet: ASTM A 653, Commercial Steel (CS), Type B.

D. Frame Anchors: ASTM A 879, Commercial Steel (CS), 04Z coating designation; mill phosphatized.

1. For anchors built into exterior walls, steel sheet complying with ASTM A 1008 or ASTM A 1011, hot-dip galvanized according to ASTM A 153, Class B.

E. Inserts, Bolts, and Fasteners: Hot-dip galvanized according to ASTM A 153.

F. Power-Actuated Fasteners in Concrete: From corrosion-resistant materials.

2.5 FABRICATION

A. Fabricate hollow-metal work to be rigid and free of defects, warp, or buckle. Accurately form metal to required sizes and profiles, with minimum radius for metal thickness. Where practical, fit and assemble units in manufacturer's plant. To ensure proper assembly at Project site, clearly identify work that cannot be permanently factory assembled before shipment.

B. Hollow-Metal Frames: Where frames are fabricated in sections due to shipping or handling limitations, provide alignment plates or angles at each joint, fabricated of same thickness metal as frames.

1. Sidelight and Transom Bar Frames: Provide closed tubular members with no visible face seams or joints, fabricated from same material as door frame. Fasten members at crossings and to jambs by butt welding.
2. Provide countersunk, flat- or oval-head exposed screws and bolts for exposed fasteners unless otherwise indicated.
3. Grout Guards: Weld guards to frame at back of hardware mortises in frames to be grouted.
4. Floor Anchors: Weld anchors to bottoms of jambs with at least four spot welds per anchor; however, for slip-on drywall frames, provide anchor clips or countersunk holes at bottoms of jambs.
5. Jamb Anchors: Provide number and spacing of anchors as follows:

   a. Compression Type: Not less than two anchors in each frame.

6. Door Silencers: Except on weather-stripped frames, drill stops to receive door silencers.

   a. Single-Door Frames: Drill stop in strike jamb to receive three door silencers.

C. Hardware Preparation: Factory prepare hollow-metal work to receive templated mortised hardware; include cutouts, reinforcement, mortising, drilling, and tapping according to SDI A250.6, the Door Hardware Schedule, and templates.

1. Reinforce doors and frames to receive nontemplated, mortised, and surface-mounted door hardware.
2. Comply with applicable requirements in SDI A250.6 and BHMA A156.115 for preparation of hollow-metal work for hardware.

D. Stops and Moldings: Provide stops and moldings around glazed lites and louvers where indicated. Form corners of stops and moldings with mitered hairline joints.

1. Single Glazed Lites: Provide fixed stops and moldings welded on secure side of hollow-metal work.
2. Multiple Glazed Lites: Provide fixed and removable stops and moldings so that each glazed lite is capable of being removed independently.
3. Provide fixed frame moldings on outside of exterior and on secure side of interior doors and frames.
4. Provide loose stops and moldings on inside of hollow-metal work.
5. Coordinate rabbet width between fixed and removable stops with glazing and installation types indicated.

2.6 STEEL FINISHES

A. Prime Finish: Clean, pretreat, and apply manufacturer's standard primer.

1. Shop Primer: SDI A250.10.

2.7 ACCESSORIES

A. Mullions and Transom Bars: Join to adjacent members by welding or rigid mechanical anchors.

B. Grout Guards: Formed from same material as frames, not less than 0.016 inch thick.

PART 3 - EXECUTION

3.1 INSTALLATION

A. Hollow-Metal Frames: Install hollow-metal frames of size and profile indicated. Comply with SDI A250.11 or NAAMM-HMMA 840 as required by standards specified.

1. Set frames accurately in position; plumbed, aligned, and braced securely until permanent anchors are set. After wall construction is complete, remove temporary braces, leaving surfaces smooth and undamaged.

   a. Where frames are fabricated in sections because of shipping or handling limitations, field splice at approved locations by welding face joint continuously; grind, fill, dress, and make splice smooth, flush, and invisible on exposed faces.
   b. Install frames with removable stops located on secure side of opening.
   c. Install door silencers in frames before grouting.
   d. Remove temporary braces necessary for installation only after frames have been properly set and secured.
   e. Check plumb, square, and twist of frames as walls are constructed. Shim as necessary to comply with installation tolerances.
   f. Field apply bituminous coating to backs of frames that will be filled with grout containing antifreezing agents.

2. Floor Anchors: Provide floor anchors for each jamb and mullion that extends to floor, and secure with postinstalled expansion anchors.

a. Floor anchors may be set with power-actuated fasteners instead of postinstalled expansion anchors if so indicated and approved on Shop Drawings.

3. Metal-Stud Partitions: Solidly pack mineral-fiber insulation inside frames.
4. Installation Tolerances: Adjust hollow-metal door frames for squareness, alignment, twist, and plumb to the following tolerances:

   a. Squareness: Plus or minus 1/16 inch, measured at door rabbet on a line 90 degrees from jamb perpendicular to frame head.
   b. Alignment: Plus or minus 1/16 inch, measured at jambs on a horizontal line parallel to plane of wall.
   c. Twist: Plus or minus 1/16 inch, measured at opposite face corners of jambs on parallel lines, and perpendicular to plane of wall.
   d. Plumbness: Plus or minus 1/16 inch, measured at jambs at floor.

3.2 ADJUSTING AND CLEANING

A. Final Adjustments: Check and readjust operating hardware items immediately before final inspection. Leave work in complete and proper operating condition. Remove and replace defective work, including hollow-metal work that is warped, bowed, or otherwise unacceptable.

B. Remove grout and other bonding material from hollow-metal work immediately after installation.

C. Prime-Coat Touchup: Immediately after erection, sand smooth rusted or damaged areas of prime coat and apply touchup of compatible air-drying, rust-inhibitive primer.

D. Metallic-Coated Surface Touchup: Clean abraded areas and repair with galvanizing repair paint according to manufacturer's written instructions.

E. Touchup Painting: Cleaning and touchup painting of abraded areas of paint are specified in painting Sections.

END OF SECTION 081113

SECTION 081416 - FLUSH WOOD DOORS

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Five-ply flush wood veneer-faced doors for transparent finish.
2. Factory finishing flush wood doors.

1.2 ACTION SUBMITTALS

A. Product Data: For each type of product, including the following:

1. Door core materials and construction.
2. Door edge construction
3. Door face type and characteristics.
4. Door louvers.
5. Door trim for openings.
6. Door frame construction.
7. Factory-machining criteria.
8. Factory-finishing specifications.

B. Shop Drawings: Indicate location, size, and hand of each door; elevation of each type of door; construction details not covered in Product Data; and the following:

1. Door schedule indicating door location, type, size, fire protection rating, and swing.
2. Door elevations, dimension and locations of hardware, lite and louver cutouts, and glazing thicknesses.
3. Details of frame for each frame type, including dimensions and profile.
4. Details of electrical raceway and preparation for electrified hardware, access control systems, and security systems.
5. Dimensions and locations of blocking for hardware attachment.
6. Clearances and undercuts.
7. Requirements for veneer matching.

C. Samples: For factory-finished doors .

1.3 INFORMATIONAL SUBMITTALS

A. Qualification Data: For door inspector.

1. Fire-Rated Door Inspector: Submit documentation of compliance with NFPA 80, Section 5.2.3.1.
2. Egress Door Inspector: Submit documentation of compliance with NFPA 101, Section 7.2.1.15.4.
3. Submit copy of DHI's Fire and Egress Door Assembly Inspector (FDAI) certificate.

B. Field quality-control reports.

1.4 CLOSEOUT SUBMITTALS

A. Record Documents: For fire-rated doors, list of door numbers and applicable room name and number to which door accesses.

1.5 QUALITY ASSURANCE

A. Manufacturer's follow AWI's Quality Certification Program requirements.

B. Fire-Rated Door Inspector Qualifications: Inspector for field quality-control inspections of fire-rated door assemblies shall comply with qualifications set forth in NFPA 80, Section 5.2.3.1 and the following:

1. DHI's Fire and Egress Door Assembly Inspector (FDAI) certification.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

A. Fire-Rated Wood Door Assemblies: Assemblies complying with NFPA 80 that are listed and labeled by a qualified testing agency acceptable to authorities having jurisdiction, for fire-protection ratings [and temperature-rise limits]indicated on Drawings, based on testing at positive pressure in accordance with NFPA 252.

1. Oversize Fire-Rated Door Assemblies: For units exceeding sizes of tested assemblies, provide certification by a qualified testing agency that doors comply with standard construction requirements for tested and labeled fire-rated door assemblies except for size.

B. Smoke- and Draft-Control Door Assemblies: Listed and labeled for smoke and draft control by a qualified testing agency acceptable to authorities having jurisdiction, based on testing in accordance with UL 1784 and installed in compliance with NFPA 105.

2.2 FLUSH WOOD DOORS, GENERAL

A. Quality Standard: In addition to requirements specified, comply with "Architectural Woodwork Standards."

2.3 SOLID-CORE, FIVE-PLY FLUSH WOOD VENEER-FACED DOORS FOR TRANSPARENT FINISH

A. Interior Doors :

1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:

a. Eggers Industries.
b. Lambton Doors.

c. Oshkosh Door Company.
d. VT Industries Inc.
e. Prior Approved Equal.

2. Performance Grade: ANSI/WDMA I.S. 1A Heavy Duty .

3. Architectural Woodwork Standards Grade: .
4. Faces: Single-ply wood veneer not less than 1/50 inch thick.

a. Species: Red oak .
b. Cut: Rotary cut .
c. Match between Veneer Leaves: Book match.
d. Assembly of Veneer Leaves on Door Faces: Center-balance match.
e. Pair and Set Match: Provide for doors hung in same opening or separated only by mullions.

5. Exposed Vertical Edges: Same species as faces or a compatible species - Architectural Woodwork Standards edge Type A .

a. Mineral-Core Doors: At hinge stiles, provide laminated-edge construction with improved screw-holding capability and split resistance. Comply with specified requirements for exposed edges.

1) Screw-Holding Capability: 550 lbf in accordance with WDMA T.M. 10.

6. Core for Non-Fire-Rated Doors:

a. Glued wood stave.
b. WDMA I.S. 10 structural composite lumber.

1) Screw Withdrawal, Face: 550 lbf .

c. Either glued wood stave or WDMA I.S. 10 structural composite lumber.

7. Core for Fire-Rated Doors: As required to achieve fire-protection rating indicated on Drawings.

2.4 LIGHT FRAMES AND LOUVERS

A. Metal Frames for Light Openings in Fire-Rated Doors: Manufacturer's standard frame formed of 0.048-inch- thick, cold-rolled steel sheet; with baked-enamel- or powder-coated finish; and approved for use in doors of fire-protection rating indicated on Drawings.

B. Louvers for Fire-Rated Doors: Metal louvers with fusible link and closing device, listed and labeled for use in doors with fire-protection rating of 1-1/2 hours and less.

1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:

a. Activar Construction Products Group, Inc.
b. Allegion plc.
c. Anemostat Products; a Mestek company.
d. ASSA ABLOY.
e. L & L Louvers, Inc.

f. McGill Architectural Products.
g. Prior Approved Equal.

2. Metal and Finish: Hot-dip galvanized steel, 0.040 inch thick, with baked-enamel- or powder-coated finish.

2.5 FABRICATION

A. Factory fit doors to suit frame-opening sizes indicated.

1. Comply with clearance requirements of referenced quality standard for fitting unless otherwise indicated.
2. Comply with NFPA 80 requirements for fire-rated doors.

B. Factory machine doors for hardware that is not surface applied.

1. Locate hardware to comply with DHI-WDHS-3.
2. Comply with final hardware schedules, door frame Shop Drawings, ANSI/BHMA-156.115-W, and hardware templates.
3. Coordinate with hardware mortises in metal frames, to verify dimensions and alignment before factory machining.
4. For doors scheduled to receive electrified locksets, provide factory-installed raceway and wiring to accommodate specified hardware.
5. Metal Astragals: Factory machine astragals and formed-steel edges for hardware for pairs of fire-rated doors.

C. Openings: Factory cut and trim openings through doors.

1. Light Openings: Trim openings with moldings of material and profile indicated.
2. Glazing: Factory install glazing in doors indicated to be factory finished. Comply with applicable requirements in Section 088000 "Glazing."
3. Louvers: Factory install louvers in prepared openings.

2.6 FACTORY FINISHING

A. Comply with referenced quality standard for factory finishing.

1. Complete fabrication, including fitting doors for openings and machining for hardware that is not surface applied, before finishing.
2. Finish faces, all four edges, edges of cutouts, and mortises.

B. Factory finish doors where indicated in schedules or on Drawings as factory finished.

C. Transparent Finish:

1. Architectural Woodwork Standards Grade: .
2. Staining: As selected by Architect from manufacturer's full range .

PART 3 - EXECUTION

3.1 INSTALLATION

A. Hardware: For installation, see Section 087100 "Door Hardware."

B. Install doors to comply with manufacturer's written instructions and referenced quality standard, and as indicated.

C. Install frames level, plumb, true, and straight.

1. Shim as required with concealed shims. Install level and plumb to a tolerance of 1/8 inch in 96 inches.
2. Anchor frames to anchors or blocking built in or directly attached to substrates.

    a. Secure with countersunk, concealed fasteners and blind nailing.
    b. Use fine finishing nails[or finishing screws] for exposed fastening, countersunk and filled flush with woodwork.

        1) For factory-finished items, use filler matching finish of items being installed.

3. Install fire-rated doors and frames in accordance with NFPA 80.
4. Install smoke- and draft-control doors in accordance with NFPA 105.

D. Job-Fitted Doors:

1. Align and fit doors in frames with uniform clearances and bevels as indicated below.

    a. Do not trim stiles and rails in excess of limits set by manufacturer or permitted for fire-rated doors.

2. Machine doors for hardware.
3. Seal edges of doors, edges of cutouts, and mortises after fitting and machining.
4. Clearances:

    a. Provide 1/8 inch at heads, jambs, and between pairs of doors.
    b. Provide 1/8 inch from bottom of door to top of decorative floor finish or covering unless otherwise indicated on Drawings.
    c. Where threshold is shown or scheduled, provide1/4 inch from bottom of door to top of threshold unless otherwise indicated.
    d. Comply with NFPA 80 for fire-rated doors.

5. Bevel non-fire-rated doors 1/8 inch in 2 inches at lock and hinge edges.
6. Bevel fire-rated doors 1/8 inch in 2 inches at lock edge; trim stiles and rails only to extent permitted by labeling agency.

E. Factory-Fitted Doors: Align in frames for uniform clearance at each edge.

F. Factory-Finished Doors: Restore finish before installation if fitting or machining is required at Project site.

3.2 FIELD QUALITY CONTROL

A. Inspection Agency: Engage a qualified inspector to perform inspections and to furnish reports to Architect.

B. Inspections:

1. Provide inspection of installed Work including installation, comply with requirements of AWI/AWMCA/WI's "Architectural Woodwork Standards" for the specified grade.
2. Fire-Rated Door Inspections: Inspect each fire-rated door in accordance with NFPA 80, Section 5.2.
3. Egress Door Inspections: Inspect each door equipped with panic hardware, each door equipped with fire exit hardware, each door located in an exit enclosure, each electrically controlled egress door, and each door equipped with special locking arrangements in accordance with NFPA 101, Section 7.2.1.15.

C. Repair or remove and replace installations where inspections indicate that they do not comply with specified requirements.

D. Reinspect repaired or replaced installations to determine if replaced or repaired door assembly installations comply with specified requirements.

E. Prepare and submit separate inspection report for each fire-rated door assembly indicating compliance with each item listed in NFPA 80 and NFPA 101.

3.3 ADJUSTING

A. Operation: Rehang or replace doors that do not swing or operate freely.

B. Finished Doors: Replace doors that are damaged or that do not comply with requirements. Doors may be repaired or refinished if Work complies with requirements and shows no evidence of repair or refinishing.

END OF SECTION

SECTION 087100 – DOOR HARDWARE

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

A. This Section includes items known commercially as finish or door hardware that are required for swing, sliding, and folding doors, except special types of unique hardware specified in the same sections as the doors and door frames on which they are installed.

B. This Section includes the following:

1. Hinges
2. Lock cylinders and keys
3. Lock and latch sets
4. Closers
5. Overhead holders
6. Door trim units
7. Protection plates
8. Thresholds

1.3 COORDINATION

A. Security: Coordinate installation of door hardware, keying, and access control with Owner's security consultant.

1. Existing Openings: Where hardware components are scheduled for application to existing construction or where modifications to existing door hardware are required, field verify existing conditions and coordinate installation of door hardware to suit opening conditions and to provide proper door operation.

1.4 PREINSTALLATION MEETINGS

A. Keying Conference: Conduct conference at project site.

1. Conference participants shall include Installer's Architectural Hardware Consultant, Architect, and Owner’s representative.
2. Incorporate conference decisions into keying schedule after reviewing door hardware keying system including, but not limited to, the following:

   a. Flow of traffic and degree of security required.
   b. Preliminary key system schematic diagram.
   c. Requirements for key control system.
   d. Requirements for access control.

e. Address for delivery of keys.

1.5 ACTION SUBMITTALS

A. Product Data: For each type of product.

B. 1. Include construction details, material descriptions, dimensions of individual components and profiles, and finishes.

Door Hardware Schedule: Prepared by or under the supervision of Installer's Architectural Hardware Consultant. Coordinate door hardware schedule with doors, frames, and related work to ensure proper size, thickness, hand, function, and finish of door hardware.

C. Submittal Sequence: Submit door hardware schedule with submissions of Product Data. Coordinate submission of door hardware schedule with scheduling requirements of other work to facilitate the fabrication of other work that is critical in Project construction schedule.

D. Format: Use same scheduling sequence and format as in door hardware schedule in the Contract Documents.

E. Content: Include the following information:

1. Identification number, location, hand, fire rating, size, and material of each door and frame.
2. Locations of each door hardware set, cross-referenced to Drawings on floor plans and to door and frame schedule.
3. Complete designations, including name and manufacturer, type, style, function, size, quantity, function, and finish of each door hardware product.
4. Fastenings and other installation information.
5. Explanation of abbreviations, symbols, and designations contained in door hardware schedule.
6. Mounting locations for door hardware.
7. List of related door devices specified in other Sections for each door and frame.

F. Keying Schedule: Prepared by or under the supervision of Installer's Architectural Hardware Consultant, detailing Owner's final keying instructions for locks. Include schematic keying diagram and index each key set to unique door designations that are coordinated with the Contract Documents.

1.6 QUALITY ASSURANCE

A. Installer Qualifications: Supplier of products and an employer of workers trained and approved by product manufacturers and of an Architectural Hardware Consultant who is available during the course of the Work to consult Contractor, Architect, and Owner about door hardware and keying.

1. Warehousing Facilities: In Project's vicinity.
2. Scheduling Responsibility: Preparation of door hardware and keying schedule.

B. Architectural Hardware Consultant Qualifications: A person who is experienced in providing consulting services for door hardware installations that are comparable in material, design, and extent to that indicated for this Project and who is currently certified by DHI as an Architectural Hardware Consultant (AHC).

C. Standards: Comply with BHMA A156 series standards.

1.7 DELIVERY, STORAGE, AND HANDLING

A. Inventory door hardware on receipt and provide secure lock-up for door hardware delivered to Project site.

B. Tag each item or package separately with identification coordinated with the final door hardware schedule, and include installation instructions, templates, and necessary fasteners with each item or package.

C. Deliver keys to manufacturer of key control system for subsequent delivery to Owner.

1.8 WARRANTY

A. Special Warranty: Manufacturer agrees to repair or replace components of door hardware that fail in materials or workmanship within specified warranty period.

1. Failures include, but are not limited to, the following:

B. Structural failures including excessive deflection, cracking, or breakage.

C. Faulty operation of doors and door hardware.

D. Deterioration of metals, metal finishes, and other materials beyond normal weathering and use.

1. Warranty Period: Three years from date of Substantial Completion unless otherwise indicated below:

E. Locksets: Five years from date of Substantial Completion

F. Door Closers: Ten years from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

A. Source Limitations: Obtain each type of door hardware from single manufacturer.Retain subparagraph below if applicable.

2.2 PERFORMANCE REQUIREMENTSRetain "Fire-Rated Door Assemblies" Paragraph below if required. Revise to allow neutral pressure testing if required and as acceptable to authorities having jurisdiction. Revise if some door hardware items do not require listing and labeling.

Certain items in this Specification are listed by manufacturer and/or manufacturer's model number to establish general style, type, character and quality of the product desired. Similar items manufactured by other than those listed will be considered, providing submittals are made according to "Pre-Bid" approval requirements of "Instructions" Article 3.3.

Where no manufacturer or model number are given, any product meeting performance or design criteria, or referenced trade associations standards may be used and "Pre-Bid" approval is not required.

A. Means of Egress Doors: Latches do not require more than 15 lbf to release the latch. Locks do not require use of a key, tool, or special knowledge for operation.

1. Provide operating devices that do not require tight grasping, pinching, or twisting of the wrist and that operate with a force of not more than 5 lbf.
2. Comply with the following maximum opening-force requirements:

a. Interior, Non-Fire-Rated Hinged Doors: 5 lbf applied perpendicular to door.
b. Fire Doors: Minimum opening force allowable by authorities having jurisdiction.

3. Bevel raised thresholds with a slope of not more than 1:2. Provide thresholds not more than 1/2 inch high.
4. Adjust door closer sweep periods so that, from an open position of 90 degrees, the door will take at least 5 seconds to move to a position of 12 degrees from the latch.
5. Adjust spring hinges so that, from an open position of 70 degrees, the door will take at least 1.5 seconds to move to the closed position.

2.3 SCHEDULED DOOR HARDWARE

A. Provide products for each door that comply with requirements indicated in Part 2 and door hardware schedule.If door hardware is scheduled in another Division 08 Section, insert its location in subparagraph below.

1. Door hardware is scheduled in Part 3.

2.4 HANGING DEVICES

A. Hinges:

1. Size: Provide the following, unless otherwise indicated, with hinge widths sized for door thickness and clearances required:

a. Widths up to 3'0": 4-1/2" standard or heavy weight as specified.
b. Sizes from 3'1" to 4'0": 5" standard or heavy weight as specified.

2. Quantity: Provide the following hinge quantity, unless otherwise indicated:
3. Two Hinges: For doors with heights up to 60 inches.
4. Three Hinges: For doors with heights 61 to 90 inches.
5. Four Hinges: For doors with heights 91 to 120 inches.
6. For doors with heights more than 120 inches, provide 4 hinges, plus 1 hinge for every 30 inches of door height greater than 120 inches.
7. Hinge Weight and Base Material: Unless otherwise indicated, provide the following:

a. Exterior Doors: Heavy weight, non-ferrous, ball bearing or oil impregnated bearing hinges unless Hardware Sets indicate standard weight.
b. Interior Doors: Heavy weight, non-ferrous, ball bearing or oil impregnated bearing hinges unless Hardware Sets indicate standard weight.

8. Hinge Options: Comply with the following where indicated in the Hardware Sets or on Drawings:

a. Non-removable Pins: Provide set screw in hinge barrel that, when tightened into a groove in hinge pin, prevents removal of pin while door is closed; for the all out-swinging lockable doors.

9. Acceptable Manufacturers:

a. Hager Companies.
b. McKinney Products.
c. Prior reviewed equal.

2.5 DOOR OPERATING TRIM

A. Flush Bolts and Surface Bolts: ANSI/BHMA A156.3, Grade 1, certified.

1. Manual flush bolts to be furnished with top rod of sufficient length to allow bolt location approximately six feet from the floor.
2. Furnish dust proof strikes for bottom bolts.
3. Surface bolts to be minimum 8” in length and U.L. listed for labeled fire doors and U.L. listed for windstorm components where applicable.
4. Provide related accessories (mounting brackets, strikes, coordinators, etc.) as required for appropriate installation and operation.
5. Acceptable Manufacturers:

a. Hager – 282D x 280x.
b. McKinney – FB01M x DPS3
c. Rockwood – 555 x 570.
d. Trimco 3917 x 3910.
e. Prior reviewed equal.

B. Coordinators: ANSI/BHMA A156.3 certified door coordinators consisting of active-leaf, hold-open lever and inactive-leaf release trigger. Model as indicated in hardware sets.

1. Acceptable Manufacturers:

a. Rockwood Manufacturing.
b. Trimco.
c. Prior reviewed equal.

C. Door Push Plates and Pulls: ANS/BHMA A156.6 certified door pushes and pulls of type and design specified in the Hardware Sets. Coordinate and provide proper width and height as required where conflicting hardware dictates.

1. Push/Pull Plates: Minimum .050 inch thick, size as indicated in hardware sets, with beveled edges, secured with exposed screws unless otherwise indicated. Push plate size: 6” x 16”, door stiles permitting. Door pull size: 8” pull mounted on 4” x 16” plate.
2. Door Pull and Push Bar Design: Size, shape, and material as indicated in the hardware sets. Minimum clearance of 2 1/2-inches from face of door unless otherwise indicated. Pull needed on lock side of door.
3. Offset Pull Design: Size, shape, and material as indicated in the hardware sets. Minimum clearance of 2 1/2-inches from face of door and offset of 90 degrees unless otherwise indicated.
4. Fasteners: Provide manufacturer's designated fastener type as indicated in Hardware Sets.

5. Acceptable Manufacturers:

   a. Hager – 30S & 33G.
   b. McKinney – PO53 & DP603.
   c. Rockwood 70 & 70x107.
   d. Trimco 1001 & 1017B.
   e. Prior reviewed equal.

D. CYLINDERS AND KEYING

E. General: Cylinder manufacturer to have minimum (10) years experience designing secured master key systems and have on record a published security keying system policy.

F. B. Source Limitations: Obtain each type of keyed cylinder and keys from the same source manufacturer as locksets and exit devices, unless otherwise indicated.

G. Cylinders:

1. 1. Characteristics:

   a. ALL LOCKS TO BE KEYED TO THE OWNERS EXISTING MASTER KEY SYSTEM. Grandmaster key the locks to the Owner's existing system, with a new master key for the Project.
   b. Review the keying system with the Owner and provide the type required (master, grandmaster or great-grandmaster), either new or integrated with Owner's existing system.
   c. c. All locks to be construction master keyed

2. Metals: Construct lock cylinder parts from brass or bronze, stainless steel, or nickel silver.

H. Permanent Cores: Manufacturer's standard; finish face to match lockset; complying with the following:

1. Removable Cores: Core insert, removable by use of a special key, and for use with only the core manufacturer's cylinder and door hardware. Provide removable core (small or large format) as specified in Hardware Sets.

I. Patented Cylinders: ANSI/BHMA A156.5, Grade 1, certified cylinders employing a utility patented and restricted keyway requiring the use of patented controlled keys. Provide bump resistant, fixed core cylinders as standard with solid recessed cylinder collars. Cylinders are to be factory keyed where permanent keying records will be established and maintained.

1. Provide a 7 pin multi-level master key system comprised of patented controlled keys and security and high security cylinders operated by one (1) key of the highest level. Geographical exclusivity to be provided for all security and high security cylinders and UL437 certification where specified.

   a. Level 1 Cylinders: Provide utility patented controlled keyway cylinders that are furnished with patented keys available only from authorized distribution.

J. Keying System: All locks and exit devices requiring key cylinders shall be factory keyed to one of the following and shall match the existing already established for The University of New Orleans: Yale – KeyMark patented 7 pin small format IC core. Core to be provided and installed by Contractor.

1. Conduct specified "Keying Conference" to define and document keying system instructions and requirements.
2. Furnish factory cut, nickel-silver large bow permanently inscribed with a visual key control number as directed by Owner.
3. Each key shall be accompanied by a permanently labeled key tag, no colored border tags or chains. Each key shall be labeled as directed by the Owner.

K. Key Quantity: Provide the following minimum number of keys:

1. Change Keys per Cylinder: Four (4)
2. Master Keys (per Master Key Level/Group): Six (6).
3. Construction Keys (where required): Ten (10).
4. Construction Control Keys (where required): Five (5).
5. Permanent Control Keys (where required): Six (6).
   a. **MECHANICAL LOCKS AND LATCHING DEVICES**

L. Mortise Locksets, Grade 1 (Heavy Duty): ANSI/BHMA A156.13, Series 1000, Operational Grade 1 certified. Locksets are to be manufactured with a corrosion resistant steel case and be field-reversible for handing without disassembly of the lock body.

1. Acceptable Manufacturers:

   a. Yale – 8800FL series x CRCN lever trim.

M. Lock Trim Design: As specified in Hardware Sets, but all shall have tubular handles with full escutcheons.

N. Basis of design for interior classroom doors: Yale 8822 Dormitory function; latchbolt retracted by lever both sides; deadbolt operated by key outside and thumbturn inside; when the deadbolt is projected, outside lever is automatically locked; operating the inside lever retracts both latch and deadbolt, leaving outside lever unlocked; operating the inside lever retracts both the latch and deadbolt, leaving outside lever unlocked; anti-panic operation—operating the inside lever retracts both latch and deadbolt.

O. Cylinder: to accept Best 7-pin small format IC core. Core to be provided and installed by Contractor.
   a. LOCK AND LATCH STRIKES

P. Strikes: Provide manufacturer's standard strike with strike box for each latch or lock bolt, with curved lip extended to protect frame, finished to match door hardware set, unless otherwise indicated, and as follows:

1. Flat-Lip Strikes: For locks with three-piece antifriction latchbolts, as recommended by manufacturer.
2. Aluminum-Frame Strike Box: Provide manufacturer's special strike box fabricated for aluminum framing.

Q. Standards: Comply with the following:

1. Strikes for Mortise Locks and Latches: BHMA A156.13.
2. Strikes for Bored Locks and Latches: BHMA A156.2.
3. Strikes for Auxiliary Deadlocks: BHMA A156.5.
4. Dustproof Strikes: BHMA A156.16.
   a. DOOR CLOSERS

R. All door closers specified herein shall meet or exceed the following criteria:

1. General: Door closers to be from one manufacturer, matching in design and style, with the same type door preparations and templates regardless of application or spring size. Closers to be non-handed with full sized covers including installation and adjusting information on inside of cover.
2. Standards: Closers to comply with UL-10C and UBC 7-2 for Positive Pressure Fire Test and be U.L. listed for use of fire rated doors.
3. Cycle Testing: Provide closers which have surpassed 15 million cycles in a test witnessed and verified by UL.
4. Size of Units: Comply with manufacturer's written recommendations for sizing of door closers depending on size of door, exposure to weather, and anticipated frequency of use. Where closers are indicated for doors required to be accessible to the physically handicapped, provide units complying with ANSI ICC/A117.1.
5. Closer Arms: Provide heavy duty, forged steel closer arms unless otherwise indicated in Hardware Sets.
6. Where closers are indicated to have mechanical dead-stop, provide heavy duty arms and brackets with an integral positive stop.
7. Where closers are indicated to have mechanical hold open, provide heavy duty units with an additional built-in mechanical holder assembly designed to hold open against normal wind and traffic conditions. Holder to be manually selectable to on-off position.
8. Where closers are indicated to have a cushion-type stop, provide heavy duty arms and brackets with spring stop mechanism to cushion door when opened to maximum degree.
9. Closers shall not be installed on exterior or corridor side of doors; where possible install closers on door for optimum aesthetics. Provide drop plates or other accessories as required for proper mounting.
10. Closer Accessories: Provide door closer accessories including custom templates, special mounting brackets, spacers and drop plates, and through-bolt or security type fasteners as specified in the door Hardware Sets.

S. Door Closers, Surface Mounted (Heavy Duty): ANSI/BHMA A156.4, Grade 1 surface mounted, heavy duty door closers with complete spring power adjustment, sizes 1 thru 6; and fully operational adjustable according to door size, frequency of use, and opening force. Closers to be rack and pinion type, one piece cast iron or aluminum alloy body construction, with adjustable backcheck and separate non-critical valves for closing sweep and latch speed control. Provide non-handed units standard.

1. Acceptable Manufacturers:
2. Yale – 3301 Series.
3. Sargent – EN351 Series.
4. LCN – 4040/4041 Series.
5. Prior reviewed equal.
   a. ARCHITECTURAL TRIM

T. Door Protective Trim

1. General: Door protective trim units to be of type and design as specified below or in the Hardware Sets.
2. Size: Fabricate protection plates (kick, armor, or mop) not more than 2" less than door width (LDW) on stop side of single doors and 1” LDW on stop side of pairs of doors, and not more than 1" less than door width on pull side. Coordinate and provide proper width and height as required where conflicting hardware dictates. Height to be 10” high.
3. Metal Protection Plates: ANSI/BHMA A156.6 certified metal protection plates (kick, armor, or mop), beveled on four edges (B4E), fabricated from the following:

a. Stainless Steel: 300 series, 050-inch thick, with countersunk screw holes (CSK).

4. Fasteners: Provide manufacturer's designated fastener type as specified in the Hardware Sets.
5. Acceptable Manufacturers:

a. Hager – 190S.
b. McKinney – KP50.
c. Rockwood – K1050.
d. Trimco – K0050.
e. Prior reviewed equal.

2.6 DOOR STOPS AND HOLDERS

A. General: Door stops and holders to be of type and design as specified below or in the Hardware Sets.

B. Door Stops and Bumpers: ANSI/BHMA A156.16, Grade 1 certified door stops and wall bumpers. Provide wall bumpers, either convex or concave types with anchorage as indicated, unless floor or other types of door stops are specified in Hardware Sets. Do not mount floor stops where they will impede traffic. Where floor or wall bumpers are not appropriate, provide overhead type stops and holders.

1. Acceptable Manufacturers:

a. Ives 436B-26D
b. Rockwood – 441-26D.
c. Prior reviewed equal.

C. Overhead Door Stops and Holders: ANSI/BHMA A156.6, Grade 1 certified overhead stops and holders to be surface or concealed types as indicated in Hardware Sets. Track, slide, arm and jamb bracket to be constructed of extruded bronze and shock absorber spring of heavy tempered steel. Provide non-handed design with mounting brackets as required for proper operation and function.

1. Acceptable Manufacturers:

a. Rixson – 9 Series.
b. Glyn Johnson – 900 Series.
c. Sargent – 590 Series.
d. ABH --- 9000 Series.
e. Prior reviewed equal.
f. ARCHITECTURAL SEALS

D. General: Thresholds, weatherstripping, and gasket seals to be of type and design as specified below or in the Hardware Sets. Provide continuous weatherstrip gasketing on exterior doors and provide smoke, light, or sound gasketing on interior doors where indicated. At exterior applications provide non-corrosive fasteners and elsewhere where indicated.

E. Fire Labeled Gasketing: Assemblies complying with NFPA 80 that are listed and labeled by a testing and inspecting agency acceptable to authorities having jurisdiction, for fire ratings indicated, based on testing according to UL-10C.

1. Provide intumescent seals as indicated to meet UL10C Standard for Positive Pressure Fire Tests of Door Assemblies, and NPFA 252, Standard Methods of Fire Tests of Door Assemblies.

F. Replaceable Seal Strips: Provide only those units where resilient or flexible seal strips are easily replaceable and readily available from stocks maintained by manufacturer.

G. Manufacturers:

1. Pemko Products; ASSA ABLOY Architectural Door Accessories (PE).
2. Reese Enterprises, Inc. (RE).
   a. FABRICATION

H. Fasteners: Provide door hardware manufactured to comply with published templates generally prepared for machine, wood, and sheet metal screws. Provide screws according to manufacturers recognized installation standards for application intended.

2.7 FINISHES

A. Standard: Designations used in the Hardware Sets and elsewhere indicate hardware finishes complying with ANSI/BHMA A156.18, including coordination with traditional U.S. finishes indicated by certain manufacturers for their products.

B. Provide quality of finish, including thickness of plating or coating (if any), composition, hardness, and other qualities complying with manufacturer's standards, but in no case less than specified by referenced standards for the applicable units of hardware.

C. Protect mechanical finishes on exposed surfaces from damage by applying a strippable, temporary protective covering before shipping.

2.13 MATERIALS AND FABRICATION

D. Base Metals: Produce hardware units of basic metal and forming method indicated, using manufacturer's standard metal alloy, composition, temper, and hardness, but in no case of lesser (commercially recognized) quality than specified for applicable hardware units by applicable ANSI/BHMA A156 series standards for each type of hardware item and with ANSI/BHMA A156.18 for finish designations indicated. Do not furnish "optional" materials or forming methods for those indicated, except as otherwise specified.

E. B. Fasteners: Provide hardware manufactured to conform to published templates, generally prepared for machine screw installation.

1. Do not provide hardware that has been prepared for self-tapping sheet metal screws, except as specifically indicated.
2. Furnish screws for installation with each hardware item. Provide Phillips flat-head screws except as otherwise indicated. Finish exposed (exposed under any condition) screws to match hardware finish or, if exposed in surfaces of other work, to match finish of this other work as closely as possible including “prepared for paint" surfaces to receive painted finish.
3. Provide concealed fasteners for hardware units that are exposed when door is closed except to the extent no standard units of type specified are available with concealed fasteners.

4. Use thru-bolts for installation of all exit devices, closers, and overhead stops. Coordinate with wood doors and metal doors and frames where thru-bolts are used as a means of reinforcing the work; provide sleeves for each thru-bolt.

2.8 HARDWARE FINISHES

A. Match items to the manufacturer's standard color and texture finish for the latch and lock sets (or push-pull units if no latch of lock sets).

B. B. Provide finishes that match those established by ANSI or, if none established, match the Architect's sample.

C. C. The designations used to indicate hardware finishes are those listed in ANSI/BHMA A156.18, "Materials and Finishes," including coordination with the traditional U.S. finishes shown by certain manufacturers for their products.

1. 1. Hinges (Exterior): 630 (US32D) Satin Stainless Steel
2. 2. Hinges (Interior): 652 (US26D) Satin Chrome Plated Steel
3. 3. Flush Bolts: 626 (US26D) Satin Chrome Plated Brass/Bronze
4. 4. Locks: 626 (US26D) Satin Chrome
5. Exit Devices: 626 (US26D) Satin Chrome
6. Door Closers: 689 Powder Coat Aluminum
7. Push Plates: 630 (US32D) Satin Stainless Steel
8. Pull Plates: 630 (US32D) Satin Stainless Steel
9. Protective Plates: 630 (US32D) Satin Stainless Steel
10. Door Stops: 626 (US26D) Satin Chrome Plated Brass/Bronze
11. Overhead Holders: 630 Satin Stainless Steel and 689 Powder Coated Steel (as scheduled)
12. Thresholds/Weatherstripping: 627/628 (US27/US28) Aluminum

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine scheduled openings, with Installer present, for compliance with requirements for installation tolerances, labeled fire door assembly construction, wall and floor construction, and other conditions affecting performance.

B. Notify architect of any discrepancies or conflicts between the door schedule, door types, drawings and scheduled hardware. Proceed only after such discrepancies or conflicts have been resolved in writing.

3.2 INSTALLATION

A. Mount hardware units at heights indicated in following applicable publications, except as specifically indicated or required to comply with governing regulations and except as otherwise directed by Architect.

1. "Recommended Locations for Builders Hardware for Standard Steel Doors and Frames" by the Door and Hardware Institute.

2. "Recommended Locations for Builders Hardware for Custom Steel Doors and Frames" by the Door and Hardware Institute.
3. “NWWDA Industry Standard I.S.1.7, "Hardware Locations for Wood Flush Doors."

B. Install each hardware item in compliance with the manufacturer's instructions and recommendations. Where cutting and fitting is required to install hardware onto or into surfaces that are later to be painted or finished in another way, coordinate removal, storage, and reinstallation or application of surface protection with finishing work specified in the Division 9 Sections. Do not install surface-mounted items until finishes have been completed on the substrates involved.

C. Set units level, plumb, and true to line and location. Adjust and reinforce the attachment substrate as necessary for proper installation and operation.

D. Drill and countersink units that are not factory prepared for anchorage fasteners. Space fasteners and anchors in accordance with industry standards.

E. Weatherstripping and Seals: Comply with manufacturer's instructions and recommendations to the extent installation requirements are not otherwise indicated.

3.3 ADJUSTING, CLEANING, AND DEMONSTRATING

A. Adjust and check each operating item of hardware and each door to ensure proper operation or function of every unit. Replace units that cannot be adjusted to operate freely and smoothly or as intended for the application made.

B. Where door hardware is installed more than one month prior to acceptance or occupancy of a space or area, return to the installation during the week prior to acceptance or occupancy and make final check and adjustment of all hardware items in such space or area. Clean operating items as necessary to restore proper function and finish of hardware and doors. Adjust door control devices to function properly with final operation of heating and ventilating equipment.

1. Clean adjacent surfaces soiled by hardware installation.
2. Door Hardware Supplier's Field Service
3. Inspect door hardware items for correct installation and adjustment after complete installation of door hardware.
4. Instruct Owner's personnel in the proper adjustment and maintenance of door hardware and hardware finishes.
5. File written report of this inspection to Architect.

C. Prior to project completion, representatives of the lock, exit device and overhead closer manufacturers shall inspect and adjust all units and certify that all units are installed in accordance with the manufacturer’s instructions, and are regulated properly and functioning correctly. A written report shall be provided to the Architect as to the inspection and shall include appropriate certificates.

3.4 HARDWARE SCHEDULE

A. The hardware sets represent the design intent and direction of the owner and architect. They are a guideline only and should not be considered a detailed hardware schedule. Discrepancies, conflicting hardware and missing items should be brought to the attention of the architect with corrections made prior to the bidding process. Omitted items not included in a hardware set should be scheduled with the appropriate additional hardware required for proper application and functionality. Adjust and check each operating item of hardware and each door to ensure proper operation or function.

B. **Set: HW-01**
   1. Description: Classroom Entry
      a. HINGES
      b. SECURITY CLASSROOM LOCK
      c. KICK PLATE
      d. WALL STOP

C. **Set: HW-02**
   1. Description: Prep Room
      a. HINGES
      b. SECURITY STOREROOM LOCK
      c. CLOSER
      d. KICK PLATES
      e. WALL STOP
      f. GASKETING

D. **Set: HW-03**
   1. Description: Classroom Adjoining
      a. HINGES
      b. CLASSROOM LOCK
      c. CLOSER
      d. KICK PLATES
      e. WALL STOP
      f.

E. **Set: HW-04**
   1. Description: Classroom Double
      a. HINGES
      b. SECURITY CLASSROOM LOCK
      c. KICK PLATES
      d. WALL STOPS
      e. FLUSH BOLTS (TOP AND BOTTOM)
      f. SILENCERS
      g. DUST PROOF STRIKE

END OF SECTION **087100**

SECTION 088000 - GLAZING

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Glass products.
2. Laminated glass.
3. Glazing sealants.
4. Glazing tapes.
5. Miscellaneous glazing materials.
6. Window Film

1.2 COORDINATION

A. Coordinate glazing channel dimensions to provide necessary bite on glass, minimum edge and face clearances, and adequate sealant thicknesses, with reasonable tolerances to achieve proper safety margins for glazing retention under each design load case, load case combination, and service condition.

1.3 PREINSTALLATION MEETINGS

A. Preinstallation Conference: Conduct conference at [Project site] <Insert location>.

1.4 ACTION SUBMITTALS

A. Product Data: For each type of product.

B. Glass Samples: For each type of glass product other than clear monolithic vision glass; 12 inches square.

1.5 INFORMATIONAL SUBMITTALS

A. Product Certificates: For glass.

B. Product test reports.

1.6 QUALITY ASSURANCE

A. Sealant Testing Agency Qualifications: An independent testing agency qualified according to ASTM C1021 to conduct the testing indicated.

1.7 WARRANTY

A. Manufacturer's Special Warranty for Coated-Glass Products: Manufacturer agrees to replace coated-glass units that deteriorate within specified warranty period. Deterioration of coated glass is defined as defects developed from normal use that are not attributed to glass breakage or to maintaining and cleaning coated glass contrary to manufacturer's written instructions. Defects include peeling, cracking, and other indications of deterioration in coating.

1. Warranty Period: 10 years from date of Substantial Completion.

B. Manufacturer's Special Warranty for Laminated Glass: Manufacturer agrees to replace laminated-glass units that deteriorate within specified warranty period. Deterioration of laminated glass is defined as defects developed from normal use that are not attributed to glass breakage or to maintaining and cleaning laminated glass contrary to manufacturer's written instructions. Defects include edge separation, delamination materially obstructing vision through glass, and blemishes exceeding those allowed by referenced laminated-glass standard.

1. Warranty Period: 10 years from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

A. Safety Glazing: Where safety glazing is indicated, provide glazing that complies with 16 CFR 1201, Category II.

B. Thermal and Optical Performance Properties: Provide glass with performance properties specified, as indicated in manufacturer's published test data, based on procedures indicated below:

1. U-Factors: Center-of-glazing values, in accordance with NFRC 100 and based on most current non-beta version of LBL's WINDOW computer program, expressed as Btu/sq. ft. x h x deg F.
2. SHGC and Visible Transmittance: Center-of-glazing values, in accordance with NFRC 200 and based on most current non-beta version of LBL's WINDOW computer program.
3. Visible Reflectance: Center-of-glazing values, in accordance with NFRC 300.

C. Acoustic Performance:

1. Interior Glazing: 37 STC.

2.2 GLASS PRODUCTS, GENERAL

A. Glazing Publications: Comply with published recommendations of glass product manufacturers and organizations below unless more stringent requirements are indicated. See these publications for glazing terms not otherwise defined in this Section or in referenced standards.

1. NGA Publications: "Laminated Glazing Reference Manual" and "Glazing Manual."

B. Safety Glazing Labeling: Where safety glazing is indicated, permanently mark glazing with certification label of the SGCC or another certification agency acceptable to authorities having jurisdiction . Label shall indicate manufacturer's name, type of glass, thickness, and safety glazing standard with which glass complies.

C. Strength: Where annealed float glass is indicated, provide annealed float glass, heat-strengthened float glass, or fully tempered float glass as needed to comply with "Performance Requirements" Article. Where heat-strengthened float glass is indicated, provide heat-strengthened float glass or fully tempered float glass as needed to comply with "Performance Requirements" Article. Where fully tempered float glass is indicated, provide fully tempered float glass.

2.3 GLASS PRODUCTS

A. Fully Tempered Float Glass: ASTM C1048, Kind FT (fully tempered), Condition A (uncoated) unless otherwise indicated, Type I, Class 1 (clear) or Class 2 (tinted) as indicated, Quality-Q3.

2.4 LAMINATED GLASS

A. Laminated Glass: ASTM C1172. Use materials that have a proven record of no tendency to bubble, discolor, or lose physical and mechanical properties after fabrication and installation.

1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:

   a. Eastman Chemical Company.
   b. Kuraray America, Inc.
   c. Prior Approved Equal

2. Construction: Laminate glass with polyvinyl butyral interlayer to comply with interlayer manufacturer's written instructions.
3. Interlayer Thickness: Provide thickness not less than that indicated and as needed to comply with requirements.
4. Interlayer Color: Clear unless otherwise indicated.

2.5 GLAZING SEALANTS

A. General:

1. Compatibility: Compatible with one another and with other materials they contact, including glass products, seals of insulating-glass units, and glazing channel substrates, under conditions of service and application, as demonstrated by sealant manufacturer based on testing and field experience.
2. Suitability: Comply with sealant and glass manufacturers' written instructions for selecting glazing sealants suitable for applications indicated and for conditions existing at time of installation.
3. Colors of Exposed Glazing Sealants: As indicated by manufacturer's designations As selected by Architect from manufacturer's full range of industry colors.

2.6 MISCELLANEOUS GLAZING MATERIALS

A. Setting Blocks:

1. EPDM with Shore A durometer hardness of 85, plus or minus 5.
2. Type recommended in writing by sealant or glass manufacturer.

B. Spacers:

1. Neoprene blocks or continuous extrusions of hardness required by glass manufacturer to maintain glass lites in place for installation indicated.
2. Type recommended in writing by sealant or glass manufacturer.

C. Edge Blocks:

1. EPDM with Shore A durometer hardness per manufacturer's written instructions.
2. Type recommended in writing by sealant or glass manufacturer.

D. Cylindrical Glazing Sealant Backing: ASTM C1330, Type O (open-cell material), of size and density to control glazing sealant depth and otherwise produce optimum glazing sealant performance.

E.

2.7 Window Film

A. Provide window film on windows indicated on drawings.

1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:

a. 3M Company - Neutrals
b. Prior Approved Equal

B. Architect to select film from manufacturers full range of products

PART 3 - EXECUTION

3.1 GLAZING, GENERAL

A. Comply with combined written instructions of manufacturers of glass, sealants, gaskets, and other glazing materials, unless more stringent requirements are indicated, including those in referenced glazing publications.

B. Protect glass edges from damage during handling and installation. Remove damaged glass from Project site and legally dispose of off Project site. Damaged glass includes glass with edge damage or other imperfections that, when installed, could weaken glass, impair performance, or impair appearance.

C. Apply primers to joint surfaces where required for adhesion of sealants, as determined by preconstruction testing.

D. Install setting blocks in sill rabbets, sized and located to comply with referenced glazing publications, unless otherwise required by glass manufacturer. Set blocks in thin course of compatible sealant suitable for heel bead.

E. Do not exceed edge pressures stipulated by glass manufacturers for installing glass lites.

F. Provide spacers for glass lites where length plus width is larger than 50 inches.

G. Provide edge blocking where indicated or needed to prevent glass lites from moving sideways in glazing channel, as recommended in writing by glass manufacturer and in accordance with requirements in referenced glazing publications.

3.2 TAPE GLAZING

A. Position tapes on fixed stops so that, when compressed by glass, their exposed edges are flush with or protrude slightly above sightline of stops.

B. Install tapes continuously, but not necessarily in one continuous length. Do not stretch tapes to make them fit opening.

C. Cover vertical framing joints by applying tapes to heads and sills first, then to jambs. Cover horizontal framing joints by applying tapes to jambs, then to heads and sills.

D. Place joints in tapes at corners of opening with adjoining lengths butted together, not lapped. Seal joints in tapes with compatible sealant approved by tape manufacturer.

E. Apply heel bead of elastomeric sealant.

F. Center glass lites in openings on setting blocks, and press firmly against tape by inserting dense compression gaskets formed and installed to lock in place against faces of removable stops. Start gasket applications at corners and work toward centers of openings.

G. Apply cap bead of elastomeric sealant over exposed edge of tape.

3.3 GASKET GLAZING (DRY)

A. Cut compression gaskets to lengths recommended by gasket manufacturer to fit openings exactly, with allowance for stretch during installation.

B. Insert soft compression gasket between glass and frame or fixed stop so it is securely in place with joints miter cut and bonded together at corners.

C. Installation with Drive-in Wedge Gaskets: Center glass lites in openings on setting blocks, and press firmly against soft compression gasket by inserting dense compression gaskets formed and installed to lock in place against faces of removable stops. Start gasket applications at corners and work toward centers of openings. Compress gaskets to produce a weathertight seal without developing bending stresses in glass. Seal gasket joints with sealant recommended in writing by gasket manufacturer.

D. Installation with Pressure-Glazing Stops: Center glass lites in openings on setting blocks, and press firmly against soft compression gasket. Install dense compression gaskets and pressure-glazing stops, applying pressure uniformly to compression gaskets. Compress gaskets to produce a weathertight seal without developing bending stresses in glass. Seal gasket joints with sealant recommended in writing by gasket manufacturer.

E. Install gaskets so they protrude past face of glazing stops.

3.4 SEALANT GLAZING (WET)

A. Install continuous spacers, or spacers combined with cylindrical sealant backing, between glass lites and glazing stops to maintain glass face clearances and to prevent sealant from extruding into glass channel and blocking weep systems until sealants cure. Secure spacers or spacers and backings in place and in position to control depth of installed sealant relative to edge clearance for optimum sealant performance.

B. Force sealants into glazing channels to eliminate voids and to ensure complete wetting or bond of sealant to glass and channel surfaces.

C. Tool exposed surfaces of sealants to provide a substantial wash away from glass.

3.5 CLEANING AND PROTECTION

A. Immediately after installation, remove nonpermanent labels and clean surfaces.

B. Protect glass from contact with contaminating substances resulting from construction operations. Examine glass surfaces adjacent to or below exterior concrete and other masonry surfaces at frequent intervals during construction, but not less than once a month, for buildup of dirt, scum, alkaline deposits, or stains.

1. If, despite such protection, contaminating substances do contact with glass, remove substances immediately as recommended in writing by glass manufacturer. Remove and replace glass that cannot be cleaned without damage to coatings.

C. Remove and replace glass that is damaged during construction period.

3.6 LAMINATED GLASS SCHEDULE

A. Clear Laminated Glass Type : Two plies of fully tempered float glass.

1. Minimum Thickness of Each Glass Ply: As indicated.
2. Interlayer Thickness: 0.060 inch.
3. Safety glazing required.

END OF SECTION

SECTION 088813 - FIRE-RESISTANT GLAZING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

A. Section Includes:

1. Fire-protection-rated glazing.

1.3 DEFINITIONS

A. Glass Manufacturers: Firms that produce primary glass, fabricated glass, or both, as defined in referenced glazing publications.

B. Glass Thicknesses: Indicated by thickness designations in millimeters according to ASTM C 1036.

1.4 COORDINATION

A. Coordinate glazing channel dimensions to provide necessary bite on glass, minimum edge and face clearances, and adequate sealant thicknesses, with reasonable tolerances.

1.5 ACTION SUBMITTALS

A. Product Data: For each type of product.

B. Glass Samples: For each type of glass product; 12 inches square.

C. Glazing Schedule: List glass types and thicknesses for each size opening and location. Use same designations indicated on Drawings.

1.6 INFORMATIONAL SUBMITTALS

A. Qualification Data: For installers and glass testing agency.

B. Product Certificates: For each type of glass and glazing product, from manufacturer.

C. Sample Warranties: For special warranties.

1.7 QUALITY ASSURANCE

A. Installer Qualifications: A qualified installer who employs glass installers for this Project who are certified under the National Glass Association's Certified Glass Installer Program.

1.8 DELIVERY, STORAGE, AND HANDLING

A. Protect glazing materials according to manufacturer's written instructions. Prevent damage to glass and glazing materials from condensation, temperature changes, direct exposure to sun, or other causes.

1.9 FIELD CONDITIONS

A. Environmental Limitations: Do not deliver or install fire-resistant glazing until spaces are enclosed and weathertight and temporary HVAC system is operating and maintaining ambient temperature conditions at occupancy levels during the remainder of the construction period.

1.10 WARRANTY

A. Manufacturer's Special Warranty on Laminated Glass: Manufacturer agrees to replace laminated-glass units that deteriorate within specified warranty period. Deterioration of laminated glass is defined as defects developed from normal use that are not attributed to glass breakage or to maintaining and cleaning laminated glass contrary to manufacturer's written instructions. Defects include edge separation, delamination materially obstructing vision through glass, and blemishes exceeding those allowed by referenced laminated-glass standard.

1. Warranty Period: 10 years from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

A. Source Limitations for Glass: Obtain from single source from single manufacturer for each glass type.

B. Source Limitations for Glazing Accessories: Obtain from single source from single manufacturer for each product and installation method.

2.2 PERFORMANCE REQUIREMENTS

A. General: Installed glazing systems shall withstand normal thermal movement and impact loads (where applicable) without failure, including loss or glass breakage attributable to the following: defective manufacture, fabrication, or installation; deterioration of glazing materials; or other defects in construction.

2.3 GLASS PRODUCTS, GENERAL

A. Glazing Publications: Comply with published recommendations of glass product manufacturers and organization below unless more stringent requirements are indicated. Refer to these publications for glazing terms not otherwise defined in this Section or in referenced standards.

1. GANA Publications: "Laminated Glazing Reference Manual" and "Glazing Manual."

B. Safety Glazing Labeling: Permanently mark glazing with certification label of the Safety Glazing Certification Council. Label shall indicate manufacturer's name, type of glass, glass thickness, and safety glazing standard with which glass complies.

2.4 GLASS PRODUCTS

A. Laminated Glass: ASTM C 1172. Use materials that have a proven record of no tendency to bubble, discolor, or lose physical and mechanical properties after fabrication and installation.

1. Construction: Laminate glass with polyvinyl butyral interlayer unless fire-protection or fire-resistance rating is based on another product.
2. Interlayer Thickness: Provide thickness as needed to comply with requirements.
3. Interlayer Color: Clear unless otherwise indicated.

2.5 FIRE-PROTECTION-RATED GLAZING

A. Fire-Protection-Rated Glazing: Listed and labeled by a testing agency acceptable to authorities having jurisdiction, for fire-protection ratings indicated, based on positive-pressure testing according to NFPA 257 or UL 9, including the hose-stream test, and shall comply with NFPA 80.

1. Fire-protection-rated glazing required to have a fire-protection rating of 20 minutes shall be exempt from the hose-stream test.

B. Fire-Protection-Rated Glazing Labeling: Permanently mark fire-protection-rated glazing with certification label of a testing agency acceptable to authorities having jurisdiction. Label shall indicate manufacturer's name; test standard; whether glazing is permitted to be used in doors or openings; if permitted in openings, whether or not glazing has passed the hose-stream test; whether or not glazing meets 450 deg F temperature-rise limitation; and the fire-resistance rating in minutes.

C. Laminated Ceramic Glazing: Laminated glass made from two plies of clear, ceramic glass; 8-mm total thickness; and complying with 16 CFR 1201, Category II.

1. Products: Subject to compliance with requirements, provide one of the following:

a. Interedge Technologies by AGC Flat Glass; Pyran Platinum L.
b. Safti First Fire Rated Glazing Solutions; Pyran Platinum L
c. Schott North America, Inc.; Pyran Platinum L.
d. Technical Glass Products; FireLite Plus.
e. Vetrotech Saint-Gobain; SGG Keralite FR-L.
f. Or Approved Equal

2.6 GLAZING ACCESSORIES

A. Provide glazing gaskets, glazing sealants, glazing tapes, setting blocks, spacers, edge blocks, and other glazing accessories that are compatible with glazing products and each other and are approved by testing agencies that listed and labeled fire-resistant glazing products with which products are used for applications and fire-protection ratings indicated.

B. Glazing Sealants for Fire-Rated Glazing Products: Neutral-curing silicone glazing sealant complying with ASTM C 920, Type S, Grade NS, Class 50, Use NT. Comply with sealant and glass manufacturers' written instructions for selecting glazing sealants suitable for applications indicated.

1. Products: Subject to compliance with requirements, provide one of the following:

   a. Dow Corning Corporation; 795.
   b. GE Construction Sealants; Momentive Performance Materials Inc; SilGlaze II SCS2800.
   c. Tremco Incorporated; Spectrem 2.
   d. Or Approved Equal

2. Sealants shall have a VOC content of 250 g/L or less.
3. Colors of Exposed Glazing Sealants: As selected by Architect from manufacturer's full range.

C. Back-Bedding Mastic Glazing Tapes: Preformed, butyl-based, 100 percent solids elastomeric tape; nonstaining and nonmigrating in contact with nonporous surfaces; with or without spacer rod as recommended in writing by tape and glass manufacturers for application indicated; and complying with ASTM C 1281 and AAMA 800 for products indicated below:

1. AAMA 804.3 tape, where indicated.
2. AAMA 806.3 tape, for glazing applications in which tape is subject to continuous pressure.
3. AAMA 807.3 tape, for glazing applications in which tape is not subject to continuous pressure.

D. Expanded Cellular Glazing Tapes: Closed-cell, PVC foam tapes; factory coated with adhesive on both surfaces; and complying with AAMA 800 for the following types:

1. AAMA 810.1, Type 1, for glazing applications in which tape acts as the primary sealant.
2. AAMA 810.1, Type 2, for glazing applications in which tape is used in combination with a full bead of liquid sealant.

2.7 MISCELLANEOUS GLAZING MATERIALS

A. General: Provide products of material, size, and shape complying with referenced glazing standard, requirements of manufacturers of glass and other glazing materials for application indicated, and with a proven record of compatibility with surfaces contacted in installation.

B. Cylindrical Glazing Sealant Backing: ASTM C 1330, Type O (open-cell material), of size and density to control glazing sealant depth and otherwise produce optimum glazing sealant performance.

C. Perimeter Insulation for Fire-Resistive Glazing: Product that is approved by testing agency that listed and labeled fire-resistant glazing product with which it is used for application and fire-protection rating indicated.

2.8 FABRICATION OF GLAZING UNITS

A. Fabricate glazing units in sizes required to fit openings indicated for Project, with edge and face clearances, edge and surface conditions, and bite complying with written instructions of product manufacturer and referenced glazing publications, to comply with system performance requirements.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine framing, glazing channels, and stops, with Installer present, for compliance with manufacturing and installation tolerances, including those for size, squareness, and offsets at corners, and for compliance with minimum required face and edge clearances.

B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

A. Clean glazing channels and other framing members receiving glass immediately before glazing. Remove coatings not firmly bonded to substrates.

B. Examine glazing units to locate fire side and protected side. Label or mark units as needed so that fire side and protected side are readily identifiable. Do not use materials that leave visible marks in the completed work.

3.3 GLAZING, GENERAL

A. Use methods approved by testing agencies that listed and labeled fire-resistant glazing products.

B. Comply with combined written instructions of manufacturers of glass, sealants, gaskets, and other glazing materials unless more stringent requirements are indicated, including those in referenced glazing publications.

C. Protect glass edges from damage during handling and installation. Remove damaged glass from Project site and legally dispose of off Project site. Damaged glass is glass with edge damage or other imperfections that, when installed, could weaken glass and impair performance and appearance.

D. Apply primers to joint surfaces where required for adhesion of sealants, as determined by preconstruction testing.

E. Install setting blocks in sill rabbets, sized and located to comply with referenced glazing publications unless otherwise required by glass manufacturer. Set blocks in thin course of compatible sealant suitable for heel bead.

F. Do not exceed edge pressures stipulated by glass manufacturers for installing glass lites.

G. Provide spacers for glass lites where length plus width is larger than 50 inches.

1. Locate spacers directly opposite each other on both inside and outside faces of glass. Install correct size and spacing to preserve required face clearances unless gaskets and glazing tapes are used that have demonstrated ability to maintain required face clearances and to comply with system performance requirements.
2. Provide 1/8-inch minimum bite of spacers on glass and use thickness equal to sealant width. With glazing tape, use thickness slightly less than final compressed thickness of tape.

H. Provide edge blocking where indicated or needed to prevent glass lites from moving sideways in glazing channel, as recommended in writing by glass manufacturer and according to requirements in referenced glazing publications.

I. Set glass lites with proper orientation so that coatings face fire side or protected side as specified.

J. Where wedge-shaped gaskets are driven into one side of channel to pressurize sealant or gasket on opposite side, provide adequate anchorage so gasket cannot walk out when installation is subjected to movement.

K. Square cut wedge-shaped gaskets at corners and install gaskets in a manner recommended by gasket manufacturer to prevent corners from pulling away; seal corner joints and butt joints with sealant recommended by gasket manufacturer.

3.4 TAPE GLAZING

A. Position tapes on fixed stops so that, when compressed by glass, their exposed edges are flush with or protrude slightly above sightline of stops.

B. Install tapes continuously, but not necessarily in one continuous length. Do not stretch tapes to make them fit opening.

C. Cover vertical framing joints by applying tapes to heads and sills first and then to jambs. Cover horizontal framing joints by applying tapes to jambs and then to heads and sills.

D. Place joints in tapes at corners of opening with adjoining lengths butted together, not lapped. Seal joints in tapes with compatible sealant approved by tape manufacturer.

E. Do not remove release paper from tape until right before each glazing unit is installed.

F. Apply heel bead of elastomeric sealant.

G. Center glass lites in openings on setting blocks and press firmly against tape by inserting dense compression gaskets formed and installed to lock in place against faces of removable stops. Start gasket applications at corners and work toward centers of openings.

H. Apply cap bead of elastomeric sealant over exposed edge of tape.

3.5 GASKET GLAZING (DRY)

A. Cut compression gaskets to lengths recommended by gasket manufacturer to fit openings exactly, with allowance for stretch during installation.

B. Insert soft compression gasket between glass and frame or fixed stop, so it is securely in place with joints miter cut and bonded together at corners.

C. Installation with Drive-in Wedge Gaskets: Center glass lites in openings on setting blocks and press firmly against soft compression gasket by inserting dense compression gaskets formed and installed to lock in place against faces of removable stops. Start gasket applications at corners and work toward centers of openings.

D. Install gaskets so they protrude past face of glazing stops.

3.6 SEALANT GLAZING (WET)

A. Install continuous spacers, or spacers combined with cylindrical sealant backing, between glass lites and glazing stops to maintain glass face clearances. Secure spacers or spacers and backings in place and in position to control depth of installed sealant relative to edge clearance for optimum sealant performance.

B. Force sealants into glazing channels to eliminate voids and to ensure complete wetting or bond of sealant to glass and channel surfaces.

C. Tool exposed surfaces of sealants to provide a substantial washaway from glass.

3.7 CLEANING AND PROTECTION

A. Immediately after installation, remove nonpermanent labels and clean surfaces.

B. Protect glass from contact with contaminating substances resulting from construction operations. Examine glass surfaces adjacent to or below exterior concrete and other masonry surfaces at frequent intervals during construction, but not less than once a month, for buildup of dirt, scum, alkaline deposits, or stains.

1. If, despite such protection, contaminating substances do come into contact with glass, remove substances immediately as recommended in writing by glass manufacturer.

C. Remove and replace glass that is damaged during construction period.

D. Wash glass on both exposed surfaces in each area of Project not more than four days before date scheduled for inspections that establish date of Substantial Completion. Wash glass as recommended in writing by glass manufacturer.

3.8 FIRE-PROTECTION-RATED GLAZING SCHEDULE

A. Glass TypeFPGL-G6: 45-minute fire-protection-rated glazing; laminated ceramic glazing.

END OF SECTION

SECTION 090561.13 MOISTURE VAPOR EMISSION CONTROL WITH ARDEX ACMS™

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings, general provisions of the Contract, and other related construction documents such as Division 01, Division 03, and Division 09 specifications that apply to this Section

1.2 SUMMARY

A. This Section includes a single-coat, fast-curing, 100% solids epoxy moisture management system formulated to suppress excessive moisture vapor emissions in new or existing concrete prior to installing an ARDEX Underlayment.

1. ARDEX MC™ RAPID One-Coat Moisture Control System
2. ARDEX ARDIFIX™ Low Viscosity Ridid Polyurethane Crack and Joint Repair
3. ARDEX ARDISEAL™ RAPID PLUS Semi-Rigid Joint Sealant
4. ARDEX HC 100™ High-Capacity Self-Leveling Underlayment
5. ARDEX HC 100R™ High-Capacity Rapid Self-Leveling Underlayment

B. Related Sections include the following:

1. Section 033000, Cast-In-Place Concrete
2. Section 035400, Hydraulic Cement Underlayment for Existing Concrete Floors
3. Section 090561.13, Moisture Vapor Emission Control
4. Division 09 Flooring Sections

1.3 REFERENCES

A. ASTM 109M, Compressive Strength Air-Cure Only

B. ASTM C348, Flexural Strength of Hydraulic-Cement Mortars

C. ASTM E84, Surface Burning Characteristics of Building Materials

D. ASTM F710, Standard Practice for Preparing Concrete Floors to Receive Resilient Flooring

E. ASTM C1708, Standard Test Methods for Self-Leveling Mortars Containing Hydraulic Cements

F. ASTM C1583, Standard Test Method for Tensile Strength of Concrete Surfaces and the Bond Strength or Tensile Strength of Concrete Repair and Overlay Materials by Direct Tension

G. ASTM E96, Standard Test Methods for Water Vapor Transmission of Materials

H. ASTM D1308, Chemical Resistance of Finishes

I. ASTM F3010, Standard Practice for Two-Component, Resin Based Resin-Forming Moisture Mitigation Systems For Use Under Resilient Floor Coverings

1.4 SUBMITTALS

A. Product Data: Submit manufacturer's product data and installation instructions for each material and product used. Include manufacturer's Safety Data Sheets.

B. Qualification Data: For Installer

1.5 QUALITY ASSURANCE

A. Installation of the ARDEX Topical Moisture Mitigation System must be completed by an ARDEX approved applicator, such as an ARDEX LevelMaster® Elite or Choice Contractor, using mixing equipment and tools approved by the manufacturer. Please contact ARDEX Engineered Cements (724) 203-5000 for a list of approved installers.

B. Manufacturer Experience: Products used for work in this section shall be manufactured by companies which have successfully specialized in production of this type of work for not less than 10 years. Contact Manufacturer Representative prior to installation.

C. Silicate-based concrete admixtures or curing agents must not be used in conjunction with ACMS System.

1.6 WARRANTY

A. Approved applicator must file a pre-installation checklist with the manufacturer and receive written confirmation of the approval to proceed in order to obtain the extended 20-Year Limited Warranty for the ARDEX Concrete Management Systems (ACMS™)™, which includes the ARDEX MC RAPID as well as ARDEX HC 100™ or ARDEX HC 100R™.

B. ARDEX HC 100™ or HC 100R™ underlayment installed as part of a floor system, shall be installed in conjunction with the recommended ARDEX Tile & Stone Installation Materials or WW HENRY Flooring Adhesive, as appropriate, to obtain the ARDEX SystemOne Comprehensive Warranty.

1.7 DELIVERY, STORAGE AND HANDLING

A. Deliver products in original packaging, labeled with product identification, manufacturer, batch number and shelf life.

B. Store products in a dry area with temperature maintained between 50° and 85°F (10° and 29°C) and protect from direct sunlight.

C. Handle products in accordance with manufacturer's printed recommendations.

1.8 PROJECT CONDITIONS

A. Do not install material below 50°F (10°C) surface and air temperatures. These temperatures must also be maintained during and for 48 hours after the installation of products included in this section. Install quickly if substrate is warm and follow warm weather instructions available from the ARDEX Technical Service Department.The ARDEX MC RAPID must be allowed to cure for 4 hours before receiving traffic or getting wet In the event that the ARDEX MCRAPID gets wet after 4 hours, any ponding water should be immediately removed from the surface and allowed to dry.

PART 2 - PRODUCTS

2.1 MOISTURE VAPOR EMISSION CONTROL

A. One-Coat Moisture Control System for Concrete to Receive ARDEX Underlayments and Toppings

1. Acceptable Products:

   a. ARDEX MC™ RAPID; Manufactured by ARDEX Engineered Cements: 400 Ardex Park Drive, Aliquippa, PA 15001 USA 724-203-5000, www.ardexamericas.com

2. Performance and Physical Properties: Meet or exceed the following values for material cured at 70° F+/-3°F (21° C+/-3°C) and 50% +/-5%relative humidity:

   a. Application: Manual
   b. Material Requirements on CSP 3 Prepared Concrete: Approx. 170 – 190 sq. ft. (16

      1) –m^2) per unit for 14 mils

   c. Permeability (ASTM E96): 0.06 perms
   d. 14 pH solution (ASTM D1308): No effect
   e. Working Time: 20 minutes
   f. Pot Life: 20 minutes
   g. VOC: 19.9g/L, A+B (ASTM D2369)
   h. Walkable: Minimum of 4 hours
   i. Install Underlayment: Minimum 4 hours

2.2 HYDRAULIC CEMENT UNDERLAYMENT

A. Hydraulic Cement-Based, Self-Leveling Underlayment

1. Acceptable Products:

   a. ARDEX HC 100™ High-Capacity Self-Leveling Underlayment
   b. ARDEX HC 100R™ High-Capacity Rapid Self-Leveling Underlayment

2. Performance and Physical Properties: Meet or exceed the following values for material cured at 70° F+/-3°F (21° C+/-3°C) and 50% +/-5% relative humidity:

a. Application: ARDEX ARDIFLO™ Pump System
b. Flow Time: 10 minutes
c. Initial Set: Approx. 30 minutes
d. Final Set: Approx. 90 minutes
e. Compressive Strength: Minimum 4500 psi at 28 days, ASTM C109M
f. Flexural Strength: 1000 psi at 28 days, ASTM C348
g. VOC: 0

2.3 WATER: Water shall be clean, potable, and sufficiently cool (not warmer than 70°F).

PART 3 - –EXECUTION

3.1 PREPARATION

A. The Concrete Substrate: Prepare substrate in accordance with manufacturer's instructions.

1. Prior to proceeding please refer to ASTM F710 Standard Practice for Preparing Concrete Floors to Receive Flooring. All concrete after initial 3-7 day cure must receive a brush blast shot blast.

B. Crack and Joint Treatment

1. Dormant control joints and dormant cracks greater than a hairline (1/32" / 0.79 mm) must be pre-filled with ARDEX ARDIFIX™. Dormant cracks and dormant control joints must be filled in strict accordance with the installation instructions provided by the ARDEX Technical Service Department. Once the dormant cracks and dormant control joints have been filled properly, broadcast sand to refusal, and allow these areas to cure thoroughly. Remove all excess sand prior to proceeding with the ARDEX MC RAPID installation.
2. All moving joints and moving cracks must be honored up through the ARDEX MC RAPID, the ARDEX underlayment and the floor covering by installing a fully flexible sealing compound designed specifically for use in moving joints, such as ARDEX ARDISEAL™ RAPID PLUS.

3.2 APPLICATION OF ARDEX MC™ RAPID:

A. Examine substrate and conditions under which materials will be installed. Do not proceed with installation until unsatisfactory conditions are corrected.

B. Coordinate installation with adjacent work to ensure proper sequence of construction. Protect adjacent areas from contact due to mixing and handling of materials.

C. Mixing: Comply with manufacturer's printed instructions and the following.

1. Each individual 22 lb. unit contains separate, pre-measured quantities of hardener (Part B) and the resin (Part A). After opening each container, stir the individual components thoroughly as described in (2) below before blending. The hardening agent (Part B) is added to the resin (Part A).

2. Pour all of the hardener into the resin portion and mix thoroughly for a minimum of 3 minutes using a low speed drill and an epoxy mixing paddle. Once mixed, pour some of the epoxy back into the hardener container, mix for 10 seconds, and then pour all of the contents back into the resin container. Mix for an additional 30 seconds before applying.

D. Application: Comply with manufacturer's printed instructions and the following.

1. Apply a coat of freshly mixed ARDEX MC™ RAPID to the prepared concrete surface in a uniform direction at an application rate of up to 190 sq. ft. per unit to achieve a minimum coating thickness of 14 mils. Use a short-nap paint roller or notched squeegee for smoother surfaces, and a longer nap roller for more uneven substrates. To minimize the potential for pinhole formation, work the ARDEX MC™ RAPID into the surface with the roller to ensure maximum penetration. ARDEX MC™ RAPID can also be worked into the surface with a paintbrush for hard to reach areas and corners.

a. While this coat is still in a fresh state (maximum 20 minutes), broadcast to excess of kiln-dried silica sand (less than 1/50 of an inch in grain size or 98.5% passing sieve size #35 or #30) consistently over the entire area.

Note: When broadcasting sand, use a NIOSH approved particulate respirator "dust mask" in conformance with OSHA requirements regarding the handling of sand. Do not stand or walk on the freshly applied epoxy when broadcasting the sand.

b. Once an area has been completely covered with sand, the surface of the sand can be walked on, being careful not to disturb or expose the epoxy at any time. Use approximately 1 lb. of sand per square foot of area. Once the sand broadcast is complete, avoid all traffic over the surface for a minimum of 4 hours.

c. After 4 hours, broom sweep and vacuum the surface to remove all loose sand. The clean, prepared surface of the sand is the priming system for the ARDEX Underlayment. No additional priming is required.

d. Following the application of ARDEX MC™ Rapid and sand broadcast, survey substrate using ARDEX Ardipegs™, install ARDEX HC 100™ or ARDEX HC 100R™ in accordance with printed instructions found in the corresponding technical data sheet.

e. It is not necessary to test the substrate for moisture emissions prior to installing the coating or floor covering.

3.3 FIELD QUALITY CONTROL

A. Where specified, field sampling of the ARDEX products is to be done by taking an entire unopened bag/unit of the product being installed to an independent testing facility to perform testing. There is no in-situ test method applicable for this system.

3.4 PROTECTION

A. Prior to the installation of the finish flooring, the surface of the underlayment should be protected from abuse by other trades by the use of plywood, Masonite or other suitable protection course.

END OF SECTION

SECTION 092216 - NON-STRUCTURAL METAL FRAMING

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Non-load-bearing steel framing systems for interior partitions.
2. Suspension systems for interior ceilings and soffits.

1.2 ACTION SUBMITTALS

A. Product Data: For each type of product.

1.3 INFORMATIONAL SUBMITTALS

A. Product Certificates: For each type of code-compliance certification for studs and tracks.

B. Evaluation reports for post-installed anchors.

1.4 QUALITY ASSURANCE

A. Code-Compliance Certification of Studs and Tracks: Provide documentation that framing members are certified according to the product-certification program of the Certified Steel Stud Association.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

A. Fire-Test-Response Characteristics: For fire-resistance-rated assemblies that incorporate non-load-bearing steel framing, provide materials and construction identical to those tested in assembly indicated, according to ASTM E 119 by an independent testing agency.

B. STC-Rated Assemblies: For STC-rated assemblies, provide materials and construction identical to those tested in assembly indicated on Drawings, according to ASTM E 90 and classified according to ASTM E 413 by an independent testing agency.

2.2 FRAMING SYSTEMS

A. Framing Members, General: Comply with ASTM C 754 for conditions indicated.

1. Steel Sheet Components: Comply with ASTM C 645 requirements for steel unless otherwise indicated.

2. Protective Coating: ASTM A 653/A 653M, G40 , hot-dip galvanized unless otherwise indicated.

B. Studs and Tracks: ASTM C 645.

1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:

a. CEMCO; California Expanded Metal Products Co.
b. ClarkDietrich Building Systems.
c. MarinoWARE.
d. MBA Building Supplies.
e. MRI Steel Framing, LLC.
f. Phillips Manufacturing Co.
g. Steel Network, Inc. (The).
h. Telling Industries.
i. Prior approved equal.

2. Minimum Base-Steel Thickness: As indicated on Drawings or minimum of 0.0269 inch .
3. Depth: As indicated on Drawings .

C. Slip-Type Head Joints: Where indicated, provide the following:

1. Clip System: Clips designed for use in head-of-wall deflection conditions that provide a positive attachment of studs to tracks while allowing 2-1/2-inch minimum vertical movement.

a. Products: Subject to compliance with requirements, provide one of the following:

1) CEMCO; California Expanded Metal Products Co.; Deflex Clips.
2) ClarkDietrich Building Systems; .
3) Fire Trak Corp; .
4) Steel Network, Inc. (The); VertiClip SLD Series.
5) Super Stud Building Products Inc.; Deflection Clips.
6) Prior approved equal.

2. Deflection Track: Steel sheet top track manufactured to prevent cracking of finishes applied to interior partition framing resulting from deflection of structure above; in thickness not less than indicated for studs and in width to accommodate depth of studs.

a. Products: provide one of the following:

1) Blazeframe Industries; Bare Slotted Track (BST/BST 2).
2) CEMCO; California Expanded Metal Products Co.; .
3) ClarkDietrich Building Systems; SLP-TRK Slotted Deflection Track.
4) MBA Building Supplies; .
5) Metal-Lite; The System.
6) Steel Network, Inc. (The); .
7) Telling Industries; .
8) Prior approved equal.

D. Firestop Tracks: Top track manufactured to allow partition heads to expand and contract with movement of structure while maintaining continuity of fire-resistance-rated assembly indicated; in thickness not less than indicated for studs and in width to accommodate depth of studs.

1. Products: Subject to compliance with requirements, provide one of the following:

a. Blazeframe Industries; Intumescent Framing, Fire Stop System.
b. CEMCO; California Expanded Metal Products Co.; FAS Track.
c. ClarkDietrich Building Systems; BlazeFrame.
d. Fire Trak Corp; Fire Trak System attached to studs with Fire Trak Posi Klip.
e. Metal-Lite; The System.
f. Perfect Wall, Inc.; .
g. Steel Network, Inc. (The); .
h. Prior approved equal.

E. Flat Strap and Backing Plate: Steel sheet for blocking and bracing in length and width indicated.

1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:

a. ClarkDietrich Building Systems.
b. MRI Steel Framing, LLC.
c. Prior approved equal.

2. Minimum Base-Steel Thickness: 0.0269 inch .

F. Cold-Rolled Channel Bridging: Steel, 0.0538-inch minimum base-steel thickness, with minimum 1/2-inch- wide flanges.

1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:

a. ClarkDietrich Building Systems.
b. MRI Steel Framing, LLC.
c. Prior approved equal.

2. Depth: 1-1/2 inches .
3. Clip Angle: Not less than 1-1/2 by 1-1/2 inches, 0.068-inch- thick, galvanized steel.

G. Hat-Shaped, Rigid Furring Channels: ASTM C 645.

1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:

a. ClarkDietrich Building Systems.
b. MRI Steel Framing, LLC.
c. Prior approved equal.

2. Minimum Base-Steel Thickness: 0.0296 inch .
3. Depth: As indicated on Drawings .

H. Resilient Furring Channels: 1/2-inch- deep, steel sheet members designed to reduce sound transmission.

1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:

a. ClarkDietrich Building Systems.
b. MRI Steel Framing, LLC.
c. Prior approved equal.

2. Configuration: Asymmetrical or hat shaped.

I. Cold-Rolled Furring Channels: 0.053-inch uncoated-steel thickness, with minimum 1/2-inch-wide flanges.

1. Depth: As indicated on Drawings .
2. Furring Brackets: Adjustable, corrugated-edge-type steel sheet with minimum uncoated-steel thickness of 0.0329 inch.
3. Tie Wire: ASTM A 641/A 641M, Class 1 zinc coating, soft temper, 0.062-inch- diameter wire, or double strand of 0.048-inch- diameter wire.

J. Z-Shaped Furring: With slotted or nonslotted web, face flange of 1-1/4 inches, wall attachment flange of 7/8 inch, minimum uncoated-steel thickness of 0.0179 inch, and depth required to fit insulation thickness indicated.

1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:

a. ClarkDietrich Building Systems.
b. MRI Steel Framing, LLC.
c. Prior approved equal.

2.3 SUSPENSION SYSTEMS

A. Tie Wire: ASTM A 641/A 641M, Class 1 zinc coating, soft temper, 0.062-inch- diameter wire, or double strand of 0.048-inch- diameter wire.

B. Hanger Attachments to Concrete:

1. Post-Installed Anchors: Fastener systems with an evaluation report acceptable to authorities having jurisdiction, based on ICC-ES as appropriate for the substrate.

a. Uses: Securing hangers to structure.
b. Type: Torque-controlled, expansion anchor .
c. Material for Interior Locations: Carbon-steel components zinc-plated to comply with ASTM B 633 or ASTM F 1941, Class Fe/Zn 5, unless otherwise indicated.
d. Material for Exterior or Interior Locations and Where Stainless Steel Is Indicated: Alloy stainless-steel bolts, ASTM F 593, and nuts, ASTM F 594.

C. Wire Hangers: ASTM A 641/A 641M, Class 1 zinc coating, soft temper, 0.16 inch in diameter.

D. Flat Hangers: Steel sheet, in size indicated on Drawings .

E. Carrying Channels (Main Runners): Cold-rolled, commercial-steel sheet with a base-steel thickness of 0.0538 inch and minimum 1/2-inch- wide flanges.

1. Depth: As indicated on Drawings .

F. Furring Channels (Furring Members):

1. Cold-Rolled Channels: 0.0538-inch uncoated-steel thickness, with minimum 1/2-inch-wide flanges, 3/4 inch deep.
2. Steel Studs and Tracks: ASTM C 645.

a. Minimum Base-Steel Thickness: 0.0269 inch .
b. Depth: As indicated on Drawings .

3. Hat-Shaped, Rigid Furring Channels: ASTM C 645, 7/8 inch deep.

a. Minimum Base-Steel Thickness: As indicated on Drawings 0.0296 inch .

2.4 AUXILIARY MATERIALS

A. General: Provide auxiliary materials that comply with referenced installation standards.

1. Fasteners for Steel Framing: Of type, material, size, corrosion resistance, holding power, and other properties required to fasten steel members to substrates.

B. Isolation Strip at Exterior Walls: Provide the following:

1. Foam Gasket: Adhesive-backed, closed-cell vinyl foam strips that allow fastener penetration without foam displacement, 1/8 inch thick, in width to suit steel stud size.

PART 3 - EXECUTION

3.1 INSTALLATION, GENERAL

A. Installation Standard: ASTM C 754.

1. Gypsum Plaster Assemblies: Also comply with requirements in ASTM C 841 that apply to framing installation.
2. Portland Cement Plaster Assemblies: Also comply with requirements in ASTM C 1063 that apply to framing installation.
3. Gypsum Veneer Plaster Assemblies: Also comply with requirements in ASTM C 844 that apply to framing installation.
4. Gypsum Board Assemblies: Also comply with requirements in ASTM C 840 that apply to framing installation.

B. Install framing and accessories plumb, square, and true to line, with connections securely fastened.

C. Install supplementary framing, and blocking to support fixtures, equipment services, heavy trim, grab bars, toilet accessories, furnishings, or similar construction.

D. Install bracing at terminations in assemblies.

E. Do not bridge building control and expansion joints with non-load-bearing steel framing members. Frame both sides of joints independently.

3.2 INSTALLING FRAMED ASSEMBLIES

A. Install framing system components according to spacings indicated, but not greater than spacings required by referenced installation standards for assembly types.

B. Where studs are installed directly against exterior masonry walls or dissimilar metals at exterior walls, install isolation strip between studs and exterior wall.

C. Install studs so flanges within framing system point in same direction.

D. Install tracks at floors and overhead supports. Extend framing full height to structural supports or substrates above suspended ceilings except where partitions are indicated to terminate at suspended ceilings. Continue framing around ducts that penetrate partitions above ceiling.

1. Slip-Type Head Joints: Where framing extends to overhead structural supports, install to produce joints at tops of framing systems that prevent axial loading of finished assemblies.
2. Door Openings: Screw vertical studs at jambs to jamb anchor clips on door frames; install track section (for cripple studs) at head and secure to jamb studs.

    a. Install two studs at each jamb unless otherwise indicated.
    b. Install cripple studs at head adjacent to each jamb stud, with a minimum 1/2-inch clearance from jamb stud to allow for installation of control joint in finished assembly.
    c. Extend jamb studs through suspended ceilings and attach to underside of overhead structure.

3. Other Framed Openings: Frame openings other than door openings the same as required for door openings unless otherwise indicated. Install framing below sills of openings to match framing required above door heads.
4. Fire-Resistance-Rated Partitions: Install framing to comply with fire-resistance-rated assembly indicated and support closures and to make partitions continuous from floor to underside of solid structure.

    a. Firestop Track: Where indicated, install to maintain continuity of fire-resistance-rated assembly indicated.

5. Sound-Rated Partitions: Install framing to comply with sound-rated assembly indicated.
6. Curved Partitions:

    a. Bend track to uniform curve and locate straight lengths so they are tangent to arcs.
    b. Begin and end each arc with a stud, and space intermediate studs equally along arcs. On straight lengths of no fewer than two studs at ends of arcs, place studs 6 inches o.c.

E. Direct Furring:

1. Screw to wood framing.
2. Attach to concrete or masonry with stub nails, screws designed for masonry attachment, or powder-driven fasteners spaced 24 inches o.c.

F. Z-Shaped Furring Members:

1. Erect insulation, specified in Section 072100 "Thermal Insulation," vertically and hold in place with Z-shaped furring members spaced 24 inches o.c.
2. Except at exterior corners, securely attach narrow flanges of furring members to wall with concrete stub nails, screws designed for masonry attachment, or powder-driven fasteners spaced 24 inches o.c.

3. At exterior corners, attach wide flange of furring members to wall with short flange extending beyond corner; on adjacent wall surface, screw-attach short flange of furring channel to web of attached channel. At interior corners, space second member no more than 12 inches from corner and cut insulation to fit.

G. Installation Tolerance: Install each framing member so fastening surfaces vary not more than 1/8 inch from the plane formed by faces of adjacent framing.

3.3 INSTALLING CEILING SUSPENSION SYSTEMS

A. Install suspension system components according to spacings indicated, but not greater than spacings required by referenced installation standards for assembly types.

B. Isolate suspension systems from building structure where they abut or are penetrated by building structure to prevent transfer of loading imposed by structural movement.

C. Suspend hangers from building structure as follows:

1. Install hangers plumb and free from contact with insulation or other objects within ceiling plenum that are not part of supporting structural or suspension system.

   a. Splay hangers only where required to miss obstructions and offset resulting horizontal forces by bracing, countersplaying, or other equally effective means.

2. Where width of ducts and other construction within ceiling plenum produces hanger spacings that interfere with locations of hangers required to support standard suspension system members, install supplemental suspension members and hangers in the form of trapezes or equivalent devices.

   a. Size supplemental suspension members and hangers to support ceiling loads within performance limits established by referenced installation standards.

3. Wire Hangers: Secure by looping and wire tying, either directly to structures or to inserts, eye screws, or other devices and fasteners that are secure and appropriate for substrate, and in a manner that will not cause hangers to deteriorate or otherwise fail.
4. Flat Hangers: Secure to structure, including intermediate framing members, by attaching to inserts, eye screws, or other devices and fasteners that are secure and appropriate for structure and hanger, and in a manner that will not cause hangers to deteriorate or otherwise fail.
5. Do not attach hangers to steel roof deck.
6. Do not attach hangers to permanent metal forms. Furnish cast-in-place hanger inserts that extend through forms.
7. Do not attach hangers to rolled-in hanger tabs of composite steel floor deck.
8. Do not connect or suspend steel framing from ducts, pipes, or conduit.

D. Fire-Resistance-Rated Assemblies: Wire tie furring channels to supports.

E. Seismic Bracing: Sway-brace suspension systems [with hangers used for support] <Insert requirements>.

F. Installation Tolerances: Install suspension systems that are level to within 1/8 inch in 12 feet measured lengthwise on each member that will receive finishes and transversely between parallel members that will receive finishes.

END OF SECTION

SECTION 092900 - GYPSUM BOARD

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Interior gypsum board.

1.2 ACTION SUBMITTALS

A. Product Data: For each type of product.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

A. Moisture- and Mold-Resistant Assemblies: Provide and install moisture- and mold-resistant glass-mat gypsum wallboard products with moisture-resistant surfaces complying with ASTM C 1658 and ASTM C 1177 where indicated on Drawings and in all locations which might be subject to moisture exposure during construction.

B. Fire-Resistance-Rated Assemblies: For fire-resistance-rated assemblies, provide materials and construction identical to those tested in assembly indicated according to ASTM E 119 by an independent testing agency.

C. STC-Rated Assemblies: For STC-rated assemblies, provide materials and construction identical to those tested in assembly indicated according to ASTM E 90 and classified according to ASTM E 413 by an independent testing agency.

2.2 INTERIOR GYPSUM BOARD

A. Manufacturers: Subject to compliance with requirements, provide products by one of the following:

1. American Gypsum.
2. CertainTeed Corp.
3. Georgia-Pacific Gypsum LLC.
4. National Gypsum Company.
5. Temple-Inland.
6. USG Corporation.
7. Prior reviewed equal.

B. Gypsum Wallboard: ASTM C 1396.

1. Thickness: 5/8 inch.
2. Long Edges: Tapered.

C. Gypsum Board, Type X: ASTM C 1396.

1. Thickness: 5/8 inch.
2. Long Edges: Tapered.

D. Moisture- and Mold-Resistant Gypsum Board: ASTM C 1396. With moisture- and mildew-resistant core and paper surfaces.

1. Thickness: 5/8 inch, Type X core.
2. Long Edges: Tapered.
3. Mold Resistance: ASTM D 3273, score of 10.
4. Provide below Design Flood Elevation as outlined in the Drawings.

E. Flexible Gypsum Board: ASTM C 1396. Manufactured to bend to fit radii and to be more flexible than standard regular-type gypsum board of same thickness.

1. Thickness: 1/4 inch.
2. Long Edges: Tapered.

F. Gypsum Ceiling Board: ASTM C 1396.

1. Thickness: 5/8 inch.
2. Long Edges: Tapered.

2.3 TRIM ACCESSORIES

A. Interior Trim: ASTM C 1047.

1. Material: Galvanized or aluminum-coated steel sheet or rolled zinc.

B. Aluminum Trim: ASTM B 221, Alloy 6063-T5.

1. Reveal molding: Equal to Fry Reglet ‘F’ reveal molding DRMF-625-75.

2.4 JOINT TREATMENT MATERIALS

A. General: Comply with ASTM C 475.

B. Joint Tape:

1. Interior Gypsum Board: Paper.
2. Tile Backing Panels: As recommended by panel manufacturer.

C. Joint Compound for Interior Gypsum Board: For each coat use formulation that is compatible with other compounds applied on previous or for successive coats.

2.5 AUXILIARY MATERIALS

A. Steel Drill Screws: ASTM C 1002, unless otherwise indicated.

B. Acoustical Joint Sealant: ASTM C 834. Product effectively reduces airborne sound transmission through perimeter joints and openings as demonstrated by testing according to ASTM E 90.

1. Products: Subject to compliance with requirements, provide one of the following:

a. Pecora Corporation; AC-20 FTR.
b. USG Corporation; SHEETROCK Acoustical Sealant.
c. Prior reviewed equal.

2. Acoustical joint sealant shall have a VOC content of 250 g/L or less when calculated according to 40 CFR 59, Subpart D (EPA Method 24).

PART 3 - EXECUTION

3.1 APPLYING AND FINISHING PANELS

A. Comply with ASTM C 840.

B. Examine panels before installation. Reject panels that are wet, moisture damaged, and mold damaged.

C. Isolate perimeter of gypsum board applied to non-load-bearing partitions at structural abutments, except floors. Provide 1/4- to 1/2-inch-wide spaces at these locations and trim edges with edge trim where edges of panels are exposed. Seal joints between edges and abutting structural surfaces with acoustical sealant.

D. Install trim with back flanges intended for fasteners, attach to framing with same fasteners used for panels. Otherwise, attach trim according to manufacturer's written instructions.

1. Aluminum Trim: Install in locations indicated on Drawings.
2. Control Joints: Install control joints according to ASTM C 840 and in specific locations approved by Architect for visual effect.

E. Prefill open joints, rounded or beveled edges, and damaged surface areas.

F. Apply joint tape over gypsum board joints, except for trim products specifically indicated as not intended to receive tape.

G. Gypsum Board Finish Levels: Finish panels to levels indicated below and according to ASTM C 840:

1. Level 1: Ceiling plenum areas, concealed areas, and where indicated.
2. Level 4: At panel surfaces that will be exposed to view unless otherwise indicated.

a. Primer and its application to surfaces are specified in Section 099100 "Painting."

H. Texture Finish Application: Prepare and apply primer to gypsum panels and other surfaces receiving texture finishes. Mix and apply finish using powered spray equipment, to produce a uniform texture free of starved spots or other evidence of thin application or of application patterns.

I. Protect adjacent surfaces from drywall compound and texture finishes and promptly remove from floors and other non-drywall surfaces. Repair surfaces stained, marred, or otherwise damaged during drywall application.

J. Remove and replace panels that are wet, moisture damaged, and mold damaged.

END OF SECTION

SECTION 092971 - GYPSUM BOARD ACCESSORIES

PART 1 - GENERAL

1.1 SUMMARY

A. Related work specified elsewhere includes:

1. Rough carpentry.
2. Finish carpentry and millwork.
3. Metal support systems.
4. Plaster.
5. Gypsum board systems.
6. Painting.
7. Wallcovering.

1.2 SUBMITTALS

A. Product data: Indicate product description, including compliance with specified requirements and installation requirements. Mark manufacturer's brochures to include only those products proposed for use.

1.3 QUALITY ASSURANCE

A. Applicable standards; standards of the following, as referenced herein:

1. Aluminum Association (AA).
2. American Society for Testing and Materials (ASTM).

B. ** Allowable tolerances in horizontal planes:

1. Variation from level: +1/8" in 12'-0".
2. Variation in plane of adjacent wallboard panels prior to joint treatment: 1/16". **

C. ** Allowable tolerances in framed vertical construction.

1. Position: +1/4" maximum variation from design position.
2. Alignment: 1/8" in 8'-0"; 1/4" maximum in any continuous wall, line or surface.
3. Surface smoothness: No joint or fastener location, roughness or blemish discernible after application of finish when viewed at any angle from a distance of 5'-0" under occupancy lighting conditions, with surface preparation as specified in Painting section. **

1.4 DELIVERY, STORAGE AND HANDLING

A. Storage:

1. Stack accessories off floor on pallets or similar platforms providing continuous support for accessories to prevent sagging. Stack accessories so that long lengths are not over short lengths.

2. Do not overload floor systems.

B. Handle materials to prevent damage to surfaces, edges and ends of sheet metal items. Reject and remove damaged material from site.

C. RETAIN WARRANTY FOR FLUOROPOLYMER FINISH ONLY.

1.5 WARRANTY

A. Finish warranty: Warrant fluoropolymer coating to remain free, under normal atmospheric conditions, from peeling, checking, cracking, chalking in excess of numerical rating of 8 when measured in accord with ASTM D4214-98, of fading in excess of 5 N. B. S. Units during warranty period. Warranty period shall be 5 years, beginning at Date of Substantial Completion.

PART 2 - PRODUCTS

2.1 MANUFACTURER:

A. Acceptable manufacturer; subject to compliance with specified requirements:

1. Fry Reglet Corporation. Fry Reglet Corporation
2. Stonefield Court 12342 Hawkins Street Alpharetta, GA 30004 Santa Fe Springs, CA 90670 Phone 800-237-9773 Fax 800-200-4379
3. Prior approved equal.

2.2 MATERIALS AND FINISH:

A. Anodized finish:

1. Architectural 200R1 medium etch (AA-M32c10A21), clear color. Standard finish.
2. THE FOLLOWING IS A SPECIAL-ORDER FINISH.
3. Class II, Architectural 204R1 medium etch 0.40 mils minimum (AA-M12C22A31), clear color.

    a. Thickness of anodic coating shall be tested in accord with ASTM B244-97 and sealed to pass modified dye stain test ASTM B136-84(1998).

2.3 REVEALS: the following moldings are for use with gypsum wallboard.

A. Reveal molding:

1. Acceptable product: Number DRM.
2. Characteristics:

    a. Description: Molding shall create a vertical or horizontal recessed reveal.
    b. Material: Extruded aluminum.
    c. Dimensions: ¼•wide x 5/8• deep.
    d. Use vented for soffit vent application where air movement is necessary.

2.4 FASTENERS:

A. Fasteners: Exposed fasteners (provided by installer) shall be countersunk and shall match accessories in color.

1. Aluminum to aluminum: Aluminum or Type 302 or 304 stainless steel.

2.5 FABRICATION:

A. Mounting holes: Provide mounting holes

B. Venting: vent slots shall be 1• by 1/8• spaced 1-1/2• lengthwise. Each row of vent slots shall provide 1 square inch of free area per lineal foot.

C. Make custom miters and intersections with welded corners or with high-strength industrial tape on backs.

D. Radius Shapes shall be as indicated on drawings.

PART 3 - EXECUTION

3.1 INSTALLATION:

A. Install gypsum wallboard accessories in accord with manufacturer's product data and as follows:

1. Corner trim: Install at designated corners.
2. Metal trim shapes: Install at exposed edge of wallboard at door and window openings, at intersections with other materials and at intersection of walls with ceilings.
3. Install corner beads and metal trim shapes to framing system with mechanical anchors spaced at 16 " o.c. for vertical applications, and 16• o.c. for horizontal applications.

B. Joint treatment: Finish joints and attachment flanges as specified in Gypsum Board Systems section.

C. Dust surfaces and leave ready for decoration. Joint and fastener treatment shall be indistinguishable in finished work.

3.2 PROTECTION

A. Protect accessories from damage until date of Substantial Completion. Replace accessories which become damaged.

END OF SECTION

SECTION 096513 - RESILIENT BASE AND ACCESSORIES

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Resilient base.
2. Resilient molding accessories.

1.2 ACTION SUBMITTALS

A. Product Data: For each type of product.

B. Samples: For each exposed product and for each color and texture specified, not less than 12 inches long.

PART 2 - PRODUCTS

2.1 THERMOSET-RUBBER BASE

A. Manufacturers: Subject to compliance with requirements, provide products by one of the following:

1. Burke Mercer Flooring Products; a division of Burke Industries Inc.
2. Flexco.
3. Roppe Corporation, USA.
4. Prior approved equal.

B. Product Standard: ASTM F 1861, Type TS (rubber, vulcanized thermoset), Group I (solid, homogeneous).

1. Style:

a. Style B, Cove

C. Thickness: 0.125 inch.

D. Height: 4 inches.

E. Lengths: Coils in manufacturer's standard length.

F. Outside Corners: Job formed.

G. Inside Corners: Job formed.

H. Colors: As selected by Architect from full range of industry colors.

2.2 RUBBER MOLDING ACCESSORY

A. Manufacturers: Subject to compliance with requirements, provide products by one of the following:

1. Burke Mercer.
2. Flexco.
3. Roppe Corporation, USA.
4. Prior approved equal.

B. Description: Rubber transition strips.

C. Profile and Dimensions: As indicated.

D. Locations: Provide rubber molding accessories in areas indicated.

E. Colors and Patterns: As selected by Architect from full range of industry colors.

2.3 INSTALLATION MATERIALS

A. Trowelable Leveling and Patching Compounds: Latex-modified, portland cement based or blended hydraulic-cement-based formulation provided or approved by resilient-product manufacturer for applications indicated.

B. Adhesives: Water-resistant type recommended by resilient-product manufacturer for resilient products and substrate conditions indicated.

PART 3 - EXECUTION

3.1 PREPARATION

A. Prepare substrates according to manufacturer's written instructions to ensure adhesion of resilient products.

B. Concrete Substrates for Resilient Stair Accessories: Prepare horizontal surfaces according to ASTM F 710.

1. Verify that substrates are dry and free of curing compounds, sealers, and hardeners.
2. Remove substrate coatings and other substances that are incompatible with adhesives and that contain soap, wax, oil, or silicone, using mechanical methods recommended by manufacturer. Do not use solvents.
3. Alkalinity and Adhesion Testing: Perform tests recommended by manufacturer. Proceed with installation only after substrate alkalinity falls within range on pH scale recommended by manufacturer in writing, but not less than 5 or more than 10 pH.
4. Moisture Testing: Proceed with installation only after substrates pass testing according to manufacturer's written recommendations, but not less stringent than the following:

    a. Perform anhydrous calcium chloride test according to ASTM F 1869. Proceed with installation only after substrates have maximum moisture-vapor-emission rate of 3 lb of water/1000 sq. ft. in 24 hours.

b. Perform relative humidity test using in situ probes according to ASTM F 2170. Proceed with installation only after substrates have maximum 75 percent relative humidity level.

C. Fill cracks, holes, and depressions in substrates with trowelable leveling and patching compound; remove bumps and ridges to produce a uniform and smooth substrate.

D. Do not install resilient products until they are the same temperature as the space where they are to be installed.

E. Immediately before installation, sweep and vacuum clean substrates to be covered by resilient products.

3.2 RESILIENT BASE INSTALLATION

A. Comply with manufacturer's written instructions for installing resilient base.

B. Apply resilient base to walls, columns, pilasters, casework and cabinets in toe spaces, and other permanent fixtures in rooms and areas where base is required.

C. Install resilient base in lengths as long as practical without gaps at seams and with tops of adjacent pieces aligned.

D. Tightly adhere resilient base to substrate throughout length of each piece, with base in continuous contact with horizontal and vertical substrates.

E. Do not stretch resilient base during installation.

F. On masonry surfaces or other similar irregular substrates, fill voids along top edge of resilient base with manufacturer's recommended adhesive filler material.

G. Preformed Corners: Install preformed corners before installing straight pieces.

H. Job-Formed Corners:

1. Outside Corners: Use straight pieces of maximum lengths possible and form with returns not less than 3 inches in length.

   a. Form without producing discoloration (whitening) at bends.

2. Inside Corners: Use straight pieces of maximum lengths possible and form with returns not less than 3 inches in length.

   a. Miter or cope corners to minimize open joints.

3.3 RESILIENT ACCESSORY INSTALLATION

A. Comply with manufacturer's written instructions for installing resilient accessories.

B. Resilient Molding Accessories: Butt to adjacent materials and tightly adhere to substrates throughout length of each piece. Install reducer strips at edges of floor covering that would otherwise be exposed.

3.4 CLEANING AND PROTECTION

A. Comply with manufacturer's written instructions for cleaning and protecting resilient products.

B. Cover resilient products subject to wear and foot traffic until Substantial Completion.

END OF SECTION

SECTION 096516 - RESILIENT SHEET FLOORING

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Unbacked rubber sheet flooring.

1.2 ACTION SUBMITTALS

A. Product Data: For each type of product.

B. Samples: For each exposed product and for each color, texture, and pattern specified.

1.3 CLOSEOUT SUBMITTALS

A. Maintenance data.

1.4 QUALITY ASSURANCE

A. Installer Qualifications: An entity that employs installers and supervisors who are competent in techniques required by manufacturer for resilient sheet flooring installation and seaming method indicated.

1. Engage an installer who employs workers for this Project who are trained or certified by resilient sheet flooring manufacturer for installation techniques required.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

A. Fire-Test-Response Characteristics: For resilient sheet flooring, as determined by testing identical products according to ASTM E 648 or NFPA 253 by a qualified testing agency.

1. Critical Radiant Flux Classification: Class I, not less than 0.45 W/sq. cm.

2.2 UNBACKED RUBBER SHEET FLOORING

A. Products: Subject to compliance with requirements, provide one of the following:

1. Basis of Design: Nora Systems, Inc.; Noraplan Sentica 3.0mm Sheet
2. Or equal product by:
3. Flexco

4. Johnsonite; A Tarkett Company

B. Product Standard: ASTM F 1859.

1. Type: Type I, homogeneous rubber sheet floor covering with random scattered design

2. Surface: Smooth
3. Thickness: 0.12 inches
4. Hardness: Not less than required by ASTM F 1859 Manufacturer's standard hardness, measured using Shore, Type A durometer per ASTM D 2240.

C. Sheet Width: As standard with manufacturer, 3.3 feet

D. Seamless-Installation Method: Heat welded Chemically bonded Insert requirements.

E. Colors and Patterns: As indicated by manufacturer's designations Match Architect's samples Insert colors and patterns.

2.3 INSTALLATION MATERIALS

A. Trowelable Leveling and Patching Compounds: Latex-modified, portland-cement-based or blended hydraulic-cement-based formulation provided or approved by resilient sheet flooring manufacturer for applications indicated.

B. Adhesives: Water-resistant type recommended by flooring and adhesive manufacturers to suit resilient sheet flooring and substrate conditions indicated. High moisture adhesive shall be used.

C. High Moisture Adhesive applied to back of sheet goods is preferred. This results in a “peel and stick” application.

D. If adhesive applied to the back of the sheet goods is not available, spreadable adhesive is acceptable.

E. Seamless-Installation Accessories:

1. Heat-Welding Bead: Manufacturer's solid-strand product for heat welding seams.

a. Colors: As selected by Architect from manufacturer's full range to contrast with flooring Match flooring Insert colors.

2. Chemical-Bonding Compound: Manufacturer's product for chemically bonding seams.

F. Integral-Flash-Cove-Base Accessories:

1. Cove Strip: 1-inch radius provided or approved by resilient sheet flooring manufacturer.
2. Cap Strip: Square metal, vinyl, or rubber cap Tapered vinyl cap Insert requirements provided or approved by resilient sheet flooring manufacturer.
3. Corners: Metal inside and outside corners and end stops provided or approved by resilient sheet flooring manufacturer.

PART 3 - EXECUTION

3.1 PREPARATION

A. Prepare substrates according to resilient sheet flooring manufacturer's written instructions to ensure adhesion of resilient sheet flooring.

B. Concrete Substrates: Prepare according to ASTM F 710.

1. Verify that substrates are dry and free of curing compounds, sealers, and hardeners.
2. Remove substrate coatings and other substances that are incompatible with adhesives and that contain soap, wax, oil, or silicone, using mechanical methods recommended by resilient sheet flooring manufacturer. Do not use solvents.
3. Alkalinity and Adhesion Testing: Perform tests recommended by resilient sheet flooring manufacturer. Proceed with installation only after substrate alkalinity falls within range on pH scale recommended by manufacturer in writing, but not less than 5 or more than 10 pH.
4. Moisture Testing: Perform tests so that each test area does not exceed 1000 sq. ft., and perform no fewer than three tests in each installation area and with test areas evenly spaced in installation areas.

    a. Anhydrous Calcium Chloride Test: ASTM F 1869. Proceed with installation only after substrates have maximum moisture-vapor-emission rate of 3 lb of water/1000 sq. ft. in 24 hours, or per Manufacturer’s recommendation if it is more stringent.
    b. Relative Humidity Test: Using in-situ probes, ASTM F 2170. Proceed with installation only after substrates have a maximum 60 percent relative humidity level measurement.

C. Fill cracks, holes, and depressions in substrates with trowelable leveling and patching compound; remove bumps and ridges to produce a uniform and smooth substrate.

D. Do not install resilient sheet flooring until materials are the same temperature as space where they are to be installed.

1. At least 48 hours in advance of installation, move flooring and installation materials into spaces where they will be installed.

E. Immediately before installation, sweep and vacuum clean substrates to be covered by resilient sheet flooring.

3.2 RESILIENT SHEET FLOORING INSTALLATION

A. Comply with manufacturer's written instructions for installing resilient sheet flooring.

B. Unroll resilient sheet flooring and allow it to stabilize before cutting and fitting.

C. Lay out resilient sheet flooring as follows:

1. Maintain uniformity of flooring direction.
2. Minimize number of seams; place seams in inconspicuous and low-traffic areas, at least 6 inches away from parallel joints in flooring substrates.

3. Match edges of flooring for color shading at seams.
4. Avoid cross seams.

D. Scribe and cut resilient sheet flooring to butt neatly and tightly to vertical surfaces and permanent fixtures including built-in furniture, cabinets, pipes, outlets, and door frames.

E. Extend resilient sheet flooring into toe spaces, door reveals, closets, and similar openings.

F. Maintain reference markers, holes, and openings that are in place or marked for future cutting by repeating on resilient sheet flooring as marked on substrates. Use chalk or other nonpermanent marking device.

G. Install resilient sheet flooring on covers for telephone and electrical ducts and similar items in installation areas. Maintain overall continuity of color and pattern between pieces of flooring installed on covers and adjoining flooring. Tightly adhere flooring edges to substrates that abut covers and to cover perimeters.

H. Adhere resilient sheet flooring to substrates using a full spread of adhesive applied to substrate to produce a completed installation without open cracks, voids, raising and puckering at joints, telegraphing of adhesive spreader marks, and other surface imperfections.

I. Seamless Installation:

1. Heat-Welded Seams: Comply with ASTM F 1516. Rout joints and heat weld with welding bead to fuse sections permanently into a seamless flooring installation. Prepare, weld, and finish seams to produce surfaces flush with adjoining flooring surfaces.
2. Chemically Bonded Seams: Bond seams with chemical-bonding compound to fuse sections permanently into a seamless flooring installation. Prepare seams and apply compound to produce tightly fitted seams without gaps, overlays, or excess bonding compound on flooring surfaces.

END OF SECTION

SECTION 096700 – FLUID-APPLIED FLOORING FOR CONCRETE

PART 1 - GENERAL

1.1 SUMMARY

A. Fluid-applied flooring for concrete.

1.2 ACTION SUBMITTALS

A. Product Data: For each type of product.

B. Samples: Submit a complete set of color chips that represent the full range of manufacturer's color samples available

1.3 CLOSEOUT SUBMITTALS

A. Maintenance data.

1.4 QUALITY ASSURANCE

A. Installer Qualifications: Engage an installer who has done a minimum of five installations of comparable size with the specified product.

B. Mockups: Provide in place sample area that matches reviewed 12-inch square sample for color, grade, and final texture of coating system.

1.5 FIELD CONDITIONS

A. Environmental Limitations: Comply with manufacturer's written instructions for substrate temperature, ambient temperature, moisture, ventilation, and other conditions affecting installation. Do not apply coatings under environmental conditions outside manufacturer's absolute limits.

B. Do not apply coating materials when dust is being generated.

PART 2 - PRODUCTS

2.1 ACRYLIC WATER BASED FLOOR COATING

A. Acrylic Water Based Floor Coating: Comply with manufacturer's written instructions for aggregate proportions and mixing.

1. Products: Subject to compliance with requirements, provide one of the following:

a. Sherwin Williams; Armorseal Tread-Plex B90 Series
b. Prior reviewed equal.

2. Color: As selected from manufacturer's full range of standard colors.

B. Materials:

1. Acrylic Systems: Unless otherwise indicated, provide factory-mixed coatings. When required, mix coatings to correct consistency in accordance with manufacturer's instructions before application. Do not reduce, thin, or dilute coatings or add materials to coatings unless such procedure is specifically described in manufacturer's product instructions.
2. Primer: Where the manufacturer offers options on primers for a particular substrate, use primer categorized as "best" by the manufacturer.
3. Accessories: Provide all primers, sealers, cleaning agents, cleaning cloths, sanding materials, and clean-up materials required, per manufacturer's specifications.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Do not begin application of coatings until substrates have been properly examined and prepared. Notify Architect or Specifier of unsatisfactory conditions before proceeding.

B. If substrate preparation is the responsibility of another installer, notify Architect of unsatisfactory preparation before proceeding.

C. Proceed with work only after conditions have been corrected, and approved by all parties, otherwise application of coatings will be considered as an acceptance of surface conditions

D. Previously Painted Surfaces: Verify that existing painted surfaces do not contain lead based paints, notify Architect immediately if lead based paints are encountered.

3.2 PREPARATION

A. Concrete Slabs:

1. Shot-blast or mechanically abrade to remove laitance, curing compounds, sealers and other contaminants to provide surface profile. Verify that all surfaces are clean, dry and free of any contaminants, which may adversely affect the adhesion of the flooring system.
2. Vacuum clean concrete to remove all dirt, dust, and other loose materials.
3. Fill all cracks, voids, bug holes and joints with appropriate manufacturer-recommended crack filler, joint sealer, or patching compound.

B. Verify that concrete substrates are dry and moisture-vapor emissions are within acceptable levels according to manufacturer's written instructions.

1. Moisture Testing: Test for moisture content by ASTM D4263 'plastic film tape-down test'. Proceed with installation only after substrates pass testing.

3.3 INSTALLATION

A. Testing: Test the product in an inconspicuous spot for adhesion and compatibility prior to full-scale application.

B. Apply all coatings and materials with the manufacturer's specifications in mind. Mix and thin coatings according to manufacturer's recommendation.

C. Do not apply to wet or damp surfaces.

D. Wait at least 30 days before applying to new concrete or masonry. Or follow manufacturer's procedures to apply appropriate coatings prior to 30 days.

E. Apply coatings using methods recommended by manufacturer.

F. Uniformly apply coatings without runs, or sags, without brush marks, and with consistent sheen.

G. Apply coatings at spreading rate required to achieve the manufacturer's recommended dry film thickness.

H. Regardless of number of coats specified, apply as many coats as necessary for complete hide and uniform appearance following manufacturer's guidelines.

I. Inspection: The coated surface must be inspected and approved by the Architect or Engineer just prior to the application of each coat.

3.4 CLEANING AND PROTECTION

A. Cleaning:

1. Remove waste materials and debris.

B. Protection:

1. Allow completed Work to cure a minimum of 24 hours after application.
2. Protect from traffic until completion of project.
3. Touch-up damaged coatings after substantial completion, following manufacturer's recommendation for touch up or repair of damaged coatings. Repair any defects that will hinder the performance of the coatings.

END OF SECTION 096623

SECTION 099100 - PAINTING

PART 1 - GENERAL

1.1 SUMMARY

A. Section includes surface preparation and the application of paint systems on the following interior substrates:

1. Brick masonry.
2. Concrete masonry units (CMU).
3. Steel.
4. Wood.
5. Gypsum Board (interior).
6. Wood trim (interior).

1.2 DEFINITIONS

A. Gloss Level 1: Not more than 5 units at 60 degrees and 10 units at 85 degrees, according to ASTM D 523.

B. Gloss Level 3: 10 to 25 units at 60 degrees and 10 to 35 units at 85 degrees, according to ASTM D 523.

C. Gloss Level 4: 20 to 35 units at 60 degrees and not less than 35 units at 85 degrees, according to ASTM D 523.

D. Gloss Level 5: 35 to 70 units at 60 degrees, according to ASTM D 523.

E. Gloss Level 6: 70 to 85 units at 60 degrees, according to ASTM D 523.

F. Gloss Level 7: More than 85 units at 60 degrees, according to ASTM D 523.

1.3 ACTION SUBMITTALS

A. Product Data: For each type of product. Include preparation requirements and application instructions.

B. Samples: For each type of paint system and each color and gloss of topcoat.

C. Product List: For each product indicated. Include printout of current "MPI Approved Products List" for each product category specified, with the proposed product highlighted.

1.4 MAINTENANCE MATERIAL SUBMITTALS

A. Furnish extra materials that match products installed and that are packaged with protective covering for storage and identified with labels describing contents.

1. Paint: 5 percent, but not less than 1 gal. of each material and color applied.

1.5 QUALITY ASSURANCE

A. Mockups: Apply mockups of each paint system indicated and each color and finish selected to verify preliminary selections made under Sample submittals and to demonstrate aesthetic effects and set quality standards for materials and execution.

1. Architect will select one surface to represent surfaces and conditions for application of each paint system specified in Part 3.

   a. Vertical and Horizontal Surfaces: Provide samples of at least 40 sq. ft.
   b. Other Items: Architect will designate items or areas required.

2. Final approval of color selections will be based on mockups.

   a. If preliminary color selections are not approved, apply additional mockups of additional colors selected by Architect at no added cost to Owner.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

A. Products: Subject to compliance with requirements, provide one of the products listed in other Part 2 articles for the paint category indicated.

2.2 PAINT, GENERAL

A. MPI Standards: Provide products that comply with MPI standards indicated and that are listed in its "MPI Approved Products List."

B. Material Compatibility:

1. Provide materials for use within each paint system that are compatible with one another and substrates indicated, under conditions of service and application as demonstrated by manufacturer, based on testing and field experience.
2. For each coat in a paint system, provide products recommended in writing by manufacturers of topcoat for use in paint system and on substrate indicated.

C. VOC Content: Provide materials that comply with VOC limits of authorities having jurisdiction.

D. Colors: As selected by Architect from manufacturer's full range.

2.3 BLOCK FILLERS

A. Block Filler, Latex, Interior/Exterior: MPI #4.

1. Benjamin Moore; Super Spec High Build Interior/Exterior Block Filler
2. Sherwin Williams; Loxon Block Surfacer A24W00200.
3. Prior reviewed equal.

2.4 PRIMERS/SEALERS

A. Primer, Alkali Resistant, Water Based: MPI #3.

1. Benjamin Moore; Super Spec Masonry 100% Acrylic High Build Primer - 068.
2. Sherwin Williams; Loxon Concrete & Masonry Primer – A24W8300.
3. Prior reviewed equal.

B. Primer Sealer, Latex, Interior: MPI #50.

1. Benjamin Moore; Profinish Interior Latex Primer Sealer – PF05.
2. Sherwin Williams; ProMar 200 Interior Latex Primer – B28W8200.
3. Prior reviewed equal.

2.5 METAL PRIMERS

A. Primer, Alkyd, Anti-Corrosive for Metal: MPI #79.

1. Benjamin Moore; Super Spec HP D.T.M. Alkyd Low Lustre – P23.
2. Sherwin Williams; Kem Kromik Universal Primer – B50WZ1.
3. Prior reviewed equal.

B. Primer, Galvanized, Water Based: MPI #134.

1. Benjamin Moore; Super Spec HP D.T.M. Alkyd Low Lustre – P25.
2. Sherwin Williams; DTM Acrylic Primer/Finish – B66W1.
3. Prior reviewed equal.

2.6 WATER-BASED PAINTS

A. Latex, Interior Flat (Gloss Level 1): MPI #53.

1. Benjamin Moore; Profinish Interior Latex Flat Finish – PF06.
2. Sherwin Williams; Harmony Interior Latex Flat – B05W00551.
3. Prior reviewed equal.

B. Latex, Interior Semi-Gloss (Gloss Level 4): MPI #43.

1. Benjamin Moore; Super Spec Latex Interior Pearl Finish – 277.
2. Sherwin Williams; ProMar 200 Interior Latex Semi-Gloss; B31W02251.
3. Prior reviewed equal.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine substrates and conditions, with Applicator present, for compliance with requirements for maximum moisture content and other conditions affecting performance of the Work.

B. Maximum Moisture Content of Substrates: When measured with an electronic moisture meter as follows:

1. Concrete: 12 percent.
2. Masonry (Clay and CMU): 12 percent.
3. Wood: 15 percent.
4. Portland Cement Plaster: 12 percent.
5. Gypsum Board: 12 percent.

C. Verify suitability of substrates, including surface conditions and compatibility with existing finishes and primers.

D. Proceed with coating application only after unsatisfactory conditions have been corrected.

1. Application of coating indicates acceptance of surfaces and conditions.

3.2 PREPARATION

A. Comply with manufacturer's written instructions and recommendations in "MPI Manual" applicable to substrates and paint systems indicated.

B. Clean substrates of substances that could impair bond of paints, including dust, dirt, oil, grease, and incompatible paints and encapsulants.

1. Remove incompatible primers and reprime substrate with compatible primers or apply tie coat as required to produce paint systems indicated.

3.3 APPLICATION

A. Apply paints according to manufacturer's written instructions and recommendations in "MPI Manual."

B. Apply paints to produce surface films without cloudiness, spotting, holidays, laps, brush marks, roller tracking, runs, sags, ropiness, or other surface imperfections. Cut in sharp lines and color breaks.

3.4 CLEANING AND PROTECTION

A. Protect work of other trades against damage from paint application. Correct damage to work of other trades by cleaning, repairing, replacing, and refinishing, as approved by Architect, and leave in an undamaged condition.

B. At completion of construction activities of other trades, touch up and restore damaged or defaced painted surfaces.

C. CMU Substrates:

1. Elastomeric System: Dry film thickness not less than 7 mils.

a. Prime Coat: Block Filler, MPI #4.
b. Intermediate Coat: Elastomeric coating.

c. Topcoat: Elastomeric coating.

D. Steel Substrates:

1. Alkyd System:

a. Prime Coat: Primer, alkyd, anticorrosive for metal, MPI #79.
b. Intermediate Coat: Exterior alkyd enamel matching topcoat.
c. Topcoat: Alkyd, exterior, semi-gloss (Gloss Level 5), MPI #94.

3.5 INTERIOR PAINTING SCHEDULE

A. Steel Substrates:

1. Latex over Alkyd Primer System:

a. Prime Coat: Primer, alkyd, anti-corrosive, for metal, MPI #79.
b. Intermediate Coat: Latex, interior, matching topcoat, MPI #43.
c. Topcoat: Latex, interior, (Gloss Level 4) MPI #43.

B. Clay Masonry and CMU Substrates:

1. Latex over Block Filler System:

a. Prime Coat: Block Filler, MPI #4.
b. Intermediate Coat: Latex, interior, matching topcoat, MPI #43.
c. Topcoat: Latex, interior, (Gloss Level 4) MPI #43.

C. Gypsum Board Substrates:

1. Latex System:

a. Prime Coat: Primer sealer, latex, interior.
b. Intermediate Coat: Latex, interior, matching topcoat.
c. Topcoat: Latex, interior, flat (Gloss Level 1) at ceilings only, MPI #53.
d. Topcoat: Latex, interior, (Gloss Level 4) MPI #43.

END OF SECTION 099100

SECTION 101100 - VISUAL DISPLAY UNITS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

A. Section Includes:

1. Markerboards.

1.3 DEFINITIONS

A. Visual Display Board Assembly: Visual display surface that is factory fabricated into composite panel form, either with or without a perimeter frame; includes chalkboards, markerboards, and tackboards.

B. Visual Display Surface: Surfaces that are used to convey information visually, including surfaces of chalkboards, markerboards, tackboards, and surfacing materials that are not fabricated into composite panel form but are applied directly to walls.

1.4 ACTION SUBMITTALS

A. Product Data: For each type of product indicated. Include construction details, material descriptions, dimensions of individual components and profiles.

B. Shop Drawings: For visual display surfaces. Include plans, elevations, sections, details, and attachments to other work.

1. Show locations of panel joints.
2. Show locations of special-purpose graphics for visual display surfaces.
3. Include sections of typical trim members.

C. Samples for Initial Selection: For each type of visual display surface indicated, for units with factory-applied color finishes, and as follows:

1. Actual sections of porcelain-enamel face sheet.

1.5 INFORMATIONAL SUBMITTALS

A. Product Test Reports: Based on evaluation of comprehensive tests performed by a qualified testing agency, for surface-burning characteristics of fabrics.

B. Warranties: Sample of special warranties.

1.6 CLOSEOUT SUBMITTALS

A. Maintenance Data: For visual display surfaces to include in maintenance manuals.

1.7 QUALITY ASSURANCE

A. Source Limitations: Obtain visual display surfaces from single source from single manufacturer.

B. Surface-Burning Characteristics: As determined by testing identical products according to ASTM E 84 by a qualified testing agency. Identify products with appropriate markings of applicable testing agency.

1. Flame-Spread Index: 25 or less.
2. Smoke-Developed Index: 450 or less.

1.8 DELIVERY, STORAGE, AND HANDLING

A. Deliver factory-built visual display surfaces, including factory-applied trim where indicated, completely assembled in one piece without joints, where possible. If dimensions exceed maximum manufactured panel size, provide two or more pieces of equal length as acceptable to Architect. When overall dimensions require delivery in separate units, prefit components at the factory, disassemble for delivery, and make final joints at the site.

B. Store visual display surfaces vertically with packing materials between each unit.

1.9 PROJECT CONDITIONS

A. Environmental Limitations: Do not deliver or install visual display surfaces until spaces are enclosed and weathertight, wet work in spaces is complete and dry, work above ceilings is complete, and temporary HVAC system is operating and maintaining ambient temperature and humidity conditions at occupancy levels during the remainder of the construction period.

B. Field Measurements: Verify actual dimensions of construction contiguous with visual display surfaces by field measurements before fabrication.

1. Allow for trimming and fitting where taking field measurements before fabrication might delay the Work.

1.10 WARRANTY

A. Special Warranty for Porcelain-Enamel Face Sheets: Manufacturer's standard form in which manufacturer agrees to repair or replace porcelain-enamel face sheets that fail in materials or workmanship within specified warranty period.

1. Failures include, but are not limited to, the following:

a. Surfaces lose original writing and erasing qualities.
b. Surfaces exhibit crazing, cracking, or flaking.

2. Warranty Period: 30 years from date of Substantial Completion.
3. Warranty Period: Life of the building.

PART 2 - PRODUCTS

2.1 MATERIALS, GENERAL

A. Porcelain-Enamel Face Sheet: Porcelain-enamel-clad, ASTM A 463, Type 1, stretcher-leveled aluminized steel, with minimum 0.024-inch uncoated thickness; with porcelain-enamel coating fused to steel at approximately 1000 deg F.

1. Gloss Finish: Low gloss; dry-erase markers wipe clean with dry cloth or standard eraser. Suitable for use as projection screen.

a. Products: Subject to compliance with requirements, provide one of the following:.

1) Basis of Design: Claridge Products and Equipment, Inc.; LCS Markerboard.
2) Arco Products
3) Platinum Visual Systems.
4) Prior reviewed equal.

B. Particleboard: ANSI A208.1, Grade M-1 that complies with the testing and product requirements.

C. Extruded Aluminum: ASTM B 221, Alloy 6063.

D. Stainless Steel Sheet Metal: 430 ferratic grade steel sheet from the 400 Series of stainless steel.

2.2 MARKERBOARD ASSEMBLIES

A. Porcelain-Enamel Markerboards: Balanced, high-pressure, factory-laminated markerboard assembly of three-ply construction consisting of backing sheet, core material, and 0.021-inch-thick, porcelain-enamel face sheet with high-gloss finish.

1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:

a. AARCO Products, Inc.
b. Claridge Products and Equipment, Inc.
c. Prior reviewed equal.

2. Particleboard Core: 3/8 inch thick; with 0.005-inch- thick, aluminum foil backing.
3. Laminating Adhesive: Manufacturer's standard, moisture-resistant thermoplastic type.

2.3 MARKERBOARD ACCESSORIES

A. Aluminum Frames and Trim: Fabricated from not less than 0.062-inch-thick, extruded aluminum; standard size and shape.

B. Marker Tray: Manufacturer's standard, continuous.

1. Box Type: Extruded aluminum with slanted front, grooved tray, and cast-aluminum end closures.

C. Map Rail: Provide the following accessories:

1. Display Rail: Continuous and integral with map rail; fabricated from cork approximately 1 to 2 inches wide.
2. End Stops: Located at each end of map rail.
3. Map Hooks: Two map hooks for every 48 inches of map rail or fraction thereof.

2.4 FABRICATION

A. Porcelain-Enamel Visual Display Assemblies: Laminate porcelain-enamel face sheet and backing sheet to core material under heat and pressure with manufacturer's standard flexible, waterproof adhesive.

B. Visual Display Boards: Factory assemble visual display boards unless otherwise indicated.

C. Factory-Assembled Visual Display Units: Coordinate factory-assembled units with trim and accessories indicated. Join parts with a neat, precision fit.

1. Make joints only where total length exceeds maximum manufactured length. Fabricate with minimum number of joints, balanced around center of board, as acceptable to Architect.
2. Provide manufacturer's standard vertical-joint spline system between abutting sections of markerboards.
3. Provide manufacturer's standard mullion trim at joints between markerboards and tackboards of combination units.
4. Where size of visual display boards or other conditions require support in addition to normal trim, provide structural supports or modify trim as indicated or as selected by Architect from manufacturer's standard structural support accessories to suit conditions indicated.

D. Aluminum Frames and Trim: Fabricate units straight and of single lengths, keeping joints to a minimum. Miter corners to a neat, hairline closure.

1. Where factory-applied trim is indicated, trim shall be assembled and attached to visual display units at manufacturer's factory before shipment.

2.5 GENERAL FINISH REQUIREMENTS

A. Comply with NAAMM's "Metal Finishes Manual for Architectural and Metal Products" for recommendations for applying and designating finishes.

B. Protect mechanical finishes on exposed surfaces from damage by applying a strippable, temporary protective covering before shipping.

C. Appearance of Finished Work: Noticeable variations in same piece are not acceptable. Variations in appearance of adjoining components are acceptable if they are within the range of approved Samples and are assembled or installed to minimize contrast.

2.6 ALUMINUM FINISHES

A. Clear Anodic Finish: AAMA 611, AA-M12C22A31, Class II, 0.010 mm or thicker.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine substrates and conditions, with Installer present, for compliance with requirements for installation tolerances, surface conditions of wall, and other conditions affecting performance of the Work.

B. Provide blocking in walls as required to install units permanently to the wall.

C. Examine walls and partitions for proper preparation and backing for visual display surfaces.

D. Examine walls and partitions for suitable framing depth where sliding visual display units will be installed.

E. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

A. Comply with manufacturer's written instructions for installation.

3.3 INSTALLATION, GENERAL

A. General: Install visual display surfaces in locations and at mounting heights indicated on Drawings.

3.4 INSTALLATION OF FACTORY-FABRICATED VISUAL DISPLAY BOARDS AND ASSEMBLIES

A. Visual Display Boards: Attach concealed clips, hangers, and grounds to wall surfaces and to visual display boards with fasteners at not more than 16 inches o.c. Secure both top and bottom of boards to walls.

1. Field-Applied Aluminum Trim: Attach trim over edges of visual display boards and conceal grounds and clips. Attach trim to boards with fasteners at not more than 24 inches o.c.

a. Attach marker trays to boards with fasteners at not more than 12 inches o.c.

3.5 CLEANING AND PROTECTION

A. Clean visual display surfaces according to manufacturer's written instructions. Attach one cleaning label to visual display surface in each room.

B. Touch up factory-applied finishes to restore damaged or soiled areas.

C. Cover and protect visual display surfaces after installation and cleaning.

END OF SECTION

SECTION 101423 - PANEL SIGNAGE

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Panel signs.

1.2 ACTION SUBMITTALS

A. Product Data: For each type of product.

B. Shop Drawings: For panel signs.

1. Include fabrication and installation details and attachments to other work.
2. Show sign mounting heights, locations of supplementary supports to be provided by others, and accessories.
3. Show message list, typestyles, graphic elements, including raised characters and Braille, and layout for each sign at least half size.

C. Samples: For each exposed product and for each color and texture specified.

D. Sign Schedule: Use same designations specified or indicated on Drawings or in a sign schedule.

1.3 INFORMATIONAL SUBMITTALS

A. Sample warranty.

1.4 CLOSEOUT SUBMITTALS

A. Maintenance data.

1.5 WARRANTY

A. Special Warranty: Manufacturer agrees to repair or replace components of signs that fail in materials or workmanship within specified warranty period.

1. Warranty Period: Five years from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

A. Thermal Movements: For exterior signs, allow for thermal movements from ambient and surface temperature changes.

1. Temperature Change: 120 deg F, ambient; 180 deg F, material surfaces.

B. Accessibility Standard: Comply with applicable provisions in [the U.S. Architectural & Transportation Barriers Compliance Board's ADA-ABA Accessibility Guidelines for Buildings and Facilities and ICC A117.1 for signs.

C. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and application.

2.2 SIGNS

A. Manufacturers: Subject to compliance with requirements, provide products by one of the following:

1. APCO Graphics, Inc.
2. ASI Sign Systems, Inc.
3. Best Sign Systems Inc.
4. InPro Corporation.
5. Mohawk Sign Systems.
6. Prior reviewed equal.

B. Panel Sign: Sign with smooth, uniform surfaces; with message and characters having uniform faces, sharp corners, and precisely formed lines and profiles; and as follows:

1. Solid-Sheet Sign and Returns: Acrylic sheet with finish specified in "Surface Finish and Applied Graphics" Subparagraph below and as follows:

   a. Etched and Filled Graphics: Sign face etched or routed to receive enamel-paint infill.
   b. Inset, Cutout Characters: Sign face routed to receive push-through acrylic graphics.

2. Laminated-Sheet Sign: Sandblasted polymer face sheet with raised graphics laminated over subsurface graphics to acrylic backing sheet to produce composite sheet.

   a. Surface-Applied Graphics: Applied paint.
   b. Subsurface Graphics: Slide-in changeable insert.

3. Sign-Panel Perimeter: Finish edges smooth.

   a. Edge Condition, Vertical Edges, Horizontal Edges: Square cut.
   b. Corner Condition in Elevation: Square.

4. Mounting: Surface mounted to wall with concealed anchors.

5. Surface Finish and Applied Graphics:

    a. Integral Acrylic Sheet Color: As selected by Architect from full range of industry colors.

2.3 PANEL-SIGN MATERIALS

A. Acrylic Sheet: ASTM D 4802, Type UVF (UV filtering).

2.4 ACCESSORIES

A. Fasteners and Anchors: Manufacturer's standard as required for secure anchorage of signage, noncorrosive and compatible with each material joined, and complying with the following:

1. Use concealed fasteners and anchors unless indicated to be exposed.
2. For exterior exposure, furnish stainless-steel or hot-dip galvanized devices unless otherwise indicated.
3. Exposed Metal-Fastener Components, General:

    a. Fabricated from same basic metal and finish of fastened metal unless otherwise indicated.

4. Sign Mounting Fasteners:

    a. Concealed Studs: Concealed (blind), threaded studs welded or brazed to back of sign material or screwed into back of sign assembly, unless otherwise indicated.

B. Adhesives: As recommended by sign manufacturer and with a VOC content of 70 g/L or less for adhesives used inside the weatherproofing system and applied on-site when calculated according to 40 CFR 59, Subpart D (EPA Method 24).

C. Two-Face Tape: Manufacturer's standard high-bond, foam-core tape, 0.045 inch thick, with adhesive on both sides.

D. Bituminous Paint: Cold-applied asphalt emulsion complying with ASTM D 1187.

2.5 FABRICATION

A. General: Provide manufacturer's standard sign assemblies according to requirements indicated.

1. Mill joints to a tight, hairline fit. Form assemblies and joints exposed to weather to resist water penetration and retention.
2. Provide welds and brazes behind finished surfaces without distorting or discoloring exposed side. Clean exposed welded and brazed connections of flux, and dress exposed and contact surfaces.
3. Conceal connections if possible; otherwise, locate connections where they are inconspicuous.
4. Internally brace signs for stability and for securing fasteners.
5. Provide rebates, lugs, and brackets necessary to assemble components and to attach to existing work. Drill and tap for required fasteners. Use concealed fasteners where possible; use exposed fasteners that match sign finish.

B. Surface-Engraved Graphics: Machine engrave characters and other graphic devices into panel surface indicated to produce precisely formed copy, incised to uniform depth.

1. Engraved Opaque Acrylic Sheet: Fill engraved graphics with manufacturer's standard enamel.

C. Subsurface-Applied Graphics: Apply graphics to back face of clear face-sheet material to produce precisely formed image. Image shall be free of rough edges.

D. Subsurface-Engraved Graphics: Reverse engrave back face of clear face-sheet material. Fill resulting copy with manufacturer's standard enamel. Apply opaque manufacturer's standard background color coating over enamel-filled copy.

PART 3 - EXECUTION

3.1 INSTALLATION

A. General: Install signs using mounting methods indicated and according to manufacturer's written instructions.

1. Install signs level, plumb, true to line, and at locations and heights indicated, with sign surfaces free of distortion and other defects in appearance.
2. Install signs so they do not protrude or obstruct according to the accessibility standard.
3. Before installation, verify that sign surfaces are clean and free of materials or debris that would impair installation.

B. Mounting Methods:

1. Concealed Studs: Using a template, drill holes in substrate aligning with studs on back of sign. Remove loose debris from hole and substrate surface.

   a. Masonry Substrates: Fill holes with adhesive. Leave recess space in hole for displaced adhesive. Place sign in position and push until flush to surface, embedding studs in holes. Temporarily support sign in position until adhesive fully sets.
   b. Thin or Hollow Surfaces: Place sign in position and flush to surface, install washers and nuts on studs projecting through opposite side of surface, and tighten.

2. Adhesive: Clean bond-breaking materials from substrate surface and remove loose debris. Apply linear beads or spots of adhesive symmetrically to back of sign and of suitable quantity to support weight of sign after cure without slippage. Keep adhesive away from edges to prevent adhesive extrusion as sign is applied and to prevent visibility of cured adhesive at sign edges. Place sign in position, and push to engage adhesive. Temporarily support sign in position until adhesive fully sets.
3. Two-Face Tape: Clean bond-breaking materials from substrate surface and remove loose debris. Apply tape strips symmetrically to back of sign and of suitable quantity to support weight of sign without slippage. Keep strips away from edges to prevent visibility at sign edges. Place sign in position, and push to engage tape adhesive.

C. Remove temporary protective coverings and strippable films as signs are installed.

3.2 SIGN TYPE LEGEND

A. TYPE 1: Match existing room identification signage.

1. Location: Adjacent to the door of every interior room labeled as indicated in the Drawings.

B. All signs shall have raised Braille characters, and shall comply with ADA ABA requirements.

C. Final Room Names and Numbers to be provided by Owner on Signage submittal.

END OF SECTION 101423

SECTION 123553 – WOOD LABORATORY CASEWORK

PART 1 - –GENERAL

1.1 SUMMARY

A. Section Includes:

1. All cabinets and casework, including tops, ledges, supporting structures, and miscellaneous items of equipment as listed in these specifications, or equipment schedules including delivery to the building, setting in place, leveling, scribing to walls and floors as required. Furnish and install all filler panels, knee space panels and scribes as shown on drawings. Installation shall be completed by a factory certified installer.
2. Furnish and deliver all utility service outlet accessory fittings, electrical receptacles and switches, as listed in these specifications, equipment schedules or as shown on drawings as mounted on the laboratory furniture. Items shall be furnished with supply tank nipples and lock nuts, loose in boxes and properly marked. All plumbing and electrical fittings will be packaged separately and properly marked for delivery to the appropriate contractor.
3. Furnish and deliver, packed in boxes for installation by the mechanical contractor, all laboratory sinks, cup sinks or drains, drain troughs, overflows and sink outlets with integral tailpieces, which occur above the floor and where these items are part of the equipment or listed in the specifications, equipment schedules or shown on the drawings. Integral tailpieces when required shall be in accordance with the manufacturer's standards. All tailpieces shall be furnished less the couplings required to connect them to the drain piping system.
4. Furnish service strip supports and set in place service tunnels, service turrets, supporting structures and reagent racks of the type shown on the details.
5. Remove of all debris, dirt and rubbish accumulated as a result of the installation of the laboratory casework to an onsite container provided by others, leaving the premises clean and orderly.

1.2 RELATED DOCUMENTS

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

B. Section 096513 – Resilient Base and Accessories: Base molding for laboratory casework provided and installed in this section.

C. Division 22 00 00 – Plumbing: Material and final connections for rough-ins, drain lines, vents, traps, tailpieces, service piping, shut-off valves, adapters, supports, in-line vacuum breakers, thermostatic mixing valves, etc. are provided and installed in this division for laboratory sinks, and faucets that are part of laboratory casework.

D. Division 26 00 00 – Electrical: Material and final connections for electrical rough-ins, junction boxes, conduit, wiring, etc. are provided in this division for laboratory casework electrical service fixtures.

1.3 QUALITY ASSURANCE

A. All laboratory casework, including cabinetry, work surfaces, sinks, and accessories, service fixtures and fittings, and technical products should be provided by the Wood Laboratory Casework Manufacturer.

B. Casework manufacturer shall be a Certified by AWI as a premium grade manufacturer.

C. Each cabinet shall be foam and shrink wrapped to ensure cabinet surfaces are protected until the time of installation. Blanket-wrap is not allowed because they do not stay with the cabinets after delivery and because they are not assured of being grease and dirt-free.

D. Casework shall be installed by a factory certified installer.

1.4 SUBMITTALS

A. Refer to Section 013300 for Submittal Procedures.

B. Submit manufacturer's data and installation instructions for each type of casework.

C. Submit shop drawings for furniture assemblies showing plans, elevations, ends, cross-sections, service run spaces, location and type of service fittings.

1. Coordinate shop drawings with other work involved.
2. Provide roughing-in drawings for mechanical and electrical services when required.
3. Selection Samples: Submit one (1) set of manufacturer’s standard color chips for wood casework.

1.5 WARRANTY

A. Lifetime Warranty: Provide written warranty with close-out documents stating that this manufacturer shall guarantee that all Wood Casework provided on this contract to be free from defects in material and workmanship for the life of the product in the application and location installed.

PART 2 - –PRODUCTS

2.1 MANUFACTURERS

A. Subject to compliance with requirements, provide products from one of the following manufacturers:

1. Basis of Design: Sheldon Laboratory Systems, Collegiate Series
2. Kewaunee Scientific Corporation.
3. Frey Scientific: School specialty science.

2.2 MATERIALS

A. It is the intent of this specification to provide a high quality wood cabinet specifically designed for the science classroom environment. All exterior casework surfaces which are exposed to view after installation, and cabinet interior surfaces, shall be red oak.

B. Hardwood shall be kiln-dried, clear and free of defects and shall meet surface requirements as specified below.

C. Plywood shall be of balanced construction and ¾” 7-ply veneer core hardwood plywood for shelves, cabinet ends and bottoms of base and tall cabinets; 1” 9-ply veneer core hardwood plywood for shelves over 36”, bottoms of wall and upper cabinets, and tops of wall, upper and tall cabinets; nominal ½” 9-ply veneer core plywood for drawer body; ¾” veneer core plywood for cabinet doors and drawer heads. Plywood shall meet the standards of ANSI/HPVA HP-1-2009. Particleboard is not acceptable.

D. Casework parts shall be as defined in AWI Quality Standards, 8th Edition, 400-G-3.

E. Exposed surfaces shall be of plain-sliced, slip matched HPVA grade A Red Oak veneers and compatible Grade I Red Oak hardwood lumber.

F. Semi-exposed surfaces shall be plain sliced, HPVA grade 1 Red Oak veneers and compatible Grade II hardwood lumber.

G. Concealed surfaces shall be no less than HPVA grade D face or grade 3 back veneers and compatible mill option hardwood lumber.

H. Edging for cabinet parts shall be 3 mm hardwood edging of compatible hardwood Red Oak.

I. Hardboard shall be ¼” thick 55 lb. density hardwood chip fiberboard formed with heat and pressure into sheets providing a hard, smooth surface.

J. Drawer and door pulls shall be satin finish, zinc coated wire type, 96 mm centers, offering a comfortable hand grip, and be securely fastened to doors and drawers. Two pulls shall be required on all drawers over 24" long. Use of plastic pulls (molded or extruded), or a design not compatible for usage by the handicapped shall be unacceptable

K. Hinges shall be BHMA Grade 1 of stainless steel, five (5) knuckle institutional, .083" thick, offset type for all swinging doors. Hinges shall be 2- ½” long, one (1) pair for doors under 4 ft. in height and 1-1/2 pair on doors over 4 ft. in height. Hinges are mounted with flathead screws, so applied to door and cabinet to withstand a weight load of 150 lbs. minimum.

L. Roller catches shall be used on swinging doors. Catches shall have two spring-loaded polyethylene rollers and metal catch to secure doors. Double doors without locks shall have a catch on each door. Full height cases shall have 3-point latching devices. Magnetic catches are not allowed.

M. Leg shoes shall be provided on all table legs, unless otherwise specified, to conceal leveling device. Shoes shall be 2-1/2" high and made of pliable, black rubber material. Use of a leg shoe, which does not conceal leveling device, will not be acceptable.

N. Floor glides, where specified for movable open-leg tables, shall be a non-skid material at least 1" diameter to prevent indenting composition flooring and shall have at least a 5/8" height adjustment. Use of metal buttons will not be acceptable.

O. Dowels used to join frames and panels shall be fluted hardwood not less than 8 mm in diameter.

P. Shelf support clips shall be “seismic” twin pin type for mounting on interior of cabinet work. Clips shall be corrosion resistant and shall retain shelves from accidental removal. Shelves in all cabinets are adjustable on 32mm centers. Single pin support clips and surface mounted metal support strips and clips subject to corrosion are not acceptable.

Q. Base molding and stainless steel corner clips shall be provided by others.

R. Upright rods, cross rods and ring support rods, where specified, shall be aluminum (1/2" or 3/4" dia., as required). Rod sockets shall be aluminum, secured through table tops with lock nut and washer. Rod clamps shall be heavy duty, designed to securely hold rod assembly in any position. Use of wood rod assemblies will not be accepted.

S. Drawer slides shall be zinc plated, cold rolled steel, full extension, linear ball bearing slides rated at 100 pounds minimum. The drawer shall be removable without the use of tools.

T. Sink supports, where required, shall be of a cradle type consisting of two 1-1/2” x 3/4” horizontal cleats and adjustable leveling bolts or glides. The horizontal cleats shall be supported by two 1/8” x 1-1/2” angle irons attached to the cabinet end panels.

2.3 CONSTRUCTION

A. General Requirements: It is the intent of this specification to provide a high quality wood cabinet specifically designed for the laboratory environment. The cabinet shall be full overlay construction with ¾” thick door and drawer fronts. The door and drawer fronts shall occupy a plane extending ¾” past the plane of the front of the cabinet body. Edges of door and drawer fronts shall be square. The doors and drawer fronts shall overlay the face of the cabinet leaving minimal reveals between doors and drawers of approximately 1/8”. All cabinet end panels shall be finished for the purpose of future relocation. The exposed grain for doors and drawer fronts shall run vertical be matched to the door or drawer front above or below it.

B. Base Cabinets shall consist of the following minimum construction:

1. Joinery must meet AWI Premium Grade requirements.
2. End Panels, Bottoms, and Shelves:
   a. All cabinet end panels shall be 3/4" thick Red Oak veneer core plywood edge banded on exposed edges. End panels shall be multiple doweled, glued, and screwed to top frame members, intermediate rails, and bottoms. Cupboard bottoms shall be 3/4" thick Red Oak veneer core plywood edge banded on exposed edge. All cupboard base cabinet shelves shall be full-width adjustable, 3/4" thick Red Oak veneer core plywood edge banded on exposed edge. Integrally joined parts shall result in a totally enclosed cabinet.
3. Backs:
   a. Cabinet backs shall be 1/4" thick hardboard, dadoed into end panels and securely fastened to cabinet bottom and top back rail. Backs that are attached to end panels with cleats shall be unacceptable.
4. Top Frame:

a. Two-piece Top Frame consisting of a front rail and a back rail. The front rail shall be 3 1/8" x 1" hardwood with 3mm Red Oak facing. The back rail shall be 2-1/2" x 3/4" hardwood plywood.

b. Drawers with Hardboard Bottom:
Drawer sides, back, and sub-front shall be 1/2" thick, 9-ply Birch plywood. Drawer heads shall be 3/4" thick, Red Oak, composite core plywood. A dovetail joint shall be used to attach the drawer sub-front and drawer back to the drawer sides. Drawer bottoms shall be 1/4" thick hardboard, set and hot-melt glued into 1/4" grooves, four sides. Each drawer shall have one pull mounted horizontally, drawers over 24" long shall have two pulls. Drawer sub-fronts attached to drawer sides with a lock-tenon joint shall be unacceptable

5. Doors:

a. Swinging doors shall be 3/4", Red Oak, composite core plywood edge banded on all four edges, mounted on cabinet with 1 pair of offset hinges and shall be latched with a roller catch. Double doors without locks shall have a roller catch on each door. Double doors with locks shall have an elbow catch mounted on the left-hand door and the lock and a roller catch mounted on the right-hand door. Each door shall have one pull mounted vertically.

C. Full Height Storage Cabinets shall consist of the following minimum construction:

1. All cabinet end panels shall be 3/4" thick Red Oak veneer core plywood, edge banded on front edge. Tops shall be 1" thick Red Oak veneer core plywood, edge banded on exposed edge, multiple doweled into end panels, secured with glue and countersunk screws. Shelves shall be 1" thick Red Oak veneer core plywood, edge banded on exposed edge. To assure a completely rigid case, the center shelf shall be multiple doweled into end panels, secured with glue and countersunk screws. All other shelves shall be adjustable on 32mm centers utilizing shelf support clips. Cabinet bottoms shall be 3/4" thick Red Oak veneer core plywood, edge banded on exposed edge, multiple doweled and glued securely to end panels. A 3/4" x 4" hardwood veneer core plywood toe space rail on 22" deep cabinets shall be offset 3" from face to form a 4" high totally enclosed toe space. 12" and 16" deep cabinets shall have a 3/4" x 4" hardwood veneer core plywood toe space rail mounted flush with the face of the cabinet. The backs in open and glazed door cabinets shall be 1/4" Red Oak composite or veneer core plywood while the back not exposed to view shall be 1/4" hardboard. Cabinet interior shall be flush.

D. Wall Mounted Cabinets shall consist of the following minimum construction:

1. End Panels, Bottoms, and Shelves:

a. All cabinet end panels shall be 3/4" thick Red Oak veneer core plywood edge banded on front and bottom edge. Tops and bottoms shall be 1" thick Red Oak veneer core plywood edge banded on exposed edge, multiple doweled into end panels, and secured with glue and countersunk screws. Shelves shall be 1” thick Red Oak veneer core plywood edge banded on exposed edge. Shelves shall be adjustable on 32mm centers utilizing shelf support clips. The backs in open and glazed door cases shall be 1/4" Red Oak composite or veneer core plywood while the back not exposed to view shall be 1/4" hardboard. Case interior shall be flush.

2. Backs:

a. Cabinet backs shall be 1/4" thick hardboard, dadoed into end panels and securely fastened to cabinet bottom and top back rail. Backs that are attached to end panels with cleats shall be unacceptable.

3. Top Frame:

a. Two-piece Top Frame consisting of a front rail and a back rail. The front rail shall be 3 1/8" x 1" hardwood with 3mm Red Oak facing. The back rail shall be 2-1/2" x 3/4" hardwood plywood.

4. Doors:

a. Panel doors shall be 3/4", Red Oak, composite core plywood edge banded on all four edges. Glazed doors shall have 3/4" x 3-3/16" Red Oak framing mortised, tenoned, and glued. Glass shall be set into door frame and secured with a plastic retainer. Each door shall have one pull mounted vertically. Swinging doors shall be hung on 1 pair of offset hinges, under 48" in height, and 1-1/2 pair on cabinets 48" high. Doors shall latch with a roller catch. Double doors without locks shall have a roller catch on each door. Double doors with locks shall have an elbow catch mounted to the left-hand door and the lock and a roller catch mounted on the right-hand door.

E. Student Laboratory Table (Fixed Height):

1. Basis of Design: Custom Student Table as per drawings
2. Fixed Height, Varies as per drawings. Work Surface, Wood Sink Base.
3. Height: 36” and one ADA height sink at each lab
4. 1” thick epoxy resin curved, contoured top with integral raised marine edge.
5. Integral Epoxy Resin sink with Sink base supported by a heavy-duty wood sink base assembly in Red Oak. The sink base assembly provides housing for the mechanical and electrical service lines and rough-in connections, and contains a front metal sink shroud, removable wood front panel to provide access to services, and a lower rear removable metal access cover panel.
6. 10" epoxy resin shelf with pass through as per drawings.
7. Lower storage shelf as per drawings.
8. Provide receptacles as per electrical drawings.
9. Standard services and accessories as per mechanical drawings to be included with each table:

2.4 FINISH AND PERFORMANCE REQUIREMENTS

A. Wood Surface Preparation: Prior to application of the wood finish, case and cabinet surfaces shall be smoothly sanded to remove loose fibers, scratch marks and abrasions, with all dust thoroughly removed by compressed air. Finish shall be applied to cabinet parts prior to assembly in order to assure uniform coverage.

B. Wood Stain Color: Selected from Manufacturer’s standard selection

C. Wood Finish Application: Finishes shall be applied and cured under controlled atmospheric conditions, aided by infrared radiant heaters. Finish must be VOC-free. Finish shall be applied via a flat line system prior to cabinet assembly in order to assure uniform coverage.

D. Interior Wood Casework Finish: Interior surfaces shall receive a double-pass of an acid, alkali, solvent, water and abrasion resistant finish meeting AWI requirements.

E. Exterior Wood Casework Finish: Exposed exterior surfaces, including interiors of glazed cases and open shelving, shall be provided with an acid, alkali, solvent, water and abrasion resistant finish meeting both AWI section 1500 and SEFA 8 requirements. Finish shall be applied to cabinet parts prior to assembly in order to assure uniform coverage.

2.5 WORKSURFACES

A. Materials: 1” Epoxy Resin, fabricated from a molded modified epoxy resin that has been especially compounded and cured to provide optimum physical and chemical resistance. Tops shall have a uniform mixture throughout, and shall not depend on a surface coating that can be readily removed by chemical or physical abuse. Tops shall be non-glaring and should have drip grooves under all exposed edges. Provide 4” high x 1” thick backsplash and end splash where tops abut walls, or where shown on drawings. Color shall be selected by architect from manufacturer’s full range of standard colors. All exposed edges shall be chamfered approximately 1/8”.

2.6 SINKS, CUPSINKS, AND DRAINS

A. Integral Sinks: Molded Epoxy Resin, one-piece, molded construction.

2.7 FITTINGS

A. WaterSaver brand or equivalent

B. Materials: Chrome-plated red brass or bronze

C. Construction:

1. Valves:

   a. Front-loaded valves
      1) Water
      2) Ball valve dry service

2. Water Outlets
   Goosenecks
   a. Aerator outlets
   b. Tank nipples
   c. Sink outlets

3. Miscellaneous
   Crumb cup strainers
   a. Vacuum breakers

PART 3 - EXECUTION - LABORATORY CASEWORK AND RELATED PRODUCTS

3.1 EXECUTION

A. Prior to fabrication of casework, contractor shall field verify project site to assure proper fit of materials being provided, and shall adjust drawings as necessary to insure proper fit of all casework and equipment to building conditions.

B. Delivery casework only after wet operations are complete and building is closed in, dry and has proper climate control for installation of casework. (Area in which laboratory casework is installed to be maintained between 65 and 75 degrees F, with relative humidity maintained between 45%-55%.)

C. Site conditions shall be in compliance with AWS Edition 1, Section 2.

3.2 INSTALLATION

A. Installer: Installer shall be certified by the factory as having the necessary skills and equipment to install the casework so as not to void the warranty.

B. Preparation: Prior to beginning installation of casework, check and verify that no irregularities exist that would affect quality of execution of work specified.

C. Coordination: Coordinate the work of the Section with the schedule and other requirements of other work being performed in the area at the same time both with regard to mechanical and electrical connections to and in the fume hoods and the general construction work.

D. Performance:

1. Casework:

   a. Set casework components plumb, square, and straight with no distortion and securely anchor to building structure. Shim as required using concealed shims.
   b. Screw continuous cabinets together with joints flush, tight and uniform, and with alignment of adjacent units within 1/16" tolerance.
   c. Secure wall cabinets to solid supporting material, not to plaster, lath or gypsum board.
   d. Abut top edge surfaces in one true plane. Provide flush joints not to exceed 1/8" between top units.

2. Work surfaces:

   a. Where required due to field conditions, scribe to abutting surfaces.
   b. Only factory prepared field joints, located per approved shop drawings, shall be permitted. Secure the joints in the field, where practical, in the same manner as in the factory.
   c. Secure work surfaces to casework and equipment components with materials and procedures recommended by the manufacturer.

3. Adjust and Clean:

   a. Repair or remove and replace defective work, as directed by owner and/or his representative upon completion of installation.
   b. Adjust doors, drawers and other moving or operating parts to function smoothly.
   c. Clean shop finished casework; touch up as required.
   d. Clean work surfaces and leave them free of all grease and streaks.
   e. Casework to be left broom clean and orderly.

E. Protection:

1. Provide reasonable protective measures to prevent casework and equipment from being exposed to other construction activity.
2. Advise owner and/or his representative of procedures and precautions for protection of material, installed laboratory casework and fixtures from damage by work of other trades.

END OF SECTION **123553**

SECTION 123661.16 - SOLID SURFACING COUNTERTOPS

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Solid surface material countertops.
2. Solid surface material backsplashes.
3. Solid surface material end splashes.
4. Solid surface material sinks.

1.2 ACTION SUBMITTALS

A. Product Data: For countertop materials.

B. Sustainable Design Submittals:

1. Chain-of-Custody Certificates: For certified wood products. Include statement of costs.

C. Shop Drawings: For countertops. Show materials, finishes, edge and backsplash profiles, methods of joining, and cutouts for plumbing fixtures.

D. Samples: For each type of material exposed to view.

PART 2 - PRODUCTS

2.1 SOLID SURFACE COUNTERTOP MATERIALS

A. Solid Surface Material: Homogeneous-filled plastic resin complying with ICPA SS-1.

1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:

a. Avonite Surfaces.
b. E. I. du Pont de Nemours and Company.
c. Formica Corporation.
d. LG Chemical, Ltd.
e. Meganite Inc.
f. Samsung Chemical USA, Inc.
g. Swan Corporation (The).
h. Transolid Div of Trumbull Industries.
i. Wilsonart International Holdings, Inc.
j. Prior Approved Equal.

2. Type: Provide Standard type unless Special Purpose type is indicated.
3. Integral Sink Bowls: Comply with CSA B45.5/IAPMO Z124.
4. Colors and Patterns: As selected by Architect from manufacturer's full range.

B. Composite Wood Products: Products shall be made using ultra-low-emitting formaldehyde resins as defined in the California Air Resources Board's "Airborne Toxic Control Measure to Reduce Formaldehyde Emissions from Composite Wood Products" or shall be made with no added formaldehyde.

C. Plywood: Exterior softwood plywood complying with DOC PS 1, Grade C-C Plugged, touch sanded.

2.2 COUNTERTOP FABRICATION

A. Fabricate countertops according to solid surface material manufacturer's written instructions and to the AWI/AWMAC/WI's "Architectural Woodwork Standards."

1. Grade: Custom.

B. Configuration:

1. Front: Straight, slightly eased at top Wood-trimmed edge as indicated.
2. Backsplash: Straight, slightly eased at corner.
3. End Splash: Matching backsplash.

C. Countertops: 3/4-inch- thick, solid surface material with wood-trimmed edges with front edge built up with same material.

D. Backsplashes: 3/4-inch- thick, solid surface material.

E. Joints: Fabricate countertops without joints.

F. Cutouts and Holes:

1. Undercounter Plumbing Fixtures: Make cutouts for fixtures in shop using template or pattern furnished by fixture manufacturer. Form cutouts to smooth, even curves.

2.3 INSTALLATION MATERIALS

A. Adhesive: Product recommended by solid surface material manufacturer.

B. Sealant for Countertops: Comply with applicable requirements in Section 079200 "Joint Sealants."

PART 3 - EXECUTION

3.1 INSTALLATION

A. Fasten countertops by screwing through corner blocks of base units into underside of countertop. Predrill holes for screws as recommended by manufacturer.

B. Fasten subtops to cabinets by screwing through subtops into cornerblocks of base cabinets. Shim as needed to align subtops in a level plane.

C. Secure countertops to subtops with adhesive according to solid surface material manufacturer's written instructions.

D. Bond joints with adhesive and draw tight as countertops are set. Mask areas of countertops adjacent to joints to prevent adhesive smears.

E. Install backsplashes and end splashes by adhering to wall and countertops with adhesive.

F. Install aprons to backing and countertops with adhesive.

G. Complete cutouts not finished in shop. Mask areas of countertops adjacent to cutouts to prevent damage while cutting. Make cutouts to accurately fit items to be installed, and at right angles to finished surfaces unless beveling is required for clearance. Ease edges slightly to prevent snipping.

H. Apply sealant to gaps at walls; comply with Section 079200 "Joint Sealants."

END OF SECTION

APPENDIX A

ENVIRONMENTAL ABATEMENT

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DIVISION 9 - FINISHES

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DIVISION 10 THROUGH DIVISION 16 (NOT USED)

SECTION 01013 - SUMMARY OF WORK - ABATEMENT

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings, general provisions of Contract, including General and Supplementary Conditions, and other Division - 1, 2 and 9 Specification Sections, apply to work of this section.

1.2 PROJECT/WORK IDENTIFICATION

A. Project Name: UNO Science Lab Upgrades
Phase II

Abatement Designer: **AIMS Group, Inc.**
4421 Zenith Street
Metairie, LA 70001
(504) 887-7045

Architect: Holly & Smith Architects, APAC
208 N. Cate Street
Hammond, LA 70401
(985) 345-5210

B. Summary of Work: The environmental remediation work of the Contract can be summarized as follows:

The work includes the removal of pipe insulation and asbestos-containing flooring materials and associated mastic; and, total component removal of lead-based painted shower head and shower head brace. The facility shall maintain partial occupancy for the duration of the work.

Please refer to the Architect's specifications for replacement and repair schedules and all other project requirements.

The following is a summary of specific materials to be abated as part of this Contract:

1) Base Bid

Asbestos Abatement
Summary of Work

1. Rooms 1008, 1008-A, and 1026-A

   a) 2″ Diameter Pipe Fittings . . . . . 22 EA
   b) 2″ Diameter Pipe Insulation . . . . . 105 LF

2. Rooms 1024-A

   a) 9″ X 9″ Lt. Brown Floor Tile and Mastic . . . . . 220 SF

3. Room 1008

   a) Cream Floor Tile Remnants and Mastic . . . . . 400 SF

4. Room 1008-A

   a) 12″ X 12″ Tan Floor Tile and Mastic . . . . . 320 SF

5. Room 1024

   a) Black Flooring Material . . . . . 320 SF

Lead-based Paint Abatement
Summary of Work

Total Component Removal

1. Room 1008

   a) Shower Head and Brace . . . . . 2 EA

2) Alternate No. 1

Asbestos Abatement
Summary of Work

1. 1026 and 1026-A

   a) 9″ X 9″ Lt. Brown Floor Tile and Mastic . . . . . 130 SF

NOTES:

1. All quantities are approximate only and are provided for the Contractor's general orientation. The actual quantity may vary. All contractors and subcontractors are to visit the site to determine, to their satisfaction, the actual quantity of materials requiring abatement and to insure that they are totally familiar with the conditions with which they may be working. Failure to do so does not relieve the contractor of his responsibility for knowledge of all existing conditions. If there is any doubt about the work to be performed the Contractor or Sub-contractor shall notify the Owner's Representative prior to the bid date for clarification.
2. In the case of a conflict between the requirements specified in the asbestos abatement specifications and the Architect's specifications, the more stringent requirement(s) shall be adhered to.
3. The contractor performing asbestos removal must be licensed with the State of Louisiana contractor Licensing Board as an Asbestos Abatement Contractor.
4. The Contractor is responsible for adequately protecting all fixed items which will remain within the work areas. Floor tile and mastic which may be present under fixed items (cabinets, shelving, etc.) shall be abated up to and flush with the item.
5. The Contractor shall be responsible for the proper removal and disposal of ballast containing polychlorinated biphenyls (PCBs) and mercury vapor-containing fluorescent light tubes in accordance with all applicable federal and state regulations. All ballasts are to be assumed to contain PCBs unless explicitly labeled as containing no PCBs.

1.3 PLAN OF ACTION

A. Submit to the Owner's Representative a detailed plan clearly outlining the means and methods which will employed to comply with all applicable regulations and requirements of the project specifications. Include in the plan the location and layout of decontamination areas, the sequencing of asbestos and lead-base paint abatement activities, PPE to be utilized for all abatement activities, the interface of trades involved in the performance of work, methods to be used to assure the safety of other occupants and visitors to the site, and disposal plan including location of approved disposal site. Expand upon the use of scaffolding, portable HEPA ventilation system, closing out of the building's HVAC system, method of removal to prohibit visible emissions in work areas, and packaging of removed asbestos and lead-based paint debris. The plan of action must be approved by the Owner's Representative prior to commencement of work.

1.4 INSPECTION REPORT

A. Prior to commencement of work, inspect areas in which work will be performed. Prepare a listing of damage to structure, surfaces, equipment or of surrounding properties which could be misconstrued as damage resulting from the work. Photo-

graph or videotape existing conditions as necessary to document conditions. Submit inspection report to the Owner's Representative prior to starting work.

1.5 POTENTIAL ENVIRONMENTAL HAZARD

A. The disturbance or dislocation of asbestos-containing materials and/or lead-containing materials may cause these substances to be released into the building's atmosphere, thereby creating a potential health hazard to workers and building occupants. Apprise all workers, supervisory personnel, subcontractors and consultants who will be at the job site of the seriousness of the hazard and of proper work procedures which must be followed.

1.6 STOP WORK

A. If the Owner, the Owner's Representative or the User Agency presents a written stop work order immediately and automatically stop all work. Do not recommence work until authorized in writing by the Owner's Representative.

1.7 CONTRACTOR USE OF PREMISES

A. General: The Contractor shall limit his use of the premises to the work area only.

B. Use of the Site: Confine operations at the site to the areas permitted by the Owner. Portions of the site beyond areas on which work is indicated are not to be disturbed. Conform to site rules and regulations affecting the work while engaged in work included in this Contract.

1. Keep existing driveways and entrances serving the premises clear and available to the Owner and his employees at all times. Do not use these areas for parking or storage of materials.

2. Do not unreasonably encumber the site with materials or equipment. Confine stockpiling of materials as directed by the Owner or Owner's Representative.

3. Lock automotive type vehicles, such as passenger cars and trucks and other mechanized or motorized construction equipment, when parked and unattended, so as to prevent unauthorized use. Do not leave such vehicles or equipment unattended with the motor running or the ignition key in place or accessible to unauthorized persons.

C. Contractor's Use of the Building: Maintain existing building in a safe and weathertight condition throughout the construction period. Repair damage caused by construction operations. Take all precautions necessary to protect the building and its occupants during the construction period.

1.8 SUBMITTALS:

A. Before the Start of Work: Submit the following to the Owner's Representative for review. Do not begin work until these submittals are returned with Owner's Representative's action stamp indicating that the submittal is returned for unrestricted use or final-but-restricted use.

1. Plan of Action
2. Schedules
3. Contractor Qualifications
4. Supervisor/Worker Training Certification
5. Medical Surveillance Program
6. Respiratory Protection Program
7. Equipment Information
8. MSDS for all Chemical Products
9. ADVF and Disposal Information

PART 2 - PRODUCTS (Not Applicable)

PART 3 - EXECUTION (Not Applicable)

END OF SECTION - 01013

SECTION 01092 - CODES, REGULATIONS, AND STANDARDS - ASBESTOS ABATEMENT

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of Contract, and other Division-1 Specification Sections, apply to this section.

1.2 SUMMARY

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

1. Requirements include adherence to work practices and procedures set forth in applicable codes, regulations and standards.
2. Requirements include obtaining permits, licenses, inspections, releases and similar documentation, as well as payments, statements and similar requirements associated with codes, regulations, and standards.

1.3 CODES AND REGULATIONS

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

B. Contractor Responsibility: The Contractor shall assume full responsibility and liability for the compliance with all applicable Federal, State, and local regulations pertaining to work practices, hauling, disposal, and protection of workers, visitors to the site, and persons occupying areas adjacent to the site. The Contractor is responsible for providing medical examinations and maintaining medical records of personnel as required by the applicable Federal, State, and local regulations. The Contractor shall hold the Owner and Owner's Representative harmless for failure to comply with any

applicable work, hauling, disposal, safety, health or other regulation on the part of himself, his employees, or his subcontractors.

C. Federal Requirements which govern asbestos abatement work or hauling and disposal of asbestos waste materials include but are not limited to the following:

1. OSHA: U.S. Department of Labor, Occupational Safety and Health Administration, (OSHA), including but not limited to:

   a. Occupational Exposure to Asbestos, Tremolite, Anthophyllite, and Actinolite; Final Rules
      Title 29, Part 1910, Section 1001 and
      Part 1926, Section 58 of the
      Code of Federal Regulations
   b. Respiratory Protection
      Title 29, Part 1910, Section 134 of the
      Code of Federal Regulations
   c. Construction Industry
      Title 29, Part 1926, of the
      Code of Federal Regulations
   d. Access to Employee Exposure and Medical Records
      Title 29, Part 1910, Section 2 of the
      Code of Federal Regulations
   e. Hazard Communication
      Title 29, Part 1910, Section 1200 of the
      Code of Federal Regulations
   f. Specifications for Accident Prevention Signs and Tags
      Title 29, Part 1910, Section 145 of the
      Code of Federal Regulations

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

   a. Hazardous Substances
      Title 29, Part 171 and 172 of the
      Code of Federal Regulations

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

   a. Asbestos Abatement Projects; Worker Protection Rule
      Title 40 Part 763, Sub-part G of the
      Code of Federal Regulations

   b. National Emission Standard for Hazardous Air Pollutants (NESHAPS)
      National Emission Standard for Asbestos

Title 40, Part 61, Sub-part A,
Sub-part M (Revised Sub-part B) and Asbestos Revisions, Final Rule,
Nov. 20, 1990 of the Code of Code of Federal Regulations

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

   a. LOUISIANA: Louisiana Department of Environmental Quality LESHAP Unit

      1) Subpart F - Emission Standards for Asbestos
      2) Subpart N - Asbestos Abatement Entity Certification
      3) Chapter 27 - Asbestos-Containing Materials in Schools and Public Building Regulation
      4) Chapter 51 - Comprehensive Toxic Air Pollutant Emission Control Program

5. Local Requirements: Abide by all local requirements which govern asbestos abatement work or hauling and disposal of asbestos materials.

1.4 STANDARDS

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

1. American National Standards Institute (ANSI)
   1430 Broadway
   New York, New York 10018
   (212)354-3300
2. Fundamentals Governing the Design and Operation of Local Exhaust Systems
   Publication Z9.2-79
3. Practices for Respiratory Protection
   Publication Z88.2-80
4. American Society for Testing and Materials (ASTM)
   1916 Race Street
   Philadelphia, PA 19103
   (215)299-5400
5. Standard Practice for Visual Inspection
   E-1368
6. Safety and Health Requirements Relating to Occupational Exposure to Asbestos
   E-849-82
7. Specification for Encapsulants for Friable Asbestos-Containing Building Materials
   Proposal P-189

1.5 EPA GUIDANCE DOCUMENTS

A. EPA Guidance Documents discuss asbestos abatement work or hauling and disposal of asbestos waste materials listed below for the Contractor's information only. These documents do not describe the work and are not a part of the work of this contract. EPA maintains an information number (800) 334-8571, publications can be ordered from (800) 424-9065 (554-1404 in Washington, DC):

1. Asbestos-Containing Materials in School Buildings - A Guidance Document. Part 1 & 2. (Orange Books) EPA C00090 (out of print)
2. Guidance for Controlling Asbestos-Containing Materials in Buildings (Purple Book) EPA 560/5-85-024
3. Friable Asbestos-Containing Materials in Schools: Identification and Notification Rule (40 CFR Part 763)
4. Evaluation of the EPA Asbestos-in-Schools Identification and Notification Rule. EPA 560/5-84-005
5. Asbestos in Buildings: National Survey of Asbestos-Containing Friable Materials. EPA 560/5-84-006
6. Asbestos in Buildings: Guidance for Service and Maintenance Personnel. EPA 560/5-85-018
7. Asbestos Waste Management Guidance. EPA 530-SW-85-007
8. Asbestos Fact Book. EPA Office of Public Affairs.
   Asbestos in Buildings. Simplified Sampling Scheme for Friable Surfacing Materials
9. Commercial Laboratories with Polarized Light Microscopy Capabilities for bulk Asbestos Identification.
10. A Guide to Respiratory Protection for the Asbestos Abatement Industry. EPA-560-OPTS-86-001

1.6 NOTICES

A. Louisiana Department of Environmental Quality (LDEQ): Notification ten (10) days prior to any work disturbing asbestos-containing materials to LDEQ LESHAP Unit satisfies USEPA NESHAP notification requirements.

1. The Louisiana Department of Environmental Quality (LDEQ) has issued the Louisiana Emission Standards for Hazardous Air Pollutants. Where asbestos is encountered on a project, the Contractor shall comply with all laws and ordinances pertaining to asbestos handling and abatement, including the latest revisions of LAC 33:III, Chapter 25, Subchapter F, Emission Standards for Hazardous Air Pollutants, LAC 33:III, Chapter 27, Asbestos Containing Materials in Schools and Public Buildings and LAC 33:III, Chapter 51, Subchapter M, Section 5151, Emission Standards for Asbestos.

   Notification should be addressed to:

Asbestos Coordinator
Louisiana Department of Environmental Quality
Air Quality Division
Post Office Box 82135
Baton Rouge, Louisiana 70884-2135

2. Notification: As a minimum include the following information in the notification sent to the LDEQ LESHAPS contact:

   a. Name and address of owner or operator.
   b. Description of the facility being demolished or renovated, including the size, age, and prior use of the facility.
   c. Estimate of the approximate amount of friable asbestos material present in the facility in terms of linear feet of pipe, and surface area on other facility components.
   d. Location of the facility being demolished or renovated.
   e. Scheduled starting and completion dates of demolition or renovation.
   f. Nature of planned demolition or renovation and method(s) to be used.
   g. Procedures to be used to comply with the requirements of USEPA National Emission Standards for Hazardous Air Pollutants (NESHAPS) Asbestos Regulations (40 CFR 61 Subpart M).
   h. Name and location of the waste disposal site where the friable asbestos waste material will be deposited.

1.7 PERMITS

A. Permit: All asbestos containing waste is to be transported by an entity maintaining a current "Industrial Waste Hauler Permit" specifically for asbestos-containing materials, as required for transporting of waste asbestos-containing materials to a disposal site.

B. ADVF: Obtain ADVF from LDEQ for transport and disposal of ACM.

1.8 LICENSES

A. Licenses: Maintain current licenses as required by applicable state or local jurisdictions for the removal, transporting, disposal or other regulated activity relative to the work of this contract.

1.9 POSTING AND FILING OF REGULATIONS

A. Posting and Filing of Regulations: Post all notices required by applicable federal, state and local regulations. Maintain two (2) copies of applicable federal, state and local regulations and standard. Maintain one copy of each at job site. Keep on file in Contractor's office one copy of each.

1.10 SUBMITTALS

A. Before Start of Work: Submit the following to the Owner's Representative for review. No work shall begin until these submittals are approved by the Owner.

B. Permits, Licenses, and Certificates: For the Owner's records, submit copies of permits, licenses, certifications, inspection reports, releases, jurisdictional settlements, notices, receipts for fee payments, judgments, and similar documents.

C. State and Local Regulations: Submit copies of codes and regulations applicable to the work.

D. Notices: Submit notices required by federal, state and local regulations together with proof of timely transmittal to agency requiring the notice.

E. Permits: Submit copies of current valid permits required by state and local regulations.

F. Licenses: Submit copies of all State and local licenses and permits necessary to carry out the work of this contract.

PART 2 - PRODUCTS (Not Applicable)

PART 3 - EXECUTION (Not Applicable)

END OF SECTION - 01092

SECTION 01410 - TEST LABORATORY SERVICES - ASBESTOS ABATEMENT

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

B. Air Monitoring: Work area clearance is described in Section 01714 - Work Area Clearance.

1.2 DESCRIPTION OF THE WORK

A. Not in Contract Sum: This section describes work being performed by the Owner. This work is not in the Contract Sum.

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

C. Air monitoring required by OSHA is work of the Contractor and is not covered in this section.

1.3 AIR MONITORING

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

1. Contamination of the building outside of the work area with airborne asbestos fibers.
2. Failure of filtration or rupture in the differential pressure system.
3. Contamination of air outside the building envelope by airborne asbestos fibers.

B. Should any of the above occur immediately cease asbestos abatement activities until the fault is corrected. Do not recommence work until authorized by the Designer.

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

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

E. The Owner will be conducting air monitoring throughout the course of the project.

1.4 AIRBORNE FIBER COUNTS

A. Inside Work Area: Maintain an average airborne count in the Work Area of less than 0.1 fibers per cubic centimeter. If the fiber counts rise above this figure for any sample taken, revise work procedures to lower fiber counts. If the Time Weighted Average (TWA) fiber count for any work shift or 8 hour period exceeds 0.2 fibers per cubic centimeter, stop all work, leave Pressure Differential System in operation and notify Owner's Representative. After correcting cause of high fiber levels, do not recommence work for 24 hours unless otherwise authorized, in writing, by Owner's Representative.

1. If airborne fiber counts exceed 1.0 fibers per cubic centimeter, for any period of time, stop all work immediately and notify Owner's Representative. Take corrective measures to reduce fibers per c.c. Do not recommence work until authorized in writing by Owner's Representative.

B. Outside Work Area: If any air sample taken outside of the Work Area exceeds the base line established below, immediately and automatically stop all work except corrective action.

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

1. Immediately erect new critical barriers as set forth in Section 01526 - Temporary Enclosures to isolate the affected area from the balance of the building. Erect Critical Barriers at the next existing structural isolation of the involved space (eg. wall, ceiling, floor).
2. Decontaminate the affected area in accordance with Section 01712 - Cleaning & Decontamination Procedures.
3. Require that respiratory protection as set forth in Section 01562 - Respiratory Protection be worn in affected area until area is cleared for reoccupancy in accordance with Section 01714 - Work Area Clearance.

4. Leave Critical Barriers in place until completion of work and insure that the operation of the pressure differential system in the Work Area results in a flow of air from the balance of the building into the affected area.
5. If the exit from the clean room of the personnel decontamination unit enters the affected area, establish a decontamination facility consisting of a Shower Room and Changing Room as set forth in Section 01563 - Decontamination Units at entry point to affected area.
6. After Certification of Visual Inspection of the Work Area remove critical barriers separating the work area from the affected area. Final air samples will be taken within the entire area as set forth in Section 01714 - Work Area Clearance.

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

E. Fibers Counted: The following procedure will be used to resolve any disputes regarding fiber types when a project has been stopped due to excessive airborne fiber counts. "Airborne Fibers" referred to herein include all fibers regardless of composition as counted by phase contrast microscopy (PCM), in accordance with NIOSH 7400 procedure unless additional analysis by transmission or scanning electron microscopy demonstrates to the satisfaction of the Owner's Representative that non-asbestos fibers are being counted. "Airborne Fibers" counted in samples analyzed by scanning or transmission electron microscopy shall be asbestos fibers, greater than 5 microns in length and greater that 0.25 microns in diameter. For purposes of stop action levels, subsequent to analysis by electron microscopy, the number of "Airborne Fibers" shall be determined by multiplying the number of fibers, regardless of composition, counted by PCM in accordance with NIOSH 7400 procedure by a number equal to asbestos fibers counted divided by all fibers counted in the electron microscopy analysis. "Airborne Fibers" referred to above include asbestos structures (fibers, bundles, clusters or matrices) of any diameter and any length greater than 0.5 microns.

F. Effect on Contract Sum: If transmission electron microscopy (TEM) is used to arrive at the basis for determining "Airborne Fiber" counts in accordance with the above paragraph, and if the average of airborne asbestos in all samples taken exceeds 0.2f/c.c. or any one sample exceeds 2.0 f/c.c., then cost of TEM analysis shall be borne by the contractor, at no additional cost to the Owner.

1.5 ANALYTICAL METHODS

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

1. Phase Contrast Microscopy (PCM) will be performed using the NIOSH 7400 method.
2. Transmission Electron Microscopy (TEM) will be performed using the analysis method set forth in the AHERA regulation 40 CFR Part 763 Subpart E, Appendix A.

1.6 SAMPLE VOLUMES

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

1.7 SCHEDULE OF AIR SAMPLES

A. Sample cassettes: Samples will be collected on 25 mm cassettes as follows:
   1. PCM: 0.8 micrometer mixed cellulose ester.
   2. TEM: 0.45 micrometer mixed cellulose ester or 0.40 micrometer polycarbonate, with 5.0 micron mixed cellulose ester backing filter.

B. Sampling sensitivity in the table below refers to:

   1. Detection Limit for PCM analysis as set forth in the NIOSH 7400 analytical method used.
   2. Analytical Sensitivity for TEM analysis as set forth in the analytical method used for the AHERA regulation.

C. Before Start of Work:

   1. The Owner will secure the following Air Samples to establish a base line before start of work.

Location Sampled	Number of Samples	Analysis Method	Sampling Sensitivity Fibers/cc.	Minimum Volume (Liters)	Rate LPM
Each Work Area	1	PCM	0.01	1,200	2 - 12
Each Work Area	1	hold for TEM	0.005	1,300	1 - 10
Outside Each Work Area	5	PCM	0.01	1,200	2 - 12
Outside Each Work Area	1	hold for TEM	0.005	1,300	1 - 10

Outside Building	5	PCM	0.01	1,200	2 - 12
Outside Building	1	hold for TEM	0.005	1,300	1 - 10

D. Base Line: An action level expressed in fibers per cubic centimeter which is twenty-five percent greater than the largest of the following:

1. Average of the PCM samples collected outside each Work Area
2. Average of the PCM samples collected outside the building
3. 0.01 fibers per cubic centimeter

Samples collected for TEM analysis will be held without analysis. These samples will be analyzed under the conditions and terms set forth in this Section.

E. Daily:

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

Location Sampled	Number of Samples	Analysis Method	Sampling Sensitivity Fibers/cc.	Minimum Volume (Liters)	Rate LPM
Each Work Area	2	PCM	0.01	1,200	2 - 12
Outside Each Work Area at Critical Barrier	1	PCM	0.01	1,200	2 - 12
Clean Room	1	PCM	0.01	1,200	2 - 12
Equip Decon	1	PCM	0.01	1,200	2 - 12
Outside Building	1	PCM	0.01	1,200	2 - 12
Pressure Differential System Exhaust	1	PCM	0.01	1,300	2 - 12

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

1.8 LABORATORY TESTING

A. The services of a P.A.T. certified testing laboratory will be employed by the Owner to perform laboratory analyses of daily PCM air samples. TEM, and PCM clearance, air samples shall be analyzed by an AIHA and LELAP accredited testing laboratory. Verbal results shall be available 24 hours after receipt of samples by the laboratory. The Contractor will have access to all air monitoring tests and results.

B. Written results of all air monitoring tests, certified by the testing laboratory, will be furnished to the contractor on request, and will be posted at the job site on a daily basis by the testing laboratory personnel.

1.9 ADDITIONAL TESTING

A. The Contractor may conduct their own air monitoring and laboratory testing. If they elect to do this the cost of such air monitoring and laboratory testing shall be at no additional cost to the Owner.

1.10 PERSONNEL MONITORING

A. Personnel air monitoring shall be performed by the Contractor to meet OSHA requirements for personnel sampling or any other purpose. Personnel monitoring data shall be made available to the Owner on the same basis as area monitoring data.

PART 2 - PRODUCTS (Not Applicable)

PART 3 - EXECUTION (Not Applicable)

END OF SECTION - 01410

SECTION 01420 - TEST LABORATORY SERVICES - LEAD-BASED PAINT

PART 1 - GENERAL

1.1 RELATED DOCUMENTS:

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

B. Surface lead dust wipe sampling during work area clearance are described in Section 01421 - Project Clearance.

1.2 DESCRIPTION OF THE WORK:

A. The Owner shall hire an Environmental Monitoring Firm to monitor the Lead concentration inside and outside of the work area.

B. This section describes air monitoring and surface lead dust wipe sampling carried out by the Environmental Monitoring Firm to verify that the building beyond the work area and outside environment remain uncontaminated. This section also sets forth baseline levels that the Contractor must comply with, and describes the action required if the levels are exceeded.

C. Corrective Work triggered by this section is part of the contract sum and is to be performed by the Contractor at no additional cost to the owner.

D. Additional air monitoring required by OSHA and Section 01556 is work of the Contractor and is not covered in this section.

1.3 ANALYTICAL METHODS:

A. Atomic Absorption Spectroscopy or Inductively Coupled Plasma Emission Spectroscopy as per NIOSH/EPA, will be used for analysis of:

1. Wipe Samples

2. Air Samples

1.4 ESTABLISH BASELINE LEAD CONCENTRATION:

A. Before start of work the Environmental Monitoring Firm will secure the following air, dust and soil samples to establish a baseline level.

1. Wipe Samples: Collect dust wipe samples from the perimeter of the building.

1.5 DAILY WORK AREA MONITORING:

A. Daily: From start of work through the work of Section 01715 Project Decontamination, take the following air samples on a daily basis, including one dust wipe sample at work area entrance(s) and four (4) dust wipe samples from the perimeter of the work area.

LOCATION SAMPLED	NUMBER OF SAMPLES	ANALYSIS METHOD	SAMPLING SENSITIVITY mg/cm^3	MINIMUM VOLUME (LITERS)	RATE LPM
EACH WORK AREA	1/1000 SF	NIOSH 7082	0.030	200 - 1200	1 - 4
OUTSIDE EACH WORK AREA AT CRITICAL BARRIER	1	NIOSH 7082	0.030	200 - 1200	1 - 4

B. Additional samples may be taken at the Owner Representative's or the Owner's direction. If airborne Lead dust counts exceed allowed limits additional samples shall be taken as necessary to monitor Lead dust/fumes levels.

1.6 LABORATORY TESTING:

A. The services of a LELAP accredited and AIHA/ELLAP certified testing laboratory shall be employed by the Environmental Monitoring Firm to perform laboratory analyses of all air, soil and wipe samples. Verbal reports shall be available within 24 hours.

B. Written results of all air monitoring tests, certified by the testing laboratory, shall be furnished to the Owner's Representative and the Owner and shall be posted at the job site on a daily basis by the Environmental Monitoring Firm personnel.

1.7 PERSONNEL MONITORING:

A. Personnel air monitoring is to be performed by the Contractor to meet OSHA requirements. This data, shall be made available to the Owner's Representative and the Owner on the same basis as area monitoring data.

1.8 AIR AND SURFACE LEAD DUST MONITORING: The purpose of the Environmental Monitoring Firm's air and surface lead dust monitoring will be to detect faults in the work area isolation which may cause contamination of the building or exterior with lead dust.

A. Should any of the above occur, cease Hazard Reduction activities. Correct fault in work area isolation or work procedures at no cost to the owner.

1.9 AIRBORNE LEAD CONCENTRATIONS DURING WORK: The Environmental Monitoring Firm shall monitor airborne lead concentrations inside and outside the work area.

A. Inside Work Area: Maintain lead concentrations at lowest possible levels, not to exceed 50 micrograms/cubic meter. If concentrations rise above this figure revise work procedures to lower lead levels.

B. Outside Work Area: Maintain lead concentrations at lowest possible levels, not to exceed baseline levels. If concentrations rise above baseline levels, stop hazard reduction work and institute corrective actions. Project monitor will determine source of the high reading.

1.10 SURFACE LEAD DUST CONCENTRATIONS:

A. Outside Work Area: Wipe samples will be collected on a daily basis outside of each work area and building perimeter to confirm lead concentrations below baseline levels. If baseline levels are exceeded stop all hazard reduction activities, and institute corrective actions. Project monitor will determine source of the high reading.

1.11 CORRECTIVE ACTIONS:

A. If the high reading above is outside work area, but inside building and was result of failure of work area containment measures initiate the following action:

1. Erect new critical barriers to further isolate potentially contaminated area.

2. Decontaminate affected area in accordance with section 01715 - project decontamination at no cost to the owner.

PART 2 - PRODUCTS (Not Applicable)
PART 3 - EXECUTION (Not Applicable)

END OF SECTION - 01420

SECTION 01421 - PROJECT CLEARANCE - LEAD-BASED PAINT

PART 1 - GENERAL

1.1 RELATED DOCUMENTS:

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

1. Visual Inspection: Required as a prerequisite of sampling and is set forth in Section 01715 Project Decontamination.

1.2 DESCRIPTION OF THE WORK:

A. This section sets forth required post abatement surface lead dust concentrations in the work area and describes testing procedures to be used to measure these levels.

1.3 ANALYTICAL METHODS:

A. Atomic Absorption Spectroscopy or Inductively Coupled Plasma Emission Spectroscopy will be used for analysis of:

1. Wipe Samples
2. Air Samples

1.4 VISUAL INSPECTION:

A. Work of this section will not begin until the visual inspection described in section 01715 Project Decontamination has been completed and certified by the Environmental Monitoring Firm.

B. The Lead-Based Paint hazard reduction work is completed and clearance has been achieved when the Lead dust concentration has been reduced to the level specified below.

1.5 WORK AREA CLEARANCE CRITERIA:

A. Clearance Sampling: Upon satisfactory completion of visual examination, Collect dust wipe samples from within each work area.

B. Wipe Sampling Clearance: Decontamination is complete when every sample is at or below the following levels. If clearance levels are not satisfactory, the decontamination is incomplete and recleaning per Section 01715 - Project Decontamination and additional clearance sampling is required at no additional cost to the Owner. Wipe samples and/or dust vacuum method samples shall be collected as per HUD Guidelines.

1. Floors: 10 micrograms per square foot
2. Window Sills: 100 micrograms per square foot
3. Window Troughs: 400 micrograms per square foot
4. Exterior Concrete: 400 micrograms per square foot

PART 2 - PRODUCT (NOT APPLICABLE)

PART 3 - EXECUTION (NOT APPLICABLE)

END OF SECTION - 01421

SECTION 01503 - TEMPORARY FACILITIES - ASBESTOS ABATEMENT

PART 1 - GENERAL

1.1 RELATED DOCUMENTS:

Drawings and general provisions of the Contract, and other Division-1 Specification Sections, apply to work of this section.

1.2 DESCRIPTION OF REQUIREMENTS:

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

1.3 SUBMITTALS:

1.3.1 Before the Start of Work: Submit the following to the Owner's Representative for review. Begin no work until these submittals are returned with Owner's Representative's approval.

1.3.2 Scaffolding: Submit list of rolling and fixed scaffolding intended for use on the project. Submit sufficient detail to indicate compliance with applicable worker safety regulations or other requirements.

1.3.3 Hot water heater: Submit manufacturers name, model number, size in gallons, heating capacity, power requirements.

1.3.4 Decontamination Unit Sub-panel: Submit product data.

1.3.5 Ground Fault Circuit Interrupters (GFCI): Submit product data.

1.3.6 Lamps and Light Fixtures: Submit product data.

1.3.7 Temporary Heating Units: Provide product data.

1.3.8 Temporary Cooling Units: Provide product data and installation instructions.

1.3.9 Self Contained Toilet Units: Provide product data and name of sub-contractor to be used for servicing self contained toilets. Submit method to be used for servicing.

1.3.10 First Aid Supplies: Provide list of contents of first aid kit. Submit in form of a check list.

1.3.11 Fire Extinguishers: Provide product data. Submit schedule indicating location at job site.

PART 2 - PRODUCTS

2.1 MATERIALS AND EQUIPMENT:

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

2.2 SCAFFOLDING:

Provide all scaffolding, ladders and/or staging, etc. as necessary to accomplish the work of this contract. Scaffolding may be of suspension type or standing type such as metal tube and coupler, tubular welded frame, pole or outrigger type or cantilever type. The type, erection and use of all scaffolding shall comply with all applicable OSHA provisions.

Equip rungs of all metal ladders, etc. with an abrasive non-slip surface.

Provide a nonskid surface on all scaffold surfaces subject to foot traffic.

2.3 WATER SERVICE:

2.3.1 Temporary Water Service Connection: All connections to the Owner's water system shall include backflow protection. Valves shall be temperature and pressure rated for operation of the temperatures and pressures encountered. After completion of use, connections and fittings shall be removed without damage or alteration to existing water piping and equipment.

2.3.2 Water Hoses: Employ heavy-duty abrasion-resistant hoses with a pressure rating greater than the maximum pressure of the water distribution system to provide water into each work area and to each Decontamination Unit. Provide fittings as required to allow for connection to existing wall hydrants or spouts, as well as temporary water heating equipment, branch piping, showers, shut-off nozzles and equipment.

2.3.3 Hot Water: Contractor shall supply an on-demand hot water heater for use in personnel decontamination unit.

2.4 ELECTRICAL SERVICE:

2.4.1 General: Comply with applicable NEMA, NECA and UL standards and governing regulations for materials and layout of temporary electric service.

2.4.2 Temporary Power: Provide service to Decontamination Unit subpanel with minimum 60 amp, 2 pole circuit breaker or fused disconnect connected to the buildings main distribution panel. Subpanel and disconnect shall be sized and equipped to accommodate all electrical equipment required for completion of the work.

2.4.3 Voltage Differences: Provide identification warning signs at power outlets which are other than 110-120 volt power. Provide polarized outlets for plug-in type outlets, to prevent insertion of 110-120 volt plugs into higher voltage outlets. Dry type transformers shall be provided where required to provide voltages necessary for work operations.

2.4.4 Ground Fault Protection: Equip all circuits for any purpose entering Work Area with ground fault circuit interrupters (GFCI). Locate GFCI's exterior to Work Area so that all circuits are protected prior to entry to Work Area. Provide circuit breaker type ground fault circuit interrupters (GFCI) equipped with test button and reset switch for all circuits to be used for any lights, power tools, equipment and other purpose in work area, decontamination units, exterior, or as otherwise required by national electrical code, OSHA or other authority. Locate in panel exterior to Work Area.

2.4.5 Electrical Power Cords: Use only grounded extension cords; use "hard-service" cords where exposed to abrasion and traffic. Use single lengths or use waterproof connectors to connect separate lengths of electric cords, if single lengths will not reach areas of work.

2.4.6 Lamps and Light Fixtures: Provide general service incandescent lamps or fluorescent lamps of wattage indicated or required for adequate illumination as required by the work or this section. Protect lamps with guard cages or tempered glass enclosures, where fixtures are exposed to breakage by construction operations. Provide vapor tight fixtures in work area and decontamination units.

2.5 FIRST AID:

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

2.6 FIRE EXTINGUISHERS:

2.6.1 Fire Extinguishers: Provide Type "A" fire extinguishers for temporary offices and similar spaces where there is minimal danger of electrical or grease-oil-flammable liquid fires. In other locations provide type "ABC" dry chemical extinguishers, or a combination of several extinguishers of NFPA recommended types for the exposures in each case.

PART 3 - EXECUTION

3.1 SCAFFOLDING:

During the erection and/or moving of scaffolding, care must be exercised so that the polyethylene floor covering is not damaged.

Clean as necessary debris from non-slip surfaces.

At the completion of abatement work clean all construction aids within the work area, wrap in one layer of 6 mil polyethylene sheet and seal before removal from the Work Area.

3.2 INSTALLATION, GENERAL:

3.2.1 General: Use qualified tradesmen for installation of temporary services and facilities. Locate temporary services and facilities where they will serve the entire project adequately and result in minimum interference with the performance of the Work.

Require that tradesmen accomplishing this work be licensed as required by local authority for the work performed.

Relocate, modify and extend services and facilities as required during the course of work so as to accommodate the entire work of the project.

3.3 WATER SERVICE:

3.3.1 General: Water connection to Owner's existing potable water system, without charge, is limited to one 3/4" pipe size connection, and a maximum flow of 10 gpm each to hot and cold water supply. Hot water shall be supplied at a minimum temperature of 100°. Supply hot and cold water to the decontamination unit in accordance with section 01563. In addition water shall be supplied for the following uses:

Maintain hose connections and outlet valves in leakproof condition.

Where an outlet may be damaged by spillage or leakage, provide a drip pan of suitable size to minimize the possibility of water damage. Drain water from pan promptly as it accumulates.

3.4 ELECTRICAL SERVICE:

3.4.1 General: Provide a weatherproof, grounded temporary electric power service and distribution system of sufficient size, capacity, and power characteristics to accommodate performance of work during the construction period.

3.4.2 Lockout: Lockout all existing power to or through the work area as described below. All power and lighting to the Work Area and Decontamination facilities are to be provided from temporary electrical panel described below.

3.4.2.1 Lockout power to Work Area by switching off all breakers serving power or lighting circuits in work area. Label breakers with tape over breaker with notation "DANGER circuit being worked on". Lock panel and have all keys under control of Contractor's Superintendent or Owner's designated Representative.

3.4.3 Temporary Electrical Panel: Provide temporary electrical panel sized and equipped to accommodate all electrical equipment and lighting required by the work. Connect temporary panel to existing building electrical system. Protect with circuit breaker or fused disconnect. Locate temporary panel as directed by Owner or Owner's Representative. Electrical service will be provided at a source. Contractor shall provide means, methods and materials to bring to point of usage. Work shall be coordinated with Building Manager.

3.4.4 Power Distribution System: Provide circuits of adequate size and proper characteristics for each use. In general run wiring overhead, and rise vertically where wiring will be at least exposed to damage from construction operations.

3.4.5 Circuit Protection: Protect each circuit with a ground fault circuit interrupter (GFCI) of proper size located in the temporary panel. Do not use outlet type GFCI devices.

3.4.6 Temporary Wiring: In the Work Area shall be type UF non-metallic sheathed cable located overhead and exposed for surveillance. Do not wire temporary lighting with plain, exposed (insulated) electrical conductors. Provide liquid tight enclosures or boxes for wiring devices.

3.4.7 Number of Branch Circuits: Provide sufficient branch circuits as required by the work. All branch circuits are to originate at temporary electrical panel. At minimum provide the following:

One Circuit for each HEPA filtered fan unit

For power tools and task lighting, provide one temporary 4-gang outlet in the following locations. Provide a separate 110-120 Volt, 20 Amp circuit for each 4-gang outlet (4 outlets per circuit).

One outlet in the work area for each 2500 square feet of work area

One outlet at each decontamination unit, located in equipment room

110-120 volt 20 amp branch circuits with 4-gang outlet for Owner's exclusive use while conducting air sampling during the work as set forth in Section 01410 - Air Monitoring - Test Laboratory Services.

110-120 volt 20 amp branch circuits with 4-gang outlet for Owner's exclusive use for conducting final air sampling as set forth in Section 01714 - Work Area Clearance.

3.5 TEMPORARY LIGHTING:

3.5.1 Lockout: Lock out all existing power to lighting circuits in Work Area as described in Section 01526 - Temporary Enclosures. Unless specifically noted otherwise existing lighting circuits to the Work Area are not to be used. All lighting to the Work Area and Decontamination facilities is to be provided from temporary electrical panel described above.

Provide the following or equivalent where natural lighting or existing building lighting does not meet the required light level:

Provide lighting in areas where work is being preformed as required to supply a 100 foot candle minimum light level.

Provide lighting in any area being subjected to a visual inspection as required to supply a 100 foot candle minimum light level.

Provide lighting in the Decontamination Unit as required to supply a 50 foot candle minimum light level.

3.5.2 Number of Lighting Circuits: Provide sufficient lighting circuits as required by the work. All lighting circuits are to originate at temporary electrical panel.

3.5.3 Circuit Protection: Protect each circuit with a ground fault circuit interrupter (GFCI) of proper size located in the temporary panel.

3.6 FIRE EXTINGUISHERS:

3.6.1 Fire Extinguishers: Comply with the applicable recommendations of NFPA Standard 10 "Standard for Portable Fire Extinguishers". Locate fire extinguishers where they are most convenient and effective for their intended purpose, but provide not less than one extinguisher in each Work Area in Equipment Room and one outside Work Area in Clean Room.

END OF SECTION - 01503

SECTION 01513 - TEMPORARY PRESSURE DIFFERENTIAL AND AIR CIRCULATION SYSTEM

PART 1 - GENERAL

1.1 PATENTS AND LICENSES

A. It is the intent of this document that the contractor shall conform to the ruling of the patent claim and shall pay all applicable royalties and license fees. The contractor shall defend suits or claims for infringement of patent rights and shall hold the owner, his representatives and the engineer harmless for loss on account thereof. If the contractor has reason to believe that the required design process or product is an infringement of patent, they shall inform the Owner and the Owner's Representative at the time of pre-bid conference, in writing, otherwise the contractor shall be responsible for defense and loss on account thereof.

1.2 RELATED DOCUMENTS

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

1.3 MONITORING

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

1.4 SUBMITTALS

A. Before Start of Work: Submit design of pressure differential system to the Owner's Representative for review. Do not begin work until submittal is returned with the Owner's Representative's action stamp indicating that the submittal is returned for unrestricted use. Include in the submittal at a minimum:

1. Number of HEPA filtered fan units required and the calculations necessary to determine the number of machines.
2. Description of projected air flow within Work Area and methods required to provide adequate air flow in all portions of the work area.
3. Anticipated pressure differential across Work Area enclosures.

4. Description of methods of testing for correct air flow and pressure differentials.
5. Manufacturer's product data on the HEPA filtered fan units to be used.
6. Location of the machines in the Work Area.
7. Method of supplying adequate power to the machines and designation of building electrical panel(s) which will be supplying the power.
8. Manufacturer's product data on auxiliary generator to be used.
9. Description of work practices to insure that airborne fibers travel away from workers.
10. Manufacturer's product data on auxiliary power switch to be used.
11. Manufacturer's product data on equipment used to monitor pressure differential between inside and outside of Work Area.
12. Schematic diagram of power and auxiliary power supply to HEPA filtered fan units.

1.5 QUALITY ASSURANCE

A. Periodically, and as required by the engineer, verify the proper operation of the pressure differential air circulation system by smoke testing the work area.

B. Inspection and monitoring of the system will be performed by the Contractor.

PART 2 - PRODUCTS

2.1 HEPA FILTERED FAN UNITS:

A. General: Supply the required number of HEPA filtered fan units to the site in accordance with these specifications. Use units that meet the following requirements.

1. Cabinet: Constructed of durable materials able to withstand damage from rough handling and transportation. The width of the cabinet should be less than 30 inches to fit through standard-size doorways. Provide units whose cabinets are:

   a. Factory-sealed to prevent asbestos-containing dust from being released during use, transport, or maintenance.
   b. Arranged to provide access to and replacement of all air filters from intake end.
   c. Mounted on casters or wheels

2. Fans: Rate capacity of fan according to usable air-moving capacity under actual operating conditions. Use centrifugal-type fan.

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

4. Provide units with a continuous rubber gasket located between the filter and the filter housing to form a tight seal.

5. Provide HEPA filters that are individually tested and certified by the manufacturer to have an efficiency of not less than 99.95 percent when challenged with 0.3 um dioctylphthalate (DOP) particles when tested in accordance with Military Standard Number 282 and Army Instruction Manual 136-300-175A and ANSI N509-1980. Provide filters that bear a UL586 label to indicate ability to perform under specified conditions.

6. Provide filters that are marked with: the name of the manufacturer, serial number, air flow rating, efficiency and resistance, and the direction of test air flow.

   a. Prefilters: Which protect the final filter by removing the larger particles, are required to prolong the operating life of the HEPA filter. Two stages of prefiltration are required. Provide units with the following prefilters:
   b. First-stage prefilter: low-efficiency type (e.g., for particles 100 um and larger).
   c. Second-stage (or intermediate) filter: medium efficiency (e.g., effective for particles down to 5 um).
   d. Provide units with prefilters and intermediate filters installed either on or in the intake grid of the unit and held in place with special housings or clamps.

7. Instrumentation: Provide units equipped with:

   a. Magnehelic gauge or manometer to measure the pressure drop across filters and indicate when filters have become loaded and need to be changed.
   b. A table indicating the usable air-handling capacity for various static pressure readings on the Magnehelic gauge affixed near the gauge for reference, or the Magnehelic reading indicating at what point the filters should be changed, noting Cubic Feet per Minute (CFM) air delivery at that point.
   c. Elapsed time meter to show the total accumulated hours of operation.

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

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

9. Electrical components: Provide units with electrical components approved by the National Electrical Manufacturers Association (NEMA) and Underwriter's Laboratories (UL). Each unit is to be equipped with overload protection sized for the equipment. The motor, fan, fan housing, and cabinet are to be grounded.

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

Aerospace America, Inc. 900 Truman Parkway P.O. Box 189 Bay City, Michigan 48707	"Aero-Clean 2000"
Asbestos Control Technology, Inc. P.O. Box 183 Maple Shade, NJ 08052	"Micro-Trap"
Control Resource Systems, Inc. 670 Mariner Drive Michigan City, Indiana 46360	"Hog" 2000
Global Consumer Services, Inc. 1721 N. Highland Avenue Los Angeles, CA 90028	"Red Baron"
Tri-Dim Filter Corporation 1431 West Lake Street Chicago, Illinois 60607	"ACCU-2M"

PART 3 - EXECUTION

3.1 PRESSURE DIFFERENTIAL ISOLATION

A. Isolate the Work Area from all adjacent areas or systems of the building with a Pressure Differential that will cause a movement of air from outside to inside at any breach in the physical isolation of the Work Area.

1. Relative Pressure in Work Area: Continuously maintain the work area at an air pressure that is lower than that in any surrounding space in the building, or at any location in the immediate proximity outside of the building envelope. This pressure differential when measured across any physical or critical barrier must equal or exceed a static pressure of 0.02 inches of water.

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

    a. Establish required air circulation in the work area, personnel and equipment decontamination units.
    b. Establish isolation by increased pressure in adjacent areas or as part of seals where required.
    c. Exhaust a sufficient number of units from the work area to develop the required pressure differential.

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

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

1. Mount units to exhaust directly or through disposable ductwork.

2. Use only new ductwork except for sheet metal connections and elbows.

3. Use ductwork and fittings of same diameter or larger than discharge connection on fan unit.

4. Use inflatable, disposable plastic ductwork in lengths not greater than 100 feet. Use spiral wire-reinforced flex duct in lengths not greater than 50 feet.

5. Arrange exhaust as required to inflate duct to a rigidity sufficient to prevent flapping.

6. If direction of discharge from fan unit is not aligned with duct use sheet metal elbow to change direction. Use six feet of spiral wire reinforced flex duct after direction change.

3.2 AIR CIRCULATION IN THE WORK AREA

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

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

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

   a. 4 air changes per hour

2. Determine Number of Units needed to achieve required air circulation according to the following procedure:

   a. Determine the volume in cubic feet of the work area by multiplying floor area by ceiling height. Determine total air circulation requirement in cubic feet per minute (CFM) for the work area by dividing this volume by the air change rate and multiplying by 60.

   Air Circulation Required in Cubic Feet of Air per Minute (CFM) =

   $$\text{Volume of work area (cu. ft.)} \times \frac{\text{Number of air changes per hour}}{60 \text{ (minutes per hour)}}$$

   b. Divide the air circulation requirement (CFM) above by capacity of HEPA filtered fan unit(s) used. Capacity of a unit for purposes of this section is the capacity in cubic feet per minute with fully loaded filters (pressure differential which causes loaded filter warning light to come on) in the machine's labeled operating characteristics.

   $$\text{Number of Units Needed} = \frac{\text{Air circulation Requirement (CFM)}}{\text{Capacity of Unit with Loaded Filters (CFM)}}$$

   c. Add one (1) additional unit as a backup in case of equipment failure or machine shutdown for filter changing.
   d. The method described above is approximate only. The required system performance is determined by the ability to maintain a sustained pressure differential of 0.02" of water.

3.3 EXHAUST SYSTEM

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

1. Exhaust all units from the Work Area to meet air circulation requirement of this section.
2. Location of HEPA Filtered Fan Units: Locate fan unit(s) so that makeup air enters work area primarily through decontamination facilities and traverses Work Area as much as possible. This may be accomplished by positioning the HEPA filtered fan unit(s) at a maximum distance from the worker access opening or other makeup air sources.
3. Place End of Unit at intake duct or its exhaust duct through an opening in the plastic barrier or wall covering. Seal plastic around the unit or duct with tape.
4. Vent to Outside of Building, unless authorized in writing by the Owner's Representative.
5. Decontamination Units: Arrange Work Area and decontamination units so that the majority of make up air comes through the Decontamination Units. Use only personnel or equipment Decontamination Unit at any time and seal the other so that make up air passes through unit in use.
6. Supplemental Makeup Air Inlets: Provide where required for proper air flow through the Work Area in location approved by the Owner's Representative by making openings in the plastic sheeting that allow air from outside the building into the Work Area. Locate auxiliary makeup air inlets as far as possible from the fan unit(s) (e.g., on an opposite wall), off the floor (preferably near the ceiling), and away from barriers that separate the Work Area from occupied clean areas. Cover with flaps to reseal automatically if the pressure differential system should shut down for any reason. Spray flap and around opening with spray adhesive so that if flap closes meeting surfaces are both covered with adhesive. Use adhesive that forms contact bond when dry.

3.4 AIR CIRCULATION IN DECONTAMINATION UNITS

A. Pressure Differential Isolation: Continuously maintain the pressure differential required for the work area in the:

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

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

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

1. Air Movement: Arrange air circulation through the Personnel Decontamination Unit so that it produces a movement of air from the Clean Room through the Shower Room into the Equipment Room. Maintain continuous minimum velocities

of Sixty (60) feet per minute in the breathing zone area of the shower and Thirty (30) feet per minute in all other locations of the shower.

3.5 USE OF THE PRESSURE DIFFERENTIAL AND AIR CIRCULATION SYSTEM

A. General: Each unit shall be serviced by a dedicated minimum 115V-20A circuit with ground fault circuit interrupter (GFCI) supplied from temporary power supply installed under requirements of Section 01503 - Temporary Facilities. Do not use existing branch circuits to power fan units.

B. Testing the System: Test pressure differential system before any asbestos-containing material is wetted or removed. After the Work Area has been prepared, the decontamination facility set up, and the fan unit(s) installed, start the unit(s) (one at a time). Demonstrate operation and testing of pressure differential system to Owner's Representative.

1. Demonstrate Condition of Equipment for each HEPA filtered fan unit and pressure differential monitoring equipment including proper operation of the following:

   a. Squareness of HEPA Filter
   b. Condition of seals
   c. Proper operation of all lights
   d. Proper operation of automatic shut down if exhaust is blocked
   e. Proper operation of alarms
   f. Proper operation of magnehelic gauge
   g. Proper operation and calibration on pressure monitoring equipment

2. Demonstrate Operation of the pressure differential system to the Owner's Representative will include, but not be limited to, the following:

   a. Plastic barriers and sheeting move lightly in toward Work Area.
   b. Curtain of decontamination units move lightly in toward Work Area.
   c. There is a noticeable movement of air through the Decontamination Unit.
   d. Use smoke tube to demonstrate air movement from Clean Room through Shower Room to Equipment Room.
   e. Use smoke tubes to demonstrate a definite motion of air across all areas in which work is to be performed.
   f. Use a differential pressure meter or manometer to demonstrate the required pressure differential at every barrier separating the Work Area from the balance of the building, equipment, ductwork or outside.

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

C. Use of System During Abatement Operations:

1. Start fan units before beginning work (before any asbestos-containing material is disturbed). After abatement work has begun, run units continuously to maintain a constant pressure differential and air circulation until decontamination of the work area is complete. Do not turn off units at the end of the work shift or when abatement operations temporarily stop.
2. Do not shut down air pressure differential system during encapsulating procedures, unless authorized by the Owner's Representative in writing. Supply sufficient pre-filters to allow frequent changes.
3. Start abatement work at a location farthest from the fan units and proceed toward them. If an electric power failure occurs, immediately stop all abatement work and do not resume until power is restored and fan units are operating again.
4. At completion of abatement work, allow fan units to run as required by these specifications to remove airborne fibers that may have been generated during abatement work and cleanup and to purge the Work Area with clean makeup air. The units may be required to run for a longer time after decontamination, if dry or only partially wetted asbestos material was encountered during any abatement work.

D. Dismantling the System:

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

END OF SECTION - 01513

SECTION 01526 - TEMPORARY ENCLOSURES

PART 1 - GENERAL

A. RELATED DOCUMENTS

1. General provisions of Contract, and other Division-1 Specification Sections, apply to work of this section.

B. SUBMITTALS

1. Submit details of contingency plan for safe evacuation of work area in case of fire or injury prior to start of work.

C. SAFETY

1. Submit safety procedures to fire department for review prior to start of work.

PART 2 - PRODUCTS

A. Polyethylene Sheet: Provide flame retardant single polyethylene film in the largest sheet size possible to minimize seams, 4.0 or 6.0 mil thick, clear, frosted, or black as indicated. The polyethylene will conform to NFPA 701.

B. Strippable Coatings: Provide strippable coatings (spray plastic) in aerosol cans or premixed for spray application formulated to adhere gently to surfaces and remove cleanly by peeling off at the completion of the work. Provide only waterband latex material, manufactured for specific application.

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

D. Spray Cement: Provide spray adhesive in aerosol cans which is specifically formulated to stick tenaciously to sheet polyethylene.

PART 3 - EXECUTION

3.1 SEQUENCE OF WORK

A. Carry out work of this section sequentially. Complete each activity before proceeding to the next.

3.2 GENERAL

A. Work Area: The location where asbestos-abatement work occurs. It is a variable of the extent of work of the Contract. It may be a portion of a room, a single room, or a complex of rooms. A "Work Area" is considered contaminated during the work, and must be isolated from the balance of the building, and decontaminated at the completion of the asbestos-control work.

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

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

D. Remove all contents that have been designated uncontaminated by the Contract Documents or Designer. Also remove uncontaminated equipment, and/or supplies from the Work Area before commencing work, or completely cover with two (2) layers of polyethylene sheeting, at least 6 mil in thickness, securely taped in place with duct tape.

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

F. Lockout power to Work Area by switching off all breakers serving power or lighting circuits in work area. Label breakers with tape over breaker with notation "DANGER circuit being worked on". Lock panel and have all keys under control of Contractor's Superintendent or Owner's Representative.

3.3 EMERGENCY EXITS

A. Provide emergency exits and emergency lighting as set forth below:

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

2. Arrange exit door so that it is secure from outside the Work area but permits exiting from the Work Area. Mark this as "EMERGENCY EXIT".

3. Provide EXIT sign at each exit.

3.4 CONTROL ACCESS

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

1. After receiving written authorization from the Owner's Representative, lock all doors into work area, or if doors cannot be locked, chain shut. Cover any signs that direct emergency exiting, either outside or inside of work area, to locked doors. Do not obstruct doors required for emergency exits from work area or from building.

2. After receiving written authorization from the Owner's Representative, construct partitions across any opening into work area (i.e. elevator doors, stairwells). In addition, partitions shall be installed to isolate the Phase I work area from the remainder of the 1st Floor. Partitions shall be installed from floor to deck. Contractor shall provide means and methods for addressing asbestos fireproofing present on the deck and beams, which must be abated prior to partition installation, in the Plan of Action for review and approval by the Designer.

3. Fabricated dust-proof partitions of 2 x 4 wood studs with ⅝" drywall (joints taped) on occupied side and ½" fire-retardant plywood on demolition side. Brace at 4' on center.

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

5. Install temporary doors with entrance type locksets that are key lockable from the outside and always unlocked and operable from the inside. Do not use deadbolts or padlocks.

6. Provide one key for each door to Owner, and Owner's Representative and maintain one key in clean room of decontamination unit (3 total).

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

Where this visual barrier would block natural light, substitute frosted or woven rip-stop sheet plastic in locations approved by the Designer.

8. Provide Warning Signs at each locked door leading to Work Area reading as follows:

Legend	Notation
KEEP OUT	3" Sans Serif Gothic or Block
BEYOND THIS POINT	1" Sans Serif Gothic or Block
ASBESTOS ABATEMENT WORK	1" Sans Serif Gothic or Block
IN PROGRESS	1" Sans Serif Gothic or Block
BREATHING ASBESTOS DUST MAY BE HAZARDOUS TO YOUR HEALTH	14 Point Gothic

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

LEGEND:

DANGER

ASBESTOS

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

10. Provide spacing between respective lines at least equal to the height of the respective upper line.

3.5 ALTERNATE METHODS OF ENCLOSURE

A. Alternate methods of containing the Work Area may be submitted to the Designer for approval. Do not proceed with any such method(s) without prior written approval of the Designer.

3.6 CRITICAL BARRIERS

A. Completely Separate the Work Area from other portions of the building, and the outside by closing all openings with sheet plastic barriers (2 layers) at least 6 mil in thickness, or by sealing cracks leading out of Work Area with duct tape.

B. Individually seal all ventilation openings (supply and exhaust), lighting fixtures, clocks, doorways, windows, and other openings into the Work Area with two (2) layers of polyethylene sheeting at least 6 mil in thickness, taped securely in place with duct tape. Maintain seal until all work including Project Decontamination is completed.

C. Provide Sheet Plastic barriers at least 6 mil in thickness as required to seal openings completely from the Work Area into adjacent areas. Seal the perimeter of all sheet plastic barriers with duct tape or spray cement.

D. Mechanically Support sheet plastic independently of duct tape or spray cement seals so that seals do not support the weight of the plastic. Following are acceptable methods of supporting sheet plastic barriers.

   1. Plywood squares 6" x 6" x 3/8" held in place with one 6d smooth masonry nail or electro-galvanized common nail driven through center of the plywood and duct tape on plastic so that plywood clamps plastic to the wall. Locate plywood squares at each end, corner and at maximum 4 feet on centers.

E. Provide decontamination units per Section 01563 - Decontamination Unit.

F. Provide pressure differential system per Section 01513 - Temporary Pressure Differential and Air Circulation System.

G. Clean housings and ducts, etc. prior to erection of any Critical Barrier that will restrict access.

3.7 PREPARE AREA

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

B. Remove all electrical and mechanical items, such as lighting fixtures, clocks, diffusers, registers, escutcheon plates, etc. which cover any part of the surface to be worked on with the work.

C. Clean all contaminated furniture, equipment, and or supplies with a HEPA filtered vacuum cleaner or by wet cleaning prior to being moved or covered.

D. Clean All Surfaces In Work Area with a HEPA filtered vacuum or by wet wiping prior to the installation of critical barriers.

3.8 STOP WORK

A. If a Critical Barrier falls or is breached in any manner stop work immediately. Do not start work until authorized in writing by the Owner's Representative.

3.9 EXTENSION OF WORK AREA

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

END OF SECTION - 01526

SECTION 01555 - WORKER PROTECTION - LEAD-BASED PAINT

PART 1 - GENERAL

1.1 RELATED DOCUMENTS:

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

1.2 DESCRIPTION OF WORK:

A. This section describes the equipment and procedures required for protecting workers against lead contamination and other workplace hazards except for respiratory protection.

1.3 STANDARDS:

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

B. OSHA: U.S. Department of Labor, Occupational Safety and Health Administration, Safety and Health Standards as listed in Section 01094 Codes, Regulations & Standards. All appropriate OSHA Standards apply to this project.

1.4 RELATED WORK SPECIFIED ELSEWHERE:

A. Respiratory Protection: is specified in Section 01556.

1.5 COMPETENT PERSON:

A. Definition: A "Competent Person" is one who is capable of identifying existing and predictable hazards at the worksite, and who has the authority to ensure prompt corrective measures are taken to eliminate them. The competent

person has authority to shut down the project in accordance with OSHA 1926.62.

B. Provide on-site, full time competent person (or persons) to ensure that the worker protection program is effective.

1.6 WORKER TRAINING:

A. Certification: All workers and supervisors are to be trained, certified and accredited in accordance with Title 33, Part III, Chapter 28 of the Louisiana Department of Environmental Quality Regulations.

1.7 MEDICAL SURVEILLANCE:

A. Provide full medical examinations for all workers performing lead abatement at first use of negative pressure respirators and for each worker exposed to lead for more than thirty days a year and/or who have blood lead levels over 25 micrograms/deciliter. Provide initial medical examinations for each worker exposed to lead for more than 1 day year. Provide medical examination for any employee who has signs and symptoms of lead poisoning or when a worker becomes pregnant.

B. Medical evaluation to include:

1. A detailed work and medical history.

2. A thorough physical examination.

3. Evaluation of pulmonary status.

4. A blood pressure measurement.

5. A blood sample and analysis that determines blood lead levels, hemoglobin and hematocrit, red cell indices, peripheral smear morphology, blood urea nitrogen, serum creatinine and zinc protoporphyrin.

6. A routine urinalysis.

7. Any other laboratory or other test which is recommended by the examining physician.

C. The medical evaluation must be provided prior to the start of the lead hazard reduction project or assignment requiring the use of negative pressure respirators.

D. Blood testing (blood lead and zinc protoporphyrin) shall be performed at least every 2 months during the first six months of the project and every two months thereafter. An additional blood test shall be performed at the completion of the project and upon termination of employment. The employer must make available the following:

1. Biological monitoring for blood lead level and zinc protoporphyrin level at least every 2 months during the first six months and every two months thereafter.

2. When an employee's blood lead level is at or above 40 µg/dl, biological monitoring at least every two months until two consecutive blood lead level results are below 40 µg/dl.

3. Monthly blood lead level testing during removal period or any employee medically removed due to an elevated blood lead level.

4. When an employee's blood lead level meet the criterion for medical removal (at or above 50 µg/dl), follow-up blood testing within two weeks.

1.8 MEDICAL REMOVAL:

A. Employers must remove employees with lead exposure at or above 30 micrograms/cubic meter of air each time:

1. A periodic and follow-up blood sampling test indicates a blood lead level at or above 50 µg/dl; and

2. A final medical determination indicates a detectable medical condition that increases health risks from lead exposure.

1.9 COMPLIANCE PROGRAM:

A. The OSHA Lead in Construction Standard requires the employer to establish and implement a written compliance program prior to the commencement of a job. All employees covered under this standard must implement engineering and work practice controls to reduce and maintain employee exposures to lead at or below the Permissible exposure limit (PEL). This program must include:

1. Description of activities that produce lead exposures.

2. Description of the specific means that will be employed to reduce exposure, and where engineering controls are used, the plans and studies used to determine the methods selected.

3. A detailed schedule for implementing the compliance program.

4. A report of the technology considered in meeting the PEL.

5. Air monitoring data that documents the source of the lead exposure.

6. Specific work practice procedures which will be employed on the project.

7. A schedule of administrative controls if these are to be utilized.

8. A description of all arrangements made on multi-employer work sites to inform affected employers about the lead project.

1.10 EXPOSURE ASSESSMENT:

A. The OSHA Lead in Construction Standard requires employers to implement protective measures before exposure assessment has been completed if they are conducting any one of a number of "lead related tasks". These tasks are divided into three different classes. The employer must assume that the worker is exposed to airborne concentrations at least to a certain level of lead (depending on the class) until exposure assessment shows otherwise. When the employer has objective data demonstrating that the process, operation or activity does not result in employee exposure to lead at or above the action level, the employer may rely upon such data for the initial exposure assessment.

B. Class 1 Tasks - Employer must assume exposure of at least 50 $\mu g/m^3$ - 500 $\mu g/m^3$ until exposure assessment proves otherwise. Examples include:

1. Manual demolition of structures;

2. Manual scraping;

3. Manual sanding;

4. Using a heat gun;

5. Power tool paint removal with dust collection systems.

C. Prior to the completion of an exposure assessment of the tasks being conducted, the employer should follow the regulations as if the employee was exposed above the PEL. The employee(s) must be notified in writing within 5 days of receipt of the results representing their exposure. Where exposure is above the PEL, employees must be informed of this fact and advised of corrective action to be taken. Monitoring and analysis must have an

accuracy (to a confidence level of 95%) of not less than plus or minus 25% for airborne lead levels equal to or greater than 30 $\mu g/m^3$.

D. Personal protective equipment for each of the tasks above is to include protective work clothing and equipment, change areas, washing facilities, and training. The only difference in protective equipment for the different classes of tasks is respiratory protection which is to be provided in accordance with section 01556.

1.11 SUBMITTALS:

A. Before Start of Work: Submit the following to the Owner's Representative for review. Do not start work until these submittals are returned with an action stamp indicating that the submittal is returned for unrestricted use.

B. Certifications: Submit evidence that all workers and supervisors have been trained, certified and accredited in accordance with Title 33, Part III, Chapter 28 of the Louisiana Department of Environmental Quality Regulations.

C. Certificate of Worker's Acknowledgment: Submit an original signed copy of the Certificate of Worker's Acknowledgment found at the end of this section, for each worker who is to be at the job site or enter the Work Area.

D. Training Program: Submit a course outline of the worker and supervisor training courses. Include date and time course was given, name and title of teacher.

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

1. Name and Social Security Number

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

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

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

c. Results of blood lead determinations and any actions taken as a result of recommendations.

d. Statement that the worker has been informed by the physician of the results of the medical examination and of any medical conditions that necessitates further medical exam or treatment.

3. Copy of information that was provided to physician prior to the examination.

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

5. Compliance Program: Submit program in compliance with 1926.62.

6. Exposure Assessment: Submit assessment in compliance with 1926.62.

7. Notarized Certifications: Submit certification signed by an officer of the contracting firm and notarized that exposure measurements, medical surveillance, and worker training records are being kept as required in this specification.

PART 2 - EQUIPMENT

2.1 PROTECTIVE CLOTHING:

A. Coveralls: Provide disposable full-body coveralls and disposable head covers, and require that they be worn by all workers in the Work Area. Provide a sufficient number for all required changes, for all workers in the Work Area. Dispose of coveralls as clothing waste at the end of each day.

B. Shoe Covers: Provide disposable shoe covers and require that they be worn by all workers in the Work Area. Shoe covers must be replaced each time a worker leaves the work area. Shoe covers are disposed as clothing waste in the equipment section of the Change Room.

C. Boots: Provide work boots with non-skid soles, and where required by OSHA, foot protectives, for all workers. Provide boots at no cost to workers. Do not allow boots to be removed from the Work Area for any reason, after being contaminated with lead dust. Dispose of boots with clothing waste at the end of the work, or bag and take to next project. Boots that are non-porous may be decontaminated and removed from work area.

D. Hard Hats: Provide head protectives (hard hats) as required by OSHA for all workers, and provide 4 spares for use by Designer, Project Monitor and Owner. Require hard hats to be worn at all times that work is in progress that

may potentially cause head injury. Provide hard hats of type with plastic strap type suspension. Require hats to remain in the Work Area throughout the work. Thoroughly clean and decontaminate hats before removing them from Work Area at the end of the project.

E. Goggles and Face Shields: Provide eye and face protection (goggles or face shields) as required by OSHA for all workers involved in scraping, spraying, stripping or any other activity which may potentially cause eye or face injury. Thoroughly clean and decontaminate goggles or face shields before removing them from Work Area at the end of the project.

F. Gloves: Provide work gloves to all workers and require that they be worn at all times in the Work Area. Chemical resistant gloves must be provided when using chemical strippers to remove lead based paint. Gloves must be secured to the coveralls using duct tape to protect arms and hands from the chemical strippers. Do not remove gloves from Work Area. Dispose of as clothing waste at the end of the work.

2.2 ADDITIONAL PROTECTIVE EQUIPMENT:

A. Respirators, disposable coveralls, head covers, and footwear covers shall be provided by the Contractor for the Owner, Designer, Project Monitor, and other authorized representatives who may inspect the job site.

2.3 SHOWER FACILITIES:

A. Provide shower facilities to be used by all workers when lead air concentrations exceed 30μg/m^3 or surface lead dust concentrations exceed 2,000 μg/FT^2.

1. Provide pre-fabricated or site-built shower facilities. Supply hot and cold water to shower head which can be controlled from inside shower. Filter all shower water or dispose of in accordance with section 02067.

2. Supply a sufficient quantity of soap and towels for the workers and authorized visitors.

2.4 WASHING FACILITIES:

A. Provide washing facilities to be used by all workers when exiting the work area.

1. Provide temporary sink with hot and cold water supply. Filter all water or dispose of in accordance with Section 02067.

2. Supply a sufficient quantity of soap and towels for the workers and authorized visitors.

2.5 EYEWASH STATION:

A. Where the eyes of employees may be exposed to injurious corrosive materials, suitable facilities for flushing of the eyes shall be provided within the work area for immediate emergency use.

PART 3 - EXECUTION

3.1 GENERAL:

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

B. Each time the Work Area is entered remove street clothes and put on new disposable coverall (or re-use previous coverall if not overly contaminated or torn), new head cover, and a clean respirator with cartridges appropriate for the abatement work to be performed. Reinforce coverall seams and secure gloves to coveralls with duct tape. Proceed through Change Area, don foot covers and enter Work Area.

3.2 DECONTAMINATION PROCEDURES:

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

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

1. Still wearing respirators, comply with the following procedure. Care must be taken to follow reasonable procedures in removing the respirator and filters to avoid disturbing lead dust. The following procedure is required as a minimum:

a. HEPA vacuum heavily contaminated protective work clothing.

b. When exiting Work Area, remove foot covers in work area. Remove disposable coveralls and disposable head covers in the

Change Area. Remove protective coveralls by carefully rolling down the garment to minimize exposure to lead dust.

2. Remove respirator and set aside.

3. Thoroughly wash hands and face with soap and water. If shower facilities are available, proceed to shower and shower completely with soap and water.

4. Remove respirator cartridges from facepiece and either seal with duct tape or discard.

5. Carefully wash facepiece of respirator inside and out.

6. Thoroughly wash hands with soap and water.

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

1. Still wearing respirators, comply with the following procedure. Care must be taken to follow reasonable procedures in removing the respirator and filters to avoid disturbing lead dust. The following procedure is required as a minimum:

a. HEPA vacuum heavily contaminated protective work clothing.

b. When exiting Work Area, remove foot covers in work area. Remove disposable coveralls and disposable head covers in the Change Area. Remove protective coveralls by carefully rolling down the garment to minimize exposure to lead dust.

2. Remove respirator, cap filter cartridges, shut blower unit off and set aside.
3. Thoroughly wash hands and face with soap and water. If shower facilities are available, proceed to shower and shower completely with soap and water.

4. Carefully wash facepiece of respirator inside and out. Wet wipe blower unit, hose and battery pack. Do not allow battery pack terminals to get wet. Do not remove respiratory cartridges unless wet. If wet, remove respirator cartridges from blower unit and discard.

5. Thoroughly wash hands with soap and water.

D. Within Work Area:

1. Require that workers NOT eat, drink, smoke, chew tobacco or gum, or apply cosmetics in the Work Area. To eat, chew, drink or smoke, workers shall follow the procedure described above before entering the Non-Work Areas of the building or exterior.

3.3 CERTIFICATE OF WORKER'S ACKNOWLEDGMENT:

A. Following this section is a Certificate of Worker Training. After each worker has been included in the Contractor's Respiratory Protection Program, completed the training program and medical examination, secure a fully executed copy of this form.

END OF SECTION - 01555

CERTIFICATE OF WORKER'S ACKNOWLEDGMENT

PROJECT NAME_____ DATE_____

PROJECT ADDRESS_____

CONTRACTOR'S NAME_____

WORKING WITH LEAD CAN BE DANGEROUS. INHALING AND INGESTING LEAD DUST CAN CAUSE AN INCREASE IN BLOOD LEAD LEVELS WHICH CAN LEAD TO ADVERSE HEALTH EFFECTS SUCH AS KIDNEY DAMAGE, ELEVATED BLOOD PRESSURE OR INFERTILITY.

Your employer's contract with the Owner for the above project requires that: You be supplied with the proper respirator and be trained in its use. You be trained in safe work practices and in the use of the equipment found on the job. You receive a medical examination. These items are to have been done at no cost to you.

RESPIRATORY PROTECTION: You must have been trained in the proper use of respirators, and informed of the type respirator to be used on the above referenced project. You must be given a copy of the written respiratory protection manual issued by your employer. You must be equipped at no cost with the respirator to be used on the above project.

TRAINING COURSE: You must have been trained in the dangers inherent in handling lead and breathing and ingesting lead dust and in proper work procedures and personal and area protective measures. The topics covered in the course must have included the following:

Possible routes of exposure to lead
Health hazards associated with lead
Respiratory protection
Use of protective equipment
Work practices including hands on or on-the-job training
Personal decontamination procedures
Health and safety considerations

MEDICAL EXAMINATION: You must have had a medical examination within the past 12 months at no cost to you. This examination must have included: health history, physical examination, a blood pressure measurement, pulmonary function test and blood sample and analysis for lead.

By signing this document you are acknowledging only that the Owner of the building you are about to work in has advised you of your rights to training and protection relative to your employer, the Contractor.

Signature_____Social Security No_____

Printed Name_____Witness_____

SECTION 01556 - RESPIRATORY PROTECTION - LEAD-BASED PAINT

PART 1 - GENERAL

1.1 RELATED DOCUMENTS:

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

1.2 DESCRIPTION OF WORK:

A. Instruct and train each worker involved in lead abatement or lead based paint hazard reduction in proper respiratory use and require that each worker wear a respirator, properly fitted on the face in the Work Area from the start of any operation which may expose the worker above the permissible exposure limit (PEL) until the Work Area is completely decontaminated. Use respiratory protection appropriate for the lead levels encountered in the work place or as required for other toxic or oxygen-deficient situations encountered.

1.3 STANDARDS:

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

B. OSHA- U.S. Department of Labor Occupational Safety and Health Administration, Safety and Health Standards 29 CFR 1910, Section 1000 - Air Contaminants, Section 1926.103, 1910.134 - Respiratory Protection and Section 1926.62 - Lead.

C. ANSI- American National Standards Institute, American National Standard Practices for Respiratory Protection, ANSI Z88.2-1992.

D. HUD- U.S. Department of Housing and Urban Development, Lead Based Paint: Interim Guidelines for Hazard Identification and Abatement in Public and Indian Housing.

E. NIOSH- National Institute for Occupational Safety and Health, Guide to Respiratory Protection, 1987, 87-116.

F. MSHA- Mine Safety and Health Administration

1.4 SUBMITTALS:

A. Before Start of Work submit the following to the Owner's Representative for review. Do not begin work until these submittals are returned with an action stamp indicating that the submittal is returned for unrestricted use.

B. Written Respiratory Protection Program: Submit written respiratory protection program in accordance with the OSHA Respiratory Protection Standard 29 CFR 1910.134.

C. Product Data: Submit manufacturer's product information for each component used, including NIOSH and MSHA Certifications for each component in an assembly and/or for entire assembly.

D. Respiratory Protection Schedule: Submit level of respiratory protection intended for each operation required by the project.

PART 2 - PRODUCTS

2.1 AIR PURIFYING RESPIRATORS:

A. Respirator Bodies: Provide half face or full face type respirators. Equip full face respirators with a nose cup or other anti-fogging device as would be appropriate for use in air temperatures less than 32 degrees Fahrenheit.

B. Filter Cartridges: Provide, at a minimum, HEPA type filters labeled with NIOSH and MSHA Certification for "Radionuclides, Radon Daughters, Dust, Fumes, Mists including Asbestos-Containing Dusts and Mists" and color coded in accordance with ANSI Z88.2 (1992). In addition, a chemical cartridge section (organic vapor/acid gas) may be added, if required, for solvents, strippers, etc., in use. In this case, provide cartridges that have each section of the combination canister labeled with the appropriate color code and NIOSH/MSHA Certification.

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

PART 3 - EXECUTION

3.1 GENERAL:

A. Respiratory Protection Program: Comply with ANSI Z88.2 - 1992 "Practices for Respiratory Protection" and OSHA 29 CFR 1910.134.

B. Require that respiratory protection be used at all times that there is any possibility of airborne lead levels exceeding the permissible exposure level required in OSHA 1926.62

C. Require that a respirator be worn by anyone in a Work Area at all times, regardless of activity, during a period that starts with any operation which could cause disturbance of lead based paint or dust, until the area has met the requirements of Section 01715 or Section 01421.

D. Regardless of Airborne Lead Levels or Surface Dust Contamination: Require that the minimum level of respiratory protection used be half-face air-purifying respirators with high efficiency filters.

E. Do not allow the use of single-use, disposable, or quarter-face respirators for any purpose.

3.2 FIT TESTING:

A. Initial Fitting: Fit types of respirator to be worn by each individual. Require that an individual use only those respirators for which training and fit testing has been provided. require that fit testing be repeated semiannually, and at any time a respirator is replaced.

B. On a Monthly Basis: Check the fit of each worker's respirator by having irritant smoke blown onto the respirator from a smoke tube.

C. Upon Each Wearing: Require that each time an air-purifying respirator is put on it be checked for fit with a positive and negative pressure fit check in accordance with 29 CFR 1910.134.

3.3 PERMISSIBLE EXPOSURE LIMIT (PEL):

A. Permissible Exposure Limit: (PEL-TWA) - 50 micrograms/cubic meter

B. Action Level: (TWA) - 30 micrograms/cubic meter

3.4 TYPE OF RESPIRATORY PROTECTION REQUIRED:

A. Provide Respiratory Protection as indicated in paragraph below.

3.5 RESPIRATORY PROTECTION FACTOR:

Table I. -- Respiratory Protection for Lead Aerosols

Airborne concentration of lead or condition of use	Required respirator{1}
1. Not in excess of 500 μg/M^3	1/2 mask air purifying respirator with high efficiency filters.{2},{3} 1/2 mask supplied air respirator operated in demand (negative pressure) mode.
2. Not in excess of 1,250 μg/M^3	Loose fitting hood or helmet powered air purifying respirator with high efficiency filters.{3} Hood or helmet supplied air respirator operated in a continuous flow mode -- e.g., type CE abrasive blasting respirators operated in a continuous-flow mode.
3. Not in excess of 2,500 μg/M^3	Full facepiece air purifying respirator with high efficiency filters.{3} Tight fitting powered air purifying respirator with high efficiency filters.{3} Full facepiece supplied air respirator operated in demand mode. 1/2 mask or full facepiece supplied air respirator operated in a continuous-flow mode. Full facepiece self-contained breathing apparatus (SCBA) operated in demand mode.
4. Not in excess of 50,000 μg/M^3	1/2 mask supplied air respirator operated in pressure demand or other positive-pressure mode.
5. Not in excess of 100,000 μg/M^3	Full facepiece supplied air respirator operated in pressure demand or other positive-pressure mode -- e.g., type CE

		abrasive blasting respirators operated in a positive-pressure mode.
6.	Greater than 100,000 μg/M^3 or unknown concentration	Full facepiece SCBA operated in pressure demand or other positive-pressure mode.

{1} Respirators specified for higher concentrations can be used at lower concentrations of lead.

{2} Full facepiece is required if the lead aerosols cause eye or skin irritation at the use concentrations.

{3} A high efficiency particulate filter (HEPA) means a filter that is 99.97 percent efficient against particles of 0.3 micron size or larger.

3.6 AIR PURIFYING RESPIRATORS:

A. Negative pressure: Half or full face mask: Supply a sufficient quantity of respirator HEPA filters approved for lead, so that workers can change filters as necessary. Require that respirators be wet-rinsed, and filters discarded or covered with duct tape, each time a worker leaves the Work Area. Store respirators and filters at the job site in the changing room and protect totally from exposure to lead prior to their use. Respirator cartridges must be replaced whenever a worker experiences increased breathing resistance.

B. Powered air purifying: Half or full face mask: Supply a sufficient quantity of high efficiency respirator filters approved for lead so that workers can change filters at any time that flow through the face piece decreases to the level at which the manufacturer recommends filter replacement. Require that regardless of flow, filter cartridges be replaced after 40 hours of use. Require that HEPA elements in filter cartridges be protected from wetting during personal decontamination. Require entire exterior housing of respirator, including blower unit, filter cartridges, hoses, battery pack, face mask, belt, and cords, be washed each time a worker leaves the Work Area. Caution should be used to avoid shorting battery pack during washing. Provide an extra battery pack for each respirator so that one can be charging while one is in use.

END OF SECTION - 01556

SECTION 01560 - WORKER PROTECTION - ASBESTOS ABATEMENT

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 DESCRIPTION OF WORK

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

1.3 WORKER TRAINING

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

B. State and Local License: All workers are to be trained, currently certified and accredited as required by state or local code or regulation.

C. Train, in accordance with 29 CFR 1926, all workers in the dangers inherent in handling asbestos and breathing asbestos dust and in proper work procedures and personal and area protective measures. Include but do not limit the topics covered in the course to the following:

1. Methods of recognizing asbestos.
2. Health effects associated with asbestos.
3. Relationship between smoking and asbestos in producing lung cancer.
4. Nature of operations that could result in exposure to asbestos.
5. Hazards associated with heat stress for working in hot environment.
6. Importance of and instruction in the use of necessary protective controls, practices and procedures to minimize exposure including:

    a. Engineering controls.

b. Work Practices.
c. Respirators.
d. Housekeeping procedures.
e. Hygiene facilities.
f. Protective clothing.
g. Decontamination procedures.
h. Emergency procedures.
I. Waste disposal procedures.

7. Purpose, proper use, fitting, instructions, and limitations of respirators as required by 29 CFR 1910.134.
8. Appropriate work practices for the work.
9. Requirements of medical surveillance program.
10. Review of 29 CFR 1926.
11. Pressure Differential Systems.
12. Work practices including hands on or on-job training.
13. Personal Decontamination procedures.
14. Air monitoring, personal and area

1.4 MEDICAL EXAMINATIONS:

A. Provide medical examinations for all workers who will enter the Work Area for any reason. Examination shall as a minimum meet OSHA requirements as set forth in 29 CFR 1926. In addition, provide an evaluation of the individuals' ability to work in environments capable of producing heat stress in the worker.

1.5 SUBMITTALS

A. Before Start of Work: Submit the following to the Owner's Representative for review. Do not start work until these submittals are returned with Owner's Representative's action stamp indicating that the submittal is returned for unrestricted use.

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

C. State and Local License: Submit evidence that all workers have been trained, currently certified and accredited as required by state or local code or regulation.

D. Certificate Worker Acknowledgment: Submit an original signed copy of the Certificate of Worker's Acknowledgment found at the end of this section, for each worker who is to be at the job site or enter the Work Area.

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

1. Name and Social Security Number.
2. Physician's Written Opinion from examining physician including at a minimum the following:

    a. Whether worker has any detected medical conditions that would place the worker at an increased risk of material health impairment from exposure to asbestos.
    b. Any recommended limitations on the worker or on the use of personal protective equipment such as respirators.
    c. Statement that the worker has been informed by the physician of the results of the medical examination and of any medical conditions that may result from asbestos exposure.

3. Copy of information that was provided to physician in compliance with 29 CFR 1926.
4. Statement that worker is able to wear and use the type of respiratory protection proposed for the project, and is able to work safely in an environment capable of producing heat stress in the worker.

F. Respiratory Fit Test Certificate: Submit copy of respiratory fit test certificates conducted by a competent person.

G. Notarized Certifications: Submit certification signed by an officer of the abatement contracting firm and notarized that exposure measurements, medical surveillance, and worker training records are being kept in conformance with 29 CFR 1926.

PART 2 - EQUIPMENT

2.1 PROTECTIVE CLOTHING

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

B. Boots: Provide work boots with non-skid soles, and where required by OSHA, foot protectives, for all workers. Provide boots at no cost to workers. Paint uppers of all boots red with waterproof enamel. Do not allow boots to be removed from the Work Area for any reason, after being contaminated with asbestos-containing material. Dispose of boots as asbestos-contaminated waste at the end of the work.

C. Hard Hats: Provide head protectives (hard hats) as required by OSHA for all workers, and provide 4 spares for use by Owner's Representative, Project Administrator, and Owner. Label hats with same warning labels as used on disposal bags. Require hard hats to be worn at all times that work is in progress that may potentially cause head injury. Provide hard hats of type with plastic strap type suspension. Require hats to remain in the Work Area throughout the work. Thoroughly clean, decontaminate and bag hats before removing them from Work Area at the end of the work.

D. Goggles: Provide eye protectives (goggles) as required by OSHA for all workers involved in scraping, spraying, or any other activity which may potentially cause eye injury. Thoroughly clean, decontaminate and bag goggles before removing them from Work Area at the end of the work.

E. Gloves: Provide work gloves to all workers and require that they be worn at all times in the Work Area. Do not remove gloves from Work Area, and dispose of the same as asbestos-contaminated waste at the end of the work.

2.2 ADDITIONAL PROTECTIVE EQUIPMENT

A. Respirators, disposable coveralls, head covers, and footwear covers shall be provided by the Contractor for the Owner, Owner's Representative, Engineer, Project Administrator, and other authorized representatives who may inspect the job site. Provide two (2) respirators and six (6) complete coveralls and, where applicable, six (6) respirator filter changes per day. Contractor shall be responsible to provide service of a competent person for performing respirator fit tests for all persons using contractor's furnished respirators for inspection of the work.

PART 3 - EXECUTION

3.1 GENERAL

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

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

3.2 DECONTAMINATION PROCEDURES

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

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

   a. When exiting area, remove disposable coveralls, disposable headcovers, and disposable footwear covers or boots in the Equipment Room.
   b. Still wearing respirators, proceed to showers. Showering is mandatory. Care must be taken to follow reasonable procedures in removing the respirator and filters to avoid asbestos fibers while showering. The following procedure is required as a minimum:

      1) Thoroughly wet body from neck down.
      2) Wet hair as thoroughly as possible without wetting the respirator filter if using an air purifying type respirator.
      3) Take a deep breath, hold it and/or exhale slowly, complete wetting of hair, thoroughly wetting face, respirator and filter (air purifying respirator). While still holding breath, remove respirator and hold it away from face before starting to breathe.
      4) Dispose of wet filters from air purifying respirator.
      5) Carefully wash facepiece of respirator inside and out.
      6) Shower completely with soap and water.
      7) Rinse thoroughly.
      8) Rinse shower room walls and floor prior to exit.
   c. Proceed from shower to Changing Room and change into street clothes or into new disposable work items.

3.3 WITHIN WORK AREA

A. Require that workers NOT eat, drink, smoke, chew tobacco or gum, or apply cosmetics in the Work Area. To eat, chew, drink or smoke, workers shall follow the procedure described above, then dress in street clothes before entering the non-Work Areas of the building.

3.4 CERTIFICATE OF WORKER'S ACKNOWLEDGMENT

A. Following this section is a Certificate of Worker Training. After each worker has been included in the Contractor's Respiratory Protection Program, completed the training program and medical examination, secure a fully executed copy of this form.

END OF SECTION - 01560

CERTIFICATE OF WORKER'S ACKNOWLEDGMENT

PROJECT NAME_____ DATE_____

PROJECT ADDRESS_____

CONTRACTOR'S NAME_____

WORKING WITH ASBESTOS CAN BE DANGEROUS. INHALING ASBESTOS FIBERS HAS BEEN LINKED WITH VARIOUS TYPES OF CANCER. IF YOU SMOKE AND INHALE ASBESTOS FIBERS, THE CHANCE THAT YOU WILL DEVELOP LUNG CANCER IS GREATER THAN THAT OF THE NON-SMOKING PUBLIC.

Your employer's contract with the Owner for the above project requires that: You be supplied with the proper respirator and be trained in its use. You be trained in safe work practices and in the use of the equipment found on the job. You receive a medical examination. These things are to have been done at no cost to you.

RESPIRATORY PROTECTION: You must have been trained in the proper use of respirators, and informed of the type respirator to be used on the above referenced project. You must be given a copy of the written respiratory protection manual issued by your employer. You must be equipped at no cost with the respirator to be used on the above project.

TRAINING COURSE: You must have been trained in the dangers inherent in handling asbestos and breathing asbestos dust and in proper work procedures and personal and area protective measures. The topics covered in the course must have included the following:

Physical characteristics of asbestos
Health hazards associated with asbestos
Respiratory protection
Use of protective equipment
Pressure Differential Systems
Work practices including hands on or on-job training
Personal decontamination procedures
Air monitoring, personal and area

MEDICAL EXAMINATION: You must have had a medical examination within the past 12 months at no cost to you. This examination must have included: health history, pulmonary function tests and may have included an evaluation of a chest x-ray.

By signing this document you are acknowledging only that the Owner of the building you are about to work in has advised you of your rights to training and protection relative to your employer, the Contractor.

Signature_____ Social Security No_____

Printed Name_____ Witness_____

SECTION 01562 - RESPIRATORY PROTECTION - ASBESTOS ABATEMENT

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 DESCRIPTION OF WORK

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

1.3 STANDARDS

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

OSHA - U.S. Department of Labor Occupational Safety and Health Administration, Safety and Health Standards 29 CFR 1910, Section 1001 and Section 1910.134. 29 CFR 1926.58.

CGA - Compressed Gas Association, Inc., New York, Pamphlet G-7, "Compressed Air for Human Respiration", and Specification G-7.1 "Commodity Specification for Air".

CSA - Canadian Standard Association, Rexdal, Ontario, Standard Z180.1-1978, "Compressed Breathing Air".

ANSI - American National Standard Practices for Respiratory Protection, ANSI Z88.2-1980.

NIOSH - National Institute for Occupational Safety and Health

MSHA - Mine Safety and Health Administration

1.4 SUBMITTALS

A. Before Start of Work submit the following to the Owner's Representative for review. Do not begin work until these submittals are returned with the Owner's Representative's action stamp indicating that the submittal is returned for unrestricted use.

B. Product Data: Submit manufacturer's product information for each component used, including NIOSH and MSHA Certifications for each component in an assembly and/or for entire assembly.

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

D. Operating Instruction: Submit complete operating and maintenance instructions for all components and systems as a whole. Submittal is to be in bound manual form suitable for field use.

E. Respiratory Protection Program: Submit Contractor's written respiratory protection program manual as required by OSHA 1926.58.

F. Respiratory Protection Schedule: Submit level of respiratory protection intended for each operation required by the project.

G. Historic Airborne Fiber Data: Submit airborne asbestos fiber count data from an independent air monitoring firm to substantiate selection of respiratory protection proposed. Data submitted shall include at least the following for each procedure required by the work:

1. Date of measurements.
2. Operation monitored.
3. Sampling and analytical methods used and evidence of their accuracy.
4. Number, duration, and results of samples taken during full-scale abatement activities. (Minimum 3 days sampling record will be required).

H. Resume information: Submit resume and information on training for individual monitoring the operation of supplied air respiratory systems. Submit training certifications where applicable.

1.5 AIR QUALITY FOR SUPPLIED AIR RESPIRATORY SYSTEMS

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

1.6 ALLOWABLE CONTAMINANTS

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

B. The following table sets forth the quantity of any given contaminant allowed according to the referenced standards:

	CGA Type 1 (Gaseous Air)			CSA Z180.1
CONTAMINANT	Grade D	Grade E	Grade H	
Carbon Monoxide, PPM/v	20	10	5	5
Carbon Dioxide, PPM/v	1000	500	500	500
Condensed Hydrocarbons, mg./cu. meter	5	5		1
Gaseous Hydrocarbons - as methane, PPM/v			10	25
Water Vapor - PPM/v dewpoint	(1) -50°F	(1) -50°F	(1) -50°F	27 -63°F
Objectionable Odors	None	None	None	None
Nitrogen Dioxide, PPM/v	-	-	0.5	0.2
Nitrous Oxide, PPM/v		- -		- 5

Sulfur Dioxide, PPM/v	- 0.5	- -
Halogenated solvents, PPM/v	- 1	- -
Other gaseous contaminants	- -	- (2)
Inorganic particulates, mg./cu. meter	- -	- 1

- Indicates that the standard shows no limiting characteristics

(1) The CGA standards do not call out a specific moisture limit when the ambient temperature is above freezing. However, since a moisture content no greater than a -50 Degrees Fahrenheit dewpoint (66 PPM/v) is necessary for carbon monoxide elimination, the CO limits could not be met unless the air were dried to a -50 Degrees Fahrenheit dewpoint or better.

(2) Maximum allowable content of tricholotrifluorethane, dichlorodi-fluoromethane, and chlorodifluoromethane is 2 PPM/v for each. Unlisted contaminants shall not exceed one-tenth of the Threshold Limit Values (TLV's) for Chemical Substances in Workroom air adopted by the American Conference of Governmental Industrial Hygienists (ACGIH).

1.7 DELIVERY

A. Deliver replacement parts, etc., not otherwise labeled by NIOSH or MSHA to job site in manufacturer's containers.

PART 2 - EQUIPMENT

2.1 AIR PURIFYING RESPIRATORS

A. Respirator Bodies: Provide half face or full face type respirators. Equip full face respirators with a nose cup or other anti-fogging device as would be appropriate for use in air temperatures less than 32 degrees Fahrenheit.

B. Filter Cartridges: Provide, at a minimum, HEPA type filters labeled with NIOSH and MSHA Certification for "Radionuclides, Radon Daughters, Dust, Fumes, Mists including Asbestos-Containing Dusts and Mists" and color coded in accordance with ANSI Z228.2 (1980). In addition, a chemical cartridge section may be added, if required, for solvents, etc., in use. In this case, provide cartridges that have each

section of the combination canister labeled with the appropriate color code and NIOSH/MSHA Certification.

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

2.2 SUPPLIED AIR RESPIRATOR SYSTEMS

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

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

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

D. Escape Air Supply: In atmospheres which are oxygen deficient (less than 19.5% oxygen) provide a pressure-demand full face piece supplied air respirator incorporating an auxiliary self-contained breathing apparatus (SCBA) which automatically maintains an uninterrupted air supply in pressure demand mode with a positive pressure face piece.

E. Backup Air Supply: Provide a reservoir of compressed air located outside the Work Area which will automatically maintain a continuous uninterruptable source of air automatically available to each connected face piece and hose assembly in the event of compressor shut-down, contamination of air delivered by compressor, power loss or other failure. Provide sufficient capacity in the back-up air supply to allow a minimum escape time of one-half hour times the number of connections available to the Work Area. Air requirement at each connection is the air requirement of the respirators in use plus the air requirement of an average-sized adult male engaged in moderately strenuous activity.

F. Warning Device: Provide a warning device that will operate independently of the building's power supply. Locate so that alarm is clearly audible above the noise level produced by equipment and work procedures in use, in all parts of the Work Area and at the compressor. Connect alarm to warn of:

1. Compressor shut down or other fault requiring use of backup air supply
2. Carbon Monoxide (CO) levels in excess of 5 PPM/V

G. Carbon Monoxide (CO) Monitor: Continuously monitor and record on a strip chart recorder Carbon Monoxide (CO) levels. Place monitors in the air line between compressor and back-up air supply and between backup air supply and workers. Connect monitors so that they also sound an alarm as specified under "Warning Devices".

H. Compressor Shut Down: Interconnect monitors, alarms and compressor so that compressor is automatically shut down and the alarms sounded if any of the following occur:

1. Carbon Monoxide (CO) concentrations exceed 5 PPM/v in the air line between the filter bank and backup air supply.
2. Compressor temperature exceeds normal operating range.

I. Compressor Motor - Provide a compressor driven by an electric motor. Do not use a gas or diesel engines to drive compressor. Insure that electrical supply available at the work site is adequate to energize motor.

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

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

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

M. Self Contained Breathing Apparatus (SCBA): Configure system to permit the recharging of ½ hour 2260 PSI SCBA cylinders.

PART 3 - EXECUTION

3.1 GENERAL

A. Respiratory Protection Program: Comply with ANSI Z88.2 - 1980 "Practices for Respiratory Protection" and OSHA 29 CFR 1910 and 1926.

B. Require that respiratory protection be used at all times that there is any possibility of disturbance of asbestos-containing materials whether intentional or accidental.

C. Require that a respirator be worn by anyone in a Work Area at all times, regardless of activity, during a period that starts with any operation which could cause airborne

fibers until the area has been cleared for re-occupancy in accordance with these specifications.

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

E. Do not allow the use of single-use, disposable, or quarter-face respirators for any purpose.

3.2 FIT TESTING

A. Initial Fitting: Provide initial fitting of respiratory protection during a respiratory protection course of training set up and administered by a Certified Industrial Hygienist. Fit types of respirator to be actually worn by each individual. Allow an individual to use only those respirators for which training and fit testing has been provided.

B. On a Weekly Basis, check the fit of each worker's respirator by having irritant smoke blown onto the respirator from a smoke tube.

C. Upon Each Wearing: Require that each time an air-purifying respirator is put on it be checked for fit with a positive and negative pressure fit test in accordance with the manufacturer's instructions or ANSI Z88.2 (1980).

3.3 TYPE OF RESPIRATORY PROTECTION REQUIRED

A. Provide Respiratory Protection as indicated below. Where paragraph below does not apply, determine the proper level of protection by dividing the expected or actual airborne fiber count in the Work Area by the "protection factors" given in this Section. The level of respiratory protection which supplies an airborne fiber level inside the respirator, at the breathing zone of the wearer, at or below the permissible exposure limit (PEL) is the minimum level of protection allowed. As minimum requirement, full face respirators shall be used by all workers.

B. Type "C" Supplied-Air Respirators: Full facepiece pressure demand supplied air respirators are to be used by all workers engaged in the removal of sprayed on asbestos fireproofing material, removal or demolition of pipes, structures, or equipment covered or insulated with asbestos, or in the removal or demolition of asbestos insulation or coverings, or any other activity which results in or may result in airborne asbestos fibers. Use of other respirators as per above may be allowed, if approved by the Designer, in writing, provided Historical Airborne fiber data submitted in accordance with this Section substantiating the use of other respirators. As minimum requirement, full face respirators must be used by all workers.

3.4 PERMISSIBLE EXPOSURE LIMIT (PEL)

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

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

B. Fibers: For purposes of this section, fibers are defined as all fibers regardless of composition as counted in the OSHA Reference Method (ORM), or NIOSH 7400 procedure.

3.5 RESPIRATORY PROTECTION FACTOR: (OSHA PUBLISHED FACTORS)

Respirator Type	Protection Factor
Air purifying: Negative pressure respirator High efficiency filter Half facepiece	10
Air purifying: Negative pressure respirator High efficiency filter Full facepiece	50
Powered Air Purifying (PAPR): Positive pressure respirator High efficiency filter Half or Full facepiece	50
Type C supplied air: Positive pressure respirator Continuous flow Half or full facepiece	100
Type C supplied air: Positive pressure respirator Pressure demand or other positive pressure mode Full facepiece	1,000
Type C supplied air: Positive pressure respirator Pressure demand or other positive pressure mode	over 1,000

Full facepiece equipped with an auxiliary positive pressure self-contained breathing apparatus (SCBA)	
Self-Contained Breathing Apparatus (SCBA): Positive Pressure respirator Pressure demand or other positive pressure mode Full facepiece	over 1,000

3.6 AIR PURIFYING RESPIRATORS

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

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

3.7 TYPE "C" RESPIRATOR

A. Air Systems Monitor: Continuously monitor the air system operation including compressor operation, filter system operation, backup air capacity and all warning and monitoring devices at all times that system is in operation. Assign an individual, trained by manufacturer of the equipment in use or by a Certified Industrial Hygienist, in the operation and maintenance of the system to provide this monitoring. Assign no other duties to this individual which will take them away from monitoring the air system.

3.8 RESPIRATORY PROTECTION PROGRAM

A. Submit, in detail, respiratory protection program indicating type of respiratory protection proposed for each portion of the work, to the Designer prior to beginning of work.

B. Explain reasons for selection of type of respirator for the project conforming to this Section and obtain written approval from the Designer.

END OF SECTION - 01562

SECTION 01563 - DECONTAMINATION UNIT - ASBESTOS ABATEMENT

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. General provisions of Contract, and other Division-1 Specification sections, apply to work of this section.

1.2 DESCRIPTION OF WORK:

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

PART 2 - PRODUCTS

2.1 Polyethylene Sheet: A single polyethylene film in the largest sheet size possible to minimize seams, 4.0 or 6.0 mil thick as indicated, clear, frosted, or black as indicated.

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

2.3 Spray Adhesive: Provide spray adhesive in aerosol cans which is specifically formulated to stick tenaciously to sheet polyethylene.

2.4 Shower Pan: Provide one piece waterproof shower pan 4' x 8' by 6" deep. Fabricate from seamless fiberglass minimum 1/16" thick reinforced with wood, 18 ga. stainless or galvanized steel with welded seems, copper or lead with soldered seams, or a seamless liner of minimum 60 mil thick elastomeric membrane.

2.5 Shower Walls: Provide 8' long by approximately 7' high walls fabricated from rigid, impervious, waterproof material, either corrugated fiberglass roofing or equivalent. Structurally support as necessary for stability.

2.6 Shower Head and Controls: Provide a factory-made shower head producing a spray of water which can be adjusted for spray size and intensity. Feed shower with water mixed from hot and cold supply lines. Arrange so that control of water temperature, flow rate, and shut off is from inside shower without outside aid.

2.7 Filters: Provide cascaded filter units on drain lines from showers or any other water source carrying asbestos-contaminated water from the Work Area. Provide units with disposable filter elements as indicated below. Connect so that discharged water passes primary filter and output of primary filter passes through secondary filter.

Primary Filter - Passes particles 20 microns and smaller
Secondary Filter - Passes particles 5 microns as required by S&WB.

2.8 Hose Bib: Provide heavy bronze angle type with wheel handle, vacuum breaker, and 3/4" National Standard male hose outlet.

2.9 Shower Stall: For Wash Down Station provide leak tight shower enclosure with integrated drain pan fabricated from fiberglass or other durable waterproof material, approximately 3' x 3' square with minimum 6' high sides and back. Structurally support as necessary for stability. Equip with hose bib, as specified in this section, mounted at approximately 4'-0" above drain pan. Connect drain to a reservoir, pump water from reservoir through filters to a drain or store and use for amended water. Mount filters inside shower stall on back wall beneath hose bib.

2.10 Rubber Roofing: Provide uniform flat sheets of flexible sheet roofing material from EPDM (ethylene propylene diene monomers) or neoprene (polychlorophrene) in a nominal thickness of 45 mils.

2.11 Lumber: Provide kiln dried lumber of any grade or species.

2.12 Sump Pump: Provide totally submersible waterproof sump pump with integral float switch. Provide unit sized to pump 2 times the flow capacity of all showers or hoses supplying water to the sump, through the filters specified herein when they are loaded to the extent that replacement is required. Provide unit capable of pumping debris, sand, plaster or other materials washed off during decontamination procedures without damage to mechanism of pump. Adjust float switch so that a minimum of 3" remains between top of liquid and top of sump pan.

PART 3 - EXECUTION

3.1 PERSONNEL DECONTAMINATION UNIT

A. Provide a Personnel Decontamination Unit consisting of a serial arrangement of connected rooms or spaces, Changing Room, Drying Room, Shower Room, Equipment Room. Require all persons without exception to pass through this Decontamination Unit for entry into and exiting from the Work Area for any purpose. Do not allow parallel routes for entry or exit. Do not remove equipment or materials through Personnel Decontamination Unit. Provide temporary lighting within Decontamination Units as necessary to reach a lighting level of 100 foot candles.

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

    a. Construct using polyethylene sheeting, at least 6 mil in thickness, to provide an airtight seal between the Changing Room and the rest of the building.
    b. Locate so that access to Work Area from Changing Room is through Shower Room.
    c. Separate Changing Room from the building by a sheet plastic flapped doorway.
    d. Require workers to remove all street clothes in this room, dress in clean, disposable coveralls, and don respiratory protection equipment. Do not allow asbestos-contaminated items to enter this room. Require Workers to enter this room either from outside the structure dressed in street clothes, or naked from the showers.
    e. An existing room may be utilized as the Changing Room if it is suitably located and of a configuration whereby workers may enter the Changing Room directly from the Shower Room. Protect all surfaces of room with sheet plastic as set forth in Section 01526 - Temporary Enclosures. Authorization for this must be obtained from the Owner's Representative in writing prior to start of construction. Submit written request detailing layout and protective measures proposed.
    f. Maintain floor of changing room dry and clean at all times. Do not allow overflow water from shower to wet floor in changing room.
    g. Damp wipe all surfaces twice after each shift change with a disinfectant solution.
    h. Provide posted information for all emergency phone numbers and procedures.
    i. Provide 1 storage locker per employee.

2. Airlock: Provide an airlock between Drying Room and Changing Room. This is a transit area for workers.

    a. Separate this room from Drying Room and Changing Room by sheet plastic flapped doorways.
    b. Separate this room from the rest of the building with airtight walls fabricated of 6 mil polyethylene.

c. Separate this room from the Drying and Changing Rooms with airtight walls fabricated of 6 mil polyethylene.

3. Drying Room: Provide a drying room as an airlock and a place for workers to dry after showering.

   a. Construct room by providing a pan continuous with or draining to Shower Room pan. Install a freely draining wooden or non-skid metal floor in pan at elevation of top of pan.
   b. Separate this room from the rest of the building with airtight walls fabricated of 6 mil polyethylene.
   c. Separate this room from the Changing Room and Shower Room with airtight walls fabricated of 6 mil polyethylene.
   d. Separate from Changing Room by a sheet plastic flapped doorway.
   e. Provide a continuously adequate supply of disposable bath towels.

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

   a. Construct room by providing a shower pan and 2 shower walls in a configuration that will cause water running down walls to drip into pan. Install a freely draining wooden floor in shower pan at elevation of top of pan.
   b. Separate this room from the rest of the building with airtight walls fabricated of 6 mil polyethylene.
   c. Separate this room from the Drying Room and Airlock with airtight walls fabricated of 6 mil polyethylene.
   d. Provide splash proof entrances to Drying Room and Airlock with doors.
   e. Provide shower head and controls.
   f. Provide temporary extensions of existing hot and cold water and drainage, as necessary for a complete and operable shower.
   g. Provide a soap dish and a continuously adequate supply of soap and maintain in sanitary condition.
   h. Arrange so that water from showering does not splash into the Changing or Equipment Rooms.
   i. Arrange water shut off and drain pump operation controls so that a single individual can shower without assistance from either inside or outside of the Work Area.
   j. Provide flexible hose shower head.
   k. Pump waste water to drain or to storage for use in amended water. If pumped to drain, provide 20 micron and 5 micron waste water filters or as required by S&WB of New Orleans in line to drain or waste water system. Change filters

daily or more often if necessary. Locate filters inside shower unit so that water lost during filter changes is caught by shower pan.

l. Provide hose bib.

5. Airlock: Provide an airlock between Shower Room and Equipment Room. This is a transit area for workers. Separate this room from Equipment Room by a sheet plastic flap doorway.

   a. Separate this room from the rest of the building with airtight walls fabricated of 6 mil polyethylene.
   b. Separate this room from the Equipment Room and Shower Room with airtight walls fabricated of 6 mil polyethylene.
   c. Separate from Equipment Room by a sheet plastic flapped doorway.

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

   a. Separate this room from the Work Area by a 6 mil polyethylene flapped doorway.
   b. Separate this room from the rest of the building with airtight walls fabricated of 6 mil polyethylene.
   c. Separate this room from the Shower Room and Work Area with airtight walls fabricated of 6 mil polyethylene.
   d. Provide a drop cloth layer of sheet plastic on floor in the Equipment Room for every shift change expected. Roll drop cloth layer of plastic from Equipment Room into Work Area after each shift change. Replace before next shift change. Provide a minimum of two (2) layers of plastic at all times. Use only clear plastic to cover floors.

7. Work Area: Separate Work Area from the Equipment Room by polyethylene barriers. If the airborne asbestos level in the Work Area is expected to be high, as in dry removal, add an intermediate cleaning space between the Equipment Room and the Work Area. Damp wipe clean all surfaces after each shift change. Provide one additional floor layer of 6 mil polyethylene per shift change and remove contaminated layer after each shift.

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

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

1) Any additional clothing and equipment left in Equipment Room needed by the worker are put on in the Equipment Room.
2) Worker proceeds to Work Area.

b. Exiting Work Area:

1) Before leaving the Work Area, require the worker to remove all gross contamination and debris from overalls and feet.
2) The worker then proceeds to the Equipment Room and removes all clothing except respiratory protection equipment.
3) Extra work clothing such as boots, hard hats, goggles, gloves are to be stored in contaminated end of the Equipment Room.
4) Disposable coveralls are placed in a bag for disposal with other material.
5) Require that Decontamination procedures found in this specification be followed by all individuals leaving the Work Area.
6) After showering, the worker moves to the Changing Room and dresses in either new coveralls for another entry or street clothes if leaving.

3.2 EQUIPMENT DECONTAMINATION UNIT

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

B. Arrange with airlocks between rooms as required below.

1. Wash Down Station: Provide an enclosed Shower Unit located in Work Area just outside Wash Room as an equipment, bag and container cleaning station.

a. Fabricate waterproof floor extending 6' -0" beyond Wash Down station in all directions. Install seamless waterproof membrane over area and extend over curbs on all four sides. Form curbs from 2" x 4" lumber laid on the flat.
b. Waterproof membrane is to be fabricated from minimum 10 mil polyethylene.
c. Do not allow water to collect on waterproof membrane. Remove continuously with a wet vacuum or mops.

2. Wash Room: provide wash room for cleaning of bagged or containerized asbestos-containing waste materials passed from the Work Area.

a. Construct wash room of nominal 2" x 4" wood framing and polyethylene sheeting, at least 6 mil in thickness and located so that packaged materials, after being wiped clean, can be passed to the Holding Room.

b. Separate this room from the Work Area by a single flapped door of 6 mil polyethylene sheeting.
c. Provide a drop cloth layer of plastic on floor in the Wash Room for every load-out operation. Roll this drop cloth layer of plastic from Wash Room into Work Area after each load-out. Provide a minimum of two (2) layers of plastic at all times. Use only clear plastic to cover floors.

3. Clean Room: provide Clean Room to isolate the Holding Room from the building exterior. If possible locate to provide direct access to the Holding Room from the building exterior.

   a. Erect Critical and Primary Barriers as described in this specification in an existing space. If no space exists construct Clean Room of wood framing and polyethylene sheeting, at least 6 mil in thickness.
   b. Separate this room from the exterior by a single flap door of 6 mil polyethylene sheeting.

4. Load-out Area: The load-out area is the transfer area from the building to a truck or dumpster. It may be the Clean Room of the Equipment Decontamination unit or a separate room or loading dock area. Erect Critical and Primary barriers as described in this specification in load-out area.

   a. During transfer of material from load-out area erect primary barriers as described in this specification as necessary to seal path from load-out area to truck or dumpster.

5. Decontamination Sequence: Take all equipment or material from the Work Area through the Equipment Decontamination Unit according to the following procedure:

   a. At washdown station, thoroughly wet clean contaminated equipment or sealed polyethylene bags and pass into Wash Room.
   b. When passing equipment or containers into the Wash Room, close all doorways of the Equipment Decontamination Unit, other than the doorway between the Washdown Station and the Wash Room. Keep all outside personnel clear of the Equipment Decontamination Unit.
   c. Once inside the washroom, wet clean the bags and/or equipment.
   d. When cleaning is complete pass items into Holding Room. Close all doorways except the doorway between the Holding room and the Clean Room.
   e. Workers from the building exterior enter Holding Area and remove decontaminated equipment and/or containers for disposal.
   f. Require these workers to wear full protective clothing and appropriate respiratory protection.

g. At no time is a worker from an uncontaminated area to enter the enclosure when a removal worker is inside.

3.3 CONSTRUCTION OF DECONTAMINATION UNITS

A. Walls and Ceiling: Construct airtight walls and ceiling using polyethylene sheeting, at least 6 mil in thickness. Attach to existing building components or a temporary framework. If the Decontamination area is located within an area containing friable asbestos on overhead ceilings, ducts, piping, etc., provide the area with a minimum 1/4 inch hardboard or 1/2 inch plywood "ceiling" with polyethylene sheeting, at least 6 mil in thickness covering the top of the "ceiling".

B. Floors: Use 2 layers (minimum) of 6 mil polyethylene sheeting to cover floors in all areas of the Decontamination Units. Use only clear plastic to cover floors.

C. Flap Doors: Fabricated from three (3) overlapping sheets with openings a minimum of three feet (3') wide. Configure so that sheeting overlaps adjacent surfaces. Weigh sheets at bottoms as required so that they quickly close after being released. Put arrows on sheets to indicate direction of overlap and/or travel. Provide a minimum of six feet (6') between entrance and exit of any room. Provide a minimum of three feet (3') between doors to airlocks.

D. Visual Barrier: Where the Decontamination area is immediately adjacent to and within view of occupied areas, provide a visual barrier of opaque polyethylene sheeting at least 6 mil in thickness so that worker privacy is maintained and work procedures are not visible to building occupants. Where the area adjacent to the Decontamination area is accessible to the public, construct a solid barrier on the public side of the sheeting to protect the sheeting. Construct barrier with wood or metal studs covered with minimum 1/4 inch thick hardboard or 1/2 inch plywood. Where the solid barrier is provided, sheeting need not be opaque.

E. Electrical: Provide subpanel at Changing Room to accommodate all removal equipment. Power subpanel directly from a building electrical panel. Connect all electrical branch circuits in Decontamination unit and particularly any pumps in shower room to a ground-fault circuit protection device.

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

3.4 CLEANING OF DECONTAMINATION UNITS

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

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

3.5 SIGNS

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

DANGER

ASBESTOS

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

B. Provide spacing between respective lines at least equal to the height of the respective upper line.

C. Post an approximately 10 inch by 14 inch manufactured sign at each entrance to each Work Area displaying the following legend with letter sizes and styles of a visibility at least equal to the following:

LEGEND	NOTATION
NO FOOD, BEVERAGES OR TOBACCO PERMITTED	3/4" Block
ALL PERSONS SHALL DON PROTECTIVE CLOTHING (COVERINGS) BEFORE ENTERING THE WORK AREA	3/4" Block
ALL PERSONS SHALL SHOWER IMMEDIATELY AFTER LEAVING WORK AREA AND BEFORE ENTERING THE CHANGING AREA	3/4" Block

END OF SECTION - 01563

SECTION 01711 - PROJECT DECONTAMINATION - ASBESTOS ABATEMENT

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. General provisions of Contract, and other Division-1 Specification Sections, apply to work of this section.

1.2 DESCRIPTION OF REQUIREMENTS

A. General: Decontamination of the Work Areas following asbestos abatement.

1. If the asbestos abatement work is on damaged or friable materials the work is a four step procedure with two cleanings of the Primary Barrier plastic prior to its removal and two cleanings of the room surfaces to remove any new or existing contamination. Unless specifically indicated otherwise all materials are considered damaged or friable for purposes of this section.

2. If the asbestos abatement work is on undamaged and non-friable materials the decontamination procedure is a two step procedure with two cleanings of all surfaces and Critical Barrier plastic to remove contamination, thus preventing contamination of the building when the Work Area isolation barriers are removed.

3. In both cases operation of the pressure differential system is used to remove airborne fibers generated by the abatement work.

1.3 RELATED WORK SPECIFIED ELSEWHERE

A. Removal of Gross Debris is integral with the performance of abatement work and as such is specified in the appropriate work section(s) of these specifications:

1. Section 02081 - Removal of Asbestos-Containing Materials
2. Section 09805 - Encapsulation of Asbestos-Containing Materials

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

PART 2 - PRODUCTS (NOT APPLICABLE)

PART 3 - EXECUTION

3.1 GENERAL

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

B. Work of This Section includes the cleaning, decontamination, and removal of temporary facilities installed prior to abatement work including, but not limited to, critical barriers, decontamination unit, pressure differential system, etc.

C. Work of This Section includes the cleaning, and decontamination of all surfaces of the Work Area, and all fixed furniture, equipment and/or articles in the Work Area.

3.2 START OF WORK

A. Start of Work: Work of this section begins with the cleaning of all Critical Barriers. Take care to avoid water marks or damage to surfaces. At start of work the following will be in place:

B. Critical Barrier: A two layered airtight barrier between the Work Area and other portions of the building or the outside.

C. Critical Barrier Sheeting: Over fixtures, ventilation openings, doorways, convectors, equipment, etc.

D. Decontamination Units: For personnel and equipment in operating condition.

E. Pressure Differential System: In operation.

3.3 FIRST CLEANING

A. First Cleaning: Carry out a first cleaning of all surfaces of the work area including sheeting, tools, scaffolding and/or staging by use of damp-cleaning and mopping, and/or a High Efficiency Particulate Air (HEPA) filtered vacuum. Do not perform dry dusting or dry sweeping. Use each surface of a cleaning cloth one time only and then dispose of as contaminated waste. Continue this cleaning until there is no visible debris from removed materials or residue on plastic sheeting or other surfaces. Take care to avoid water marks or other damage to surfaces.

B. Remove All Filters in Air Handling System(s) and dispose of as asbestos-containing waste in accordance with requirements of Section 02084 - Disposal of Asbestos-Containing Waste Material.

C. Wait 24 Hours to allow HEPA filtered fan units to clean air of airborne asbestos fibers. Use oscillating fans as necessary to assure circulation of air in all parts of work areas during this period. Maintain Pressure Differential System in operation for the entire 24 hour period.

3.4 SECOND CLEANING

A. Second Cleaning: Carry out a second cleaning of all surfaces in the work area in the same manner as the first cleaning. Take care to avoid water marks or other damage to surfaces.

B. Removal of Material Decontamination Unit: Immediately following the second cleaning remove Material Decontamination Unit, if there is one, leaving only:

1. Critical Barrier: Which forms the sole barrier between the Work Area and other portions of the building or the outside.
2. Critical Barrier Sheeting: Over lighting fixtures and clocks, ventilation openings, doorways, convectors, speakers, and other openings.
3. Decontamination Unit: For personnel, in operating condition.
4. Pressure Differential System: Maintain in continuous operation.

3.5 THIRD CLEANING

A. Third cleaning: Carry out a third cleaning of all surfaces in the work area in the same manner as the first cleaning immediately after removal of Material Decontamination Unit. Take care to avoid water marks or other damage to surfaces.

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

3.6 FINAL CLEANING

A. Final Cleaning: Carry out a final cleaning of all surfaces in the Work Area in the same manner as the previous cleaning.

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

C. Wait 24 Hours to allow HEPA filtered fan units to clean air of airborne asbestos fibers. Use oscillating fans as necessary to assure circulation of air in all parts of Work Areas during this period. Maintain Pressure Differential System in operation for the entire 24 hour period.

3.7 VISUAL INSPECTION

A. After Final Cleaning Perform a Complete Visual Inspection of the entire Work Area including: all surfaces, ceiling, walls, floor, decontamination unit, all plastic sheeting, seals over ventilation openings, doorways, windows, and other openings; look for debris from any sources, residue on surfaces, dust or other matter. During visual inspection sweep entire work area including walls, ceilings, ledges, floors, and other surfaces in the room with exhaust from forced air equipment (leaf blower with approximately 1 horsepower electric motor or equivalent). If any debris, residue, dust or other matter is found repeat final cleaning and continue decontamination procedure from that point. When the area is visually clean, and if after sweeping of all surfaces with leaf blower, no debris, residue, dust or other materia is found, complete the certification at the end of this section. Visual inspection is not complete until confirmed in writing, on the certification, by Project Administrator. Visual inspection shall conform to the requirement of ASTM E1368.

B. Temporary lighting: Provide a minimum of 100 foot candles of lighting on all surfaces in the areas to be subjected to visual inspection. Provide hand held lights providing 150 foot candles at 4 feet capable of reaching all locations in work area.

C. Lifts: Provide ladders, scaffolding, and lifts as required to provide access to all surfaces in the area to be subjected to visual inspection. Access is to allow touching of all surfaces.

3.8 LOCKDOWN

A. Encapsulation of substrate: Perform encapsulation of substrate or installation of spray-applied finishes or fireproofing, where required at this time. Maintain Pressure Differential System in operation during encapsulation work. Perform work only after meeting the following requirements:

1. Requirements of Section 3.7, Visual Inspection, have been met.

3.9 FINAL AIR SAMPLING

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

1. If Release Criteria are not met, repeat Final Cleaning and continue Decontamination procedure from that point.
2. If Release Criteria are met, proceed to Article 3.10 of this specification, "Removal of Work Area Isolation".

3.10 REMOVAL OF WORK AREA ISOLATION

A. After all requirements of this section and Section 01714 - Work Area Clearance have been met:

1. Shut down and remove the Pressure Differential System. Seal HEPA filtered fan units, HEPA vacuums and similar equipment with 6 mil polyethylene sheet and duct tape to form a tight seal at intake end before being moved from Work Area.
2. Remove Personnel Decontamination Unit.
3. Remove the Critical Barriers separating the Work Area from the rest of the building. Remove any small quantities of residual material found upon removal of the plastic sheeting with wet wiping, HEPA filtered vacuum cleaners and local area protection. If significant quantities, as determined by the Owner's Representative, are found then the entire area affected shall be decontaminated as specified in Section 01712 - Cleaning & Decontamination Procedures.
4. Remove all equipment, materials, debris from the work site.
5. Dispose of all asbestos-containing waste material as specified in Section 02084 - Disposal of Asbestos Containing Waste Material.

3.11 SUBSTANTIAL COMPLETION OF ABATEMENT WORK

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

1. Certificate of Visual Inspection
2. Receipts Documenting proper disposal (ADVF forms) as required by Section 02084 - Disposal of Asbestos-Containing Waste Material.
3. Repair/replacement of all interior finishes or other items damaged during asbestos abatement activities.
4. Punch list detailing repairs to be made and incomplete items.

5. Fulfill project closeout requirements.

3.12 CERTIFICATE OF VISUAL INSPECTION

A. Following this section is a "Certificate of Visual Inspection". This certification is to be completed by the Contractor and certified by the Project Administrator conforming to ASTM E1368. Submit completed Certificate with application for payment coinciding substantial completion. Final payment will not be made until this Certification is executed.

END OF SECTION - 01711

CERTIFICATION OF VISUAL INSPECTION

In accordance with Section 01711 "Project Decontamination" the Contractor hereby certifies that he has visually inspected the Work Area (all surfaces including beams, joists and all other structural elements, ceiling tiles, suspended grid system, pipes, ledges, walls, ceiling and floor, Decontamination Unit, sheet plastic, etc.) and has found no dust, debris or residue.

by: (Signature)_____ Date_____

(Print Name) _____

(Print Title) _____

PROJECT ADMINISTRATOR CERTIFICATION

The Project Administrator hereby certifies that he has accompanied the contractor on his visual inspection and verifies that this inspection has been thorough and to the best of his knowledge and belief, the Contractor's Certification above is a true and honest one.

by: (Signature)_____ Date_____

(Print Name) _____

(Print Title) _____

Work Area Location:_____

SECTION 01712 - CLEANING AND DECONTAMINATION PROCEDURE

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawing and general provision of contract, including general and supplementary conditions and other Division-1 specifications apply to work of this section.

1.2 DESCRIPTION OF WORK

A. The work includes wet cleaning and decontamination of dust and debris from floors, piping, conduits, light fixtures, equipment, etc., or contamination due to failure of work area isolation.

PART 2 - PRODUCT (Not applicable)

PART 3 - EXECUTION

3.1 WET CLEANING

A. Accomplish wet cleaning during decontamination with paper towels or disposable rags:

1. Immerse paper towel or rag in container of water with surfactant or diluted removal encapsulant.
2. Rinse out.
3. Fold into quarters.
4. Wipe surface once and refold to a fresh face of cloth. Proceed in this manner until all available faces of paper towel or rag have been used.
5. Dispose of paper towel or rag.
6. Do not place rag back in container to rinse out or for any other purpose. If a used towel or rag comes in contact with water, empty container and refill.

3.2 REMOVAL OF ASBESTOS-CONTAINING DUST AND DEBRIS

A. Work of this section is limited to clean up of dust and debris from piping, conduits, ducts, cables, light fixtures, ceiling fans, etc., and/or contamination due to failure of work area isolation.

B. Removal and decontamination procedure shall be as follows:

1. Shut down all ventilation into the room.
2. Set up primary barrier and isolate work area per Section 01526 - Temporary Enclosures.
3. Start temporary pressure differential and air circulation system per Section 01513 - Temporary Pressure Differential & Air Circulation System.
4. Start HEPA vacuum before entering the area.
5. Use HEPA Vacuum to clean a path at least 6 feet wide from the entry point to the work area.
6. Remove all dust by HEPA vacuum.
7. Wet wipe all contaminated surfaces and items.
8. HEPA vacuum and wet wipe ladder and all other tools used and pass out of work area.

3.3 VISUAL INSPECTION

A. After Final Cleaning Perform a Complete Visual Inspection of the entire Work Area including: All surfaces, items, decontamination unit, all plastic sheeting, seals over ventilation openings, doorways, windows, and other openings; look for debris from any sources, residue on surfaces, dust or other matter. During visual inspection sweep entire work area including walls, ceilings, ledges, floors, and other surfaces in the room with exhaust from forced air equipment (leaf blower with approximately 1 horsepower electric motor or equivalent). If any debris, residue, dust or other matter is found repeat final cleaning and continue decontamination procedure from that point. When the area is visually clean, and if after sweeping of all surfaces with leaf blower, no debris, residue, dust or other material is found, complete the visual inspection certification. Visual inspection is not complete until confirmed in writing, on the certification, by Owner's Representative. Visual inspection shall conform to the requirement of ASTM E1368.

1. Temporary lighting: Provide a minimum of 100 foot candles of lighting on all surfaces in the areas to be subjected to visual inspection. Provide hand held lights providing 150 foot candles at 4 feet capable of reaching all locations in work area.
2. Lifts: Provide ladders, scaffolding, and lifts as required to provide access to all surfaces in the area to be subjected to visual inspection. Access is to allow touching of all surfaces.

3.4 FINAL AIR SAMPLING

A. After the work area is found to be visually clean, clearance air samples will be collected and analyzed in accordance with the procedures set forth in Section 01714 - Work Area Clearance.

1. If Release Criteria are not met, repeat Final Cleaning and continue Decontamination procedure from that point.
2. If Release Criteria are met, proceed to Article 3.5 of this specification, "Removal of Work Area Isolation".

3.5 REMOVAL OF WORK AREA ISOLATION

A. After all requirements of this section and Section 01714 - Work Area Clearance have been met:

1. Shut down and remove the Pressure Differential System. Seal HEPA filtered fan units, HEPA vacuums and similar equipment with 6 mil polyethylene sheet and duct tape to form a tight seal at intake end before being moved from Work Area.
2. Remove Personnel Decontamination Unit.
3. Remove the Critical Barriers separating the Work Area from the rest of the building. Remove any small quantities of residual material found upon removal of the plastic sheeting with wet wiping, HEPA filtered vacuum cleaners and local area protection. If significant quantities, as determined by the Owner's Representative, are found then the entire area affected shall be decontaminated as specified.
4. Remove all equipment, materials, debris from the work site.
5. Dispose of all asbestos-containing wasted material as specified in Section 02084 - Disposal of Asbestos-Containing Waste Materials.

END OF SECTION - 01712

SECTION 01714 - WORK AREA CLEARANCE - ASBESTOS ABATEMENT

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings, general provisions of Contract, and other Division - 1 Specification Sections, apply to work of this section.

1. Visual Inspection: Required as a prerequisite of air testing, is set forth in Section 01711 - Project Decontamination.
2. Air Monitoring: Performed by the Owner during abatement work, is described in Section 01410 - Test Laboratory Services.

1.2 SUMMARY

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

1.3 CONTRACTOR RELEASE CRITERIA

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

1.4 VISUAL INSPECTION

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

1.5 AIR MONITORING

A. To determine if the elevated airborne asbestos structure concentration encountered during abatement operations has been reduced to the specified level, the Owner will secure samples and analyze them according to the following schedule.

1.6 SCHEDULE OF AIR SAMPLES

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

1.7 TRANSMISSION ELECTRON MICROSCOPY:

A. The Owner will collect and analyze air quality samples by TEM in accordance with the following protocol:

Location Sampled	Number of Samples	Analytical Sensitivity Fibers/cc	Recommended Volume (Liters)	Rate LPM
Each Work Area	5	0.005	1,300-1,800	1-10
Outside Each Work Area	5	0.005	1,300-1,800	1-10
Work Area Blank	1	0.005	0	Open for 30 seconds
Outside Blank	1	0.005	0	Open for 30 seconds
Laboratory Blank	1	0.005	0	Do not open

1.8 LABORATORY TESTING:

A. Transmission Electron Microscopy: The services of an AIHA and LELAP Certified laboratory will be employed to perform laboratory analysis of air samples. Samples will be sent by overnight courier for analysis by Transmission Electron Microscopy. Verbal results shall be available 24 hours after receipt of samples by the laboratory. All Transmission Electron Microscopy results will be available to the Contractor.

PART 2 - PRODUCTS (NOT APPLICABLE)

PART 3 - EXECUTION (NOT APPLICABLE)

END OF SECTION - 01714

SECTION 01715 - PROJECT DECONTAMINATION - LEAD-BASED PAINT

PART 1 - GENERAL

1.1 RELATED DOCUMENTS:

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

1.2 DESCRIPTION OF REQUIREMENTS:.

A. General: Decontamination of the Work Area following Lead-Based Paint Hazard Reduction.

1.3 RELATED WORK SPECIFIED ELSEWHERE:

A. Work of this section consists of decontamination activities to be performed for work of the following specification sections.

1. Section 01715 Project Decontamination - Lead-Based Paint

2. Section 02065 Removal of Lead-Based Painted Substrates

B. Work Area Clearance: Wipe sample and other requirements which must be met before release of Contractor and reoccupancy of the work area are specified in Section 01421 Project Clearance.

PART 2 - PRODUCTS

2.1 Disposal Bags/Plastic Sheeting: Provide 6 mil polyethylene disposal bags sealed with duct tape.

2.2 Wet Detergent Wash: Provide detergent with high phosphate content (at least 5%) trisodium phosphate (TSP). Follow dilution ratio recommended by manufacturer's instructions.

PART 3 - EXECUTION

3.1 GENERAL:

A. Work of This Section: includes the decontamination of surfaces in the Work Area which has been, or may have been, contaminated by lead dust generated during Hazard Reduction activities, or which may previously have been elevated.

B. Work of This Section: includes the cleaning, decontamination, and removal of temporary facilities installed prior to Hazard Reduction work, including:

C. Work of This Section: includes the cleaning, and decontamination of all surfaces (ceiling, walls, floor, doors, windows, columns, stairs, etc.) of the Work Area, and all cabinetry or equipment in the Work Area.

3.2 START OF WORK:

A. Previous Work: During completion of the Lead Hazard Reduction work specified in other sections, the layer of polyethylene sheeting will have been removed and disposed of along with any gross debris generated by the lead work.

B. Start of Work: Work of this section begins with the cleaning of the building surfaces. At start of work the following will be in place:

1. Floor Sheeting: Erected by work of Section 01505.

2. Washing Facilities: For personnel and equipment in operating condition.

3. Temporary Controls: Constructed as per Section 01504.

3.3 PRELIMINARY FIRST CLEANING:

A. Preliminary Cleaning: Clean tools, scaffolding, ladders, equipment and exterior of building in a ten feet (10') radius of the work by HEPA vacuuming. Follow HEPA vacuuming with wet cleaning of all tools and equipment.

B. Immediately following preliminary cleaning, HEPA vacuum, mist and remove drop cloths. Fold drop cloths inward to trap any leaded dust or residue. Place drop cloths in 6 mil disposal bags and dispose if in accordance with Section 02067. HEPA vacuum and wet wipe poly sheeting.

C. Perform wet detergent (TSP) wash of all surfaces. Begin at point farthest from main entrance, work from top to bottom. Take care not to damage existing finishes and surfaces. Change cleaning mixture in accordance with manufacturer's recommendations or minimum after each room. Filter all waste water or dispose of in accordance with section 02067.

3.4 FINAL CLEANING:

A. HEPA Vacuum: All surfaces in work area. Start at point farthest from main entrance and finish vacuuming back at that point. Begin at top of each room and work down. Sequence work in a manner so as to avoid passing through rooms already cleaned.

B. Perform wet detergent (TSP) wash of all surfaces. Begin at point farthest from main entrance, work from top to bottom. Take care not to damage existing finishes and surfaces. Change cleaning mixture in accordance with manufacturer's recommendations or minimum after each room. Filter all waste water or dispose of in accordance with section 02067.

C. Wiping Work Area:

1. The work area should be cleaned using a three container method. Fill two buckets with clean water and place them in the work area with the container of cleaning solution.

2. Pour cleaning solution onto a clean cloth. Wring excess solution into one of the buckets without placing the cloth into the bucket. Wipe the work surface with the cloth. Add more cleaning solution to the cloth and continue wiping until the entire surface area has been covered. Discard all cloths used in this procedure in the disposal bag.

3. Dip and wring out a clean cloth in the first rinse bucket. Wipe off the work area. Rinse the cloth in the first bucket again and wring out thoroughly. Rinse the cloth in the second bucket and wring out thoroughly again.

4. Continue to clean the work surface with the cloth and rinse using this procedure until the entire work surface has been cleaned. Wipe off all tools to remove any dust.

NOTE: The rinse water in the bucket should be changed periodically. The frequency will vary depending on the level of contamination.

D. Mopping Work Area:

1. Collect any visible debris using wet cloths before mopping the area. Pour the cleaning solution into the mop bucket. Fill two rinse buckets with clean water. Place the mop into the cleaning solution. Wring excess solution into the mop bucket. mop small sections of the work area. Place the mop into the cleaning solution and wring thoroughly between sections. After the entire surface has been mopped thoroughly, rinse the mop head. Completely rinse the surface by placing the mop in the first bucket, wringing it out thoroughly, placing it in the second bucket, wringing thoroughly and then mopping the surface. Continue this cycle until all areas have been rinsed.

   NOTE: The water in the two containers should be changed periodically. The frequency will depend on the level of contamination.

E. Perform clear water wash of all surfaces in same manner as wet detergent wash.

F. After all surfaces in work area are allowed to dry, remove floor sheeting and complete final HEPA vacuuming of all surfaces in same manner as first HEPA vacuuming.

G. After Final Cleaning Perform a Complete Visual Inspection of the entire work area including: all surfaces, ceiling, walls, floor, doorways, windows, and other openings; look for debris from any source, residue on surfaces, dust or other matter. If any debris, residue, dust or other matter is found repeat final cleaning and continue decontamination procedure from that point. When the area is visually clean, complete the certification at the end of this section. Visual inspection is not complete until confirmed in writing, on the certification, by AIMS Group, Inc.

H. Perform final clearance sampling in accordance with sub-section 3.5 final clearance sampling.

I. Painting of substrates: After Clearance has been obtained perform painting/sealing of substrates.

3.5 FINAL CLEARANCE SAMPLING:

A. Wipe Sampling by Atomic Absorption Spectroscopy (AAS) or Inductively Coupled Plasma Emission Spectroscopy (ICP): After the work area is found to be visually clean, wipe samples will be obtained and analyzed in accordance with the procedure set forth in Section 01421 Project Clearance.

1. If Release Criteria are not met, repeat HEPA vacuuming, wet wash, HEPA vacuuming until satisfactory clearance results are obtained.

2. If Release Criteria are met, remove work area isolation. Remove all equipment, materials from the site.

3.6 SUBSTANTIAL COMPLETION OF HAZARD REDUCTION:

A. Hazard Reduction Work is Substantially Complete upon meeting the requirements of this section, section 01421 project Clearance, including submission of:

1. Certificate of Visual Inspection

2. Receipts Documenting proper disposal as required by Section 02067 Disposal of Waste Material.

3. Punch list detailing repairs to be made and incomplete items.

3.7 CERTIFICATE OF VISUAL INSPECTION:

A. Following this section is a "Certificate of Visual Inspection". This certification is to be completed by the Contractor and certified by the Project Monitor. Submit completed certificate with application for final payment. Final payment will not be made until this certification is executed.

END OF SECTION - 01715

CERTIFICATION OF VISUAL INSPECTION

In accordance with Section 01715 "Project Decontamination" the contractor hereby certifies that he has visually inspected the work area (all surfaces including pipes, counters, ledges, walls, ceiling and floor, windows, behind critical barriers, sheet plastic, etc.) and has found no dust, debris or residue.

by: (Signature)_____ Date_____

(Print Name)_____

(Print Title)_____

PROJECT MONITOR CERTIFICATION

The Project Monitor hereby certifies that he has accompanied the contractor on his visual inspection and verifies that this inspection has been thorough and to the best of his knowledge and belief, the contractor's certification above is a true and honest one.

by: (Signature)_____ Date_____

(Print Name)_____

(Print Title)_____

WORK AREA

Location: _____

Room: _____

Hazard Reduction Performed: _____

SECTION 02065 - REMOVAL OF LEAD-BASED PAINTED SUBSTRATES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS:

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

1.2 SUMMARY OF WORK: Work of this section includes the total component removal and off site disposal of lead-based painted components described in Section 01013 - Summary of Work - Abatement.

PART 2 - PRODUCTS

2.1 DISPOSAL BAGS/PLASTIC SHEETING: Provide 6 mil polyethylene disposal bags or wrap substrates to be disposed of in 6 mil polyethylene, sealed with duct tape, and labeled as required by Section 02067 Disposal of Waste Material - Lead-Based Paint.

2.2 Wet Detergent Wash: Provide detergent with a high phosphate content (at least 5%) trisodium phosphate (TSP). Follow dilution ratio recommended by the manufacturer's instructions.

A. Wetting Materials: For wetting prior to disturbance of Lead Paint-Containing Materials use either amended water or a removal encapsulant/chemical.

B. Amended Water: Provide water to which a surfactant has been added. Use a mixture of surfactant and water which results in wetting of the Lead Paint-Containing Material and retardation of dust release during disturbance of the material equal to or greater than that provided by the use of one ounce of a surfactant consisting of 50% polyoxyethylene ester and 50% polyoxyethylene ether mixed with five gallons of water.

C. Removal Encapsulant/Chemical: Provide a penetrating type encapsulant/chemical designed specifically for removal of Lead Paint-

Containing Material. Use a material which results in wetting of the Lead Paint-Containing Material and retardation of dust release during disturbance of the material.

PART 3 - EXECUTION

3.1 BEFORE STARTING WORK OF THIS SECTION, COMPLETE THE FOLLOWING:

A. Section 01504 - Temporary Facilities - Lead-Based Paint

B. Section 01555 - Worker Protection - Lead Based Paint

C. Section 01556 - Respiratory Protection - Lead-Based Paint

3.2 GENERAL:

A. Score paint at edges, corners etc. to reduce chipping of paint. Carefully remove by wet scraping loose and flaking paint prior to removal of substrate in accordance with the following procedure:

1. Fine mist surface with wet wash detergent or water using plant mister or garden sprayer.

2. Carefully scrape loose any flaking material.

3. Clean up paint chips and flakes by wet sweeping or pick up with wet towels.

B. Care shall be taken to avoid damage to adjacent areas during the removal of substrates.

C. Carefully remove the lead-based painted substrates to minimize the disturbance of lead-based paint and the generation of lead dust.

D. HEPA vacuum and/or wet wipe to remove all paint chips, debris and dust generated during the work. Do not allow dust or debris to accumulate.

E. Substrates that are removed shall be wrapped, labeled and disposed of in accordance with section 02067 - Disposal of Waste Materials - Lead-Based-Paint.

DAMAGES: Protect areas adjacent to substrates that are removed for replacement from damage caused by this work. Damages to

non-protected areas or due to lack of care shall be repaired or replaced at the Contractor's expense.

3.3 SECONDARY BARRIER:

A. Secondary Barrier: Over the Primary Barrier, install as a drop cloth a clear 6 mil sheet plastic in all areas where Lead Paint removal work is to be carried out. Completely cover floor with sheet plastic. Where the work is within 10'-0" of a wall extend the Secondary Barrier up wall 18". Support sheet plastic on wall with duct tape, seal top of Secondary plastic to Primary Barrier with duct tape so that the debris is unable to get behind it. Provide cross strips of duct tape at wall support as necessary to support sheet plastic and prevent its falling during removal operations.

B. Install Secondary Barrier at the beginning of each work shift. Install only sufficient plastic for work of that shift.

C. Remove Secondary Barrier at the end of each work shift or as work in an area is completed. Fold plastic toward center of sheet and pack in disposal bags.

D. Install Walkways of black 6 mil plastic between active removal areas and decontamination units to protect Primary Layer from tracked material. Install walkways at the beginning of, and remove at the end of, each work shift.

3.4 WORKER PROTECTION:

A. Before beginning work with any material for which a Material Safety Data Sheet has been submitted provide workers with the required protective equipment. Require that appropriate protective equipment be used at all times.

3.5 AIRBORNE LEAD PAINT DUSTS:

A. General: Use work procedures that result in 8 hour time weighted average (TWA) airborne dust count less than that indicated in Section 01420. If airborne dust count exceeds these levels, immediately mist the area with amended water to lower dust counts and revise work procedures to maintain airborne dust within the allowable limits.

END OF SECTION 02065

SECTION 02067 - DISPOSAL OF WASTE MATERIALS - LEAD-BASED PAINT

PART 1 - GENERAL

1.1 RELATED DOCUMENTS:

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

B. Section 01094 Codes and Regulations - Lead-Based Paint describes applicable federal, state and local regulations.

1.2 DESCRIPTION OF THE WORK:

A. This section describes the disposal of lead-containing or lead contaminated waste materials. Disposal includes packaging of waste materials. Disposal is accomplished by appropriate landfilling.

1.3 SUBMITTALS:

A. Before Start of Work: Submit the following to the Owner's Representative and the Owner for review. Do not start work until these submittals are returned with an action stamp indicating that the submittal is returned for unrestricted use.

1. Contractor must ascertain that the facility owner is registered with the U.S. EPA as a generator of hazardous waste. If there is no generator status established, the Contractor shall assist the Owner in obtaining generator identification numbers.

2. Copy of state or local license for waste hauler.

3. U.S. EPA identification number of waste hauler.

4. Name and address of waste disposal facility where hazardous waste materials are to be disposed. Include contact person and telephone number. Copy of state license and permit. Provide disposal facility permits. The disposal site shall be a hazardous waste site as per

Hazardous Waste Title C of Resource Conservation Recovery Act (RCRA).

5. Copy of EPA "uniform hazardous waste manifest" form.

6. Copy of EPA "notification of hazardous waste activity" form.

7. Copy of forms required by state or local agencies. Also copies of Federal, State or local licenses.

8. Sample of disposal bag and labels to be used. Submit photos of 55 gallon drums to be used for liquid waste disposal.

B. Submit copies of all manifests and disposal site receipts to Owner's Representative and the Owner.

NOTE: Non-Contaminated material, waste scrap and debris shall be disposed of at a solid waste/demolition debris landfill (Solid Waste Type III).

PART 2 - PRODUCTS:

2.1 Disposal: Provide 6 mil thick leak-tight polyethylene bags or wrap components in 6 mil polyethylene sheeting and seal with duct tape. Label with text as follows:

A. "Label with specific Hazardous Waste Label: "

B. For wrapped materials provide stick-on labels.

C. 55 gallon leak-proof drums for liquid waste.

PART 3 - EXECUTION

3.1 GENERAL:

A. Contact DOT, EPA, state and local authorities to determine lead-based paint disposal requirements.

B. The Contractor shall test all waste by use of the Toxicity Characteristic Leaching Procedure (TCLP), performed by a laboratory accredited by LDEQ (LELAP program).

1. Waste tested which results in a lead content in the leachate of greater than or equal to five parts per million is to be considered hazardous, handled and disposed of according to local, city, state, and federal

regulations. All waste material is to be considered hazardous unless proven otherwise by use of the Toxicity Characteristic Leaching Procedure (TCLP).

C. Properly store and secure waste at all times. Do not leave debris in the yard or in uncovered or unlocked trucks or dumpsters. Do not incinerate debris or use an unauthorized dumpster. Do not introduce lead contaminated water into storm or sanitary sewers. Do not permit recycling of building components coated with Lead-Based Paint.

D. Properly segregate all waste materials for TCLP sample collection in accordance with HUD Guidelines.

3.2 DISPOSAL OF NON-HAZARDOUS SOLID WASTE: (As Determined By Testing)

A. Materials are to remain in 6 mil disposal bags or wrapped in polyethylene sheeting. Label all packages. Substrates removed with paint in good condition which is adhered to the substrate may be placed directly in dumpsters then covered.

B. Transport waste in covered or enclosed trucks or dumpsters.

3.3 DISPOSAL OF NON-HAZARDOUS LIQUID WASTE: (As Determined By Testing)

A. Dispose of liquid waste by pouring into sanitary sewage system if permission is received from the Sewage and Water Board. Do not dispose of liquid waste by pouring onto ground or into storm drain. If the liquid waste contains phosphates or other chemicals advise treatment facility of quantity of liquid and that it likely will contain phosphates.

3.4 DISPOSAL OF HAZARDOUS LIQUID OR SOLID WASTES: (As Determined By Testing)

A. Comply with RCRA, DOT, STATE and local regulations.

B. Apply for an EPA identification number from the appropriate regional office if more than 100 kg of hazardous waste is generated from the lead hazard reduction process during any calendar month.

C. Comply with DOT and STATE regulations for containers. The most stringent regulation shall apply.

D. All waste is to be hauled by a licensed waste hauler with all required licenses form all state and local authorities with jurisdiction.

E. Load all waste material into properly labeled disposal bags, polyethylene sheeting, or leak-tight drums. All materials are to be contained in one of the following:

1. One 6 mil layer of sheet polyethylene, duct tape all seams or One 6 mil disposal bag or

2. Two 4 mil disposal bags

3. Sealed steel drum with no bag

F. Protect interior of truck or dumpster with two layers of 6 mil polyethylene sheeting with all seams sealed with duct tape.

G. Carefully load containerized waste in fully enclosed dumpsters, trucks or other appropriate vehicles for transport. Exercise care before and during transport, to insure that no unauthorized persons have access to the material.

H. Do not store containerized materials outside of the Work Area. Take containers from the Work Area directly to the designated storage area, sealed truck or dumpster,

I. At disposal site unload containerized waste:

1. At a disposal site, sealed plastic bags may be carefully unloaded from the truck. If bags are broken or damaged, return to work site for rebagging. Clean entire truck and contents using procedures set forth in section 01715 Project Decontamination.

J. Retain all documents from the disposal site.

K. At completion of hauling and disposal of each load submit copy of Uniform Hazardous Waste Manifest, to the Owner’s Representative and the Owner.

3.5 BACKCHARGES: Where Contractor fails to fulfill packaging, handling, or disposal requirements as outlined herein, Owner will charge back to Contractor all costs associated with insuring that hazardous wastes are packaged and segregated in accordance with EPA and DOT regulations.

A. Environmental pollution of Owner's property resulting from Contractor's hazardous waste management activities shall be promptly remediated under Owner direction, to the Owner's sole satisfaction, and at the Contractor's sole expense.

B. Contractor agrees to either reimburse the Owner, or reduce the Contract amount by change order to cover all costs associated with waste repackaging, waste re-segregation, or pollution remediation efforts.

END OF SECTION - 02067

SECTION 02081 - REMOVAL OF ASBESTOS-CONTAINING MATERIALS

1.0 PART 1 - GENERAL

1.1 RELATED DOCUMENTS:

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

1.2 DESCRIPTION OF WORK:

The work required under this section consists of furnishing all labor, material, equipment and supervision necessary for removal of asbestos-containing materials identified in Section 01013 - Summary of Work - Abatement.

1.3 RELATED WORK SPECIFIED ELSEWHERE:

Installation of Critical and Primary Barriers, and Work Area Isolation Procedures are set forth in Section 01526 - Temporary Enclosures.

Project Decontamination procedures are specified in Section 01711 - Project Decontamination.

Disposal of asbestos-containing waste is specified in Section 02084 - Disposal of Asbestos-Containing Waste Materials.

1.4 SUBMITTALS:

1.4.1 Before Start of Work: Submit the following to the Owner's Representative for review. Do not start work until these submittals are returned with Owner's Representative's action stamp indicating that the submittal is returned for unrestricted use.

1.4.2 Surfactant: Submit product data, use instructions and recommendations from manufacturer of surfactant intended for use. Include data substantiating that material complies with requirements.

1.4.3 Removal Encapsulant: Submit product data, use instructions and recommendations from manufacturer of removal encapsulant intended for use. Include data substantiating that material complies with requirements.

1.4.4 NESHAP Certification: Submit certification from manufacturer of surfactant or removal encapsulant that, to the extent required by this specification, the material, if used in accordance with manufacturer's instructions, will wet Asbestos-Containing Materials to which it is applied as required by the National Emission Standard for Hazardous Pollutants (NESHAP) Asbestos Regulations (40 CFR 61, Subpart M).

1.4.5 Material Safety Data Sheet: Submit the Material Safety Data Sheet, or equivalent, in accordance with the OSHA Hazard Communication Standard (29 CFR 1910.1200) for each surfactant, encapsulating material and solvent proposed for use on the work. Include a separate attachment for each sheet indicating the specific worker protective equipment proposed for use with the material indicated.

2.0 PART 2 - PRODUCTS:

2.1 Wetting Materials: For wetting prior to disturbance of Asbestos-Containing Materials use either amended water or a removal encapsulant:

2.1.1 Amended Water: Provide water to which a surfactant has been added. Use a mixture of surfactant and water which results in wetting of the Asbestos-Containing Material and retardation of fiber release during disturbance of the material equal to or greater than that provided by the use of one ounce of a surfactant consisting of 50% polyoxyethylene ester and 50% polyoxyethylene ether mixed with five gallons of water.

2.1.2 Removal Encapsulant: Provide a penetrating type encapsulant designed specifically for removal of Asbestos-Containing Material. Use a material which results in wetting of the Asbestos-Containing Material and retardation of fiber release during disturbance of the material equal to or greater than that provided by water amended with a surfactant consisting of one ounce of a mixture of 50% polyoxyethylene ester and 50% polyoxyethylene ether in five gallons of water.

2.2 Polyethylene Sheet: A single polyethylene film in the largest sheet size possible to minimize seams, 4.0 or 6.0 mil thick as indicated, clear, frosted, or black as indicated.

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

2.4 Spray Cement: Provide spray adhesive in aerosol cans which is specifically formulated to stick tenaciously to sheet polyethylene.

2.5 Disposal Bags: Provide 6 mil thick leak-tight polyethylene bags labeled as required by Section 02084 Disposal of Asbestos Containing Waste Material.

2.6 Fiberboard Drums: Provide heavy duty leak tight fiberboard drums with tight sealing locking metal tops.

2.7 Paper board Boxes: Provide heavy duty corrugated paper board boxes coated with plastic or wax to retard deterioration from moisture. Provide in sizes that will easily fit in disposal bags.

3.0 PART 3 - EXECUTION

3.1 SECONDARY BARRIER:

3.1.1 Secondary Barrier: Over the Primary Barrier, install as a drop cloth a clear 6 mil sheet plastic in all areas where asbestos removal work is to be carried out. Completely cover floor with sheet plastic. Where the work is within 10'-0" of a wall extend the Secondary Barrier up wall to ceiling. Support sheet plastic on wall with duct tape, seal top of Secondary plastic to Primary Barrier with duct tape so that debris is unable to get behind it. Provide cross strips of duct tape at wall support as necessary to support sheet plastic and prevent its falling during removal operations.

3.1.2 Install Secondary Barrier at the beginning of each work shift. Install only sufficient plastic for work of that shift.

3.1.3 Remove asbestos containing floor tile materials and associated mastic.

3.1.4 Remove Secondary Barrier at end of each work shift or as work in an area is completed. Fold plastic toward center of sheet and pack in disposal bags. Keep material on sheet continuously wet until bagged.

3.1.5 Install Walkways of black 6 mil plastic between active removal areas and decontamination units to protect Primary Layer from tracked material. Install walkways at the beginning of, and remove at the end of, each work shift.

3.2 WORKER PROTECTION:

Before beginning work with any material for which a Material Safety Data Sheet has been submitted provide workers with the required protective equipment. Require that appropriate protective equipment be used at all times.

3.3 WET REMOVAL:

3.3.1 Mist work area continuously with amended water whenever necessary to reduce airborne fiber levels.

3.3.2 Do not allow material to dry out. As it is removed, simultaneously pack material while still wet into disposal bags. Twist neck of bags, bend over and seal with minimum three wraps of duct tape. Clean outside and move to Wash Down Station adjacent to Material Decontamination Unit.

3.3.2.1 Evacuate air from disposal bags with a HEPA filtered vacuum cleaner before sealing.

3.3.3 Active Electrical Equipment: Do not wet materials in the vicinity of active electrical equipment. Dry remove any Asbestos-Containing Materials in the vicinity of active electrical equipment.

3.3.3.1 Restrict Access: Maintain existing access restrictions to areas with active electrical equipment. Allow access to area only to qualified tradespersons with prior experience in the installation and repair of involved equipment.

3.3.3.2 Warning Signs: Post warning signs at the entry point to active electrical equipment as required by OSHA or other applicable regulation.

3.3.3.3 Personnel: Work on active electrical equipment is to be performed by qualified tradespersons with prior experience in the installation or repair of the involved equipment. Restrict access to electrical equipment.

3.3.3.4 Electrical Isolation: Cover exposed conductors with a minimum 1/8" thick neoprene blanket draped over the conductor and surrounding area.

3.3.3.5 Protective Equipment: Provide workers working on or in the vicinity of active electrical with appropriate protective equipment including insulating gloves, boots, and non-conductive tools.

3.4 AIRBORNE ASBESTOS COUNTS:

3.4.1 General: Use work procedures that result in 8 hour time weighted average (TWA) airborne fiber count is less than that indicated in Section 01410 - Air Monitoring - Test Laboratory Services. If airborne fiber count exceeds these levels, immediately mist the area with amended water to lower fiber counts and revise work procedures to maintain airborne fiber within the allowable limits.

END OF SECTION - 02081

SECTION 02082 - REMOVAL OF POLYCHLORINATED BIPHENYL-CONTAINING BALLASTS

PART 1 - GENERAL

1.1 DESCRIPTION OF WORK:

A. The Contractor shall remove, package, transport, and dispose of all PCB-containing ballasts from fluorescent light fixtures located in the ceiling grid, in accordance with all Federal, State, and local rules and regulations. The Contractor is responsible for all of the costs associated with the removal, packaging, transporting, and disposal of these ballasts.

B. The work, in general, includes, but is not limited to, the following:

1. Partial dismantling of light fixtures and separation of ballasts to permit removal.
2. Cleaning of any PCB contamination on fixtures surfaces.
3. Providing and implementing spill prevention control and countermeasure plans.
4. Placement of all PCB contaminated items generated as a result of work activities into approved containers/drums.
5. Transportation of PCB's and PCB-contaminated items and containers to the disposal site.
6. Providing properly completed Waste Manifest/Waste Shipment Record Form.
7. Provide name and location of disposal site.

C. All PCB-related work activities to be accomplished under this section shall be coordinated closely with asbestos abatement work to minimize potential toxic exposure.

D. Prior to commencing this work, the Contractor shall inspect thoroughly the work area and prepare a construction schedule which lists anticipated time frames and sequence of operations for the various work activities. The construction schedule shall include activities such as contamination clean-up and removal of all PCB-containing articles, items and containers from the work area. The construction schedule also shall include routing for all PCB-containing items to be removed from the work area and transported to disposal areas. Work activities, sequence of work, and routing scheme shall be

transmitted to the Owner's Representative prior to the commencement of any work under this section.

1.2 APPLICABLE PUBLICATIONS:

A. The applicable sections, latest editions, and addenda of the following governmental regulations, codes, industry standards, and recommended practices form a part of these specifications. Nothing in these specifications is to be construed as permitting work not conforming to these requirements:

1. USEPA - United States Environmental Protection Agency
2. NEC - National Electrical Code
3. NEMA - National Electrical Manufacturers Association
4. RCRA - Resource Conservation and Recovery Act
5. TSCA - Toxic Substances and Control Act
6. DOT - Department of Transportation
7. Louisiana Department of Environmental Quality
8. OSHA - Occupational Safety and Health Administration
9. NFPA - National Fire Protection Association
10. All other applicable Federal, State, Parish and city codes, standards and regulations.

B. The Contractor is cautioned that he is responsible for ascertaining the extent to which these regulations affect the operations under these Contract Documents and to comply therewith.

1.3 RESPIRATORY AND PERSONNEL PROTECTION AND DECONTAMINATION: Refer to Section 01560 for Contractor respiratory and personnel protection and decontamination requirements. Respirators with particulate/organic filtration, non-absorbent suits, gloves, and boots shall be worn while removing and handling ballasts.

1.4 WASTE DISPOSAL: Disposal by the Contractor. Refer to Paragraph 3.6 of this Section for Contractor waste disposal requirements.

PART 2 - PRODUCTS

2.1 GENERAL REQUIREMENTS:

A. The Contractor shall deliver all materials and equipment to the site in the original containers bearing the name of the manufacturer and details for proper storage and usage.

B. All materials or equipment delivered to the site shall be unloaded, temporarily stored, and transferred to the Work Area in a manner which shall not interfere with operations of the building occupants.

C. Unloading and temporary storage sites, and transfer routes, must be approved in advance by the Owner's Representative and the Owner.

D. Damaged or deteriorated materials may not be used and must be promptly removed from the premises. Material which becomes contaminated with asbestos-containing material shall be packaged and legally disposed of in an approved landfill.

E. Techniques, procedures, and equipment required by these specifications may be covered by one or more U.S. and/or foreign patents. It is the sole responsibility of the Contractor to determine what, if any, patents are applicable and to meet the requirements of the patent owner, including fees regarding the use of these patents.

2.2 MATERIALS, TOOLS, AND EQUIPMENT:

A. All materials, tools, and equipment must comply, at a minimum, with this specification, and relevant Federal, State, and local codes. For the construction of containment barriers, work platforms, and decontamination facilities, all lumber and plywood shall be fire retardant. Flame-resistant polyethylene film shall conform to requirements set forth in the National Fire Protection Association, shall be fire-retardant, and shall bear manufacturer's stamp of Underwriters Laboratory Classification.

PART 3 - EXECUTION

3.1 GENERAL: The requirements and sequences described herein are parameters for execution of the abatement work and do not include necessarily all abatement requirements. The Contractor will be responsible for all items that may be necessary to complete the abatement work in accordance with the Contract Documents Work Plan, and all applicable regulations.

3.2 PCB-BALLAST REMOVAL:

A. The Contractor shall remove the ballasts from the fluorescent fixtures in a well ventilated Work Area. The ballasts shall be removed from the fixtures and placed in layers. A layer of absorbent material in excess of the contained liquid shall be placed between each layer of ballasts.

B. Once all of the ballasts have been placed in the approved drums, the drums shall be decontaminated as necessary and placed in a lockable storage container.

C. The Contractor shall arrange for transportation to the disposal site in accordance with all Federal, State, and local rules and regulations.

3.3 SPILL CLEAN-UP, CONTAINERIZATION AND MARKING:

A. Equipment and Tools: After the last ballast has been separated from the electrical fixture, all tools and equipment used in the work shall be decontaminated and properly stored. Where work surfaces have contacted PCB fluids, they shall be scraped clean, flushed with solvent, wiped clean, and all debris placed in approved drums and disposed of in an EPA-approved incinerator. All tools that may have come in contact with PCB's at any concentration shall be thoroughly cleaned.

B. PCB Articles (Electrical Equipment): All exterior surfaces of electrical equipment to be removed that may have come in contact with PCB's or contaminated oils or fluids, either during the course of work activities or due to past leaks, shall be cleaned thoroughly and wiped clean.

C. Slabs, Floors, and Walls: All concrete (or other surfaces) which have come in contact with PCB's or PCB mixtures in the course of the work as a result of past leaks shall be cleaned thoroughly using a combination of sorbents, solvents, and cleaners.

3.4 CONTAINERIZATION AND MARKING:

A. All liquids generated as a result of work activities and clean-up operations shall be placed in closed top drums and sealed with a steel ring band with bolt compression device. All solids, such as sorbents, rags, disposable protective clothing, and other incidentals, shall be placed in closed top drums and sealed with a steel ring band with bolt compression device.

B. All drums and PCB article containers (where used) shall be permanently marked as to specific contents and dated in accordance with Federal, State and local rules and regulations. In addition, each drum (and container) shall be sealed with a steel ring band with bolt compression device.

3.5 PCB RELEASE LIMITS: If a PCB spill occurs, the Contractor shall implement the emergency spill plan procedures.

A. The Contractor shall limit the airborne PCB concentration to below one (1) microgram per cubic meter of air (1 ug/c3) or the background level before the start of the project, whichever is lower.

B. The Contractor shall limit the PCB concentration of building surfaces to below 10 micrograms per 100 square centimeters, (10ug/100cm2).

C. If required, air monitoring data shall include the sorbent type, sampling rate, sampling volume, analytical method, mass of PCB's detected, and limit of detection, as per NIOSH analytical methods. Surface monitoring shall include the filter type, sorbent type, sampling, location area sampled, analytical method, mass of PCB's detected and the limit of detection, as per NIOSH analytical Method 5503. Analytical results for PCB analysis shall be provided to the Owner's Representative within 24 hours of the end of work on any weekend or within 24 hours of the removal of the ballasts.

3.6 HANDLING AND TRANSPORTATION TO OFF-SITE DISPOSAL FACILITIES:

A. Handling of Drums: All closed top drums must be sealed and marked prior to loading on the transport vehicle. Filled drums shall be loaded on the transport vehicle by any of the following methods:

1. By a hoist or lift truck utilizing a two-point drum lifter.
2. By a lift truck lifting the drums from underneath by a pallet attached to the drum by a banding arrangement.

B. Drums shall not be lifted by any rope, chain or cloth slings tied about the drum, placement of drums on bare-lift truck forks, forcing drums between forks of a lift truck, or any commercial drum lift exerting force on the sides of a drum.

C. All drums or PCB article containers shall be secured to the transport vehicle to prevent movement in transit.

D. All PCB articles such as ballasts, and all drums containing liquids, solids and incidentals shall be transported to the Owner's temporary storage area.

E. The Contractor shall utilize a Waste Hauler Contractor licensed for the transportation and hauling of PCB hazardous wastes. The firm shall provide a routing plan which clearly identifies the routes he proposes to follow while transporting PCB items from the various work areas (points of generation) to the disposal site. A minimum of two operators shall be in attendance at all times when PCB items are being loaded and unloaded.

F. Vehicles used for transporting of PCB items must be marked plainly and visibly in accordance with Federal, State and local rules and regulations.

G. Unloading, Records, and Placement in Storage: Transport vehicles shall be unloaded utilizing the same equipment and methods as for loading. Immediately following unloading of the PCB transport vehicle, the cargo area shall be inspected to check for any fluid leaks. If any fluid leaks are found, the source of the leaking drum or item shall be identified and sealed. The contaminated cargo area shall be thoroughly cleaned. Cleaning solvents and solids shall be placed in proper drums.

H. Upon completion of all PCB work related activities, the Contractor shall provide a complete record of such activities and incinerator data to the Owner's Representative. The record shall include but not be limited to:

1. Name of the Contractor performing the work outlined in this Section and the technician-in-charge.
2. Ballasts and Electrical Equipment removed:
   a. Manufacturer, serial number, and date of Manufacture.

   b. Date removed from service and location.

   c. Date of incineration.

   d. Weight in pounds.
3. Drums and PCB article containers (where applicable):
   a. Drum size (30 or 55 gallon).

   b. Identification of contents, i.e, ballasts, cleaning solvents, etc., for solids, rages, sorbents, etc.

   c. Weight in kilograms of contents of each drum (or container).

   d. Date items were destroyed and location and company.
4. Hazardous Waste Manifests/Waste Shipment Record Form and Chain-of-Custody Forms shall be provided for all hazardous waste materials, and hazardous waste manifests shall be presented to the Owner's Representative.

3.7 SAFETY PROCEDURES AND WORKER PROTECTION:

A. All required precautions and measures shall be taken to protect employees, related trade employees, inspection personnel, and the general public from exposure to PCB solids, liquids, and vapors.

B. All electrical equipment upon which PCB-related activities are to be performed shall be disconnected permanently from any power source prior to commencing of any work.

C. Work Area Protection and Marking: Prior to commencing any PCB-related work activities, barricades and warning signs shall be provided to identify clearly and guard effectively against unauthorized entry into the work area.

D. All equipment shall be confined to the work area until the work is complete and containers are sealed and equipment properly and safely stored for transport.

1. Barricades: If approved asbestos-related temporary enclosures are in use, no additional PCB-related temporary enclosures need to be constructed, except as needed in case of PCB-related emergency,
2. Signs: During the PCB work phase, the Contractor shall place warning signs at intervals of approximately ten feet. The warning signs for work areas shall be approximately one foot six inches square with yellow background and one inch black letters. Signs shall read: "DANGER - KEEP OUT - TOXIC CHEMICAL WORK AREA."

E. Protective measures shall be provided in connection with the transport of PCB materials within the building over for the entire pathway to the exterior elevators to the transporting vehicle.

F. Protective Clothing and Equipment: At all times when PCB materials in any volume are not sealed in drums, containers, or electrical equipment, workers shall wear:

1. Disposable, nonporous gloves.
2. Disposable whole body clothing impermeable to PCB's.
3. Respiratory protection (NIOSH/MSHA-approved) against organic vapors and particulates (at least the level of particulate protection required at that stage of work for asbestos protection).
4. Eye protection.
5. Hard hats.

G. The Contractor shall provide protective clothing, eye protection, and respiratory protection as required for inspection personnel monitoring work activities within the work area.

H. Personnel Protection and Procedures: The PCB work area shall at no time be left unattended after procedures have begun and until all ballasts and incidentals have been sealed in approved, properly labeled containers. If immediate transportation to the PCB incineration facility is not feasible, the Work Area must be secured in a manner in accordance with Federal, State and local rules and regulations. During procedures and at
all times when PCB ballasts or mixtures in any volume are not sealed in drums, containers, or electrical equipment, all personnel entering the work area must don protective clothing and equipment as listed herein. Upon exiting the work

area, all disposable protective clothing shall be placed in approved drums, sealed, and disposed of as specified herein.

I. Workers with cuts or scratches shall protect these wounds before entering the work area. Similarly, workers who accidentally incur minor cuts or scratches in the course of work activities shall leave the work area, cleanse the wound with medical grade soap, and seal the wound before returning to the work area.

J. The Contractor shall develop a sequenced plan for the completion of all PCB related work and submit this plan in advance of such work to the following Owner's Representative. The plan shall address the following items:

1. Lists of vehicles, equipment, and personnel to be used in accomplishing the work.
2. The emergency spill plan, which shall encompass all steps the Contractor will take in the event of a spill or other emergency.
3. Safety procedures, which shall cover all phases of operations, including but not limited to, handling, loading, transporting, securing PCB loads, and first aid procedures.

END OF SECTION 02082

SECTION 02083 - REMOVAL OF MERCURY VAPOR-CONTAINING FLUORESCENT LIGHT TUBES

PART 1 - GENERAL

1.1 DESCRIPTION OF WORK:

A. The Contractor shall remove, package, transport, recycle, and dispose of the mercury vapor-containing fluorescent light tubes (lamps) from fluorescent light fixtures throughout the building, in accordance with all Federal, State, and local rules and regulations. The Contractor is responsible for all of the costs associated with the removal, packaging, and transportation and disposal.

B. The work, in general, includes, but is not limited to, the following:

1. Partial dismantling of light fixtures and separation of lamps to permit removal.
2. Cleaning of any PCB or asbestos contamination on fixtures surfaces.
3. Providing and implementing spill prevention control and countermeasure plans.
4. Placement of the light tubes generated as a result of work activities, into approved containers/drums.
5. Transportation of the light tubes to the off-site recycling facility.
6. Provide properly completed Waste Manifest Form/Waste Shipment Record.
7. Provide name and location of recycling facility (or disposal facility) licensed to accept this waste.

C. All work activities to be accomplished under this section shall be closely coordinated with asbestos abatement work to minimize potential toxic exposure.

D. Prior to commencing this work, thoroughly inspect the Work Area and prepare a construction schedule which lists anticipated time frames and sequence of operations for the various work activities. The construction schedule shall include activities such as contamination clean-up, and removal of fluorescent lamps from the work area. The construction schedule shall also include routing for items to be removed from the Work Area and transported to the Owner's temporary storage area. Work activities, sequence of work, and routing scheme shall be transmitted to the Owner’s Representative prior to the commencement of any work under this section.

1.2 APPLICABLE PUBLICATIONS:

A. The applicable sections, latest editions and addenda of the following government regulations, codes, industry standards and recommended practices, form a part of these specifications. Nothing in these specifications is to be construed as permitting work not conforming to these requirements:

1. USEPA - United States Environmental Protection Agency
2. NEC - National Electrical Code
3. NEMA - National Electrical Manufacturers Association
4. RCRA - Resource Conservation and Recovery Act
5. TSCA - Toxic Substances and Control Act
6. DOT - Department of Transportation
7. Louisiana Department of Environmental Quality
8. OSHA - Occupational Safety and Health Administration
9. NFPA - National Fire Protection Association
10. All other applicable Federal, State, Country and city codes, standards and regulations.

The Contractor is cautioned that he is responsible for ascertaining the extent to which these regulations affect the operations under these Contract Documents and to comply therewith.

1.3 RESPIRATORY AND PERSONNEL PROTECTION AND DECONTAMINATION:

A. Refer to Section 01560 for Contractor respiratory and personnel protection and decontamination requirements.

1.4 WASTE DISPOSAL:

A. Refer to Paragraph 3.5 of this Section for Contractor waste disposal requirements.

PART 2 - PRODUCTS

2.1 GENERAL REQUIREMENTS:

A. The Contractor shall deliver all materials and equipment to the site in the original containers bearing the name of the manufacturer, and details for proper storage and usage.

B. All materials or equipment delivered to the site shall be unloaded, temporarily stored, and transferred to the Work Area in a manner which shall not interfere with operations of the building occupants.

C. Unloading and temporary storage sites, and transfer routes, must be approved in advance by the Owner's Representative and the Owner.

D. Damaged or deteriorated materials may not be used and must be promptly removed from the premises. Material which becomes contaminated with PCB's shall be packaged as PCB-containing and transported to the Owner's temporary storage area.

E. Techniques, procedures, and equipment required by these specifications may be covered by one or more U.S. and/or foreign patents. It is the sole responsibility of the Contractor to determine what, if any, patents are applicable and to meet the requirements of the patent owner including fees regarding the use of these patents.

2.2 MATERIALS, TOOLS, AND EQUIPMENT:

A. All materials, tools, and equipment must comply at a minimum, with this specification, and relevant Federal, State, and local codes. For the construction of containment barriers, work platforms, and Decontamination Facilities, all lumber and plywood shall be fire retardant. Flame resistant polyethylene film shall conform to requirements set forth in the National Fire Protection Association, shall be fire retardant, and shall bear manufacturer's stamp of UL Classification.

PART 3 - EXECUTION

3.1 GENERAL:

A. The requirements and sequences described herein are execution parameters for the removal work and do not include necessarily all removal requirements. The Contractor will be responsible for all items that may be necessary to complete the removal work in accordance with the Work Plan, Scope of Work, and all applicable regulations.

3.2 SPENT FLUORESCENT LAMP REMOVAL:

A. The Contractor shall remove the lamps from the fluorescent fixtures in a well ventilated Work Area. The lamps shall be removed form the fixtures and placed in approved containers or barrels. Containers shall be constructed in a manner that will permit the transportation of the lamps without breakage.

B. Once all of the lamps have been placed in the approved containers, the containers shall be decontaminated as necessary and placed in a lockable storage container.

C. The Contractor shall arrange for transportation to the disposal site.

3.3 SPILL CLEAN-UP, CONTAINERIZATION AND MARKING:

A. Clean-up of Work Area:

1. Equipment and Tools: After the last lamp has been separated from the electrical fixture, all tools and equipment used in the work shall be decontaminated and properly stored. Where work surfaces have contacted PCB fluids, they shall be scraped clean, flushed with solvent, wiped clean and all debris placed in approved containers and transported to the Owner's temporary storage area.

3.4 CONTAINERIZATION AND MARKING:

A. All lamps generated as a result of work activities and clean-up operations shall be placed in the approved containers and placed in a lockable storage container to be transported to the Owner's temporary storage area.

B. All containers shall be permanently marked as to specific contents and dated in accordance with Federal, State and local rules and regulations.

3.5 HANDLING AND TRANSPORTATION TO RECYCLER:

A. Handling of Containers: All containers shall be sealed and marked prior to loading on the transport vehicle. Containers shall be loaded on the transport vehicle by any of the following methods:

1. By a hoist or lift truck utilizing a two-point drum lifter.
2. By a lift truck lifting the drums from underneath by a pallet attached to the drum by a banding arrangement.

B. Containers shall not be lifted by: Any rope, chain or cloth slings tied about the container, placement of containers on bare-lift truck forks, forcing container between forks of a lift truck, or any commercial container lift exerting force on the sides of a container.

C. All containers shall be secured to the transport vehicle to prevent movement in transit.

D. All lamps shall be transported to the recycler for disposal.

E. The Contractor shall utilize a waste hauler licensed for the transportation and hauling of hazardous wastes. The Contractor shall provide a routing plan which clearly identifies the routes proposed to follow from the Work Area (points of generation) to the Owner's off-site temporary storage area. A minimum of two operators shall be in attendance at all times when items are being loaded and unloaded.

F. Vehicles used for transporting of lamps must be plainly and visibly marked in accordance with Federal, State and local rules and regulations.

G. Unloading, Records, and Placement in Storage: Transport vehicles shall be unloaded utilizing the same equipment and methods as for loading.

H. Upon completion of all work related activities, the Contractor shall provide a complete record of such activities to the Owner's Representative. The record shall include but not be limited to:

1. Name of the Contractor performing the work outlined in this Section and technician in charge.
2. Lamps removed:
   a. Date removed from service and location
   b. Number of lamps
3. Containers:
   a. Container size and type.
   b. Identification of contents.
   c. Weight in kilograms of contents of the container and number of containers.
   d. Date items were transported to Owner's temporary storage area.
4. Completed Waste Manifest Form/Waste Shipment Records and Chain-of-Custody Forms shall be presented to the Owner's Representative within three days from the time the lamps are transported to the disposal site.

3.6 SAFETY PROCEDURES AND WORKER PROTECTION:

A. Take all precautions and measures required to protect employees, related trade employees, inspection personnel, and the general public from exposure to mercury vapor and glass.

B. All electrical equipment upon which related activities are to be performed shall be permanently disconnected from any power source prior to commencing of any work.

C. Work Area Protection and Marking: Prior to commencing any work activities, provide barricades and warning signs to clearly identify and effectively guard against unauthorized entry into Work Area.

D. All equipment shall be confined to the Work Area until the work is complete and containers are sealed and equipment properly and safely stored for transport.

1. Barricades: If approved asbestos-related temporary enclosures are in use, no additional enclosures need to be constructed.

2. Signs: During this work phase, the Contractor shall place at intervals of approximately ten feet, warning signs. The warning signs for Work Areas shall be approximately one foot six inches square with yellow background and one inch black letters. Signs shall read: "DANGER - KEEP OUT - TOXIC CHEMICAL WORK AREA. "If approved asbestos-related temporary enclosures are in use, no additional signs are needed.

E. Protective measures shall be provided with the transporting of materials within the building for the entire pathway to the exterior elevators to transporting vehicle.

F. Protective Clothing and Equipment: When handling fixtures and lamps:
1. Disposable, nonporous gloves
2. Disposable whole body clothing.
3. Respiratory protection (NIOSH/MSHA approved) against organic vapors and particulates (at least the level of particulate protection required at that stage of work for asbestos protection).
4. Eye protection
5. Hard Hats

G. The Contractor shall provide protective clothing, eye protection, and respiratory protection as required for Inspection Personnel monitoring work activities within the work area.

H. Personnel Protection and Procedures: The Work Area shall at no time be left unattended after procedures have begun and until all lamps and incidentals have been placed in the properly labeled containers. If immediate transportation to the Owner's temporary storage area is not feasible, the Work Area must be secured in a manner in accordance with Federal, State and local rules and regulations. All personnel entering the Work Area must don protective clothing and equipment listed herein. Upon exiting the Work Area, all disposable protective clothing shall be placed in approved drums, sealed, and disposed of as specified herein.

I. Workers with cuts or scratches shall protect these wounds before entering the work area. Similarly, workers who accidentally incur minor cuts or scratches in the course of work activities shall leave the Work Area, cleanse the would with medical grade soap and seal the wound before returning to the Work Area.

J. The Contractor shall develop a sequenced plan for the completion of this work and submit this plan in advance of such work to the following Owner's Representative. The plan shall address the following items:

1. Lists of vehicles, equipment, and personnel to be used in accomplishing the work.
2. Handling procedures and type of containers to be used.

3. Safety procedures shall cover all phases of operations including, but not limited to, handling, loading, transporting, disposal, securing loads and first aid procedures.

END OF SECTION 02083

SECTION 02084 - DISPOSAL OF ASBESTOS-CONTAINING WASTE MATERIAL

1.0 PART 1 - GENERAL

1.1 RELATED DOCUMENTS:

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

Section 01092 - Codes, Regulations and Standards describes applicable federal, state and local regulations.

1.2 DESCRIPTION OF THE WORK:

This section describes the disposal of Regulated Asbestos-Containing Materials (RACM) and debris packaged in accordance with the provisions of this specification and disposed at an approved landfill.

1.3 SUBMITTALS:

1.3.1 Before Start of Work: Submit the following to the Owner's Representative for review. Do not start work until these submittals are returned with Owner's Representative's action stamp indicating that the submittal is returned for unrestricted use.

Copies of LDEQ LESHAP Asbestos Disposal Verification Forms (ADVF).

Copy of federal, state or local license for waste hauler.

The name and address of landfill where asbestos-containing waste materials are to be buried to be submitted to Project Administrator for prior approval. Include contact person and telephone number. Written approval from Project Administrator is required for approval of disposal site.

1.3.2 On a weekly basis submit copies of all manifests and disposal site receipts to Owner's Representative.

2.0 PART 2 - PRODUCTS:

2.1 Disposal Bags: Provide 6 mil thick leak-tight polyethylene bags labeled with three labels with text as follows:

First Label:

CAUTION
CONTAINS ASBESTOS FIBERS
AVOID OPENING OR BREAKING CONTAINER
BREATHING ASBESTOS IS HAZARDOUS TO YOUR HEALTH

Second Label: Provide in accordance with 29 CFR 1910.1200(f) of OSHA's Hazard Communication standard:

DANGER
CONTAINS ASBESTOS FIBERS
AVOID CREATING DUST
CANCER AND LUNG DISEASE HAZARD
BREATHING AIRBORNE ASBESTOS, TREMOLITE, ANTHOPHYLLITE, OR
ACTINOLITE FIBERS IS HAZARDOUS TO YOUR HEALTH

Third Label: Provide in accordance with U. S. Department of Transportation regulation on hazardous waste marking. 49 CFR parts 171 and 172. Hazardous Substances: Final Rule. Published November 21, 1986 and revised February 17, 1987:

RQ HAZARDOUS
SUBSTANCE,
SOLID, NOS,
ORM-E, NA 9188
(ASBESTOS)

3.0 PART 3 - EXECUTION

Comply with the following sections during all phases of this work:

Section 01560 - Worker Protection - Asbestos Abatement
Section 01562 - Respiratory Protection

3.1 GENERAL:

All waste is to be hauled by a waste hauler with all required licenses form all state and local authority with jurisdiction.

Load all asbestos-containing waste material in disposal bags or leak-tight drums. All materials are to be contained in one of the following:

Two 6 mil disposal bags.

Protect interior of truck or dumpster with Critical and Primary Barriers as described in Section 01526 - Temporary Enclosures.

Carefully load containerized waste in fully enclosed dumpsters, trucks or other appropriate vehicles for transport. Exercise care before and during transport, to insure that no unauthorized persons have access to the material.

Do not store containerized materials outside of the Work Area. Take containers from the Work Area directly to a sealed truck or dumpster.

Do not transport disposal bagged materials on open trucks. Label drums with same warning labels as bags. Uncontaminated drums may be reused. Treat drums that have been contaminated as asbestos-containing waste and dispose of in accordance with this specification.

Advise the landfill operator or processor, at least ten days in advance of transport, of the quantity of material to be delivered.

At a disposal site, sealed plastic bags may be carefully unloaded from the truck. If bags are broken or damaged, return to work site for rebagging. Clean entire truck and contents using procedures set forth in Section 01711 - Project Decontamination.

Retain receipts from landfill for materials disposed of.

At completion of hauling and disposal of each load submit copy of ADVF to Owner's Representative.

The Owner may employ inspector at disposal site to observe unloading and disposal procedure.

END OF SECTION - 02084

SECTION 09805 - ENCAPSULATION OF ASBESTOS-CONTAINING MATERIALS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. General provisions of Contract, and Division - 1 Specification Sections, apply to work of this section.

1.2 DESCRIPTION OF WORK

A. The work includes removal of asbestos-containing outlined in Section 01013 - Summary of Work - Abatement and encapsulation of work areas and substrates.

1.3 SUBMITTALS

A. Product Data: Submit manufacturer's technical information including label analysis and application instructions for each material proposed for use.

B. Installation Instructions: Submit manufacturer's installation instructions with specific project requirements noted.

C. Performance Warranty: Submit manufacturer's performance guarantee.

D. Certification: Submit written approval of entity installing the encapsulant from encapsulant manufacturer.

E. Material Safety Data Sheet: Submit the Material Safety Data Sheet, or equivalent, in accordance with the OSHA Hazard Communication Standard (29 CFR 1910.1200) for each surfactant and encapsulating material proposed for use on the work. Include a separate attachment for each sheet indicating the specific worker protective equipment proposed for use with the material indicated.

1.4 DELIVERY AND STORAGE

A. Deliver materials to the job site in original, new and unopened packages and containers bearing manufacturer's name and label, and following information:

1. Name or title of material.
2. Manufacturer's stock number and date of manufacture.
3. Manufacturer's name.
4. Thinning instructions.
5. Application instructions.

B. Deliver materials together with a copy of the OSHA Material Safety Data Sheet for the material.

1.5 JOB CONDITIONS

A. Apply encapsulating materials only when environmental conditions in the work area are as required by the manufacturer's instructions.

PART 2 - PRODUCTS

2.1 TYPES OF ENCAPSULANTS

A. The following four types of encapsulants, if used, must comply with performance requirements as stated in paragraph 2.2:

1. Removal encapsulant - used as a wetting agent to remove ACM.
2. Bridging encapsulant - provides a tough, durable coating on ACM.
3. Penetrating encapsulant - penetrates/encapsulates ACM at least 13 mm (1/2").
4. Lockdown encapsulant - seals microscopic fibers on surfaces after ACM removal.

2.2 PERFORMANCE REQUIREMENTS

A. Encapsulants shall meet the latest requirements of EPA; shall not contain toxic or hazardous substances; or solvents; and shall comply with the following performance requirements:

1. General Requirements for all Encapsulants:

   a. ASTM E84: Flame spread of 25; smoke emission of 50.
   b. University of Pittsburgh Protocol: Combustion Toxicity; zero mortality.
   c. ASTM C732: Accelerated Aging Test; Life Expectancy - 20 years.
   d. ASTM E96: Permeability - minimum of 0.4 perms.

2. Bridging/Penetrating Encapsulants:

   a. ASTM E736: Cohesion/Adhesion Test - 24 kPa (50 lbs/ft2).

b. ASTM E119: Fire Resistance - 3 hours (Classified by UL for use on fibrous/cementitious fireproofing).
c. ASTM D2794: Gardner Impact Test; Impact Resistance - minimum 11.5 kg-mm (43 in/lb).
d. ASTM D522: Mandrel Bend Test; Flexibility - no rupture or cracking.

3. Lockdown Encapsulants:

a. ASTM E119: Fire resistance - 3 hours (tested with fireproofing over encapsulant applied directly to steel member). Contractor must ensure that the lockdown encapsulant is compatible with the fireproofing to be applied and will not have any adverse effects on the UL rating of the new fireproofing.
b. ASTM E736: Bond Strength - 48 kPa (100 lbs/ft2) (test compatibility with cementitious and fibrous fireproofing).
c. In certain situations, encapsulants may have to be applied to hot pipes/equipment. The encapsulant must be able to withstand high temperatures without cracking or off-gassing any noxious vapors during application.

PART 3 - EXECUTION

3.1 GENERAL

A. Do Not Commence Application of encapsulating materials until all cleaning and decontamination procedures within the work area has been completed.

3.2 WORKER PROTECTION

A. Before beginning work with any material for which a Material Safety Data Sheet has been submitted provide workers with the required protective equipment. Require that appropriate protective equipment be used at all times.

B. In addition to protective breathing equipment required by OSHA requirements or by this Specification, use painting pre-filters on respirators to protect the dust filters when organic solvent based encapsulant are in use.

3.3 SEALING EXPOSED EDGES

A. Seal edges of Asbestos-Containing Material exposed by removal up to an inaccessible spot (in the opinion of the Designer) with two (2) coats of encapsulant. Prior to sealing, permit the exposed edges to dry completely to permit penetration of the sealer.

B. Comply with all manufacturer's instructions for particular conditions of installation in each case. Consult with manufacturer's technical representative for conditions not covered.

1. Encapsulate all surfaces in full compliance with manufacturer's procedures.

2. At completion of Encapsulation and before removal of Work Area enclosures and Pressure Differential System, decontaminate space in accordance with requirements of Section 01711 - Project Decontamination.

3.4 LOCKDOWN ENCAPSULATION

A. Lockdown encapsulation is an integral part of the ACM removal. At the conclusion of ACM removal and before removal of the primary barriers, all surfaces shall be encapsulated in accordance with manufacturer’s instructions.

END OF SECTION - 09805

THE UNIVERSITY OF NEW ORLEANS

SCIENCE LAB UPGRADES - PHASE II

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NO.	DESCRIPTION	DATE

PROJECT NO.	21006
PHASE	CD
DATE	08.12.21
PROJECT MANAGER	CMB
QUALITY CONTROL	RS

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RENOVATION NOTES

1. CONTRACTORS MUST VISIT THE SITE TO VERIFY ALL EXISTING CONDITIONS, BUILDING TYPES AND CONSTRUCTION AND ALL DIMENSIONS. THE CONTRACTOR SHALL VISIT THE PROJECT SITE PRIOR TO SUBMITTING A PROPOSAL OR BID. THE CONTRACTOR SHALL BECOME GENERALLY FAMILIAR WITH THE PROJECT, AND WITH THE IMPACT OF THE NEW WORK ON THE EXISTING CONDITIONS. ANY AREAS OF CONCERN SHALL BE BROUGHT TO THE ATTENTION OF THE ARCHITECT PRIOR TO SUBMITTING A PROPOSAL OR BID. NO ADDITIONAL CHARGE TO THE OWNER WILL BE APPROVED WHICH IS ATTRIBUTABLE TO THE CONTRACTOR'S FAILURE TO COMPLETE THIS RESPONSIBILITY.

2. PROTECT EXISTING WORK WHICH IS TO REMAIN IN PLACE, BE REUSED, OR REMAIN THE PROPERTY OF THE OWNER.

3. REMOVE AND STORE MATERIALS AND EQUIPMENT AT EXISTING SITE INDICATED TO BE REUSED OR RELOCATED TO PREVENT DAMAGE, AND REINSTALL AS THE WORK PROGRESSES.

4. PROTECT ELECTRICAL AND MECHANICAL SERVICES AND UTILITIES WHERE REMOVAL OF EXISTING UTILITIES AND PAVEMENTS IS SPECIFIED. PROVIDE APPROVED BARRICADES, TEMPORARY COVERING OF EXPOSED AREAS, AND TEMPORARY SERVICES OR CONNECTIONS FOR ELECTRICAL AND MECHANICAL UTILITIES.

5. REMOVE EXISTING UTILITIES AS INDICATED AND UNCOVERED BY WORK AND TERMINATE IN A MANNER CONFORMING TO THE NATIONALLY RECOGNIZED CODE OR STANDARD COVERING THE SPECIFIC UTILITY AND APPROVED BY THE ARCHITECT. IF UTILITY LINES ARE ENCOUNTERED THAT ARE NOT SHOWN ON THE DRAWINGS, DO NOT PROCEED. CONTACT THE ARCHITECT FOR FURTHER INSTRUCTIONS.

6. THE INFORMATION CONTAINED ON THESE DRAWINGS WITH REGARD TO THE EXISTING CONDITIONS OF CONSTRUCTION IN NO WAY RELEASES THE CONTRACTOR FROM THE RESPONSIBILITY FOR VERIFYING COMPLETELY ALL FIELD CONDITIONS RELATING TO AND AFFECTING THE EXECUTION OF THE WORK, AS DESCRIBED IN THESE CONTRACT DOCUMENTS.

7. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO FIELD VERIFY AND DOCUMENT ALL EXISTING DIMENSIONS, ELEVATIONS AND BENCHMARKS, MATERIALS AND METHODS OF CONSTRUCTION THAT MAY AFFECT OR BE AFFECTED BY NEW WORK, AND TO COORDINATE SUCH FIELD VERIFICATION WITH THE CONTRACT DOCUMENTS AND THE EXECUTION OF THE WORK. DISCREPANCIES AND/OR CONFLICTS INVOLVING ANTICIPATED EXISTING CONDITIONS SHALL BE BROUGHT TO THE ARCHITECT'S ATTENTION IMMEDIATELY.

8. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO ASSIST THE ARCHITECT IN MAKING THEIR EVALUATIONS AND RECOMMENDATIONS BY PROVIDING IN A TIMELY MANNER, AT NO ADDITIONAL COST TO THE OWNER, ACCURATE AND COMPLETE DRAWINGS, SKETCHES, AND PHOTOGRAPHS SUFFICIENT TO CLEARLY DESCRIBE DISCREPANCIES, CONFLICTS, AND CONCEALED OR OTHERWISE UNANTICIPATED EXISTING CONDITIONS AFFECTING NEW CONSTRUCTION.

9. THE ARCHITECT HAS ENDEAVORED TO IDENTIFY AS COMPLETELY AS POSSIBLE IN THE DRAWINGS AND SPECIFICATIONS EXISTING ITEMS OR EQUIPMENT AND CONSTRUCTION THAT ARE REQUIRED TO BE REMOVED OR OTHERWISE DEMOLISHED SO AS TO ALLOW THE EXECUTION OF NEW WORK TO BE PERFORMED. THE INFORMATION IS PROVIDED FOR THE CONVENIENCE OF THE CONTRACTOR, AND IS IN NO WAY INTENDED TO MEAN THAT DEMOLITION IS LIMITED ONLY TO THOSE ITEMS SPECIFICALLY IDENTIFIED. IT IS THE CONTRACTOR'S RESPONSIBILITY TO EXECUTE DEMOLITION WORK AS REQUIRED TO ALLOW THE EXECUTION OF NEW WORK.

10. ALL AREAS ABOVE OR ON THE EXIST. CEILING THAT ARE AFFECTED BY INSTALLATION OF NEW WORK SHALL BE REPAIRED COMPLETELY WITH MATERIALS AND PRODUCTS TO MATCH EXIST. INSTALLATION AND FIRE-RATED ASSEMBLIES.

11. THE CONTRACTOR IS RESPONSIBLE FOR IDENTIFYING ANY UNFINISHED WALL AREAS THAT MAY BE EXPOSED AS A RESULT OF ADJUSTING FINISHED CEILING HEIGHTS. THE CONTRACTOR IS RESPONSIBLE FOR FINISHING THESE AREAS TO MATCH EXISTING ADJACENT FINISHED AREAS AND FIRE-RATED ASSEMBLIES.

12. ANY DEMOLITON SCOPE WHICH MAY POTENTIALLY COMPROMISE THE STRUCTURAL INTEGRITY OF THE EXIST. BUILDING OR NEW CONSTRUCTION, SHALL BE IMMEDIATELY CALLED TO THE ATTENTION OF THE ARCHITECT/ SRUCTURAL ENGINEER, PRIOR TO PERFORMING, OR PROCEEDING WITH ANY WORK.

13. DEMOLITON AND UNCOVERING OF WORK, RESULTING IN BUILDING EXPOSURE TO THE ELEMENTS SHALL RECEIVE TEMPORARY ENCLOSURES AND PROTECTION TO PROHIBIT MOISTURE/WATER ENTRY INTO THE BUILDING. THIS INCLUDES ROOF PENETRATIONS REQUIRED FOR THE PROJECT AND OPENINGS RESULTING FROM THE REMOVAL OF COMPONENTS OF THE EXTERIOR ENVELOPE.

14. EXPANSION JOINTS LOCATED WITHIN THE EXISTING BUILDING SHALL BE MAINTAINED AND ALLOW FOR MOVEMENT, EXPANSION AND DEFLECTION. NO ASPECT OF THE DEMOLITION OR CONSTRUCTION SHALL COMPROMISE THE FUNCTION AND INTEGRITY OF THE EXISTING OR NEW EXPANSION JOINT(S) IN ANY WAY. ALL AREAS OR CONDITIONS IN QUESTION SHALL BE CALLED TO THE ATTENTION OF THE ARCHITECT/STRUCTURAL ENGINEER.

15. AT ANY WALL THAT IS AFFECTED BY DEMOLITION OR CONSTRUCTION, PAINT THE ENTIRE WALL FROM INTERIOR CORNER TO INTERIOR CORNER, AND TOP TO BOTTOM FOR THE ENTIRE LENGTH OF THE WALL.

16. ALL EMERGENCY EXITS SHOULD REMAIN CLEAR AND USABLE THROUGHOUT ENTIRE CONSTRUCTION PROCESS UNLESS SPECIFICALLY COORDINATED FOR LIFE SAFETY MEASURE. PROVIDE ANY TEMPORARY PROTECTIONS, WALKWAYS OR ALTERNATE EGRESS MEANS AS REQUIRED TO ACCOMMODATE THIS. ANY WORK THAT WOULD REQUIRE THE TEMPORARY CLOSURE OF EXITS SHOULD BE CONDUCTED AFTER HOURS, AND COORDINATED WITH THE OWNER'S REPRESENTATIVE.

17. ALL LIFE SAFETY SYSTEMS, FIRE ALARMS, STROBE DEVICES, ANNUNCIATORS, SMOKE DETECTORS, AND PULL STATIONS ARE TO REMAIN COMPLETELY OPERATIONAL THROUGHOUT THE DEMOLITON AND CONSTRUCTION PROCESS FOR OCCUPIED SPACES. THE CONTRACTOR SHALL PROVIDE ADDITIONAL MEASURES FOR AREAS WHERE LIFE SAFETY SYSTEMS ARE TO BE RENDERED INACTIVE AND SHALL COORDINATE ALL SYSTEM INTERRUPTIONS WITH THE STATE FIRE MARSHAL INSPECTOR, PRIOR TO PERFORMING ANY WORK.

18. DISCONNECT AND CAP / TERMINATE EXISTING UTILITIES, POWER, GAS, WATER, ETC. IN ACCORDANCE WITH ALL GOVERNING CODE REQUIREMENTS - REFER TO ENGINEERING DRAWINGS. REROUTE AND REUSE UTILITIES AS REQUIRED TO PREVENT CONFLICTS WITH PLANNED RENOVATIONS.

19. ALL PORTIONS OF THE EXISTING BUILDING SHALL REMAIN WEATHERTIGHT AND SECURED AT ALL TIMES. IF CONSTRUCTION IS POSTPONED, THE CONTRACTOR SHALL SECURE THE BUILDING FROM THE ELEMENTS, INCLEMENT WEATHER, AND VANDALISM.

20. THE PROJECT IS CURRENTLY OCCUPIED, AND MUST REMAIN COMPLETELY OPERATIONAL DURING NORMAL BUSINESS HOURS (7:00 AM TO 6:00 PM WEEKDAYS). COORDINATE WITH THE OWNER ANY CONSTRUCTION ACTIVITIES WHICH MAY IMPEDE NORMAL OPERATIONS, INCLUDING ANY ACTIVITY WHICH GENERATES EXCESSIVE NOISE, AIRBORNE PARTICULATES, OR WHICH DISRUPTS THE NORMAL FUNCTIONALITY OF THE SPACE. PROTECT ANY ADJACENT SPACE WITH DUST PARTITIONS OR CURTAINS FROM ACTIVITIES WHICH WILL CREATE DUST. NOTIFY ANY OCCUPANTS OF THE BUILDING OF ANY CONSTRUCTION ACTIVITIES WHICH MAY AFFECT THEIR ABILITY TO OPERATE NORMALLY.

21. THE PROJECT WILL REMAIN OCCUPIED AND OPERATIONAL THROUGHOUT CONSTRUCTION. COORDINATE AND PHASE ALL PORTIONS OF THE WORK TO MINIMIZE DISRUPTION TO THE OCCUPANTS AS MUCH AS POSSIBLE. PROVIDE ALL TEMPORARY PROTECTIONS AND CONNECTIONS AS REQUIRED TO MAINTAIN SAFE AND UNINTERRUPTED USE.

22. THE EXISTING PLAN IS DOCUMENTED ON THE DRAWINGS IN ACCORDANCE WITH A LIMITED NUMBER OF AVAILABLE ORIGINAL CONSTRUCTION DRAWINGS AND FIELD INVESTIGATIONS. VARIANCE OF ACTUAL EXISTING CONDITIONS FROM THOSE ILLUSTRATED ON THESE DOCUMENTS MAY OCCUR. THE CONTRACTOR SHALL VERIFY EXISTING CONDITIONS PRIOR TO COMMENCING WORK AND REPORT ANY AND ALL DISCREPANCIES.

GENERAL NOTES

1. PRIOR TO BIDDING, THE CONTRACTOR (AND SUBCONTRACTING BIDDERS) SHALL VISIT THE EXISTING BUILDING, SITE AND SURROUNDING AREA AND THOROUGHLY ACQUAINT THEMSELVES WITH ALL ASPECTS OF THE PROJECT DEMOLITON AND CONSTRUCTION, AS INDICATED AND/OR IMPLIED WITHIN THIS DOCUMENT. ANY DISCREPANCIES, OMISSIONS OR CONFLICTS RELATIVE TO THE INFORMATION CONTAINED WITHIN THE DOCUMENTS, THE FIELD VERIFIED CONDITIONS, OR ITEMS WHICH MAY INTERFERE WITH THE SATISFACTORY COMPLETION OF THE WORK, SHALL BE BROUGHT TO THE ATTENTION OF THE ARCHITECT IMMEDIATELY. FAILURE BY THE CONTRACTOR TO PROVIDE THESE MEASURES SHALL NOT BE JUSTIFICATION FOR ADJUSTMENT IN THE CONTRACT SUM.

2. THE DRAWINGS AND SPECIFICATIONS ARE SEPARATED INTO DISCIPLINES FOR THE CONVENIENCE OF THE ARCHITECT AND THE CONTRACTOR. THE SEPARATIONS USED HEREIN ARE USED ONLY FOR THE PURPOSE OF CONVENIENCE AND REFERENCE AND IN NO WAY DO THEY DEFINE OR LIMIT THE SCOPE OR INTENT OF ANY PART OF THE DRAWINGS OR OF THE DRAWINGS AND SPECIFICATIONS AS A WHOLE. THE FACT THAT THE DRAWINGS ARE SEPARATED IN NO WAY SUGGESTS THAT THE WORK IS NOT TO BE CONSTRUCTED AS A COMPLETE INTEGRATED AND UNIFIED WHOLE.

3. THE DRAWINGS AND SPECIFICATIONS, INCLUDING DRAWINGS PREPARED BY SPECIFIC ENGINEERING DISCIPLINES SUCH AS CIVIL, STRUCTURAL, MECHANICAL, ELECTRICAL, ETC. ARE COMPLIMENTARY. ITEMS SHOWN IN ANY ONE LOCATION OF THE DRAWINGS SHALL BE REQUIREMENTS OF THE CONTRACT FOR CONSTRUCTION. IN THE EVENT OF AN INCONSISTENCY BETWEEN THE DRAWINGS AND THE SPECIFICATIONS OR WITHIN EITHER DOCUMENT, THE CONTRACTOR SHALL SEEK CLARIFICATION OR INTERPRETATION FROM THE ARCHITECT PRIOR TO BIDDING. WHERE INCONSISTENCIES ARE NOT CLARIFIED PRIOR TO BIDDING AND WHERE THE ACTUAL SOLUTION OR INTENT CANNOT BE REASONABLY INFERRED, THE CONTRACTOR SHALL INCLUDE THE BETTER QUALITY OR GREATER QUANTITY OF WORK IN THE BID PROPOSAL.

4. ALL WORK IS TO HAVE A ONE YEAR WARRANTY, MINIMUM.

5. THE DRAWINGS, AND ANY SUBSEQUENTLY ISSUED ADDENDA, AMENDMENTS, FIELD ORDERS, OR CHANGE ORDERS ARE PART OF THESE CONTRACT DOCUMENTS.

6. DO NOT SCALE DRAWINGS, CONSULT WITH ARCHITECT REGARDING CLARIFICATIONS TO DRAWING SCALE.

7. NAMING A CERTAIN BRAND OR MANUFACTURER IS TO DESIGNATE THE GENERAL STYLE, TYPE, CHARACTER, AND QUALITY STANDARD OF THE PRODUCT DESIRED. SUBSTITUTION REQUESTS MUST BE SUBMITTED PRIOR TO BIDDING.

8. CONSTRUCTION GENERATING EXCESSIVE NOISE SHALL BE PERFORMED AFTER HOURS AND/OR COORDINATED WITH OWNER/PROJECT REPRESENTATIVE.

9. IN NO WAY DO THE DIMENSIONS SHOWN ON THE PLANS REPRESENT AN EXACT QUANTITY OF MATERIALS. THE BIDDER IS SOLELY RESPONSIBLE FOR THE QUANTITIES IN HIS BID.

10. THE DRAWINGS REPRESENT GENERAL LOCATIONS OF IMPROVEMENTS. IT SHALL BE THE GENERAL CONTRACTORS RESPONSIBILITY TO LOCATE ALL IMPROVEMENTS ON SITE PRIOR TO ALTERATION, ADDITION, OR TIE-IN. ALL DAMAGE SHALL BE PROPERLY REPAIRED BY THE CONTRACTOR, AT THE CONTRACTOR'S EXPENSE.

11. THE CONTRACTOR SHALL PROTECT THE SITE AND PROPERTY AT ALL TIMES. ALL AREAS SHALL BE MAINTAINED FREE OF TRASH AND CONSTRUCTION DEBRIS AND ALL WASTE SHALL BE REMOVED FROM THE SITE ON A WEEKLY BASIS, AT A MINIMUM, OR AS DIRECTED BY THE OWNER/FACILITY MANAGER. COORDINATE THE EXACT LOCATION FOR THE TRASH DUMPSTER AND STAGING AREAS WITH THE OWNER/FACILTY MANAGER. REMOVAL AND DISPOSAL OF ALL DEBRIS, SUBSTANCES AND MATERIALS IS BE ACCOMPLISHED ACCORDING TO SPECIFICATIONS IN ADDITION TO FEDERAL, STATE, AND LOCAL REGULATIONS.

12. THE STORAGE OF MATERIALS ON SITE SHALL BE ALLOWED IN DESIGNATED AREAS. THESE AREAS WILL BE DETERMINED AT THE PRE-BID MEETING. ANY DAMAGE TO EXISTING AREAS / SURFACES DUE TO STORAGE & STAGING SHALL BE RESTORED TO THE ORIGINAL CONDITION BY GENERAL CONTRACTOR AT THE CONTRACTOR'S EXPENSE.

13. ALL DELIVERIES, STAGING, AND TRASH REMOVAL SHALL BE COORDINATED WITH THE OWNER/PROJECT REPRESENTATIVE, SO AS TO MINIMIZE THE AMOUNT OF DISRUPTION AND TRAFFIC TO THE SURROUNDING NEIGHBORHOOD COMMUNITY. ALL HOURS OF OPERATION SHALL BE AS PRESCRIBED BY THE OWNER/FACILITY MANAGER. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY AND ALL DAMAGE TO THE EXISTING SITE AND ADJACENT PROPERTY, DIRECTLY ASSOCIATED WITH THE DEMOLITON AND CONSTRUCTION PROCESS. ALL STREET, PARKING LOT, AND SURFACE PAVING ARE TO BE KEPT CLEAN FROM CONSTRUCTION DEBRIS AND TRASH AND SHALL BE RETURNED TO THEIR ORIGINAL STATE FOLLOWING THE COMPLETION OF THE PROJECT.

14. THE CONTRACTOR SHALL PROVIDE ALL NECESSARY SAFETY APPARATUS, MEANS, METHODS, AND TECHNIQUES, AS REQUIRED TO ENSURE THE HEALTH, SAFETY, AND WELFARE OF ALL PERSONNEL INCLUDING, BUT NOT LIMITED TO: STAFF, FACULTY, STUDENTS, AND THE GENERAL PUBLIC, IN AND AROUND THE SITE.

15. THE CONTRACTOR SHALL PROVIDE TEMPORARY ENCLOSURES AND SITE SECURITY FENCING AS REQUIRED, OR WHERE INDICATED WITHIN THE DOCUMENTS TO SECURE, CONTROL, AND PROTECT ALL AREAS OF CONSTRUCTION AND ALLOW FOR SAFE PASSAGE INTO AND FROM THE BUILDING. ALL ENTRANCES AND EXITS AFFECTED BY THE SCOPE OF THE RENOVATION, SHALL BE MADE ADA ACCESSIBLE. A COMPLETE REVIEW OF ALL SITE PROTECTIVE AND SAFETY MEASURES SHALL BE CONDUCTED WITH THE OWNER/FACILITY MANAGER FOR FINAL APPROVAL, PRIOR TO THE START OF DEMOLITION AND CONSTRUCTION.

16. AREAS WHERE WORK IS BEING CONDUCTED, WHICH MAY AFFECT THE LIFE SAFETY OF THE BUILDING'S OCCUPANTS, SHALL BE CALLED TO THE ATTENTION OF THE OWNER/PROJECT REPRESENTATIVE, PRIOR TO PERFORMING ANY WORK. ADDITIONAL MEASURES FOR OCCUPANT SAFETY MAY BE REQUIRED, AS PRESCRIBED BY THE STATE FIRE MARSHAL, BASED UPON A REVIEW, OR INSPECTION OF A SPECIFIC AREA OR CONDITION.

17. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PERMITS AND ANY CHARGES FOR TIE-IN TO EXISTING STREETS AND UTILITIES. ALL IMPACT FEES, IF ANY, SHALL BE THE CONTRACTOR'S RESPONSIBILITY. THE CONTRACTOR SHALL OBTAIN AND PAY ALL NECESSARY PERMITS, AND AFTER COMPLETION, FURNISH OWNER CERTIFICATIONS OF FINAL INSPECTIONS AND APPROVAL AS ISSUED BY THE INSPECTION DEPARTMENT OF THE PARISH. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY CERTIFICATES OF INSPECTION, FROM FEDERAL AND STATE AUTHORITIES BOTH AT ROUGH-IN AND COMPLETION.

18. ALL MATERIALS AND WORK SHALL CONFORM TO ALL GOVERNING CODES, REGULATIONS, AND AGENCIES.

19. ELECTRICAL WORK SHALL COMPLY WITH NFPA AND NATIONAL ELECTRICAL CODE AND BE PERFORMED BY A LICENSED ELECTRICIAN.

20. ALL HVAC SYSTEMS SHALL BE CONSTRUCTED IN ACCORDANCE WITH NFPA 70.

21. DRAFT STOPS SHALL BE INSTALLED AS PER PARISH, STATE, AND NFPA CODES.

22. INSULATION AND INSULATION ASSEMBLIES SHALL MEET THE REQUIREMENTS OF THE STANDARD BUILDING CODE.

23. CONCEALED INSULATION SHALL HAVE A FLAME SPREAD OF 0- 75 AND A SMOKE DEVELOPMENT FACTOR OF 0-45.

24. REMOVAL AND DISPOSAL OF ALL SUBSTANCES AND MATERIAL IS TO BE ACCOMPLISHED ACCORDING TO SPECIFICATIONS AND FEDERAL, STATE AND LOCAL REGULATIONS.

25. ALL MATERIALS SHALL BE NEW EXCEPT WHERE OTHERWISE NOTED AND SHALL CONFORM WITH THE STANDARDS OF UNDERWRITER'S LABORATORY IN EVERY CASE WHERE SUCH A STANDARD HAS BEEN ESTABLISHED FOR THE PARTICULAR TYPE OF MATERIAL IN QUESTION. INSTALL ALL MATERIALS AND SYSTEMS IN PROPER RELATION WITH ADJACENT CONSTRUCTION AND WITH UNIFORM APPEARANCE.

GENERAL NOTES (CONT.)

26. CONTRACTOR SHALL ANTICIPATE AND MAKE ANY AND ALL ARRANGEMENTS WITH LOCAL GOVERNMENT AGENCIES, SHOULD ENTRY ONTO, OR OBSTRUCTION OF, A PUBLIC WAY BE NECESSARY IN CONNECTION WITH THE WORK.

27. THE CONTRACTOR SHALL PROVIDE ANY SITE DEMOLITION / UTILITY RELOCATION NECESSARY FOR COMPLETION OF WORK.

28. ALL SURVEY INFORMATION HAS BEEN TAKEN FROM A TOPOGRAPHIC SURVEY FURNISHED BY THE OWNER AND IS INCLUDED IN THIS SET FOR THE CONTRACTOR'S CONVENIENCE. THE ARCHITECT TAKES NO RESPONSIBILITY FOR THE ACCURACY OF THE SURVEY.

29. THE CONTRACTOR SHALL PROVIDE ANY SITE DEMOLITON/UTILITY RELOCATION AS NECESSARY FOR COMPLETION OF THE OVERALL SCOPE OF WORK. VERIFY ALL EXISTING UTILITIES AND EXACT LOCATIONS, PRIOR TO PERFORMING ANY WORK. CONTRACTOR SHALL NOTIFY ARCHITECT/ENGINEER IMMEDIATELY REGARDING ANY CONFLICTS WHICH MAY EXIST AT THE SITE AND THAT WHICH IS REPRESENTED IN THE DOCUMENTS. THE REPAIR AND/OR REPLACEMENT OF ANY SYSTEM COMPONENTS SHALL BE THE RESPONSIBILTY OF THE CONTRACTOR, SHOULD THEY BE DAMAGED DURING THE COURSE OF DEMOLITION OR CONSTRUCTION.

30. PRIOR TO ALTERATION, ADDITION OR TIE-IN TO EXISTING FACILITIES/ UTILITIES, ANY DAMAGE BY CONTRACTOR SHALL BE PROPERLY REPAIRED BY THE CONTRACTOR, AT THE CONTRACTOR'S EXPENSE.

31. ALL EXISTING MOISTURE WITHIN STRUCTURES REQUIRING WORK IS TO BE REMOVED PRIOR TO INSTALLING NEW FINISH MATERIALS THROUGH MEANS DESCRIBED IN SPECIFICATION SECTION 015000, PART 3 - EXECUTION OR OTHERWISE, IN ORDER TO MEET MANUFACTURER'S INSTALLATION REQUIREMENTS AND / OR TO ACHIEVE PROPER INSTALLATION.

32. VERIFY LOCATION OF ALL EQUIPMENT WITH ARCHITECT, PRIOR TO INSTALLATION.

33. CONTRACTOR SHALL EXERCISE CARE TO AVOID DAMAGE TO EXISTING WORK, ADJACENT SURFACES, AND ADJOINING AREAS INCLUDING BUT NOT LIMITED TO THE PORTION OF THE WORK THAT IS TO REMAIN AS A PART OF THE COMPLETED CONSTRUCTION. CONTRACTOR SHALL BE REQUIRED TO REPAIR OR OTHERWISE RESTORE ANY SUCH AREAS OR SURFACES THAT BECOME DAMAGED OR REMOVED ON ACCOUNT OF THE DEMOLITON AND/OR CONSTRUCTION WORK.

34. CONTRACTOR SHALL INSTALL MATERIALS AND SYSTEMS IN ACCORDANCE WITH PRODUCT AND MATERIAL MANUFACTURER'S INSTRUCTIONS AND REVIEWED SUBMITTALS.

35. ALL ITEMS NOT SPECIFICALLY NOTED AS OWNER PROVIDED OR OWNER INSTALLED SHALL BE PROVIDED AND INSTALLED BY CONTRACTOR.

36. WORK INDICATED AS "NOT IN CONTRACT", "N.I.C.", OR "BY OTHERS" SHALL BE PERFORMED BY OWNER'S SEPARATE CONTRACTORS. CONTRACTOR SHALL ASSIST IN COORDINATING THE WORK BY SEPARATE CONTRACTORS WITH THE WORK OF THIS CONTRACT.

37. DEMOLITION SHALL BE PERFORMED IN AN ORDERLY SEQUENCE, SCHEDULED BY THE CONTRACTOR AND COORDINATED WITH THE OWNER. SHOULD HAZARDOUS MATERIALS, OR MATERIALS SUSPECTED TO BE HAZARDOUS BE ENCOUNTERED, THE CONTRACTOR SHALL NOT PROCEED AND IMMEDIATELY CALL TO THE ATTENTION OF THE OWNER. ALL HAZARDOUS WASTE SHALL BE CONTAINED, ABATED, REMOVED, AND DISPOSED OF IN ACCORDANCE WITH FEDERAL REGULATIONS, LA.D.E.Q. AND THE OWNER'S ASBESTOS MANAGEMENT PLAN.

38. ALL FLOOR PLAN DIMENSIONS ARE TO THE FACE OF BRICK (FOB), FACE OF FINISH (FOF), OR TO THE CENTER OF COLUMNS UNLESS STATED OTHERWISE.

39. PRIOR TO START OF DEMOLITION/CONSTRUCTION, CONTRACTOR IS TO COORDINATE WITH OWNER/PROJECT REPRESENTATIVE ANY REMAINING ITEMS LOCATED IN BUILDING INTENDED FOR CONTRACTOR REMOVAL/DISPOSAL.

40. ALL DOORS, UNLESS NOTED OTHERWISE, SHALL BE LAID OUT IN SUCH A MANNER AS TO ALLOW A MINIMUM OF 18" ON THE PULL SIDE AND 12" ON THE PUSH SIDE OF THE DOOR AND AS PER ADA STANDARDS FOR ACCESSIBLE DESIGN. ANY DOOR IN QUESTION SHALL BE BROUGHT TO THE ATTENTION OF THE ARCHITECT PRIOR TO LAYOUT AND CONSTRUCTION.

41. ALL DOORS INSTALLED AS PART OF THIS PACKAGE SHALL HAVE ADA/ABA COMPLIANT HARDWARE. PROVIDE LEVEL TRANSITION SURFACE AT ALL DOORS FOR A MINIMUM OF 5'-0" IN BOTH THE FRONT AND REAR OF DOORS.

SYMBOLS

NOTE: ALL OF THE SYMBOLS AND ABBREVIATIONS APPEARING ON THIS SHEET MAY NOT NECESSARILY BE USED ON THIS PROJECT. FOR ADDITIONS TO AND/OR DEVIATIONS FROM THESE STANDARDS, REFER TO THE APPLICABLE DISCIPLINE'S WORK THROUGHOUT THE SET OF DRAWINGS.

0.000	NEW ELEVATION
0.000	EXISTING ELEVATION
A	COLUMN MARK
100' - 0"	LEVEL LINE, CONTROL POINT OR DATUM
	BREAK LINE
101a	ROOM NUMBER
℄	CENTERLINE
FEC	FIRE CABINET AND EXTINGUISHER
1	REVISION NOTE (CLOUDED AREA DENOTES REVISIONS OCCUR IN THIS AREA)
A	WINDOW TAG
A01	MISCELLANEOUS TAG
101a	DOOR TAG
0000	KEYNOTE
0A0	WALL TYPE
1/A001	PHOTO TAG

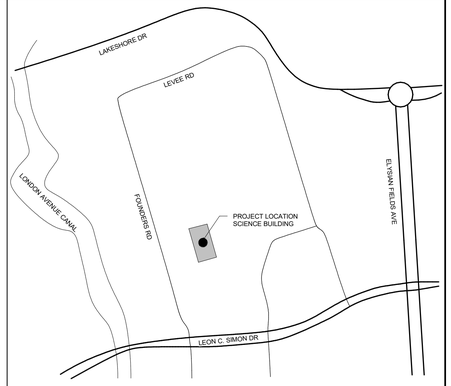
DRAWING NUMBER / SHEET NUMBER 1 / A501	BUILDING SECTION
DRAWING NUMBER / SHEET NUMBER 1 / A701	DETAIL SECTION
DRAWING NUMBER / SHEET NUMBER 1 / A401	ELEVATION
DRAWING NUMBER / SHEET NUMBER 1 / A801 2	INTERIOR ELEVATION

NOTE: CONTRACTOR SHALL REVIEW CLOUDED AREA THOROUGHLY TO DETERMINE ALL CHANGES TO THE DOCUMENTS. FAILURE TO ACCOUNT FOR CHANGES THAT AFFECT THE CONTRACTOR'S BID IN THE CLOUDED AREA SHALL NOT BE JUSTIFICATION FOR ADJUSTMENT IN THE CONTRACT SUM.

ABBREVIATIONS

AFF	ABOVE FINISH FLOOR	INSUL	INSULATED
ACT	ACOUSTICAL CEILING TILE	INT	INTERIOR
ADJ	ADJACENT	MB	MARKER BOARD
ALT	ALTERNATE	MECH	MECHANICAL
ALUM	ALUMINUM	MIN	MINIMUM
BD	BOARD	MTL	METAL
BFE	BASE FLOOD ELEVATION	N/A	NOT APPLICABLE
BO	BOTTOM OF	NIC	NOT IN CONTRACT
CJ	CONTROL JOINT	OC	ON CENTER
CMU	CONCRETE MASONRY UNIT	OH	OPPOSITE HAND
CONC	CONCRETE	PERM	PERMEABLE
CONT	CONTINUOUS	PL	PLASTIC LAMINATE
CT	CERAMIC TILE	PT	PAINT
CWFP	CEMENTITIOUS WOOD FIBER PANEL	PTD	PAINTED
		RB	RESILIENT BASE
DIA	DIAMETER	RE	REFER
DS	DOWNSPOUT	REQ'D	REQUIRED
DF	DRINKING FOUNTAIN	RO	ROUGH OPENING
DFE	DESIGN FLOOD ELEVATION	SB	SMART BOARD
EA	EACH	SCW	SOLID CORE WOOD
ELEV	ELEVATION	SIM	SIMILAR
EJ	EXPANSION JOINT	SS	STAINLESS STEEL
EOS	EDGE OF SLAB	TB	TACK BOARD
EQ	EQUAL	TBD	TO BE DETERMINED
EXIST	EXISTING	TO	TOP OF
EXP	EXPANSION	TOS	TOP OF STRUCTURE
EXT	EXTERIOR	TS	TACK STRIP
EWC	ELECTRIC WATER COOLER	TYP	TYPICAL
FF	FINISH FLOOR	UNO	UNLESS NOTED OTHERWISE
FE	FIRE EXTINGUISHER	VCT	VINYL COMPOSITE TILE
FEC	FIRE EXTINGUISHER CABINET	VERT	VERTICAL
FOF	FACE OF FINISH	VIF	VERIFY IN FIELD
FOS	FACE OF STUD	VPAB	VAPOR PERMEABLE AIR BARRIER
GA	GAUGE		
GALV	GALVANIZED	WB	WOOD BASE
GYP	GYPSUM	WD	WOOD
HC	HANDICAPPED	WWF	WELDED WIRE FABRIC
HORZ	HORIZONTAL		
HM	HOLLOW METAL		

VICINITY MAP



PROJECT INFORMATION

PROJECT DESCRIPTION:	REMOVAL AND ABATMENT OF EXISTING MATERIALS, FIXTURES, DOORS, MILLWORK, AND PLUMBING IN SCIENCE LAB 1008, LAB 1024, PREP ROOM 1008-A, AND PREP ROOM 1024-A. PROVIDE NEW FINISHES, FIXTURES, DOORS, MILLWORK, AND PLUMBIBING IN LAB 1008, PREP ROOM 1008-A, AND PREP ROOM 1024-A.
PROJECT ADDRESS:	2000 LAKESHORE DRIVE, NEW ORLEANS, LA 70148
EXISTING USE:	BUSINESS
PROPOSED USE:	BUSINESS

ADD ALTERNATES

SCHEDULE OF ALTERNATES

PROVIDE ALL LABOR, MATERIALS, EQUIPMENT, AND INCIDENTALS AS REQUIRED TO DO THE FOLLOWING:

ADD ALTERNATE 1: BEYOND BASE BID SCOPE IDENTIFIED ON SHEETS A101 AND A131, PROVIDE NEW FINISHES, FIXTURES, DOORS, MILLWORK, AND PLUMBING IN SCIENCE LAB 1024 AND VESTIBULE 1026-A, AS SHOWN ON SHEET A201.

ADD ALTERNATE 2: IN LIEU OF CONTRACTOR PROVIDED, CONTRACTOR INSTALLED ACRYLIC WATER BASED FLOOR COATING, INSTALL OWNER PROVIDED RUBBER FLOORING. INCLUDE FLOOR PREP AS RECOMMENDED BY MANUFACTURER. SEE SPECIFICATION SECTION 09 65 16 AND SECTION 09 05 61.13.

INDEX OF DRAWINGS

COVER SHEET
G100 TITLE SHEET
G101 GENERAL INFORMATION
G102 LIFE SAFETY / ACCESSIBILITY GUIDELINES

ENVIRONMENTAL
HM01 ABATEMENT PLAN

ARCHITECTURAL
A001 DEMOLITION PICTURES
A101 DEMOLITION PLAN
A131 DEMOLITION REFLECTED CEILING PLAN
A201 FLOOR PLAN
A231 REFLECTED CEILING PLAN
A301 RM FINISH SCHED. / WINDOW & DOOR SCHED. / DOOR & FRAME TYPES / OPENING ELEVATIONS
A321 PARTITION TYPES & DETAILS, SECTION DETAILS
A801 INTERIOR ELEVATIONS / MILLWORK ELEVATIONS
A811 INTERIOR DETAILS / MILLWORK DETAILS

MECHANICAL
M100 DEMOLITION PLAN - MECHANICAL
M200 PARTIAL FLOOR PLAN - MECHANICAL
M300 MECHANICAL SCHEDULES AND DETAILS

ELECTRICAL
E100 DEMOLITION PLAN - ELECTRICAL
E200 PARTIAL FLOOR PLAN - LIGHTING
E201 PARTIAL FLOOR PLAN - ELECTRICAL
E300 ELECTRICAL SCHEDULES AND DETAILS

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SCIENCE LAB UPGRADES - PHASE II
2000 LAKESHORE DRIVE, NEW ORLEANS, LA 70148

NO.	DESCRIPTION	DATE

PROJECT NO.	21006
PHASE	CD
DATE	08.12.21
PROJECT MANAGER	CMB
QUALITY CONTROL	RS

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BID ISSUE

G101

GENERAL INFORMATION

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ACCESSIBILITY REQUIREMENTS

UNLESS NOTED OTHERWISE IN THE DOCUMENTS, ALL ACCESSIBLE COMPONENTS OF THE PROJECT SHALL MEET THE MINIMUM REQUIREMENTS OUTLINED BELOW. THE CONTRACTOR SHALL REPORT ANY DISCREPANCIES BETWEEN THESE REQUIREMENTS & THE ACTUAL FIELD CONDITIONS TO THE ARCHITECT

GENERAL NOTES

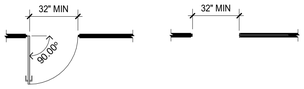
A. DIMENSIONS ARE TYPICAL UNLESS OTHERWISE NOTED ON PLANS.

B. PROVIDE SOLID BLOCKING BEHIND ALL WALL-MOUNTED COMPONENTS.

C. SEE THE PLANS FOR ALL ADDITIONAL TOILET ACCESSORIES AND ACTUAL ROOM DIMENSIONS.

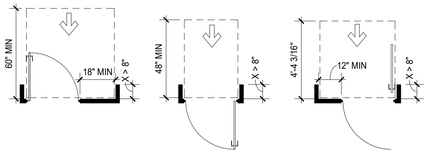
D. ACCESSIBILITY DIAGRAMS ILLUSTRATED ARE STANDARD. ALL ITEMS SHOWN ON THIS SHEET MAY NOT BE PRESENT ON THIS PROJECT. IF AN ITEM IS PRESENT ON THIS PROJECT AND DOES NOT COMPLY WITH THESE STANDARDS, NOTIFY THE ARCHITECT BEFORE INSTALLATION OF ITEM.

CLEAR WIDTH OF DOORWAYS



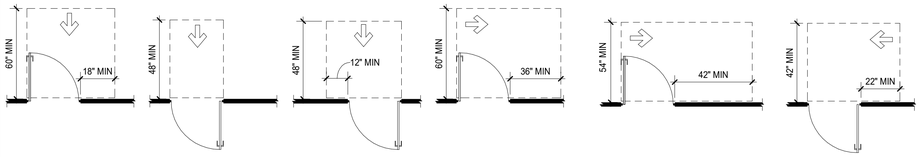
HINGED DOOR — SLIDING DOOR

MANEUVERING CLEARANCES AT RECESSED DOORS AND GATES

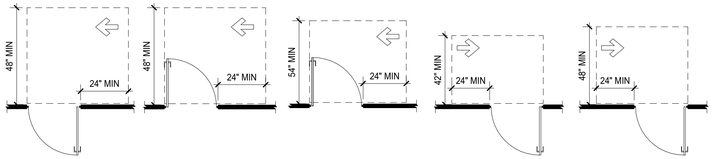


PULL SIDE — PUSH SIDE — PUSH SIDE, DOOR PROVIDED WITH BOTH CLOSER AND LATCH

DOOR MANEUVERING CLEARANCES



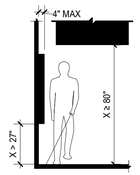
FRONT APPROACH, PULL SIDE — FRONT APPROACH, PUSH SIDE — FRONT APPROACH, PUSH SIDE, DOOR PROVIDED WITH BOTH CLOSER AND LATCH — HINGE APPROACH, PULL SIDE — HINGE APPROACH, PULL SIDE — HINGE APPROACH, PUSH SIDE



HINGE APPROACH, PUSH SIDE, DOOR PROVIDED WITH BOTH CLOSER AND LATCH — LATCH APPROACH, PULL SIDE — LATCH APPROACH, PULL SIDE, DOOR PROVIDED WITH CLOSER — LATCH APPROACH, PUSH SIDE — LATCH APPROACH, PUSH SIDE, DOOR PROVIDED WITH CLOSER

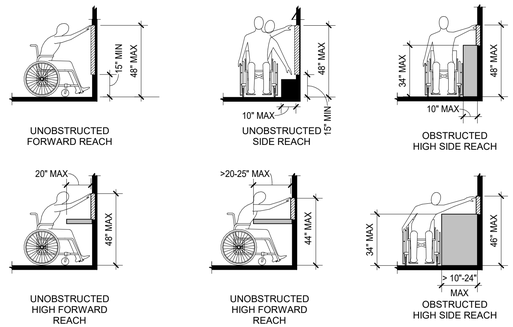
ACCESSIBILITY REQUIREMENTS

PROTRUDING OBJECTS



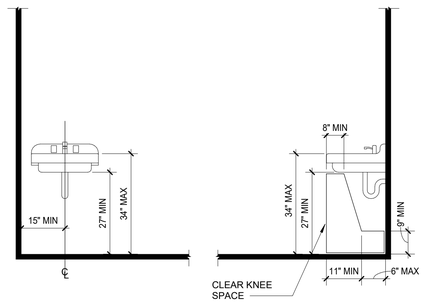
LIMITS OF PROTRUDING OBJECTS

REACH RANGES



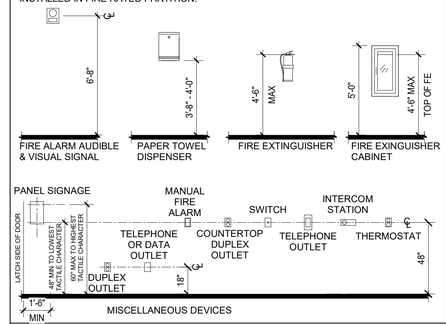
UNOBSTRUCTED FORWARD REACH — UNOBSTRUCTED SIDE REACH — OBSTRUCTED HIGH SIDE REACH — UNOBSTRUCTED HIGH FORWARD REACH — UNOBSTRUCTED HIGH FORWARD REACH — OBSTRUCTED HIGH SIDE REACH

PLUMBING ELEMENTS - LAVATORIES



MOUNTING HEIGHTS

NOTE: ALL ITEMS INDICATED ABOVE THAT ARE TO BE RECESS MOUNTED SHALL BE VERIFIED AGAINST STUD DEPTH / CAVITY SO AS TO ENSURE PROPER FIT. RATED ASSEMBLIES ARE TO BE MAINTAINED FOR ALL RECESSED COMPONENTS WHERE INSTALLED IN FIRE RATED PARTITION.



FIRE ALARM AUDIBLE & VISUAL SIGNAL — PAPER TOWEL DISPENSER — FIRE EXTINGUISHER — FIRE EXINGUISHER CABINET

MISCELLANEOUS DEVICES

GENERAL NOTES

1. THIS PLAN IS PROVIDED FOR THE CONVENIENCE OF THE BUILDING OFFICIAL & FIRE MARSHAL. IT DOCUMENTS THE MAJOR LIFE SAFETY FEATURES OF THE PROJECT INCLUDING THE EXIT FLOW & FIRE SEPARATION. THIS PLAN IS TO BE FOLLOWED IN REGARDS TO LIFE SAFETY ISSUES BY THE GENERAL CONTRACTOR.
2. SEE ELECTRICAL DRAWINGS FOR LOCATION OF FIRE ALARM SYSTEM.
3. SEE REFELCTED CEILING PLANS AND ELECTRICAL DRAWINGS FOR EXIT LIGHT LOCATIONS.
4. PROVIDE FIRE DAMPERS ON ALL DUCT PENETRATIONS THROUGH ANY FIRE RATED ASSEMBLIES.

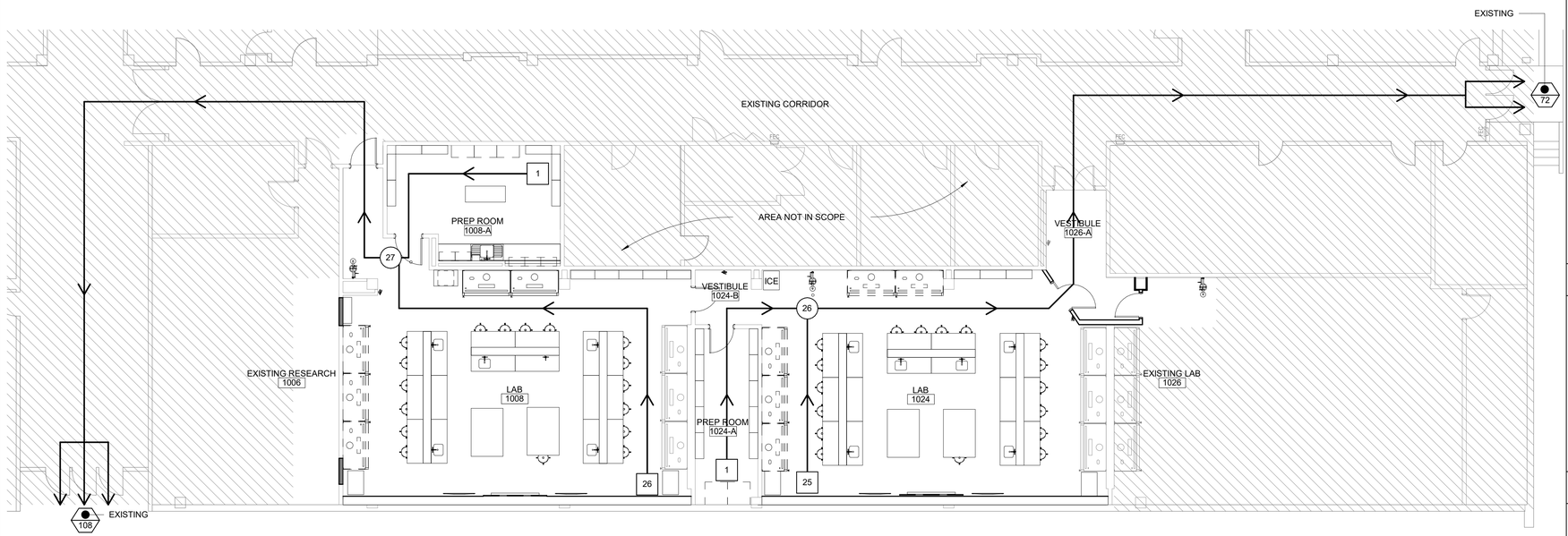
APPLICABLE CODES

BUILDING CODES:

2015 LIFE SAFETY CODE (NFPA 101, EXCLUDING CHAPTER 5)
2015 INTERNATIONAL BUILDING CODE (IBC, EXCLUD. CHAPTERS 1, 11, & 27)
2015 INTERNATIONAL EXISTING BUILDING CODE (IEBC, EXCLUD. CHAPTER 1)
2015 INTERNATIONAL MECHANICAL CODE (IMC)
2015 INTERNATIONAL FUEL GAS CODE
2015 NATIONAL ELECTRIC CODE (NFPA 70)
2015 INTERNATIONAL PLUMBING CODE
NFPA 10 - FIRE EXTINGUISHERS

OTHER CODES:
2010 AMERICANS WITH DISABILITIES ACT ACCESSIBILITY GUIDELINES (ADAAG)

NOTE: THE CURRENT EDITIONS OF CODES AND STANDARDS ENFORCED BY THE CURRENT STATUES OF THE STATE OF LOUISIANA IN LOUISIANA ADMINISTRATIVE CODE, TITLE 55-V.103 AND 303 SHALL BE REFERENCED ON THIS PROJECT.



16 PARTIAL FLOOR PLAN - LIFE SAFETY
1/8" = 1'-0"
0 8' 16'

N TRUE NORTH

BUILDING AREA & CONSTRUCTION

PROJECT ADDRESS:
2000 LAKESHORE DRIVE
NEW ORLEANS, LA 70148

BUILDING INFORMATION:

NUMBER OF STORIES: 2
BUILDING HEIGHT: 25'-0"
FULLY SPRINKLERED: NO

BUILDING AREA:

FIRST FLOOR: 67,000 SF
SECOND FLOOR: 67,000 SF
TOTAL: 134,000 SF

RENOVATION AREA:

FIRST FLOOR: **2,947 SF**
SECOND FLOOR: 0 SF
TOTAL: **2,947 SF**

OCCUPANCY CLASSIFICATION:
PRIMARY OCCUPANCY (IBC 305): GROUP "B", BUSINESS

CONSTRUCTION TYPE:
II-B (IBC TABLE 601)
TYPE II (NFPA 101 TABLE A.8.2.1.2)

OCCUPANT LOAD

NO CHANGE IN OCCUPANT LOAD

LABORATORY:
OCCUPANT LOAD FACTOR: 50 NET SF/OCCUPANT
(IBC TABLE 1004.1.2, NFPA 101 TAB. 7.3.1.2)
LAB 1008 AREA: 1272 SF
LAB 1024 AREA: 1208 SF
TOTAL OCCUPANTS 51 OCCUPANTS

PREP ROOM:
OCCUPANT LOAD FACTOR: 500 NET SF/OCCUPANT
(IBC TABLE 1004.1.2, NFPA 101 TAB. 7.3.1.2)
PREP ROOM 1008-A AREA: 295 SF
PREP ROOM 1024-A AREA: 172 SF
TOTAL OCCUPANTS 2 OCCUPANTS

TOTAL OCCUPANT LOAD: 53 OCCUPANTS

EGRESS LEGEND

0 OCCUPANT LOAD

0 OCCUPANT ROUTE

0 EXIT WIDTH REQUIRED
0 EXIT WIDTH PROVIDED

EXIT LIGHT FIXTURE (ARROWS INDICATE DIRECTIONAL INDICATORS IF PRESENT)

FIRE EXTINGUISHER CABINET

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2000 LAKESHORE DRIVE, NEW ORLEANS, LA 70148

KEVIN J. MORRIS NO. 5598 STATE OF LOUISIANA REGISTERED ARCHITECT

NO.	DESCRIPTION	DATE

PROJECT NO.	21006
PHASE	CD
DATE	08.12.21
PROJECT MANAGER	CMB
QUALITY CONTROL	RS

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LIFE SAFETY / ACCESSIBILITY GUIDELINES

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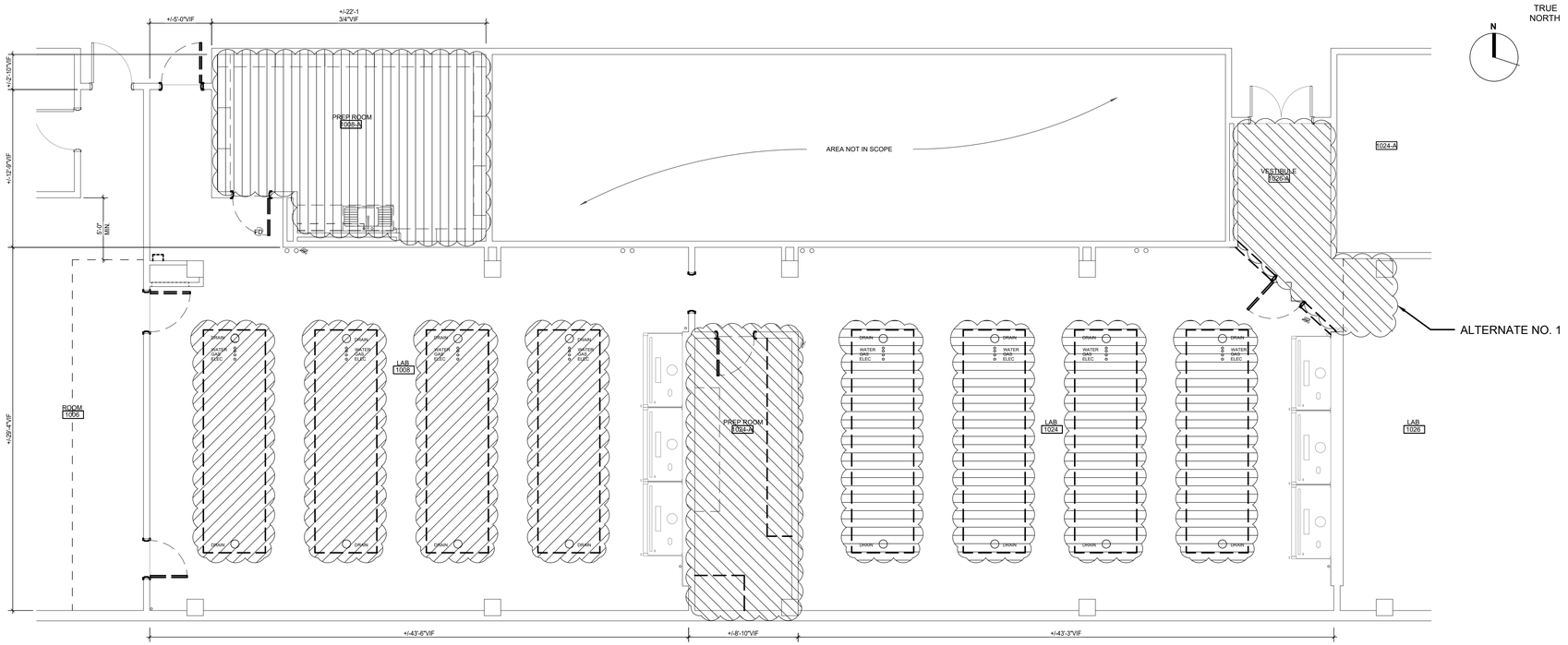
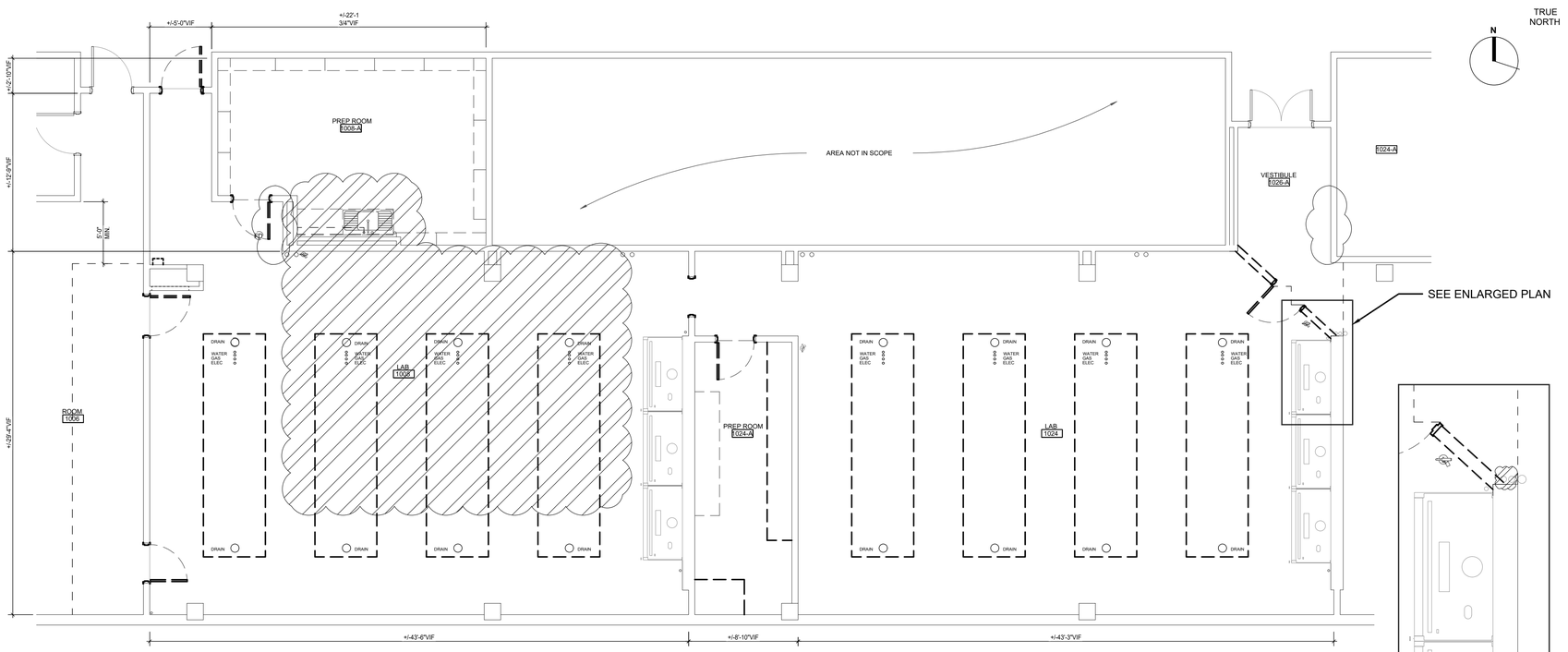


PARTIAL FLOOR PLAN - ASBESTOS AND LEAD ABATEMENT

3/16" = 1'-0"



ENLARGED PLAN

GENERAL NOTES

1. ALL QUANTITIES ARE APPROXIMATE ONLY AND ARE PROVIDED FOR THE CONTRACTOR'S GENERAL ORIENTATION. THE ACTUAL QUANTITY MAY VARY. ALL CONTRACTORS AND SUBCONTRACTORS ARE TO VISIT THE SITE TO DETERMINE, TO THEIR SATISFACTION, THE ACTUAL QUANTITY OF MATERIALS REQUIRING ABATEMENT AND TO INSURE THAT THEY ARE TOTALLY FAMILIAR WITH THE CONDITIONS WITH WHICH THEY MAY BE WORKING. FAILURE TO DO SO DOES NOT RELIEVE THE CONTRACTOR OF HIS RESPONSIBILITY FOR KNOWLEDGE OF ALL EXISTING CONDITIONS. IF THERE IS ANY DOUBT ABOUT THE WORK TO BE PERFORMED THE CONTRACTOR OR SUB-CONTRACTOR SHALL NOTIFY THE OWNER'S REPRESENTATIVE PRIOR TO THE BID DATE FOR CLARIFICATION.
2. IN THE CASE OF A CONFLICT BETWEEN THE REQUIREMENTS SPECIFIED IN THE ABATEMENT SPECIFICATIONS AND THE ARCHITECT'S SPECIFICATIONS, THE MORE STRINGENT REQUIREMENT(S) SHALL BE ADHERED TO.
3. THE CONTRACTOR PERFORMING ASBESTOS REMOVAL MUST BE LICENSED WITH THE STATE OF LOUISIANA CONTRACTOR LICENSING BOARD AS AN ASBESTOS ABATEMENT CONTRACTOR.
4. THE CONTRACTOR IS RESPONSIBLE FOR ADEQUATELY PROTECTING ALL FIXED ITEMS WHICH WILL REMAIN WITHIN THE WORK AREAS. FLOOR TILE AND MASTIC WHICH MAY BE PRESENT UNDER FIXED ITEMS (CABINETS, SHELVING, ETC.) SHALL BE ABATED UP TO AND FLUSH WITH THE ITEM.
5. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROPER REMOVAL AND DISPOSAL OF BALLAST CONTAINING POLYCHLORINATED BIPHENYLS (PCBS) AND MERCURY VAPOR-CONTAINING FLUORESCENT LIGHT TUBES IN ACCORDANCE WITH ALL APPLICABLE FEDERAL AND STATE REGULATIONS. ALL BALLASTS ARE TO BE ASSUMED TO CONTAIN PCBS UNLESS EXPLICITLY LABELED AS CONTAINING NO PCBS.

ABATEMENT SUMMARY

1) **BASE BID**

ASBESTOS ABATEMENT SUMMARY OF WORK

1. **ROOMS 1008, 1008-A, AND 1026-A:**
   - A) 2" DIAMETER PIPE FITTINGS ..... 22 EA
   - B) 2" DIAMETER PIPE INSULATION ..... 105 LF
2. **ROOMS 1024-A**
   - A) 9" X 9" LT. BROWN FLOOR TILE AND MASTIC ..... 220 SF
3. **ROOM 1008**
   - A) CREAM FLOOR TILE REMNANTS AND MASTIC ..... 400 SF
4. **ROOM 1008-A:**
   - A) 12" X 12" TAN FLOOR TILE AND MASTIC ..... 320 SF
5. **ROOM 1024:**
   - A) BLACK FLOORING MATERIAL ..... 320 SF

LEAD-BASED PAINT ABATEMENT SUMMARY OF WORK

TOTAL COMPONENT REMOVAL:

1. **ROOM 1008**
   - A) SHOWER HEAD AND BRACE ..... 2 EA

2) **ALTERNATE NO. 1**

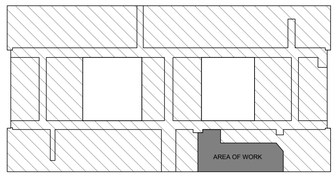
ASBESTOS ABATEMENT SUMMARY OF WORK

1. **1026 AND 1026-A**
   - A) 9" X 9" LT. BROWN FLOOR TILE AND MASTIC ..... 130 SF

LEGEND

	GREEN METAL SHOWER HEAD	2 EA
	HA 2 - 2"Ø PIPE FITTINGS	22 EA
	HA 3 - 2"Ø PIPE INSULATION	105 LF
	HA 7 - 12"x12" TAN FLOOR TILE AND MASTIC	320 SF
	HA 8 - 9"X9" LT. BROWN FLOOR TILE AND MASTIC	350 SF
	HA 27 - CREAM FLOOR TILE REMNANTS & MASTIC	400 SF
	HA 28 - BLACK FLOORING MATERIAL	400 SF

KEY PLAN



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STATE OF LOUISIANA
THOMAS R. L'HOSTE
REG. No. 28221
REGISTERED PROFESSIONAL ENGINEER IN CIVIL ENGINEERING
08/12/2021

NO.	DESCRIPTION	DATE

PROJECT NO.	21006
PHASE	DD
DATE	08.12.2021
DRAWN BY	SDC
CHECKED BY	KJJ

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BID ISSUE

HM01

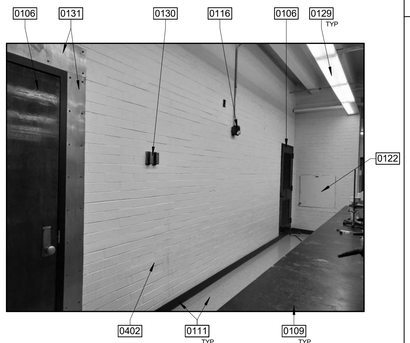
ABATEMENT PLAN

H/S

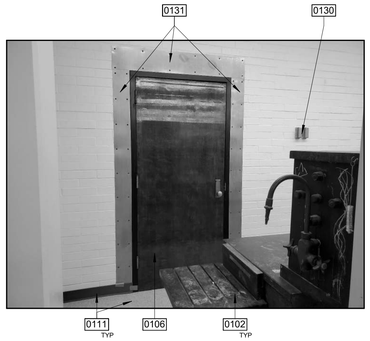
1 EXISTING PHOTO - LAB 1008
N.T.S.

2 EXISTING PHOTO - LAB 1008
N.T.S.

3 EXISTING PHOTO - LAB 1008
N.T.S.



4 EXISTING PHOTO - LAB 1008
N.T.S.



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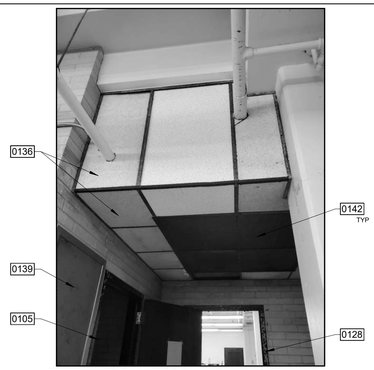

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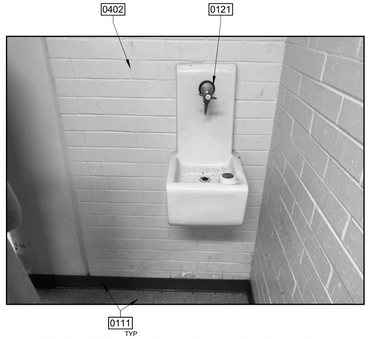

9 EXISTING PHOTO - LAB 1008
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11 EXISTING PHOTO - PREP RM 1008-A
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N.T.S.

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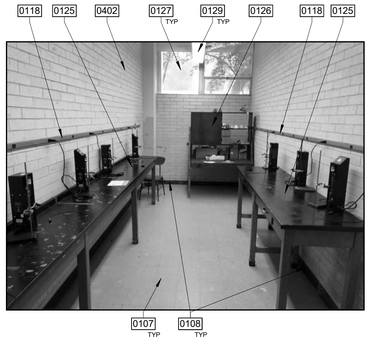

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16 EXISTING PHOTO - LAB 1024
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17 EXISTING PHOTO - LAB 1024
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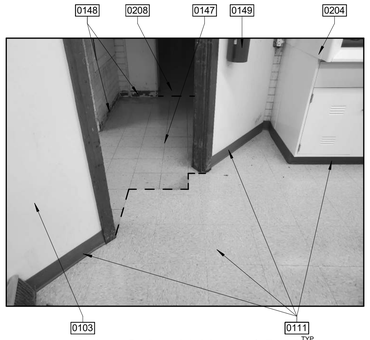

18 EXISTING PHOTO - LAB 1024
N.T.S.

19 EXISTING PHOTO - LAB 1024
N.T.S.

KEYNOTE LEGEND

0101 DEMOLISH EXISTING CASEWORK AND COUNTERTOP IN ITS ENTIRETY. SEE ENVIRONMENTAL DRAWINGS AND SPECIFICATIONS. REPAIR/PREP EXISTING WALL AS REQ'D FOR PAINT.
0102 DEMOLISH EXISTING LABORATORY WORKBENCH IN ITS ENTIRETY. ABATE PER ENVIRONMENTAL DRAWINGS AND SPECIFICATIONS.
0104 DEMOLISH EXISTING SHELVING UNIT IN ITS ENTIRETY. PATCH /REPAIR ANY DAMAGED WALL SURFACE. PREP AS REQUIRED FOR PAINT.
0105 DEMOLISH EXISTING DOOR. EXISTING FRAME TO REMAIN. REPAIR/PREP EXISTING DOOR FRAME AS REQUIRED TO RECEIVE NEW DOOR AND HARDWARE.
0106 DEMOLISH EXISTING DOOR AND DOOR FRAME IN ITS ENTIRETY; PREP OPENING TO RECEIVE NEW MASONRY.
0107 ABATE EXISTING 9 X 9 FLOOR TILE AND MASTIC IN THEIR ENTIRETY; SEE ENVIRONMENTAL DRAWINGS AND SPECIFICATIONS. PREP EXISTING CONCRETE TO RECEIVE NEW FLOOR FINISH.
0108 DEMOLISH COVE BASE. PREP EXISTING WALL TO RECEIVE NEW BASE.
0109 INFILL ALL PENETRATIONS IN SLAB ONCE EXISTING PLUMBING AND ELECTRICAL HAVE BEEN REMOVED; SEE 16/A201.
0111 REMOVE EXISTING VCT AND BASE, PREP TO RECEIVE NEW FLOORING AND BASE.
0112 REMOVE AND STORE EXISTING WALL MOUNTED FIRE EXTINGUISHER, FIRE EXTINGUISHER SIGNAGE, AND ATTACHMENTS. FILL HOLES WHERE FIRE EXTINGUISHER WAS INSTALLED.
0113 REMOVE EXISTING PANEL SIGNAGE. PROTECT AND STORE FOR LATER REUSE.
0114 ABATE AND REMOVE EXISTING SHOWER HEAD AND SHOWER BRACE; SEE ENVIRONMENTAL DRAWINGS AND SPECIFICATIONS. REMOVE AND CAP EXISTING PLUMBING AS REQUIRED, SEE PLUMBING.
0116 EXISTING FIRE ALARM STROBE TO BE RELOCATED, SEE ELECTRICAL DRAWINGS; PATCH MASONRY WALL AS REQUIRED.
0117 EXISTING FURNITURE TO BE REMOVED BY OWNER PRIOR TO DEMOLITION
0118 DEMOLISH EXISTING ELECTRICAL STRIP ATTACHED TO BRICK WALL. SEE ELECTRICAL DRAWINGS. PATCH/REPAIR EXISTING WALL. PREP AS REQUIRED FOR REPAINTING.
0120 REMOVE EXISTING FLOOR DRAIN STRAINER AND CAP, SEE MECHANICAL DRAWINGS.
0121 DEMOLISH EXISTING WALL MOUNTED SINK IN ITS ENTIRETY, SEE MECHANICAL DRAWINGS. PATCH RESULTANT HOLE IN EXISTING BRICK WALL AS REQUIRED BY REPLACING / PROVIDING NEW BRICK; MATCH EXISTING BRICK SIZE, PROFILE, AND TEXTURE; NEW BRICK TO BE TOOTHED INTO EXISTING; ASSUME TWO SQUARE FEET OF REPLACEMENT.
0122 EXISTING TELEPHONE CABINET TO REMAIN.
0125 DEMOLISH EXISTING CASEWORK AND COUNTERTOP IN ITS ENTIRETY. REPAIR/PREP EXISTING WALL AS REQ'D FOR REPAINTING.
0126 EXISTING WOOD DESK TO BE REMOVED BY OWNER PRIOR TO DEMOLITION.
0127 REMOVE EXISTING WINDOW FILM IN ITS ENTIRETY AND PREP TO RECEIVE NEW TINT. CLEAN ENTIRE INTERIOR OF ALUMINUM WINDOW FRAME
0128 DEMOLISH EXISTING HM FRAME IN ITS ENTIRETY. PREP EXISTING WALL TO RECEIVE NEW DOOR AND FRAME.
0129 ABATE EXISTING FLUORESCENT LIGHT TUBES AND BALLASTS; SEE ENVIRONMENTAL DRAWINGS AND/OR SPECIFICATIONS. DEMOLISH EXISTING LIGHT FIXTURES IN THEIR ENTIRETY, SEE ELECTRICAL DRAWINGS FOR REPLACEMENT; EXISTING UNISTRUTS TO REMAIN, PAINT TO MATCH CEILING.
0130 ABATE EXISTING THERMOSTAT, SEE ENVIRONMENTAL AND MECHANICAL DRAWINGS / SPECIFICATIONS; PATCH MASONRY WALL AS REQUIRED.
0131 EXISTING METAL PLATE, AROUND BOTH SIDES OF DOOR FRAME, TO BE REMOVED IN ITS ENTIRETY; PATCH MASONRY WALL AS REQUIRED.
0135 REMOVE EXISTING PIPING, CAP AS REQUIRED, SEE MECHANICAL DRAWINGS.
0136 DEMOLISH EXISTING ACOUSTICAL CEILING TILES AND GRID SYSTEM IN ITS ENTIRETY.
0137 EXISTING JUNCTION BOX AND CONDUIT TO BE REMOVED IN ITS ENTIRETY, SEE ELECTRICAL DRAWINGS.
0139 REMOVE EXISTING WALL HUNG DISPLAY BOARD. PATCH/PREP EXISTING WALL. PREP AS REQUIRED FOR PAINT.
0140 DEMOLISH EXISTING WALL MOUNTED SHELF, PATCH/PREP EXISTING WALL. PREP AS REQUIRED FOR PAINT.
0141 DEMOLISH EXISTING WALL MOUNTED DRYING RACK PATCH/PREP EXISTING WALL. PREP AS REQUIRED FOR PAINT.
0142 REMOVE AND DISPOSE OF EXISTING AIR GRILLES, TYP.; SEE MECHANICAL DRAWINGS.
0143 ABATE EXISTING FLUORESCENT LIGHT TUBES; SEE ENVIRONMENTAL DRAWINGS. DEMOLISH EXISTING LIGHT FIXTURE IN THEIR ENTIRETY, SEE ELECTRICAL DRAWINGS.
0146 REMOVE AND DISPOSE OF EXISTING SIDEWALL REGISTER, TYP.; SEE MECHANICAL
0204 EXISTING FUME HOOD TO REMAIN, PROTECT DURING CONSTRUCTION ACTIVITIES.
0205 EXISTING THERMOSTAT TO REMAIN.
0208 EXISTING 9X9 FLOOR TILE AND MASTIC TO REMAIN.
0209 EXISTING PIPING TO REMAIN.
0241 EXISTING MECHANICAL DUCT TO REMAIN; PREP AS REQUIRED FOR REPAINTING..
0310 PATCH PORTION OF DAMAGED CEILING ABOVE
0402 EXISTING MASONRY WALL; PATCH AND REPAIR AS REQUIRED; CLEAN, PREP, AND PAINT

ALT NO. 1 - KEYNOTE LEGEND

0103 ALTERNATE NO. 1 - DEMOLISH EXISTING WOOD STUD PARTITION, DOOR, AND DOOR FRAME IN THEIR ENTIRETY.
0147 ALTERNATE NO. 1 - ABATE EXISTING 9 X 9 FLOOR TILE AND MASTIC IN THEIR ENTIRETY; SEE ENVIRONMENTAL DRAWINGS AND SPECIFICATIONS. PREP EXISTING CONCRETE TO RECEIVE NEW FLOOR FINISH.
0148 ALTERNATE NO. 1 - DEMOLISH COVE BASE. PREP EXISTING WALL TO RECEIVE NEW BASE.
0149 ALTERNATE NO. 1 - REMOVE AND STORE EXISTING WALL MOUNTED FIRE EXTINGUISHER, FIRE EXTINGUISHER SIGNAGE, AND ATTACHMENTS. FILL HOLES WHERE FIRE EXTINGUISHER WAS INSTALLED.
0150 ALTERNATE NO. 1 - REMOVE EXISTING PANEL SIGNAGE. PROTECT AND STORE FOR LATER REUSE.
0152 ALTERNATE NO. 1 - DEMOLISH EXISTING ACOUSTICAL CEILING TILES AND GRID SYSTEM IN ITS ENTIRETY.
0153 ALTERNATE NO. 1 - ABATE EXISTING FLUORESCENT LIGHT TUBES; SEE ENVIRONMENTAL DRAWINGS. DEMOLISH EXISTING LIGHT FIXTURE IN THEIR ENTIRETY, SEE ELECTRICAL DRAWINGS.
0158 ALTERNATE NO. 1 - REMOVE AND DISPOSE OF EXISTING AIR GRILLES, TYP.; SEE MECHANICAL DRAWINGS.
0159 ALTERNATE NO. 1 - ABATE AND REMOVE EXISTING SHOWER HEAD AND SHOWER BRACE; SEE ENVIRONMENTAL DRAWINGS AND SPECIFICATIONS. REMOVE AND CAP EXISTING PLUMBING AS REQUIRED, SEE PLUMBING.
0203 ALTERNATE NO. 1 - PREP CEILING TO RECEIVE NEW PAINT FINISH
0230 ALTERNATE NO. 1 - PREP EXISTING MASONRY WALL TO RECEIVE NEW PAINT, TYPICAL FOR VESTIBULE 1026-A.
0412 ALTERNATE NO. 1 - EXISTING MASONRY WALL; PATCH AND REPAIR AS REQUIRED; CLEAN, PREP, AND PAINT

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KEVIN J. MORRIS No. 5598 STATE OF LOUISIANA REGISTERED ARCHITECT

NO.	DESCRIPTION	DATE

PROJECT NO.	21006
PHASE	CD
DATE	08.12.21
PROJECT MANAGER	CMB
QUALITY CONTROL	RS

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BID ISSUE

A001

DEMOLITION PICTURES

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GENERAL NOTES

1. CONTRACTOR SHALL FIELD VERIFY ALL DIMENSIONS. THESE DEMOLITION PLANS ARE PROVIDED FOR THE CONVENIENCE OF THE CONTRACTOR. THE DASHED LINES GENERALLY INDICATE THOSE BUILDING ELEMENTS WHICH MUST BE DEMOLISHED TO COMPLETE THE WORK. CONTRACTOR SHALL REMOVE FINISHES AND COMPONENTS AS REQUIRED TO COMPLETE THE NEW WORK WHETHER OR NOT SUCH REMOVAL IS SPECIFICALLY NOTED HEREIN.
2. CONTRACTOR TO REFER TO MEP SHEETS FOR ADDITIONAL NOTES RELATING TO MECHANICAL, ELECTRICAL, AND PLUMBING EQUIPMENT.
3. PROTECT EXISTING WORK WHICH IS TO REMAIN IN PLACE, BE RE-USED, OR REMAIN THE PROPERTY OF THE OWNER.
4. REMOVE AND STORE MATERIALS AND EQUIPMENT INDICATED TO BE REUSED OR RELOCATED TO PREVENT DAMAGE.
5. REFER TO ENVIRONMENTAL DRAWINGS FOR SCOPE RELATED TO HAZARDOUS MATERIALS AND ITS REMOVAL.
6. ALL WORK THAT WOULD AFFECT THE OWNER'S AND THE PUBLIC'S NORMAL USE AND FUNCTION OF THE BUILDING MUST BE PERFORMED DURING "OTHER-THAN-NORMAL" WORKING HOURS AT NO ADDITIONAL COST TO THE OWNER. SPECIFICALLY, UTILITY INTERRUPTIONS AND/OR SHUTDOWNS AND DISRUPTIVE ACTIVITIES MAY NOT OCCUR DURING WEEK DAYS FROM THE HOURS OF 6 AM - 6 PM (NORMAL WORKING HOURS). CONTRACTOR MUST INCLUDE IN THE CONTRACT PRICE, OVERTIME WORK DURING NIGHTS, SATURDAYS, SUNDAYS, UNIVERSITY OF NEW ORLEANS EXAM TIMES, AND HOLIDAYS NECESSARY TO ACCOMMODATE REQUIRED UTILITY SHUTDOWNS AND/OR INTERRUPTIONS AND DISRUPTIVE ACTIVITIES. THIS OVERTIME WORK MUST BE SCHEDULED WITH OWNER'S REPRESENTATIVE IN ADVANCE BY SEVEN DAYS AND IS SUBJECT TO RESTRICTIONS AS DESCRIBED IN COORDINATION WITH OCCUPANTS.
7. RESEARCH ROOM 1006 IS FULLY OPERATIONAL AND WILL REMAIN FULLY OPERATIONAL DURING THE ENTIRE LENGTH OF THIS PROJECT. THE GENERAL CONTRACTOR IS TO COORDINATE WITH THE OWNER FOR ACCESS TO RESEARCH ROOM 1006 AND COMPLETE THE SCOPE OF WORK IN AS MINIMUM OF A TIMEFRAME AS POSSIBLE.

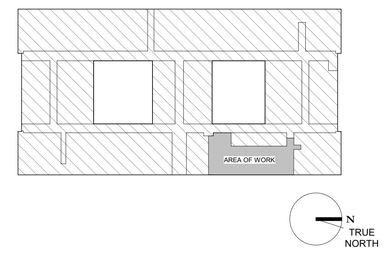
KEYNOTE LEGEND

0101 DEMOLISH EXISTING CASEWORK AND COUNTERTOP IN ITS ENTIRETY. SEE ENVIRONMENTAL DRAWINGS AND SPECIFICATIONS. REPAIR/PREP EXISTING WALL AS REQ'D FOR PAINT.
0102 DEMOLISH EXISTING LABORATORY WORKBENCH IN ITS ENTIRETY. ABATE PER ENVIRONMENTAL DRAWINGS AND SPECIFICATIONS.
0104 DEMOLISH EXISTING SHELVING UNIT IN ITS ENTIRETY. PATCH /REPAIR ANY DAMAGED WALL SURFACE. PREP AS REQUIRED FOR PAINT.
0105 DEMOLISH EXISTING DOOR. EXISTING FRAME TO REMAIN. REPAIR/PREP EXISTING DOOR FRAME AS REQUIRED TO RECEIVE NEW DOOR AND HARDWARE.
0106 DEMOLISH EXISTING DOOR AND DOOR FRAME IN ITS ENTIRETY; PREP OPENING TO RECEIVE NEW MASONRY.
0107 ABATE EXISTING 9 X 9 FLOOR TILE AND MASTIC IN THEIR ENTIRETY; SEE ENVIRONMENTAL DRAWINGS AND SPECIFICATIONS. PREP EXISTING CONCRETE TO RECEIVE NEW FLOOR FINISH.
0108 DEMOLISH COVE BASE. PREP EXISTING WALL TO RECEIVE NEW BASE.
0109 INFILL ALL PENETRATIONS IN SLAB ONCE EXISTING PLUMBING AND ELECTRICAL HAVE BEEN REMOVED; SEE 16/A201.
0110 ABATE PAINT ON EXISTING PIPE, SEE ENVIRONMENTAL DRAWINGS AND SPECIFICATIONS.
0111 REMOVE EXISTING VCT AND BASE, PREP TO RECEIVE NEW FLOORING AND BASE.
0112 REMOVE AND STORE EXISTING WALL MOUNTED FIRE EXTINGUISHER, FIRE EXTINGUISHER SIGNAGE, AND ATTACHMENTS. FILL HOLES WHERE FIRE EXTINGUISHER WAS INSTALLED.
0113 REMOVE EXISTING PANEL SIGNAGE. PROTECT AND STORE FOR LATER REUSE.
0115 EXISTING THERMOSTAT TO BE REMOVED AND RELOCATED, SURFACE MOUNTED CONDUIT TO BE REMOVED, SEE MECHANICAL DRAWINGS. PATCH/REPAIR EXISTING WALL. PREP AS REQUIRED FOR PAINT.
0116 EXISTING FIRE ALARM STROBE TO BE RELOCATED, SEE ELECTRICAL DRAWINGS; PATCH MASONRY WALL AS REQUIRED.
0118 DEMOLISH EXISTING ELECTRICAL STRIP ATTACHED TO BRICK WALL. SEE ELECTRICAL DRAWINGS. PATCH/REPAIR EXISTING WALL. PREP AS REQUIRED FOR REPAINTING.
0119 REMOVE EXISTING WALL HUNG CLOCK. PATCH/REPAIR EXISTING WALL. PREP AS REQUIRED FOR PAINT.
0120 REMOVE EXISTING FLOOR DRAIN STRAINER AND CAP, SEE MECHANICAL DRAWINGS.
0121 DEMOLISH EXISTING WALL MOUNTED SINK IN ITS ENTIRETY, SEE MECHANICAL DRAWINGS. PATCH RESULTANT HOLE IN EXISTING BRICK WALL AS REQUIRED BY REPLACING / PROVIDING NEW BRICK; MATCH EXISTING BRICK SIZE, PROFILE, AND TEXTURE; NEW BRICK TO BE TOOTHED INTO EXISTING; ASSUME TWO SQUARE FEET OF REPLACEMENT.
0123 ABATE 2" PIPE INSULATION AND 2' PIPE FITTINGS; SEE ENVIRONMENTAL DRAWINGS AND SPECIFICATIONS. DEMOLISH EXISTING COLD WATER, HOT WATER, GAS, AND POWER; SEE MECHANICAL AND ELECTRICAL DRAWINGS.
0124 REMOVE EXISTING WATER AND WASTE PIPING, SEE MECHANICAL DRAWINGS.
0125 DEMOLISH EXISTING CASEWORK AND COUNTERTOP IN ITS ENTIRETY. REPAIR/PREP EXISTING WALL AS REQ'D FOR REPAINTING.
0126 EXISTING WOOD DESK TO BE REMOVED BY OWNER PRIOR TO DEMOLITION.
0127 REMOVE EXISTING WINDOW FILM IN ITS ENTIRETY AND PREP TO RECEIVE NEW TINT. CLEAN ENTIRE INTERIOR OF ALUMINUM WINDOW FRAME
0128 DEMOLISH EXISTING HM FRAME IN ITS ENTIRETY. PREP EXISTING WALL TO RECEIVE NEW DOOR AND FRAME.
0130 ABATE EXISTING THERMOSTAT, SEE ENVIRONMENTAL AND MECHANICAL DRAWINGS / SPECIFICATIONS; PATCH MASONRY WALL AS REQUIRED.
0131 EXISTING METAL PLATE, AROUND BOTH SIDES OF DOOR FRAME, TO BE REMOVED IN ITS ENTIRETY; PATCH MASONRY WALL AS REQUIRED.
0132 EXISTING CONDUIT ASSOCIATED WITH POWER TO EXISTING LAB BENCHES TO BE REMOVED IN ITS ENTIRETY, SEE ELECTRICAL DRAWINGS.
0133 REMOVE PORTION OF EXISTING GAS LINE AND CAP AS REQUIRED, SEE MECHANICAL DRAWINGS.
0134 REMOVE EXISTING DATA AND WALL MOLDING, SEE ELECTRICAL DRAWINGS.
0135 REMOVE EXISTING PIPING, CAP AS REQUIRED, SEE MECHANICAL DRAWINGS.
0137 EXISTING JUNCTION BOX AND CONDUIT TO BE REMOVED IN ITS ENTIRETY, SEE ELECTRICAL DRAWINGS.
0139 REMOVE EXISTING WALL HUNG DISPLAY BOARD. PATCH/PREP EXISTING WALL. PREP AS REQUIRED FOR PAINT.
0140 DEMOLISH EXISTING WALL MOUNTED SHELF, PATCH/PREP EXISTING WALL. PREP AS REQUIRED FOR PAINT.
0141 DEMOLISH EXISTING WALL MOUNTED DRYING RACK PATCH/PREP EXISTING WALL. PREP AS REQUIRED FOR PAINT.
0144 REMOVE EXISTING COVE BASE IN ITS ENTIRETY ALONG THIS WALL. PREP TO RECEIVE NEW BASE; PREP WALL TO RECEIVE NEW PAINT.
0151 DEMOLISH EXISTING DOOR AND FRAME IN THEIR ENTIRETY. PREP EXISTING WALL TO RECEIVE NEW DOOR AND FRAME.
0154 ABATE EXISTING BLACK FLOORING MATERIAL, FROM BELOW EXISTING WORKBENCHES, IN ITS ENTIRETY; SEE ENVIRONMENTAL DRAWINGS.
0155 ABATE EXISTING 12 X 12 FLOOR TILE AND MASTIC IN THEIR ENTIRETY; SEE ENVIRONMENTAL DRAWINGS AND SPECIFICATIONS. PREP EXISTING CONCRETE TO RECEIVE NEW FLOOR FINISH.
0156 ABATE EXISTING TILE REMNANTS AND MASTIC, FROM BELOW EXISTING WORKBENCHES, IN ITS ENTIRETY; SEE ENVIRONMENTAL DRAWINGS.
0157 DEMOLISH EXISTING COLD WATER, HOT WATER, GAS, AND POWER; SEE MECHANICAL AND ELECTRICAL DRAWINGS.
0201 GENERAL CONTRACTOR SHALL PROVIDE TEMPORARY PROTECTION DURING DEMOLITION AND CONSTRUCTION AROUND AREA OF WORK TO KEEP CONSTRUCTION DUST AND DEBRIS FROM CONTAMINATING THE REMAINDER OF RESEARCH ROOM 1006. GENERAL CONTRACTOR SHALL REMOVE TEMPORARY PROTECTION IN ITS ENTIRETY AND CLEAN AREA UPON COMPLETION OF WORK WITHIN RESEARCH ROOM 1006.
0204 EXISTING FUME HOOD TO REMAIN, PROTECT DURING CONSTRUCTION ACTIVITIES.
0205 EXISTING THERMOSTAT TO REMAIN.
0207 EXISTING WALL MOUNTED FIRE EXTINGUISHER TO REMAIN.
0209 EXISTING PIPING TO REMAIN.
0929 LINE OF CEILING ABOVE

ALT NO. 1 - KEYNOTE LEGEND

0103 ALTERNATE NO. 1 - DEMOLISH EXISTING WOOD STUD PARTITION, DOOR, AND DOOR FRAME IN THEIR ENTIRETY.
0138 ALTERNATE NO. 1 - EXTENT OF EXISTING 9 X 9 FLOOR TILE AND MASTIC WITHIN SCOPE OF WORK, SEE ENVIRONMENTAL DRAWINGS FOR REMOVAL.
0145 ALTERNATE NO. 1 - RECONFIGURE EXISTING LIGHT SWITCH AS SHOWN ON ELECTRICAL DRAWINGS.
0147 ALTERNATE NO. 1 - ABATE EXISTING 9 X 9 FLOOR TILE AND MASTIC IN THEIR ENTIRETY; SEE ENVIRONMENTAL DRAWINGS AND SPECIFICATIONS. PREP EXISTING CONCRETE TO RECEIVE NEW FLOOR FINISH.
0148 ALTERNATE NO. 1 - DEMOLISH COVE BASE. PREP EXISTING WALL TO RECEIVE NEW BASE.
0149 ALTERNATE NO. 1 - REMOVE AND STORE EXISTING WALL MOUNTED FIRE EXTINGUISHER, FIRE EXTINGUISHER SIGNAGE, AND ATTACHMENTS. FILL HOLES WHERE FIRE EXTINGUISHER WAS INSTALLED.
0150 ALTERNATE NO. 1 - REMOVE EXISTING PANEL SIGNAGE. PROTECT AND STORE FOR LATER REUSE.
0161 ALTERNATE NO. 1 - REMOVE EXISTING FLOOR DRAIN STRAINER AND CAP, SEE MECHANICAL DRAWINGS.
0162 ALTERNATE NO. 1 - DEMOLISH EXISTING WALL MOUNTED SINK IN ITS ENTIRETY, SEE MECHANICAL DRAWINGS. PATCH RESULTANT HOLE IN EXISTING BRICK WALL AS REQUIRED BY REPLACING / PROVIDING NEW BRICK; MATCH EXISTING BRICK SIZE, PROFILE, AND TEXTURE; NEW BRICK TO BE TOOTHED INTO EXISTING; ASSUME TWO SQUARE FEET OF REPLACEMENT.
0210 ALTERNATE NO. 1 - GENERAL CONTRACTOR SHALL PROVIDE TEMPORARY PROTECTION DURING DEMOLITION AND CONSTRUCTION AROUND AREA OF WORK TO KEEP CONSTRUCTION DUST AND DEBRIS FROM CONTAMINATING THE REMAINDER OF LAB 1026. GENERAL CONTRACTOR SHALL REMOVE TEMPORARY PROTECTION IN ITS ENTIRETY AND CLEAN AREA UPON COMPLETION OF WORK WITH LAB 1026.

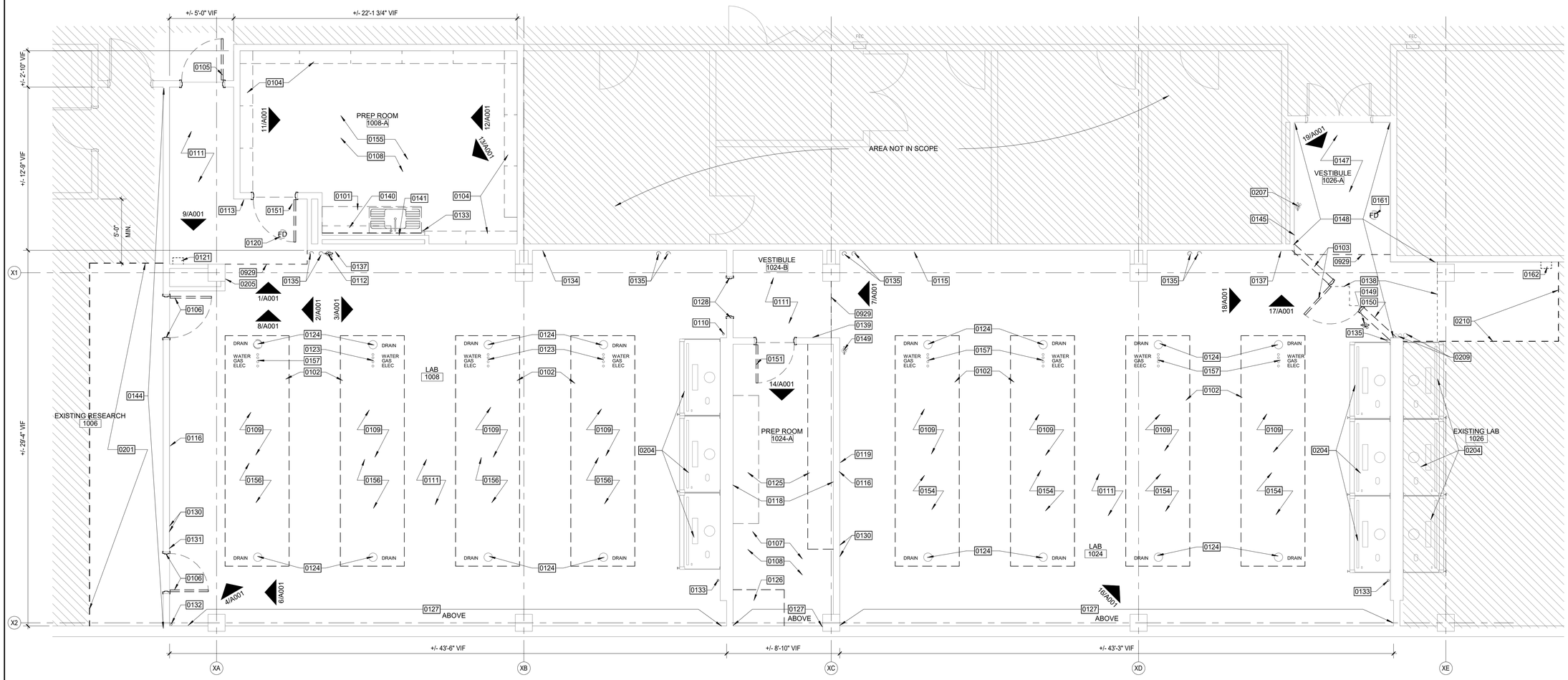
KEY PLAN



DEMOLITION LEGEND

NO WORK IN THIS AREA UNLESS NOTED OTHERWISE

-/---
INDICATES PHOTO; SEE A001



NOTE: NOT ALL DEMOLITION SCOPE SHOWN ON DRAWING IS INCLUSIVE OF BASE BID. DEMOLITION SCOPE REQUIRED IF ADD ALTERNATE # 1 IS ACCEPTED IS IDENTIFIED WITH KEYNOTE ASSOCIATED WITH "ALT. NO. 1 - KEYNOTE LEGEND".

16 PARTIAL FLOOR PLAN - DEMOLITION
1/4" = 1'-0"
0 4' 8'

N TRUE NORTH

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KEVIN J. MORR IS No. 5598 REGISTERED ARCHITECT STATE OF LOUISIANA

NO.	DESCRIPTION	DATE

PROJECT NO.	21006
PHASE	CD
DATE	08.12.21
PROJECT MANAGER	CMB
QUALITY CONTROL	RS

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BID ISSUE

A101

DEMOLITION PLAN

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GENERAL NOTES

1. CONTRACTOR SHALL FIELD VERIFY ALL DIMENSIONS. THESE DEMOLITION PLANS ARE PROVIDED FOR THE CONVENIENCE OF THE CONTRACTOR. THE DASHED LINES GENERALLY INDICATE THOSE BUILDING ELEMENTS WHICH MUST BE DEMOLISHED TO COMPLETE THE WORK. CONTRACTOR SHALL REMOVE FINISHES AND COMPONENTS AS REQUIRED TO COMPLETE THE NEW WORK WHETHER OR NOT SUCH REMOVAL IS SPECIFICALLY NOTED HEREIN.
2. CONTRACTOR TO REFER TO MEP SHEETS FOR ADDITIONAL NOTES RELATING TO MECHANICAL, ELECTRICAL, AND PLUMBING EQUIPMENT.
3. PROTECT EXISTING WORK WHICH IS TO REMAIN IN PLACE, BE RE-USED, OR REMAIN THE PROPERTY OF THE OWNER.
4. REMOVE AND STORE MATERIALS AND EQUIPMENT INDICATED TO BE REUSED OR RELOCATED TO PREVENT DAMAGE.
5. REFER TO ENVIRONMENTAL DRAWINGS FOR SCOPE RELATED TO HAZARDOUS MATERIALS AND ITS REMOVAL.
6. ALL WORK THAT WOULD AFFECT THE OWNER'S AND THE PUBLIC'S NORMAL USE AND FUNCTION OF THE BUILDING MUST BE PERFORMED DURING "OTHER-THAN-NORMAL" WORKING HOURS AT NO ADDITIONAL COST TO THE OWNER. SPECIFICALLY, UTILITY INTERRUPTIONS AND/OR SHUTDOWNS AND DISRUPTIVE ACTIVITIES MAY NOT OCCUR DURING WEEK DAYS FROM THE HOURS OF 6 AM - 6 PM (NORMAL WORKING HOURS). CONTRACTOR MUST INCLUDE IN THE CONTRACT PRICE, OVERTIME WORK DURING NIGHTS, SATURDAYS, SUNDAYS, UNIVERSITY OF NEW ORLEANS EXAM TIMES, AND HOLIDAYS NECESSARY TO ACCOMMODATE REQUIRED UTILITY SHUTDOWNS AND/OR INTERRUPTIONS AND DISRUPTIVE ACTIVITIES. THIS OVERTIME WORK MUST BE SCHEDULED WITH OWNER'S REPRESENTATIVE IN ADVANCE BY SEVEN DAYS AND IS SUBJECT TO RESTRICTIONS AS DESCRIBED IN COORDINATION WITH OCCUPANTS.
7. RESEARCH ROOM 1006 IS FULLY OPERATIONAL AND WILL REMAIN FULLY OPERATIONAL DURING THE ENTIRE LENGTH OF THIS PROJECT. THE GENERAL CONTRACTOR IS TO COORDINATE WITH THE OWNER FOR ACCESS TO RESEARCH ROOM 1006 AND COMPLETE THE SCOPE OF WORK IN AS MINIMUM OF A TIMEFRAME AS POSSIBLE.

KEYNOTE LEGEND

- 0114 ABATE AND REMOVE EXISTING SHOWER HEAD AND SHOWER BRACE; SEE ENVIRONMENTAL DRAWINGS AND SPECIFICATIONS. REMOVE AND CAP EXISTING PLUMBING AS REQUIRED, SEE PLUMBING.
- 0129 ABATE EXISTING FLUORESCENT LIGHT TUBES AND BALLASTS; SEE ENVIRONMENTAL DRAWINGS AND/OR SPECIFICATIONS. DEMOLISH EXISTING LIGHT FIXTURES IN THEIR ENTIRETY, SEE ELECTRICAL DRAWINGS FOR REPLACEMENT; EXISTING UNISTRUTS TO REMAIN, PAINT TO MATCH CEILING.
- 0142 REMOVE AND DISPOSE OF EXISTING AIR GRILLES, TYP.; SEE MECHANICAL DRAWINGS.
- 0143 ABATE EXISTING FLUORESCENT LIGHT TUBES; SEE ENVIRONMENTAL DRAWINGS. DEMOLISH EXISTING LIGHT FIXTURE IN THEIR ENTIRETY, SEE ELECTRICAL DRAWINGS.
- 0146 REMOVE AND DISPOSE OF EXISTING SIDEWALL REGISTER, TYP.; SEE MECHANICAL
- 0204 EXISTING FUME HOOD TO REMAIN, PROTECT DURING CONSTRUCTION ACTIVITIES.

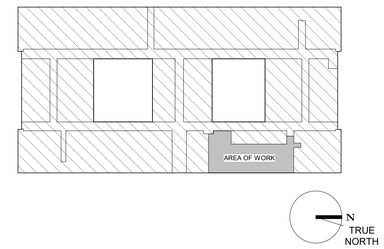
ALT NO. 1 - KEYNOTE LEGEND

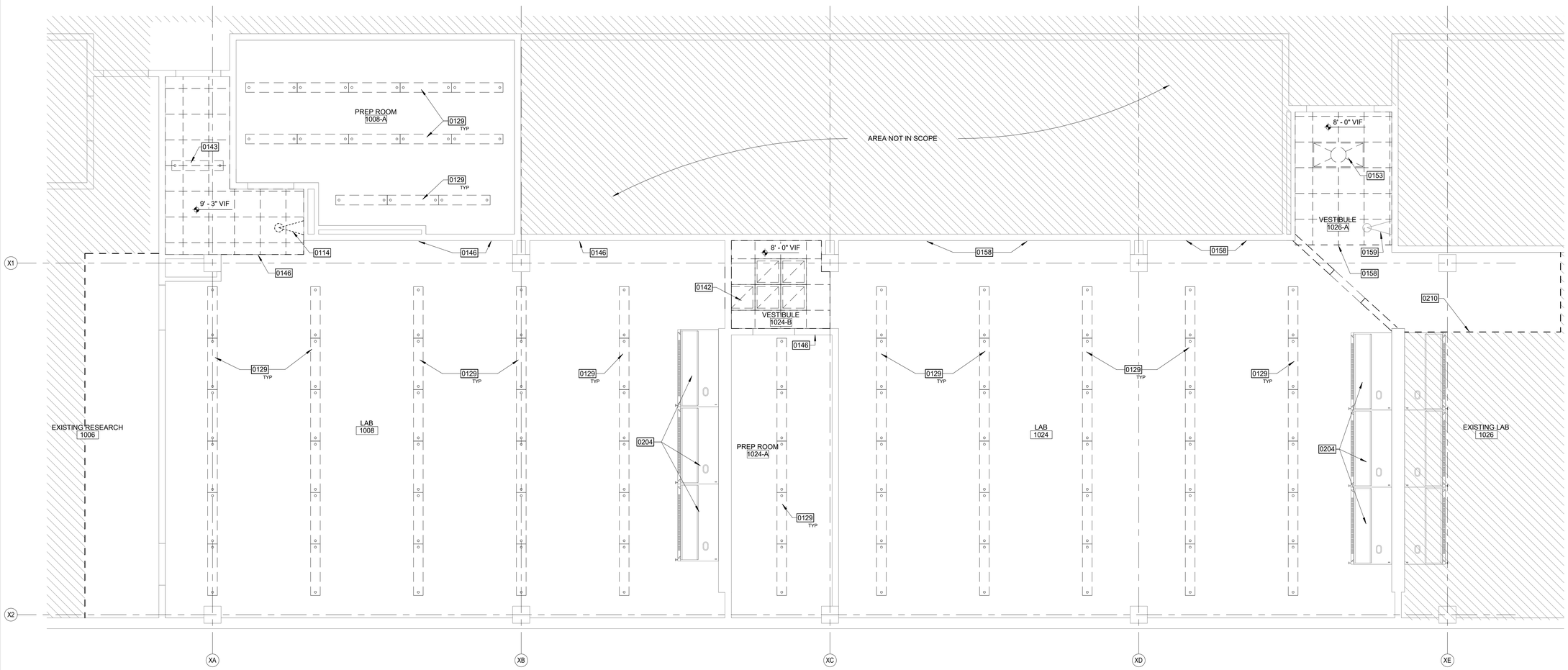
- 0153 ALTERNATE NO. 1 - ABATE EXISTING FLUORESCENT LIGHT TUBES; SEE ENVIRONMENTAL DRAWINGS. DEMOLISH EXISTING LIGHT FIXTURE IN THEIR ENTIRETY, SEE ELECTRICAL DRAWINGS.
- 0158 ALTERNATE NO. 1 - REMOVE AND DISPOSE OF EXISTING AIR GRILLES, TYP.; SEE MECHANICAL DRAWINGS.
- 0159 ALTERNATE NO. 1 - ABATE AND REMOVE EXISTING SHOWER HEAD AND SHOWER BRACE; SEE ENVIRONMENTAL DRAWINGS AND SPECIFICATIONS. REMOVE AND CAP EXISTING PLUMBING AS REQUIRED, SEE PLUMBING.
- 0210 ALTERNATE NO. 1 - GENERAL CONTRACTOR SHALL PROVIDE TEMPORARY PROTECTION DURING DEMOLITION AND CONSTRUCTION AROUND AREA OF WORK TO KEEP CONSTRUCTION DUST AND DEBRIS FROM CONTAMINATING THE REMAINDER OF LAB 1026. GENERAL CONTRACTOR SHALL REMOVE TEMPORARY PROTECTION IN ITS ENTIRETY AND CLEAN AREA UPON COMPLETION OF WORK WITH LAB 1026.

DEMOLITION LEGEND

- NO WORK IN THIS AREA UNLESS NOTED OTHERWISE
- EXISTING LIGHT FIXTURE TO BE DEMOLISHED; SEE ELECTRICAL
- EXISTING WALL TO BE DEMOLISHED
- EXISTING ACOUSTICAL CEILING TILES AND GRID SYSTEM TO BE DEMOLISHED IN ITS ENTIRETY.

KEY PLAN





NOTE: NOT ALL DEMOLITION SCOPE SHOWN ON DRAWING IS INCLUSIVE OF BASE BID. DEMOLITION SCOPE REQUIRED IF ADD ALTERNATE # 1 IS ACCEPTED IS IDENTIFIED WITH KEYNOTE ASSOCIATED WITH "ALT. NO. 1 - KEYNOTE LEGEND".

16 PARTIAL REFLECTED CEILING PLAN - DEMOLITION

1/4" = 1'-0"

0 4' 8'

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KEVIN J. MORRIS NO. 5598 STATE OF LOUISIANA REGISTERED ARCHITECT

NO.	DESCRIPTION	DATE

PROJECT NO.	21006
PHASE	CD
DATE	08.12.21
PROJECT MANAGER	CMB
QUALITY CONTROL	RS

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BID ISSUE

A131

DEMOLITION REFLECTED CEILING PLAN

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GENERAL NOTES

1. THE EXISTING PLAN IS DOCUMENTED ON THE DRAWINGS IN ACCORDANCE WITH A LIMITED NUMBER OF AVAILABLE ORIGINAL CONSTRUCTION DRAWINGS AND FIELD INVESTIGATIONS. VARIANCE OF ACTUAL EXISTING CONDITIONS FROM THOSE ILLUSTRATED ON THESE DOCUMENTS MAY OCCUR. THE GENERAL CONTRACTOR SHALL VERIFY EXISTING CONDITIONS PRIOR TO COMMENCING WORK AND REPORT ANY AND ALL DISCREPANCIES TO THE ARCHITECT.
2. PAINT ALL DOOR FRAMES TO MATCH EXISTING COLOR.
3. DOOR & FRAME SIZES INDICATED ARE BASED ON LIMITED INFORMATION. VERIFY ALL DIMENSIONS BEFORE FABRICATION.
4. PREP AND PAINT ALL INTERIOR WALL AND CEILING SURFACES, UNLESS NOTED OTHERWISE. PREP AND PAINT ALL CEILING HUNG DUCT, PIPING, AND SUPPORTS. SEE ROOM FINISH SCHEDULE FOR ALL WALL, FLOOR, AND CEILING FINISHES.
5. REPAIR AND REPAINT WALL AT ALL LOCATIONS WHERE FIXTURES / CASEWORK / MILLWORK WAS REMOVED PRIOR TO REPLACING SAID ITEM.

KEYNOTE LEGEND

0202	EXISTING COLUMN, PREP AND PAINT, ALL EXPOSED SIDES, TYP.
0204	EXISTING FUME HOOD TO REMAIN, PROTECT DURING CONSTRUCTION ACTIVITIES.
0401	INFILL EXISTING MASONRY WALL. MATCH EXISTING BRICK MASONRY SIZE, PATTERN, AND TEXTURE. PAINT BOTH SIDES; TOOTH NEW MASONRY INTO EXISTING.
0403	PATCH RESULTANT HOLE IN EXISTING BRICK WALL AS REQUIRED BY REPLACING / PROVIDING NEW BRICK; MATCH EXISTING BRICK SIZE, PROFILE, AND TEXTURE; NEW BRICK TO BE TOOTHED INTO EXISTING; ASSUME TWO SQUARE FEET OF REPLACEMENT.
0601	LABORATORY CASEWORK STORAGE CABINET WITH ADJUSTABLE SHELVING
0611	OWNER PROVIDED CONTRACTOR INSTALLED 72" X 24" STEEL FRAME ADJUSTABLE HEIGHT TABLE WITH FOLD-AWAY HAND CRANK AND 1" EPOXY COUNTERTOP
0801	APPLY SUN CONTROL WINDOW FILM TO ENTIRE EXISTING INTERIOR WINDOW AREA; COLOR TO BE SELECTED BY ARCHITECT.
0901	RUBBER TRANSITION STRIP
0929	LINE OF CEILING ABOVE
0962	PROVIDE AND INSTALL NEW BASE TO MATCH EXISTING ALONG ENTIRE WALL
1010	PROVIDE AND INSTALL 12'W X 4' H MARKER BOARD & TRAY. MOUNT TOP OF MARKER TRY @ 32" AFF., PROVIDE SOLID BLOCKING IN WALL
1014	REINSTALL PANEL SIGNAGE PER ADA MOUNTING HEIGHT REQUIREMENTS. FILL HOLES WHERE PREVIOUSLY INSTALLED.
1015	PROVIDE AND INSTALL NEW PANEL SIGNAGE PER ADA MOUNTING HEIGHT REQUIREMENTS. MATCH EXISTING SIZE, FONT, AND COLOR.
1052	REINSTALL WALL MOUNTED FIRE EXTINGUISHER; SEE G102 FOR MOUNTING HEIGHT
1102	OWNER FURNISHED, CONTRACTOR INSTALLED TELEVISION AND MOUNTING BRACKET, PROVIDE REQUIRED BLOCKING. PROVIDE POWER AND DATA, SEE ELECTRICAL DRAWINGS.
1103	OWNER FURNISHED, OWNER INSTALLED DRYING OVEN. PROVIDE POWER, SEE ELECTRICAL DRAWINGS.
1104	OWNER FURNISHED, CONTRACTOR INSTALLED ICE MAKER. PROVIDE POWER AND PLUMBING, SEE ELECTRICAL AND PLUMBING DRAWINGS.
1132	OWNER PROVIDED CONTRACTOR INSTALLED UNDERCOUNTER REFRIGERATOR, SEE MECHANICAL AND ELECTRICAL
1201	STUDENT LABORATORY BENCH
1202	OWNER FURNISHED, OWNER INSTALLED UTILITY TABLE
1204	OWNER FURNISHED, OWNER INSTALLED STOOL, TYP.
1206	OWNER FURNISHED, OWNER INSTALLED CHEMICAL CABINET
1207	OWNER FURNISHED, OWNER INSTALLED SOLVENT CABINET
1230	ADA COMPLIANT EPOXY RESIN SINK, INSULATE EXPOSED PLUMBING AND SUPPLY LINES; SEE MECHANICAL
1232	EPOXY RESIN SHELF
1233	EPOXY RESIN SINK, INSULATE EXPOSED PLUMBING AND SUPPLY LINES; SEE MECHANICAL
2201	PROVIDE AND INSTALL EMERGENCY EYE WASH AND SHOWER; SEE MECHANICAL DRAWINGS
2202	PROVIDE AND INSTALL FLOOR DRAIN, SEE PLUMBING DRAWINGS
2301	PROVIDE UNIT PRICE FOR FUTURE OWNER FURNISHED, CONTRACTOR INSTALLED DUCTLESS FUME HOOD. PROVIDE POWER AND PLUMBING; SEE MECHANICAL, PLUMBING, AND ELECTRICAL
2304	OWNER FURNISHED, CONTRACTOR INSTALLED DUCTED FUME HOOD. PROVIDE POWER AND PLUMBING; SEE MECHANICAL, PLUMBING, AND ELECTRICAL
2305	OWNER FURNISHED, CONTRACTOR INSTALLED DUCTLESS FUME HOOD. PROVIDE POWER AND PLUMBING; SEE MECHANICAL, PLUMBING, AND ELECTRICAL
2602	PEDESTAL OUTLET; SEE ELECTRICAL

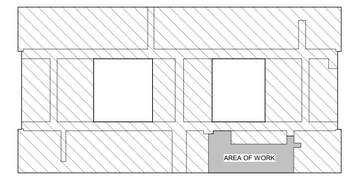
ALT NO. 1 - KEYNOTE LEGEND

0212	ALTERNATE NO. 1 - EXISTING COLUMN, PREP AND PAINT, ALL EXPOSED SIDES, TYP.
0613	ALTERNATE NO. 1 - OWNER PROVIDED CONTRACTOR INSTALLED 72" X 24" STEEL FRAME ADJUSTABLE HEIGHT TABLE WITH FOLD-AWAY HAND CRANK AND 1" EPOXY COUNTERTOP
0803	ALTERNATE NO. 1 - APPLY SUN CONTROL WINDOW FILM TO ENTIRE EXISTING INTERIOR WINDOW AREA; COLOR TO BE SELECTED BY ARCHITECT.
0921	ALTERNATE NO. 1 - RUBBER TRANSITION STRIP
1012	ALTERNATE NO. 1 - PROVIDE AND INSTALL 12'W X 4' H MARKER BOARD & TRAY. MOUNT TOP OF MARKER TRY @ 32" AFF.
1016	ALTERNATE NO. 1 - REINSTALL PANEL SIGNAGE PER ADA MOUNTING HEIGHT REQUIREMENTS. FILL HOLES WHERE PREVIOUSLY INSTALLED.
1053	ALTERNATE NO. 1 - REINSTALL WALL MOUNTED FIRE EXTINGUISHER; SEE G102 FOR MOUNTING HEIGHT
1105	ALTERNATE NO. 1 - OWNER FURNISHED, CONTRACTOR INSTALLED TELEVISION AND MOUNTING BRACKET, PROVIDE REQUIRED BLOCKING. PROVIDE POWER AND DATA, SEE ELECTRICAL DRAWINGS.
1209	ALTERNATE NO. 1 - STUDENT LABORATORY BENCH
1210	ALTERNATE NO. 1 - OWNER FURNISHED, OWNER INSTALLED STOOL, TYP.
1211	ALTERNATE NO. 1 - OWNER FURNISHED, OWNER INSTALLED UTILITY TABLE
1234	ALTERNATE NO. 1 - ADA COMPLIANT EPOXY RESIN SINK, INSULATE EXPOSED PLUMBING AND SUPPLY LINES; SEE MECHANICAL
1235	ALTERNATE NO. 1 - EPOXY RESIN SINK, INSULATE EXPOSED PLUMBING AND SUPPLY LINES; SEE MECHANICAL
1236	ALTERNATE NO. 1 - EPOXY RESIN SHELF
2203	ALTERNATE NO. 1 - PROVIDE AND INSTALL FLOOR DRAIN; SEE PLUMBING DRAWINGS, LOCATE FLOOR DRAIN DIRECTLY BELOW SHOWER HEAD, VIF.
2204	ALTERNATE NO. 1 - PROVIDE AND INSTALL EMERGENCY EYE WASH AND SHOWER; SEE MECHANICAL DRAWINGS
2205	ALTERNATE NO. 1 - CONCEAL EXISTING PIPING WITHIN NEW WALL
2207	ALTERNATE NO. 1 - PROVIDE AND INSTALL EMERGENCY EYE WASH AND SHOWER; SEE MECHANICAL DRAWINGS
2208	ALTERNATE NO. 1 - PROVIDE AND INSTALL FLOOR DRAIN; SEE PLUMBING DRAWINGS
2604	ALTERNATE NO. 1 - PEDESTAL QUAD OUTLET; SEE ELECTRICAL

FURNISHED ITEMS

ITEM	FURNISHED / INSTALLED
FUME HOODS	OWNER FURNISHED / CONTRACTOR INSTALLED
TV'S & MOUNTING BRACKETS	OWNER FURNISHED / CONTRACTOR INSTALLED
MARKER BOARD	CONTRACTOR FURNISHED / CONTRACTOR INSTALLED
ICE MAKER	OWNER FURNISHED / CONTRACTOR INSTALLED
UNDER COUNTER REFRIGERATOR	OWNER FURNISHED / CONTRACTOR INSTALLED
PAPER TOWEL DISPENSER	OWNER FURNISHED / CONTRACTOR INSTALLED
SOAP DISPENSER	OWNER FURNISHED / CONTRACTOR INSTALLED
OVEN	OWNER FURNISHED / OWNER INSTALLED
OVEN TABLE	OWNER FURNISHED / OWNER INSTALLED
FTIR TABLE	OWNER FURNISHED / OWNER INSTALLED
TA DESK	OWNER FURNISHED / OWNER INSTALLED
CARBOY STORAGE TABLE	OWNER FURNISHED / OWNER INSTALLED
STORAGE 1008-A TABLE	OWNER FURNISHED / OWNER INSTALLED
CHEMICAL CABINETS	OWNER FURNISHED / OWNER INSTALLED
SOLVENT CABINETS	OWNER FURNISHED / OWNER INSTALLED
STOOLS	OWNER FURNISHED / OWNER INSTALLED
ADJUSTABLE HEIGHT BENCH	OWNER FURNISHED / OWNER INSTALLED

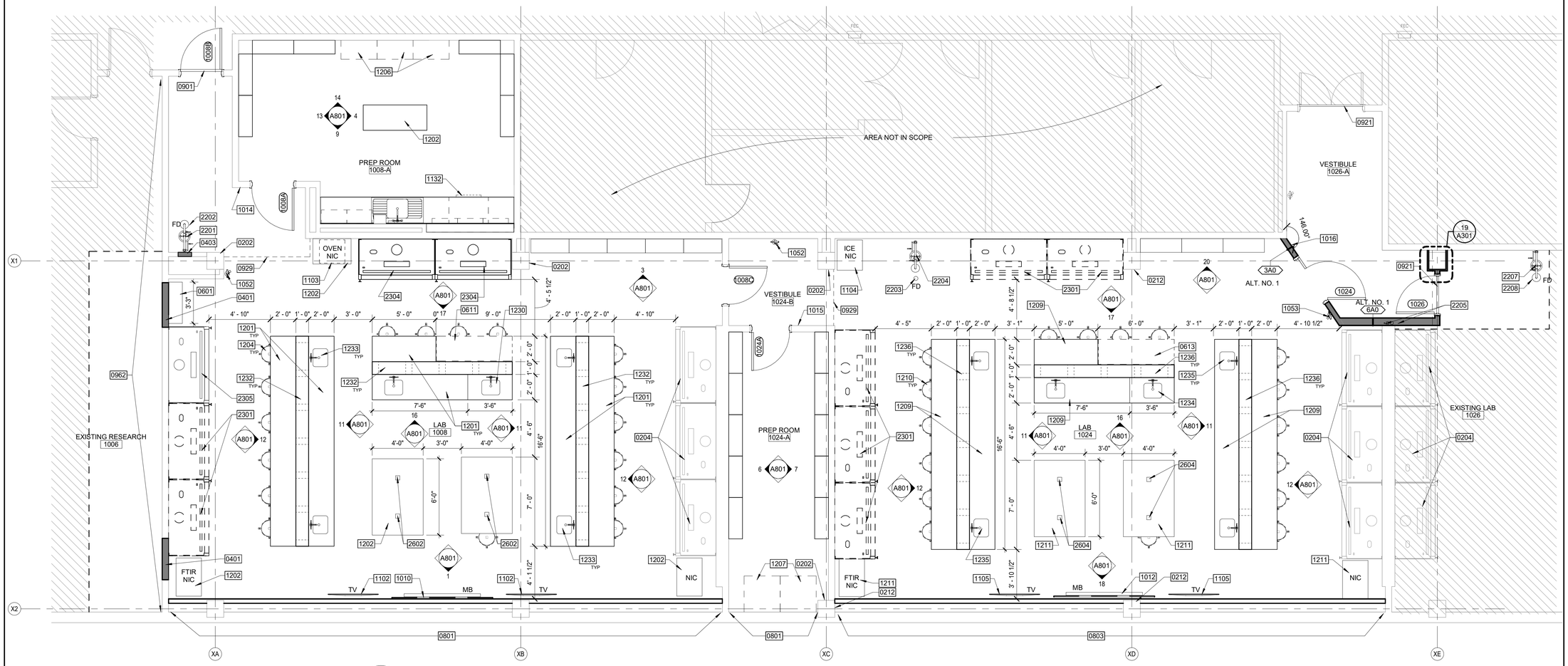
KEY PLAN



LEGEND

NO WORK IN THIS AREA UNLESS NOTED OTHERWISE

INFILL WALL, MATCH EXISTING ADJACENT WALL CONSTRUCTION



16 PARTIAL FLOOR PLAN
1/4" = 1'-0"

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KEVIN J. MORRIS No. 5598 STATE OF LOUISIANA REGISTERED ARCHITECT

NO.	DESCRIPTION	DATE

PROJECT NO.	21006
PHASE	CD
DATE	08.12.21
PROJECT MANAGER	CMB
QUALITY CONTROL	RS

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A201

FLOOR PLAN

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GENERAL NOTES

1. THE EXISTING PLAN IS DOCUMENTED ON THE DRAWINGS IN ACCORDANCE WITH A LIMITED NUMBER OF AVAILABLE ORIGINAL CONSTRUCTION DRAWINGS AND FIELD INVESTIGATIONS. VARIANCE OF ACTUAL EXISTING CONDITIONS FROM THOSE ILLUSTRATED ON THESE DOCUMENTS MAY OCCUR. THE GENERAL CONTRACTOR SHALL VERIFY EXISTING CONDITIONS PRIOR TO COMMENCING WORK AND REPORT ANY AND ALL DISCREPANCIES TO THE ARCHITECT.
2. PAINT ALL DOOR FRAMES TO MATCH EXISTING COLOR.
3. DOOR & FRAME SIZES INDICATED ARE BASED ON LIMITED INFORMATION. VERIFY ALL DIMENSIONS BEFORE FABRICATION.
4. PREP AND PAINT ALL INTERIOR WALL AND CEILING SURFACES, UNLESS NOTED OTHERWISE. PREP AND PAINT ALL CEILING HUNG DUCT, PIPING, AND SUPPORTS. SEE ROOM FINISH SCHEDULE FOR ALL WALL, FLOOR, AND CEILING FINISHES.
5. REPAIR AND REPAINT WALL AT ALL LOCATIONS WHERE FIXTURES / CASEWORK / MILLWORK WAS REMOVED PRIOR TO REPLACING SAID ITEM.

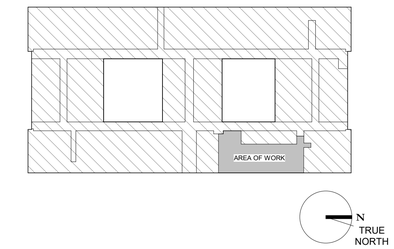
KEYNOTE LEGEND

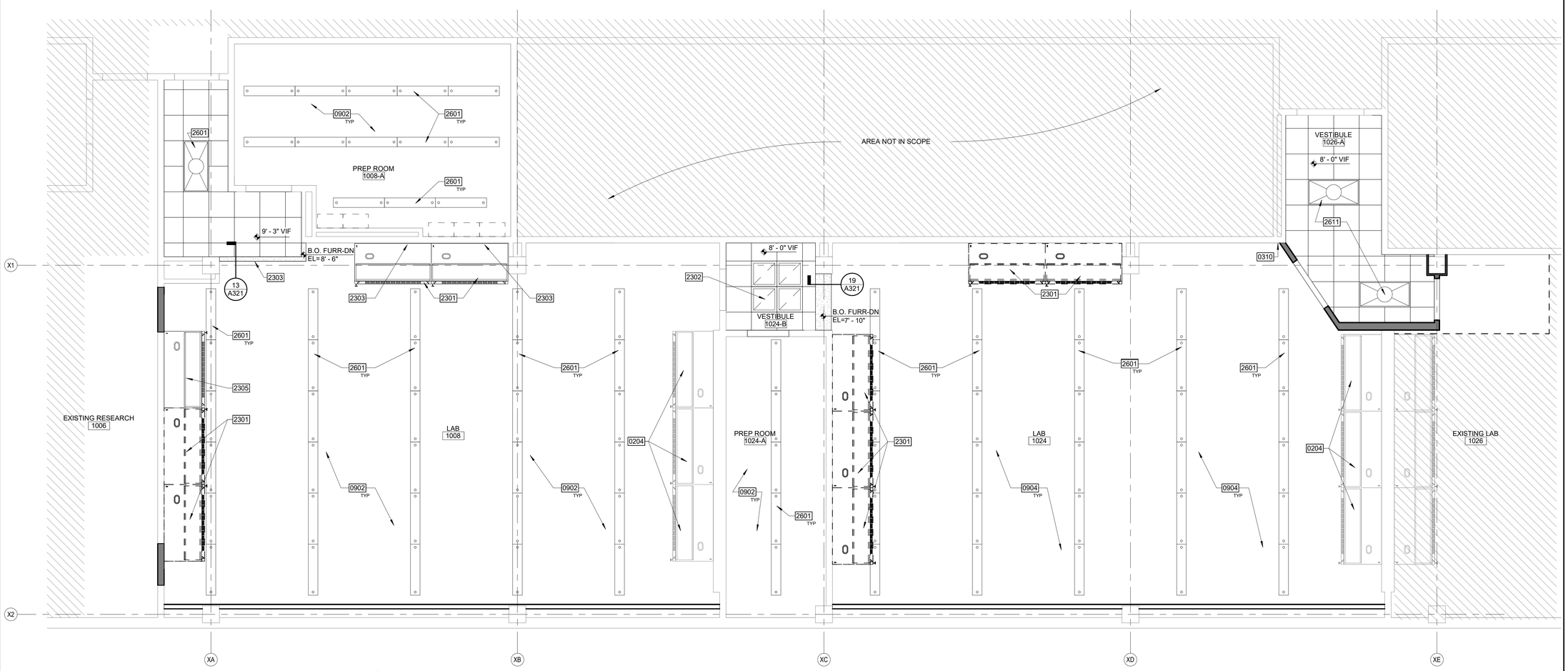
0204 EXISTING FUME HOOD TO REMAIN, PROTECT DURING CONSTRUCTION ACTIVITIES.
0310 PATCH PORTION OF DAMAGED CEILING ABOVE
0902 CLEAN, PREP, AND PAINT ALL EXPOSED CEILING SURFACES, STRUCTURE, CONDUIT, AND PIPING.
2301 PROVIDE UNIT PRICE FOR FUTURE OWNER FURNISHED, CONTRACTOR INSTALLED DUCTLESS FUME HOOD. PROVIDE POWER AND PLUMBING; SEE MECHANICAL, PLUMBING, AND ELECTRICAL
2302 RETURN AIR GRILLES; SEE MECHANICAL
2303 SIDEWALL REGISTER, TYP.; SEE MECHANICAL
2305 OWNER FURNISHED, CONTRACTOR INSTALLED DUCTLESS FUME HOOD. PROVIDE POWER AND PLUMBING; SEE MECHANICAL, PLUMBING, AND ELECTRICAL
2601 LIGHT FIXTURE; SEE: ELECTRICAL

ALT NO. 1 - KEYNOTE LEGEND

0904 ALTERNATE NO. 1 - CLEAN, PREP, AND PAINT ALL EXPOSED CEILING SURFACES, STRUCTURE, CONDUIT, AND PIPING.
2611 ALTERNATE NO. 1 - LIGHT FIXTURE; SEE: ELECTRICAL

KEY PLAN





16 PARTIAL - REFLECTED CEILING PLAN
1/4" = 1'-0"
0 4' 8'

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KEVIN J. MORRIS NO. 5598 STATE OF LOUISIANA REGISTERED ARCHITECT

NO.	DESCRIPTION	DATE

PROJECT NO.	21006
PHASE	CD
DATE	08.12.21
PROJECT MANAGER	CMB
QUALITY CONTROL	RS

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REFLECTED CEILING PLAN

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ROOM SCHEDULE

ROOM #	ROOM NAME	FLOOR FINISH	BASE FINISH	WALL FINISH - NORTH	WALL FINISH - SOUTH	WALL FINISH - EAST	WALL FINISH - WEST	CEILING FINISH	COMMENTS
1006	EXISTING RESEARCH	EXISTING TO REMAIN	EXISTING TO REMAIN / NEW COVE TO MATCH EXISTING	PAINT EXISTING BRICK	EXISTING TO REMAIN	EXISTING TO REMAIN	EXISTING TO REMAIN	EXISTING TO REMAIN	
1008	LAB	ACRYLIC WATER BASED FLOOR COATING	RESILENT BASE	PAINT EXISTING BRICK	PAINT EXISTING BRICK	PTD GYP BD	PAINT EXISTING BRICK	PAINT EXISTING EXPOSED STRUCTURE / ACT (VINYL)	ALTERNATE NO. 2 - INSTALL OWNER PROVIDED RUBBER FLOORING IN LIEU OF ACRYLIC WATER BASED FLOOR COATING; PREP EXISTING CONCRETE FLOOR AS SUGGESTED BY MANUFACTURER
1008-A	PREP ROOM	ACRYLIC WATER BASED FLOOR COATING	RESILENT BASE	PAINT EXISTING GYP BD	PAINT EXISTING BRICK	PAINT EXISTING BRICK	PAINT EXISTING BRICK	PAINT EXISTING EXPOSED STRUCTURE	ALTERNATE NO. 2 - INSTALL OWNER PROVIDED RUBBER FLOORING IN LIEU OF ACRYLIC WATER BASED FLOOR COATING; PREP EXISTING CONCRETE FLOOR AS SUGGESTED BY MANUFACTURER
1024-A	PREP ROOM	ACRYLIC WATER BASED FLOOR COATING	RESILENT BASE	PAINT EXISTING BRICK	PAINT EXISTING BRICK	PAINT EXISTING BRICK	PAINT EXISTING BRICK	PAINT EXISTING EXPOSED STRUCTURE	ALTERNATE NO. 2 - INSTALL OWNER PROVIDED RUBBER FLOORING IN LIEU OF ACRYLIC WATER BASED FLOOR COATING; PREP EXISTING CONCRETE FLOOR AS SUGGESTED BY MANUFACTURER
1024-B	VESTIBULE	ACRYLIC WATER BASED FLOOR COATING	RESILENT BASE	PAINT EXISTING BRICK	PAINT EXISTING BRICK	PAINT EXISTING BRICK	PAINT EXISTING BRICK	ACT (VINYL)	ALTERNATE NO. 2 - INSTALL OWNER PROVIDED RUBBER FLOORING IN LIEU OF ACRYLIC WATER BASED FLOOR COATING; PREP EXISTING CONCRETE FLOOR AS SUGGESTED BY MANUFACTURER

ALTERNATE NO. 1 - ROOM SCHEDULE

ROOM #	ROOM NAME	FLOOR FINISH	BASE FINISH	WALL FINISH - NORTH	WALL FINISH - SOUTH	WALL FINISH - EAST	WALL FINISH - WEST	CEILING FINISH	COMMENTS
1024	LAB	ACRYLIC WATER BASED FLOOR COATING	RESILENT BASE	PAINT EXISTING BRICK / PTD GYP BD	PAINT EXISTING BRICK	PAINT EXISTING BRICK / PTD GYP BD	PAINT EXISTING BRICK / PTD GYP BD	PAINT EXISTING EXPOSED STRUCTURE	ALTERNATE NO. 2 - INSTALL OWNER PROVIDED RUBBER FLOORING IN LIEU OFACRYLIC WATER BASED FLOOR COATING; PREP EXISTING CONCRETE FLOOR AS SUGGESTED BY MANUFACTURER
1026-A	VESTIBULE	ACRYLIC WATER BASED FLOOR COATING	RESILENT BASE	PAINT EXISTING BRICK	PAINT EXISTING BRICK / PTD GYP BD	PAINT EXISTING BRICK / PTD GYP BD	PAINT EXISTING BRICK	ACT (VINYL)	ALTERNATE NO. 2 - INSTALL OWNER PROVIDED RUBBER FLOORING IN LIEU OFACRYLIC WATER BASED FLOOR COATING; PREP EXISTING CONCRETE FLOOR AS SUGGESTED BY MANUFACTURER

DOOR SCHEDULE

DOOR #	ROOM NAME	DOOR WIDTH	DOOR HEIGHT	DOOR THICKNESS	DOOR TYPE	DOOR MATERIAL	FRAME TYPE	FRAME MATERIAL	HARDWARE SET	FIRE RATING	COMMENTS
1008A	PREP ROOM	3' - 4" VIF	6' - 10" VIF	0' - 1 3/4"	D-2	SCW	F-1	HOLLOW METAL (PAINTED)	HW-02	45 MIN	MATCH EXISTING WD VENEER SPECIES / 3/4" FIRE RATED GLAZING - 45 MINUTES
1008B	LAB	3' - 3" VIF	6' - 10" VIF	0' - 1 3/4" VIF	D-1	SCW	EXISTING	EXISTING HOLLOW METAL (PAINTED)	HW-01	-	MATCH EXISTING WD VENEER SPECIES
1008C	VESTIBULE	3' - 0" VIF	6' - 10" VIF	0' - 1 3/4"	D-2	SCW	F-1	HOLLOW METAL (PAINTED)	HW-03	-	MATCH EXISTING WD VENEER SPECIES
1024A	PREP ROOM	3' - 0" VIF	6' - 10" VIF	0' - 1 3/4"	D-3	SCW	F-1	HOLLOW METAL (PAINTED)	HW-02	45 MIN	MATCH EXISTING WD VENEER SPECIES

GENERAL NOTES

1. VERIFY ALL DIMENSIONS IN FIELD.
2. DIMENSIONS ARE TO ROUGH OPENING, UNO.
3. SEE SPECIFICATIONS FOR FRAMING & SEALANT TYPES & COLOR.
4. SEE DOOR SCHEDULE FOR ADDITIONAL INFORMATION.
5. WINDOWS ARE SHOWN AS VIEWED FROM THE EXTERIOR.

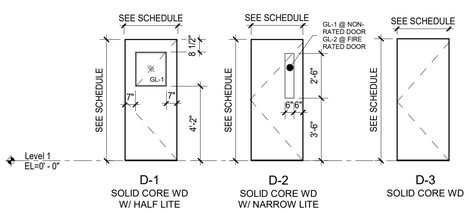
ALTERNATE NO. 1 - DOOR SCHEDULE

DOOR #	ROOM NAME	DOOR WIDTH	DOOR HEIGHT	DOOR THICKNESS	DOOR TYPE	DOOR MATERIAL	FRAME TYPE	FRAME MATERIAL	HARDWARE SET	FIRE RATING	COMMENTS
1024	LAB	4' - 0"	6' - 10"	0' - 1 3/4"	D-1 / D-3	SCW	F-2	HOLLOW METAL (PAINTED)	HW-04	-	(1) 3'-0" DOOR (D-1 DOOR TYPE) AND (1) 1'-0" DOOR (D-3 DOOR TYPE), MATCH EXISTING WD VENEER SPECIES
1026	EXISTING LAB	3' - 0"	6' - 10"	0' - 1 3/4"	D-1	SCW	F-1	HOLLOW METAL (PAINTED)	HW-01	-	MATCH EXISTING WD VENEER SPECIES

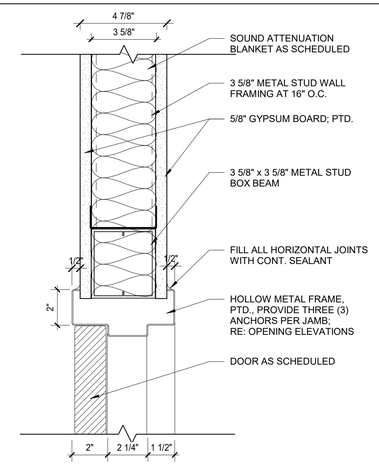
GLAZING TYPE

GL - 1 1/4" TEMPERED GLAZING

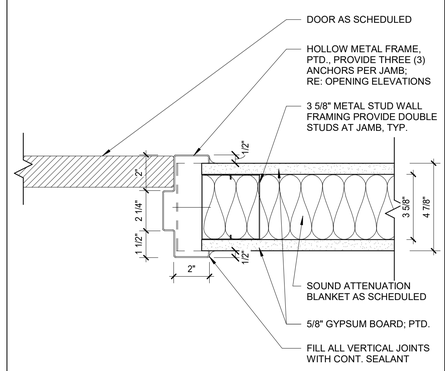
GL - 2 3/4" FIRE RATED GLAZING - 45 MINUTES



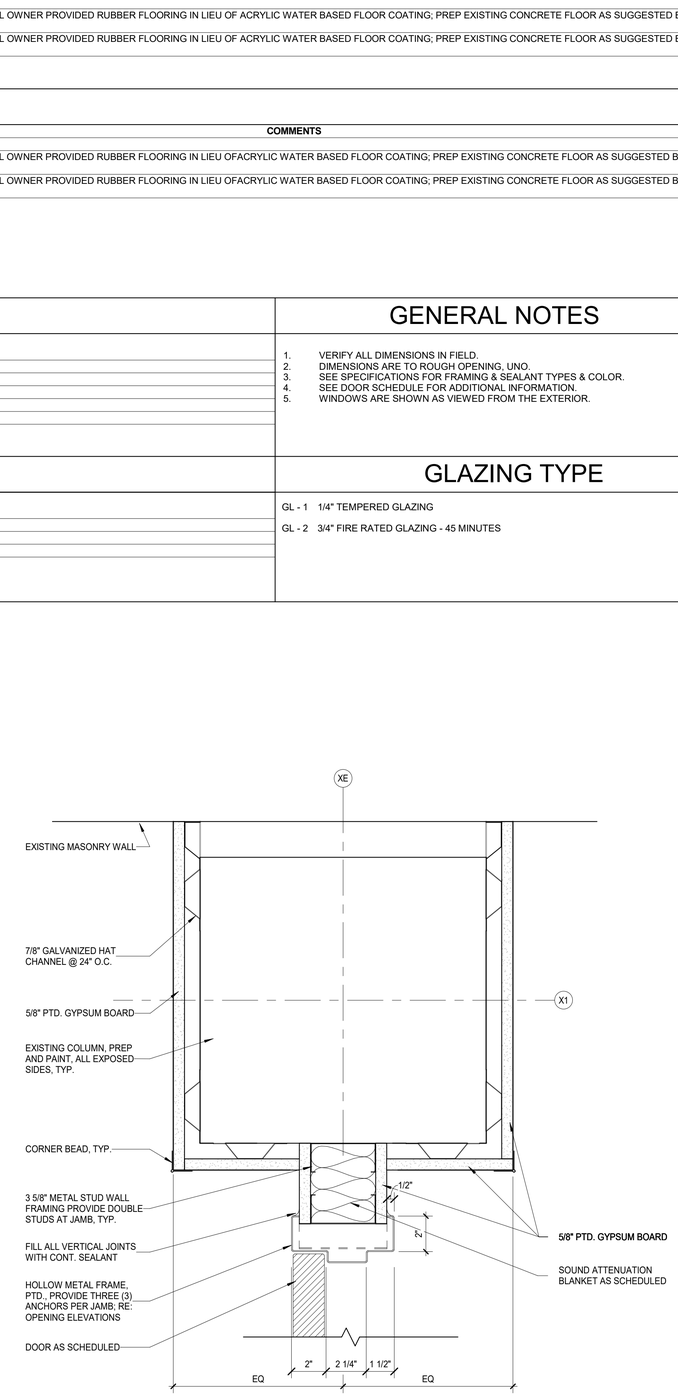
11 DOOR TYPES
1/4" = 1'-0"

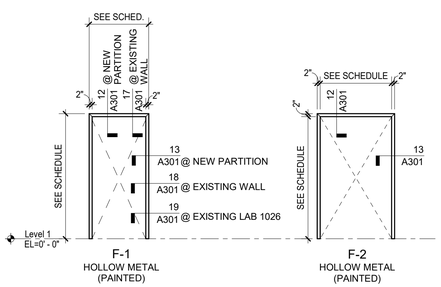


12 ALT. NO. 1 - HM HEAD IN GYP BD
3" = 1'-0"

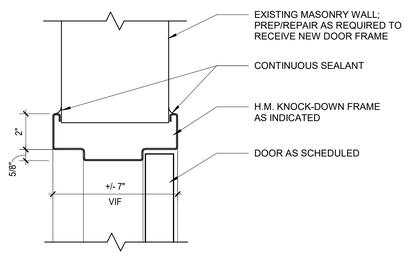


13 ALT. NO. 1 - HM JAMB IN GYP BD
3" = 1'-0"

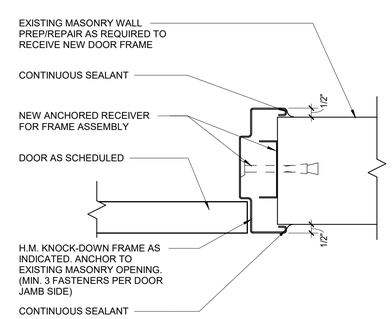




16 FRAME TYPES
1/4" = 1'-0"



17 HEAD DETAIL IN EXISTING WALL
3" = 1'-0"



18 JAMB DETAIL IN EXISTING WALL
3" = 1'-0"

19 ALT. NO. 1 - HM JAMB AT LAB 1026
3" = 1'-0"

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2000 LAKESHORE DRIVE, NEW ORLEANS, LA 70148

KEVIN J. MORRIS NO. 5598 STATE OF LOUISIANA REGISTERED ARCHITECT

NO.	DESCRIPTION	DATE

PROJECT NO.	21006
PHASE	CD
DATE	08.12.21
PROJECT MANAGER	CMB
QUALITY CONTROL	RS

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BID ISSUE

A301
RM FINISH SCHED. / WINDOW & DOOR SCHED. / DOOR & FRAME TYPES / OPENING ELEVATIONS

H/S

8/9/2021 11:30:41 AM
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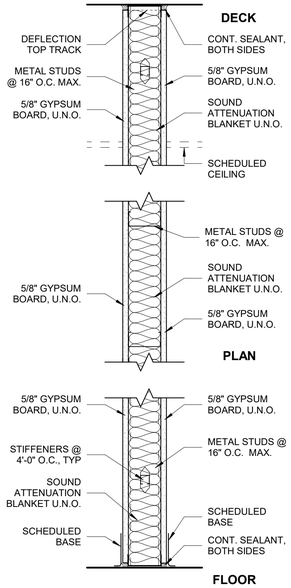
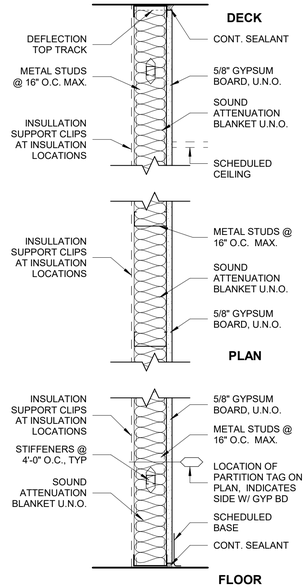


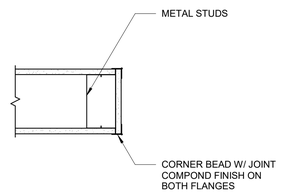
METAL STUD PARTITION

TYPE	PARTITION WIDTH	UL#	STC	DESCRIPTION
3A0	4 7/8"	N/A	N/A	
3A1	4 7/8"	U419	45	
6A0	7 1/4"	N/A	N/A	
6A1	7 1/4"	N/A	N/A	

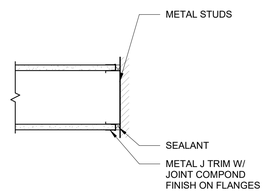


METAL STUD PARTITION

TYPE	PARTITION WIDTH	UL#	STC	DESCRIPTION
3C0	4 1/4"	N/A	N/A	
6C0	6 5/8"	N/A		



3 PARTITION END DETAIL
1 1/2" = 1'-0"



8 PERIMETER RELIEF DETAIL
1 1/2" = 1'-0"

GENERAL NOTES

1. ALL NON LOAD BEARING INTERIOR METAL STUDS SHALL BE SPACED AT 16" O.C. U.N.O. ON PLANS (GAUGE AS SPECIFIED IN SECTION 09 22 16 U.N.O.)
2. ALL NON LOAD BEARING INTERIOR METAL WALL FRAMING SHALL BE INSTALLED WITH A DEFLECTION CRITERIA OF L/240, UNLESS OTHERWISE NOTED OR REQUIRED BY THE SPECIFICATIONS.
3. WHERE AN ADDITIONAL INTERIOR WALL FINISH IS APPLIED TO THE BASE PARTITION SUCH AS TILE, VENEERS, WOOD PANELING, OR SIMILAR; ALL INTERIOR NON LOAD BEARING METAL WALL FRAMING SHALL BE INSTALLED WITH A DEFLECTION CRITERIA OF L/360, UNLESS OTHERWISE NOTED OR REQUIRED BY THE SPECIFICATIONS.
4. LIMITING HEIGHTS OF INTERIOR NON LOAD BEARING FRAMING SHALL BE PER THE MANUFACTURERS SPAN TABLES BASED ON THE FOLLOWING CRITERIA OUTLINED IN THIS SET OF DRAWINGS AND THE PROJECT MANUAL: HORIZONTAL LOADING, STUD DEPTH, STUD SPACING, AND DEFLECTION CRITERIA.
5. FRAME OPENINGS IN STUD PARTITIONS TO ACCOMMODATE THRU-WALL DUCT PENETRATIONS. SEAL PENETRATIONS TIGHT TO THE DUCT INSULATION WITH ACOUSTICAL SEALANT ON BOTH SIDES. INFILL ANNULAR SPACE CAVITY BETWEEN DUCT INSULATION AND STUD FRAMING FULLY WITH MEDIUM DENSITY MINERAL W/OOL PACKING MATERIAL AND BACKER ROD AT ENDS TO ACCEPT ACOUSTICAL SEALANT. ANNULAR SPACE BETWEEN STUDS AND DUCT INSULATION SHALL BE 1" OR LESS.
6. FRAME OPENINGS IN CMU PARTITIONS TO ACCOMMODATE THRU-WALL DUCT PENETRATIONS. PROVIDE A 4" WIDE GYPSUM BOARD COVER PLATE SECURED IN A SEALANT BED ON BOTH SIDES OF WALL PRESSED INTO DUCT INSULATION. SEAL PENETRATIONS TIGHT TO THE DUCT INSULATION & COVER PLATE WITH ACOUSTICAL SEALANT ON BOTH SIDES. INFILL ANNULAR SPACE CAVITY BETWEEN DUCT INSULATION AND CMU FULLY WITH MEDIUM DENSITY MINERAL WOOL PACKING MATERIAL. ANNULAR SPACE BETWEEN CMU AND DUCT INSULATION SHALL BE 1" OR LESS.
7. ALL ELECTRICAL CABLE THRU-WALL PENETRATIONS NOT IN CONDUITS SHALL BE SEALED WITH AN ACOUSTICAL SLEEVE PROVIDED BY HILTI, STI, OR EQUAL.
8. ALL PIPE, SLEEVE, AND CONDUIT THRU-WALL PENETRATIONS SHALL BE SEALED TIGHT WITH ACOUSTICAL SEALANT ON BOTH SIDES. IF MORE THAN 1/2", INFILL ANNULAR SPACE CAVITY BETWEEN PIPE, SLEEVE, OR CONDUIT AND WALL FULLY WITH MEDIUM DENSITY MINERAL WOOL PACKING MATERIAL AND BACKER ROD AT ENDS TO ACCEPT ACOUSTICAL SEALANT. ANNULAR SPACE BETWEEN WALL AND PIPE, SLEEVE, OR CONDUIT SHALL BE 1" OR LESS.
9. SEE REFLECTED CEILING PLANS AND CEILING DETAILS FOR SPECIFIC CEILING TYPE, CONSTRUCTION, AND RELATIONSHIP TO PARTITIONS. WHERE CEILINGS DO NOT OCCUR, GYPSUM BOARD SHALL EXTEND TO THE STRUCTURE ABOVE AND SHALL BE FINISHED, TAPED, FLOATED AND PAINTED.
10. PROVIDE WOOD TREATED BLOCKING OR SHEET METAL STRAPPING IN PARTITIONS FOR WALL MOUNTED EQUIPMENT, ACCESSORIES, ETC, AS INDICATED. SEE CONSTRUCTION PLAN(S) AND/OR INTERIOR ELEVATIONS FOR LOCATIONS.
11. ALL COMPONENTS OF FIRE RATED, SMOKE BARRIER OR SMOKE PARTITION SYSTEMS SHALL EXTEND FROM FLOOR TO THE STRUCTURE ABOVE. ALL RATED PARTITIONS SHALL BE IDENTIFIED AS SUCH WITH LABELING / STENCILING PER NFPA, LOCATED ABOVE THE CEILING AT 8'-0" O.C.
12. AT THE INTERSECTION OF PARTITIONS, THE HIGHEST RATED PARTITION SHALL REMAIN CONTINUOUS.
13. WHERE DIAGONAL BRACING OCCURS, STUDS ARE TO BE CUT AND INFILLED BETWEEN STEEL FRAMING (ABOVE AND BELOW) MAX STUD SPACING 16" O.C. COORDINATE ALL MEP ROUTING WITH DIAGONAL BRACING.
14. PROVIDE CONTINUOUS FIRE CAULKING AT TOP AND BOTTOM OF PARTITION WHERE PARTITION HAS AN UNDERWRITERS LABORATORY (UL) RATING LISTING. WHERE PARTITIONS ARE LISTED WITH BOTH A FIRE RATING AND AN ACOUSTICAL RATING, THE FIRE RATING TAKES PRECEDENCE.
15. PROVIDE CONTINUOUS ACOUSTIC SEALANT AT TOP AND BOTTOM OF PARTITION WHERE PARTITION HAS A SOUND TRANSMISSION COEFFICIENT (STC) RATING LISTED.
16. PROVIDE A CONTINUOUS BEAD OF ACOUSTICAL SEALANT WHERE THE GYPSUM BOARD MEETS THE TOP OR BOTTOM OF THE FLOOR SLAB AT BOTH SIDES OF ALL METAL STUD WALLS. FILL ENTIRE CAVITY WITH SOUND BATTS WHERE SOUND ATTENUATION BLANKETS ARE REQURIED.
17. THE CONTRACTOR SHALL COORDINATE ALL SCHEDULED FINISHES WITH PARTITION LAYOUTS AND REQUIRED CLEARANCES.
18. PARTITION TYPE INDICATIONS ARE INDEPENDENT OF APPLIED FINISHES. SEE FINISH SCHEDULE, FINISH PLANS, AND/OR INTERIOR ELEVATIONS FOR ADDITIONAL INFORMATION REGARDING APPLIED FINISHES.
19. USE OF EQUIVALENT STEEL STUDS MAY BE ACCEPTABLE. CONTRACTOR MUST SUBMIT SUBSTITUTION REQUEST FORM WITH ALL DOCUMENTATION NECESSARY TO CONFIRM THAT THE EQUIVALENT MINIMUM BASE METAL THICKNESS IS ACHIEVED.
20. SEE THIS SHEET FOR STANDARD PARTITION DETAILS. ALL STANDARD DETAILS SHOWN MAY NOT BE PRESENT ON THIS PROJECT. THE CONTRACTOR SHALL REPORT ANY DISCREPANCIES BETWEEN THESE DETAILS AND THE ACTUAL FIELD CONDITIONS TO THE ARCHITECT.

PARTITION LEGEND

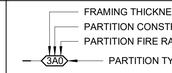


TABLE A - FRAMING THICKNESS (ACTUAL)

CHARACTER	MTL STUD DEPTH	MTL CH STUD DEPTH	WOOD STUD DEPTH	CMU WIDTH
0	7/8" FURRING CHANNEL		-	-
1	[1 5/8" OR 1 1/2" FURRING CHANNEL]		-	-
2	2 1/2"	2 1/2"	-	-
3	3 5/8"	-	-	-
4	4"	4"	3 1/2"	3 5/8"
6	6"	6"	5 1/2"	5 5/8"
8	8"	-	7 1/4"	7 5/8"

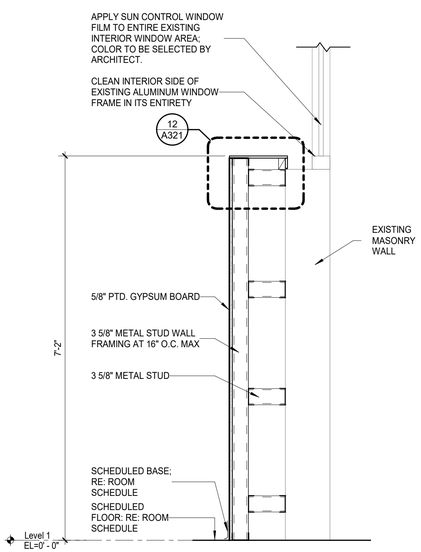
SEE STRUCTURAL DRAWINGS FOR CONCRETE WALL THICKNESS.

TABLE B - PARTITION CONSTRUCTION

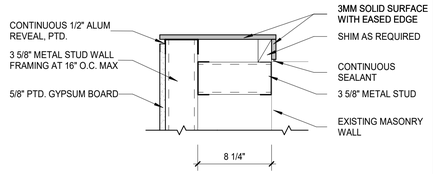
CHARACTER	FINISH / FINISH HEIGHT	FRAMING MEMBER	FINISH / FINISH HEIGHT	SOUND ATTENUATION
A	1-LAYER GYP. BD. / EXTEND TO DECK	METAL C-STUD TO DECK	1-LAYER GYP. BD. / EXTEND TO DECK	BATT
B	1-LAYER GYP. BD. / EXTEND 6" ABOVE CLG.	METAL C-STUD TO DECK	1-LAYER GYP. BD. / EXTEND 6" ABOVE CLG.	BATT
C	NO FINISH	METAL C-STUD TO DECK	1-LAYER GYP. BD. / EXTEND TO DECK	BATT
D	NO FINISH	METAL C-STUD TO DECK	1-LAYER GYP. BD. / EXTEND 6" ABOVE CLG.	BATT
E	1-LAYER GYP. BD. / EXTEND TO DECK	METAL C-STUD TO DECK	1-LAYER GYP. BD. / EXTEND TO DECK ON 1/2" RESIL. CHANNEL	BATT
F	1-LAYER GYP. BD. / EXTEND 6" ABOVE CLG.	METAL C-STUD TO DECK	1-LAYER GYP. BD. / EXTEND 6" ABOVE CLG. ON 1/2" RESIL. CHANNEL	BATT
G	1-LAYER GYP. BD. / EXTEND TO CLG.	METAL C-STUD TO CLG.	1-LAYER GYP. BD. / EXTEND TO CLG.	BATT
H	1-LAYER SHAFT LINER / EXTEND TO DECK	METAL CH-STUD TO DECK	1-LAYER GYP. BD. / EXTEND TO DECK	BATT
J	NO FINISH	CMU TO DECK	NO FINISH	-
K	NO FINISH	CMU TO DECK	1-LAYER GYP. BD. / EXTEND 6" ABOVE CLG. ON 7/8" MTL. HAT	-
L	NO FINISH	CMU TO DECK	1-LAYER GYP. BD. / EXTEND 6" ABOVE CLG. ON 1 1/2" MTL. STUD	-
M	NO FINISH	EXISTING	1-LAYER GYP. BD. / EXTEND 6" ABOVE CLG. ON 7/8" MTL. HAT	-
N	1-LAYER GYP. BD. / EXTEND TO DECK	WOOD STUD TO DECK	1-LAYER GYP. BD. / EXTEND TO DECK	BATT
P	1-LAYER GYP. BD. / EXTEND 6" ABOVE CLG.	WOOD STUD TO DECK	1-LAYER GYP. BD. / EXTEND 6" ABOVE CLG.	BATT
Q	NO FINISH	WOOD STUD TO DECK	1-LAYER GYP. BD. / EXTEND TO DECK	BATT
R	NO FINISH	WOOD STUD TO DECK	1-LAYER GYP. BD. / EXTEND 6" ABOVE CLG.	BATT

TABLE C - FIRE RATING

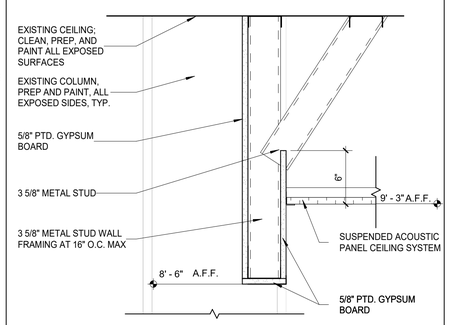
CHARACTER	RATING
0	NOT RATED
S	SMOKE PARTITION
1	1 HOUR RATED
2	2 HOUR RATED
3	3 HOUR RATED



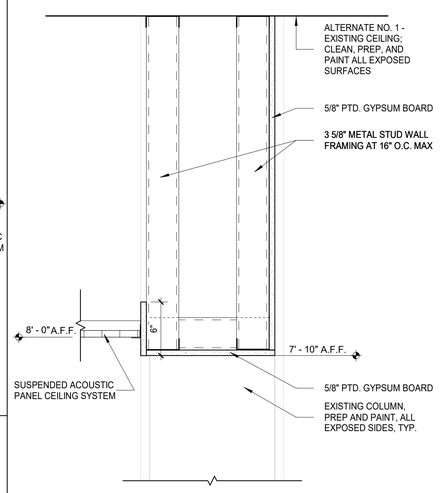
16 TEACHING WALL PARTITION
3/4" = 1'-0"



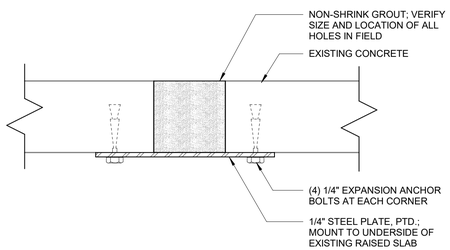
12 TOP OF TEACHING WALL
1 1/2" = 1'-0"



13 FURR-DOWN DETAIL
1 1/2" = 1'-0"



19 FURR-DOWN DETAIL
1 1/2" = 1'-0"



17 RAISED SLAB INFILL DETAIL
3" = 1'-0"

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KEVIN J. MORRIS No. 5598 STATE OF LOUISIANA REGISTERED ARCHITECT

NO.	DESCRIPTION	DATE

PROJECT NO.	21006
PHASE	CD
DATE	08.12.21
PROJECT MANAGER	CMB
QUALITY CONTROL	RS

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BID ISSUE

A321

PARTITION TYPES & DETAILS, SECTION DETAILS

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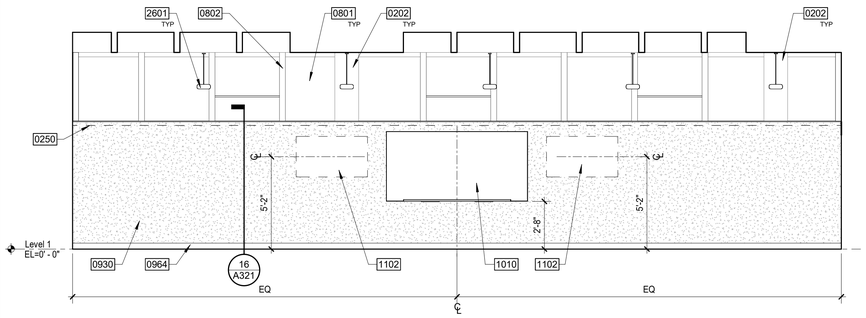
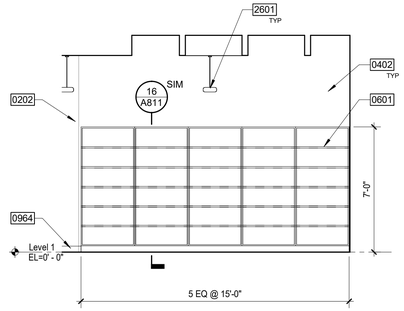
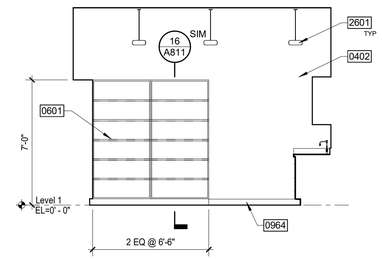


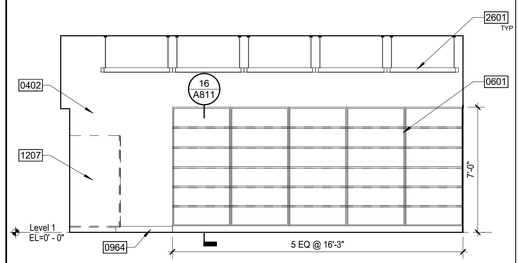
1 LAB 1008 - EAST ELEVATION
1/4" = 1'-0"



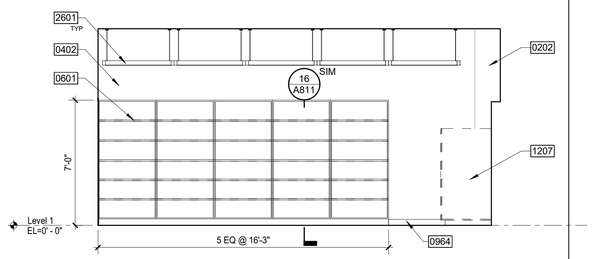
3 LAB 1008 - PARTIAL WEST ELEVATION
1/4" = 1'-0"



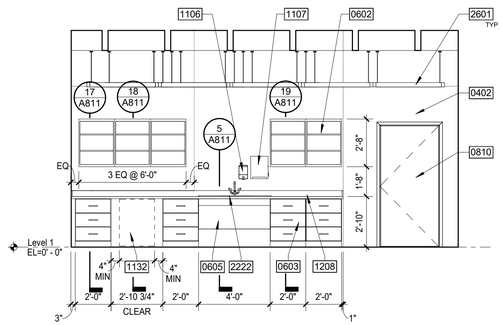
4 PREP RM 1008-A NORTH ELEVATION
1/4" = 1'-0"



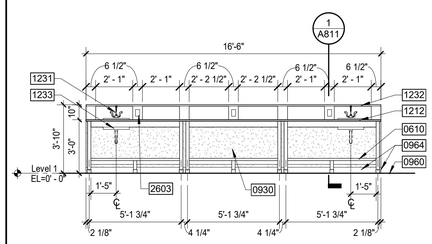
6 PREP ROOM 1024-A SOUTH ELEVATION
1/4" = 1'-0"



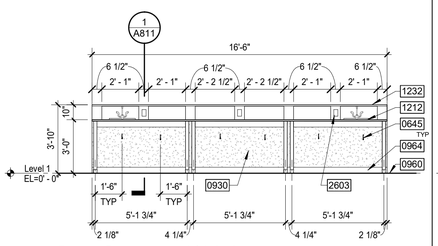
7 PREP ROOM 1024-A NORTH ELEVATION
1/4" = 1'-0"



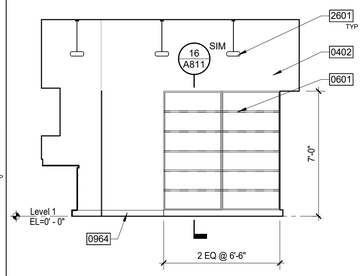
9 PREP ROOM 1008-A EAST ELEVATION
1/4" = 1'-0"



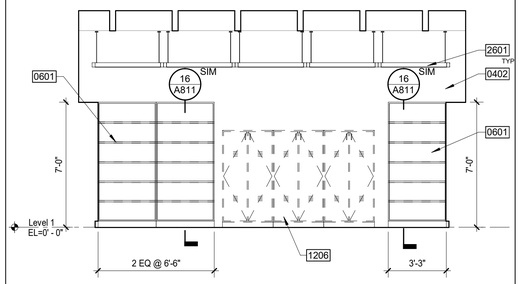
11 BENCH ELEVATION
1/4" = 1'-0"



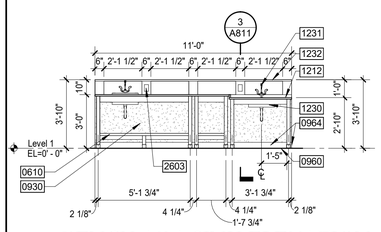
12 BENCH ELEVATION
1/4" = 1'-0"



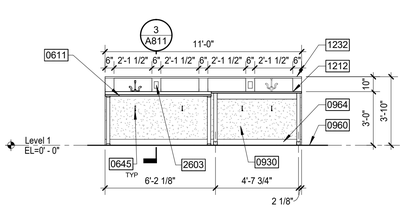
13 PREP RM 1008-A SOUTH ELEV.
1/4" = 1'-0"



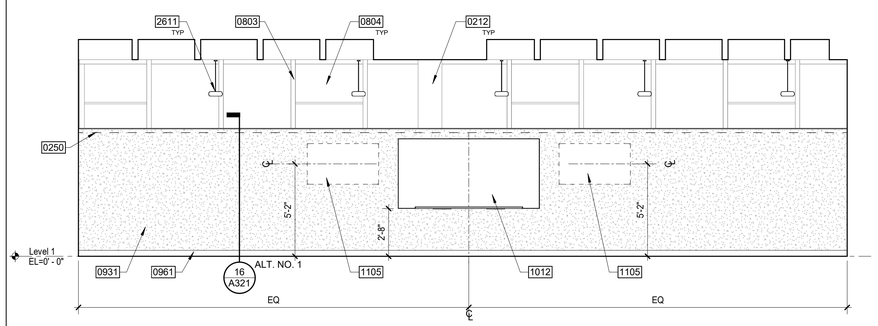
14 PREP ROOM 1008-A WEST ELEVATION
1/4" = 1'-0"



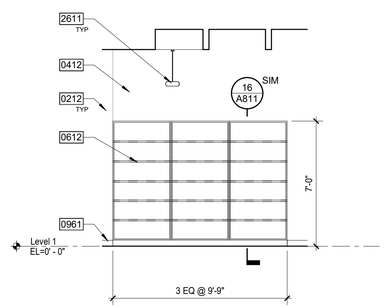
16 BENCH ADA SINK ELEVATION
1/4" = 1'-0"



17 ADJUSTABLE BENCH ELEVATION
1/4" = 1'-0"



18 LAB 1024 - EAST ELEVATION
1/4" = 1'-0"



20 1024 LAB - PARTIAL WEST ELEVATION
1/4" = 1'-0"

KEYNOTE LEGEND

0202	EXISTING COLUMN, PREP AND PAINT, ALL EXPOSED SIDES, TYP.
0250	EXISTING WINDOW SILL BEYOND
0402	EXISTING MASONRY WALL; PATCH AND REPAIR AS REQUIRED; CLEAN, PREP, AND PAINT
0601	LABORATORY CASEWORK STORAGE CABINET WITH ADJUSTABLE SHELVING
0602	LABORATORY CASEWORK OPEN WALL CABINET WITH ADJUSTABLE SHELVING
0603	LABORATORY CASEWORK BASE CABINET WITH DRAWERS
0605	LABORATORY CASEWORK ADA COMPLIANT MODESTY PANEL
0610	HARDWOOD VENEER PLYWOOD SHELF WITH HARDWOOD EDGE BANDING
0611	OWNER PROVIDED CONTRACTOR INSTALLED 72" X 24" STEEL FRAME ADJUSTABLE HEIGHT TABLE WITH FOLD-AWAY HAND CRANK AND 1" EPOXY COUNTERTOP
0645	SURFACE MOUNTED COAT HOOK, HAFELE MODEL #845.05.600, OR EQUAL; PROVIDE BLOCKING AS REQ'D
0801	APPLY SUN CONTROL WINDOW FILM TO ENTIRE EXISTING INTERIOR WINDOW AREA; COLOR TO BE SELECTED BY ARCHITECT.
0802	CLEAN INTERIOR SIDE OF EXISTING ALUMINUM WINDOW FRAME IN ITS ENTIRETY
0810	PROVIDE AND INSTALL NEW DOOR, FRAME, AND HARDWARE; SEE DOOR SCHEDULE
0930	5/8" PTD. GYPSUM BOARD
0960	SCHEDULED FLOOR: RE: ROOM SCHEDULE
0964	SCHEDULED BASE; RE: ROOM SCHEDULE
1010	PROVIDE AND INSTALL 12'W X 4' H MARKER BOARD & TRAY. MOUNT TOP OF MARKER TRY @ 32" AFF. PROVIDE SOLID BLOCKING IN WALL
1102	OWNER FURNISHED, CONTRACTOR INSTALLED TELEVISION AND MOUNTING BRACKET, PROVIDE REQUIRED BLOCKING. PROVIDE POWER AND DATA, SEE ELECTRICAL DRAWINGS.
1106	OWNER FURNISHED CONTRACTOR INSTALLED WALL MOUNTED SOAP DISPENSER, INSTALL AT 48" AFF MAX TO HIGHEST OPERABLE PART
1107	OWNER FURNISHED CONTRACTOR INSTALLED WALL MOUNTED PAPER TOWEL DISPENSER, INSTALL AT 48" AFF MAX TO HIGHEST OPERABLE PART
1132	OWNER PROVIDED CONTRACTOR INSTALLED UNDERCOUNTER REFRIGERATOR, SEE MECHANICAL AND ELECTRICAL
1206	OWNER FURNISHED, OWNER INSTALLED CHEMICAL CABINET
1207	OWNER FURNISHED, OWNER INSTALLED SOLVENT CABINET
1208	1" EPOXY RESIN COUNTERTOP WITH BACKSPLASH AND SIDE SPLASHES
1212	1" EPOXY RESIN COUNTERTOP
1230	ADA COMPLIANT EPOXY RESIN SINK, INSULATE EXPOSED PLUMBING AND SUPPLY LINES; SEE MECHANICAL
1231	ADA COMPLIANT FAUCET; SEE MECHANICAL
1232	EPOXY RESIN SHELF
1233	EPOXY RESIN SINK, INSULATE EXPOSED PLUMBING AND SUPPLY LINES; SEE MECHANICAL
2222	ADA EPOXY RESIN SINK WITH DRAIN BOARDS ON BOTH SIDES
2601	LIGHT FIXTURE; SEE: ELECTRICAL
2603	OUTLET; SEE ELECTRICAL

ALT NO. 1 - KEYNOTE LEGEND

0212	ALTERNATE NO. 1 - EXISTING COLUMN, PREP AND PAINT, ALL EXPOSED SIDES, TYP.
0412	ALTERNATE NO. 1 - EXISTING MASONRY WALL; PATCH AND REPAIR AS REQUIRED; CLEAN, PREP, AND PAINT
0612	ALTERNATE NO. 1 - LABORATORY CASEWORK STORAGE CABINET WITH ADJUSTABLE SHELVING
0803	ALTERNATE NO. 1 - APPLY SUN CONTROL WINDOW FILM TO ENTIRE EXISTING INTERIOR WINDOW AREA; COLOR TO BE SELECTED BY ARCHITECT.
0804	ALTERNATE NO. 1 - CLEAN INTERIOR SIDE OF EXISTING ALUMINUM WINDOW FRAME IN ITS ENTIRETY
0931	ALTERNATE NO. 1 - 5/8" PTD. GYPSUM BOARD
0961	ALTERNATE NO. 1 - SCHEDULED BASE; RE: ROOM SCHEDULE
1012	ALTERNATE NO. 1 - PROVIDE AND INSTALL 12'W X 4' H MARKER BOARD & TRAY. MOUNT TOP OF MARKER TRY @ 32" AFF.
1105	ALTERNATE NO. 1 - OWNER FURNISHED, CONTRACTOR INSTALLED TELEVISION AND MOUNTING BRACKET, PROVIDE REQUIRED BLOCKING. PROVIDE POWER AND DATA, SEE ELECTRICAL DRAWINGS.
2611	ALTERNATE NO. 1 - LIGHT FIXTURE; SEE: ELECTRICAL

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2000 LAKESHORE DRIVE, NEW ORLEANS, LA 70148

KEVIN J. MORRIS
No. 5598
STATE OF LOUISIANA
REGISTERED ARCHITECT

NO.	DESCRIPTION	DATE

PROJECT NO.	21006
PHASE	CD
DATE	08.12.21
PROJECT MANAGER	CMB
QUALITY CONTROL	RS

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BID ISSUE

A801

INTERIOR ELEVATIONS / MILLWORK ELEVATIONS

H/S

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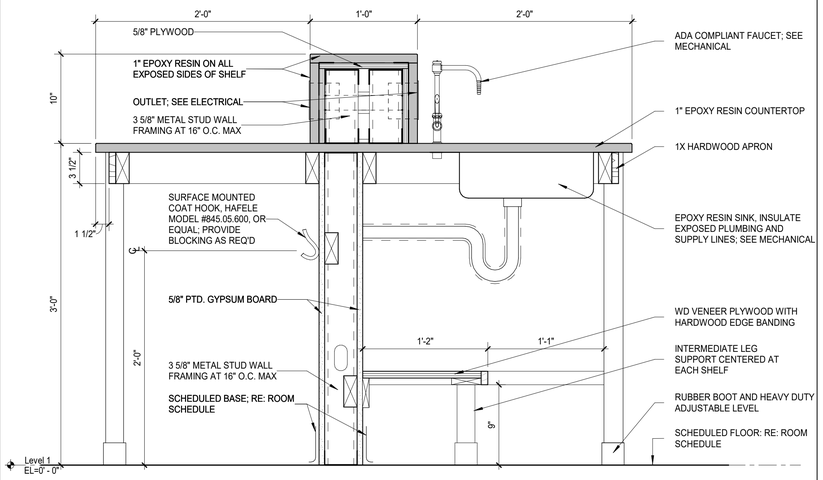
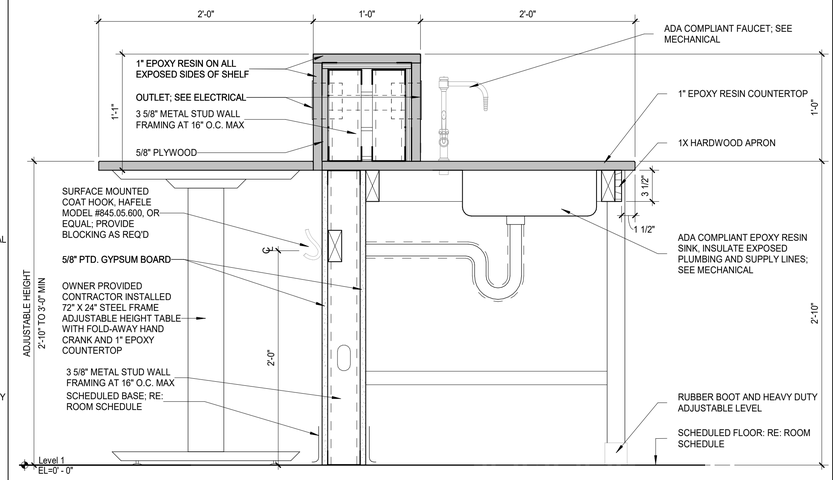
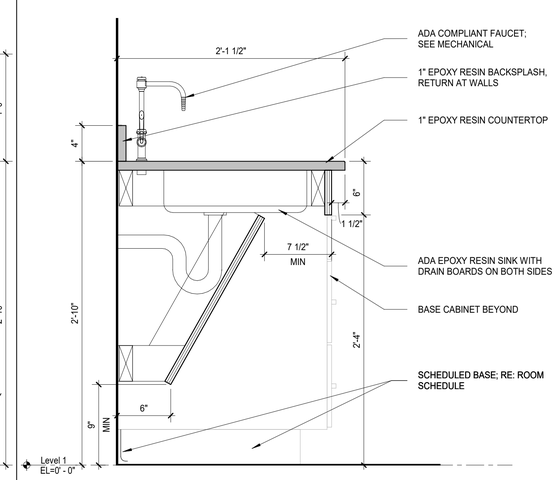


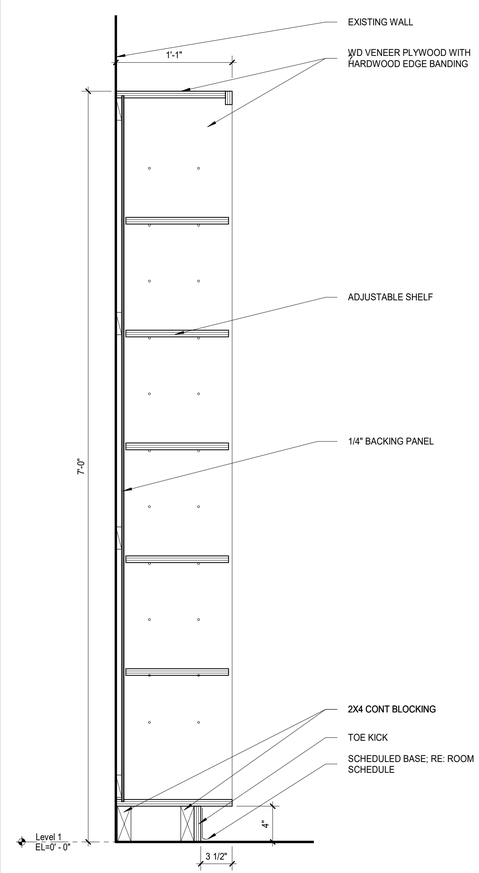
1 STUDENT BENCH SECTION
1 1/2" = 1'-0"



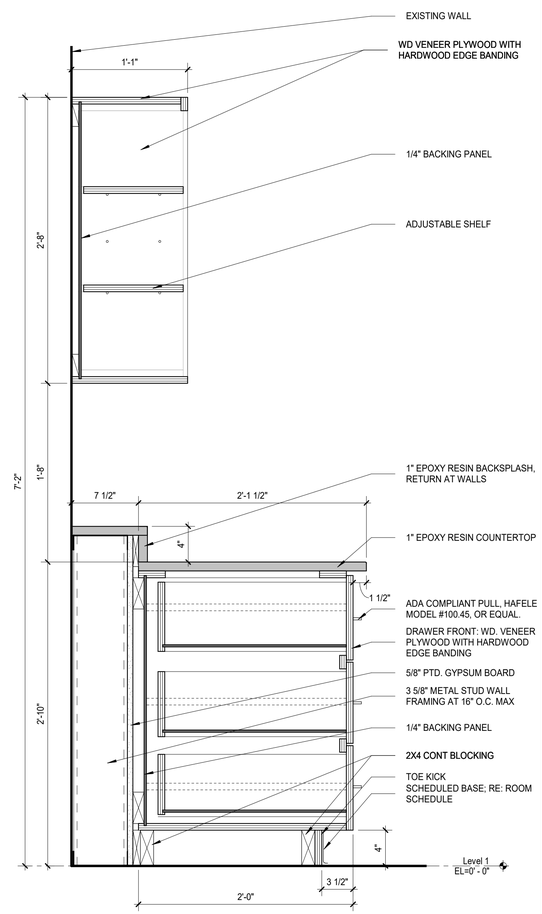
3 ADA SINK / ADJUSTABLE HEIGHT STUDENT BENCH SECTION
1 1/2" = 1'-0"



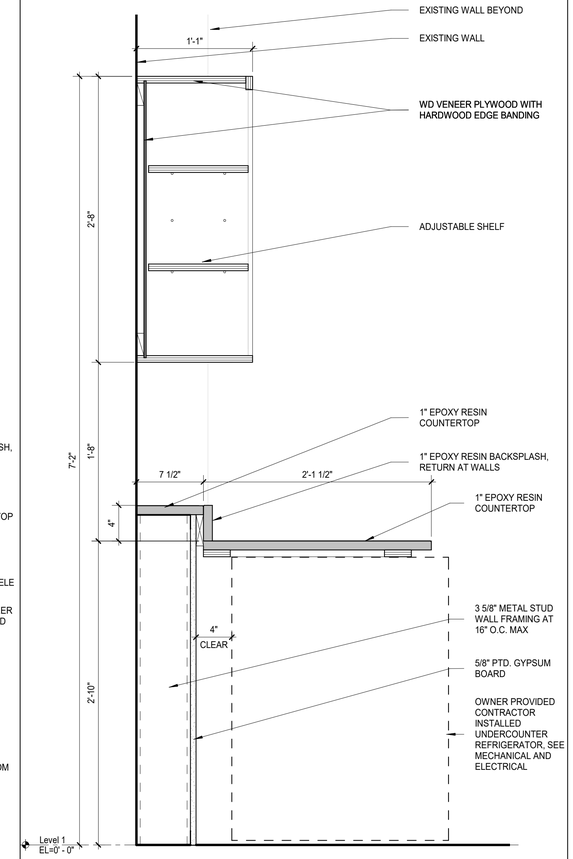
5 SINK MILLWORK
1 1/2" = 1'-0"



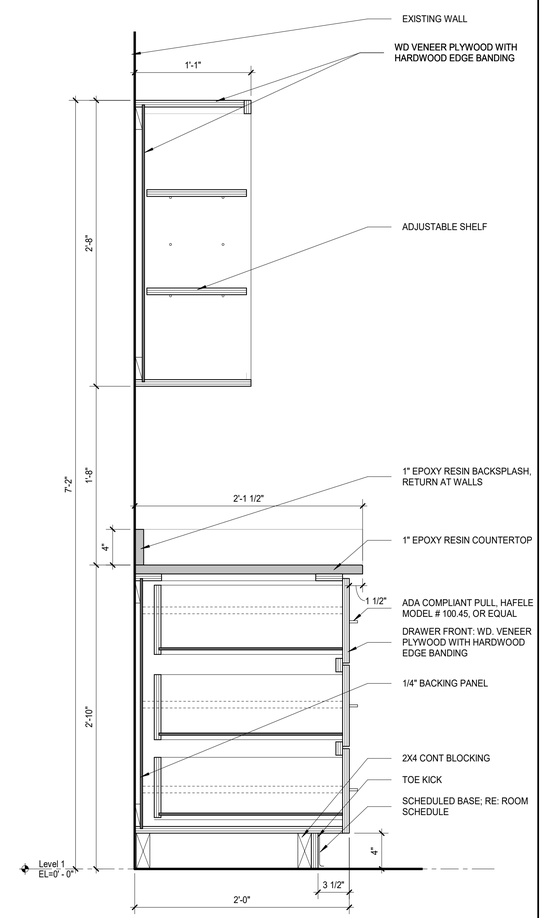
16 STORAGE MILLWORK
1 1/2" = 1'-0"



17 MILLWORK AT FURR-OUT
1 1/2" = 1'-0"



18 MILLWORK AT UNDERCOUNTER FRIDGE
1 1/2" = 1'-0"



19 TYPICAL MILLWORK
1 1/2" = 1'-0"

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A811

INTERIOR DETAILS / MILLWORK DETAILS

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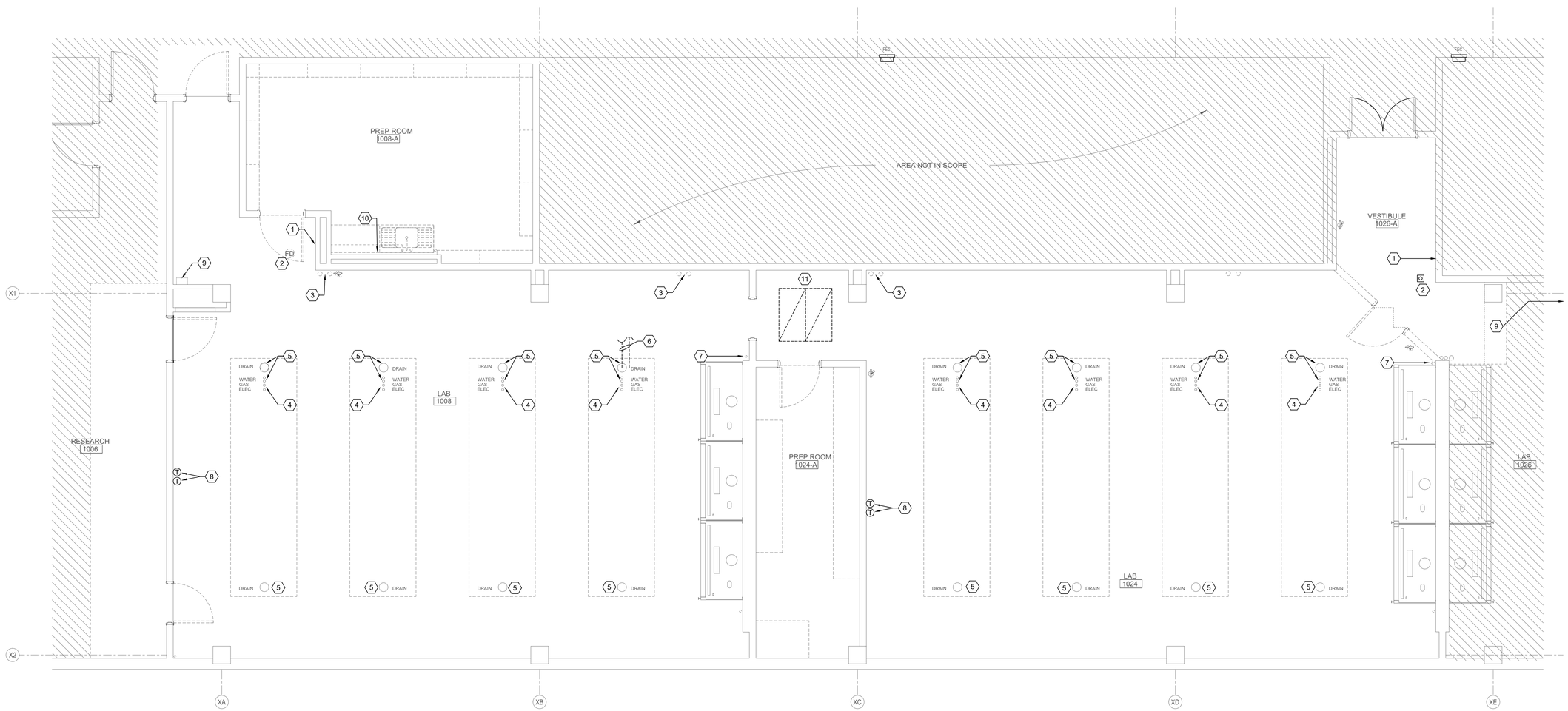
GENERAL NOTES THIS SHEET:

1. EXISTING HAVC AND FUME HOODS TO REMAIN.
2. EXISTING PLUMBING TO REMAIN UNLESS NOTED OTHERWISE.
3. REMOVE PLUMBING AS INDICATED. CAP IN WALL, BELOW FLOOR AND ABOVE CEILING AS REQUIRED FOR A COMPLETE DEMOLITION.
4. THERE IS AN ACCESSIBLE CRAWLSPACE BELOW THE 1ST FLOOR.
5. VERIFY EXACT CONDITIONS ON SITE.
6. REFER TO ARCHITECTURAL PLANS FOR PHASING REQUIREMENTS.

SPECIFIC NOTES THIS SHEET:

1. REMOVE REMAINING COMPONENTS OF SAFETY SHOWER. CAP PIPING AS REQUIRED FOR COMPLETE DEMOLITION.
2. REMOVE STRAINER AND CAP FLOOR DRAIN.
3. REMOVE EXISTING GAS PIPING FROM FLOOR UP TO MAIN AT CEILING AND CAP AT MAIN.
4. REMOVE EXISTING GAS PIPING IN CRAWL SPACE AND ABOVE FLOOR THAT SERVED LAB TABLES.
5. REMOVE EXISTING PLUMBING PIPING AT CAP IN CRAWL SPACE. COORDINATE WHAT PIPING CAN BE REUSED FOR NEW TABLES.
6. REMOVE OVERHEAD WATER PIPING AND CAP AT MAIN.
7. REMOVE GAS PIPING UP TO MAIN AND CAP.
8. REMOVE EXISTING PNEUMATIC THERMOSTAT. CAP TUBING.
9. REMOVE EXISTING SINK AND CAP PIPING AS REQUIRED FOR A COMPLETE DEMOLITION.
10. REMOVE EXISTING GAS PIPING AT WALL UP TO MAIN AND CAP AT MAIN.
11. REMOVE EXISTING RETURN AIR GRILLES.



16 PARTIAL FLOOR PLAN - MECHANICAL DEMOLITION

1/4" = 1'-0"

0 4' 8'

N TRUE NORTH

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PROFESSIONAL ENGINEER

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QUALITY CONTROL	JTC

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BID ISSUE

M100

DEMOLITION PLAN - MECHANICAL

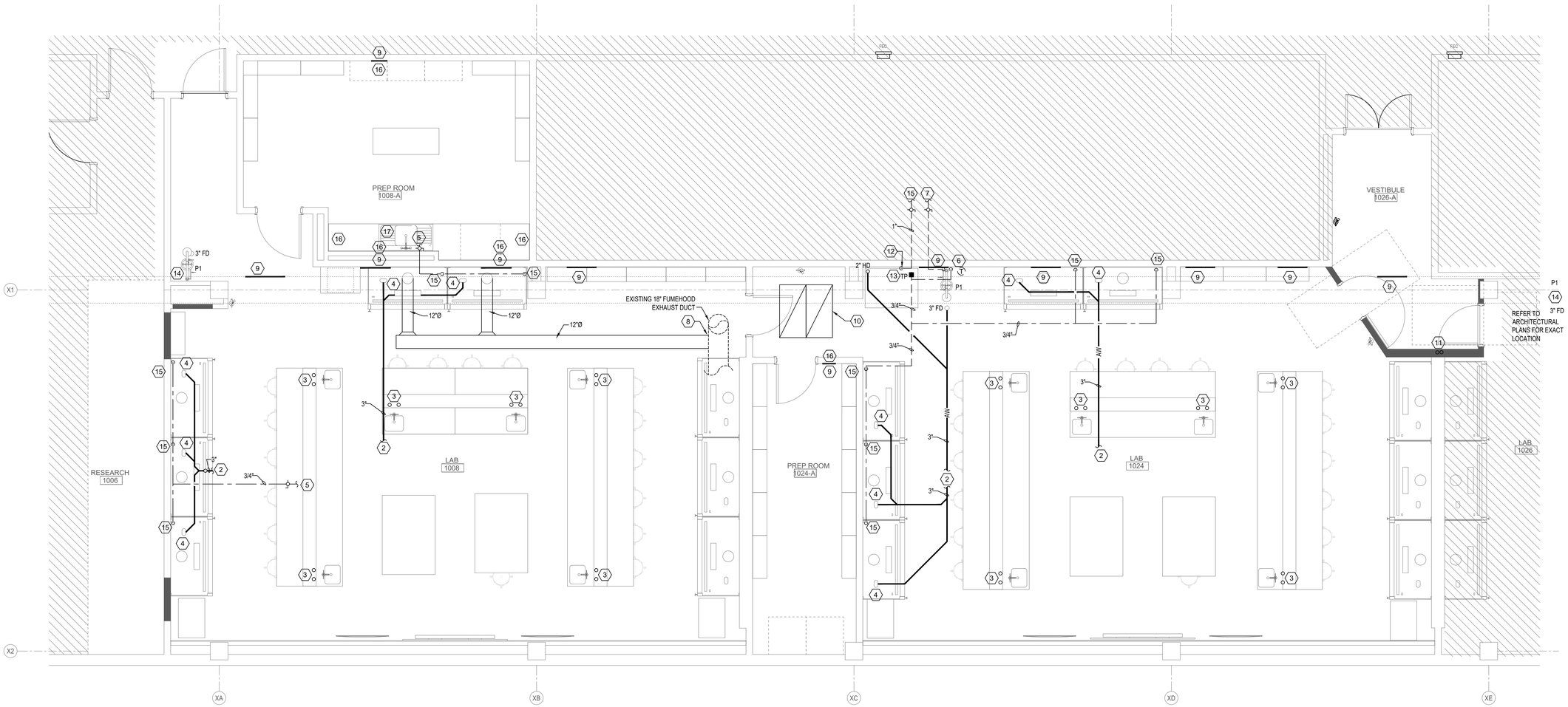
H/S

GENERAL NOTES THIS SHEET:

1. ALL SEWER AND STORM DRAIN PIPING SHALL BE RUN BELOW SLAB UNLESS NOTED OTHERWISE. HANG FROM SLAB PER DETAIL.
2. VENT PIPING SHALL BE RUN ABOVE CEILING OR TIGHT TO STRUCTURE.
3. PROVIDE TRAP PRIMERS ON ALL FLOOR DRAINS.
4. ALL COLD WATER, HOT WATER AND HOT WATER RE-CIRCULATING PIPING SHALL BE RUN ABOVE CEILING OR TIGHT TO STRUCTURE. STORM DRAIN PIPING ABOVE GRADE SHALL BE RUN ABOVE CEILING OR TIGHT TO STRUCTURE.
5. ALL WATER PIPING SHALL BE 3/4" UNLESS NOTED OTHERWISE.
6. PROVIDE AIR CHAMBERS ON ALL DOMESTIC WATER BRANCH PIPING SERVING FIXTURES.
7. PROVIDE ISOLATION VALVES IN THE HOT AND COLD WATER PIPING TO ALL FIXTURE GROUPS.
8. PLUMBING SHALL CONFORM TO THE INTERNATIONAL PLUMBING CODE.
9. PLUMBING DRAWINGS ARE SCHEMATIC IN NATURE. COORDINATE PIPE ROUTING WITH STRUCTURE AND UNDERGROUND SUPPORTS. ADJUST LOCATION AS REQUIRED.
10. VENT NEW ACID WASTE PIPING AS REQUIRED.

SPECIFIC NOTES THIS SHEET:

1. CONNECT TO EXISTING PIPING. VERIFY ON SITE.
2. CONNECT TO EXISTING ACID WASTE IN CRAWL SPACE. VERIFY LOCATION ON SITE. ISLAND VENT OR PROVIDE AIR ADMITTANCE VALVE PER CODE.
3. CONNECT TO EXISTING AW IN CRAWLSPACE. VERIFY EXACT LOCATION ON SITE. UTILITIES WERE LOCATED AT DEMOLISHED CASEWORK. CORE SLAB FOR EACH SERVICE. 2" AW, ¾" CW. ISLAND VENT OR PROVIDE AIR ADMITANCE VALVE PER CODE.
4. CORE SLAB AS REQUIRED FOR NEW HOOD CUP SINK. PROVIDE 2" AW CONNECTION.
5. CONNECT TO EXISTING CW. VERIFY LOCATION ON SITE.
6. RELOCATE EXISTING TEMPERATURE SENSOR. PROVIDE NEW SURFACE MOUNTED RACEWAY AND EXTEND WIRING AS REQUIRED TO CLEAR NEW SAFETY SHOWER.
7. CONNECT TO EXISTING HW. VERIFY LOCATION ON SITE
8. CONNECT TO EXISTING FUMEHOOD EXHAUST DUCT. REWORK ELBOW AND PROVIDE NEW TEE AS REQUIRED.
9. REMOVE EXISTING SIDEWALL REGISTER, PROVIDE NEW SIDEWALL REGISTER TO MATCH SIZE OF EXISTING. FIELD VERIFY. SEE M300 FOR SIDEWALL GRILLE DESCRIPTION.
10. PROVIDE TWO 24x48 R-2 RETURN GRILLES IN NEW CEILING.
11. RE-INSULATE EXISTING PIPING. REFER TO HAZARD MATERIALS DRAWINGS FOR THE EXTENT OF WORK. USE ½" THICK FIBER GLASS PIPE INSULATION WITH ASJ JACKET.
12. ¾" CW DOWN TO ICE MAKER.
13. TRAP PRIMER. RUN ½" TP LINE DOWN. CORR DRILL INTO CRAWLSPACE TO FLOOR DRAIN(S).
14. CONNECT TO EXISTING CW & HW AT WALL.
15. ½" CW DOWN TO HOOD.
16. PROVIDE FIRE DAMPER IN DUCTS AND GRILLES PENETRATING PREP ROOM WALLS. VERIFY ON SITE.
17. PROVIDE CW, HW & GAS TO NEW FIXTURES. SEE ARCHITECTURAL PLANS.



16 PARTIAL FLOOR PLAN - MECHANICAL
1/4" = 1'-0"
0 4' 8'

N TRUE NORTH

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BID ISSUE

M200

PARTIAL FLOOR PLAN - MECHANICAL

H/S

MECHANICAL LEGEND

SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION
—— – ——	COLD WATER	RAG	RETURN AIR GRILLE
—— – – ——	HOT WATER	RD	ROOF DRAIN
— – – – —	HOT WATER CIRCULATING	(TYP)	TYPICAL
- - - - - - -	VENT	VTR	VENT THRU ROOF
—— SS ——	SANITARY SEWER	VD	VAMP DAMPER
—— SD ——	STORM DRAIN	DF	DRINKING FOUNTAIN
CO	CLEAN OUT	CONN.	CONNECTION
CFM	CUBIC FEET PER MINUTE	O/A	OUTSIDE AIR
CW	COLD WATER	P	PLUMBING RISER DIAGRAM
HW	HOT WATER		GATE VALVE
CLG.	CEILING		CHECK VALVE
DN	DOWN		VALVE IN VERTICAL RISE
EF	EXHAUST FAN		UNION
FD	FLOOR DRAIN		FLOOR DRAIN
HB	HOSE BIBB		HOSE BIBB
RA	RETURN AIR		AIR CHAMBER (10" HIGH PIPE)

MECHANICAL SPECIFICATIONS

GENERAL

ALL MATERIAL SHALL BE NEW AND OF TOP QUALITY COMMERCIAL GRADE.

CONTRACTOR SHALL VISIT JOB SITE BEFORE SUBMITTING BID. FAILURE TO BE SO INFORMED SHALL NOT ALLOW FOR ADDITIONAL COMPENSATION.

ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH INDUSTRY STANDARDS, LOCAL AUTHORITIES RULES AND REGULATIONS, NFPA GUIDELINES, AND OTHER NATIONAL STANDARDS.

CONTRACTOR SHALL PROVIDE SUBMITTAL DATA ON ALL MAJOR EQUIPMENT AND SHALL PROVIDE SHOP DRAWINGS FOR PLUMBING.

CONTRACTOR SHALL GUARANTEE ALL MATERIALS, EQUIPMENT, AND WORKMANSHIP FOR ONE YEAR AFTER DATE OF OWNER ACCEPTANCE.

EQUIPMENT AND PIPING SHALL BE PAINTED AND IDENTIFIED IN ACCORDANCE WITH INDUSTRY STANDARDS.

PROVIDE BACKFLOW PREVENTERS, VACUUM BREAKERS, AND AIR GAPS AS REQUIRED ON ALL EQUIPMENT AND FIXTURES REQUIRING SAME.

ALL DOMESTIC WATER PIPING SHALL BE CLEANED AND STERILIZED IN ACCORDANCE WITH THE STATE SANITARY CODE.

THE CONTRACTOR SHALL TEST ALL PLUMBING FOR 24 HOURS AT 1 1/2 TIMES THE SERVICE CONDITIONS.

CONTRACTOR SHALL LEAVE THE PREMISES IN A CLEAN CONDITION AT THE END OF EACH WORKDAY.

PIPING AND EQUIPMENT INSULATION

ALL DOMESTIC HOT AND COLD WATER SHALL BE INSULATED WITH 1/2" MOLDED FIBERGLASS PIPE INSULATION.

PLUMBING

ALL DOMESTIC WATER PIPING TO BE HARD DRAWN TYPE "K" COPPER TUBING BELOW GROUND AND TYPE "L" ABOVE GROUND, WITH LEAD FREE SOLDERED JOINTS. PROVIDE AIR CHAMBERS AT EACH FIXTURE GROUP.

ALL SANITARY SEWER AND STORM DRAIN LINES TO BE SOLID WALL SCHEDULE 40 PVC WITH SOLVENT WELD FITTINGS. CLEANOUTS SHALL BE INSTALLED AS REQUIRED BY CODE.

ALL PLUMBING FIXTURES SHALL BE NEW AND CONTAIN ALL REQUIRED TRIM, VALVES, FITTINGS, ETC., FOR A COMPLETE INSTALLATION. SEE DRAWINGS FOR FIXTURE DESCRIPTION.

NO PIPING OF DISSIMILAR METALS SHALL BE PLACED IN CONTACT WITH EACH OTHER, EXCEPT WHEN INSULATING UNIONS ARE UTILIZED.

WASTE AND VENT PIPING FROM THE STUDENT DESKS AND LAB SINKS SHALL BE ACID RESISTANT SCH. 40 POLYPROPYLENE WITH MECHANICAL JOINT FITTINGS US MANUFACTURED BY ZURN, KIMAX, SPEARS, ENDFIELD OR ORION.

VALVES, STRAINERS, UNIONS, AND FITTINGS

ALL VALVES SHALL BE INSTALLED FOR EASE OF MAINTENANCE, CLEANING, AND OPERATION.

PROVIDE VALVES COMPLYING WITH ANSI B31-1. ALL VALVES SHALL OFFER FULL SHUTOFF FOR INTENDED SERVICE. PROVIDE BALL VALVES IN CW AND HW PIPING TO ALLOW ISOLATION OF FIXTURE GROUPS.

HVAC

NEW FUMEHOOD EXHAUST SHALL BE 304 SS, 18 GA. SPIRAL DUCT WITH ALL SEAMS AND JOINTS WELDED.

TEMPERATURE CONTROLS SHALL BE AN EXPANSION OF THE EXISTING SIEMENS LAB SYSTEM CONTROLS. PROVIDE EXHAUST VALVES FOR TWO NEW FUMEHOODS, UPDATE PROGRAMMING AND GRAPHICS WITH CONTROL SEQUENCES LISTED. VERIFY SUPPLY TRACKING AND MAINTAIN EXISTING ROOM PRESSURE OFFSET.

DIFFUSER GRILLE & REGISTER SCHEDULE

MARK	DESCRIPTION
DD	SPIRAL PERFORATED DUCT DIFFUSER WITH PERFORATED PATTERN ON 360 DEGREE RADIUS WITH GALVANIZED FINISH. SEE PLANS FOR SIZES. UNITED MCGILL DDF-SP

NOTES:
1. PROVIDE PLASTER FRAME FOR DIFFUSERS/GRILLES IN SHEETROCK CEILINGS.
2. PROVIDE PLENUM BOX AT REAR OF ALL RETURN GRILLES SIZED FOR GRILLE NECK FOR CONNECTION OF RETURN DUCTS.
3. INSULATE BACK OF ALL DIFFUSERS. SEE DETAIL ON DRAWINGS OR AT CONTRACTOR'S OPTION PROVIDE FACTORY BACK PAN INSULATION.
4. ADJUST LOCATION OF DIFFUSERS AS REQUIRED FOR ANY LIGHT CONFLICTS.

PLUMBING SCHEDULE

P1 Wheelchair accessible combination eye wash and safety shower with 10" ABS shower head, SS pull rod, push paddle, ABS eye wash receptor and integral eye/face wash assembly.

Fixture - HAWS8300

P2 Lab sink and faucet supplied with casework. Provide 1-1/2" acid waste tailpiece with "P" trap with waste to wall; 3/8" flexible supplies with wheel handle stops. Coordinate with casework vendor.

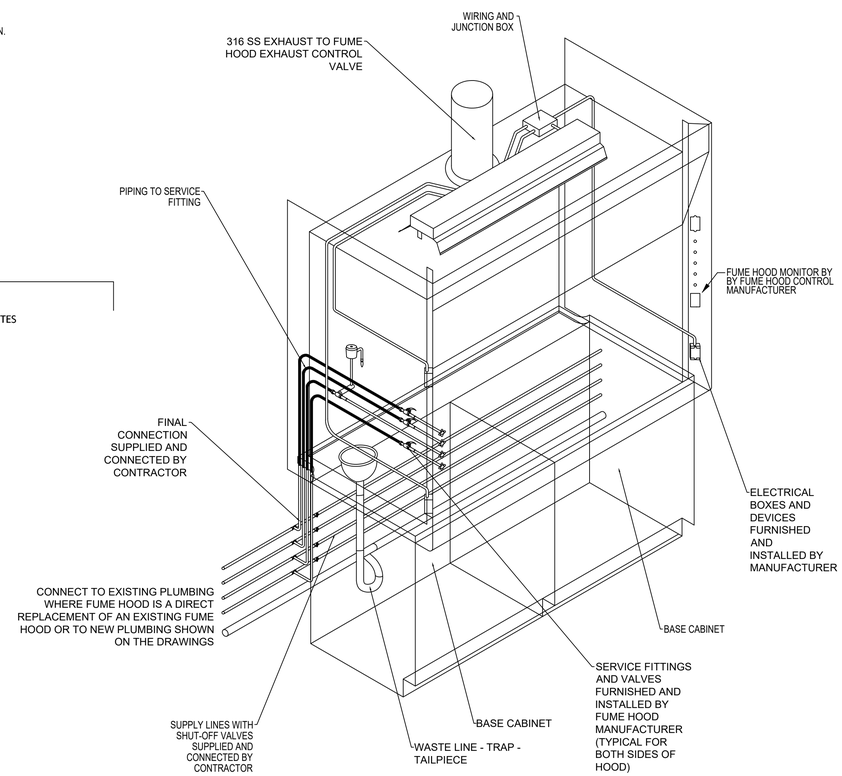
FD JR. Smith 2005-B, or Minfab F1100C-S, cast-iron - See plans for sizes. Nickel brass square strainers in toilet rooms and finished areas. All floor drains shall have 4" deep seal traps and trap primer connections.

TP Automatic water metering type, Precision Plumbing Products Model PR-500, with SS-8 supply tube and DU distribution unit to serve drains as shown on drawings. Install per manufacturers recommendations and provide wall access panel for periodic inspection. Alternate Manufacturer Minfab Model MI-DU.

LAB EXHAUST VALVE SCHEDULE

ROOM NUMBER	EXHAUST VALVE	CFM (EACH)	SIZE	TYPE	EQUIPMENT CONNECTED TO	NOTES
1008	EV-1,2	750	10	VAV	NEW OWNER PROVIDED FUME HOODS	

NOTES:
1. SEE SPECIFICATIONS FOR EXHAUST CONTROL VALVE DESCRIPTION.
2. PROVIDE EXHAUST VALVES FOR ALL NEW FUME HOODS AND EXISTING FUME HOODS AS INDICATED.
3. TRANSITION EXHAUST DUCTWORK TO VALVE CONNECTION. USE CONCENTRIC REDUCERS.
4. PROVIDE FUME HOOD MONITOR AND ALARM FOR ALL NEW HOODS.



TYPICAL FUMEHOOD INSTALLATION DETAIL
NO SCALE

DIFFUSER GRILLE & REGISTER SCHEDULE

MARK	DESCRIPTION
D	SIDEWALL ALUMINUM DOUBLE DEFLECTION SUPPLY REGISTER TITUS 272FS
R-1	PERFORATED ALUMINUM RETURN AIR GRILLE WITH MAXIMUM SIZE RECTANGULAR NECK, 48X24 MODULE FOR LAY-IN CEILING TITUS MODEL PAR

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LABORATORY EXHAUST AIR TERMINALS

A. Laboratory terminal units shall provide turndown ratios of 5 to 1 for fume hood exhaust terminals and adequate turndown for room supply and general exhaust terminals. Adequate turndown to assure that the airflows specified can be maintained. All terminals shall be controlled to be pressure independent and include actual airflow measurement feedback as an integral part of their control process. Minimum airflow measurement accuracy shall be +/- 5% of actual reading over the entire rated airflow range of each device. Airflow measurement device accuracy shall be certified by AMCA (Air Movement and Control Association). Proof of AMCA accuracy certification shall accompany the submittal. Overall room control performance shall substantiated by a third party test report. Minimum to maximum terminal airflow (or visa versa) shall be attained in less than 1 second.

B. Exhaust airflow measurement shall be provided by airflow sensing techniques that are not likely to obstruct the exhaust duct or become inoperative due to the accumulation of chemical deposits . For example, pitot tube arrays are NOT acceptable for exhaust airflow measurement since they may collect tissues and other debris and their minute pressure sensing holes become plugged with deposits.

C. All supply air terminals shall be constructed of 22 gauge galvanized steel. Supply terminal air leakage shall not exceed 2% of design airflow at 4 inches w.g. positive static pressure.

D. All general exhaust terminals shall be constructed of 316 L stainless steel or coated with corrosion resistant Teflon.

E. All EV (Fume Hood Exhaust Valves) shall be constructed of 316L stainless steel or coated with corrosion resistant Teflon. Damper shafts shall be solid stainless steel with Teflon bearings.

F. All terminals shall have a pressure drop of 0.3" or less at the maximum rated airflow.

G. A loss, increase and/or decrease of airflow shall be transmitted to the fume hood or room controller as appropriate.

H. Discharge and Radiated sound power level data for all terminals shall be available and provided at the owner's or engineer's request. The data shall be in accordance with the test procedure in ARI 880-89 Standard for Air Terminals and all data shall be obtained in a qualified, accredited and ARI approved testing laboratory.

I. Terminals that require factory calibration shall be calibrated to the job specific airflow's indicated on the drawings. Factory calibration shall be conducted on certified NIST traceable air stations and shall be conducted for eight airflows including a test of pressure independence at three static pressures. NIST instrument certificates shall be provided as evidence of compliance. Each terminal device shall be individually marked with its specific factory calibration data. As a minimum, include tag number, serial number, model number, eight point characterization information, and quality control inspection numbers. All information shall be available for inclusion on as-built drawings.

1. Room and fume hood airflow accuracy and performance shall be guaranteed as specified irrespective of field conditions.

2. In order to guarantee safety and compliance, LACS systems that do not measure actual airflow must provide independent airflow measuring stations. Independent airflow measuring stations shall be provided at each supply air valve, general exhaust air valve and fume hood exhaust air valve for each laboratory or pressurized space. The signals from these measurement stations shall be directly linked to the central BAS. Airflow measurement stations shall consist of an averaging airflow sensor, which shall provide an average duct velocity pressure to an airflow transmitter. Airflow transmitters shall provide an output of 4-20 mA proportional to velocity pressure. Airflow transmitters shall have an accuracy of at least +/-0.5% of the transmitter range.

VARIABLE AIR VOLUME FUME HOOD CONTROLLER

A. Provide a UL 916 listed individual VAV fume hood controller for each fume hood which shall maintain the face velocity setpoint (adjustable) in response to sash position.

B. In operation, the VAV fume hood control process consists of calculating the fume hood exhaust flow necessary to provide the required average face velocity at any sash position based upon actual sash position and total fume hood open area. The controller shall then position the fume hood exhaust terminal damper to attain the required exhaust airflow in conjunction with constant feedback from an integral exhaust airflow sensor. The controller shall perform this exhaust airflow calculation ten times per second to ensure maximum speed of response to changes in sash position Even when no change has occurred in sash position since the previous calculation, the controller shall continue to position the exhaust terminal damper in response to its airflow measurement feedback to ensure that the required fume hood exhaust is always maintained independently of variations in exhaust system static pressure or room conditions that could otherwise affect fume hood exhaust airflow.

1. The VAV fume hood controller shall initiate corrective action immediately upon sash movement and be completed when sash movement stops so as to restore the required average face velocity within 1 second after completion of sash movement. Control scenarios that are not based upon sash sensingsuch as those utilizing side wall airflow sensing must substantiate that fume hood face velocity will be restored within 1 second after completion of sash movement. ASHRAE 110 VAV fume hood response time test data substantiating this performance requirement shall be submitted. All such ASHRAE 110 testing shall be conducted by a qualified, accredited and independent testing source.
2. Air velocity sensors utilized for side-wall sensing shall be UL 913 listed. Documentation of UL listing shall be submitted with the technical proposal and included with the submittals.
3. A "Sash Alert" feature shall provide periodic beeps at the Operator Display Panel when the sash remains open above the recommended safe working height (adjustable) for an adjustable period of time. This feature shall enhance fume hood safety operation and energy efficiency. This feature shall include a beep interval and be capable of being implemented on individual fume hoods as desired by authorized owner personnel.

C. The face velocity setpoint shall be adjustable by authorized owner personnel

D. Controllers shall include the ability to accept and incorporate into the control sequence a dry contact closure from auxiliary sensors. Example: Occupancy override, Emergency button, etc.

E. Controllers shall provide a general alarm output for use with auxiliary devices.

F. Momentary or extended losses of power shall not change or affect any of the control system's setpoints, calibration settings, or emergency status. After power returns the system shall continue operation exactly as before without need for any manual intervention.

FUME HOOD OPERATOR DISPLAY

A. An operator display panel shall be provided for each fume hood to comply with laboratory safety standards. The operator display panel shall provide the following functionality:

1. Indicator lights that verify normal operation (green), marginal operation (yellow), and alarm condition (red). An alarm condition shall automatically be initiated for both high and low face velocity conditions.

2. An audible alarm device shall also be initiated in response to an alarm condition. The audible alarm device shall be capable of being silenced by a user silence button, however the alarm device shall automatically resound upon another alarm occurrence.

3. A user initiated emergency purge function shall initiates a visual and audible alarm and increase the fume hood exhaust to maximum airflow. When the emergency purge button is depressed, a second time, the emergency sequence shall be terminated and fume hood control shall return to normal

SASH SENSOR

A. Provide, sash position sensors for each fume hood to indicate the actual position of each sash. The sash sensor shall be a precision, linear device with repeatable location accuracy within one half inch.

B. Sash sensors material shall be corrosion resistant.

C. Sash sensors shall allow complete and easy removal of the sashes for cleaning and maintenance.

E. Operational life of each sash ~~the~~ sensor shall be a minimum of 1000,000 full cycles.

F. Sash sensor failure shall be indicated as an alarm at the fume hood operator display panel.

VAV FUME HOOD CONTROL

A. The fume hood controller shall continuously calculate the total fume hood open area based upon the fume hood's fixed openings, bypass opening, and sash position as indicated by the sash sensor(s). The fume hood controller shall also continuously calculate the fume hood exhaust CFM required to maintain the average face velocity set point based upon the total open area of the fume hood and the average face velocity (adjustable) set point. The fume hood controller shall utilize actual fume hood exhaust CFM and modulate the fume hood exhaust to control and maintain the required fume hood average face velocity.

B. The fume hood controller shall always maintain the fume hood exhaust CFM at the desired minimum (and maximum) set point value (adjustable) when the total fume hood open area would otherwise result in less than the desired minimum (maximum) fume hood exhaust CFM. This minimum fume hood exhaust set point shall be set to the value recommended by the fume hood manufacturer to maintain adequate fume containment and dilution.

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STATE OF LOUISIANA JASON T. CRUMB License No. 27554 PROFESSIONAL ENGINEER

NO.	DESCRIPTION	DATE

PROJECT NO.	21006
PHASE	CD
DATE	08.12.21
PROJECT MANAGER	JTC
QUALITY CONTROL	JTC

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M300

MECHANICAL SCHEDULES AND DETAILS

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GENERAL NOTES THIS SHEET:

1. ELECTRICAL TO REMAIN UNLESS NOTED OTHERWISE.
2. VERIFY EXACT CONDITIONS ON SITE.
3. MAINTAIN CIRCUIT CONTINUITY FOR DEMOLISHED ITEMS.
4. SEE ARCHITECTURAL DRAWINGS FOR PHASING REQUIREMENTS.

SPECIFIC NOTES THIS SHEET:

(1) REMOVE EXISTING SURFACE MOUNTED RACEWAYS AND DEVICES BACK TO JUNCTION BOX.

(2) REMOVE EXISTING LAB TABLE POWER. PROVIDE JUNCTION BOX IN CRAWLSPACE AND TERMINATE WIRING.

(3) RAISE FIRE ALARM DEVICE TO CLEAR VENTLESS HOOD.

(4) LAMPS TO BE ABATED. EXISTING LIGHT FIXTURE TO BE REMOVED. EXISTING BRANCH CIRCUIT TO REMAIN FOR NEW LIGHTS. REMOVE WIRE BACK TO MAIN JUNCTION BOX. SEE E200. EXISTING SUPPORTS TO REMAIN.

(5) REMOVE EXISTING LIGHT SWITCH AND WIRING.

(6) REMOVE EXISTING CONTROL SWITCH AND WIRING. PROVIDE BLANK COVER PLATE.

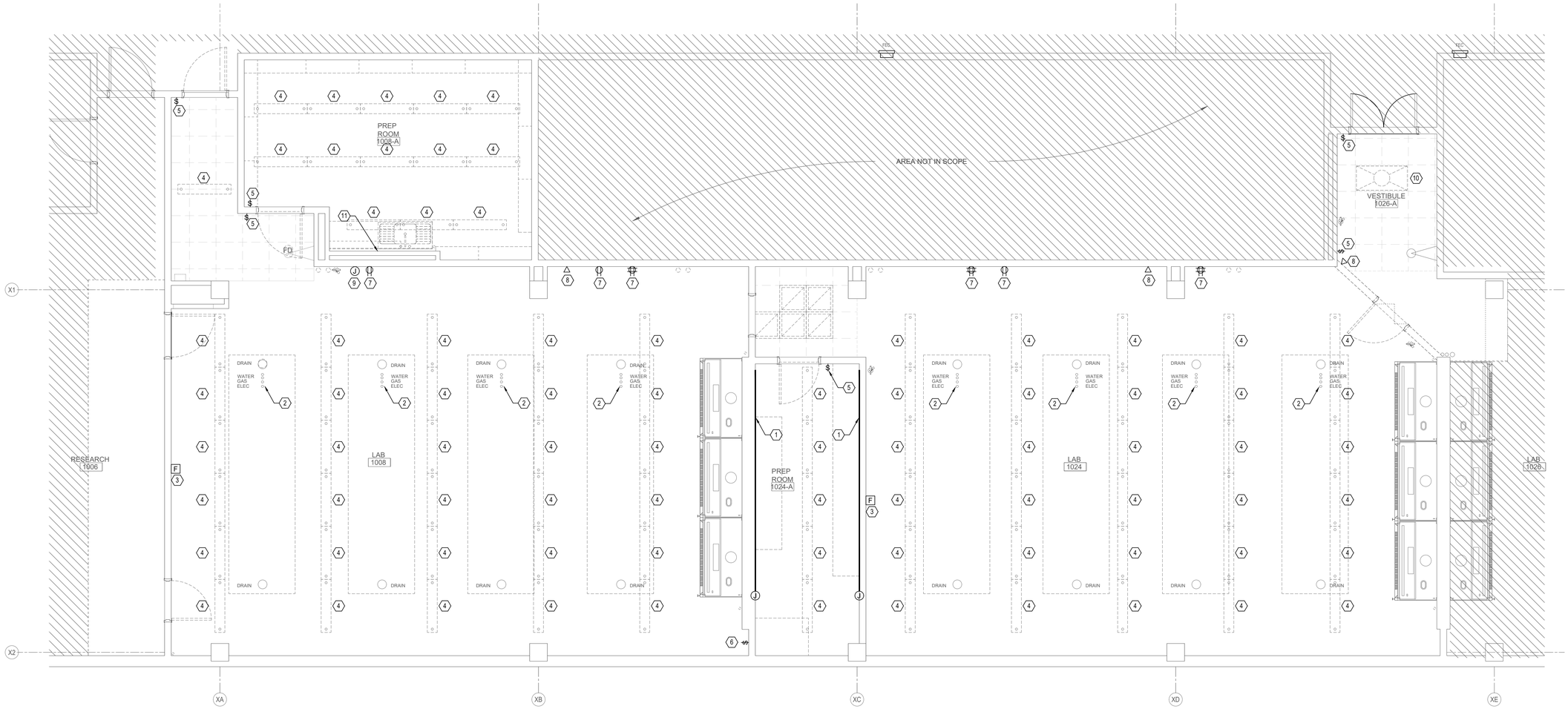
(7) REMOVE EXISTING RECEPTACLE AND WIRING BACK TO PANEL.

(8) REMOVE EXISTING IT JACK AND WIRING BACK TO PATCH PANEL.

(9) REMOVE EXISTING JUNCTION BOX AND WIRING BACK TO PANEL.

(10) REMOVE EXISTING LIGHT. BRANCH CIRCUIT TO REMAIN AND BE REUSED FOR NEW LIGHT.

(11) REMOVE EXISTING POWER THIS WALL TO JUNCTION BOX AT CEILING FOR REUSE.



16 PARTIAL FLOOR PLAN - ELECTRICAL DEMOLITION
1/4" = 1'-0"
0 4' 8'

N
TRUE NORTH

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DEMOLITION PLAN - ELECTRICAL

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GENERAL NOTES THIS SHEET:

1. ALL FIXTURES SHALL BE INSTALLED LEVEL AND TRUE, CENTER FIXTURES WHERE APPLICABLE. REFER TO ARCHITECT'S REFLECTED CEILING PLAN AND ARCHITECT'S ELEVATIONS FOR FIXTURE LOCATIONS.
2. ALL FIXTURES SHALL BE TYPE F1 UNLESS NOTED OTHERWISE.
3. INSTALL FIXTURES IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS. PROVIDE ALL NECESSARY WIRING, SWITCHES AND MOUNTING HARDWARE.
4. ALL CONDUIT SHALL BE 1/2" WITH 2-#12 AWG & 1-#12 GRD UNLESS NOTED OTHERWISE. WIRE MULTI-WAY SWITCHES AND LIGHTING CONTROLS IN ACCORDANCE WITH THE PRODUCT LITERATURE.
5. FOR CONDUIT RUNS EXCEEDING 75', INCREASE TO #10 AWG CONDUCTORS.
6. GROUNDING SHALL BE IN ACCORDANCE WITH NEC ART. 250.
7. PROVIDE LED EXIT FIXTURES AT ALL LOCATIONS AS SHOWN ON THE LIFE SAFETY PLAN.
8. ALL EXTERIOR LIGHTING SHALL BE PHOTOCELL CONTROLLED UNLESS NOTED OTHERWISE.
9. PROVIDE UNSWITCHED HOT CONDUCTOR TO ALL EXIT AND EMERGENCY FIXTURES.
10. SEE ARCHITECTURAL DRAWINGS FOR PHASING REQUIREMENTS.

SPECIFIC NOTES THIS SHEET:

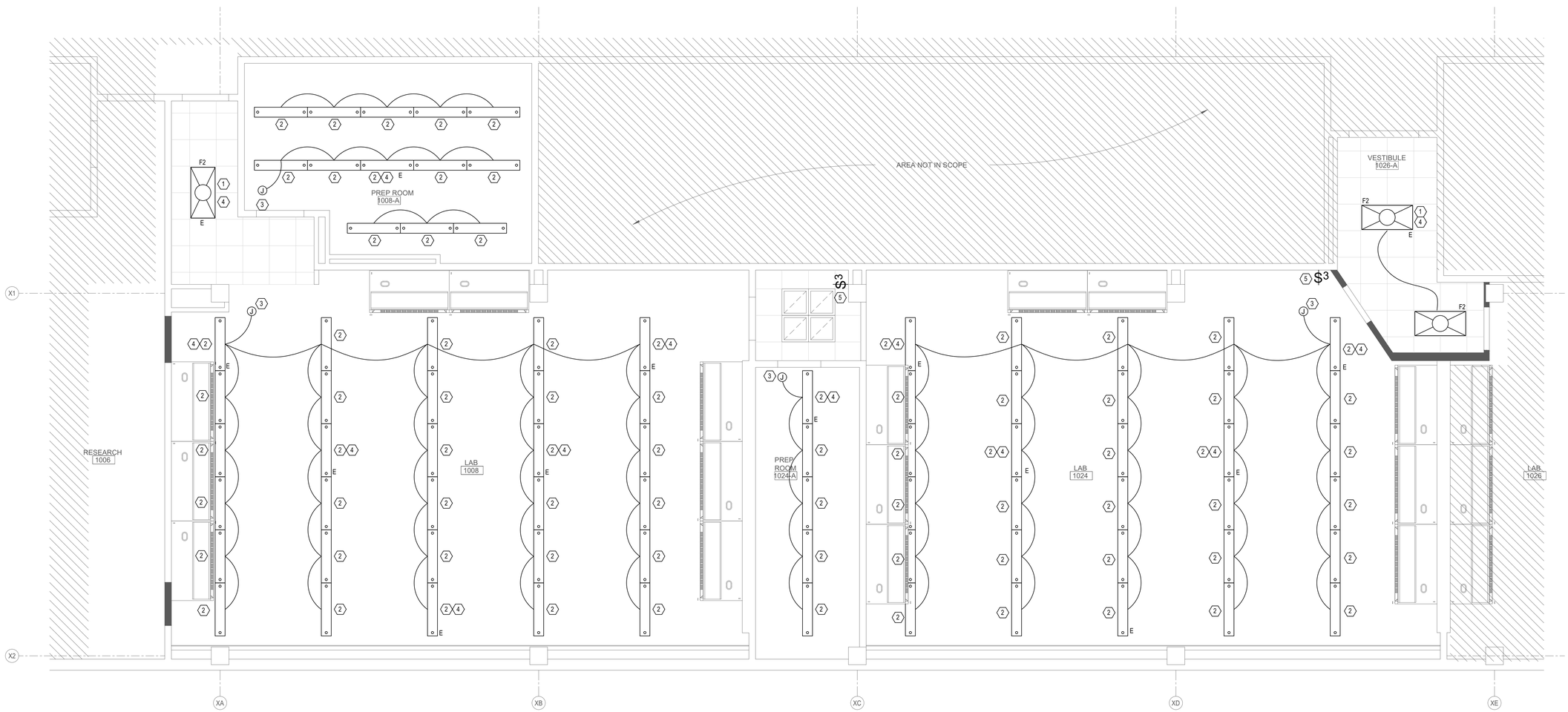
(1) CONNECT TO EXISTING LIGHTING CIRCUIT.

(2) NEW LIGHT FIXTURES. MOUNT TO EXISTING SUPPORTS. CONNECT TO EXISTING ROOM LIGHTING CIRCUIT.

(3) EXISTING LIGHTING JUNCTION BOX. CONNECT TO EXISTING ROOM LIGHTING CIRCUIT. VERIFY EXACT LOCATION ON SITE. MAINTAIN CIRCUIT CONTINUITY.

(4) PROVIDE UNSWITCHED CONDUCTOR TO 'E' LIGHTS.

(5) PROVIDE NEW 3-WAY SWITCHES FOR LIGHTING IN ROOM 1024. INTERCEPT EXISTING SWITCHING CIRCUIT AND WIRE (2) NEW 3-WAY SWITCHES FOR ROOM 1024 CONTROL. VERIFY EXACT REQUIREMENTS ON SITE.



16 PARTIAL FLOOR PLAN - LIGHTING

1/4" = 1'-0" 0 4' 8'

N TRUE NORTH

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QUALITY CONTROL	JTC

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E200

PARTIAL FLOOR PLAN - LIGHTING

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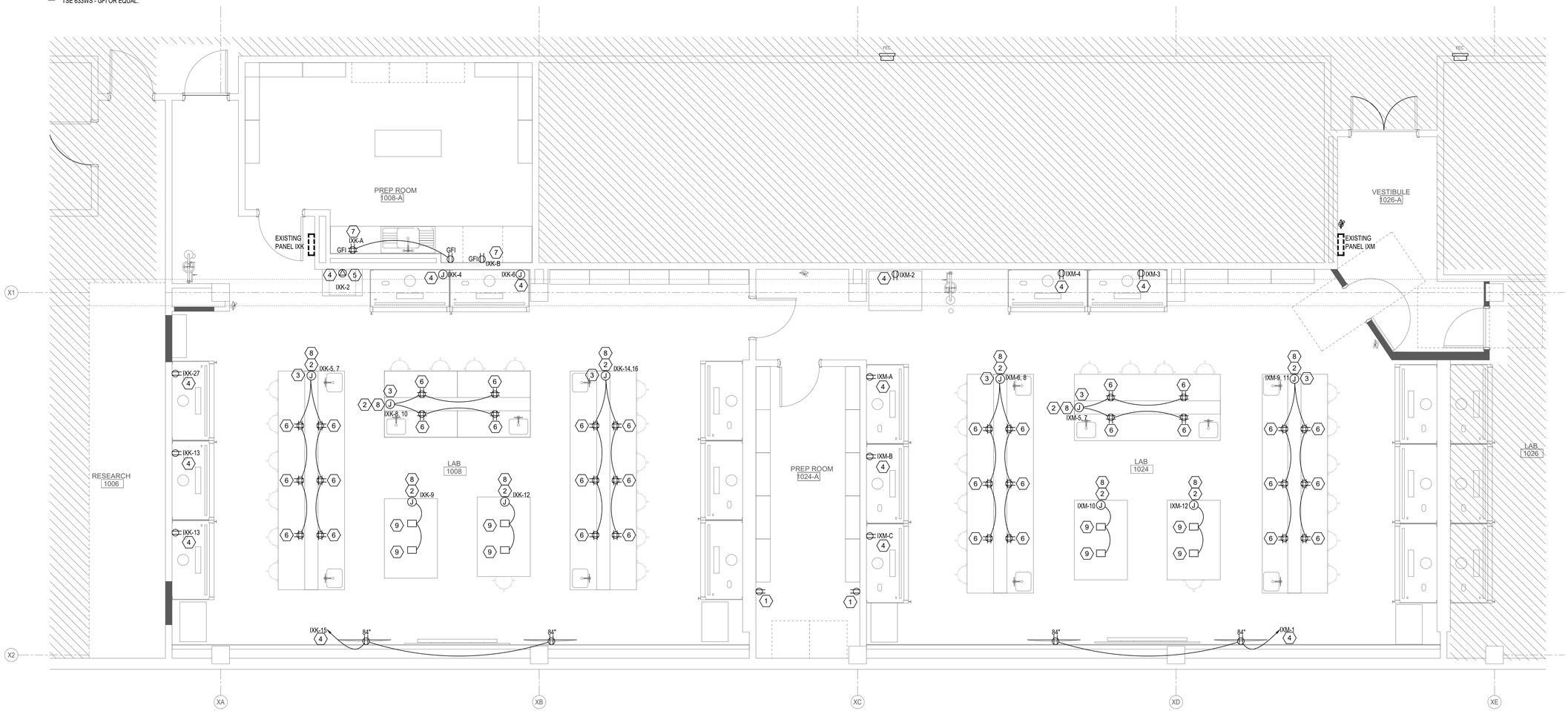
GENERAL NOTES THIS SHEET:

1. REFER TO ARCHITECT'S FLOOR PLANS AND ARCHITECT'S ELEVATIONS FOR RECEPTACLE AND OUTLET LOCATIONS. PROVIDE ADDITIONAL RECEPTACLES AS REQUIRED.
2. PROVIDE DEDICATED NEUTRAL FOR EACH CIRCUIT. DO NOT SHARE NEUTRAL CONDUCTORS.
3. ALL CONDUIT SHALL BE 1/2" WITH 2-#12 AWG & 1-#12 GRD UNLESS NOTED OTHERWISE. FOR CONDUIT RUNS LONGER THAN 75', UPSIZE CONDUCTORS TO #10 AWG.
4. GROUNDING SHALL BE IN ACCORDANCE WITH NEC ART. 250.
5. PROVIDE POWER FOR ALL EQUIPMENT SHOWN ON MECHANICAL AND ARCHITECTURAL FLOOR PLANS. COORDINATE EXACT REQUIREMENTS WITH SUBMITTALS.
6. ALL WORK SHALL BE IN ACCORDANCE WITH THE NEC.
7. ALL TOILET ROOM, KITCHEN, EQUIPMENT ROOM AND RECEPTACLES WITHIN 6' OF A PLUMBING FIXTURE SHALL BE GFCI TYPE. EXTERIOR RECEPTACLES SHALL WEATHERPROOF GFCI.
8. PROVIDE RECEPTACLES NEAR AC EQUIPMENT FOR SERVICING AS REQUIRED BY THE NEC.
9. 9.SEE ARCHITECTURAL DRAWINGS FOR PHASING REQUIREMENTS.

SPECIFIC NOTES THIS SHEET:

1. PROVIDE SURFACE MOUNTED RECEPTACLE AND JUNCTION BOX AT LOCATION OF EXISTING JUNCTION BOX.
2. CONNECT TO EXISTING BRANCH CIRCUIT (3) IN CRAWLSPACE. VERIFY EXACT LOCATION ON SITE. CORE SLAB AS REQUIRED. EXISTING CIRCUITS SUPPLIED DEMOLISHED LAB TABLES
3. PROVIDE RACEWAY IN CHASE FROM CRAWLSPACE UP TO CASEWORK CHASE ABOVE TABLE TOP.
4. HOMERUN TO CIRCUIT INDICATED. PROVIDE SURFACE MOUNTED RACEWAY AS REQUIRED.
5. 30A, 120V, 1PH RECEPTACLE. VERIFY TYPE WITH EQUIPMENT. ½"C, 2 #10 AWG & 1# 10 GRD. HOMERUN TO EXISTING PANEL IXK, INSTALL 30A, 1 POLE BREAKER.
6. MOUNT RECEPTACLES IN VERTICAL PANEL. SEE ARCHITECTURAL ELEVATIONS.
7. HOMERUN TO PANEL INDICATED. LETTER DESIGNATES NEW CIRCUIT. CONNECT TO EXISTING BREAKER RECAPTURED DURING DEMOLITION. PROVIDE SURFACE MOUNTED RACEWAY AS REQUIRED.
8. REPLACE EXISTING BREAKER(S) WITH 20A, 1P, GFCI TYPE.
9. DOUBLE GANG, DOUBLE FACED ELECTRICAL PEDESTAL WITH GFI OUTLETS, THOMAS SCIENTIFIC TSE 633WS - GFI OR EQUAL.



16 PARTIAL FLOOR PLAN - POWER & SPECIAL SYSTEMS

1/4" = 1'-0"

0 4' 8'

N TRUE NORTH

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E201

PARTIAL FLOOR PLAN - ELECTRICAL

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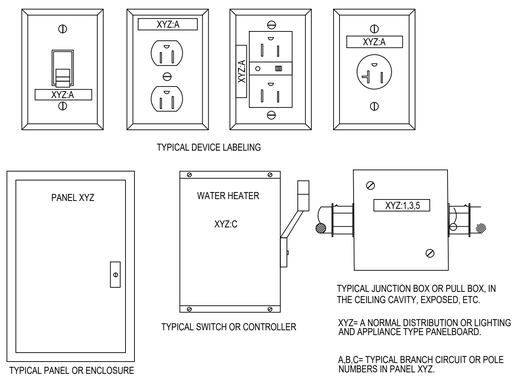
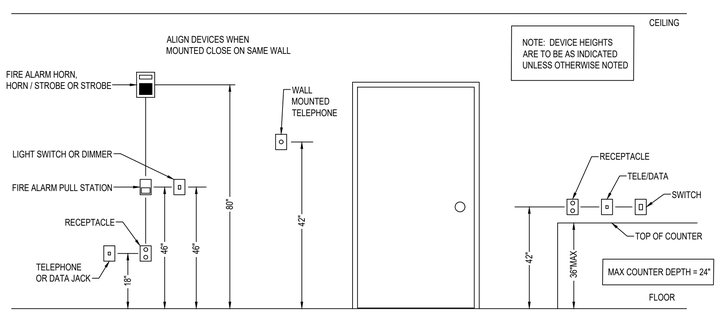
ELECTRICAL/TELECOM LEGEND

SYMBOL	DESCRIPTION		SYMBOL	DESCRIPTION
$a	SINGLE POLE SWITCH	LETTER DENOTES FIXTURE CONTROL		DUPLEX RECEPTACLE MTD. 18" ABOVE FLOOR
$a,b	THREE WAY SWITCH			DUPLEX RECEPTACLE MTD. ABOVE WORK SURFACE
$WP	WEATHERPROOF TOGGLE SWITCH		WP	DUPLEX RECEPTACLE, WEATHERPROOF
$D	DIMMER SWITCH - TO BE COMPATIBLE WITH LIGHT FIXTURE DRIVER			FLOOR OUTLET
$F	CEILING FAN SWITCH			CEILING OUTLET
$OC	OCCUPANCY SENSOR SWITCH			SPECIAL OUTLET
$T	TIMER SWITCH	LETTER DENOTES FIXTURE CONTROL	GFI	DUPLEX RECEPTACLE W/GROUND FAULT INTERRUPTER
	HOME RUN TO PANEL	CROSS LINES DENOTE NUMBER OF CONDUCTORS WHEN MORE THAN TWO		QUADRAPLEX RECEPTACLE MTD. 18" ABOVE FLOOR
	CONCEALED WIRING			DATA/CABLE OUTLET (WALL)
	DISCONNECT SWITCH W/VISIBLE BLADES			TELEPHONE OUTLET (WALL)
	ELECTRIC MOTOR W/APPROVED DISCONNECT SWITCH			TELEPHONE OUTLET (FLOOR)
J	JUNCTION BOX			TELEPHONE/DATA OUTLET (WALL)



DEVICE AND EQUIPMENT LABELING DETAIL

NO SCALE



TYPICAL DEVICE MOUNTING HEIGHTS

NO SCALE

LIGHTING FIXTURE SCHEDULE

MARK	DESCRIPTION	LAMP
F1	4' LINEAR DIRECT/INDIRECT LED - SEE PLANS FOR CONTINUOUS LENGTH AND ELEVATIONS FOR MOUNTING HEIGHT CORELITE J2WL30L935-1-277-STD-DLED-W-XX	23W LED 277V
F2	2'x4' LENSED LED TROFFER WITH UNIVERSAL BALLAST COOPER 24GR-LD4-38-A125-UNV-L835-1	35W LED 277V

PROVIDE EMERGENCY BATTERY AND DRIVER/BALLAST FOR ALL FIXTURES WITH 'E' DESIGNATION.
PRIOR APPROVED - PEERLESS, LITHONIA

ELECTRICAL SPECIFICATIONS

GENERAL

COMPLY WITH NATIONAL ELECTRICAL MANUFACTURERS ASSOCIATION (NEMA): INSULATED POWER CABLE ENGINEERS ASSOCIATION (IPCEA): NATIONAL ELECTRICAL CODE (NFPA NO. 70): LOUISIANA STATE FIRE MARSHAL REQUIREMENTS: LOCAL REGULATORY AGENCIES: ALL APPLICABLE CODES AND STANDARDS.

ALL APPLICABLE PRODUCTS TO HAVE U.L. LABEL ATTACHED.

ARRANGE AND PAY FOR REQUIRED PERMITS, LICENSES, FEES, AND INSPECTIONS.

MATERIALS AND INSTALLATION

ALL MATERIAL SHALL BE NEW, U.L. APPROVED, AS SPECIFIED.

INSTALLATION SHALL BE IN ACCORDANCE WITH THE NATIONAL ELECTRICAL CODE, STATE, AND LOCAL CODES.

EXTERIOR/EXPOSED TO WEATHER CONDUIT SHALL BE GRS. UNDERGROUND CONDUIT SHALL BE CONCRETE ENCASED SCHEDULE 40 PVC. UNDERGROUND INSTALLATION SHALL BE IN ACCORDANCE WITH NEC ARTICLE 230 AND 300. BRANCH CIRCUITS SHALL BE RUN IN EMT. MINIMUM SIZE CONDUIT SHALL BE 1/2". FLEXIBLE CONDUIT MAY BE USED FOR BRANCH CIRCUITS IF APPROVED BY LOCAL AUTHORITY. AT CONTRACTORS OPTION, TYPE MC CABLE MAY BE USED, EXCEPT UNDERGROUND, IN CMU WALLS OR IN CONCRETE SLABS.

WIRING DEVICES SHALL BE SPECIFICATION GRADE AS MANUFACTURED BY LEVITON, OR APPROVED EQUAL.

ALL LIGHTING FIXTURES SHALL BE AS SCHEDULED ON THE DRAWINGS, OR APPROVED EQUAL.

CONDUCTORS SHALL BE COPPER WITH TYPE THHN/THWN INSULATION.

DISTRIBUTION PANELS SHALL BE BOLT-ON CIRCUIT BREAKER TYPE.

120 VOLT RECEPTACLES SHALL BE DUPLEX GROUNDING TYPE MOUNTED AT 18" UNLESS OTHERWISE SPECIFIED. OUTLET DEVICE/COVER PLATE COLOR BY ARCHITECT.

DISCONNECT SWITCHES SHALL BE HEAVY DUTY, FUSIBLE TYPE, NEMA-1 FOR INDOORS, NEMA-3R FOR OUTDOORS. PROVIDE UNISTRUT FRAMING AS REQUIRED FOR MOUNTING OF DISCONNECT SWITCHES.

SURFACE MOUNTED RACEWAYS SHALL BE ONE PIECE STEEL, WHITE COLOR, WITH ALL REQUIRED FITTINGS, WIREMOLD V700 OR EQUAL. PROVIDE SURFACE MOUNTED OUTLET BOX WHERE RECEPTACLES ARE SHOWN.

OUTLET AND SWITCH BOXES SHALL BE 4" SQUARE BY 1 1/2" DEEP OR LARGER.

LIGHT SWITCHES SHALL BE 20 AMP TOGGLE TYPE MOUNTED AT 48 INCHES FROM FINISHED FLOOR. DIMMING SWITCH SHALL MATCH LIGHT FIXTURE REQUIREMENTS.

GROUNDING SHALL BE IN ACCORDANCE WITH ARTICLE 250 OF THE NATIONAL ELECTRICAL CODE.

PROVIDE ELECTRICAL CONNECTIONS TO ALL MECHANICAL EQUIPMENT AND EQUIPMENT FURNISHED UNDER OTHER SECTIONS.

FIRE ALARM DEVICES SHALL BE INSTALLED AS INDICATED ON DRAWINGS AND CONNECT TO EXISTING FIRE ALARM PANEL. ALL WORK SHALL BE IN ACCORDANCE WITH NFPA 72 AND 101. UTILIZE CEILING MOUNTED SPEAKER STROBES TO MATCH EXISTING.

LABOR AND MATERIAL SHALL BE GUARANTEED FOR ONE (1) YEAR FROM DATE OF ACCEPTANCE.

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ELECTRICAL SCHEDULES AND DETAILS

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