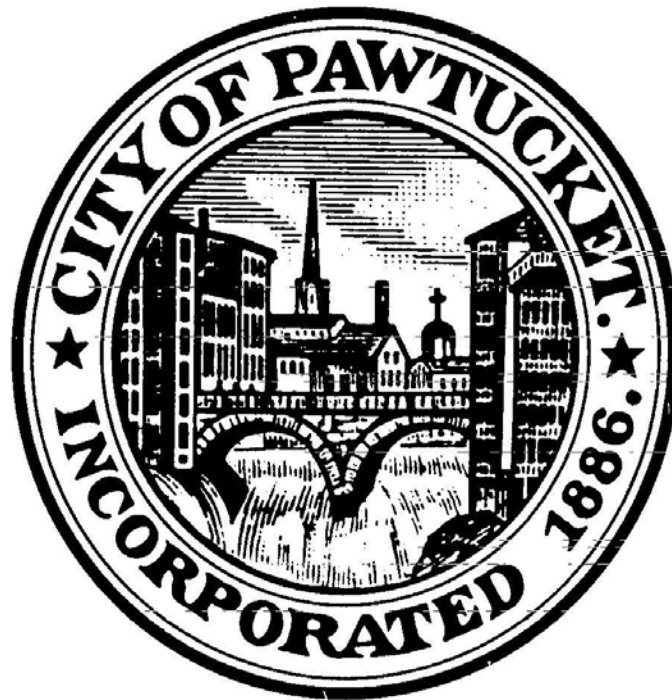


# CITY OF PAWTUCKET

## REQUEST FOR PROPOSALS



**Bid #23-031**  
**Pawtucket Library Sprinkler Installation**

03/01/2023

## Contents:

- 1.0 Bid/Solicitation Information
- 2.0 Instructions and Notifications to Bidders
- 3.0 Overview
- 4.0 Scope of Work
- 5.0 Insurance
- 6.0 Acknowledgement of Risk and Hold Harmless Agreement
- 7.0 Additional Insurance Requirements
- 8.0 Proposal Content and Organization
- 9.0 Evaluation Criteria
- 10.0 Miscellaneous
- 11.0 Bid Form
- 12.0 General Conditions – AIA Document A201
  - 12.1 Addendum To General Conditions
- 13.0 Supplementary Conditions
- 14.0 Special Conditions
- Appendix A Anti-Kickback Acknowledgement
- Appendix B City of Pawtucket Purchasing Rules and Regulations and Terms and Conditions of Purchase
- Appendix C General Wage Rate Decision – Davis Bacon
- Appendix D City of Pawtucket Standard Form of Agreement (Sample)
- Appendix E Site Plans Issued for Bid
- Appendix F Technical Specifications Issued for Bid

## 1.0 - Bid/Solicitation Information

### Schedule

Pre-Bid/Proposal Conference:  No  Yes

March 8, 2023 @ 11:00 AM

\*\*\*\*\* **Mandatory** \*\*\*\*\*

Location:

Pawtucket Public Library

13 Summer Street

Pawtucket, RI 02860

Requests for Further Information:

March 15, 2023 @ 4:00 PM

Requests for information or clarification must be made electronically to the attention of:

Joe Morais, Senior Project Leader

E-mail: [jmorais@pawtucketri.com](mailto:jmorais@pawtucketri.com)

Please reference the RFP / LOI number on all correspondence. Answers to questions received, if any, will be posted on the internet as an addendum to this bid solicitation.

RFP Submission Deadline:

March 23, 2023 at 12:00 PM

**Late submittals will not be considered.**

Proposals must be mailed or hand-delivered in a sealed envelope **marked with the RFP/Bid # and Project Name** to:

Pawtucket City Hall - Purchasing Office

137 Roosevelt Avenue

Pawtucket, RI 02860

Sealed bids will be opened and acknowledged on March 23, 2023 at 4:00 PM at a Purchasing Board Meeting in the City Council Chambers located on the 3rd floor of City Hall.

### **Bonds/Surety Required**

Bid Bond:  No  Yes

Bidder is required to provide a bid surety in the form of a bid bond or certified check payable to the City of Pawtucket in an amount not less than five percent (5%) of the bid price.

Fidelity Bond:  No  Yes

Performance and Payment Bond:  No  Yes

(Submit upon award of contract)

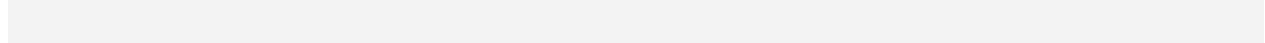
Bidder is required to provide a performance and payment bond as outlined in the City's General Terms & Conditions of Purchase (Appendix B of this RFP) in an amount not less than one hundred percent (100%) of the bid price.

The successful bidder will be required to furnish all insurance documentation as outlined in the attached Purchasing Rules & Regulations and General Terms & Conditions of Purchase.

### **Miscellaneous**

The bid process and resulting contract are subject to the Rules and Regulations and General Terms and Conditions of Purchase. Submission of a bid in response to this solicitation is acknowledgement and acceptance of these Rules and Regulations and General Terms and Conditions of Purchase.

The City of Pawtucket reserves the right to award on the basis of cost alone, accept or reject any or all bids, and to act in its best interest including, but not limited to, directly negotiating with any vendor who submits a proposal in response to this RFP and to award a contract based upon the results of those negotiations alone. Proposals found to be technically or substantially non-responsive at any point in the evaluation process will be rejected and not considered further. The City of Pawtucket may, at its sole option, elect to require presentations(s) by bidders clearly in consideration for award.





## 2.0 - Instructions and Notifications to Bidders

- It is the vendor's responsibility to examine all specifications and site conditions thoroughly, and comply fully with specifications and all attached terms and conditions. Vendors must comply with all Federal, State, and City laws, ordinances and regulations, and meet any and all registration requirements where required for contractors as set forth by the State of Rhode Island. Failure to make a complete submission as described herein may result in a rejection of the proposal.
- All costs associated with developing or submitting a proposal in response to this Request, or to provide oral or written clarification of its content shall be borne by the bidder. The City of Pawtucket assumes no responsibility for these costs.
- A submittal may be withdrawn by written request to the Purchasing Agent by the proposer prior to the stated RFP deadline.
- Prior to the proposal deadline established for this RFP, changes may be made to a proposal already received by the City if that vendor makes a request to the Purchasing Agent, in writing, to do so. No changes to a proposal shall be made after the RFP deadline.
- Proposals are considered to be irrevocable for a period of not less than ninety (90) days following the opening date, and may not be withdrawn, except with the express written permission of the Purchasing Agent. Should any vendor object to this condition, the vendor must provide objection through a question and/or complaint to the Purchasing Agent prior to the proposal deadline.
- All pricing submitted will be considered to be firm and fixed unless otherwise indicated herein.
- The vendor has full responsibility to ensure that the proposal arrives at the Purchasing Division Office prior to the deadline set out herein. The City assumes no responsibility for delays caused by the U.S. Postal Service or any other delivery service. Postmarking by the due date will not substitute for actual receipt of response by the due date. Proposals arriving after the deadline may be returned, unopened, to the vendor, or may simply be declared non-responsive and not subject to evaluation, at the sole discretion of the Purchasing Agent. **For the purposes of this requirement, the official time and date shall be that of the time clock in the City of Pawtucket's Purchasing Office.**
- At the time and place fixed for the opening of Bids, the Owner will cause to be opened and publicly read aloud every Bid received within the time set for receiving Bids, irrespective of any irregularities therein. Bidders and other persons properly interested may be present, in person or by representative.
- It is intended that an award pursuant to this Request will be made to a prime contractor, who will assume responsibility for all aspects of the work. Joint venture and cooperative proposals will not be considered, but subcontracts are permitted, provided that their use is clearly indicated in the bidder's proposal, and the subcontractor(s) proposed to be used are identified in the proposal.
- Bidders are advised that all materials submitted to the City of Pawtucket for consideration in response to this Request for Proposals shall be considered to be public records as defined in Title 38 Chapter 2 of the Rhode Island General Laws,

without exception, and may be released for inspection immediately upon request once an award has been made.

- Vendors are responsible for errors and omissions in their proposals. No such error or omission shall diminish the vendor's obligations to the City.
- The City reserves the right to reject any or all proposals, or portions thereof, at any time, with no penalty. The City also has the right to waive immaterial defects and minor irregularities in any submitted proposal at its sole discretion. All material submitted in response to this RFP shall become the property of the City of Pawtucket upon delivery to the Purchasing Agent.
- Bids will be opened publicly at a regularly scheduled purchasing board meeting, the date of which is the same as the RFP submission deadline provided in Section 1.0.
- Interpretations or Addenda: No oral interpretation will be made to any Bidder as to the meaning of the Contract Documents or any part thereof. Every request for such an interpretation shall be made in writing to the City of Pawtucket (hereinafter called the "Owner"). Any inquiry received seven or more days prior to the date fixed for opening of Bids will be given consideration. Every interpretation made to a Bidder will be in the form of an Addendum to the Contract Documents, and when issued, will be on file in the office of the Owner at least five days before Bids are opened. In addition, all Addenda will be mailed to each person holding Contract Documents, but it shall be the Bidder's responsibility to make inquiry as to the Addenda issued. All such Addenda shall become part of the Contract and all Bidders shall be bound by such Addenda, whether or not received by the Bidders.
- Each Bidder shall, upon request of the Owner, submit a detailed financial statement on a form furnish by the Owner for that purpose. The Owner shall have the right to take such steps as it deems necessary to determine the ability of the Bidder to perform his obligations under the Contract and the Bidder shall furnish the Owner all such information and data for this purpose as it may request. The right is reserved to reject any Bid where an investigation of the available evidence or information does not satisfy the Owner that the Bidder is qualified to carry out properly the terms of the Contract.

## **3.0 - Overview**

### **3.1 Project Overview**

Installation of fully operative automatic fire sprinkler system in the Burns Building and Connector Building at the City of Pawtucket Public Library.

### **3.2 Project Background**

The City of Pawtucket's Public Library was reported as non-compliant in 2021 for the lack of sprinklers inside the Pawtucket Public Library by the local Fire Marshal. Following a review with the Fire Safety Board of Appeal and Review, the Board granted the city with a three (3) year time variance to install an automatic sprinkler system in the Burns Building and Connector Building. The Board's deadline for completion of this installation ends on August 1<sup>st</sup>, 2024.

## **4.0 - Scope of Work**

### **4.1 Location**

The location of the proposed construction activity ("the Project") is shown on the Site Plans Issued for Bid included in this RFP as Appendix E. In general terms, the location of the Project can be described as follows:

- 13 Summer Street, Pawtucket, Rhode Island 02860; and
- Portions of the following properties:
  - Assessor's Plat (A.P.) 43, Lots 0418

### **4.2 General Requirements**

#### **4.2.1 Project Schedule**

Project is to begin immediately following contractual agreement. The Project is to be fully completed no later than August 1, 2024

#### **4.2.2 Hours of Work**

Hours of work will be provided at the pre-bid meeting.

#### **4.2.3 Prevailing Wage Requirements**

Bidders are advised that payment of the local prevailing wage, as established by the Rhode Island Department of Labor and Training, is a requirement of this project, as outlined in Appendix B. A copy of the current prevailing wage decision is included in this document as Appendix C. Bidders are advised that the City will not amend this document prior to the bid due date for the purpose of notifying bidders of a superseding wage decision(s). Bidders are expected to account for the prevailing wage rates applicable to this project in the formulation of their bid.

#### **4.2.4 Payment Requisitions**

The Contractor shall prepare draft requisitions for payment for the Project Engineer's review and approval and revise the requisitions as necessary prior to submission to

the Owner. Payment requisitions shall be prepared using AIA Standard Forms G702 and G703.

The Owner reserves the right to withhold 5% of each progressive request for payment as retainage. The Owner shall release retainage payments per the terms outlined in Section 12.0 of this RFP.

### **4.3 Scope Detail**

The scope of work is defined comprehensively in the Site Plans and Specifications issued for bid, which are incorporated into this RFP as Appendices E and F, respectively.

## **5.0 - Insurance**

The vendor shall maintain and keep in force such comprehensive general liability insurance as shall protect them from claims which may arise from operations under any contract entered into with the City of Pawtucket, whether such operations be by themselves or by anyone directly or indirectly employed by them.

The amounts of insurance shall be not less than \$1,000,000.00 combined single limit for any one occurrence covering both bodily injury and property damage, including accidental death.

The City of Pawtucket shall be named as additional insured on the vendor's General Liability Policy.

The vendor shall maintain and keep in force such Workers' compensation insurance limits as required by the statutes of the State of Rhode Island, and Employer's Liability with limits no less than \$500,000.

## **6.0 - Acknowledgement of Risk & Hold Harmless Agreement**

In addition to the indemnity provisions in the City of Pawtucket's Terms and Conditions of Purchase and to the fullest extent permitted by law, the selected vendor, its officers, agents, servants, employees, parents, subsidiaries, partners, officers, directors, attorneys, insurers, and/or affiliates (Releasors) agree to release, waive, discharge and covenant not to sue the City of Pawtucket, its officers, agents, servants or employees (Releasees) from any and all liability, claims, cross-claims, rights in law or in equity, agreements, promises demands, actions and causes of action whatsoever arising out of or related to any loss, damage, expenses (including without limitation, all legal fees, expenses, interest and penalties) or injury (including death), of any type, kind or nature whatsoever, whether based in contract, tort, warranty, or other legal, statutory, or equitable theory of recovery, which relate to or arise out of the Releasors use of or presence in and/or on City of Pawtucket property. The Releasors agree to defend, indemnify and hold harmless the Releasees from (a) any and all claims, loss, liability, damages or costs by any person, firm, corporation or other entity claiming by, through or under Releasors in any capacity whatsoever, including all subrogation claims and/or claims for reimbursement, including any court costs and attorneys fees, that may incur due to Releasors use of or presence in and on City of Pawtucket property; and (b) any and all legal actions, including third-party actions, cross-actions, and/or claims for contribution and/or indemnity with respect to any claims by any other persons, entities, parties, which relate to or arise out of Releasors use of or presence in and on City of Pawtucket property.

The Releasors acknowledge the risks that may be involved and hazards connected with use of or presence in and on City of Pawtucket property but elect to provide services under any contract with the City of Pawtucket with full knowledge of such risks. Releasors also acknowledge that any loss, damage, and/or injury sustained by Releasors is not covered by Releasees insurance. Releasors agree to become fully aware of any safety risks involved with the performance of services under any contract with the City of Pawtucket and any safety precautions that need to be followed and agree to take all such precautions.

The duty to indemnify and/or hold harmless the City of Pawtucket shall not be limited by the insurance required under the City of Pawtucket Terms and Conditions of Purchase.

## **7.0 - Additional Insurance Requirements**

In addition to the insurance provisions in the City of Pawtucket Terms and Conditions of Purchase, the liability insurance coverage, except Professional Liability, Errors and Omissions or Workers' Compensation insurance required for performance of a contract with the City of Pawtucket shall include the City of Pawtucket, its divisions, officers and employees as Additional Insureds but only with respect to the selected vendor's activities under the contract. The insurance required through a policy or endorsement shall include:

- A. a Waiver of Subrogation waiving any right to recovery the insurance company may have against the City of Pawtucket; and
- B. a provision that the selected vendor's insurance coverage shall be primary with respect to any insurance, self insurance or self retention maintained by the City of Pawtucket and that any insurance, self insurance or self retention maintained by the City of Pawtucket shall be in excess of the selected vendor's insurance and shall not contribute.

There shall be no cancellation, material change, potential exhaustion of aggregate limits or non-renewal without thirty (30) days written notice from the selected vendor or its insurer(s) to the City of Pawtucket's Purchasing Agent. Any failure to comply with the reporting provision of this clause shall be grounds for immediate termination of the contract with the City of Pawtucket.

Insurance coverage required under the contract shall be obtained from insurance companies acceptable to the City of Pawtucket. The selected vendor shall pay for all deductibles, self insured retentions and/or self insurance included hereunder.

The City of Pawtucket's Purchasing Agent reserves the right to consider and accept alternative forms and plans of insurance or to require additional or more extensive coverage for any individual requirement.

## 8.0 - Proposal Content and Organization

All bids must be submitted on the forms supplied in Section 11.0 and shall be subject to all requirements of the Contract Documents, including these instructions to bidders. All bids must be regular in every respect and no interlineations, excisions or special conditions shall be made or included in the Bid Form by the Bidder. Pricing must include all costs as specified in this solicitation.

The Owner may consider as irregular any Bid on which there is an alteration of or departure from the Bid Form hereto attached and at its option may reject the same.

Bid Documents, including the Bid, the Bid Bond, the Non-Collusion Affidavit, the Anti-Kickback Acknowledgment, and the Statement of Bidder's Qualifications (if requested) shall be enclosed in a sealed envelope which shall be clearly labeled with the words, **“Installation of Sprinklers at Pawtucket Public Library – RFP 23-031”**, as well as name of Bidder, and date of bid opening.

All Bid Forms must be signed.

If the Contract is awarded, it will be awarded by the Owner to a responsible Bidder on the basis of the lowest qualified bid price and the selected Alternative Bid items, if any.

Vendors must include on the Bid Form a list of at least four (4) references with whom they have contracted to do similar work by including the company name, telephone number, contact person, and number of years they have served this customer. Preferably, references should be municipalities which are of approximate size as the City of Pawtucket, and a website address should be included if available.

Respondents must also include an overview of their company's experience including, but not limited to, the number of years the company has been providing these services, the size of the company (including the number of employees and locations), a description of work undertaken that is similar to what is being requested in this RFP, and, if applicable, certifications that show a knowledge of equipment that would be serviced or provided under this contract.

If any subcontractors are to be used in the performance of any work contracted for under this RFP, please list their name(s), contractor license #, address and phone number, and specific description of the subcontract work to be performed. See Proposed Subcontractors form.

Two (2) copies of your proposal—one (1) original hard copy and one digital (1) copy on CD or similar format—must be submitted at the time of submission. Proposals must be in the following format:

Bid Form

Company overview

Length of time your firm has been in business

Length of time at current address

All licensing (List types and business license number(s)), certification and permits as required in the Scope of Work

Please state any and all additions, deletions, and exceptions, if any, that you are taking to any portion of this proposal. If not addressed specifically, the City of Pawtucket assumes that the vendor will adhere to all terms and conditions listed in this RFP.

Submission of a proposal is acknowledgement and acceptance of the City of Pawtucket's Purchasing Rules and Regulations and General Terms and Conditions of Purchase.



## 9.0 - Evaluation Criteria

The evaluation of proposals will be conducted in a time frame convenient to the City.

The City of Pawtucket reserves the right to award on the basis of cost alone, accept or reject any or all proposals, and to otherwise act in its best interest including, but not limited to, directly negotiating with any Vendor who submits a proposal in response to this RFP and to award a contract based upon the results of those negotiations alone. The City reserves the right to consider as unqualified to do the work of general construction any Bidder who does not habitually perform with his own forces the major portions of the work involved in construction of the Improvements embraced in this Contract.

Further, the City reserves the right to waive irregularities it may deem minor in its consideration of proposals.

Proposals found to be technically or substantially non-responsive at any point in the evaluation process will be rejected and not considered further. The City of Pawtucket may elect to require presentations(s) by vendors in consideration for award.

Proposals will be evaluated in three (3) phases:

1. The first phase is an initial review to determine if the proposal, as submitted, is complete. To be complete, a proposal must meet all the requirements of this RFP.
2. The second phase is an in-depth analysis and review based on criteria below and their associated weights.

<u>Evaluation Criteria</u>	<u>Importance</u>
Experience/Qualifications	20%
References	10%
Price	70%

3. The third is a comparison of each proposal's weighted evaluation relative to the costs proposed.

In the event that the City requires further information and/or a demonstration of any equipment or process offered in any proposal, all vendors asked for same will do so at no cost to the City.

## **10.0 - Miscellaneous**

- Vendors shall at all times comply with all federal, state, and local laws, ordinances and regulations and shall defend, indemnify and save harmless the City of Pawtucket against any claims arising from the violation of any such laws, ordinances and regulations, including but not limited to challenges as to the legality of any and all vendor installations.
- The City is exempt from the payment of the Rhode Island State Sales Tax under the 1956 General Laws of the State of Rhode Island, 44-18-30, Paragraph 1, as amended. Further, the City is also exempt from the payment of any excise or federal transportation taxes. The proposal prices submitted must be exclusive of same, and will be so construed.
- The City of Pawtucket reserves the right to cancel an agreement with the Vendor with thirty (30) days written notice and to award the contract to the next highest evaluated bidder.
- The City of Pawtucket reserves the right to renegotiate the terms of this contract with the Vendor for subsequent years provided the Vendor agrees to the contract terms for the renewal period.
- The payment and performance of any obligations under this contract for years beyond the first fiscal year are subject to the availability of funds.
- The City reserves the right to pay the selected Vendor via credit card at its sole discretion.

# 11.0 – Bid Form

## 23-031 – Pawtucket Library Sprinkler Installation

Date: \_\_\_\_\_

Submitted By: \_\_\_\_\_

(Include Name, Address and Telephone No.) \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Name and remittance address that will appear on invoices:

Physical address of business:

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

### General Information

Is your firm a sole proprietorship doing business under a different name? \_\_\_\_ Yes \_\_\_\_ No

If yes, please indicate sole proprietorship, a name, and the name you are doing business under.

\_\_\_\_\_

\_\_\_\_\_

Is your firm incorporated? \_\_\_\_ Yes \_\_\_\_ No

Will any of the work spelled out in this bid be outsourced? \_\_\_\_ Yes \_\_\_\_ No

If so, please explain below:

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Have you or your firm been subject to suspension, debarment or criminal conviction by the City of Pawtucket, the State of Rhode Island, or any other jurisdiction?

Yes: \_\_\_\_\_ No: \_\_\_\_\_

Have the City of Pawtucket and/or the State of Rhode Island ever terminated contracts with your firm for cause?

Yes: \_\_\_\_\_ No: \_\_\_\_\_

Has your firm ever withdrawn from a contract with the City of Pawtucket and/or the State of Rhode Island during its performance?

Yes: \_\_\_\_\_ No: \_\_\_\_\_

Have you or your firm been involved in litigation against the City of Pawtucket and/or the State of Rhode Island.

Yes: \_\_\_\_\_ No: \_\_\_\_\_

If you answered yes to any of the foregoing, please explain the circumstances below. If you or your firm has been involved in litigation against the City of Pawtucket and/or the State of Rhode Island, please include the case caption, case number and status. (If more space is needed, please attach separate sheet and submit with the bid.)

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Is your company bonded? Yes \_\_\_\_ No \_\_\_\_

Please describe the nature and extent of all insurance coverage:

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Addenda

The following Addenda have been received. The noted modifications to the Bidding Documents have been considered and all costs are included in the Bid Sum.

Addendum #1, Dated: \_\_\_\_\_

Addendum #2, Dated: \_\_\_\_\_

Addendum #3, Dated: \_\_\_\_\_

References

Please list at least four (4) companies' with whom you have contracted to provide similar services. Preferably, references should be municipalities which are of approximate size as the City of Pawtucket, and a website address should be included if available.

Reference #1  
Company Name: \_\_\_\_\_  
Contact Person: \_\_\_\_\_ Telephone #: \_\_\_\_\_  
Contract Dates: \_\_\_\_\_ To \_\_\_\_\_  
Website Address: \_\_\_\_\_

Reference # 2  
Company Name: \_\_\_\_\_  
Contact Person: \_\_\_\_\_ Telephone #: \_\_\_\_\_  
Contract Dates: \_\_\_\_\_ To \_\_\_\_\_  
Website Address: \_\_\_\_\_

Reference # 3  
Company Name: \_\_\_\_\_  
Contact Person: \_\_\_\_\_ Telephone #: \_\_\_\_\_  
Contract Dates: \_\_\_\_\_ To \_\_\_\_\_  
Website Address: \_\_\_\_\_

Reference # 4  
Company Name: \_\_\_\_\_  
Contact Person: \_\_\_\_\_ Telephone #: \_\_\_\_\_  
Contract Dates: \_\_\_\_\_ To \_\_\_\_\_  
Website Address: \_\_\_\_\_

## Pricing Proposal

### 23-031

#### 1.00 OFFER:

- A. Having examined the Place of the Work and all matters referred to in the Instructions to Bidders and the Contract Documents prepared by LLB Architects (Architect for the above-mentioned project) and the City of Pawtucket, we, the undersigned, hereby offer to enter into a Contract to perform the Work, **Pawtucket Library Sprinkler Installation**, for the amount indicated below, subject to the additions and deductions according to the terms of the Contract Documents and as stated below. The undersigned will provide all necessary and proper material, machinery, equipment, facilities, and means to complete the Work.
- B. The undersigned hereby understands that the City of Pawtucket (Owner) has the right to reject any and all bids and to award the contract in the best interests of the Owner. The Owner reserves the right to award the entire project or delete portions of the work to funds available, whichever is in the best interest of the Owner.
- C. The undersigned also understands that the contract must be carried out in strict accordance with the contract documents.
- D. If this Bid is accepted within the time stated in the contract documents, and we fail to commence the Work, the Bid Bond shall be forfeited as damages to the Owner by reason of our failure, limited in amount to the lesser of the face value of the Bid Bond or the difference between this Bid and the Bid upon which the Contract is executed.

In the event our Bid is not accepted within the time stated in the contract documents, the required Bid Bond shall be returned to the undersigned, in accordance with the provisions of the Instructions to Bidders; unless a mutually satisfactory arrangement is made for its retention and validity for an extended period of time.

The City of Pawtucket reserves the right to increase or decrease the quantities stated in the bid at the unit prices quoted.

#### 1.01 ALLOWANCES:

As part of the Base Bid (Total Bid), the bidder agrees to carry a contingency-based fee of \$25,000 to support potential expansions of the Project scope, none of which shall be authorized without the Owner's express written consent. The Owner reserves the right to remove these items from the contract totally or in part and to adjust the contract sum to reflect the actual costs of the construction authorized by the Owner. .

NOTE: THE UNIT PRICE FOR EACH ITEM MUST BE WRITTEN IN WORDS AND FIGURES. IN CASE OF DISCREPANCY, THE AMOUNT SHOWN IN WORDS WILL GOVERN.

BID ITEM	DESCRIPTION	UNIT	QUANTITY	UNIT BID PRICE	SUBTOTAL COST
1	Pawtucket Library Sprinkler Installation	LS	1		
Unit Price in Words:					
2	OWNER CONTINGENCY (See Section 1.01 Above)	N/A	N/A	25,000	25,000
Unit Price in Words:                      Twenty-five Thousand Dollars and Zero Cents.					

TOTAL BID - DOLLAR AMOUNT (including contingency)

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TOTAL BID IN WORDS (including contingency)

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2.00 BID FORM SIGNATURE(S)

The Corporate Seal of

---

(Bidder - please print the full name of your Proprietorship, Partnership, or Corporation)

was hereunto affixed in the presence of:

---

(Authorized signing officer                      Title)

(Seal)

---

(Authorized signing officer                      Title)

If the Bid is a joint venture or partnership, add additional forms of execution for each member of the joint venture in the appropriate form or forms as above.

**NON-COLLUSION AFFIDAVIT OF PRIME BIDDER**

State of \_\_\_\_\_ )  
County of \_\_\_\_\_ ) .ss

\_\_\_\_\_ ,  
being first duly sworn, deposes and says that;

(1) He is \_\_\_\_\_ (owner, partner, officer, representative or agent) \_\_\_\_\_ of \_\_\_\_\_, the BIDDER that has submitted the attached bid;

(2) He is fully informed respecting the preparation and contents of the attached Bid and all pertinent circumstances respecting such Bid;

(3) Such Bid is genuine and is not a collusive or sham Bid;

(4) Neither the said BIDDER nor any of its officers, partners, owners, agents, representatives, employees, or parties in interest, including the affiant, has in any way colluded, conspired or agreed, directly or indirectly, with any other BIDDER, firm or person to submit a collusive or sham bid in connection with the Contract for which the attached Bid has been submitted or to refrain from bidding in connection with such a contract, or has in any manner, directly or indirectly, sought by agreement or collusion or communication or conference with any other BIDDER, firm or person to fix the price or prices in the attached Bid or of any other Bidder, or to fix any overhead, profit or cost element of the Bid price or the Bid price of any other BIDDER, or to secure through any collusion, conspiracy, connivance or unlawful agreement any advantage against the Local Government or any person interested in the proposed Contract; and

(5) The price or prices quoted in the attached Bid are fair and proper and are not tainted by any collusion, conspiracy, connivance or unlawful agreement on the part of the BIDDER or any of its agents, representatives, owners, employees or parties in interest including this affiant.

(Signed) \_\_\_\_\_  
\_\_\_\_\_  
(Title)

Subscribed and sworn to before me  
This \_\_\_\_\_ Day of \_\_\_\_\_, 20\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

My Commission Expires \_\_\_\_\_



**CERTIFICATE OF COMPLIANCE WITH TAX LAWS**

I, \_\_\_\_\_ of \_\_\_\_\_, certify under  
*(principal)* *(corporation)*  
pains and penalties of perjury that said corporation has complied with all the laws of the State of Rhode Island and Providence Plantations relating to taxes.

\_\_\_\_\_  
Date

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Title

\_\_\_\_\_  
Federal Tax Identification Number

END OF SECTION

## **12 – General Conditions – AIA Document A201**

### **GENERAL CONDITIONS**

#### **AIA DOCUMENT A201, 2007 EDITION**

### **PART I – GENERAL**

#### **DESCRIPTION**

- A. AIA Document A201, General Conditions of the Contract for Construction, Sixteenth Edition, 2007.

# DRAFT AIA® Document A201™ - 2007

## General Conditions of the Contract for Construction

for the following PROJECT:

*(Name and location or address)*

<< ->>  
<< >>

THE OWNER:

*(Name, legal status and address)*

<< >><< >>  
<< >>

THE ARCHITECT:

*(Name, legal status and address)*

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### ADDITIONS AND DELETIONS:

The author of this document has added information needed for its completion. The author may also have revised the text of the original AIA standard form. An *Additions and Deletions Report* that notes added information as well as revisions to the standard form text is available from the author and should be reviewed.

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

### TABLE OF ARTICLES

- 1 GENERAL PROVISIONS
- 2 OWNER
- 3 CONTRACTOR
- 4 ARCHITECT
- 5 SUBCONTRACTORS
- 6 CONSTRUCTION BY OWNER OR BY SEPARATE CONTRACTORS
- 7 CHANGES IN THE WORK
- 8 TIME
- 9 PAYMENTS AND COMPLETION
- 10 PROTECTION OF PERSONS AND PROPERTY
- 11 INSURANCE AND BONDS
- 12 UNCOVERING AND CORRECTION OF WORK
- 13 MISCELLANEOUS PROVISIONS
- 14 TERMINATION OR SUSPENSION OF THE CONTRACT
- 15 CLAIMS AND DISPUTES

## INDEX

(Topics and numbers in bold are section headings.)

### **Acceptance of Nonconforming Work**

9.6.6, 9.9.3, **12.3**

Acceptance of Work

9.6.6, 9.8.2, 9.9.3, 9.10.1, 9.10.3, 12.3

### **Access to Work**

**3.16**, 6.2.1, 12.1

Accident Prevention

10

Acts and Omissions

3.2, 3.3.2, 3.12.8, 3.18, 4.2.3, 8.3.1, 9.5.1, 10.2.5,  
10.2.8, 13.4.2, 13.7, 14.1, 15.2

Addenda

1.1.1, 3.11

Additional Costs, Claims for

3.7.4, 3.7.5, 6.1.1, 7.3.7.5, 10.3, 15.1.4

### **Additional Inspections and Testing**

9.4.2, 9.8.3, 12.2.1, **13.5**

Additional Insured

11.1.4

### **Additional Time, Claims for**

3.2.4, 3.7.4, 3.7.5, 3.10.2, 8.3.2, **15.1.5**

### **Administration of the Contract**

3.1.3, **4.2**, 9.4, 9.5

Advertisement or Invitation to Bid

1.1.1

Aesthetic Effect

4.2.13

### **Allowances**

**3.8**, 7.3.8

All-risk Insurance

11.3.1, 11.3.1.1

### **Applications for Payment**

4.2.5, 7.3.9, 9.2, **9.3**, 9.4, 9.5.1, 9.6.3, 9.7, 9.10,

11.1.3

Approvals

2.1.1, 2.2.2, 2.4, 3.1.3, 3.10.2, 3.12.8, 3.12.9, 3.12.10,

4.2.7, 9.3.2, 13.5.1

### **Arbitration**

8.3.1, 11.3.10, 13.1, 15.3.2, **15.4**

## **ARCHITECT**

**4**

**Architect**, Definition of

**4.1.1**

Architect, Extent of Authority

2.4, 3.12.7, 4.1, 4.2, 5.2, 6.3, 7.1.2, 7.3.7, 7.4, 9.2,  
9.3.1, 9.4, 9.5, 9.6.3, 9.8, 9.10.1, 9.10.3, 12.1, 12.2.1,  
13.5.1, 13.5.2, 14.2.2, 14.2.4, 15.1.3, 15.2.1

Architect, Limitations of Authority and  
Responsibility

2.1.1, 3.12.4, 3.12.8, 3.12.10, 4.1.2, 4.2.1, 4.2.2,  
4.2.3, 4.2.6, 4.2.7, 4.2.10, 4.2.12, 4.2.13, 5.2.1, 7.4,  
9.4.2, 9.5.3, 9.6.4, 15.1.3, 15.2

Architect's Additional Services and Expenses

2.4, 11.3.1.1, 12.2.1, 13.5.2, 13.5.3, 14.2.4

Architect's Administration of the Contract

3.1.3, 4.2, 3.7.4, 15.2, 9.4.1, 9.5

Architect's Approvals

2.4, 3.1.3, 3.5, 3.10.2, 4.2.7

Architect's Authority to Reject Work

3.5, 4.2.6, 12.1.2, 12.2.1

Architect's Copyright

1.1.7, 1.5

Architect's Decisions

3.7.4, 4.2.6, 4.2.7, 4.2.11, 4.2.12, 4.2.13, 4.2.14, 6.3,  
7.3.7, 7.3.9, 8.1.3, 8.3.1, 9.2, 9.4.1, 9.5, 9.8.4, 9.9.1,  
13.5.2, 15.2, 15.3

Architect's Inspections

3.7.4, 4.2.2, 4.2.9, 9.4.2, 9.8.3, 9.9.2, 9.10.1, 13.5

Architect's Instructions

3.2.4, 3.3.1, 4.2.6, 4.2.7, 13.5.2

Architect's Interpretations

4.2.11, 4.2.12

Architect's Project Representative

4.2.10

Architect's Relationship with Contractor

1.1.2, 1.5, 3.1.3, 3.2.2, 3.2.3, 3.2.4, 3.3.1, 3.4.2, 3.5,  
3.7.4, 3.7.5, 3.9.2, 3.9.3, 3.10, 3.11, 3.12, 3.16, 3.18,  
4.1.2, 4.1.3, 4.2, 5.2, 6.2.2, 7, 8.3.1, 9.2, 9.3, 9.4, 9.5,  
9.7, 9.8, 9.9, 10.2.6, 10.3, 11.3.7, 12, 13.4.2, 13.5,  
15.2

Architect's Relationship with Subcontractors

1.1.2, 4.2.3, 4.2.4, 4.2.6, 9.6.3, 9.6.4, 11.3.7

Architect's Representations

9.4.2, 9.5.1, 9.10.1

Architect's Site Visits

3.7.4, 4.2.2, 4.2.9, 9.4.2, 9.5.1, 9.9.2, 9.10.1, 13.5

Asbestos

10.3.1

Attorneys' Fees

3.18.1, 9.10.2, 10.3.3

Award of Separate Contracts

6.1.1, 6.1.2

### **Award of Subcontracts and Other Contracts for Portions of the Work**

**5.2**

### **Basic Definitions**

**1.1**

Bidding Requirements

1.1.1, 5.2.1, 11.4.1

Binding Dispute Resolution

9.7, 11.3.9, 11.3.10, 13.1, 15.2.5, 15.2.6.1, 15.3.1,  
15.3.2, 15.4.1

### **Boiler and Machinery Insurance**

**11.3.2**

Bonds, Lien

7.3.7.4, 9.10.2, 9.10.3

### **Bonds, Performance, and Payment**

7.3.7.4, 9.6.7, 9.10.3, 11.3.9, **11.4**

Building Permit

3.7.1

### **Capitalization**

**1.3**

Certificate of Substantial Completion  
9.8.3, 9.8.4, 9.8.5  
**Certificates for Payment**  
4.2.1, 4.2.5, 4.2.9, 9.3.3, **9.4**, 9.5, 9.6.1, 9.6.6, 9.7,  
9.10.1, 9.10.3, 14.1.1.3, 14.2.4, 15.1.3  
Certificates of Inspection, Testing or Approval  
13.5.4  
Certificates of Insurance  
9.10.2, 11.1.3  
**Change Orders**  
1.1.1, 2.4, 3.4.2, 3.7.4, 3.8.2.3, 3.11, 3.12.8, 4.2.8,  
5.2.3, 7.1.2, 7.1.3, **7.2**, 7.3.2, 7.3.6, 7.3.9, 7.3.10,  
8.3.1, 9.3.1.1, 9.10.3, 10.3.2, 11.3.1.2, 11.3.4, 11.3.9,  
12.1.2, 15.1.3  
**Change Orders, Definition of**  
**7.2.1**  
**CHANGES IN THE WORK**  
2.2.1, 3.11, 4.2.8, **7**, 7.2.1, 7.3.1, 7.4, 8.3.1, 9.3.1.1,  
11.3.9  
**Claims, Definition of**  
**15.1.1**  
**CLAIMS AND DISPUTES**  
3.2.4, 6.1.1, 6.3, 7.3.9, 9.3.3, 9.10.4, 10.3.3, **15**, 15.4  
Claims and Timely Assertion of Claims  
15.4.1  
**Claims for Additional Cost**  
3.2.4, 3.7.4, 6.1.1, 7.3.9, 10.3.2, **15.1.4**  
**Claims for Additional Time**  
3.2.4, 3.7.4, 6.1.1, 8.3.2, 10.3.2, **15.1.5**  
**Concealed or Unknown Conditions, Claims for**  
**3.7.4**  
Claims for Damages  
3.2.4, 3.18, 6.1.1, 8.3.3, 9.5.1, 9.6.7, 10.3.3, 11.1.1,  
11.3.5, 11.3.7, 14.1.3, 14.2.4, 15.1.6  
Claims Subject to Arbitration  
15.3.1, 15.4.1  
**Cleaning Up**  
**3.15**, 6.3  
Commencement of the Work, Conditions Relating to  
2.2.1, 3.2.2, 3.4.1, 3.7.1, 3.10.1, 3.12.6, 5.2.1, 5.2.3,  
6.2.2, 8.1.2, 8.2.2, 8.3.1, 11.1, 11.3.1, 11.3.6, 11.4.1,  
15.1.4  
**Commencement of the Work, Definition of**  
**8.1.2**  
**Communications Facilitating Contract**  
**Administration**  
3.9.1, **4.2.4**  
Completion, Conditions Relating to  
3.4.1, 3.11, 3.15, 4.2.2, 4.2.9, 8.2, 9.4.2, 9.8, 9.9.1,  
9.10, 12.2, 13.7, 14.1.2  
**COMPLETION, PAYMENTS AND**  
**9**  
Completion, Substantial  
4.2.9, 8.1.1, 8.1.3, 8.2.3, 9.4.2, 9.8, 9.9.1, 9.10.3,  
12.2, 13.7

Compliance with Laws  
1.6, 3.2.3, 3.6, 3.7, 3.12.10, 3.13, 4.1.1, 9.6.4, 10.2.2,  
11.1, 11.3, 13.1, 13.4, 13.5.1, 13.5.2, 13.6, 14.1.1,  
14.2.1.3, 15.2.8, 15.4.2, 15.4.3  
Concealed or Unknown Conditions  
3.7.4, 4.2.8, 8.3.1, 10.3  
Conditions of the Contract  
1.1.1, 6.1.1, 6.1.4  
Consent, Written  
3.4.2, 3.7.4, 3.12.8, 3.14.2, 4.1.2, 9.3.2, 9.8.5, 9.9.1,  
9.10.2, 9.10.3, 11.3.1, 13.2, 13.4.2, 15.4.4.2  
**Consolidation or Joinder**  
**15.4.4**  
**CONSTRUCTION BY OWNER OR BY**  
**SEPARATE CONTRACTORS**  
1.1.4, **6**  
**Construction Change Directive, Definition of**  
**7.3.1**  
**Construction Change Directives**  
1.1.1, 3.4.2, 3.12.8, 4.2.8, 7.1.1, 7.1.2, 7.1.3, **7.3**,  
9.3.1.1  
Construction Schedules, Contractor's  
3.10, 3.12.1, 3.12.2, 6.1.3, 15.1.5.2  
**Contingent Assignment of Subcontracts**  
**5.4**, 14.2.2.2  
**Continuing Contract Performance**  
**15.1.3**  
**Contract, Definition of**  
**1.1.2**  
**CONTRACT, TERMINATION OR**  
**SUSPENSION OF THE**  
5.4.1.1, 11.3.9, **14**  
Contract Administration  
3.1.3, 4, 9.4, 9.5  
Contract Award and Execution, Conditions Relating  
to  
3.7.1, 3.10, 5.2, 6.1, 11.1.3, 11.3.6, 11.4.1  
Contract Documents, Copies Furnished and Use of  
1.5.2, 2.2.5, 5.3  
**Contract Documents, Definition of**  
**1.1.1**  
**Contract Sum**  
3.7.4, 3.8, 5.2.3, 7.2, 7.3, 7.4, **9.1**, 9.4.2, 9.5.1.4,  
9.6.7, 9.7, 10.3.2, 11.3.1, 14.2.4, 14.3.2, 15.1.4,  
15.2.5  
**Contract Sum, Definition of**  
**9.1**  
Contract Time  
3.7.4, 3.7.5, 3.10.2, 5.2.3, 7.2.1.3, 7.3.1, 7.3.5, 7.4,  
8.1.1, 8.2.1, 8.3.1, 9.5.1, 9.7, 10.3.2, 12.1.1, 14.3.2,  
15.1.5.1, 15.2.5  
**Contract Time, Definition of**  
**8.1.1**  
**CONTRACTOR**  
**3**  
**Contractor, Definition of**  
**3.1**, **6.1.2**

## **Contractor's Construction Schedules**

**3.10**, 3.12.1, 3.12.2, 6.1.3, 15.1.5.2

Contractor's Employees

3.3.2, 3.4.3, 3.8.1, 3.9, 3.18.2, 4.2.3, 4.2.6, 10.2, 10.3, 11.1.1, 11.3.7, 14.1, 14.2.1.1

## **Contractor's Liability Insurance**

### **11.1**

Contractor's Relationship with Separate Contractors and Owner's Forces

3.12.5, 3.14.2, 4.2.4, 6, 11.3.7, 12.1.2, 12.2.4

Contractor's Relationship with Subcontractors

1.2.2, 3.3.2, 3.18.1, 3.18.2, 5, 9.6.2, 9.6.7, 9.10.2, 11.3.1.2, 11.3.7, 11.3.8

Contractor's Relationship with the Architect

1.1.2, 1.5, 3.1.3, 3.2.2, 3.2.3, 3.2.4, 3.3.1, 3.4.2, 3.5, 3.7.4, 3.10, 3.11, 3.12, 3.16, 3.18, 4.1.3, 4.2, 5.2, 6.2.2, 7, 8.3.1, 9.2, 9.3, 9.4, 9.5, 9.7, 9.8, 9.9, 10.2.6, 10.3, 11.3.7, 12, 13.5, 15.1.2, 15.2.1

Contractor's Representations

3.2.1, 3.2.2, 3.5, 3.12.6, 6.2.2, 8.2.1, 9.3.3, 9.8.2

Contractor's Responsibility for Those Performing the Work

3.3.2, 3.18, 5.3, 6.1.3, 6.2, 9.5.1, 10.2.8

Contractor's Review of Contract Documents

3.2

Contractor's Right to Stop the Work

9.7

Contractor's Right to Terminate the Contract

14.1, 15.1.6

Contractor's Submittals

3.10, 3.11, 3.12.4, 4.2.7, 5.2.1, 5.2.3, 9.2, 9.3, 9.8.2, 9.8.3, 9.9.1, 9.10.2, 9.10.3, 11.1.3, 11.4.2

Contractor's Superintendent

3.9, 10.2.6

Contractor's Supervision and Construction

Procedures

1.2.2, 3.3, 3.4, 3.12.10, 4.2.2, 4.2.7, 6.1.3, 6.2.4, 7.1.3, 7.3.5, 7.3.7, 8.2, 10, 12, 14, 15.1.3

Contractual Liability Insurance

11.1.1.8, 11.2

Coordination and Correlation

1.2, 3.2.1, 3.3.1, 3.10, 3.12.6, 6.1.3, 6.2.1

Copies Furnished of Drawings and Specifications

1.5, 2.2.5, 3.11

Copyrights

1.5, **3.17**

Correction of Work

2.3, 2.4, 3.7.3, 9.4.2, 9.8.2, 9.8.3, 9.9.1, 12.1.2, **12.2**

## **Correlation and Intent of the Contract Documents**

### **1.2**

**Cost**, Definition of

### **7.3.7**

Costs

2.4, 3.2.4, 3.7.3, 3.8.2, 3.15.2, 5.4.2, 6.1.1, 6.2.3, 7.3.3.3, 7.3.7, 7.3.8, 7.3.9, 9.10.2, 10.3.2, 10.3.6, 11.3, 12.1.2, 12.2.1, 12.2.4, 13.5, 14

## **Cutting and Patching**

**3.14**, 6.2.5

Damage to Construction of Owner or Separate Contractors

3.14.2, 6.2.4, 10.2.1.2, 10.2.5, 10.4, 11.1.1, 11.3, 12.2.4

Damage to the Work

3.14.2, 9.9.1, 10.2.1.2, 10.2.5, 10.4, 11.3.1, 12.2.4

Damages, Claims for

3.2.4, 3.18, 6.1.1, 8.3.3, 9.5.1, 9.6.7, 10.3.3, 11.1.1, 11.3.5, 11.3.7, 14.1.3, 14.2.4, 15.1.6

Damages for Delay

6.1.1, 8.3.3, 9.5.1.6, 9.7, 10.3.2

**Date of Commencement of the Work**, Definition of **8.1.2**

**Date of Substantial Completion**, Definition of **8.1.3**

**Day**, Definition of

### **8.1.4**

Decisions of the Architect

3.7.4, 4.2.6, 4.2.7, 4.2.11, 4.2.12, 4.2.13, 15.2, 6.3, 7.3.7, 7.3.9, 8.1.3, 8.3.1, 9.2, 9.4, 9.5.1, 9.8.4, 9.9.1, 13.5.2, 14.2.2, 14.2.4, 15.1, 15.2

**Decisions to Withhold Certification**

9.4.1, **9.5**, 9.7, 14.1.1.3

Defective or Nonconforming Work, Acceptance, Rejection and Correction of

2.3, 2.4, 3.5, 4.2.6, 6.2.5, 9.5.1, 9.5.2, 9.6.6, 9.8.2, 9.9.3, 9.10.4, 12.2.1

Definitions

1.1, 2.1.1, 3.1.1, 3.5, 3.12.1, 3.12.2, 3.12.3, 4.1.1, 15.1.1, 5.1, 6.1.2, 7.2.1, 7.3.1, 8.1, 9.1, 9.8.1

**Delays and Extensions of Time**

3.2, 3.7.4, 5.2.3, 7.2.1, 7.3.1, 7.4, **8.3**, 9.5.1, 9.7, 10.3.2, 10.4, 14.3.2, 15.1.5, 15.2.5

Disputes

6.3, 7.3.9, 15.1, 15.2

**Documents and Samples at the Site**

### **3.11**

**Drawings**, Definition of

### **1.1.5**

Drawings and Specifications, Use and Ownership of 3.11

Effective Date of Insurance

8.2.2, 11.1.2

**Emergencies**

**10.4**, 14.1.1.2, 15.1.4

Employees, Contractor's

3.3.2, 3.4.3, 3.8.1, 3.9, 3.18.2, 4.2.3, 4.2.6, 10.2, 10.3.3, 11.1.1, 11.3.7, 14.1, 14.2.1.1

Equipment, Labor, Materials or

1.1.3, 1.1.6, 3.4, 3.5, 3.8.2, 3.8.3, 3.12, 3.13, 3.15.1, 4.2.6, 4.2.7, 5.2.1, 6.2.1, 7.3.7, 9.3.2, 9.3.3, 9.5.1.3, 9.10.2, 10.2.1, 10.2.4, 14.2.1.1, 14.2.1.2

Execution and Progress of the Work

1.1.3, 1.2.1, 1.2.2, 2.2.3, 2.2.5, 3.1, 3.3.1, 3.4.1, 3.5, 3.7.1, 3.10.1, 3.12, 3.14, 4.2, 6.2.2, 7.1.3, 7.3.5, 8.2, 9.5.1, 9.9.1, 10.2, 10.3, 12.2, 14.2, 14.3.1, 15.1.3

Extensions of Time  
3.2.4, 3.7.4, 5.2.3, 7.2.1, 7.3, 7.4, 9.5.1, 9.7, 10.3.2,  
10.4, 14.3, 15.1.5, 15.2.5  
**Failure of Payment**  
9.5.1.3, **9.7**, 9.10.2, 13.6, 14.1.1.3, 14.2.1.2  
Faulty Work  
(See Defective or Nonconforming Work)  
**Final Completion and Final Payment**  
4.2.1, 4.2.9, 9.8.2, **9.10**, 11.1.2, 11.1.3, 11.3.1, 11.3.5,  
12.3, 14.2.4, 14.4.3  
Financial Arrangements, Owner's  
2.2.1, 13.2.2, 14.1.1.4  
Fire and Extended Coverage Insurance  
11.3.1.1

## **GENERAL PROVISIONS**

### **1**

#### **Governing Law**

##### **13.1**

Guarantees (See Warranty)

#### **Hazardous Materials**

##### **10.2.4, 10.3**

Identification of Subcontractors and Suppliers  
5.2.1

#### **Indemnification**

3.17, **3.18**, 9.10.2, 10.3.3, 10.3.5, 10.3.6, 11.3.1.2,  
11.3.7

#### **Information and Services Required of the Owner**

2.1.2, **2.2**, 3.2.2, 3.12.4, 3.12.10, 6.1.3, 6.1.4, 6.2.5,  
9.6.1, 9.6.4, 9.9.2, 9.10.3, 10.3.3, 11.2, 11.4, 13.5.1,  
13.5.2, 14.1.1.4, 14.1.4, 15.1.3

#### **Initial Decision**

##### **15.2**

#### **Initial Decision Maker, Definition of**

1.1.8

Initial Decision Maker, Decisions

14.2.2, 14.2.4, 15.2.1, 15.2.2, 15.2.3, 15.2.4, 15.2.5

Initial Decision Maker, Extent of Authority

14.2.2, 14.2.4, 15.1.3, 15.2.1, 15.2.2, 15.2.3, 15.2.4,  
15.2.5

#### **Injury or Damage to Person or Property**

##### **10.2.8, 10.4**

Inspections

3.1.3, 3.3.3, 3.7.1, 4.2.2, 4.2.6, 4.2.9, 9.4.2, 9.8.3,  
9.9.2, 9.10.1, 12.2.1, 13.5

Instructions to Bidders

1.1.1

Instructions to the Contractor

3.2.4, 3.3.1, 3.8.1, 5.2.1, 7, 8.2.2, 12, 13.5.2

#### **Instruments of Service, Definition of**

##### **1.1.7**

Insurance

3.18.1, 6.1.1, 7.3.7, 9.3.2, 9.8.4, 9.9.1, 9.10.2, **11**

#### **Insurance, Boiler and Machinery**

##### **11.3.2**

#### **Insurance, Contractor's Liability**

##### **11.1**

Insurance, Effective Date of

8.2.2, 11.1.2

#### **Insurance, Loss of Use**

##### **11.3.3**

#### **Insurance, Owner's Liability**

##### **11.2**

#### **Insurance, Property**

10.2.5, **11.3**

Insurance, Stored Materials

9.3.2

## **INSURANCE AND BONDS**

### **11**

Insurance Companies, Consent to Partial Occupancy  
9.9.1

Intent of the Contract Documents

1.2.1, 4.2.7, 4.2.12, 4.2.13, 7.4

#### **Interest**

##### **13.6**

#### **Interpretation**

1.2.3, **1.4**, 4.1.1, 5.1, 6.1.2, 15.1.1

Interpretations, Written

4.2.11, 4.2.12, 15.1.4

Judgment on Final Award

15.4.2

#### **Labor and Materials, Equipment**

1.1.3, 1.1.6, **3.4**, 3.5, 3.8.2, 3.8.3, 3.12, 3.13, 3.15.1,  
4.2.6, 4.2.7, 5.2.1, 6.2.1, 7.3.7, 9.3.2, 9.3.3, 9.5.1.3,  
9.10.2, 10.2.1, 10.2.4, 14.2.1.1, 14.2.1.2

Labor Disputes

8.3.1

Laws and Regulations

1.5, 3.2.3, 3.6, 3.7, 3.12.10, 3.13, 4.1.1, 9.6.4, 9.9.1,  
10.2.2, 11.1.1, 11.3, 13.1, 13.4, 13.5.1, 13.5.2, 13.6,  
14, 15.2.8, 15.4

Liens

2.1.2, 9.3.3, 9.10.2, 9.10.4, 15.2.8

Limitations, Statutes of

12.2.5, 13.7, 15.4.1.1

Limitations of Liability

2.3, 3.2.2, 3.5, 3.12.10, 3.17, 3.18.1, 4.2.6, 4.2.7,  
4.2.12, 6.2.2, 9.4.2, 9.6.4, 9.6.7, 10.2.5, 10.3.3,  
11.1.2, 11.2, 11.3.7, 12.2.5, 13.4.2

Limitations of Time

2.1.2, 2.2, 2.4, 3.2.2, 3.10, 3.11, 3.12.5, 3.15.1, 4.2.7,  
5.2, 5.3, 5.4.1, 6.2.4, 7.3, 7.4, 8.2, 9.2, 9.3.1, 9.3.3,  
9.4.1, 9.5, 9.6, 9.7, 9.8, 9.9, 9.10, 11.1.3, 11.3.1.5,  
11.3.6, 11.3.10, 12.2, 13.5, 13.7, 14, 15

#### **Loss of Use Insurance**

##### **11.3.3**

Material Suppliers

1.5, 3.12.1, 4.2.4, 4.2.6, 5.2.1, 9.3, 9.4.2, 9.6, 9.10.5

#### **Materials, Hazardous**

##### **10.2.4, 10.3**

Materials, Labor, Equipment and

1.1.3, 1.1.6, 1.5.1, 3.4.1, 3.5, 3.8.2, 3.8.3, 3.12, 3.13,  
3.15.1, 4.2.6, 4.2.7, 5.2.1, 6.2.1, 7.3.7, 9.3.2, 9.3.3,  
9.5.1.3, 9.10.2, 10.2.1.2, 10.2.4, 14.2.1.1, 14.2.1.2

Means, Methods, Techniques, Sequences and  
Procedures of Construction

3.3.1, 3.12.10, 4.2.2, 4.2.7, 9.4.2

Mechanic's Lien

2.1.2, 15.2.8

### **Mediation**

8.3.1, 10.3.5, 10.3.6, 15.2.1, 15.2.5, 15.2.6, **15.3**, 15.4.1

### **Minor Changes in the Work**

1.1.1, 3.12.8, 4.2.8, 7.1, 7.4

## **MISCELLANEOUS PROVISIONS**

### **13**

**Modifications**, Definition of

#### **1.1.1**

Modifications to the Contract

1.1.1, 1.1.2, 3.11, 4.1.2, 4.2.1, 5.2.3, 7, 8.3.1, 9.7, 10.3.2, 11.3.1

### **Mutual Responsibility**

#### **6.2**

### **Nonconforming Work, Acceptance of**

9.6.6, 9.9.3, **12.3**

Nonconforming Work, Rejection and Correction of  
2.3, 2.4, 3.5, 4.2.6, 6.2.4, 9.5.1, 9.8.2, 9.9.3, 9.10.4, 12.2.1

Notice

2.2.1, 2.3, 2.4, 3.2.4, 3.3.1, 3.7.2, 3.12.9, 5.2.1, 9.7, 9.10, 10.2.2, 11.1.3, 12.2.2.1, 13.3, 13.5.1, 13.5.2, 14.1, 14.2, 15.2.8, 15.4.1

### **Notice, Written**

2.3, 2.4, 3.3.1, 3.9.2, 3.12.9, 3.12.10, 5.2.1, 9.7, 9.10, 10.2.2, 10.3, 11.1.3, 11.3.6, 12.2.2.1, **13.3**, 14, 15.2.8, 15.4.1

### **Notice of Claims**

3.7.4, 10.2.8, **15.1.2**, 15.4

Notice of Testing and Inspections

13.5.1, 13.5.2

Observations, Contractor's

3.2, 3.7.4

Occupancy

2.2.2, 9.6.6, 9.8, 11.3.1.5

Orders, Written

1.1.1, 2.3, 3.9.2, 7, 8.2.2, 11.3.9, 12.1, 12.2.2.1, 13.5.2, 14.3.1

## **OWNER**

### **2**

**Owner**, Definition of

#### **2.1.1**

### **Owner, Information and Services Required of the**

2.1.2, **2.2**, 3.2.2, 3.12.10, 6.1.3, 6.1.4, 6.2.5, 9.3.2, 9.6.1, 9.6.4, 9.9.2, 9.10.3, 10.3.3, 11.2, 11.3, 13.5.1, 13.5.2, 14.1.1.4, 14.1.4, 15.1.3

Owner's Authority

1.5, 2.1.1, 2.3, 2.4, 3.4.2, 3.8.1, 3.12.10, 3.14.2, 4.1.2, 4.1.3, 4.2.4, 4.2.9, 5.2.1, 5.2.4, 5.4.1, 6.1, 6.3, 7.2.1, 7.3.1, 8.2.2, 8.3.1, 9.3.1, 9.3.2, 9.5.1, 9.6.4, 9.9.1, 9.10.2, 10.3.2, 11.1.3, 11.3.3, 11.3.10, 12.2.2, 12.3, 13.2.2, 14.3, 14.4, 15.2.7

Owner's Financial Capability

2.2.1, 13.2.2, 14.1.1.4

### **Owner's Liability Insurance**

#### **11.2**

Owner's Relationship with Subcontractors

1.1.2, 5.2, 5.3, 5.4, 9.6.4, 9.10.2, 14.2.2

### **Owner's Right to Carry Out the Work**

**2.4**, 14.2.2

### **Owner's Right to Clean Up**

#### **6.3**

### **Owner's Right to Perform Construction and to Award Separate Contracts**

#### **6.1**

### **Owner's Right to Stop the Work**

#### **2.3**

Owner's Right to Suspend the Work

14.3

Owner's Right to Terminate the Contract

14.2

### **Ownership and Use of Drawings, Specifications and Other Instruments of Service**

1.1.1, 1.1.6, 1.1.7, **1.5**, 2.2.5, 3.2.2, 3.11, 3.17, 4.2.12, 5.3

### **Partial Occupancy or Use**

9.6.6, **9.9**, 11.3.1.5

### **Patching, Cutting and**

**3.14**, 6.2.5

Patents

3.17

### **Payment, Applications for**

4.2.5, 7.3.9, 9.2, **9.3**, 9.4, 9.5, 9.6.3, 9.7, 9.8.5, 9.10.1, 14.2.3, 14.2.4, 14.4.3

### **Payment, Certificates for**

4.2.5, 4.2.9, 9.3.3, **9.4**, 9.5, 9.6.1, 9.6.6, 9.7, 9.10.1, 9.10.3, 13.7, 14.1.1.3, 14.2.4

### **Payment, Failure of**

9.5.1.3, **9.7**, 9.10.2, 13.6, 14.1.1.3, 14.2.1.2

Payment, Final

4.2.1, 4.2.9, 9.8.2, 9.10, 11.1.2, 11.1.3, 11.4.1, 12.3, 13.7, 14.2.4, 14.4.3

### **Payment Bond, Performance Bond and**

**7.3.7.4**, 9.6.7, 9.10.3, **11.4**

### **Payments, Progress**

9.3, **9.6**, 9.8.5, 9.10.3, 13.6, 14.2.3, 15.1.3

## **PAYMENTS AND COMPLETION**

### **9**

Payments to Subcontractors

5.4.2, 9.5.1.3, 9.6.2, 9.6.3, 9.6.4, 9.6.7, 14.2.1.2

PCB

10.3.1

### **Performance Bond and Payment Bond**

7.3.7.4, 9.6.7, 9.10.3, **11.4**

### **Permits, Fees, Notices and Compliance with Laws**

2.2.2, **3.7**, 3.13, 7.3.7.4, 10.2.2

## **PERSONS AND PROPERTY, PROTECTION OF**

### **10**

Polychlorinated Biphenyl

10.3.1

**Product Data**, Definition of

#### **3.12.2**



## **Product Data and Samples, Shop Drawings**

3.11, **3.12**, 4.2.7

### **Progress and Completion**

4.2.2, **8.2**, 9.8, 9.9.1, 14.1.4, 15.1.3

### **Progress Payments**

9.3, **9.6**, 9.8.5, 9.10.3, 13.6, 14.2.3, 15.1.3

### **Project, Definition of**

#### **1.1.4**

Project Representatives

4.2.10

### **Property Insurance**

10.2.5, **11.3**

## **PROTECTION OF PERSONS AND PROPERTY 10**

### Regulations and Laws

1.5, 3.2.3, 3.6, 3.7, 3.12.10, 3.13, 4.1.1, 9.6.4, 9.9.1, 10.2.2, 11.1, 11.4, 13.1, 13.4, 13.5.1, 13.5.2, 13.6, 14, 15.2.8, 15.4

### Rejection of Work

3.5, 4.2.6, 12.2.1

### Releases and Waivers of Liens

9.10.2

### Representations

3.2.1, 3.5, 3.12.6, 6.2.2, 8.2.1, 9.3.3, 9.4.2, 9.5.1, 9.8.2, 9.10.1

### Representatives

2.1.1, 3.1.1, 3.9, 4.1.1, 4.2.1, 4.2.2, 4.2.10, 5.1.1, 5.1.2, 13.2.1

### Responsibility for Those Performing the Work

3.3.2, 3.18, 4.2.3, 5.3, 6.1.3, 6.2, 6.3, 9.5.1, 10

### Retainage

9.3.1, 9.6.2, 9.8.5, 9.9.1, 9.10.2, 9.10.3

### **Review of Contract Documents and Field**

#### **Conditions by Contractor**

**3.2**, 3.12.7, 6.1.3

### Review of Contractor's Submittals by Owner and Architect

3.10.1, 3.10.2, 3.11, 3.12, 4.2, 5.2, 6.1.3, 9.2, 9.8.2

### Review of Shop Drawings, Product Data and

Samples by Contractor

3.12

### **Rights and Remedies**

1.1.2, 2.3, 2.4, 3.5, 3.7.4, 3.15.2, 4.2.6, 5.3, 5.4, 6.1, 6.3, 7.3.1, 8.3, 9.5.1, 9.7, 10.2.5, 10.3, 12.2.2, 12.2.4, **13.4**, 14, 15.4

### **Royalties, Patents and Copyrights**

**3.17**

### Rules and Notices for Arbitration

15.4.1

### **Safety of Persons and Property**

**10.2**, 10.4

### **Safety Precautions and Programs**

3.3.1, 4.2.2, 4.2.7, 5.3, **10.1**, 10.2, 10.4

### **Samples, Definition of**

**3.12.3**

### **Samples, Shop Drawings, Product Data and**

3.11, **3.12**, 4.2.7

## **Samples at the Site, Documents and**

**3.11**

### **Schedule of Values**

**9.2**, 9.3.1

### Schedules, Construction

3.10, 3.12.1, 3.12.2, 6.1.3, 15.1.5.2

### Separate Contracts and Contractors

1.1.4, 3.12.5, 3.14.2, 4.2.4, 4.2.7, 6, 8.3.1, 12.1.2

### **Shop Drawings, Definition of**

**3.12.1**

### **Shop Drawings, Product Data and Samples**

3.11, **3.12**, 4.2.7

### **Site, Use of**

**3.13**, 6.1.1, 6.2.1

### Site Inspections

3.2.2, 3.3.3, 3.7.1, 3.7.4, 4.2, 9.4.2, 9.10.1, 13.5

### Site Visits, Architect's

3.7.4, 4.2.2, 4.2.9, 9.4.2, 9.5.1, 9.9.2, 9.10.1, 13.5

### Special Inspections and Testing

4.2.6, 12.2.1, 13.5

### **Specifications, Definition of**

**1.1.6**

### **Specifications**

1.1.1, **1.1.6**, 1.2.2, 1.5, 3.11, 3.12.10, 3.17, 4.2.14

### Statute of Limitations

13.7, 15.4.1.1

### Stopping the Work

2.3, 9.7, 10.3, 14.1

### Stored Materials

6.2.1, 9.3.2, 10.2.1.2, 10.2.4

### **Subcontractor, Definition of**

**5.1.1**

## **SUBCONTRACTORS**

**5**

### Subcontractors, Work by

1.2.2, 3.3.2, 3.12.1, 4.2.3, 5.2.3, 5.3, 5.4, 9.3.1.2, 9.6.7

### **Subcontractual Relations**

**5.3**, 5.4, 9.3.1.2, 9.6, 9.10, 10.2.1, 14.1, 14.2.1

### Submittals

3.10, 3.11, 3.12, 4.2.7, 5.2.1, 5.2.3, 7.3.7, 9.2, 9.3, 9.8, 9.9.1, 9.10.2, 9.10.3, 11.1.3

### Submittal Schedule

3.10.2, 3.12.5, 4.2.7

### **Subrogation, Waivers of**

6.1.1, **11.3.7**

### **Substantial Completion**

4.2.9, 8.1.1, 8.1.3, 8.2.3, 9.4.2, **9.8**, 9.9.1, 9.10.3, 12.2, 13.7

### **Substantial Completion, Definition of**

**9.8.1**

### Substitution of Subcontractors

5.2.3, 5.2.4

### Substitution of Architect

4.1.3

### Substitutions of Materials

3.4.2, 3.5, 7.3.8

**Sub-subcontractor, Definition of**  
**5.1.2**  
Subsurface Conditions  
3.7.4  
**Successors and Assigns**  
**13.2**  
**Superintendent**  
**3.9, 10.2.6**  
**Supervision and Construction Procedures**  
1.2.2, **3.3**, 3.4, 3.12.10, 4.2.2, 4.2.7, 6.1.3, 6.2.4,  
7.1.3, 7.3.7, 8.2, 8.3.1, 9.4.2, 10, 12, 14, 15.1.3  
Surety  
5.4.1.2, 9.8.5, 9.10.2, 9.10.3, 14.2.2, 15.2.7  
Surety, Consent of  
9.10.2, 9.10.3  
Surveys  
2.2.3  
**Suspension by the Owner for Convenience**  
**14.3**  
Suspension of the Work  
5.4.2, 14.3  
Suspension or Termination of the Contract  
5.4.1.1, 14  
**Taxes**  
3.6, 3.8.2.1, 7.3.7.4  
**Termination by the Contractor**  
**14.1, 15.1.6**  
**Termination by the Owner for Cause**  
5.4.1.1, **14.2**, 15.1.6  
**Termination by the Owner for Convenience**  
**14.4**  
Termination of the Architect  
4.1.3  
Termination of the Contractor  
14.2.2  
**TERMINATION OR SUSPENSION OF THE CONTRACT**  
**14**  
**Tests and Inspections**  
3.1.3, 3.3.3, 4.2.2, 4.2.6, 4.2.9, 9.4.2, 9.8.3, 9.9.2,  
9.10.1, 10.3.2, 11.4.1, 12.2.1, **13.5**  
**TIME**  
**8**  
**Time, Delays and Extensions of**  
3.2.4, 3.7.4, 5.2.3, 7.2.1, 7.3.1, 7.4, **8.3**, 9.5.1, 9.7,  
10.3.2, 10.4, 14.3.2, 15.1.5, 15.2.5  
Time Limits  
2.1.2, 2.2, 2.4, 3.2.2, 3.10, 3.11, 3.12.5, 3.15.1, 4.2,  
5.2, 5.3, 5.4, 6.2.4, 7.3, 7.4, 8.2, 9.2, 9.3.1, 9.3.3,  
9.4.1, 9.5, 9.6, 9.7, 9.8, 9.9, 9.10, 11.1.3, 12.2, 13.5,  
13.7, 14, 15.1.2, 15.4  
**Time Limits on Claims**  
3.7.4, 10.2.8, **13.7**, 15.1.2  
Title to Work  
9.3.2, 9.3.3  
**Transmission of Data in Digital Form**  
**1.6**

**UNCOVERING AND CORRECTION OF WORK**  
**12**  
**Uncovering of Work**  
**12.1**  
Unforeseen Conditions, Concealed or Unknown  
3.7.4, 8.3.1, 10.3  
Unit Prices  
7.3.3.2, 7.3.4  
Use of Documents  
1.1.1, 1.5, 2.2.5, 3.12.6, 5.3  
**Use of Site**  
**3.13, 6.1.1, 6.2.1**  
**Values, Schedule of**  
**9.2, 9.3.1**  
Waiver of Claims by the Architect  
13.4.2  
Waiver of Claims by the Contractor  
9.10.5, 13.4.2, 15.1.6  
Waiver of Claims by the Owner  
9.9.3, 9.10.3, 9.10.4, 12.2.2.1, 13.4.2, 14.2.4, 15.1.6  
Waiver of Consequential Damages  
14.2.4, 15.1.6  
Waiver of Liens  
9.10.2, 9.10.4  
**Waivers of Subrogation**  
6.1.1, **11.3.7**  
**Warranty**  
3.5, 4.2.9, 9.3.3, 9.8.4, 9.9.1, 9.10.4, 12.2.2, 13.7  
Weather Delays  
15.1.5.2  
**Work, Definition of**  
**1.1.3**  
Written Consent  
1.5.2, 3.4.2, 3.7.4, 3.12.8, 3.14.2, 4.1.2, 9.3.2, 9.8.5,  
9.9.1, 9.10.2, 9.10.3, 11.4.1, 13.2, 13.4.2, 15.4.4.2  
Written Interpretations  
4.2.11, 4.2.12  
Written Notice  
2.3, 2.4, 3.3.1, 3.9, 3.12.9, 3.12.10, 5.2.1, 8.2.2, 9.7,  
9.10, 10.2.2, 10.3, 11.1.3, 12.2.2, 12.2.4, **13.3**, 14,  
15.4.1  
Written Orders  
1.1.1, 2.3, 3.9, 7, 8.2.2, 12.1, 12.2, 13.5.2, 14.3.1,  
15.1.2

## ARTICLE 1 GENERAL PROVISIONS

### § 1.1 BASIC DEFINITIONS

#### § 1.1.1 THE CONTRACT DOCUMENTS

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

#### § 1.1.2 THE CONTRACT

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

#### § 1.1.3 THE WORK

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

#### § 1.1.4 THE PROJECT

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

#### § 1.1.5 THE DRAWINGS

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

#### § 1.1.6 THE SPECIFICATIONS

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

#### § 1.1.7 INSTRUMENTS OF SERVICE

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

#### § 1.1.8 INITIAL DECISION MAKER

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

### § 1.2 CORRELATION AND INTENT OF THE CONTRACT DOCUMENTS

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

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

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

### § 1.3 CAPITALIZATION

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

### § 1.4 INTERPRETATION

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

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

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

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

### § 1.6 TRANSMISSION OF DATA IN DIGITAL FORM

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

## ARTICLE 2 OWNER

### § 2.1 GENERAL

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

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

### § 2.2 INFORMATION AND SERVICES REQUIRED OF THE OWNER

§ 2.2.1 Prior to commencement of the Work, the Contractor may request in writing that the Owner provide reasonable evidence that the Owner has made financial arrangements to fulfill the Owner’s obligations under the Contract. Thereafter, the Contractor may only request such evidence if (1) the Owner fails to make payments to the Contractor as the Contract Documents require; (2) a change in the Work materially changes the Contract Sum; or (3) the Contractor identifies in writing a reasonable concern regarding the Owner’s ability to make payment when due. The Owner shall furnish such evidence as a condition precedent to commencement or continuation of the Work or the portion of the Work affected by a material change. After the Owner furnishes the evidence, the Owner shall not materially vary such financial arrangements without prior notice to the Contractor.

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

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

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

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

### § 2.3 OWNER'S RIGHT TO STOP THE WORK

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

### § 2.4 OWNER'S RIGHT TO CARRY OUT THE WORK

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

## ARTICLE 3 CONTRACTOR

### § 3.1 GENERAL

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

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

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

### § 3.2 REVIEW OF CONTRACT DOCUMENTS AND FIELD CONDITIONS BY CONTRACTOR

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

§ 3.2.2 Because the Contract Documents are complementary, the Contractor shall, before starting each portion of the Work, carefully study and compare the various Contract Documents relative to that portion of the Work, as well as the information furnished by the Owner pursuant to Section 2.2.3, shall take field measurements of any existing conditions related to that portion of the Work, and shall observe any conditions at the site affecting it. These

obligations are for the purpose of facilitating coordination and construction by the Contractor and are not for the purpose of discovering errors, omissions, or inconsistencies in the Contract Documents; however, the Contractor shall promptly report to the Architect any errors, inconsistencies or omissions discovered by or made known to the Contractor as a request for information in such form as the Architect may require. It is recognized that the Contractor's review is made in the Contractor's capacity as a contractor and not as a licensed design professional, unless otherwise specifically provided in the Contract Documents.

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

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

### § 3.3 SUPERVISION AND CONSTRUCTION PROCEDURES

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

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

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

### § 3.4 LABOR AND MATERIALS

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

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

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



### § 3.5 WARRANTY

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

### § 3.6 TAXES

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

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

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

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

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

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

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

### § 3.8 ALLOWANCES

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

§ 3.8.2 Unless otherwise provided in the Contract Documents,

- .1 Allowances shall cover the cost to the Contractor of materials and equipment delivered at the site and all required taxes, less applicable trade discounts;

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

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

#### § 3.9 SUPERINTENDENT

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

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

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

#### § 3.10 CONTRACTOR'S CONSTRUCTION SCHEDULES

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

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

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

#### § 3.11 DOCUMENTS AND SAMPLES AT THE SITE

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

#### § 3.12 SHOP DRAWINGS, PRODUCT DATA AND SAMPLES

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

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

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



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

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

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

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

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

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

§ 3.12.10 The Contractor shall not be required to provide professional services that constitute the practice of architecture or engineering unless such services are specifically required by the Contract Documents for a portion of the Work or unless the Contractor needs to provide such services in order to carry out the Contractor's responsibilities for construction means, methods, techniques, sequences and procedures. The Contractor shall not be required to provide professional services in violation of applicable law. If professional design services or certifications by a design professional related to systems, materials or equipment are specifically required of the Contractor by the Contract Documents, the Owner and the Architect will specify all performance and design criteria that such services must satisfy. The Contractor shall cause such services or certifications to be provided by a properly licensed design professional, whose signature and seal shall appear on all drawings, calculations, specifications, certifications, Shop Drawings and other submittals prepared by such professional. Shop Drawings and other submittals related to the Work designed or certified by such professional, if prepared by others, shall bear such professional's written approval when submitted to the Architect. The Owner and the Architect shall be entitled to rely upon the adequacy, accuracy and completeness of the services, certifications and approvals performed or provided by such design professionals, provided the Owner and Architect have specified to the Contractor all performance and design criteria that such services must satisfy. Pursuant to this Section 3.12.10, the Architect will review, approve or take other appropriate action on submittals only for the limited purpose of checking for conformance with information given and the design concept expressed in the Contract Documents. The Contractor shall not be responsible for the adequacy of the performance and design criteria specified in the Contract Documents.

### § 3.13 USE OF SITE

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

### § 3.14 CUTTING AND PATCHING

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

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

### § 3.15 CLEANING UP

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

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

### § 3.16 ACCESS TO WORK

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

### § 3.17 ROYALTIES, PATENTS AND COPYRIGHTS

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

### § 3.18 INDEMNIFICATION

§ 3.18.1 To the fullest extent permitted by law the Contractor shall indemnify and hold harmless the Owner, Architect, Architect's consultants, and agents and employees of any of them from and against claims, damages, losses and expenses, including but not limited to attorneys' fees, arising out of or resulting from performance of the Work, provided that such claim, damage, loss or expense is attributable to bodily injury, sickness, disease or death, or to injury to or destruction of tangible property (other than the Work itself), but only to the extent caused by the negligent acts or omissions of the Contractor, a Subcontractor, anyone directly or indirectly employed by them or anyone for whose acts they may be liable, regardless of whether or not such claim, damage, loss or expense is caused in part by a party indemnified hereunder. Such obligation shall not be construed to negate, abridge, or reduce other rights or obligations of indemnity 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 Owner shall retain an architect lawfully licensed to practice architecture or an entity lawfully practicing architecture in the jurisdiction where the Project is located. That person or entity is identified as the Architect in the Agreement and is referred to throughout the Contract Documents as if singular in number.

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

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

#### § 4.2 ADMINISTRATION OF THE CONTRACT

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

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

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

#### § 4.2.4 COMMUNICATIONS FACILITATING CONTRACT ADMINISTRATION

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

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

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

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

techniques, sequences or procedures. The Architect's approval of a specific item shall not indicate approval of an assembly of which the item is a component.

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

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

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

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

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

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

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

## ARTICLE 5 SUBCONTRACTORS

### § 5.1 DEFINITIONS

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

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

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

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

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

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

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

### § 5.3 SUBCONTRACTUAL RELATIONS

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

### § 5.4 CONTINGENT ASSIGNMENT OF SUBCONTRACTS

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

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

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

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

§ 5.4.3 Upon such assignment to the Owner under this Section 5.4, the Owner may further assign the subcontract to a successor contractor or other entity. If the Owner assigns the subcontract to a successor contractor or other entity, the Owner shall nevertheless remain legally responsible for all of the successor contractor's obligations under the subcontract.

## ARTICLE 6 CONSTRUCTION BY OWNER OR BY SEPARATE CONTRACTORS

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

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

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



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

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

## § 6.2 MUTUAL RESPONSIBILITY

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

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

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

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

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

## § 6.3 OWNER'S RIGHT TO CLEAN UP

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

## ARTICLE 7 CHANGES IN THE WORK

### § 7.1 GENERAL

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

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

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

### § 7.2 CHANGE ORDERS

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

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

## § 7.3 CONSTRUCTION CHANGE DIRECTIVES

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

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

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

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

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

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

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

§ 7.3.7 If the Contractor does not respond promptly or disagrees with the method for adjustment in the Contract Sum, the Architect shall determine the method and the adjustment on the basis of reasonable expenditures and savings of those performing the Work attributable to the change, including, in case of an increase in the Contract Sum, an amount for overhead and profit as set forth in the Agreement, or if no such amount is set forth in the Agreement, a reasonable amount. In such case, and also under Section 7.3.3.3, the Contractor shall keep and present, in such form as the Architect may prescribe, an itemized accounting together with appropriate supporting data. Unless otherwise provided in the Contract Documents, costs for the purposes of this Section 7.3.7 shall be limited to the following:

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

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

§ 7.3.9 Pending final determination of the total cost of a Construction Change Directive to the Owner, the Contractor may request payment for Work completed under the Construction Change Directive in Applications for Payment. The Architect will make an interim determination for purposes of monthly certification for payment for those costs and certify for payment the amount that the Architect determines, in the Architect's professional judgment, to be

reasonably justified. The Architect's interim determination of cost shall adjust the Contract Sum on the same basis as a Change Order, subject to the right of either party to disagree and assert a Claim in accordance with Article 15.

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

#### § 7.4 MINOR CHANGES IN THE WORK

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

## ARTICLE 8 TIME

### § 8.1 DEFINITIONS

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

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

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

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

### § 8.2 PROGRESS AND COMPLETION

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

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

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

### § 8.3 DELAYS AND EXTENSIONS OF TIME

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

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

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

## ARTICLE 9 PAYMENTS AND COMPLETION

### § 9.1 CONTRACT SUM

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

### § 9.2 SCHEDULE OF VALUES

Where the Contract is based on a stipulated sum or Guaranteed Maximum Price, the Contractor shall submit to the Architect, before the first Application for Payment, a schedule of values allocating the entire Contract Sum to the various portions of the Work and prepared in such form and supported by such data to substantiate its accuracy as



the Architect may require. This schedule, unless objected to by the Architect, shall be used as a basis for reviewing the Contractor's Applications for Payment.

#### § 9.3 APPLICATIONS FOR PAYMENT

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

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

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

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

§ 9.3.3 The Contractor warrants that title to all Work covered by an Application for Payment will pass to the Owner no later than the time of payment. The Contractor further warrants that upon submittal of an Application for Payment all Work for which Certificates for Payment have been previously issued and payments received from the Owner shall, to the best of the Contractor's knowledge, information and belief, be free and clear of liens, claims, security interests or encumbrances in favor of the Contractor, Subcontractors, material suppliers, or other persons or entities making a claim by reason of having provided labor, materials and equipment relating to the Work.

#### § 9.4 CERTIFICATES FOR PAYMENT

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

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

#### § 9.5 DECISIONS TO WITHHOLD CERTIFICATION

§ 9.5.1 The Architect may withhold a Certificate for Payment in whole or in part, to the extent reasonably necessary to protect the Owner, if in the Architect's opinion the representations to the Owner required by Section 9.4.2 cannot be made. If the Architect is unable to certify payment in the amount of the Application, the Architect will notify the Contractor and Owner as provided in Section 9.4.1. If the Contractor and Architect cannot agree on a revised amount, the Architect will promptly issue a Certificate for Payment for the amount for which the Architect is able to

make such representations to the Owner. The Architect may also withhold a Certificate for Payment or, because of subsequently discovered evidence, may nullify the whole or a part of a Certificate for Payment previously issued, to such extent as may be necessary in the Architect's opinion to protect the Owner from loss for which the Contractor is responsible, including loss resulting from acts and omissions described in Section 3.3.2, because of

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

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

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

#### § 9.6 PROGRESS PAYMENTS

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

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

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

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

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

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

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

## § 9.7 FAILURE OF PAYMENT

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

## § 9.8 SUBSTANTIAL COMPLETION

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

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

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

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

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

## § 9.9 PARTIAL OCCUPANCY OR USE

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

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

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

## § 9.10 FINAL COMPLETION AND FINAL PAYMENT

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

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

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

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

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

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

## ARTICLE 10 PROTECTION OF PERSONS AND PROPERTY

### § 10.1 SAFETY PRECAUTIONS AND PROGRAMS

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

### § 10.2 SAFETY OF PERSONS AND PROPERTY

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

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

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

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

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

§ 10.2.5 The Contractor shall promptly remedy damage and loss (other than damage or loss insured under property insurance required by the Contract Documents) to property referred to in Sections 10.2.1.2 and 10.2.1.3 caused in whole or in part by the Contractor, a Subcontractor, a Sub-subcontractor, or anyone directly or indirectly employed by any of them, or by anyone for whose acts they may be liable and for which the Contractor is responsible under Sections 10.2.1.2 and 10.2.1.3, except damage or loss attributable to acts or omissions of the Owner or Architect or anyone directly or indirectly employed by either of them, or by anyone for whose acts either of them may be liable, and not attributable to the fault or negligence of the Contractor. The foregoing obligations of the Contractor are in addition to the Contractor's obligations under Section 3.1.8.

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

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

#### § 10.2.8 INJURY OR DAMAGE TO PERSON OR PROPERTY

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

#### § 10.3 HAZARDOUS MATERIALS

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

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

§ 10.3.3 To the fullest extent permitted by law, the Owner shall indemnify and hold harmless the Contractor, Subcontractors, Architect, Architect's consultants and agents and employees of any of them from and against claims, damages, losses and expenses, including but not limited to attorneys' fees, arising out of or resulting from



performance of the Work in the affected area if in fact the material or substance presents the risk of bodily injury or death as described in Section 10.3.1 and has not been rendered harmless, provided that such claim, damage, loss or expense is attributable to bodily injury, sickness, disease or death, or to injury to or destruction of tangible property (other than the Work itself), except to the extent that such damage, loss or expense is due to the fault or negligence of the party seeking indemnity.

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

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

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

#### § 10.4 EMERGENCIES

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

### ARTICLE 11 INSURANCE AND BONDS

#### § 11.1 CONTRACTOR'S LIABILITY INSURANCE

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

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

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

§ 11.1.3 Certificates of insurance acceptable to the Owner shall be filed with the Owner prior to commencement of the Work and thereafter upon renewal or replacement of each required policy of insurance. These certificates and the insurance policies required by this Section 11.1 shall contain a provision that coverages afforded under the policies will not be canceled or allowed to expire until at least 30 days' prior written notice has been given to the Owner. An

additional certificate evidencing continuation of liability coverage, including coverage for completed operations, shall be submitted with the final Application for Payment as required by Section 9.10.2 and thereafter upon renewal or replacement of such coverage until the expiration of the time required by Section 11.1.2. Information concerning reduction of coverage on account of revised limits or claims paid under the General Aggregate, or both, shall be furnished by the Contractor with reasonable promptness.

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

#### § 11.2 OWNER'S LIABILITY INSURANCE

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

#### § 11.3 PROPERTY INSURANCE

§ 11.3.1 Unless otherwise provided, the Owner shall purchase and maintain, in a company or companies lawfully authorized to do business in the jurisdiction in which the Project is located, property insurance written on a builder's risk "all-risk" or equivalent policy form in the amount of the initial Contract Sum, plus value of subsequent Contract Modifications and cost of materials supplied or installed by others, comprising total value for the entire Project at the site on a replacement cost basis without optional deductibles. Such property insurance shall be maintained, unless otherwise provided in the Contract Documents or otherwise agreed in writing by all persons and entities who are beneficiaries of such insurance, until final payment has been made as provided in Section 9.10 or until no person or entity other than the Owner has an insurable interest in the property required by this Section 11.3 to be covered, whichever is later. This insurance shall include interests of the Owner, the Contractor, Subcontractors and Sub-subcontractors in the Project.

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

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

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

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

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

#### § 11.3.2 BOILER AND MACHINERY INSURANCE

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

### § 11.3.3 LOSS OF USE INSURANCE

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

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

§ 11.3.5 If during the Project construction period the Owner insures properties, real or personal or both, at or adjacent to the site by property insurance under policies separate from those insuring the Project, or if after final payment property insurance is to be provided on the completed Project through a policy or policies other than those insuring the Project during the construction period, the Owner shall waive all rights in accordance with the terms of Section 11.3.7 for damages caused by fire or other causes of loss covered by this separate property insurance. All separate policies shall provide this waiver of subrogation by endorsement or otherwise.

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

### § 11.3.7 WAIVERS OF SUBROGATION

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

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

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

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



## § 11.4 PERFORMANCE BOND AND PAYMENT BOND

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

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

## ARTICLE 12 UNCOVERING AND CORRECTION OF WORK

### § 12.1 UNCOVERING OF WORK

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

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

### § 12.2 CORRECTION OF WORK

#### § 12.2.1 BEFORE OR AFTER SUBSTANTIAL COMPLETION

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

#### § 12.2.2 AFTER SUBSTANTIAL COMPLETION

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

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

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

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

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

§ 12.2.5 Nothing contained in this Section 12.2 shall be construed to establish a period of limitation with respect to other obligations the Contractor has under the Contract Documents. Establishment of the one-year period for correction of Work as described in Section 12.2.2 relates only to the specific obligation of the Contractor to correct

the Work, and has no relationship to the time within which the obligation to comply with the Contract Documents may be sought to be enforced, nor to the time within which proceedings may be commenced to establish the Contractor's liability with respect to the Contractor's obligations other than specifically to correct the Work.

#### § 12.3 ACCEPTANCE OF NONCONFORMING WORK

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

### ARTICLE 13 MISCELLANEOUS PROVISIONS

#### § 13.1 GOVERNING LAW

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

#### § 13.2 SUCCESSORS AND ASSIGNS

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

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

#### § 13.3 WRITTEN NOTICE

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

#### § 13.4 RIGHTS AND REMEDIES

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

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

#### § 13.5 TESTS AND INSPECTIONS

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

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

§ 13.5.3 If such procedures for testing, inspection or approval under Sections 13.5.1 and 13.5.2 reveal failure of the portions of the Work to comply with requirements established by the Contract Documents, all costs made necessary by such failure including those of repeated procedures and compensation for the Architect's services and expenses shall be at the Contractor's expense.

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

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

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

#### § 13.6 INTEREST

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

#### § 13.7 TIME LIMITS ON CLAIMS

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

### ARTICLE 14 TERMINATION OR SUSPENSION OF THE CONTRACT

#### § 14.1 TERMINATION BY THE CONTRACTOR

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

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

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

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

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

## § 14.2 TERMINATION BY THE OWNER FOR CAUSE

### § 14.2.1 The Owner may terminate the Contract if the Contractor

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

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

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

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

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

## § 14.3 SUSPENSION BY THE OWNER FOR CONVENIENCE

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

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

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

## § 14.4 TERMINATION BY THE OWNER FOR CONVENIENCE

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

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

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

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

## ARTICLE 15 CLAIMS AND DISPUTES

### § 15.1 CLAIMS

#### § 15.1.1 DEFINITION

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

#### § 15.1.2 NOTICE OF CLAIMS

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

#### § 15.1.3 CONTINUING CONTRACT PERFORMANCE

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

#### § 15.1.4 CLAIMS FOR ADDITIONAL COST

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

#### § 15.1.5 CLAIMS FOR ADDITIONAL TIME

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

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

#### § 15.1.6 CLAIMS FOR CONSEQUENTIAL DAMAGES

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

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

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

### § 15.2 INITIAL DECISION

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

§ 15.2.2 The Initial Decision Maker will review Claims and within ten days of the receipt of a Claim take one or more of the following actions: (1) request additional supporting data from the claimant or a response with supporting data from the other party, (2) reject the Claim in whole or in part, (3) approve the Claim, (4) suggest a compromise,



or (5) advise the parties that the Initial Decision Maker is unable to resolve the Claim if the Initial Decision Maker lacks sufficient information to evaluate the merits of the Claim or if the Initial Decision Maker concludes that, in the Initial Decision Maker's sole discretion, it would be inappropriate for the Initial Decision Maker to resolve the Claim.

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

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

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

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

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

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

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

### § 15.3 MEDIATION

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

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

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

### § 15.4 ARBITRATION

§ 15.4.1 If the parties have selected arbitration as the method for binding dispute resolution in the Agreement, any Claim subject to, but not resolved by, mediation shall be subject to arbitration which, unless the parties mutually

agree otherwise, shall be administered by the American Arbitration Association in accordance with its Construction Industry Arbitration Rules in effect on the date of the Agreement. A demand for arbitration shall be made in writing, delivered to the other party to the Contract, and filed with the person or entity administering the arbitration. The party filing a notice of demand for arbitration must assert in the demand all Claims then known to that party on which arbitration is permitted to be demanded.

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

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

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

#### § 15.4.4 CONSOLIDATION OR JOINDER

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

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

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

**END SECTION AIA A201**

## **12.1 – Addendum To General Conditions – AIA Document A201**

### GENERAL CONDITIONS

- A. Standard Form: The General Conditions of the Contract forming a part of the Contract Documents and of these Specifications, consists of AIA Document A201, 2007 Edition.
- B. Modifications and Additions: Where Contract Documents refer to General Conditions, such reference shall be interpreted to include Addendum to General Conditions.
- C. Where contract documents refer to “architect”, such reference shall be interpreted to be “engineer”.

### CORRELATION AND INTENT OF THE CONTRACT DOCUMENTS

- A. If conflicts or discrepancies occur in the Contract Documents, interpretations will be based on the following priorities:
  - 1. Awarding Authority-Contractor Agreement.
  - 2. Addenda, with those of later date having precedence over those of earlier date.
  - 3. The Supplementary Conditions.
  - 4. The General Conditions of the Contract for Construction.
  - 5. Drawings and Specifications.
- B. For an inconsistency between Drawings and Specifications or within either Document not clarified by Addendum, the better quality or greater quantity of work shall be provided according to the Architect's interpretation.

### ARTICLE 2 - OWNER

Sub-paragraph 2.1.2- delete in its entirety

### ARTICLE 7 – CHANGES IN THE WORK

Sub-paragraph 7.3.4- delete in its entirety

### ARTICLE 11 – INSURANCE AND BONDS

Sub-paragraph 11.3- delete in its entirety.



## **13 – Supplementary Conditions**

### **100.0 CLAIMS FOR EXTRA COST**

100.1 If the Contractor claims that any instructions by Drawings or otherwise involve extra cost or extension of time, they shall, within ten (10) days after the receipt of such instructions, and in any event before proceeding to execute the work, submit their protest thereto in writing to the Owner stating clearly and in detail the basis of his objections. No such claim will be considered unless so made.

100.2 Claims for additional compensation for extra work, due to alleged errors in ground elevations, contour lines, site location, or bench marks, will not be recognized unless accompanied by certified survey data, made prior to the time the original ground was disturbed, clearly showing that errors exist which resulted, or would result, in handling more material or performing more work than would be reasonably estimated from the Drawings and map issued.

100.3 Any discrepancies which may be discovered between actual conditions and those represented by the Drawings and maps shall at once be reported to the Owner and work shall not proceed except at the Contractor's risk, until written instructions have been received by them from the Owner.

100.4 If, on the basis of the available evidence, the Owner determines that an adjustment of the Contract Price and/or Time is justifiable, the procedure shall be as provided in Section 110 hereof.

### **101.0 TERMINATION, DELAYS, AND LIQUIDATED DAMAGES**

101.1 Termination of Contract. If the Contractor refuses or fails to prosecute the work with such diligence as will insure its completion within the time specified in these Contract Documents, or as modified as provided in these Contract Documents, the Owner by written notice to the Contractor, may terminate the Contractor's right to proceed with the work. Upon such termination, the Owner may take over the work and prosecute the same to completion of the work and the Contractor shall also be liable to the Owner in its completion of the work and the Contractor shall also be liable to the Owner for liquidated damages for any delay in the completion of the work as provided below. If the Contractor's right to proceed is so terminated, the Owner may take possession of and utilize in completing the work, such materials, tools, equipment, and plant as may be on the site of the work and necessary therefore.

101.2 Liquidated Damages for Delays. If the work be not completed within the time stipulated in Section 402 hereof, including any extensions of time for excusable delays as herein provided, the Contractor shall pay to the Owner as fixed, agreed, and liquidated damages (it being impossible to determine the actual damages occasioned by the delay) for each calendar day of delay, until the work is completed, the amount as set forth in Section 403 hereof and the Contractor and his sureties shall be liable to the Owner for the amount thereof.

101.3 Excusable Delays. The right of the Contractor to proceed shall not be terminated nor shall the Contractor be charged with liquidated damages for any delays in the completion of the work due.

101.3.1 To any acts of the Government, including controls or restrictions upon or requisitioning of materials, equipment, tools, or labor by reason of war, National Defense, or any other national emergency.

101.3.2 To any acts of the Owner.

101.3.3 To causes not reasonably foreseeable by the parties to this Contract at the time of the execution of the Contract which are beyond the control and without the fault or negligence of the Contractor, including, but not restricted to, acts of God or of the Public enemy, acts of another Contractor in the performance of some other contract with the Owner, fires, floods, epidemics, quarantine, restrictions, strikes, freight embargoes, and weather of unusual severity such as hurricane, tornadoes, cyclones and other extreme weather conditions; and

101.3.4 To any delay of any subcontractor occasioned by any of the causes specified in subparagraphs 1, 2 and 3 of this paragraph 101.3.

Provided, however, that the Contractor promptly notify the Owner within ten (10) days in writing of the cause of the delay. Upon receipt of such notification, the Owner shall ascertain the facts and the cause and extent of delay. If, upon the basis of the facts and the terms of this contract, the delay is properly excusable, the Owner shall extend the time for completing the work for a period of time commensurate with the period of excusable delay.

## 102.0 SAMPLES, CERTIFICATES AND TESTS

102.1 The Contractor shall submit all material or equipment samples, certificates, affidavits, etc. as called for in the contract documents or required by the Owner promptly after award of the Contract and acceptance of the Contractor's bond. No such material or equipment shall be manufactured or delivered to the site, except at the Contractor's own risk, until the required samples or certificates have been approved in writing by the Owner. Any delay in the work caused by late or improper submission of samples or certificates for approval shall not be considered just cause for an extension of the contract time.

Each sample submitted by the Contractor shall carry a label giving the name of the Contractor, the property for which it is intended, and the name of the producer. The accompanying certificate or letter from the Contractor shall state that the sample complies with contract requirements, shall give the name and brand of the products, its place or origin, the name and address of the producer and all specifications or other detailed information which will assist the Owner in passing upon the acceptability of the sample promptly. It shall also include the statement that all materials or equipment furnished for use in the project will comply with the samples and/or certified statements.

102.2 Approval of any materials shall be general only and shall not constitute a waiver of the Owner's right to demand full compliance with Contract requirements. After actual deliveries, the Owner will have such check tests made as they deem necessary in each instance and may reject materials and equipment and accessories for cause, even though such materials and articles have been given general approval. If materials, equipment or accessories, which fail to meet check tests have been incorporated in the work, the Owner will have the right to cause their removal and replacement by proper materials or to demand and secure such reparation by the Contractor as is equitable.

102.3 Except as otherwise specifically stated in the Contract, the costs of sampling and testing will be divided as follows:

102.3.1 The Contractor shall furnish without extra cost, including packing and delivery charges, all samples required for testing purposes except those samples taken on the project by the Owner;

102.3.2. The Contractor shall assume all costs of re-testing materials which fail to meet contract requirements;

102.3.3 The Contractor shall assure all cost of testing materials offered in substitution of those found deficient; and

102.3.4 The Owner will pay all other expenses.

### 103.0 PERMITS AND CODES

103.1 The Contractor shall give all notices required by and comply with all applicable laws, ordinances, and codes of the Local Government. All construction work and/or utility installations shall comply with all applicable ordinances, and codes including all written waivers. Before installing any work, the Contractor shall examine the Drawings and Technical Specifications for compliance with applicable ordinances and codes and shall immediately report any discrepancy to the Owner. Where the requirements of the Drawings and Technical Specifications fail to comply with such applicable ordinances or codes, the

Owner will adjust the Contract by Change Order to conform to such ordinances or codes (unless waivers in writing covering the difference have been granted by the governing body or department) and make appropriate adjustment in the Contract Price or stipulated unit prices.

Should the Contractor fail to observe the foregoing provisions and proceed with the construction and/or install any utility at the variance with any applicable ordinance or code, including any written waivers (notwithstanding the fact that such installation is in compliance with the Drawings and Technical Specifications), the Contractor shall remove such work without cost to the Owner, but a Change Order will be issued to cover only the excess cost the Contractor would have been entitled to receive if the Change had been made before the Contractor commenced work on the items involved.

103.2 The Contractor shall at their own expense, secure and pay to the appropriate department of the Local Government the fees or charges for all permits for street pavement, sidewalks, sheds, removal of abandoned water taps, sealing of house connection drains, pavement cuts, buildings, electrical, plumbing, water, gas and sewer permits required by the local regulatory body or any of its agencies.

103.3 The Contractor shall comply with applicable local laws and ordinances governing excavations and the disposal of surplus excavation, materials, debris and rubbish on or off the Project Area and commit no trespass on any public or private property in any operation due to or connected with the Improvements embraced in this Contract.

### 104.0 CARE OF WORK

104.1 The Contractor shall be responsible for all damages to person or property that occur as a result of their fault or negligence in connection with the prosecution of the work and shall be responsible for the proper care and protection of all materials delivered and work performed until completion and final acceptance, whether or not the same has been covered in whole or in part by payments made by the Owner.

104.2 The Contractor shall provide, where necessary and as requested by the Owner, sufficient competent watchmen, both day and night, including Saturdays, Sundays, and holidays, from the time the work is commenced until final completion and acceptance.

104.3 In an emergency affecting and safety of life, limb or property, including adjoining property, the Contractor without special instructions or authorization from the Owner is authorized to act at their discretion to prevent such threatened loss or injury, and they shall so act. They shall likewise act if instructed to do so by the Owner. Any compensation claimed by the Contractor on account of such emergency work will be determined by the Owner as provided in Section 110 hereof.

104.4 The Contractor shall avoid damage as a result of their operations to existing sidewalks, streets, curbs, pavements, utilities, (except those which are to be replaced or removed), adjoining property, etc., and they shall at their own expense completely repair any damage thereto caused by their operations.

104.5 The Contractor shall shore up, brace, underpin, secure, and protect as may be necessary, all foundations and other parts of existing structures adjacent to, adjoining, and in the vicinity of the site, which may be in any way affected by the excavations or other operations connected with the construction of the Improvements embraced in this Contract. The Contractor shall be responsible for the giving of any and all required notices to any adjoining or adjacent property Owner or other party before the commencement of any work. The Contractor shall indemnify and save harmless the Owner from any damages on account of settlements or the loss of lateral support of adjoining property and from all loss or expense and all damages for which the Owner may become liable in consequence of such injury of damage to adjoining and adjacent structures and their premises.

#### 105.0 ACCIDENT PREVENTION

105.1 The Contractor shall exercise proper precaution at all times for the protection of persons and property and shall be responsible for all damages to persons or property, either on or off the site, which occur as a result of his prosecution of the work. The safety provisions of applicable laws and building and construction codes shall be observed and the Contractor shall take or cause to be taken such additional safety and health measures as the Owner may determine to be reasonably necessary. Machinery, equipment and all hazards shall be guarded in accordance with the safety provisions of the "Manual of Accident prevention in Construction" published by the Associates General Contractors of America, Inc., to the extent that such provisions are not in conflict with applicable local laws.

105.2 The Contractor shall maintain an accurate record of all cases of death, occupational disease, or injury requiring medical attention or causing loss of time from work, arising out of and in the course of employment on work under the Contract. The Contractor shall promptly furnish the Owner with reports concerning these matters.

105.3 The Contractor shall indemnify and save harmless the Owner from any claims for damages resulting from property damage, personal injury and/or death suffered or alleged to have been suffered by any person as a result of any work conducted under this Contract.

#### 106.0 USE OF PREMISES

106.1 The Contractor shall confine their equipment, storage of materials and construction operations to the Contract limits as shown on the Drawings and as prescribed by ordinances or permits, or as may be desired by the Owner and shall not unreasonably encumber the site or public rights of way with his materials and construction equipment.

106.2 The Contractor shall comply with all reasonable instructions of the Owner and the ordinances and codes of the Local Government, regarding signs, advertising, traffic, fires, explosives, danger signals, barricades and fire prevention.

#### 107.0 REMOVAL OF DEBRIS, CLEANING, ETC.

The Contractor shall, periodically or as directed during the progress of the work, remove and legally dispose of all surplus excavated material and debris, and keep the Project Area and public rights of way reasonably clear. Upon completion of the work, the Contractor shall remove all temporary construction facilities, debris and unused materials provided for the work, and put the work site of the work and public rights of way in a neat and clean condition. Trash burning

on the site of the work will be subject to prior approval of the Owner and existing State and Local regulations.

#### 108.0 INSPECTION

108.1 All materials and workmanship shall be subject to inspection, examination, or test by the Owner and the Engineer at any and all times during manufacture of construction and at any and all places where such manufacture or construction is carried on. The Owner shall have the right to reject defective material and workmanship or require its correction. Unacceptable workmanship shall be satisfactorily corrected. Rejected material shall be promptly segregated and removed from the Project Area and replaced with material of specified quality without charge therefore. If the Contractor fails to proceed at once with correction of rejected workmanship or defective material, the Owner may by Contract or otherwise have the defects remedied or rejected materials removed from the Project Area and charge the cost of the same against any monies which may be due the Contractor, without prejudice to any other rights or remedies of the Owner.

108.2 The Contractor shall furnish promptly all materials reasonably necessary for any tests, which may be required. (See Section 102 hereof). All tests by the Owner will be performed in such manner as not to delay the work unnecessarily and will be made in accordance with the provisions of the Technical Specifications.

108.3 The Contractor shall notify the Owner sufficiently in advance of backfilling or concealing any facilities to permit proper inspection. If any facilities are concealed without approval or consent of the Owner, the Contractor shall uncover for inspection and recover such facilities all at their own expense, when so requested by the Owner.

Should it be considered necessary or advisable by the Owner at any time before final acceptance of the entire work to make an examination of work already completed by uncovering the same, the Contractor shall on request promptly furnish all necessary facilities, labor, and material. If such work is found to be defective in any important or essential respect, due to fault of the Contractor or their subcontractors, the Contractor shall defray all the expenses of such examination and of satisfactory reconstruction. If, however, such work is found to meet the requirements of the Contract, the actual cost of labor and material necessarily involved in the examination and replacement, plus 15 percent of such costs to cover superintendence, general expenses and profit, shall be allowed by the Contractor and they shall, in addition, if completion of the work of the entire Contract has been delayed thereby, be granted a suitable extension of time on account of the additional work involved.

108.4 Inspection of materials and appurtenances to be incorporated in the Improvements embraced in this Contract may be made at the place of production, manufacture or shipment, whatever the quantity justifies it, and such inspection and acceptance, unless otherwise stated in the Technical Specifications, shall be final, except as regards (1) latent defects, (2) departures from specific requirements of the Contract, (3) damage or loss in transit, or (4) fraud or such gross mistakes as amount to fraud. Subject to the requirements contained in the preceding sentence, the inspection of materials as a whole or in part will be made at the Project Site.

108.5 Neither inspection, testing, approval nor acceptance of the work in whole or in part, by the Owner or its agents shall relieve the Contractor of their sureties of full responsibility for materials furnished or work performed not in strict accordance with the Contract.

#### 109.0 REVIEW BY THE OWNER

The Owner, its authorized representatives and agents and the Representative for the Secretary (as defined under GENERAL CONDITIONS, PART II) shall, at all times, have access to, and be permitted to observe and review all work, materials, equipment, payrolls, personnel records,

employment conditions, material invoices, and other relevant data and records pertaining to this Contract, provided, however, that all instructions and approval with respect to the work will be given to the Contractor only by the Owner through its authorized representatives or agents.

#### 110.0 FINAL INSPECTION

110.1 When the Improvements embraced in this Contract are substantially completed, the Contractor shall notify the Owner in writing that the work will be ready for final inspection on a definite date, which shall be stated in the notice. The notice will be given at least ten (10) days prior to the date stated for final inspection, and bear the signed concurrence of the representative of the Owner having charge of inspection. If the Owner determines that the status of the Improvements is as represented, it will make the arrangements necessary to have final inspection commenced on the date stated in the notice, or as soon thereafter as is practicable. The inspection party will include representatives of each department of the Local Government having in charge Improvements of like character when such Improvements are later to be accepted by the Local Government.

#### 111.0 DEDUCTION FOR UNCORRECTED WORK

If the Owner deems it not expedient to require the Contractor to correct work not done in accordance with the Contract Documents, an equitable deduction from the Contract Price will be made by agreement between the Contractor and the Owner and subject to settlement, in case of dispute, as herein provided.

#### 112.0 INSURANCE

See Section 5.0 Insurance for information.

#### 113.0 PATENTS

The Contractor shall hold and save the Owner its officers, and employees, harmless from liability of any nature of kind, including costs and expenses, for, or on account of, any patented or unpatented invention, process, article, or appliance manufactured or used in the performance of the Contract, including its use by the Owner unless otherwise specifically stipulated in the Technical Specifications.

#### 114.0 WARRANTY OF TITLE

No material, supplies, or equipment to be installed or furnished under this Contract shall be purchased subject to any chattel mortgage or under a conditioned sale, lease-purchase or other agreement by which an interest therein or in any part thereof is retained by the seller or supplier. The Contractor shall warrant good title to all materials, supplies, and equipment installed or incorporated in the work and upon completion of all work, shall deliver the same together with all improvements and appurtenances constructed or placed thereon by them to the Owner free from any claims, liens, or charges. Neither the Contractor nor any person, firm or corporation furnishing any material or labor for any work covered by this Contract shall have any right to a lien upon any improvement or appurtenance thereon. Nothing contained in this paragraph, however, shall defeat or impair the right of persons furnishing materials or labor to recover under any bond given by the Contractor for their protection or any rights under any law permitting such persons to look to funds due the Contractor in the hands of the Owner. The provisions of this paragraph shall be inserted in all subcontracts and materials contracts and notice of its provisions shall be given to all persons furnishing materials for the work when no formal Contract is entered into for such materials.

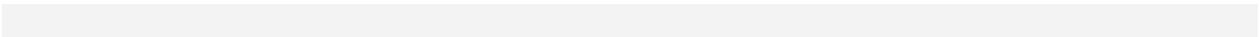
#### 115.0 GENERAL GUARANTY

Neither the final certificate of payment nor any provision in the Contract nor partial or entire use of the Improvements embraced in this Contract by the Owner or the public shall constitute an acceptance of work not done in accordance with the Contract or relieve the Contractor of liability in respect to any express warranties or responsibility for faulty materials or workmanship. The Contractor shall promptly remedy any defects in the work and pay for any damage to other work resulting therefrom, which shall appear within a period of twelve (12) months from the date of final acceptance of the work. The Owner will give notice of defective materials and work with reasonable promptness.

#### 116.0 CONTRACTOR TO MAKE OWN EXAMINATION

Plans, calculations, estimates of quantities, and any statements made in the Instructions to Bidders or otherwise as to the conditions under which the work is to be performed are not guaranteed by the Owner to be correct or to be a complete representation of all existing data on conditions affecting work, and the Contractor agrees that they have made their examination and will make no claim for damages on account of any errors, inaccuracies or omissions that may be found.

The Contractor shall not take any advantage or have any claim for damages on account of any discrepancy, error or omission in any plans, calculations, estimates of quantities, or any statement made in the Instructions to Bidders or otherwise as to the conditions under which the work is to be performed, and they shall report such discrepancy, error or omission to the Owner in writing as soon as it comes to their knowledge, and before proceeding with work related to such discrepancy, error or omission. Any correction or modification of the plans or specifications may be made by the Owner when necessary, in their opinion, for the proper fulfillment of their purpose or for their proper interpretation.



## **14 – Special Conditions**

SPECIAL CONDITIONS FOR

**PROJECT NAME**

### **402.0 TIME FOR COMPLETION**

The work which the Contractor is required to perform under this Contract shall be commenced at the time stipulated by the Owner in the Notice to Proceed to the Contractor.

The rate of progress shall be such that the whole work shall be performed in accordance with the terms of this contract within the number of calendar days after the date of execution of the contract as herein stipulated, unless the expected as any part may be delayed under the provisions of this contract. The work shall be pursued in a continuous, diligent, and uniform manner throughout the project until completion.

It is agreed that the rates of progress herein required has been purposely made low enough to allow for the ordinary delays incident to construction work of this character. No extension of time will be made for ordinary delays, inclement weather and accidents, and the occurrence of such will not relieve the Contractor from the necessity of maintaining this rate of progress.

If delays are caused by acts of God, acts of Government or State, strikes extra work, floods or other contingencies clearly beyond the control or responsibility of the Contractor, the Contractor shall be entitled to so much additional time wherein to perform and complete this contract on his part as the Engineer shall certify in writing to be just.

### **403.0 LIQUIDATED DAMAGES**

In case the Contractor fails satisfactorily to complete the entire work contemplated and provided for under this contract on or before the date of completion determined as described above, the Owner shall deduct from the payments due to the Contractor each month the sum of \$100.00 for each calendar day (Sundays and legal holidays excluded) of delay, which sum is agreed upon not as a penalty, but as fixed and liquidated damages, said damages shall be deducted from any other moneys due or to become due the Contractor, and in case such damages exceed the amount of all moneys due or to become due, the Contractor then the Contractor or his Surety shall pay the balance to the Owner.

### **404.0 RESPONSIBILITIES OF CONTRACTOR**

404.1 Except as otherwise specifically stated in the Contract Documents, and Technical Specifications, the Contract shall provide and pay for all materials, tools, labor, equipment, water, light, heat, power, transportation, superintendence, temporary construction of every nature, charges, levies, fee or other expenses, and all other services and facilities of every nature whatsoever necessary for the performance of the Contract and to deliver all improvements embraced in this Contract complete in every respect within the specified time.

404.2 All materials, workmanship, methods and practices shall conform to the current Standards of the American Water Works Association, the Rhode Island Standard Specifications for Road and Bridge Construction, 2010 edition, including all corrections, all issued compilation of approved specifications, and addendum to date and all general requirements and special requirements



contained in this project specifications. All work zone traffic control shall be in accordance with the manual on uniform traffic control devices, 2009 edition.

404.3 The Contractor shall be responsible for detailed layout, all stakeout and grade control, and shall employ a registered engineer or a registered land surveyor for this purpose as may be necessary. The Owner will provide engineering and inspection.

404.4 The Contractor shall verify dimensions shown on the plans and if any inconsistencies or discrepancies should be noted on the Drawings and the Specifications, he/she shall immediately notify the Owner. The Contractor will be held responsible for any errors resulting from his/her failure to exercise the aforementioned precaution.

404.5 As soon as the Contract is executed, the Contractor shall order any materials necessary and not supplied by the Owner, submit construction schedules as hereinafter specified, and otherwise anticipate the Notice to Proceed. When the Owner gives the Notice to Proceed, the work of construction shall begin at the time stipulated therein and shall be completed within the Time for Completion specified.

404.6 It is the Contractor's responsibility to make his/her own investigation and related assumptions and to satisfy himself as to subsurface conditions and to insure that these are reflected in the prices bid. No change or extra to the price will be accepted due to subsurface conditions or utility locations.

The determination of location and subsequent maintenance and protection of existing subsurface and above ground utilities are the sole responsibility of the Contractor; claims resulting from damage to such by the Contractor will be settled by the Contractor at his/her expense in accordance with the Contract.

404.7 The Contractor shall, at his/her own expense, take out all necessary permits from the county, municipal, or other public authorities; shall give all notices required by law or ordinances; and shall post all bonds and pay all fees and charges incident to the due and lawful prosecution of the work covered by this Contract.

404.8 RESPONSIBILITY FOR MATERIAL FURNISHED BY OWNER: The Contractor's responsibility for material furnished by the Owner shall begin upon Contractor's acceptance at the point of delivery to him. All such material shall be examined, and material defective in manufacture and/or otherwise damaged shall be rejected by the Contractor at the time and place of delivery to him and replaced by the Owner. Material furnished by the Owner which is accepted by the Contractor, but is discovered prior to final acceptance of the work, (1) to be defective in manufacture, shall be replaced by the Owner; (2) to have been damaged before or after acceptance by the Contractor, shall be replaced by the Contractor. Once accepted by the Contractor at the point of delivery to him, all defective and/or damaged material discovered prior to final acceptance of the work shall be removed by the Contractor and he shall install, at his own expense, the material replaced, in its stead, by the Owner or Contractor. In such case, the Contractor shall furnish all labor, equipment, and material incidental to replacement and necessary for the completion of the work to the satisfaction of the Engineer.

404.9 RESPONSIBILITY FOR SAFE STORAGE: The Contractor shall be responsible for the safe storage of all material furnished to or by him and accepted by him until it has been incorporated in the completed project.

#### 405.0 COMMUNICATIONS

405.1 All notices, demands, requests, instructions, approvals, proposals and claims must be in writing.

405.2 Any notice to or demand upon the Contractor shall be sufficiently given if delivered at the office of the Contractor stated on the signature page of the Agreement (or at such other offices as the Contractor may from time to time designate in writing to the Owner), or if deposited in the United States mail in a sealed, postage-prepaid envelope, or delivered with charges prepaid to any telegraph company for translation, in each case addressed to such office.

405.3 All papers; required to be delivered to the Owner shall, unless otherwise specified in writing to the Contractor, be delivered to the CITY OF PAWTUCKET, DEPARTMENT OF PUBLIC WORKS, 250 Armistice Boulevard, Pawtucket, Rhode Island, 02860; any notice to or demands upon the Owner shall be sufficiently given if so delivered, or if deposited in the United States mail in a sealed, postage-prepaid envelope, or delivered with charges prepaid to any telegraph company for transmission to said Owner at such address, or to such other representative of the Owner or to such other address, as the Owner may subsequently specify in writing to the Contractor for such purpose.

405.4 Any such notice shall be deemed to have been given as of the time of actual delivery or (in the case of mailing when the same should have been received in due course of post, or in the case of telegram) at the time of actual receipt, as the case may be.

#### 406.0 PARTIAL USE OF SITE IMPROVEMENTS

The Owner, at its elections may give notice to the Contractor and place in use those sections of the improvements which have been completed, inspected, and can be accepted as complying with the Technical Specifications and if in its opinion, each such section is reasonably safe, fit and convenient, for the use and accommodation for which it was intended, provided;

406.1 The use of such sections of the Improvements shall in no way impede the completion of the remainder of the work by the Contractor.

406.2 The Contractor shall not be responsible for any damages or maintenance costs due directly to the use of such sections.

406.3 The use of such sections shall in no way relieve the Contractor or his liability due to having used defective materials or to poor workmanship.

406.4 The period of guarantee shall not begin to run until the date of the final acceptance of all work which the Contractor is required to construct under this Contract.

#### 407.0 CONTRACT DOCUMENTS AND DRAWINGS

(REDACTED)

#### 408.0 NIGHT, SATURDAY AND SUNDAY WORK

(REDACTED)

#### 409.0 EMPLOY SUFFICIENT LABOR AND EQUIPMENT

If, in the opinion of the Engineer, the Contractor is not employing sufficient labor or equipment to complete this contract within the time specified the Owner may, after giving written notice, require said Contractor to employ such additional labor and equipment as may be necessary to enable said work to progress properly.

#### 410.0 INTOXICATING LIQUORS

The Contractor shall not sell and shall neither permit or suffer the introduction or use of intoxicating liquors upon or about the work embraced in this contract.

#### 411.0 ACCESS TO WORK

The Owner and the Engineer, and their agents and employees may, for purposes already specified and for any other purpose, enter upon the work and the premises used by the Contractor, and the Contractor shall provide safe and proper facilities therefor.

#### 412.0 TIME OF BEGINNING WORK

412.1 Except as herein provided, the Contractor shall commence work at such points as the Engineer may approve, within ten (10) days after the execution of this contract by the Owner.

412.2 Such time of starting may be postponed by written agreement between the Owner and the Contractor because of expected delays in receipt of materials and equipment, or if the season be unsuitable for commencement of the work, or because of other contingency clearly beyond the control or responsibility of the Contractor. Unless stipulated otherwise in said agreement, the Contractor shall commence work at such points as the Engineer may direct or approve, within 10 days after the receipt of a written order from the Owner to start work.

#### 413.0 PROVISIONS FOR TRAFFIC

413.1 The Contractor shall not close or obstruct any portion of a street without obtaining permits for from the proper municipal authorities. If any street or private way shall be rendered unsafe by the Contractor's operations, he shall make such repairs or provide such temporary ways or guards as shall be acceptable to the Owner.

413.2 Streets, roads, private ways, and walks shall be maintained passable by the Contractor at his expense, and the Contractor shall assume full responsibility for the adequacy and safety of provisions made. He shall conduct his construction operations such that interference with the flow of traffic will be held to a minimum.

413.3 The Contractor shall cooperate in every way possible with the municipal authorities maintaining a flow of traffic through the site. The Contractor shall notify the Pawtucket Fire Department when any street is to be closed regardless of the length of time or time of day.

413.4 All detours shall be signed and lighted as directed by the City of Pawtucket.

#### 414.0 COORDINATION WITH OUTSIDE PARTIES

414.1 The Contractor shall conduct his work so as to interfere as little as possible with private business and public travel. He shall at his own expense, wherever necessary or required, maintain fences, furnish watchmen, maintain lights and take such other precautions as may be necessary to protect life and property.

414.2 The Contractor shall take all responsibility for the protection of the work and for preventing injuries to persons and damage to property and utilities on or about the work. He shall not be relieved of his responsibility by any right of the City to give permission or issue orders relating to any part of the work, or by any such permission given or orders issued, or by failure of the Engineer to give such permission or issue such orders. The Contractor shall bear all losses resulting to him or to the Owner on account of the amount of character of the work, or because nature of the land in or on which the work is done is different from what was estimated or expected, or on account of the weather, elements or other causes. The Contractor shall assume the defense

of all claims or whatsoever character against the Contractor of the Owner, and indemnify, save harmless and insure the Owner, its officers or agents, against all claims arising out of injury or damage to persons, corporation, or property, whether said claims are for unavoidable damage or not, and from all claims relating to labor and materials furnished for the work. The Contractor shall not be required to indemnify the Owner against damage or claims occasioned by acts of the Owner, except otherwise provided in the articles relative to patents and responsibilities.

#### 415.0 DELAY BY OWNER

The Owner may delay the beginning of the work or any part thereof, if the necessary lands or rights-of-way, or materials for such work shall not have been obtained. The Contractor shall have no claim for damages on account of such delay, but shall be entitled to so much additional time wherein to perform and complete this contract on his part as the City shall certify in writing to be just.

#### 416.0 REGISTRATION OF MOTOR VEHICLES

All motor vehicles used in connection with this contract shall be registered in the State of Rhode Island, in accordance with the laws, rules, and regulations thereof, within forty-eight (48) hours of starting work on the contract.

#### 417.0 PROVISIONS REQUIRED BY LAW DEEMED INSERTED

Each and every provision of law and clause required by law to be inserted in this contract shall be deemed to be inserted herein and the contract shall be read and enforced as though it were included herein, and if through mistake or otherwise any such provision is not inserted, or is not correctly inserted, then upon the application of either party, the contract shall forthwith be physically amended to make such insertion.

#### 418.0 SAFETY AND HEALTH REGULATIONS

These construction documents, and the joint and several phases of construction hereby contemplated are to be governed, at all times by applicable provisions of the Federal law(s), including but not limited to, the latest amendments of the following:

- (1) Williams-Steiger Occupational Safety and Health Act of 1970, Public Law 91-596;
- (2) Part 1910 - Occupation Safety and Health Standards, Chapter XVII of Title 29, Code of Federal Regulations;
- (3) Part 1518 - Safety and Health Regulations for Construction, Chapter XIII of Title 29, Code of Federal Regulations.

In the event of any inconsistencies between the above laws and regulations and the provisions of these documents, the laws and regulations shall prevail.

#### 419.0 NOTIFICATION OF EXCAVATION TO UTILITIES

The Contractor shall provide a minimum of two working days notice to "Dig Safe" (1-800-225-4977) and any other appropriate utility before the Contractor begins excavation.

**ANTI-KICKBACK ACKNOWLEDGMENT**

**ALL BIDDERS/OFFERORS MUST ATTEST TO THE FOLLOWING:**

The vendor acknowledges, under the pains and penalties of perjury, that he/she has not been offered, paid, or solicited for any contribution or compensation, nor has he/she been granted a gift, gratuity, or other consideration, either directly or indirectly by any officer, employee or member of the governing body of the City of Pawtucket who exercises any functions or responsibilities in connection with either the award or execution of the project to which this contract pertains.

Further, the vendor acknowledges, under the pains and penalties of perjury, that he/she has not offered, paid, or solicited by way of any contribution or compensation, nor has he/she granted a gift, gratuity or other consideration either directly or indirectly to any officer, employee, or member of the governing body of the City of Pawtucket who exercises any functions or responsibilities in connection with either the award or execution of the project to which this project or contract pertains.

\_\_\_\_\_  
SIGNATURE OF OFFEROR

\_\_\_\_\_  
DATE

\_\_\_\_\_  
TITLE

\_\_\_\_\_  
COMPANY

Title of RFP:  
  
\_\_\_\_\_

## Appendix B

### CITY OF PAWTUCKET GENERAL TERMS AND CONDITIONS OF PURCHASE

#### *Preamble*

The City of Pawtucket's Purchasing Office may, from time to time, make amendments to the General Terms and Conditions when the City of Pawtucket's Purchasing Agent determines that such amendments are in the best interest of the City of Pawtucket. Amendments shall be made available for public inspection at the Purchasing Office located in Pawtucket City Hall but shall not require formal public notice and hearing. Copies of the Terms and Conditions shall be provided to any individual or firm requesting them.

#### **CITY OF PAWTUCKET'S PURCHASING OFFICE GENERAL CONDITIONS OF PURCHASE**

All City of Pawtucket purchase orders, contracts, solicitations, delivery orders and service requests shall incorporate and be subject to the provisions of Rhode Island General Laws 8-15-4 and the City of Pawtucket purchasing rules and regulations adopted pursuant thereto, all other applicable provisions of the Rhode Island General Laws, the Pawtucket City Charter, specific requirements described in the Request or Contract, and the following General Conditions of Purchase:

1. **GENERAL**

All purchase orders, contracts, solicitations, delivery orders, and service requests are for specified goods and services, in accordance with express terms and conditions of purchase, as defined herein. For the purposes of this document, the terms "bidder" and "contractor" refer to any individual, firm, corporation, or other entity presenting a proposal indicating a desire to enter into contracts with the City of Pawtucket, or with whom a contract is executed by the City of Pawtucket's Purchasing Agent, and the term "contractor" shall have the same meaning as "vendor".

2. **ENTIRE AGREEMENT**

The City of Pawtucket's Purchase Order, or other City of Pawtucket contract endorsed by the City of Pawtucket Purchasing Office, shall constitute the entire and exclusive agreement between the City of Pawtucket and any contractor receiving an award. In the event any conflict between the bidder's standard terms of sale, these conditions or more specific provisions contained in the solicitation shall govern.

All communication between the City of Pawtucket and any contractor pertaining to any award or contract shall be accomplished in writing.

- a. Each proposal will be received with the understanding that the acceptance, in writing, by contract or Purchase Order by the City of Pawtucket Purchasing Agent of the offer to do work or to furnish any or all the materials, equipment, supplies or services described therein shall constitute a contract between the bidder and the City of Pawtucket. This shall bind the bidder on his part to furnish and deliver at the prices and in accordance with the conditions of said accepted proposal and detailed specifications and the City of Pawtucket on its part to order from such contractor (except in case of emergency) and to pay for at the agreed prices, all materials, equipment, supplies or services specified and delivered. A contract shall be deemed executory only to the extent of funds available for payment of the amounts shown on Purchase Orders issued by the City of Pawtucket to the contractors.
- b. No alterations or variations of the terms of the contract shall be valid or binding upon the City of Pawtucket unless submitted in writing and accepted by the City of Pawtucket Purchasing Agent. All orders and changes thereof must emanate from the City of Pawtucket Purchasing Office: no oral agreement or arrangement made by a contractor with a department or employee will be considered to be binding on the City of Pawtucket Purchasing Agent, and may be disregarded.
- c. Contracts will remain in force for the contract period specified or until all articles or services ordered before date of termination shall have been satisfactorily delivered or rendered and accepted and thereafter until all terms and conditions have been met, unless:
  1. terminated prior to expiration date by satisfactory delivery against orders of entire quantities, or
  2. extended upon written authorization of the City of Pawtucket Purchasing Agent and accepted by the contractor, to permit ordering of the unordered balances or

additional quantities at the contract price and in accordance with the contract terms, or

3. canceled by the City of Pawtucket in accordance with other provisions stated herein.
  - d. It is mutually understood and agreed that the contractor shall not assign, transfer, convey, sublet or otherwise dispose of this contract or his right, title or interest therein, or his power to execute such contract, to any other person, company or corporation, without the previous consent, in writing, of the City of Pawtucket Purchasing Agent.
  - e. If, subsequent to the submission of an offer or issuance of a purchase order or execution of a contract, the bidder or contractor shall merge with or be acquired by another entity, the contract may be terminated, except as a corporate resolution prepared by the contractor and the new entity ratifying acceptance of the original bid or contract terms, condition, and pricing is submitted to the City of Pawtucket Purchasing Office, and expressly accepted.
  - f. The contractor or bidder further warrants by submission of an offer or acceptance of a purchase order or other contract that he has no knowledge at the time of such action of any outstanding and delinquent or otherwise unsettled debt owed by him to the City of Pawtucket, and agrees that later discovery by the City of Pawtucket Purchasing Agent that this warranty was given in spite of such knowledge, except where the matter is pending in hearing or from any appeal therefrom, shall form reasonable grounds for termination of the contract.

### 3. SUBCONTRACTS

No subcontracts or collateral agreements shall be permitted, except with the City of Pawtucket's express written consent. Upon request, contractors must submit to the City of Pawtucket Purchasing Office a list of all subcontractors to be employed in the performance of any Purchase Order or other contract arising from this Request.

### 4. RELATIONSHIP OF PARTIES

The contractor or bidder warrants, by submission of an offer or acceptance of a purchase order or other contract, that he is not an employee, agent, or servant of the City of Pawtucket, and that he is fully qualified and capable in all material regards to provide the specified goods and services. Nothing herein shall be construed as creating any contractual relationship or obligation between the City of Pawtucket and any sub-bidder, subcontractor, supplier, or employee of the contractor or offeror.

### 5. COSTS OF PREPARATION

All costs associated with the preparation, development, or submission of bids or other offers will be borne by the offeror. The City of Pawtucket will not reimburse any offeror for such costs.

### 6. SPECIFIED QUANTITY REQUIREMENT

Except where expressly specified to the contrary, all solicitations and contracts are predicated on a specified quantity of goods or services, or for a specified level of funding.

- a. The City of Pawtucket reserves the right to modify the quantity, scope of service, date of delivery or completion, or funding of any contract, with no penalty or charge, by written notice to the contractor, except where alternate terms have been expressly made a part of the contract.
- b. The City of Pawtucket shall not accept quantities in excess of the specified quantity except where the item is normally sold by weight (where sold by weight, the City of Pawtucket will not accept quantities greater than ten per cent [10%] of the specified quantity), or where the Request or Contract provides for awards for other than exact quantities.
- c. Purchase Orders or other contracts may be increased in quantity or extended in term without subsequent solicit with the mutual consent of the contractor and the City of Pawtucket, where determined by the City of Pawtucket Purchasing Agent to be in the City of Pawtucket's best interest.

### 7. TERM AND RENEWAL

Where offers have been requested or contracts awarded for terms exceeding periods of twelve (12) months, it is mutually understood and agreed that the City of Pawtucket's commitment is limited to a base term not to exceed twelve (12) months, subject to renewal annually at the City of Pawtucket's sole option for successive terms as otherwise described, except where expressly specified to the contrary. Purchase orders appearing to commit to obligations of funding or terms of performance may be executed for administrative convenience, but are otherwise subject to this provision, and in such cases the City of Pawtucket's renewal shall be deemed to be automatic, conditional on the continued availability of appropriated funds for the purpose, except as written notice of the City of Pawtucket's intent not to renew is served.

8. DELIVERY/COMPLETION

Delivery must be made as ordered and/or projects completed in accordance with the proposal. If delivery qualifications do not appear on the bidder's proposal, it will be interpreted to mean that goods are in stock and that shipment will be made within seven (7) calendar days. If the project completion date is not specified in the proposal, the date shall be determined by the City of Pawtucket Purchasing Agent. The decision of the City of Pawtucket Purchasing Agent, as to reasonable compliance with the delivery terms, and date of completion shall be final. Burden of proof of delay in receipt of order shall rest with the contractor. No delivery charges shall be added to invoices except when authorized on the Purchase Order.

9. FOREIGN CORPORATIONS

In accordance with Title 7 Chapter 1.1 ("Business Corporations") of the General Laws of Rhode Island, no foreign corporation shall have the right to transact business in this state until it shall have procured a certificate of authority so to do from the Secretary of State.

10. PRICING

All pricing offered or extended to the City of Pawtucket is considered to be firm and fixed unless expressly provided for to the contrary. All prices shall be quoted F.O.B. Destination with freight costs included in the unit cost to be paid by the City of Pawtucket, except, where the Request or Contract permits, offers reflecting F.O.B. Shipping Point will be considered, and freight costs may then be prepaid and added to the invoice.

11. COLLUSION

Bidder or contractor warrants that he has not, directly or indirectly, entered into any agreements or participated in any collusion or otherwise taken any action in restraint of full competitive bidding. In special circumstances, an executed affidavit will be required as a part of the bid.

12. PROHIBITION AGAINST CONTINGENT FEES AND GRATUITIES

Bidder or contractor warrants that he has not paid, and agrees not to pay, any bonus, commission, fee, or gratuity to any employee or official of the City of Pawtucket for the purpose of obtaining any contract or award issued by the City of Pawtucket. Bidder or contractor further warrants that no commission or other payment has been or will be received from or paid to any third party contingent on the award of any contract by the City of Pawtucket, except as shall have been expressly communicated to the City of Pawtucket Purchasing Agent in writing prior to acceptance of the contract or award in question. Subsequent discovery by the City of Pawtucket of non-compliance with these provisions shall constitute sufficient cause for immediate termination of all outstanding contracts and suspension or debarment of the bidder(s) or contractor(s) involved.

13. AWARDS

Awards will be made with reasonable promptness and by written notice to the successful bidder (only); bids are considered to be irrevocable for a period of ninety (90) days following the bid opening unless expressly provided for to the contrary in the Request, and may not be withdrawn during this period without the express permission of the City of Pawtucket Purchasing Agent.

- a. Awards shall be made to the bidder(s) whose offer(s) constitutes the lowest responsive price offer (or lowest responsive price offer on an evaluated basis) for the item(s) in question or for the Request as a whole, at the option of the City of Pawtucket. The City of Pawtucket reserves the right to determine those offers which are responsive to the Request, or which otherwise serve its best interests.
- b. The City of Pawtucket reserves the right, before making award, to initiate investigations as to whether or not the materials, equipment, supplies, qualifications or facilities offered by



the bidder meet the requirements set forth in the proposal and specification, and are ample and sufficient to insure the proper performance of the contract in the event of award. If upon such examination it is found that the conditions of the proposal are not complied with or that articles or equipment proposed to be furnished do not meet the requirements called for, or that the qualifications or facilities are not satisfactory, the City of Pawtucket may reject such a bid. It is distinctly understood, however, that nothing in the foregoing shall mean or imply that it is obligatory upon the City of Pawtucket to make any examinations before awarding a contract; and it is further understood that if such examination is made, it in no way relieves the contractor from fulfilling all requirements and conditions of the contract.

- c. Qualified or conditional offers which impose limitations of the bidder's liability or modify the requirements of the bid, offers for alternate specifications, or which are made subject to different terms and conditions than those specified by the City of Pawtucket may, at the option of the City of Pawtucket, be
  - 1. rejected as being non-responsive, or
  - 2. set aside in favor of the City of Pawtucket's terms and conditions (with the consent of the bidder), or
  - 3. accepted, where the City of Pawtucket Purchasing Agent determines that such acceptance best serves the interests of the City of Pawtucket.Acceptance or rejection of alternate or counter-offers by the City of Pawtucket shall not constitute a precedent which shall be considered to be binding on successive solicitations or procurements.
- d. Bids submitted in pencil, or which do not bear an original signature, in ink, by an owner or authorized agent thereof, will not be accepted.
- e. Bids must be extended in the unit of measure specified in the Request. In the event of any discrepancy between unit prices and their extensions, the unit price will govern.
- f. The City of Pawtucket Purchasing Agent reserves the right to determine the responsibility of any bidder for a particular procurement.
- g. The City of Pawtucket Purchasing Agent reserves the right to reject any and all bids in whole or in part, to waive technical defects, irregularities, and omissions, and to give consideration to past performance of the offerors where, in his judgment the best interests of the City of Pawtucket will be served by so doing.
- h. The City of Pawtucket Purchasing Agent reserves the right to make awards by items, group of items or on the total low bid for all the items specified as indicated in the detailed specification, unless the bidder specifically indicates otherwise in his bid.
- i. Preference may be given to bids on products raised or manufactured in the City of Pawtucket or State of Rhode Island, other things being equal.
- j. The impact of discounted payment terms shall not be considered in evaluating responses to any Request.
- k. The City of Pawtucket Purchasing Agent reserves the right to act in the City of Pawtucket's best interests regarding awards caused by clerical errors by the City of Pawtucket Purchasing Office.

#### 14. SUSPENSION AND DEBARMENT

The City of Pawtucket Purchasing Agent may suspend or debar any vendor or potential bidder, for good cause shown:

- a. A debarment or suspension against a part of a corporate entity constitutes debarment or suspension of all of its divisions and all other organizational elements, except where the action has been specifically limited in scope and application, and may include all known corporate affiliates of a contractor, when such offense or act occurred in connection with the affiliate's performance of duties for or on behalf of the contractor, or with the knowledge, approval, or acquiescence of the contractor or one or more of its principals or directors (or where the contractor otherwise participated in, knew of, or had reason to know of the acts).
- b. The fraudulent, criminal or other serious improper conduct of any officer, director, shareholder, partner, employee, or any other individual associated with a contractor may be imputed to the contractor when the conduct occurred in connection with the individual's performance of duties for or on behalf of the contractor, or with the contractor's knowledge, approval or acquiescence. The contractor's acceptance of benefits derived from the conduct shall be evidence of such knowledge, approval, or acquiescence.

- c. A vendor or contractor who knowingly engages as a subcontractor for a contract awarded by the City of Pawtucket to a vendor or contractor then under a ruling of suspension or debarment by the City of Pawtucket shall be subject to disallowance of cost, annulment or termination of award, issuance of a stop work order, or debarment or suspension, as may be judged to be appropriate by the City of Pawtucket's Purchasing Agent.

15. PUBLIC RECORDS

Contractors and bidders are advised that certain documents, correspondence, and other submissions to the City of Pawtucket's Purchasing Office may be voluntarily made public by the City of Pawtucket absent specific notice that portions of such submittals may contain confidential or proprietary information, such that public access to those items should be withheld.

16. PRODUCT EVALUATION

In all specifications, the words "or equal" are understood after each article when manufacturer's name or catalog are referenced. If bidding on items other than those specified, the bidder must, in every instance, give the trade designation of the article, manufacturer's name and detailed specifications of the item the bidder proposes to furnish; otherwise, the bid will be construed as submitted on the identical commodity described in the detailed specifications. The City of Pawtucket's Purchasing Agent reserves the right to determine whether or not the item submitted is the approved equal the detailed specifications.

- a. Any objections to specifications must be filed by a bidder, in writing, with the City of Pawtucket's Purchasing Agent at least 96 hours before the time of bid opening to enable the City of Pawtucket's Purchasing Office to properly investigate the objections.
- b. All standards are minimum standards except as otherwise provided for in the Request or Contract.
- c. Samples must be submitted to the City of Pawtucket's Purchasing Office in accordance with the terms of the proposals and detailed specifications. Samples must be furnished free of charge and must be accompanied by descriptive memorandum invoices indicating whether or not the bidder desires their return and specifying the address to which they are to be returned (at the bidder's risk and expense), provided they have not been used or made useless by tests; and absent instructions, the samples shall be considered to be abandoned. Award samples may be held for comparison with deliveries.
- d. All samples submitted are subject to test by any laboratory the City of Pawtucket's Purchasing Agent may designate.

17. PRODUCT ACCEPTANCE

All merchandise offered or otherwise provided shall be new, of prime manufacture, and of first quality unless otherwise specified by the City of Pawtucket. The City of Pawtucket reserves the right to reject all nonconforming goods, and to cause their return for credit or replacement, at the City of Pawtucket's option. Contract deliverables specified for procurements of services shall be construed to be work products, and subject to the provisions of this section.

- a. Failure by the City of Pawtucket to discover latent defect(s) or concealed damage or non-conformance shall not foreclose the City of Pawtucket's right to subsequently reject the goods in question.
- b. Formal or informal acceptance by the City of Pawtucket of non-conforming goods shall not constitute a precedent for successive receipts or procurements.
- c. Where the contractor fails to promptly cure the defect or replace the goods, the City of Pawtucket reserves the right to cancel the Purchase Order, contract with a different contractor, and to invoice the original contractor for any differential in price over the original contract price.
- d. When materials, equipment or supplies are rejected, the same must be removed by the contractor from the premises of the City of Pawtucket within forty-eight (48) hours of notification. Rejected items left longer than two days will be regarded as abandoned and the City of Pawtucket shall have the right to dispose of them as its own property.

18. PRODUCT WARRANTIES

All product or service warranties normally offered by the contractor or bidder shall accrue to the City of Pawtucket's benefit, in addition to any special requirements which may be imposed by the City of Pawtucket. Every unit delivered must be guaranteed against faulty material and

workmanship for a period of one year unless otherwise specified, and the City of Pawtucket may, in the event of failure, order its replacement, repair, or return for full credit, at its sole option.

19. PAYMENT

Unless otherwise provided for by the Request or Contract, payment shall not be made until delivery has been made, or services performed, in full, and accepted. Payment shall not be due prior to thirty (30) working days following the latest of completion, acceptance, or the rendering of a properly submitted invoice.

- a. Payment terms other than the foregoing may be rejected as being nonresponsive.
- b. No partial shipments, or partial completion will be accepted, unless provided for by the Request or Contract.
- c. Where a question of quality is involved, or failure to complete a project by the specified due date, payment in whole or part against which to charge back any adjustment required, shall be withheld at the direction of the City of Pawtucket Purchasing Agent. In the event a cash discount is stipulated, the withholding of payments, as herein described, will not deprive the City of Pawtucket from taking such discount.
- d. Payments for used portion of inferior delivery or late delivery will be made by the City of Pawtucket on an adjusted price basis.
- e. Payments on contracts under architectural or engineering supervision must be accompanied by a Certificate of Payment and Statement of Account signed by the architect or engineer and submitted to the City of Pawtucket Purchasing Office for approval.

20. THIRD PARTY PAYMENTS

The City of Pawtucket recognizes no assigned or collateral rights to any purchase agreement except as may be expressly provided for in the bid or contract documents, and will not accede to any request for third party or joint payment(s), except as provided for in specific orders by a court of competent jurisdiction, or by express written permission of the City of Pawtucket's Purchasing Agent. Where an offer is contingent upon such payment(s), the offeror is obligated to serve affirmative notice in his bid submission.

21. SET-OFF AGAINST PAYMENTS

Payments due the contractor may be subject to reduction equal to the amount of unpaid and delinquent state taxes (or other just debt owed to the State), except where notice of delinquency has not been served or while the matter is pending in hearing or from any appeal therefrom.

22. CLAIMS

Any claim against a contractor may be deducted by the City of Pawtucket from any money due him in the same or other transactions. If no deduction is made in such fashion, the contractor shall pay the City of Pawtucket the amount of such claim on demand. Submission of a voucher and payment, thereof, by the City of Pawtucket shall not preclude the City of Pawtucket's Purchasing Agent from demanding a price adjustment in any case when the commodity delivered is later found to deviate from the specifications and proposal.

- a. The City of Pawtucket's Purchasing Agent may assess dollar damages against a vendor or contractor determined to be non-performing or otherwise in default of their contractual obligations equal to the cost of remedy incurred by the City of Pawtucket, and make payment of such damages a condition for consideration for any subsequent award. Failure by the vendor or contractor to pay such damages shall constitute just cause for disqualification and rejection, suspension, or debarment.

23. CERTIFICATION OF FUNDING

The Director of Finance shall provide certification as to the availability of funds to support the procurement for the current fiscal year ending June 30th only. Where delivery or service requirements extend beyond the end of the current fiscal year, such extensions are subject to both the availability of appropriated funds and a determination of continued need.

24. UNUSED BALANCES

Unless otherwise specified, all unused Blanket Order quantities and/or unexpended funds shall be automatically canceled on the expiration of the specified term. Similarly, for orders encompassing

more than one fiscal year, unexpended balances of funding allotted for an individual fiscal year may be liquidated at the close of that fiscal year, at the City of Pawtucket's sole option.

25. **MINORITY BUSINESS ENTERPRISES**

Pursuant to the provisions of Title 37 Chapter 14.1 of the General Laws, the City of Pawtucket reserves the right to apply additional consideration to offers, and to direct awards to bidders other than the responsive bid representing the lowest price where:

- a. the offer is fully responsive to the terms and conditions of the Request, and
- b. the price offer is determined to be within a competitive range (not to exceed 5% higher than the lowest responsive price offer) for the product or service, and
- c. the firm making the offer has been certified by the R.I. Department of Economic Development to be a small business concern meeting the criteria established to be considered a Minority Business Enterprise.

26. **PREVAILING WAGE REQUIREMENT**

In accordance with Title 37 Chapter 13 of the General Laws of Rhode Island, payment of the general prevailing rate of per diem wages and the general prevailing rate for regular, overtime and other working conditions existing in the locality for each craft, mechanic, teamster, or type of workman needed to execute this work is a requirement for both contractors and subcontractors for all public works projects.

The rates of pay set forth under this contract, are the minimum to be paid during the life of the Contract. It is therefore, the responsibility of Bidders to inform themselves as to local labor conditions, such as the length of work day and work week, overtime compensation, health and welfare contributions, labor supply and prospective changes or adjustments of rates.

Certified weekly payrolls and statement of compliance forms are required from contractors and subcontractors. Submit on State of Rhode Island Department of Labor and Training forms.

27. **EQUAL OPPORTUNITY COMPLIANCE, HANDICAPPED ACCESS AND AFFIRMATIVE ACTION**

Contractors of the City of Pawtucket are required to demonstrate the same commitment to equal opportunity as prevails under federal contracts controlled by Federal Executive Orders 11246, 11625, 11375 and 11830, and Title 28 Chapter 5.1 of the General Laws of Rhode Island.

Affirmative action plans shall be submitted by the contractor for review by the State Equal Opportunity Office. A contractor's failure to abide by the rules, regulations, contract terms and compliance reporting provisions as established shall be grounds for forfeiture and penalties as shall be established, including but not limited to suspension.

28. **DRUG-FREE WORKPLACE REQUIREMENT**

Contractors who do business with the City of Pawtucket and their employees shall abide by the State's drug-free workplace policy and the contractor shall so attest by signing a certificate of compliance.

29. **TAXES**

The City of Pawtucket is exempt from payment of excise, transportation and sales tax imposed by the Federal or State Government. These taxes should not be included in the proposal price. Exemption Certificates will be furnished upon request.

30. **INSURANCE**

All construction contractors, independent tradesmen, or firms providing any type of maintenance, repair, or other type of service to be performed on City of Pawtucket premises, buildings, or grounds are required to purchase and maintain coverage with a company or companies licensed to do business in the state as follows:

- a. **Comprehensive General Liability Insurance**  
Combined Single Limit not less than \$1,000,000 each occurrence for bodily Injury and property damage.
  - Independent Contractors;
  - Contractual - including construction hold harmless and other types of contracts or agreements in effect for insured operations;

- Products and Completed Operations;
  - Personal Injury (with employee exclusion deleted)
- b. Automobile Liability Insurance  
 Combined Single Limit not less than \$1,000,000 each occurrence for bodily Injury and property damage including non-owned and/or hired vehicle coverage.

OR

Bodily Injury, per person, \$500,000/ Bodily Injury, \$1,000,000 per accident/  
 Property Damage, \$500,000 per accident including non-owned and/or hired  
 vehicle coverage.

- c. Workers' Compensation Insurance  
 As required by the General Laws of Rhode Island.
- Employers liability \$500,000

The City of Pawtucket shall be named as an additional insured on the vendor's Comprehensive General Liability Policy and Automobile Liability Policy.

The City of Pawtucket's Purchasing Agent reserves the right to consider and accept alternate forms and plans of insurance or to require additional or more extensive coverage for any individual requirement. Successful bidders shall provide certificates of coverage, reflecting the City of Pawtucket as an additional insured, to the City of Pawtucket Purchasing Office, forty-eight (48) hours prior to the commencement of work, as a condition of award. Failure to comply with this provision shall result in rejection of the offeror's bid.

31. **BID SURETY**

When requested, a bidder must furnish a Bid Bond or Certified Check for 5% of his bid, or for the stated amount shown in the solicitation. Bid Bonds must be executed by a reliable Surety Company authorized to do business in the State of Rhode Island. Failure to provide Bid Surety with bid may be cause for rejection of bid. The Bid Surety of any three bidders in contention will be held until an award has been made according to the specifications of each proposal. All others will be returned by mail within 48 hours following the bid opening. Upon award of a contract, the remaining sureties will be returned by mail unless instructed to do otherwise.

32. **PERFORMANCE AND LABOR AND PAYMENT BONDS**

A performance bond and labor and payment bond of up to 100% of an award may be required by the City of Pawtucket's Purchasing Agent. Bonds must meet the following requirements:

- a. Corporation: The Bond must be signed by an official of the corporation above his/her official title and the corporate seal must be affixed over his/her signature.
- b. Firm or Partnership: The Bond must be signed by all of the partners and must indicate that they are " Doing Business As (name of firm)."
- c. Individual: The Bond must be signed by the individual owning the business and indicate "Owner."
- d. The Surety Company executing the Bond must be licensed to do business in the State of Rhode Island or Bond must be countersigned by a company so licensed.
- e. The Bond must be signed by an official of the Surety Company and the corporate seal must be affixed over his signature.
- f. Signatures of two witnesses for both the principal and the Surety must appear on the Bond.
- g. A Power of Attorney for the official signing of the Bond for the Surety Company must be submitted with the Bond.

33. **SUSPENSION, DEFAULT AND TERMINATION**

a. Suspension of a Contract by the City of Pawtucket  
 The City of Pawtucket reserves the right at any time and for any reason to suspend all or part of this contract, for a reasonable period, not to exceed sixty days, unless the parties agree to a longer period. The City of Pawtucket shall provide the contractor with written notice of the suspension order signed by the Purchasing Agent or his or her designee, which shall set forth the date upon

which the suspension shall take effect, the date of its expiration, and all applicable instructions. Upon receipt of said order, the contractor shall immediately comply with the order and suspend all work under this contract as specified in the order. The contractor shall take all reasonable steps to mitigate costs and adverse impact to the work specified in the contract during the suspension period. Before the order expires, the City of Pawtucket shall either:

1. cancel the suspension order;
2. extend the suspension order for a specified time period not to exceed thirty (30) days; or
3. terminate the contract as provided herein.

The contractor shall resume performance once a suspension order issued under this section is canceled or expires. If as a result of the suspension of performance, there is a financial or schedule impact upon the contract, an appropriate adjustment may be made by, or with the approval of, the City of Pawtucket's Purchasing Agent. Any adjustment shall be set forth in writing. After a suspension order has been canceled or expires, the contractor shall provide any request for adjustment to the City of Pawtucket's Purchasing Agent within thirty (30) days after resuming work performance.

b. Termination of a Contract by the City of Pawtucket

1. Termination for Default or Nonperformance

If, for any reason, the contractor breaches the contract by failing to satisfactorily fulfill or perform any obligations, promises, terms, or conditions, and having been given reasonable notice of and opportunity to cure such default, fails to take satisfactory corrective action within the time specified by the City of Pawtucket, the City of Pawtucket may terminate the contract, in whole or in part, the termination of all outstanding contracts or sub-contracts held by the contractor, and the suspension or debarment of the contractor from future procurements by giving written notice to the contractor specifying the date for termination. The City of Pawtucket shall endeavor to provide such notice at least seven (7) calendar days before the effective date of the termination.

A contractor who fails to commence within the time specified or complete an award made for repairs, alterations, construction, or any other service will be considered in default of contract. If contractor consistently fails to deliver quantities or otherwise perform as specified, the City of Pawtucket's Purchasing Agent reserves the right to terminate the contract and contract for completion of the work with another contractor and seek recourse from the defaulting contractor or his surety. In the event of a termination for default or nonperformance, in whole or in part, the City of Pawtucket may procure similar goods or services in a manner and upon terms it deems appropriate, and the contractor shall be liable for the excess costs incurred by the City of Pawtucket as a result of the contractor's default. The contractor, or its surety, agrees to promptly reimburse the City of Pawtucket for the excess costs, but shall have no claim to the difference should the replacement cost be less.

2. Termination Without Cause

The City of Pawtucket may terminate the contract in whole or in part without cause at any time by giving written notice to the contractor of such termination at least thirty (30) days before the effective date of such termination. The notice shall specify the part(s) of the contract being terminated and the effective termination date.

Within thirty (30) days of the effective date of the termination of the contract the contractor shall compile and submit to the City of Pawtucket an accounting of the work performed up to the date of termination. The City of Pawtucket may consider the following claims in determining reasonable compensation owed to the contractor for work performed up to the date of termination:

- a. contract prices for goods or services accepted under the contract;
- b. costs incurred in preparing to perform and performing the terminated portion of the contract; or

- c. any other reasonable costs incurred by the contractor as a result of the termination.

The total sum to be paid to the contractor shall not exceed the total contract price, less any payments previously made to the contractor, the proceeds from any sales of goods or manufacturing materials, and the contract price for work not terminated.

3. Contractor's Obligations in the Event of Termination

If the contract is terminated for any reason, or expires pursuant to its terms, the contractor shall transfer and deliver to the City of Pawtucket in the manner and to the extent directed by the City of Pawtucket:

- a. all finished or unfinished material prepared by the contractor; and
- b. all material, if any, provided to the contractor by the City of Pawtucket.

For the purposes of the contract, "material" shall include, but is not limited to, goods, supplies, parts, tools, machinery, equipment, furniture, fixtures, information, data, reports, summaries, tables, maps, charts, photographs, studies, recommendations, files, audiotapes, videotapes, records, keys, security badges, and documents.

If the contract is terminated for cause, the contractor shall not be relieved of liability to the City of Pawtucket for damages sustained because of any breach by the contractor. In such event, the City of Pawtucket may retain any amounts which may be due and owing to the contractor until such time as the exact amount of damages due the City of Pawtucket from the contractor has been determined by the City of Pawtucket Purchasing Agent. The City of Pawtucket may also set off any damages so determined against the amounts retained.

Upon termination of the contract, the contractor shall stop performance on the date specified, terminate any outstanding orders and subcontracts applicable to the terminated portion of the contract, and shall incur no further commitments or obligations in connection with the terminated performance. The contractor shall settle all liabilities and claims arising out of the termination of subcontracts and order generating from the terminated performance. The City of Pawtucket may direct the contractor to assign the contractor's right, title and interest under terminated orders or subcontracts to the City of Pawtucket or a third party.

Terminations of Purchase Order Contracts or Master Pricing Agreements shall require the signature of the City of Pawtucket Purchasing Agent or his designee. Notice of termination by either party shall be submitted in writing to the other party in accordance with the termination clause of the contract, or where no specific termination clause is included, written notice shall be provided no later than thirty (30) days before the expiration of the contract.

34. INDEMNITY

The contractor guarantees:

- a. To save the City of Pawtucket, its agents and employees, harmless from any liability imposed upon the City of Pawtucket arising from the negligence, either active or passive, of the contractor, as well as for the use of any copyrighted or uncopyrighted composition, secret process, patented or unpatented invention, article or appliance furnished or used in the performance of the contract of which the contractor is not the patentee, assignee or licensee.
- b. To pay for all permits, licenses and fees and give all notices and comply with all laws, ordinances, rules and regulations of the City of Pawtucket and of the State of Rhode Island.
- c. That the equipment offered is standard new equipment, latest model of regular stock product with all parts regularly used with the type of equipment offered; also, that no attachment or part has been substituted or applied contrary to manufacturer's recommendations and standard practice.

35. CONTRACTOR'S OBLIGATIONS

In addition to the specific requirements of the contract, construction and building repair contractors bear the following standard responsibilities:

- a. To furnish adequate protection from damage for all work and to repair damages of any kind, for which he or his workmen are responsible, to the building or equipment, to his own work, or to the work of other contractors;
- b. The contractor, its subcontractor(s) and their employees and/or agents, shall protect and preserve property in the contractor or subcontractor's possessions in which the City of Pawtucket has an interest, and any and all materials provided to the contractor or subcontractor by the City of Pawtucket;
- c. To clear and remove all debris and rubbish resulting from his work from time to time, as directed or required, a completion of the work leave the premises in a neat unobstructed condition, broom clean, and in satisfactory order and repair;
- d. To store equipment, supplies, and material at the site only upon approval by the City of Pawtucket, and at his own risk;
- e. To perform all work so as to cause the least inconvenience to the City of Pawtucket, and with proper consideration for the rights of other contractors and workmen;
- f. To acquaint themselves with conditions to be found at the site, and to assume responsibility for the appropriate dispatching of equipment and supervision of his employees during the conduct of the work;
- g. To ensure that his employees are instructed with respect to special regulations, policies, and procedures in effect for any City of Pawtucket facility or site, and that they comply with such rules, including but not limited to security policies or practices and/or criminal background checks for any employees and/or subcontractors;
- h. The contractor shall ensure that its employees or agents are experienced and fully qualified to engage in the activities and services required under the contract;
- i. The contractor shall ensure that at all times while services are being performed under this contract at least one of its employees or agents on the premises has a good command of the English language and can effectively communicate with the City of Pawtucket and its staff;
- j. The contractor and contractor's employees or agents shall comply with all applicable licensing and operating requirements required by federal or state law and shall meet accreditation and other generally accepted standards of quality in the applicable field of activity;
- k. The contractor shall secure and retain all employee-related insurance coverage for its employees and agents as required by law; and
- l. The contractor, subcontractor, and his or her employees and agents shall not disclose any confidential information of the City of Pawtucket to a third party. Confidential information means:
  - (1) any information of a sensitive or proprietary nature, whether or not specially identified as confidential or proprietary; or
  - (2) any information about the City of Pawtucket gained during the performance of a contract that is not already lawfully in the public domain.

36. **FORCE MAJEURE**

All orders shall be filled by the contractor with reasonable promptness, but the contractor shall not be held responsible for any losses resulting if the fulfillment of the terms of the contract shall be delayed or prevented by wars, acts of public enemies, strikes, fires, floods, acts of God, or for any other acts not within the control of the contractor and which by the exercise of reasonable diligence, the contractor is unable to prevent.



## **Appendix C**

### **General Wage Rate Decision Davis Bacon**

The current wage determination (Heavy Construction, Providence County), as obtained from the Rhode Island Department of Labor and Training, is bound as part of this Project Manual.

"General Decision Number: RI20230001 02/03/2023

Superseded General Decision Number: RI20220001

State: Rhode Island

Construction Types: Building, Heavy (Heavy and Marine) and Highway

Counties: Rhode Island Statewide.

**BUILDING CONSTRUCTION PROJECTS** (does not include residential construction consisting of single family homes and apartments up to and including 4 stories) **HEAVY, HIGHWAY AND MARINE CONSTRUCTION PROJECTS**

Note: Contracts subject to the Davis-Bacon Act are generally required to pay at least the applicable minimum wage rate required under Executive Order 14026 or Executive Order 13658. Please note that these Executive Orders apply to covered contracts entered into by the federal government that are subject to the Davis-Bacon Act itself, but do not apply to contracts subject only to the Davis-Bacon Related Acts, including those set forth at 29 CFR 5.1(a)(2)-(60).

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	If the contract is entered		Executive Order 14026	
	into on or after January 30,		generally applies to the	
	2022, or the contract is		contract.	
	renewed or extended (e.g., an		The contractor must pay	
	option is exercised) on or		all covered workers at	
	after January 30, 2022:		least \$16.20 per hour (or	
			the applicable wage rate	
			listed on this wage	
			determination, if it is	
			higher) for all hours	
			spent performing on the	
			contract in 2023.	

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	If the contract was awarded on		Executive Order 13658	
	or between January 1, 2015 and		generally applies to the	
	January 29, 2022, and the		contract.	
	contract is not renewed or		The contractor must pay all	
	extended on or after January		covered workers at least	
	30, 2022:		\$12.15 per hour (or the	
			applicable wage rate listed	
			on this wage determination,	
			if it is higher) for all	
			hours spent performing on	
			that contract in 2023.	

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The applicable Executive Order minimum wage rate will be adjusted annually. If this contract is covered by one of the Executive Orders and a classification considered necessary for performance of work on the contract does not appear on this wage determination, the contractor must still submit a conformance request.

Additional information on contractor requirements and worker protections under the Executive Orders is available at <http://www.dol.gov/whd/govcontracts>.

Modification Number	Publication Date
0	01/06/2023
1	01/13/2023
2	02/03/2023

ASBE0006-006 06/01/2022

Rates	Fringes
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HAZARDOUS MATERIAL HANDLER (Includes preparation, wetting, stripping, removal scrapping, vacuuming, bagging & disposing of all insulation materials, whether they contain asbestos or not, from mechanical systems).....	\$ 38.30	25.55
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ASBE0006-008 09/01/2021

Rates	Fringes
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Asbestos Worker/Insulator Includes application of all insulating materials, protective coverings, coatings & finishes to all types of mechanical systems.	\$ 45.00	32.89
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BOIL0029-001 01/01/2021

Rates	Fringes
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BOILERMAKER.....	\$ 45.87	29.02
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BRR10003-001 06/01/2022

Rates	Fringes
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Bricklayer, Stonemason, Pointer, Caulker & Cleaner.....	\$ 46.86	29.14
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BRR10003-002 09/01/2022

Rates	Fringes
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Marble Setter, Terrazzo Worker & Tile Setter.....	\$ 46.54	30.34
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BRR10003-003 09/01/2022

Rates	Fringes
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Marble, Tile & Terrazzo

Finisher.....\$ 38.78      29.61

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CARP0330-001 01/01/2023

                    Rates      Fringes

CARPENTER (Includes Soft  
Floor Layer).....\$ 41.53      29.35  
Diver Tender.....\$ 42.53      29.35  
DIVER.....\$ 53.88      29.35  
Piledriver.....\$ 41.53      29.35  
WELDER.....\$ 42.53      29.35

FOOTNOTES:

When not diving or tending the diver, the diver and diver tender shall receive the piledriver rate. Diver tenders shall receive \$1.00 per hour above the pile driver rate when tending the diver.

Work on free-standing stacks, concrete silos & public utility electrical power houses, which are over 35 ft. in height when constructed: \$.50 per hour additional.

Work on exterior concrete shear wall gang forms, 45 ft. or more above ground elevation or on setback: \$.50 per hour additional.

The designated piledriver, known as the ""monkey"": \$1.00 per hour additional.

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\* CARP1121-002 01/02/2023

                    Rates      Fringes

MILLWRIGHT.....\$ 41.54      30.73

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ELEC0099-002 12/05/2022

                    Rates      Fringes

ELECTRICIAN.....\$ 45.86      53.26%  
Teledata System Installer.....\$ 34.40      12.10%+15.31

FOOTNOTES:

Work of a hazardous nature, or where the work height is 30 ft. or more from the floor, except when working OSHA-approved lifts: 20% per hour additional.

Work in tunnels below ground level in combined sewer outfall: 20% per hour additional.

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ELEV0039-001 01/01/2023

                    Rates      Fringes

ELEVATOR MECHANIC.....\$ 59.36      37.335+a+b

FOOTNOTES:

a. PAID HOLIDAYS: New Years Day; Memorial Day; Independence Day; Labor Day; Veterans' Day; Thanksgiving Day; the Friday after Thanksgiving Day; and Christmas Day.

b. Employer contributes 8% basic hourly rate for 5 years or more of service of 6% basic hourly rate for 6 months to 5 years of service as vacation pay credit.

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ENGI0057-001 06/01/2022

	Rates	Fringes
Operating Engineer: (power plants, sewer treatment plants, pumping stations, tunnels, caissons, piers, docks, bridges, wind turbines, subterranean & other marine and heavy construction work)		
GROUP 1.....	\$ 43.55	29.25+a
GROUP 2.....	\$ 41.55	29.25+a
GROUP 3.....	\$ 37.17	29.25+a
GROUP 4.....	\$ 34.32	29.25+a
GROUP 5.....	\$ 40.60	29.25+a
GROUP 6.....	\$ 31.40	29.25+a
GROUP 7.....	\$ 25.40	29.25+a
GROUP 8.....	\$ 37.25	29.25+a
GROUP 9.....	\$ 41.17	29.25+a

a. BOOM LENGTHS, INCLUDING JIBS:

- 150 feet and over + \$ 2.00
- 180 feet and over + \$ 3.00
- 210 feet and over + \$ 4.00
- 240 feet and over + \$ 5.00
- 270 feet and over + \$ 7.00
- 300 feet and over + \$ 8.00
- 350 feet and over + \$ 9.00
- 400 feet and over + \$10.00

a. PAID HOLIDAYS:

New Year's Day, President's Day, Memorial Day, July Fourth, Victory Day, Labor Day, Columbus Day, Veterans Day, Thanksgiving Day, Christmas Day. a: Any employee who works 3 days in the week in which a holiday falls shall be paid for the holiday.

a. FOOTNOTES:

Hazmat work: \$2.00 per hour additional.  
Tunnel/Shaft work: \$5.00 per hour additional.

POWER EQUIPMENT OPERATORS CLASSIFICATIONS

GROUP 1: Cranes, lighters, boom trucks and derricks

GROUP 2: Digging machine, Ross Carrier, locomotive, hoist, elevator, bidwell-type machine, shot & water blasting machine, paver, spreader, graders, front end loader (3 yds. and over), vibratory hammer & vacuum truck, roadheaders, forklifts, economobile type equipment, tunnel boring machines, concrete pump and on site concrete plants.

GROUP 3: Oilers on cranes.

GROUP 4: Oiler on crawler backhoe.

GROUP 5: Bulldozer, bobcats, skid steer loader, tractor, scraper, combination loader backhoe, roller, front end loader (less than 3 yds.), street and mobile-powered sweeper (3-yd. capacity), 8-ft. sweeper minimum 65 HP).

GROUP 6: Well-point installation crew.

GROUP 7: Utility Engineers and Signal Persons

GROUP 8: Heater, concrete mixer, stone crusher, welding machine, generator and light plant, gas and electric driven pump and air compressor.

GROUP 9: Boat & tug operator.

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ENGI0057-002 05/01/2022

	Rates	Fringes
Power Equipment Operator (highway construction projects; water and sewerline projects which are incidental to highway construction projects; and bridge projects that do not span water)		
GROUP 1.....	\$ 36.70	29.25+a
GROUP 2.....	\$ 31.40	29.25+a
GROUP 3.....	\$ 25.40	29.25+a
GROUP 4.....	\$ 31.98	29.25+a
GROUP 5.....	\$ 35.68	29.25+a
GROUP 6.....	\$ 35.30	29.25+a
GROUP 7.....	\$ 30.95	29.25+a
GROUP 8.....	\$ 32.33	29.25+a
GROUP 9.....	\$ 34.28	29.25+a

a. FOOTNOTE: a. Any employee who works three days in the week in which a holiday falls shall be paid for the holiday.

a. PAID HOLIDAYS: New Year's Day, President's Day, Memorial Day, July Fourth, Victory Day, Labor Day, Columbus Day, Veterans Day, Thanksgiving Day & Christmas Day.

**POWER EQUIPMENT OPERATOR CLASSIFICATIONS**

GROUP 1: Digging machine, crane, piledriver, lighter, locomotive, derrick, hoist, boom truck, John Henry's,

directional drilling machine, cold planer, reclaimer, paver, spreader, grader, front end loader (3 yds. and over), vacuum truck, test boring machine operator, veemere saw, water blaster, hydro-demolition robot, forklift, economobile, Ross Carrier, concrete pump operator and boats

GROUP 2: Well point installation crew

GROUP 3: Utility engineers and signal persons

GROUP 4: Oiler on cranes

GROUP 5: Combination loader backhoe, front end loader (less than 3 yds.), forklift, bulldozers & scrapers and boats

GROUP 6: Roller, skid steer loaders, street sweeper

GROUP 7: Gas and electric drive heater, concrete mixer, light plant, welding machine, pump & compressor

GROUP 8: Stone crusher

GROUP 9: Mechanic & welder

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ENGI0057-003 06/01/2022

**BUILDING CONSTRUCTION**

	Rates	Fringes
Power Equipment Operator		
GROUP 1.....	\$ 42.82	29.25+a
GROUP 2.....	\$ 40.82	29.25+a
GROUP 3.....	\$ 40.60	29.25+a
GROUP 4.....	\$ 36.60	29.25+a
GROUP 5.....	\$ 33.75	29.25+a
GROUP 6.....	\$ 39.90	29.25+a
GROUP 7.....	\$ 39.47	29.25+a
GROUP 8.....	\$ 36.79	29.25+a

**a. BOOM LENGTHS, INCLUDING JIBS:**

- 150 ft. and over: + \$ 2.00
- 180 ft. and over: + \$ 3.00
- 210 ft. and over: + \$ 4.00
- 240 ft. and over: + \$ 5.00
- 270 ft. and over: + \$ 7.00
- 300 ft. and over: + \$ 8.00
- 350 ft. and over: + \$ 9.00
- 400 ft. and over: + \$10.00

a. PAID HOLIDAYS: New Year's Day, President's Day, Memorial Day, July Fourth, Victory Day, Labor Day, Columbus Day, Veterans Day, Thanksgiving Day & Christmas Day. a: Any employee who works 3 days in the week in which a holiday falls shall be paid for the holiday.

a. FOOTNOTE: Hazmat work: \$2.00 per hour additional.  
Tunnel/Shaft work: \$5.00 per hour additional.

POWER EQUIPMENT OPERATORS CLASSIFICATIONS

GROUP 1: Cranes, lighters, boom trucks and derricks.

GROUP 2: Digging machine, Ross carrier, locomotive, hoist, elevator, bidwell-type machine, shot & water blasting machine, paver, spreader, front end loader (3 yds. and over), vibratory hammer and vacuum truck

GROUP 3: Telehandler equipment, forklift, concrete pump & on-site concrete plant

GROUP 4: Fireman & oiler on cranes

GROUP 5: Oiler on crawler backhoe

GROUP 6: Bulldozer, skid steer loaders, bobcats, tractor, grader, scraper, combination loader backhoe, roller, front end loader (less than 3 yds.), street and mobile powered sweeper (3 yds. capacity), 8-ft. sweeper (minimum 65 hp)

GROUP 7: Well point installation crew

GROUP 8: Heater, concrete mixer, stone crusher, welding machine, generator for light plant, gas and electric driven pump & air compressor

-----  
IRON0037-001 09/16/2022

	Rates	Fringes
IRONWORKER.....	\$ 39.01	31.58

-----  
LABO0271-001 05/30/2021

BUILDING CONSTRUCTION

	Rates	Fringes
LABORER		
GROUP 1.....	\$ 33.55	26.15
GROUP 2.....	\$ 33.80	26.15
GROUP 3.....	\$ 34.30	26.15
GROUP 4.....	\$ 34.55	26.15
GROUP 5.....	\$ 35.55	26.15

LABORERS CLASSIFICATIONS

GROUP 1: Laborer, Carpenter Tender, Mason Tender, Cement Finisher Tender, Scaffold Erector, Wrecking Laborer, Asbestos Removal [Non-Mechanical Systems]

GROUP 2: Asphalt Raker, Adzemen, Pipe Trench Bracer, Demolition Burner, Chain Saw Operator, Fence & Guard Rail Erector, Setter of Metal Forms for Roadways, Mortar Mixer, Pipelayer, Riprap & Dry Stonewall Builder, Highway Stone Spreader, Pneumatic Tool Operator, Wagon Drill Operator,



Tree Trimmer, Barco-Type Jumping Tamper, Mechanical Grinder Operator

GROUP 3: Pre-Cast Floor & Roof Plank Erectors

GROUP 4: Air Track Operator, Hydraulic & Similar Self-Powered Drill, Block Paver, Rammer, Curb Setter, Powderman & Blaster

GROUP 5: Toxic Waste Remover

-----  
LABO0271-002 05/30/2021

HEAVY AND HIGHWAY CONSTRUCTION

	Rates	Fringes
LABORER		
COMPRESSED AIR		
Group 1.....	\$ 53.45	24.15
Group 2.....	\$ 50.98	24.15
Group 3.....	\$ 40.50	24.15
FREE AIR		
Group 1.....	\$ 44.05	24.15
Group 2.....	\$ 43.05	24.15
Group 3.....	\$ 40.50	24.15
LABORER		
Group 1.....	\$ 33.55	24.15
Group 2.....	\$ 33.80	24.15
Group 3.....	\$ 34.55	24.15
Group 4.....	\$ 27.05	24.15
Group 5.....	\$ 35.55	24.15
OPEN AIR CAISSON, UNDERPINNING WORK AND BORING CREW		
Bottom Man.....	\$ 39.55	24.15
Top Man & Laborer.....	\$ 38.60	24.15
TEST BORING		
Driller.....	\$ 40.00	24.15
Laborer.....	\$ 38.60	24.15

LABORER CLASSIFICATIONS

GROUP 1: Laborer; Carpenter tender; Cement finisher tender; Wrecking laborer; Asbestos removers [non-mechanical systems]; Plant laborer; Driller in quarries

GROUP 2: Adzeperson; Asphalt raker; Barcotype jumping tamper; Chain saw operators; Concrete and power buggy operator; Concrete saw operator; Demolition burner; Fence and guard rail erector; Highway stone spreader; Laser beam operator; Mechanical grinder operator; Mason tender; Mortar mixer; Pneumatic tool operator; Riprap and dry stonewall builder; Scaffold erector; Setter of metal forms for roadways; Wagon drill operator; Wood chipper operator; Pipelayer; Pipe trench bracer

GROUP 3: Air track drill operator; Hydraulic and similar powered drills; Brick paver; Block paver; Rammer and curb setter; Powderperson and blaster

GROUP 4: Flagger & signaler

GROUP 5: Toxic waste remover

LABORER - COMPRESSED AIR CLASSIFICATIONS

GROUP 1: Mucking machine operator, tunnel laborer, brake person, track person, miner, grout person, lock tender, gauge tender, miner: motor person & all others in compressed air

GROUP 2: Change house attendant, powder watchperson, top person on iron

GROUP 3: Hazardous waste work within the ""HOT"" zone

LABORER - FREE AIR CLASSIFICATIONS

GROUP 1: Grout person - pumps, brake person, track person, form mover & stripper (wood & steel), shaft laborer, laborer topside, outside motorperson, miner, conveyor operator, miner welder, heading motorperson, erecting operator, mucking machine operator, nozzle person, rodperson, safety miner, shaft & tunnel, steel & rodperson, mole nipper, concrete worker, form erector (wood, steel and all accessories), cement finisher (this type of work only), top signal person, bottom person (when heading is 50' from shaft), burner, shield operator and TBM operator

GROUP 2: Change house attendant, powder watchperson

GROUP 3: Hazardous waste work within the ""HOT"" zone

-----  
PAIN0011-005 06/01/2022

	Rates	Fringes
PAINTER		
Brush and Roller.....	\$ 37.22	23.40
Epoxy, Tanks, Towers, Swing Stage & Structural Steel.....	\$ 39.22	23.40
Spray, Sand & Water Blasting.....	\$ 40.22	23.40
Taper.....	\$ 37.97	23.40
Wall Coverer.....	\$ 37.72	23.40

-----  
PAIN0011-006 06/01/2022

	Rates	Fringes
GLAZIER.....	\$ 40.78	23.40

FOOTNOTES:

SWING STAGE: \$1.00 per hour additional.

PAID HOLIDAYS: Labor Day & Christmas Day.

-----  
PAIN0011-011 06/01/2022

	Rates	Fringes
Painter (Bridge Work).....	\$ 55.00	23.75

-----  
PAIN0035-008 06/01/2011

	Rates	Fringes
Sign Painter.....	\$ 24.79	13.72

-----  
PLAS0040-001 06/03/2019

BUILDING CONSTRUCTION

	Rates	Fringes
CEMENT MASON/CONCRETE FINISHER...	\$ 36.00	27.15

FOOTNOTE: Cement Mason: Work on free swinging scaffolds under 3 planks width and which is 20 or more feet above ground and any offset structure: \$.30 per hour additional.

-----  
PLAS0040-002 07/01/2019

HEAVY AND HIGHWAY CONSTRUCTION

	Rates	Fringes
CEMENT MASON/CONCRETE FINISHER...	\$ 32.85	22.20

-----  
PLAS0040-003 07/01/2019

	Rates	Fringes
PLASTERER.....	\$ 37.55	27.50

-----  
PLUM0051-002 08/29/2022

	Rates	Fringes
Plumbers and Pipefitters.....	\$ 47.89	31.40

-----  
ROOF0033-004 12/01/2022

	Rates	Fringes
ROOFER.....	\$ 42.23	29.67

-----  
SFRI0669-001 01/01/2023

	Rates	Fringes
SPRINKLER FITTER.....	\$ 47.55	29.94

-----

SHEE0017-002 12/01/2020

	Rates	Fringes
Sheet Metal Worker.....	\$ 38.58	36.73

-----  
TEAM0251-001 05/01/2022

HEAVY AND HIGHWAY CONSTRUCTION

	Rates	Fringes
TRUCK DRIVER		
GROUP 1.....	\$ 28.46	32.10+A+B+C
GROUP 2.....	\$ 28.61	\$ 32.10+A+B+C
GROUP 3.....	\$ 28.66	\$ 32.10+A+B+C
GROUP 4.....	\$ 28.71	\$ 32.10+A+B+C
GROUP 5.....	\$ 28.81	\$ 32.10+A+B+C
GROUP 6.....	\$ 29.21	\$ 32.10+A+B+C
GROUP 7.....	\$ 29.41	\$ 32.10+A+B+C
GROUP 8.....	\$ 28.91	\$ 32.10+A+B+C
GROUP 9.....	\$ 29.16	\$ 32.10+A+B+C
GROUP 10.....	\$ 28.96	\$ 32.10+A+B+C

FOOTNOTES:

A. Paid Holidays: New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day and Christmas Day, plus Presidents' Day, Columbus Day, Veteran's Day & V-J Day, providing the employee has worked at least one day in the calendar week in which the holiday falls.

B. Employee who has been on the payroll for 1 year or more but less than 5 years and has worked 150 Days during the last year of employment shall receive 1 week's paid vacation; 5 to 10 years - 2 weeks' paid vacation; 10 or more years - 3 week's paid vacation.

C. Employees on the seniority list shall be paid a one hundred dollar (\$100.00) bonus for every four hundred (400) hours worked, up to a maximum of five hundred dollars (\$500.00)

All drivers working on a defined hazard material job site shall be paid a premium of \$2.00 per hour over applicable rate.

TRUCK DRIVER CLASSIFICATIONS

GROUP 1: Pick-up trucks, station wagons, & panel trucks

GROUP 2: Two-axle on low beds

GROUP 3: Two-axle dump truck

GROUP 4: Three-axle dump truck

GROUP 5: Four- and five-axle equipment

GROUP 6: Low-bed or boom trailer.

GROUP 7: Trailers when used on a double hook up (pulling 2 trailers)

GROUP 8: Special earth-moving equipment, under 35 tons

GROUP 9: Special earth-moving equipment, 35 tons or over

GROUP 10: Tractor trailer

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WELDERS - Receive rate prescribed for craft performing operation to which welding is incidental.

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Note: Executive Order (EO) 13706, Establishing Paid Sick Leave for Federal Contractors applies to all contracts subject to the Davis-Bacon Act for which the contract is awarded (and any solicitation was issued) on or after January 1, 2017. If this contract is covered by the EO, the contractor must provide employees with 1 hour of paid sick leave for every 30 hours they work, up to 56 hours of paid sick leave each year. Employees must be permitted to use paid sick leave for their own illness, injury or other health-related needs, including preventive care; to assist a family member (or person who is like family to the employee) who is ill, injured, or has other health-related needs, including preventive care; or for reasons resulting from, or to assist a family member (or person who is like family to the employee) who is a victim of, domestic violence, sexual assault, or stalking. Additional information on contractor requirements and worker protections under the EO is available at <https://www.dol.gov/agencies/whd/government-contracts>.

Unlisted classifications needed for work not included within the scope of the classifications listed may be added after award only as provided in the labor standards contract clauses (29CFR 5.5 (a) (1) (ii)).

-----  
The body of each wage determination lists the classification and wage rates that have been found to be prevailing for the cited type(s) of construction in the area covered by the wage determination. The classifications are listed in alphabetical order of ""identifiers"" that indicate whether the particular rate is a union rate (current union negotiated rate for local), a survey rate (weighted average rate) or a union average rate (weighted union average rate).

#### Union Rate Identifiers

A four letter classification abbreviation identifier enclosed in dotted lines beginning with characters other than ""SU"" or ""UAVG"" denotes that the union classification and rate were prevailing for that classification in the survey. Example:

PLUM0198-005 07/01/2014. PLUM is an abbreviation identifier of the union which prevailed in the survey for this classification, which in this example would be Plumbers. 0198 indicates the local union number or district council number where applicable, i.e., Plumbers Local 0198. The next number, 005 in the example, is an internal number used in processing the wage determination. 07/01/2014 is the effective date of the most current negotiated rate, which in this example is July 1, 2014.

Union prevailing wage rates are updated to reflect all rate changes in the collective bargaining agreement (CBA) governing this classification and rate.

#### Survey Rate Identifiers

Classifications listed under the ""SU"" identifier indicate that no one rate prevailed for this classification in the survey and the published rate is derived by computing a weighted average rate based on all the rates reported in the survey for that classification. As this weighted average rate includes all rates reported in the survey, it may include both union and non-union rates. Example: SULA2012-007 5/13/2014. SU indicates the rates are survey rates based on a weighted average calculation of rates and are not majority rates. LA indicates the State of Louisiana. 2012 is the year of survey on which these classifications and rates are based. The next number, 007 in the example, is an internal number used in producing the wage determination. 5/13/2014 indicates the survey completion date for the classifications and rates under that identifier.

Survey wage rates are not updated and remain in effect until a new survey is conducted.

#### Union Average Rate Identifiers

Classification(s) listed under the UAVG identifier indicate that no single majority rate prevailed for those classifications; however, 100% of the data reported for the classifications was union data. EXAMPLE: UAVG-OH-0010 08/29/2014. UAVG indicates that the rate is a weighted union average rate. OH indicates the state. The next number, 0010 in the example, is an internal number used in producing the wage determination. 08/29/2014 indicates the survey completion date for the classifications and rates under that identifier.

A UAVG rate will be updated once a year, usually in January of each year, to reflect a weighted average of the current negotiated/CBA rate of the union locals from which the rate is based.

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### WAGE DETERMINATION APPEALS PROCESS

1.) Has there been an initial decision in the matter? This can be:

- \* an existing published wage determination
- \* a survey underlying a wage determination
- \* a Wage and Hour Division letter setting forth a position on a wage determination matter
- \* a conformance (additional classification and rate) ruling

On survey related matters, initial contact, including requests for summaries of surveys, should be with the Wage and Hour National Office because National Office has responsibility for the Davis-Bacon survey program. If the response from this initial contact is not satisfactory, then the process described in 2.) and 3.) should be followed.

With regard to any other matter not yet ripe for the formal process described here, initial contact should be with the Branch of Construction Wage Determinations. Write to:

Branch of Construction Wage Determinations  
Wage and Hour Division  
U.S. Department of Labor  
200 Constitution Avenue, N.W.  
Washington, DC 20210

2.) If the answer to the question in 1.) is yes, then an interested party (those affected by the action) can request review and reconsideration from the Wage and Hour Administrator (See 29 CFR Part 1.8 and 29 CFR Part 7). Write to:

Wage and Hour Administrator  
U.S. Department of Labor  
200 Constitution Avenue, N.W.  
Washington, DC 20210

The request should be accompanied by a full statement of the interested party's position and by any information (wage payment data, project description, area practice material, etc.) that the requestor considers relevant to the issue.

3.) If the decision of the Administrator is not favorable, an interested party may appeal directly to the Administrative Review Board (formerly the Wage Appeals Board). Write to:

Administrative Review Board  
U.S. Department of Labor  
200 Constitution Avenue, N.W.  
Washington, DC 20210

4.) All decisions by the Administrative Review Board are final.

=====

END OF GENERAL DECISION"

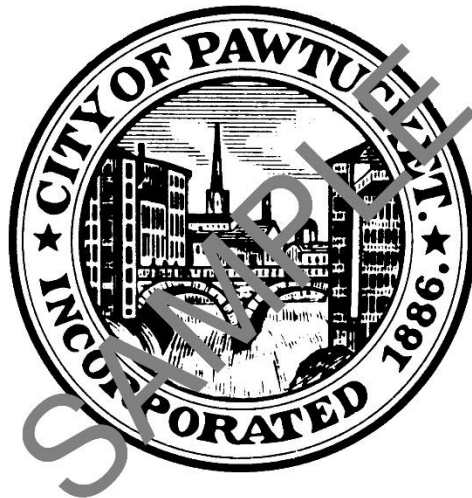
**Appendix D**

**City of Pawtucket Standard Form of Agreement (Sample)**



**CONTRACT AGREEMENT  
FOR:**

**PROJECT\_TITLE**



**PAWTUCKET, RHODE ISLAND**

PURCHASING DIVISION  
137 ROOSEVELT AVE.  
PAWTUCKET, RHODE ISLAND

MM/DD/YYYY

**CONTRACT AGREEMENT**

**PROJECT\_TITLE**

Pawtucket, Rhode Island

**1. AGREEMENT FOR SERVICES**

This Agreement for Services (hereinafter the "Agreement" or "Contract") made this ##th day of #####, 2015 between the City of Pawtucket, a municipal corporation of the State of Rhode Island, with a business address of 137 Roosevelt Avenue, Pawtucket, Rhode Island (hereinafter the "City") and VENDOR, a company authorized to do business in the State of Rhode Island, with a business address of ##### (hereinafter the "Consultant").

**2. SCOPE OF CONSULTANT SERVICES**

This is a contract to provide the City with consulting services as specified herein and as set forth in the following Exhibits, all of which are attached hereto and incorporated into this Agreement by reference herein:

- Exhibit 1 – RFP #####;
- Exhibit 2 – Rhode Island Department of Labor and Training Municipal Contract Addendum;

and all addenda issued and any resulting negotiations, and the RFP response received by the City from the Consultant.

**3. COMPENSATION FOR SERVICES**

The City shall pay the Consultant in the following sums for work performed under this Agreement after the effective date as set out below:

\$,#####

The payment and performance of any obligations under this contract for years beyond the first fiscal year are subject to the availability of funds. Payment will not be made until services have been fully performed and accepted, and upon a properly submitted invoice. All invoices must clearly display the purchase order number.

**4. RHODE ISLAND LAW AND FORUM**

(a) This Agreement shall be construed according to the law of the State of Rhode Island.

(b) Any litigation between the City and the Consultant arising under this Agreement or out of work performed under this Agreement shall occur, if in the state courts, in the Providence County Superior Court, and in the federal courts, in the United States District Court for the District of Rhode Island.

**5. NOTICE**

Any notice provided for under this Agreement shall be sufficient if in writing and delivered personally to the following addressee or deposited in the United States mail, postage prepaid, certified mail, return receipt requested, addressed as follows, or to such other address as the receiving party hereafter shall specify in writing:

If to the City:

Andrew Silvia, PE, Chief of Project Development  
250 Armistice Boulevard  
Pawtucket, RI 02860

If to the Consultant:

#####

**6. COMPLIANCE WITH LAWS**

Consultant shall materially comply with any and all Federal, state and local laws and regulations now in force and which may hereafter during the term of this contract, be enacted and become effected which are applicable, as well as obtaining any and all required permits and licenses.

**7. TIMEFRAME TO COMPLETE**

The Consultant shall complete the consulting services located in the City of Pawtucket, Rhode Island no later than #####.

**8. WAIVERS**

No waiver of any breach or any one or more of the conditions or covenants of this Contract by City or Consultant shall be deemed to imply or to constitute a waiver of any prior or succeeding breach; and the failure of City or Consultant to insist upon the strict performance of the terms, covenants, agreements and conditions herein contained or any one of them shall not constitute or be construed as a waiver or relinquishment of City's or Consultant's right to thereafter enforce any such default, or any term, covenants, agreement or condition.

**CONSULTANT (VENDOR)**

\_\_\_\_\_  
WITNESS

Subscribed and sworn to before me in the \_\_\_\_\_

on this \_\_\_\_\_ day of \_\_\_\_\_, 2015.

\_\_\_\_\_  
NOTARY PUBLIC  
My Commission Expires:

**CITY OF PAWTUCKET**

\_\_\_\_\_  
WITNESS

Subscribed and sworn to before me in the \_\_\_\_\_

on this \_\_\_\_\_ day of \_\_\_\_\_, 2015.

\_\_\_\_\_  
NOTARY PUBLIC  
My Commission Expires:

**EXHIBIT 1:**

**RFP #####**

**SAMPLE**

**EXHIBIT 2:**

**RHODE ISLAND DLT MUNICIPAL CONTRACT ADDENDUM**

**SAMPLE**

**MUNICIPAL CONTRACT ADDENDUM**  
**RHODE ISLAND DEPARTMENT OF LABOR AND TRAINING**  
**PREVAILING WAGE REQUIREMENTS**  
**(37-13-1 ET SEQ.)**

The prevailing wage requirements are generally set forth in RIGL 37-13-1 et seq. These requirements refer to the prevailing rate of pay for regular, holiday, and overtime wages to be paid to each craftsmen, mechanic, teamster, laborer, or other type of worker performing work on public works projects when state or municipal funds exceed one thousand dollars (\$1,000).

All Prevailing Wage Contractors and Subcontractors are required to:

1. Submit to the Awarding Authority a list of the contractor's subcontractors for any part or all of the prevailing wage work in accordance with RIGL § 37-13-4;
2. Pay all prevailing wage employees at least once per week and in accordance with RIGL §37-13-7 (see Appendix B attached);
3. Post the prevailing wage rate scale and the Department of Labor and Training's prevailing wage poster in a prominent and easily accessible place on the work site in accordance with RIGL §37-13-11; posters may be downloaded at [www.dlt.ri.gov/pw/Posters.htm](http://www.dlt.ri.gov/pw/Posters.htm), [www.dlt.ri.gov/pw/poster/htm](http://www.dlt.ri.gov/pw/poster/htm) or obtained from the Department of Labor and Training, Center General Complex, 1511 Pontiac Avenue, Cranston, Rhode Island;
4. Access the Department of Labor and Training website, at [www.dlt.ri.gov](http://www.dlt.ri.gov) on or before July 1<sup>st</sup> of each year, until such time as the contract is completed, to ascertain the current prevailing wage rates and the amount of payment or contributions for each covered prevailing wage employee and make any necessary adjustments to the covered employee's prevailing wage rates effective July 1<sup>st</sup> of each year in compliance with RIGL §37-13-8;
5. Attach a copy of this CONTRACT ADDENDUM and its attachments as a binding obligation to any and all contracts between the contractor and any subcontractors and their assignees for prevailing wage work performed pursuant to this contract;
6. Provide for the payment of overtime for prevailing wage employees who work in excess of eight (8) hours in any one day or forty (40) hours in any one week as provided by RIGL §37-13-10;

7. Maintain accurate prevailing wage employee payroll records on a Rhode Island Certified Weekly Payroll form available for download at [www.dlt.ri.gov/pw.forms/htm](http://www.dlt.ri.gov/pw.forms/htm), as required by RIGL §37-13-13, and make those records available to the Department of Labor and Training upon request;
8. Furnish the fully executed RI Certified Weekly Payroll Form to the awarding authority on a monthly basis for all work completed in the preceding month.
9. For general or primary contracts one million dollars (\$1,000,000) or more, shall maintain on the work site a fully executed RI Certified Prevailing Wage Daily Log listing the contractor's employees employed each day on the public works site; the RI Certified Prevailing Wage Daily Log shall be available for inspection on the public works site at all times; this rule shall not apply to road, highway, or bridge public works projects. Where applicable, furnish both the Rhode Island Certified Prevailing Wage Daily Log together with the Rhode Island Weekly Certified Payroll to the awarding authority.
10. Assure that all covered prevailing wage employees on construction projects with a total project cost of one hundred thousand dollars (\$100,000) or more has a OSHA ten (10) hour construction safety certification in compliance with RIGL § 37-23-1;
11. Assure that all prevailing wage employees who perform work which requires a Rhode Island trade license possess the appropriate Rhode Island trade license in compliance with Rhode Island law; and
12. Comply with all applicable provisions of RIGL §37-13-1, et. seq;

Any questions or concerns regarding this CONTRACT ADDENDUM should be addressed to the contractor or subcontractor's attorney. Additional Prevailing Wage information may be obtained from the Department of Labor and Training at [www.dlt.ri.gov/pw](http://www.dlt.ri.gov/pw).

### CERTIFICATION

I hereby certify that I have reviewed this CONTRACT ADDENDUM and understand my obligations as stated above.

By: \_\_\_\_\_

Title: \_\_\_\_\_

Subscribed and sworn before me this \_\_\_\_ day of \_\_\_\_\_, 20\_\_.

\_\_\_\_\_  
Notary Public  
My commission expires: \_\_\_\_\_

SAMPLE



APPENDIX A

**TITLE 37**  
**Public Property and Works**  
**CHAPTER 37-13**  
**Labor and Payment of Debts by Contractors**  
**SECTION 37-13-5**

**§ 37-13-5 Payment for trucking or materials furnished – Withholding of sums due.** – A contractor or subcontractor on public works authorized by a proper authority shall pay any obligation or charge for trucking and material which have been furnished for the use of the contractor or subcontractor, in connection with the public works being performed by him or her, within ninety (90) days after the obligation or charge is incurred or the trucking service has been performed or the material has been delivered to the site of the work, whichever is later. When it is brought to the notice of the proper authority in a city or town, or the proper authority in the state having supervision of the contract, that the obligation or charge has not been paid by the contractor or subcontractor, the proper authority may deduct and hold for a period not exceeding sixty (60) days, from sums of money due to the contractor or subcontractor, the equivalent amount of such sums certified by a trucker or materialman creditor as due him or her, as provided in this section, and which the proper authority determines is reasonable for trucking performed or materials furnished for the public works.

APPENDIX B

**TITLE 37**

**Public Property and Works**

**CHAPTER 37-13**

**Labor and Payment of Debts by Contractors**

**SECTION 37-13-7**

**§ 37-13-7 Specification in contract of amount and frequency of payment of wages.**

– (a) Every call for bids for every contract in excess of one thousand dollars (\$1,000), to which the state of Rhode Island or any political subdivision thereof or any public agency or quasi-public agency is a party, for construction, alteration, and/or repair, including painting and decorating, of public buildings or public works of the state of Rhode Island or any political subdivision thereof, or any public agency or quasi-public agency and which requires or involves the employment of employees, shall contain a provision stating the minimum wages to be paid various types of employees which shall be based upon the wages that will be determined by the director of labor and training to be prevailing for the corresponding types of employees employed on projects of a character similar to the contract work in the city, town, village, or other appropriate political subdivision of the state of Rhode Island in which the work is to be performed. Every contract shall contain a stipulation that the contractor or his or her subcontractor shall pay all the employees employed directly upon the site of the work, unconditionally and not less often than once a week, and without subsequent deduction or rebate on any account, the full amounts accrued at time of payment computed at wage rates not less than those stated in the call for bids, regardless of any contractual relationships which may be alleged to exist between the contractor or subcontractor and the employees, and that the scale of wages to be paid shall be posted by the contractor in a prominent and easily accessible place at the site of the work; and the further stipulation that there may be withheld from the contractor so much of the accrued payments as may be considered necessary to pay to the employees employed by the contractor, or any subcontractor on the work, the difference between the rates of wages required by the contract to be paid the employees on the work and the rates of wages received by the employees and not refunded to the contractor, subcontractors, or their agents.

(b) The terms "wages", "scale of wages", "wage rates", "minimum wages", and "prevailing wages" shall include:

- (1) The basic hourly rate of pay; and
- (2) The amount of:

(A) The rate of contribution made by a contractor or subcontractor to a trustee or to a third person pursuant to a fund, plan, or program; and

(B) The rate of costs to the contractor or subcontractor which may be reasonably anticipated in providing benefits to employees pursuant to an enforceable commitment to carry out a financially responsible plan or program which was communicated in writing to the employees affected, for medical or hospital care, pensions on retirement or death, compensation for injuries or illness resulting from occupational activity, or insurance to provide any of the foregoing, for unemployment benefits, life insurance, disability and sickness insurance, or accident insurance, for vacation and holiday pay, for defraying costs of apprenticeship or other similar programs, or for other bona fide fringe benefits, but only where the contractor or subcontractor is not required by other federal, state, or local law to provide any of the benefits; provided, that the obligation of a contractor or subcontractor to make payment in accordance with the prevailing wage determinations of the director of labor and training insofar as this chapter of this title and other acts incorporating this chapter of this title by reference are concerned may be discharged by the making of payments in cash, by the making of contributions of a type referred to in subsection (b)(2), or by the assumption of an enforceable commitment to bear the costs of a plan or program of a type referred to in this subdivision, or any combination thereof, where the aggregate of any payments, contributions, and costs is not less than the rate of pay described in subsection (b)(1) plus the amount referred to in subsection (b)(2).

(c) The term "employees", as used in this section, shall include employees of contractors or subcontractors performing jobs on various types of public works including mechanics, apprentices, teamsters, chauffeurs, and laborers engaged in the transportation of gravel or fill to the site of public works, the removal and/or delivery of gravel or fill or ready-mix concrete, sand, bituminous stone, or asphalt flowable fill from the site of public works, or the transportation or removal of gravel or fill from one location to another on the site of public works, and the employment of the employees shall be subject to the provisions of subsections (a) and (b).

(d) The terms "public agency" and "quasi-public agency" shall include, but not be limited to, the Rhode Island industrial recreational building authority, the Rhode Island economic development corporation, the Rhode Island airport corporation, the Rhode Island industrial facilities corporation, the Rhode Island refunding bond authority, the Rhode Island housing and mortgage finance corporation, the Rhode Island resource recovery corporation, the Rhode Island public transit authority, the Rhode Island student loan authority, the water resources board corporate, the Rhode Island health and education building corporation, the Rhode Island higher education assistance authority, the Rhode Island turnpike and bridge authority, the Narragansett Bay water quality management district commission, Rhode Island telecommunications authority, the convention center authority, the board of governors for higher education, the board of regents for elementary and secondary education, the capital center commission, the housing resources commission, the Quonset Point-Davisville management corporation, the Rhode Island children's crusade for higher education, the Rhode Island depositors economic protection corporation, the Rhode Island lottery commission, the Rhode Island

partnership for science and technology, the Rhode Island public building authority, and the Rhode Island underground storage tank board.

SAMPLE



**Appendix E**

**Site Plans Issued for Bid**

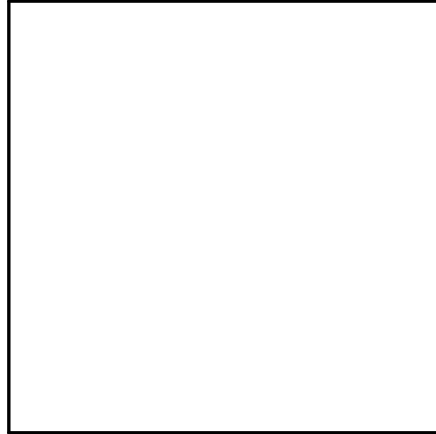
# PAWTUCKET PUBLIC LIBRARY BURNS BUILDING SPRINKLER SYSTEM RENOVATIONS

ISSUED FOR BID  
NOT FOR CONSTRUCTION  
20 JANUARY 2023



Lerner Ladds Bartels  
Pawtucket, RI  
401.421.7715  
Worcester, MA  
508.556.4648  
www.LLBarch.com

PAWTUCKET PUBLIC LIBRARY  
**BURNS BUILDING SPRINKLER SYSTEM  
RENOVATIONS**  
13 SUMMER STREET,  
PAWTUCKET, RHODE ISLAND, 02860



ISSUED FOR BID  
NOT FOR CONSTRUCTION  
20 JANUARY 2023



COVER



**FIRE SAFETY**  
JENSEN HUGHES  
117 METRO CENTER BLVD  
WARWICK, RHODE ISLAND  
401 736 8992



**CIVIL**  
D'AMICO ENGINEERING TECHNOLOGY, INC  
2080 MINERAL SPRING AVE.  
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**GO.00**



**DRAWING LIST**

GENERAL	
GO.00	COVER
GO.01	PROJECT INFORMATION
GO.02	GENERAL NOTES
CIVIL	
C-1.0	FIRE WATER MAIN INSTALLATION PLAN
C-2.0	FIRE WATER MAIN DETAIL PLAN
ARCHITECTURAL DEMOLITION	
AD1.00	BASEMENT DEMOLITION PLAN
AD1.01	FIRST FLOOR DEMOLITION PLAN
AD1.02	SECOND FLOOR DEMOLITION PLAN
AD1.04	ATTIC DEMOLITION PLAN
AD2.00	BASEMENT DEMOLITION REFLECTED CEILING PLAN
AD2.01	FIRST FLOOR DEMOLITION REFLECTED CEILING PLAN
AD2.02	SECOND FLOOR DEMOLITION REFLECTED CEILING PLAN
AD2.03	ATTIC DEMOLITION REFLECTED CEILING PLAN
ARCHITECTURAL	
A1.00	BASEMENT FLOOR PLAN
A1.01	FIRST FLOOR PLAN
A1.02	SECOND FLOOR PLAN
A1.03	ATTIC FLOOR PLAN
A2.00	BASEMENT REFLECTED CEILING PLAN
A2.01	FIRST FLOOR REFLECTED CEILING PLAN
A2.02	SECOND FLOOR REFLECTED CEILING PLAN
A2.03	ATTIC REFLECTED CEILING PLAN
A2.04	ROOF REFLECTED CEILING PLAN - PROPOSED
A3.00	ENLARGED FLOOR PLAN & RCP
A5.00	WALL SECTIONS
A10.00	CEILING DETAILS
FIRE PROTECTION	
FP-0.1	FIRE PROTECTION NOTES, LEGEND, & DETAILS
FP-1.0	BASEMENT FIRE PROTECTION
FP-1.1	FIRST FLOOR FIRE PROTECTION PLAN
FP-1.2	SECOND FLOOR FIRE PROTECTION PLAN
FP-1.3	ATTIC FIRE PROTECTION PLAN
FP-1.4	ROOF FIRE PROTECTION PLAN
FIRE ALARM	
FA-0.1	FIRE ALARM NOTES & LEGEND
FA-1.0	BASEMENT FIRE ALARM PLAN
FA-1.1	FIRST FLOOR FIRE ALARM PLAN
FA-1.2	SECOND FLOOR FIRE ALARM PLAN
FA-1.3	ATTIC FIRE ALARM PLAN

**SYMBOLS**

EXTERIOR ELEVATION	
INTERIOR ELEVATION	
SECTION	
ELEVATION	
SPOT ELEVATION	
COLUMN GRID MARK	
ROOM NAME AND MARK	
DOOR MARK	
WALL TYPE	
WINDOW TYPE	
FURNITURE / SPECIALTY EQUIPMENT MARK	
BREAK LINE	
LEADER	
DIMENSION	
REVISION CLOUD	
ALIGN	
FLOOR FINISH	
MOCKUP LOCATION	

**COMMON ABBREVIATIONS**

ABV	ABOVE	HC	HANDICAP	T&G	TONGUE AND GROOVE
A/C	AIR CONDITION	HDF	HIGH DENSITY FIBERBOARD	TBD	TO BE DETERMINED
ACC.	ACCESS(IBLE)	HM	HOLLOW METAL	TEL	TELEPHONE
ACT	ACOUSTICAL CEILING TILE	HDWR	HARDWARE	TEMP	TEMPORARY
ADDL	ADDITIONAL	HOR.	HORIZONTAL	THK	THICK(NESS)
ADJ.	ADJUSTABLE (OR) ADJACENT	HR	HOUR	THR	THRESHOLD
A/E	ARCHITECT/ENGINEER	HT	HEIGHT	THRU	THROUGH
A.F.F.	ABOVE FINISH FLOOR	IN.	INCHES	T.O.	TOP OF
AHJ	AUTHORITY HAVING JURISDICTION	INCL.	INCLUDE(D),(ING)	TSTAT	THERMOSTAT
ALUM.	ALUMINUM	INFO.	INFORMATION	TYP.	TYPICAL
ALT.	ALTERNATE	INSUL.	INSULATION	TZ	TERRAZZO
ANOD.	ANODIZED	INT.	INTERIOR	U.H.	UNIT HEATER
ARCH.	ARCHITECT(URAL)	J.C.	JANITOR'S CLOSET	U.N.O.	UNLESS NOTED OTHERWISE
A.P.	ACCESS PANEL	J-BOX	JUNCTION BOX	U.O.N.	UNLESS NOTED OTHERWISE
APT	APARTMENT	JT	JOINT	VERT.	VERTICAL
APPROX.	APPROXIMATE	KIT.	KITCHEN	V.I.F.	VERIFY IN FIELD
ASI	ARCHITECT'S SUPPLEMENTAL INSTRUCTION	LAB.	LABORATORY	V.R.	VAPOR RETARDER
AUTO.	AUTOMATIC	LAV.	LAVATORY	w/	WITH
AUX.	AUXILIARY	LB	POUND(S)	W.C.	WATER CLOSET
BAS	BUILDING AUTOMATION SYSTEM	L.E.D.	LIGHT EMITTING DIODE	WD	WOOD
BD	BOARD	L.H.	LEFT HAND	WIN.	WINDOW
BDRM	BEDROOM	LIB.	LIBRARY	Z.C.C.	ZINC COATED COPPER
BITUM.	BITUMINOUS	LKR	LOCKER	&	AND
BLDG	BUILDING	LVL	LAMINATED VENEER LUMBER		
BLKG	BLOCKING	LOC.	LOCATION		
BLW	BELOW	L.O.W.	LIMIT OF WORK		
BSMT	BASEMENT	LVR	LOUVER		
BOT.	BOTTOM	MAS.	MASONRY		
BRK	BRICK	MAT.	MATERIAL		
BRZ	BRONZE	MAX.	MAXIMUM		
BTWN	BETWEEN	MECH.	MECHANICAL		
CAB.	CABINET	MED.	MEDIUM		
C.F.M.F.	COLD-FORMED METAL FRAMING	MEMB	MEMBRANE		
C.L.	CENTER LINE	MDF	MEDIUM DENSITY FIBERBOARD		
CLG	CEILING	MIN.	MINIMUM		
CLR	CLEAR(ANCE)	MISC.	MISCELLANEOUS		
CLJ	CONTROL JOINT	M.O.	MASONRY OPENING		
CMU	CONCRETE MASONRY UNIT	M.R.	MOISTURE RESISTANT		
COL	COLUMN	MTD	MOUNTED		
COMP.	COMPRESSED, (ION), (IBLE)	MTL	METAL		
CONC.	CONCRETE	N.A.	NOT APPLICABLE		
CONST.	CONSTRUCTION	NAT.	NATURAL		
CONT.	CONTINUE, (OUS)	N.C.	NOISE CRITERIA		
COORD.	COORDINATE	N.I.C.	NOT IN CONTRACT		
CPT	CARPET	NKL	NICKEL		
CPR	COPPER	NOM.	NOMINAL		
C.T.	CERAMIC TILE	N.R.C.	NOISE REDUCTION COEFFICIENT		
C.T.E.	CONNECT TO EXISTING	N.T.S.	NOT TO SCALE		
C.U.H.	CABINET UNIT HEATER	O.C.	ON CENTER		
DBL	DOUBLE	OFCI	OWNER FURNISHED CONTRACTOR INSTALLED		
DEMO	DEMO(LISH), (LITION)	OFOI	OWNER FURNISHED OWNER INSTALLED		
DET.	DETAIL	O.H.	OPPOSITE HAND		
D.F.	DRINKING FOUNTAIN	OPNG	OPENING		
DH	DOUBLE HUNG	OPP	OPPOSITE		
DIA.	DIAMETER	ORIG.	ORIGINAL		
DIAG.	DIAGONAL	OVHD	OVERHEAD		
DIM.	DIMENSION	OZ.	OUNCE		
DN	DOWN	PERP	PERPENDICULAR		
DR	DOOR	PLAM	PLASTIC LAMINATE		
DS	DOWNSPOUT	PNT	PAIN		
DTL	DETAIL	PTD	PAINTED		
DWG	DRAWING	PR	PAIR		
DX	DUPLEX	P.T.	PRESSURE TREATED		
EA.	EACH	PTN	PARTITION		
E.L.	ELEVATION	PLYWD	PLYWOOD		
ELEC.	ELECTRIC(AL)	Q.T.	QUARRY TILE		
ELEV.	ELEVATOR	R.B.	RESILIENT BASE		
EMER.	EMERGENCY	R.D.	ROOF DRAIN		
EMS	EMERGENCY MANAGEMENT SYSTEM	REF.	REFER		
E.J.	EXPANSION JOINT	REFR	REFRIGERATOR		
EQ	EQUAL	REQ.	REQUIRE(D)		
EQUIP	EQUIPMENT	RES.	RESILIENT		
ETR	EXISTING TO REMAIN	REV.	REVISION		
EXG	EXISTING	R.H.	RIGHT HAND		
EXT.	EXTERIOR	RM	ROOM		
F.A.	FIRE ALARM	R.O.	ROUGH OPENING		
F.A.R.	FLOOR AREA RATIO	SCHED.	SCHEDULE		
F.C.U.	FAN COIL UNIT	SECT.	SECTION		
F.D.	FLOOR DRAIN	SF	SQUARE FEET		
FDN	FOUNDATION	SHT	SHEET		
F.E.	FIRE EXTINGUISHER	SHTH	SHEATHING		
FEC	FIRE EXTINGUISHER CABINET	SIM.	SIMILAR		
FF&E	FURNITURE, FIXTURE, AND EQUIPMENT	SPEC.	SPEC. (-IFIED) (-IFICATION)		
FGL	FIBERGLASS	SRL	SUBMITTAL REVIEW LETTER		
FIN.	FINISH	SQ.	SQUARE		
FIXT.	FIXTURE	S.S.	STAINLESS STEEL		
FL.	FLOOR	S.S.M.	SOLID SURFACE MATERIAL		
FLUOR.	FLUORESCENT	STC	SOUND TRANSMISSION COEFFICIENT		
F.O.	FACE OF	STD	STANDARD		
F.P.	FIRE PROTECTION	STOR.	STORAGE		
FT	FEET	STL	STEEL		
FTG	FOOTING	STRUCT.	STRUCTURAL		
FURN.	FURNITURE	SUSP.	SUSPEND(ED)		
GA	GAGE	SYS.	SYSTEM		
GALV	GALVANIZED				
GB	GRAB BAR				
GL	GLASS				
GLAM	GLUE LAMINATED BEAM				
GLZ	GLAZING				
GWB	GYPSON BOARD				
LVR	LOUVER				

**MATERIAL DRAFTING PATTERNS**

	ALUMINUM
	BRICK
	CONCRETE
	CONCRETE BLOCK
	CERAMIC TILE, HORIZONTAL SURFACE
	CERAMIC TILE, VERTICAL SURFACE
	EARTH
	ENGINEERED WOOD (MDF, HDF, ETC.)
	EXISTING, UNEXCAVATED
	GLASS, SPECIALTY
	GLASS, HORIZONTAL SURFACE
	GLASS, VERTICAL SURFACE
	GYPSON/PLASTER
	METAL (STEEL, ETC.)
	PLASTIC
	PLYWOOD
	POROUS FILL (GRAVEL, CRUSHED STONE, ETC.)
	RIGID INSULATION
	RUBBLE
	SHINGLE
	WOOD (EDGE GRAIN)
	WOOD (END GRAIN)
	WOOD (FACE GRAIN)
	GENERIC 1
	GENERIC 2
	GENERIC 3
	GENERIC 4
	GENERIC 5
	GENERIC 6



1 LOCUS PLAN  
Scale: 3" = 1'-0"



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PROJECT INFORMATION

**GO.01**



**GENERAL DEMOLITION NOTES**

**GENERAL CONSTRUCTION NOTES**

- A. ALL EXISTING DIMENSIONS GIVEN SHOULD BE CONSIDERED "I.F." CONTRACTOR SHALL VERIFY ALL GIVEN DIMENSIONS, GRADES, LINES, LEVEL OR OTHER MEASURED CONDITIONS AND CLEARANCES IN FIELD PRIOR TO WORK. THE CONTRACTOR SHALL VISIT THE SITE AND FAMILIARIZE THEMSELVES WITH ALL FIELD CONDITIONS TO DETERMINE THE EXTENT OF DEMOLITION, REMOVAL AND REPAIR. THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE ARCHITECT OF ANY ERRORS, OMISSIONS, DISCREPANCIES OR HIDDEN FIELD CONDITIONS WHICH PREVENT THE EXECUTION OF THE WORK AS SHOWN. EXTRA COMPENSATION FOR INADEQUATE EXAMINATION OF EXISTING CONDITIONS SHALL NOT BE CONSIDERED. IT IS INTENDED THAT ALL DIMENSIONS AND FIGURES ON THE DRAWINGS SHALL AGREE. THE CONTRACTOR SHALL CONFIRM BEFORE STARTING THE WORK AND SHALL REPORT IN WRITING ALL DISCREPANCIES TO THE ARCHITECT FOR ADJUSTMENT. DIMENSIONS AND ELEVATIONS INDICATED ON THE DRAWINGS OF EXISTING STRUCTURES ARE THE BEST AVAILABLE DATA OBTAINABLE BUT ARE NOT GUARANTEED BY THE OWNER AND THE OWNER WILL NOT BE RESPONSIBLE FOR THEIR ACCURACY. IF ANY WORK IS PERFORMED BY THE CONTRACTOR OR ANY OF HIS SUB-CONTRACTORS PRIOR TO ADEQUATE VERIFICATION OF APPLICABLE MEASURABLE DATA, RESULTANT EXTRA COST FOR ADJUSTMENT OF WORK SHALL BE ASSUMED BY THE CONTRACTOR WITHOUT REIMBURSEMENT BY OWNER.
- B. INSTRUCTIONS TO REMOVE AND LEGALLY DISPOSE OF ANY ITEM IN THE WORK AREA IN ITS ENTIRETY, INCLUDING ALL OF ITS ASSOCIATED PARTS, IS NOTED BY THE USE OF ANY OF THE FOLLOWING LANGUAGE: "REMOVE", "REMOVE AND DISPOSE", "R/D", "DEMOLISH", "DEMO". UNLESS OTHERWISE STATED, GENERAL NOTES APPLY TO THE ENTIRE WORK AREA ON ALL FLOOR LEVELS AND ANY SUBSEQUENT REQUIRED DEMOLITION THAT AFFECTS THE CEILING, FLOORS AND WALLS OF THE LEVELS DIRECTLY BELOW, ABOVE AND ADJACENT TO THE WORK AREA.
- C. DEMOLITION SCOPE IS DESCRIBED THROUGHOUT THE CONTRACT DOCUMENT SET. REFER TO AD DRAWINGS, ARCHITECTURAL, M.E.P., AND LANDSCAPE DRAWINGS AND SPECIFICATIONS, DEMOLITION SPECIFICATIONS, CUTTING AND PATCHING SECTIONS, AND GENERAL AND SUPPLEMENTARY CONDITIONS OF THE CONTRACT FOR ADDITIONAL DEMOLITION SCOPE DESCRIPTIONS AND REQUIREMENTS. SELECTIVE DEMOLITION FOR PIPE, DUCT, AND OTHER MEP OR STRUCTURAL PENETRATIONS ARE TO BE PROVIDED AND OVER-DEMOLISHED AS REQUIRED TO PROPERLY INSTALL NEW WORK. ALL PENETRATIONS AND HOLES IN WALLS OR FLOORS RESULTING FROM ANY DEMOLITION, INCLUDING EXISTING STRUCTURAL, MECHANICAL, ELECTRICAL OR PLUMBING EQUIPMENT, AND ALL HOLES RESULTING FROM OVER-DEMOLITION OF WALL OR FLOORS IN ORDER TO INSTALL NEW WORK ARE TO BE PATCHED WITH NEW MATERIAL TO MATCH EXISTING AND FINISHED TO MATCH SURROUNDING FINISHED CONSTRUCTION.
- D. DRAWINGS ARE FOR ILLUSTRATIVE PURPOSES ONLY AND MAY NOT SHOW ALL DEMOLITION WORK REQUIRED TO COMPLETE THE CONTRACT WORK. OMISSION FROM THE DRAWINGS AND SPECIFICATIONS OF ITEMS WHICH OBVIOUSLY ARE NEEDED TO PROPERLY PERFORM AND INSTALL THE WORK IN A COMPLETE, FINISHED, AND OPERATIONAL STATE, SUCH AS ATTACHMENTS, BOLTS, HANGERS, MASTICS, ETC., SHALL NOT RELIEVE THE CONTRACTOR FROM FURNISHING AND INSTALLING THEM.
- E. THE GENERAL CONTRACTOR SHALL COORDINATE THE DEMOLITION WORK ASSIGNED TO THE SUB-TRADES, INCLUDING BUT NOT LIMITED TO ALL UTILITY DISCONNECTS, CUTOFF CAPPING, REMOVAL, DISMANTLING OR DISMOUNTING OF FIXTURES, EQUIPMENT, WIRING, PIPING, ETC. GENERAL CONTRACTOR IS RESPONSIBLE FOR ALL REMOVAL AND DISPOSAL.
- F. REMOVE ALL UNNECESSARY/ ABANDONED IN PLACE/ OR EXTRANEOUS M,E,P,FP SYSTEMS WORK INCLUDING BUT NOT LIMITED TO WIRING, CONDUIT, PIPING, ACCESSORIES AND FASTENERS NOT REQUIRED OR NECESSARY FOR INSTALLATION OF NEW SYSTEM OR FOR EXISTING TO REMAIN SYSTEM TO FUNCTION PROPERLY. REFER TO M,E,P DRAWINGS FOR MORE INFORMATION.
- G. THE GENERAL CONTRACTOR SHALL BE FULLY RESPONSIBLE FOR REMOVING ALL EXISTING MATERIALS WHICH WOULD OTHERWISE INTERFERE WITH THE PROPER INSTALLATION OR FUNCTION OF THE NEW WORK; WHETHER OR NOT SUCH EXISTING MATERIALS OR CONDITIONS HAVE BEEN SPECIFICALLY INDICATED. THIS INCLUDES ALL ABANDONED FURNISHINGS, EQUIPMENT, WALL, FLOOR OR CEILING MOUNTED ACCESSORIES AND FINISHES.
- H. UNLESS INDICATED OTHERWISE, THE OWNER WILL REMOVE ALL MOVEABLE EQUIPMENT AND FURNISHINGS.
- I. ALL MATERIALS AND ITEMS TO BE REMOVED AND NOT RE-USED ON THIS PROJECT SHALL REMAIN THE PROPERTY OF THE OWNER AND SHALL BE TRANSPORTED TO AND STORED IN A PLACE DESIGNATED BY THE OWNER. IF, HOWEVER, THE OWNER DOES NOT DESIRE TO RETAIN POSSESSION OF ANY ITEMS, THEY SHALL BECOME THE PROPERTY OF THE CONTRACTOR WHO SHALL REMOVE THEM FROM THE PREMISES AND LEGALLY DISPOSE THEREOF.
- J. PROTECTION AND PATCHING: PROTECT EXISTING TO REMAIN AREAS DURING CONSTRUCTION AND DEMOLITION ACTIVITIES. PATCH & REPAIR ANY DAMAGE CAUSED DURING CONSTRUCTION OR DEMOLITION ACTIVITIES ON ALL SURFACES WITHIN AREA RECEIVING WORK OR AS ADDITIONALLY INDICATED IN THIS CONTRACT SET. REFER TO GENERAL ARCHITECTURAL NOTES FOR ADDITIONAL PATCHING INSTRUCTIONS.
- K. PHOTOGRAPHIC DOCUMENTATION: PERIODIC PHOTOGRAPHIC DOCUMENTATION OF DEMOLITION ACTIVITIES IS REQUIRED AT ALL STAGES OF DEMOLITION TO PRECISELY DOCUMENT DAMAGE, UNCOVERED CONDITIONS, AND GENERAL DOCUMENTATION OF OBJECTS BEING REMOVED.
- L. **FLOORING AND TRANSITIONS:** IN AREAS INDICATED FOR DEMOLITION, REMOVE ALL FINISH FLOORING AND ALL ASSOCIATED MASTICS AND FASTENERS. REMOVE ALL FINISHES DOWN TO SUBFLOOR LAYER. NOTE EXISTING CONDUIT, PIPES AND ELECTRICAL SCHEDULED TO BE DEMOLISHED ARE TO BE REMOVED TO BELOW SLAB FOR PROPER INSTALLATION OF NEW FLOORING. REMOVE ALL BASE AND BASE CAPS WHETHER INTEGRAL TO FLOOR MATERIAL OR NOT. FLASH PATCH HOLES RESULTING FROM DEMOLITIONS, ALL PREPARATORY WORKS SHALL BE TO THE SATISFACTION OF THE MANUFACTURERS STANDARDS FOR THE NEW PRODUCT INSTALLATION.
- M. **WALLS:** PREPARE ALL EXISTING WALL SURFACES, NO EXCEPTION, WITHIN PROJECT WORK AREA; BY SCRAPING, CLEANING, AND FREE ALL WALLS OF MASTIC, LOOSE PAINTS, MISC. FASTENERS, HOOKS, TACKS, STAPLES, HONEYCOMBING, ETC. NOTE EXISTING CONDUIT, PIPES AND ELECTRICAL SCHEDULED TO BE DEMOLISHED ARE TO BE REMOVED AND CAPPED TO WITHIN WALL CAVITY OR ABOVE FINISHED CEILING. FLASH PATCH HOLES RESULTING FROM DEMOLITIONS, ALL PREPARATORY WORKS SHALL BE TO THE SATISFACTION OF THE MANUFACTURERS STANDARDS FOR THE NEW PRODUCT INSTALLATION.

- A. IT SHALL BE THE DUTY OF THE CONTRACTOR TO REQUEST FROM THE ARCHITECT ALL NECESSARY INTERPRETATION OF THE CONTRACT DOCUMENTS.
- B. DRAWINGS ARE FOR ILLUSTRATIVE PURPOSES ONLY AND MAY NOT SHOW ALL DEMOLITION WORK REQUIRED TO COMPLETE THE CONTRACT WORK.
- C. DIMENSIONS AND ELEVATIONS INDICATED ON THE DRAWINGS IN REFERENCE TO EXISTING STRUCTURES ARE THE BEST AVAILABLE DATA OBTAINABLE BUT ARE NOT GUARANTEED BY THE OWNER AND THE OWNER WILL NOT BE RESPONSIBLE FOR THEIR ACCURACY. THE CONTRACTOR SHALL FIELD CHECK AND VERIFY ALL DIMENSIONS, GRADES, LINES, LEVELS, OR OTHER CONDITIONS OF LIMITATIONS AT THE SITE TO AVOID CONSTRUCTION ERRORS. IF ANY WORK IS PERFORMED BY THE CONTRACTOR OR ANY OF HIS SUB-CONTRACTORS PRIOR TO ADEQUATE VERIFICATION OF APPLICABLE DATA, ANY RESULTANT EXTRA COST FOR ADJUSTMENT OF WORK AS REQUIRED TO CONFORM TO EXISTING LIMITATIONS SHALL BE ASSUMED BY THE CONTRACTOR WITHOUT REIMBURSEMENT OF COMPENSATION BY THE OWNER.
- D. OMISSION FROM THE DRAWINGS AND SPECIFICATIONS OF ITEMS WHICH OBVIOUSLY ARE NEEDED TO PROPERLY PERFORM THE WORK, SUCH AS ATTACHMENTS, BOLTS, HANGERS, ETC., SHALL NOT RELIEVE THE CONTRACTOR FROM FURNISHING AND INSTALLING THEM. IT IS INTENDED THAT ALL DIMENSIONS AND FIGURES ON THE DRAWINGS SHALL AGREE. THE CONTRACTOR SHALL CONFIRM THEM BEFORE STARTING THE WORK AND SHALL REPORT IN WRITING ALL DISCREPANCIES TO THE ARCHITECT FOR ADJUSTMENT.
- E. VERIFY ALL GIVEN DIMENSIONS AND CLEARANCES IN FIELD PRIOR TO WORK. THE CONTRACTOR SHALL VISIT THE SITE AND FAMILIARIZE THEMSELVES WITH ALL FIELD CONDITIONS TO DETERMINE THE EXTENT OF DEMOLITION, REMOVAL AND REPAIR. THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE ARCHITECT OF ANY ERRORS, OMISSIONS, DISCREPANCIES OR HIDDEN FIELD CONDITIONS WHICH PREVENT THE EXECUTION OF THE WORK AS SHOWN. EXTRA COMPENSATION FOR INADEQUATE EXAMINATION OF EXISTING CONDITIONS SHALL NOT BE CONSIDERED.
- F. PRIOR TO BEGINNING ANY MECHANICAL, ELECTRICAL, PLUMBING, OR FIRE PROTECTION WORK THE CONTRACTOR WILL PROVIDE COMPLETE CAD BASED COORDINATION DRAWINGS THAT CONFIRM ALL DESIRED CEILING HEIGHTS. ANY CONFLICTS THAT WILL AFFECT THE DESIGN INTENT OR DESIGNED CEILING HEIGHTS WILL BE REPORTED TO THE ARCHITECT PROMPTLY IN ADVANCE OF ENGAGING IN THE WORK.
- G. REFER TO ALL CONTRACT DOCUMENTS INCLUDING, BUT NOT LIMITED TO DRAWINGS AND SCOPE OF WORK FOR COORDINATION AND ADDITIONAL DEMOLITION INFORMATION. ALL PENETRATIONS IN WALLS OR FLOORS RESULTING FROM DEMOLITION OR OVER-DEMOLITION (AS REQUIRED TO PROPERLY INSTALL NEW WORK) OF ANY EXISTING STRUCTURAL, MECHANICAL, ELECTRICAL, FIRE PROTECTION, OR PLUMBING EQUIPMENT ARE TO BE PATCHED WITH NEW MATERIAL TO MATCH EXISTING AND FINISHED TO MATCH SURROUNDING FINISHED CONSTRUCTION.
- H. THE GENERAL CONTRACTOR IS REQUIRED TO COORDINATE THE DEMOLITION WORK ASSIGNED TO THE SUB-TRADES, INCLUDING BUT NOT LIMITED TO ALL UTILITY DISCONNECTS, CUTOFF CAPPING, REMOVAL, DISMANTLING OR DISMOUNTING OF FIXTURES, EQUIPMENT, WIRING, PIPING, ETC. GENERAL CONTRACTOR IS RESPONSIBLE FOR ALL REMOVAL AND DISPOSAL.
- I. THE GENERAL CONTRACTOR SHALL BE FULLY RESPONSIBLE FOR REMOVING ALL EXISTING MATERIALS WHICH WOULD OTHERWISE INTERFERE WITH THE PROPER INSTALLATION OR FUNCTION OF THE NEW WORK, WHETHER OR NOT SUCH EXISTING MATERIALS OR CONDITIONS HAVE BEEN INDICATED. THIS INCLUDES ALL ABANDONED FURNISHINGS, EQUIPMENT AND FINISHES.
- J. ALL MATERIALS AND ITEMS TO BE REMOVED AND NOT RE-USED ON THIS PROJECT SHALL REMAIN THE PROPERTY OF THE OWNER AND SHALL BE TRANSPORTED TO AND STORED IN A PLACE DESIGNATED BY THE OWNER. IF, HOWEVER, THE OWNER DOES NOT DESIRE TO RETAIN POSSESSION OF ANY ITEMS, THEY SHALL BECOME THE PROPERTY OF THE CONTRACTOR WHO SHALL REMOVE THEM FROM THE PREMISES AND LEGALLY DISPOSE THEREOF.
- K. UNLESS INDICATED OTHERWISE, THE OWNER WILL REMOVE ALL MOVEABLE EQUIPMENT AND FURNISHINGS.
- L. CONTRACTOR SHALL PROVIDE TEMPORARY SHORING AT ALL LOCATIONS AS REQUIRED TO COMPLETE THE SCOPE OF WORK.
- M. PROTECT EXISTING TO REMAIN AREAS DURING CONSTRUCTION. PATCH & REPAIR ANY DAMAGE CAUSED DURING CONSTRUCTION.
- N. AFTER THE CONTRACT HAS BEEN AWARDED, THE CONTRACTOR WILL SUBMIT A FULL BAR CHART TYPE SCHEDULE THAT WILL INDICATE ALL MAJOR AND MINOR MILESTONES FOR THE WORK. THE CONTRACTOR WILL ALSO SUBMIT A FULL SUBMITTAL AND SHOP DRAWING SCHEDULE FOR ALL COMPONENTS TO BE INSTALLED AND PROVIDED PER THE SCOPE OF WORK.
- O. CERTIFY AS PART OF EACH APPLICATION FOR PAYMENT THAT THE PROJECT RECORD DOCUMENTS "AS-BUILTS" ARE CURRENT AT THE TIME OF THE APPLICATION SUBMITTED. SUCH DRAWINGS ARE REQUIRED TO BE CURRENT AS A CONDITION OF APPROVING ANY PAYMENT TO THE CONTRACTOR OR SUB-CONTRACTOR.
- P. ALL SUBMITTALS AND SHOP DRAWINGS WILL NEED TO BE STAMPED AS HAVING BEEN REVIEWED AND APPROVED BY THE CONTRACTOR FOR CONFORMANCE WITH THE PROJECT PRIOR TO SUBMITTING TO THE ARCHITECT. ANY SUBMITTAL WITHOUT THIS STAMP WILL BE PROMPTLY REJECTED AND RETURNED.
- Q. CHECKING OF THE SUBMITTALS AND SHOP DRAWINGS BY THE ARCHITECT IS ONLY FOR LIMITED GENERAL CONFORMANCE WITH THE INFORMATION GIVEN AND DESIGN CONCEPT EXPRESSED IN THE CONTRACT DOCUMENTS FOR THE PROJECT. THE CONTRACTOR IS RESPONSIBLE FOR QUANTITIES AND DIMENSIONS WHICH SHALL BE CONFIRMED AND CORRELATED AT THE JOBSITE; CONSTRUCTION MEANS, METHODS, PROCEDURES, TECHNIQUES, SEQUENCES, AND JOBSITE SAFETY; AND COORDINATION OF THEIR WORK WITH THAT OF THE OTHER TRADES.
- R. CAREFULLY REVIEW THE SCOPE OF WORK FOR REQUIREMENTS RELATED TO FIELD APPROVED "MOCKUPS". ANY WORK BEGUN WITHOUT THE AUTHORIZATION OF AN APPROVED MOCKUP BY THE OWNER AND THE ARCHITECT IS AT THE CONTRACTOR'S RISK. UNSATISFACTORY WORK IS SUBJECT TO POSSIBLE REMOVAL AND REPLACEMENT AT THE CONTRACTOR'S EXPENSE.
- S. IF DISCREPANCIES OCCUR BETWEEN THE DRAWINGS AND SCOPE OF WORK, CONSULT ARCHITECT FOR CLARIFICATION OF DESIRED METHOD. DURING THE BIDDING PHASE IF DISCREPANCIES ARE FOUND IN THE CONTRACT DOCUMENTS, CARRY THE AMOUNT OF WORK WHICH WOULD COME AT A GREATER COST
- T. REFER TO SCOPE OF WORK FOR REQUIREMENTS PERTAINING TO DEMOLITION ACTIVITIES, INCLUDING NOTIFICATION TO THE OWNER. PROVIDE TEMPORARY PROTECTION REQUIREMENTS, AND SPECIFIC DEMOLITION PROVISIONS FOR ALL ITEMS INDICATED ON DRAWINGS FOR DEMOLITION THAT ALLOW FOR SAFE, SANITARY AND LEGAL DISPOSAL OFF OF THE PROPERTY.
- U. WHERE EXISTING FLOORING HAS BEEN REMOVED, THE GENERAL CONTRACTOR WILL BE REQUIRED TO CLEAN, PREPARE AND PATCH THE EXISTING FLOOR SLAB OR SUBSTRATE TO THE CONDITION REQUIRED FOR PROPER INSTALLATION OF NEW FLOOR SYSTEM.



ARCHITECTS

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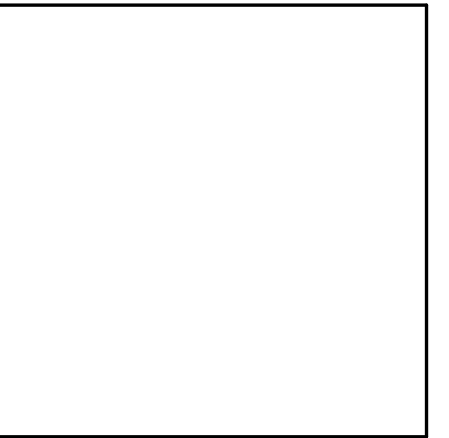
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**BURNS BUILDING SPRINKLER SYSTEM RENOVATIONS**

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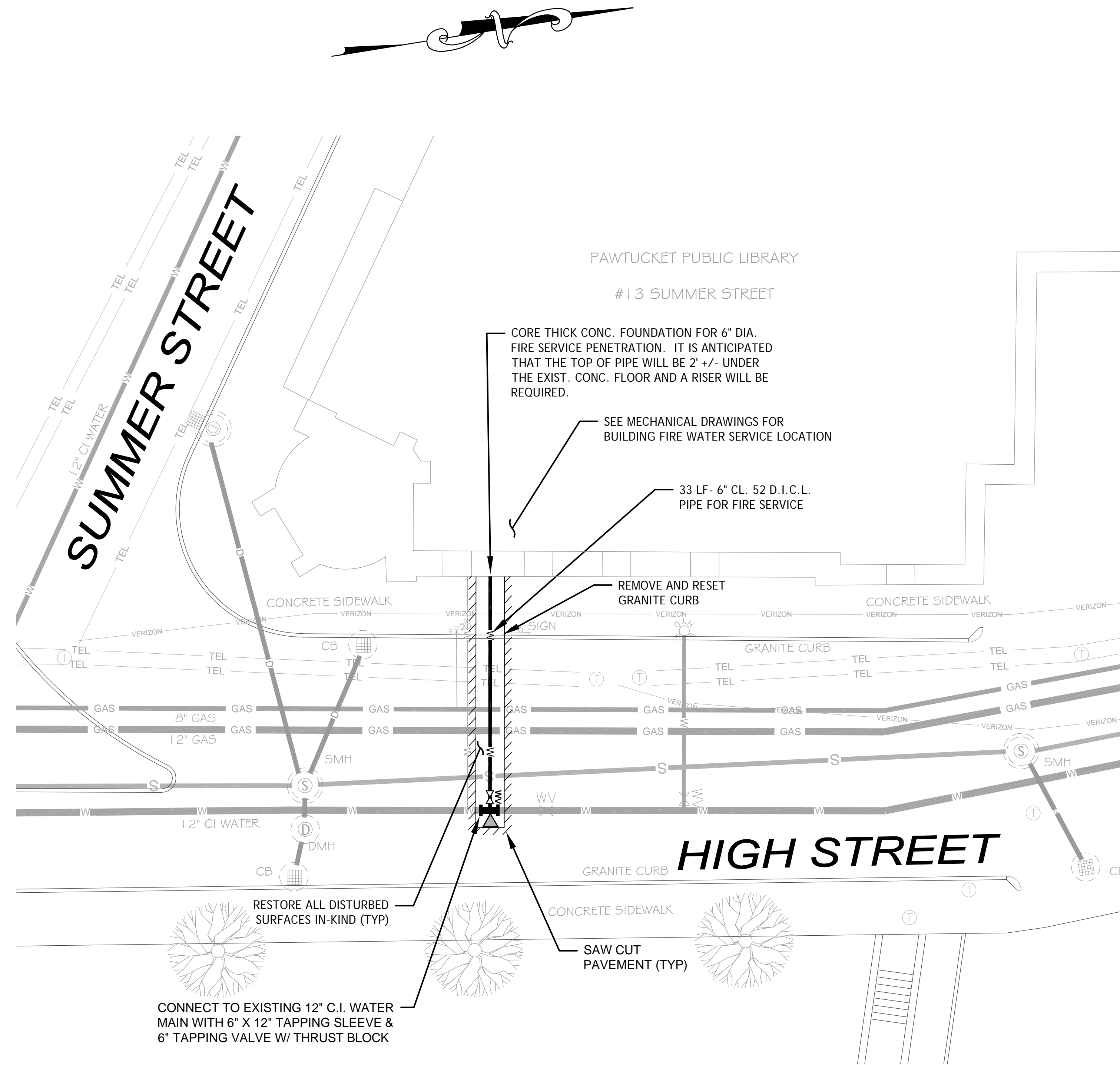
GENERAL NOTES

**GO.02**

LEGEND	
EXISTING ELEC. LINE	— NOZEBA —
EXISTING DRAIN LINE	— — — — —
EXISTING SEWER LINE	— — — — —
EXISTING WATER LINE	— W — W —
EXISTING NATURAL GAS LINE	— GAS —
EXISTING CLEAN-OUT	•••••
EXISTING YARD DRAINS	•••••
EXISTING FIRE HYDRANT	⊗
EXISTING WATER VALVE	⊗
EXISTING GAS VALVE	⊗
EXISTING CATCH BASIN	⊗
EXISTING DRAIN MANHOLE	⊗
EXISTING SEWER MANHOLE	⊗
EXISTING TELE-COM MANHOLE	⊗
EXISTING ELEC. MANHOLE	⊗
EXISTING LIGHT POLE	⊗
EXISTING SUPPORT COLUMNS	⊗
EXISTING OVERHEAD BUILDING	— — — — —
PROPOSED HYDRANT	⊗
PROPOSED GATE VALVE AND BOX	⊗
PROPOSED THRUST BLOCK	⊗
PROPOSED FIRE WATER MAIN	— W —
PROPOSED FIRE WATER MAIN FITTING	⊗
SAW CUT PAVEMENT (ALL TYPES)	▨



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**1** FIRE WATER SERVICE PLAN VIEW  
 C1.0 SCALE: 1"=10'

- NOTE:**
1. THE LOCATION AND DEPTHS OF EXISTING UTILITIES ARE APPROXIMATE AND HAVE BEEN PLOTTED FROM THE LATEST AVAILABLE INFORMATION. THE UTILITY LOCATIONS ARE APPROXIMATE AND MAY NOT BE ALL INCLUSIVE. THE CONTRACTOR SHALL CHECK AND VERIFY THE LOCATION OF ALL EXISTING UTILITIES, BOTH OVERHEAD AND UNDERGROUND, AND "DIG-SAFE" MUST BE NOTIFIED PRIOR TO COMMENCING ANY CONSTRUCTION OPERATIONS. RESTORATION AND REPAIR OF DAMAGE TO EXISTING UTILITIES SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR WITH NO ADDITIONAL COST TO THE OWNER. NO EXCAVATION SHALL COMMENCE UNTIL ALL INVOLVED UTILITY COMPANIES AND/OR TOWN WHOSE FACILITIES MIGHT BE AFFECTED BY ANY WORK TO BE PERFORMED BY THE CONTRACTOR ARE NOTIFIED AT LEAST 72 HOURS IN ADVANCED.
  2. THIS MAP WAS PREPARED FROM RECORD RESEARCH, OTHER MAPS, LIMITED FIELD MEASUREMENTS AND OTHER SOURCES. IT IS NOT TO BE CONSTRUED AS A PROPERTY/BOUNDARY OR LIMITED PROPERTY/ BOUNDARY SURVEY AND IS SUBJECT TO SUCH FACTS AS SAID SURVEYS MAY DISCLOSE.

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REV 1 - 2-16-23 DPW COMMENTS

FIRE WATER SERVICE INSTALLATION PLAN

01/20/2023

**C-1.0**



**SITE AND UTILITY GENERAL NOTES:**

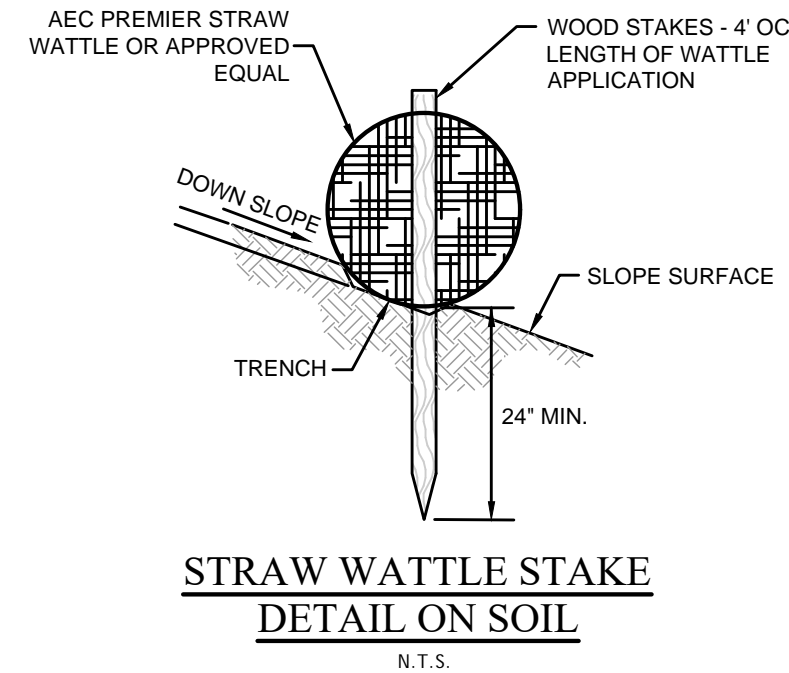
1. THE LOCATION AND DEPTH OF EXISTING UTILITIES ARE APPROXIMATE AND HAVE BEEN PLOTTED FROM THE LATEST AVAILABLE INFORMATION. THE UTILITY LOCATIONS ARE APPROXIMATE AND MAY NOT BE ALL INCLUSIVE. THE CONTRACTOR SHALL CHECK AND VERIFY THE LOCATIONS OF ALL EXISTING UTILITIES, BOTH OVERHEAD AND UNDERGROUND, AND "DIG-SAFE" MUST BE NOTIFIED PRIOR TO COMMENCING ANY CONSTRUCTION OPERATIONS. RESTORATION AND REPAIR OF DAMAGE TO EXISTING UTILITIES SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR WITH NO ADDITIONAL COST TO THE OWNER. NO EXCAVATION SHALL COMMENCE UNTIL ALL INVOLVED UTILITY COMPANIES AND/OR CITY WHOSE FACILITIES MIGHT BE AFFECTED BY ANY WORK TO BE PERFORMED BY THE CONTRACTOR ARE NOTIFIED AT LEAST 72 HOURS IN ADVANCE.
2. CONTRACTOR SHALL BE RESPONSIBLE FOR REMOVING AND LEGALLY DISPOSING (R&D) OF ALL MATERIALS INDICATED ON THE PLANS.
3. STOCKPILES OF EARTH MATERIALS SHALL NOT BE LOCATED ADJACENT TO DRAINAGE STRUCTURES.
4. ANY ITEM OF WORK NOT SPECIFICALLY INDICATED ON THE PLANS BUT IS REQUIRED FOR THE COMPLETE CONSTRUCTION OF THE PROJECT WILL BE CONSIDERED INCIDENTAL TO THE CONTRACT AND INCLUDED IN THE CONTRACT BID PRICE. IT WILL BE THE CONTRACTOR'S RESPONSIBILITY TO VERIFY ALL EXISTING SITE CONDITIONS.
5. WHERE NECESSARY TO REMOVE CURBS, CATCH BASINS OR DRAINS TO COMPLETE WORK, THE CONTRACTOR SHALL REPLACE SUCH ITEMS TO THE SATISFACTION OF THE OWNER AT NO ADDITIONAL COST TO THE OWNER.
6. ANY EXISTING PIPE OR UTILITY DAMAGED BY THE CONTRACTOR'S OPERATIONS SHALL BE REPAIRED IMMEDIATELY BY THE CONTRACTOR AT NO COST TO THE OWNER.
7. THE CONTRACTOR SHALL RESTORE TO ITS ORIGINAL CONDITION OR REPLACE PARKING AREA, DRIVEWAYS, SIDEWALKS AND ANY OTHER OBJECT AFFECTED BY THIS OPERATION.
8. THE TOPS OF ALL FRAME AND COVERS SHALL BE FLUSH WITH GROUND OR PAVEMENT SURFACE LEVEL AND PLUMB, UNLESS OTHERWISE DIRECTED.
9. ALL CONSTRUCTION WORK SHALL BE PERFORMED IN THE DRY. THE CONTRACTOR SHALL PROVIDE, OPERATE AND MAINTAIN ALL PUMPS, DRAINS, WET POINTS, SCREENS, OR OTHER FACILITIES NECESSARY TO CONTROL, COLLECT AND DISPOSE OF ALL SURFACE AND SUBSURFACE WATER ENCOUNTERED IN THE PERFORMANCE OF THE WORK.
10. ALL SITE WORK, INCLUDING BUT NOT LIMITED TO, BITUMINOUS PAVEMENT, AGGREGATE MATERIALS, PIPE, FITTINGS, SAW CUTTING, ETC. SHALL CONFORM TO THE RHODE ISLAND DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR ROADWAY AND BRIDGE CONSTRUCTION, 2010 EDITION (WITH LATEST ADDENDA) AND THE RIDOT STANDARD DETAILS, 1998 EDITION (WITH LATEST ADDENDA) AND THE PAWTUCKET WATER SUPPLY BOARD STANDARD CONSTRUCTION DETAILS DATED DECEMBER, 2013.
11. PRIOR TO CONSTRUCTION ALL POTENTIAL UTILITY/DRAINAGE CONFLICTS MUST BE IDENTIFIED BY THE CONTRACTOR. ANY MODIFICATIONS TO THE PROPOSED UTILITY OR DRAINAGE SYSTEM TO AVOID CONFLICTS MUST BE APPROVED BY THE ENGINEER PRIOR TO CONSTRUCTION.

**MAINTENANCE AND PROTECTION OF TRAFFIC NOTES:**

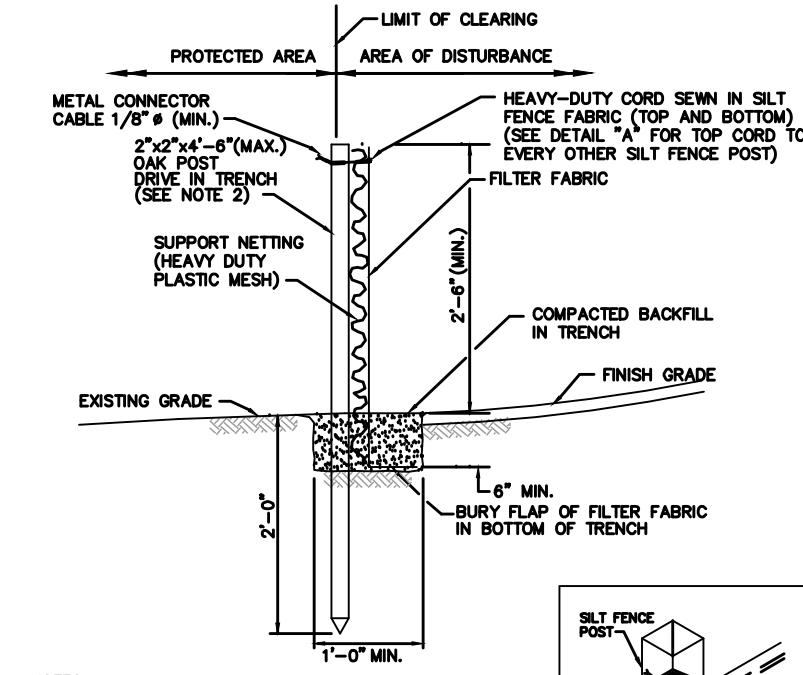
1. ALL MAINTENANCE AND PROTECTION OF TRAFFIC CONTROL SETUPS, SIGNS CHANNELING DEVICES, ETC. ON THIS PROJECT SHALL BE IN ACCORDANCE WITH THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS (MUTCD) - 2009 EDITION.
2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL MAINTENANCE AND PROTECTION OF PEDESTRIAN AND VEHICULAR TRAFFIC INCLUDING POLICE PROTECTION. ALL TEMPORARY AND VEHICULAR SIGNS, BARRICADES AND LANE CLOSURES SHALL BE IN CONFORMANCE WITH THE LATEST REVISION OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD).
3. TEMPORARY CONSTRUCTION SIGNS AND ALL APPLICABLE TRAFFIC CONTROL DIVIDES SHALL BE IN PLACE PRIOR TO THE START OF WORK IN ANY AREA OPEN TO TRAFFIC.
4. SIGN MOUNTINGS SHALL BE IN ACCORDANCE WITH THE R.I.D.O.T. SPECIFICATIONS FOR TEMPORARY CONSTRUCTION SIGNS.

**WATER NOTES:**

1. ALL INSTALLATIONS, JOINTS, CONSTRUCTION METHODS AND MATERIALS SHALL BE ACCORDING TO THE PAWTUCKET WATER SUPPLY BOARD REQUIREMENTS, NFPA 24 - 2016 EDITION, AWWA STANDARDS AND APPLICABLE GOVERNMENTAL REQUIREMENTS.
2. INSTALLATION OF ALL WATER CONVEYANCES, MAINS, SERVICES, PIPES OR LINES SHALL BE IN ACCORDANCE WITH THE DUCTILE IRON PIPE RESEARCH ASSOCIATION'S INSTALLATION MANUAL AND ANSI/AWWA C600 AND ALL OTHER REQUIREMENTS OF THE PAWTUCKET WATER SUPPLY BOARD.
3. WATER PIPES SHALL TYPICALLY BE LOCATED AT LEAST TEN (10) FEET HORIZONTALLY FROM SEWER PIPES, AND AT A MINIMUM DEPTH OF COVER EQUAL TO 5'. WHERE A NEW WATER PIPE IS LESS THAN 18 INCHES CLEAR DISTANCE ABOVE A SEWER OR WHERE A WATER PIPE PASSES BENEATH A SEWER OR STORM DRAIN, ENCASE THE SEWER OR DRAIN IN 6" OF CONCRETE FOR A DISTANCE OF 10 FEET ON EACH SIDE OF THE CROSSING WATER PIPE.
4. ALL SYSTEM COMPONENTS AND CONSTRUCTION METHODS, SUCH AS PIPE, THRUST BLOCKS, FITTINGS, CASTINGS, ETC. SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL PRIOR TO PURCHASE AND INSTALLATION. THIS SUBMISSION SHALL INCLUDE MANUFACTURER'S LITERATURE, SHOP DRAWINGS, PROPOSED CONSTRUCTION METHODS, ETC.
5. WATER LINE TRENCH TO BE AWWA TYPE 5. A METALIZED DETECTABLE IDENTIFICATION TAPE 2" IN WIDTH, BLUE IN COLOR AND PRINTED WITH "CAUTION WATERLINE BURIED BELOW" SHALL BE UTILIZED OVER ALL MAINS. TAPE SHALL BE SET AT APPROXIMATELY 1' BELOW FINISHED GRADE.
6. SPECIFIC BENDS/FITTINGS ARE SHOWN ON THE DRAWINGS TO ASSIST IN CONSTRUCTION. THE CONTRACTOR SHALL PROVIDE ADDITIONAL BENDS/FITTINGS AS NECESSARY TO INSTALL THE PIPE AT THE REQUIRED DEPTH AND ALIGNMENT BASED ON SUBSURFACE CONDITIONS ENCOUNTERED THESE BENDS/FITTINGS WILL BE CONSIDERED INCIDENTAL TO THE CONTRACT AND INCLUDED IN THE CONTRACT BID PRICE. IF AN ATYPICAL BEND/FITTING IS REQUIRED THE ENGINEER SHOULD BE NOTIFIED FOR APPROVAL.
7. CONTRACTOR TO HYDROSTATICALLY TEST FIRE SERVICE LINE AT 200 PSI FOR TWO HOURS. CONTRACTOR TO FLUSH PIPING SYSTEM AT MINIMUM 880 GPM.
8. CONTRACTOR TO PRODUCE A NFPA 24 UNDERGROUND TEST CERTIFICATE FOR FIRE WATER SERVICE.

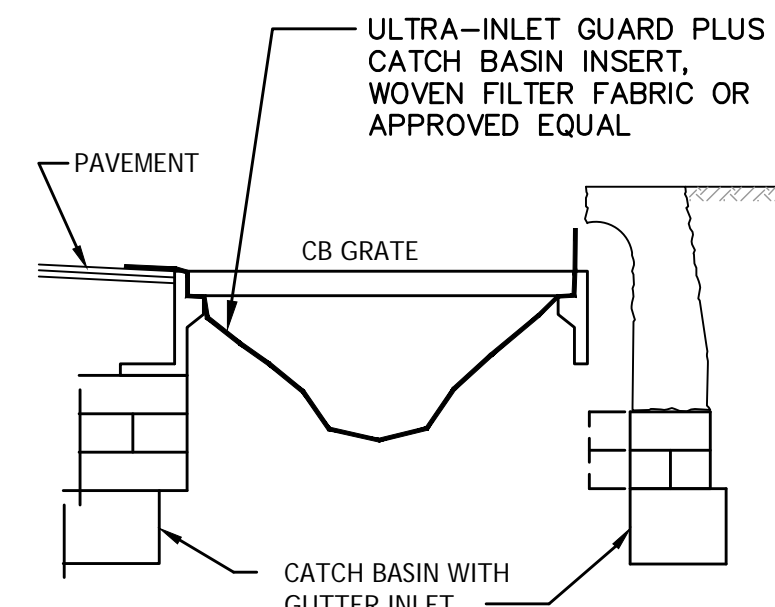


**STRAW WATTLE STAKE  
DETAIL ON SOIL**  
N.T.S.

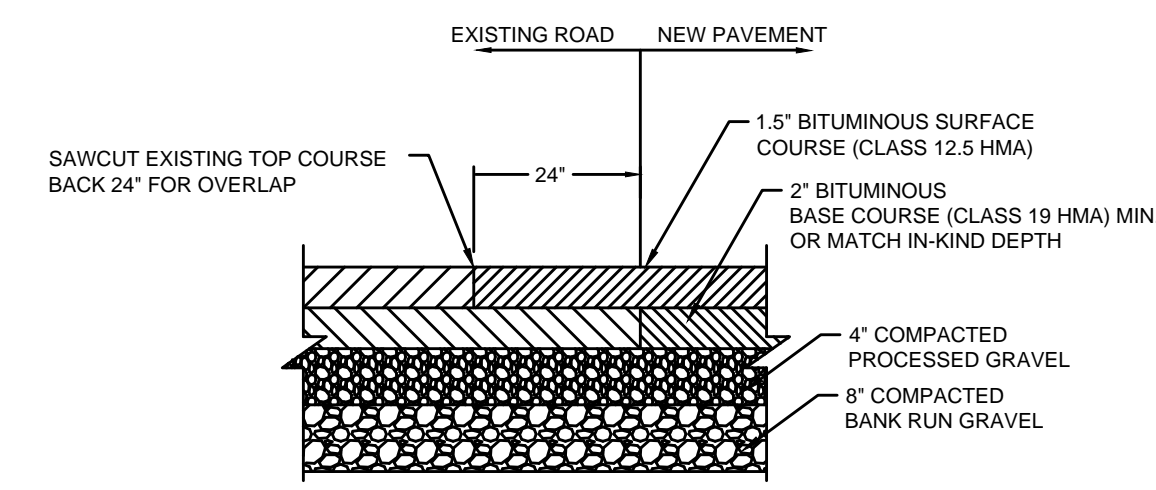


- NOTES:**
1. SHALL BE IN ACCORDANCE WITH SECTION 206 OF THE R.I. STANDARD SPECIFICATIONS.
  2. 2"x2"x4'-0" (MAX) OAK POSTS FOR SILT FENCE SHALL BE LOCATED 8'-0" (MAX) O.C. IN WETLAND AREAS AND 6'-0" (MAX) O.C. IN WETLAND RAINE, GULLY OR DROP-OFF AREAS AS SHOWN ON PLANS.
  3. 1"x2"x4'-0" (MIN) POSTS PERMITTED FOR PRE-FABRICATED SILT FENCE.
  4. SILT FENCE SHALL BE INSTALLED BEFORE ANY GRUBBING OR EARTH EXCAVATION TAKES PLACE.

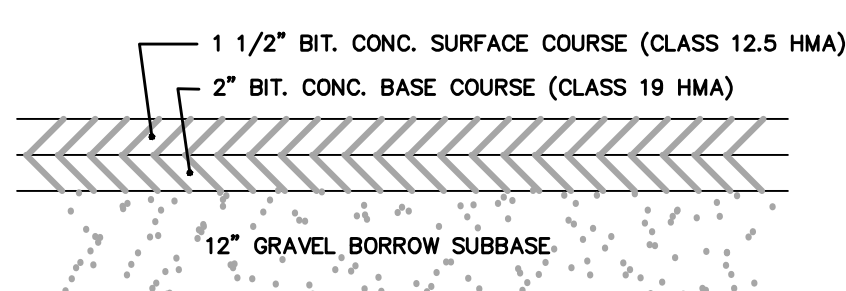
**SILT FENCE DETAIL**  
R.I. STANDARD 9.2.0



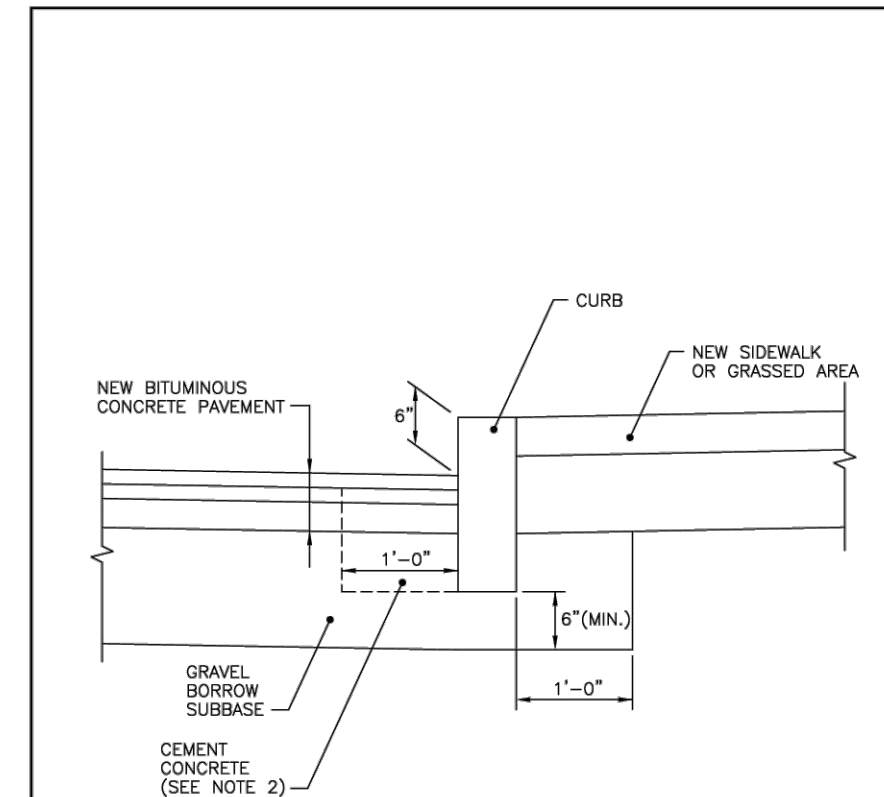
**CATCH BASIN INLET PROTECTION  
IN CONSTRUCTION AREA**  
NOT TO SCALE



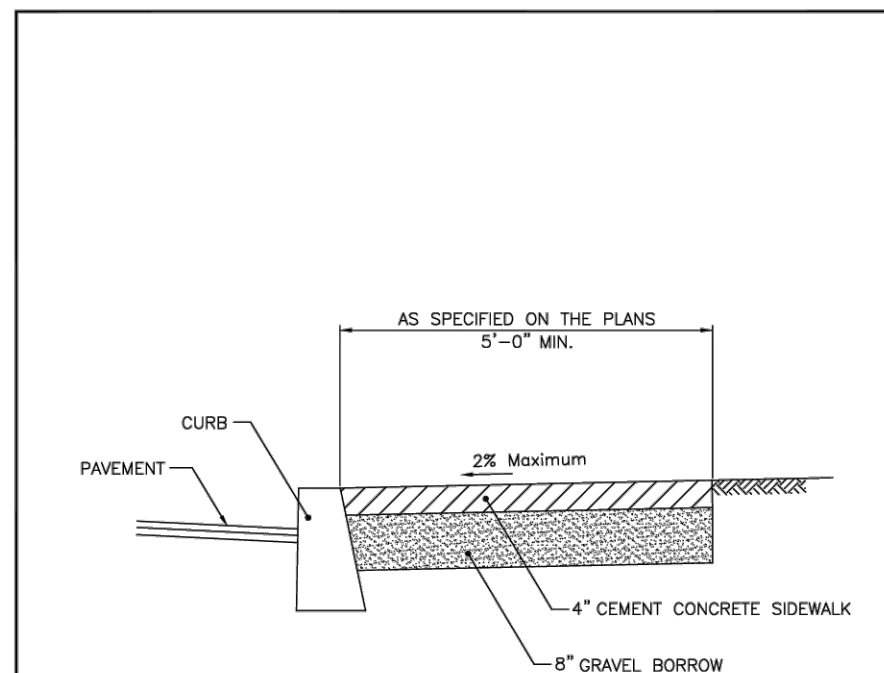
**PAVEMENT CUT & MATCH**  
NOT TO SCALE



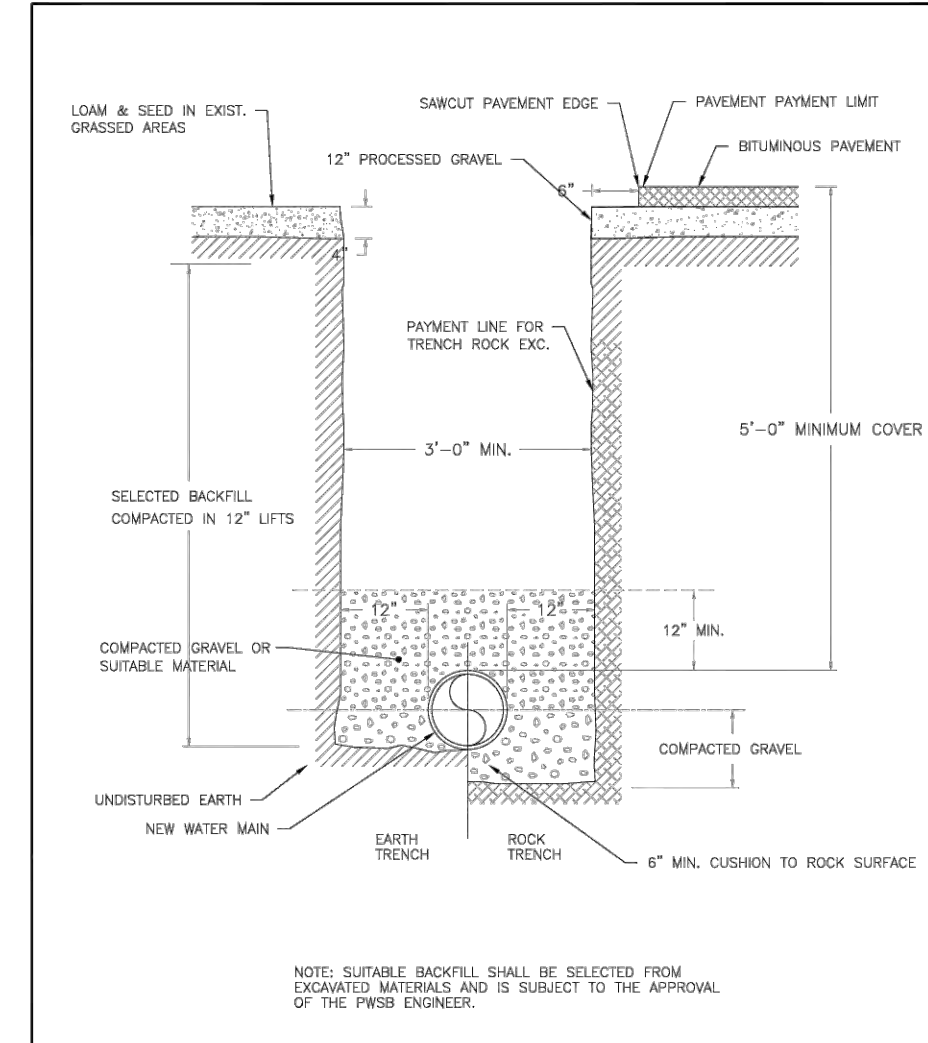
**TRENCH PAVEMENT REPLACEMENT  
CROSS SECTION**  
NOT TO SCALE



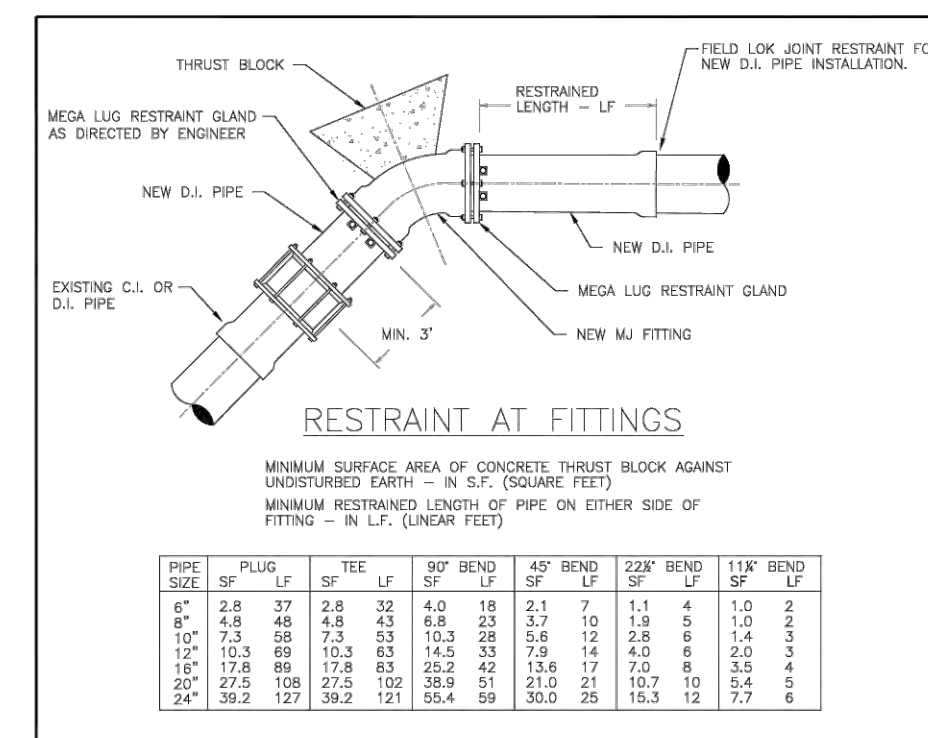
**RHODE ISLAND DEPARTMENT OF TRANSPORTATION  
CURB SETTING DETAIL**  
R.I. STANDARD 7.6.0



**RHODE ISLAND DEPARTMENT OF TRANSPORTATION  
CEMENT CONCRETE SIDEWALK**  
R.I. STANDARD 43.1.0



**PAWTUCKET WATER SUPPLY BOARD  
TYPICAL TRENCH DETAIL**  
R.I. STANDARD 6.01



**RESTRAINT AT FITTINGS**

MINIMUM SURFACE AREA OF CONCRETE THRUST BLOCK AGAINST UNDISTURBED EARTH - IN SQ. (SQUARE FEET)

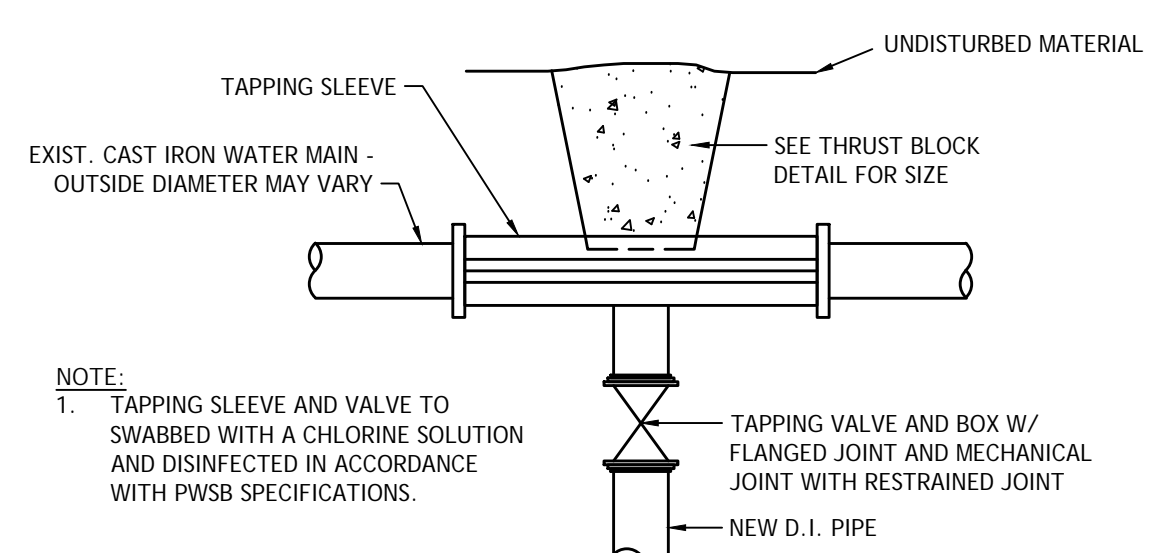
MINIMUM RESTRAINED LENGTH OF PIPE ON EITHER SIDE OF FITTING - IN LF. (LINEAR FEET)

PIPE SIZE	PLUG	TEE		90° BEND		45° BEND		22 1/2° BEND		11 1/4° BEND	
		SP	LF	SP	LF	SP	LF	SP	LF	SP	LF
6"	2.8	3.7	2.8	3.2	4.0	1.8	2.1	1.1	1.1	1.0	2
8"	4.8	4.8	4.5	6.8	2.5	1.0	1.8	0.5	1.0	1.0	2
10"	7.4	2.8	7.2	8.5	15.2	2.8	2.8	1.2	2.8	1.0	2
12"	10.5	8.9	11.8	8.5	28.2	4.2	13.8	1.7	7.0	8	5.0
18"	27.8	10.8	17.5	10.8	50.8	6.7	21.0	2.1	10.2	10	5.4
24"	59.2	12.7	39.2	12.1	80.4	9.9	33.0	2.8	15.3	12	7.7

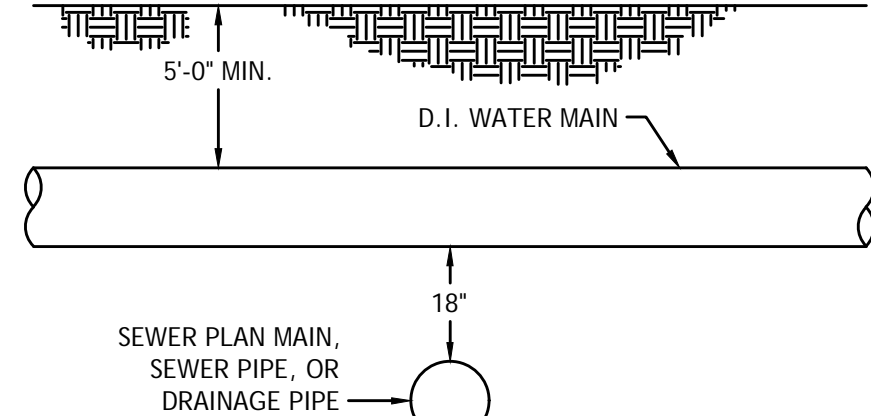
**PAWTUCKET WATER SUPPLY BOARD  
RESTRAINT AT FITTINGS**  
R.I. STANDARD 5.04



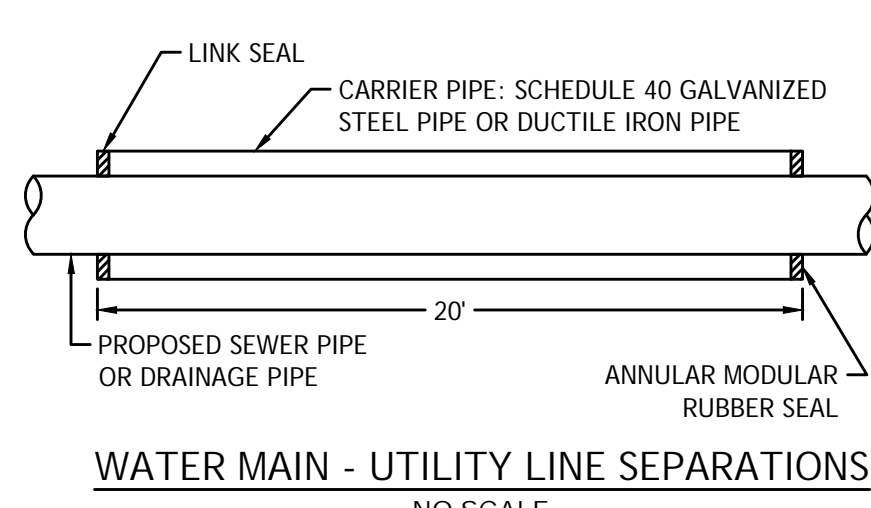
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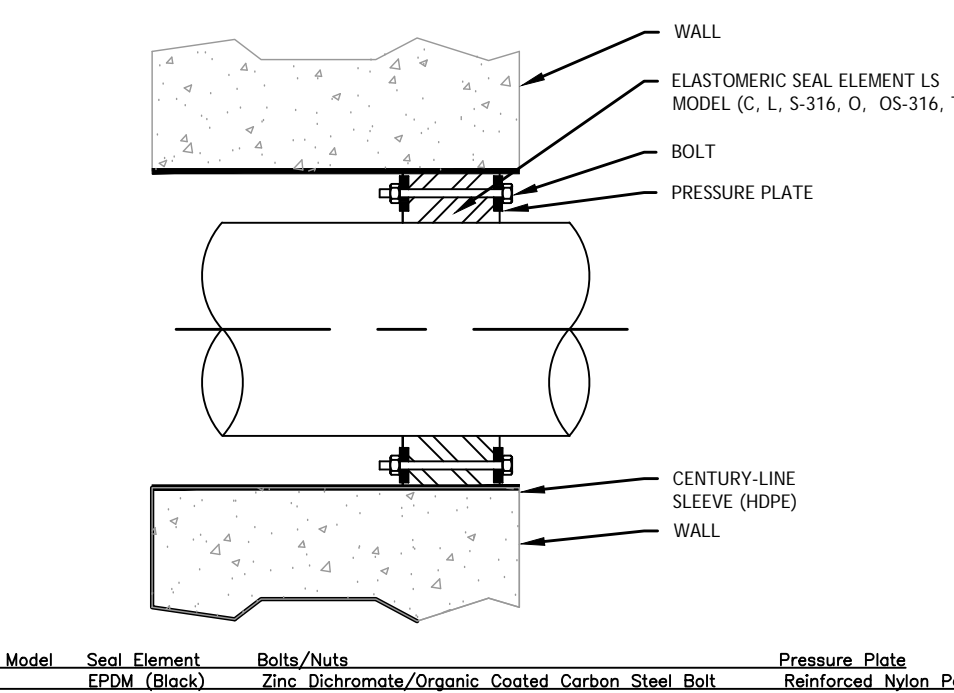
**TAPPING SLEEVE AND VALVE**  
NOT TO SCALE



- NOTES:**
1. THE VERTICAL SEPARATION BETWEEN THE WATER MAIN AND THE PROPOSED UTILITY SHALL BE A MINIMUM OF 18 INCHES.
  2. THE HORIZONTAL SEPARATION BETWEEN THE WATER MAIN AND THE PROPOSED UTILITY SHALL BE MINIMUM OF 10 FEET.
  3. IF 1 OR 2 CANNOT BE MAINTAINED THE PROPOSED UTILITY SHALL BE INSTALLED WITHIN A CARRIER PIPE. SEWER MAIN AND SERVICES ARE NOT ALLOWED TO CROSS OVER THE TOP OF WATER MAIN.



**WATER MAIN - UTILITY LINE SEPARATIONS**  
NO SCALE



**PIPE PENETRATION LINK SEAL DETAIL**  
NOT TO SCALE

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REV 1 - 2-16-23 DPW COMMENTS

FIRE WATER SERVICE  
DETAIL PLAN

01/20/2023

**C-2.0**





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BASEMENT DEMOLITION PLAN

01/20/2023

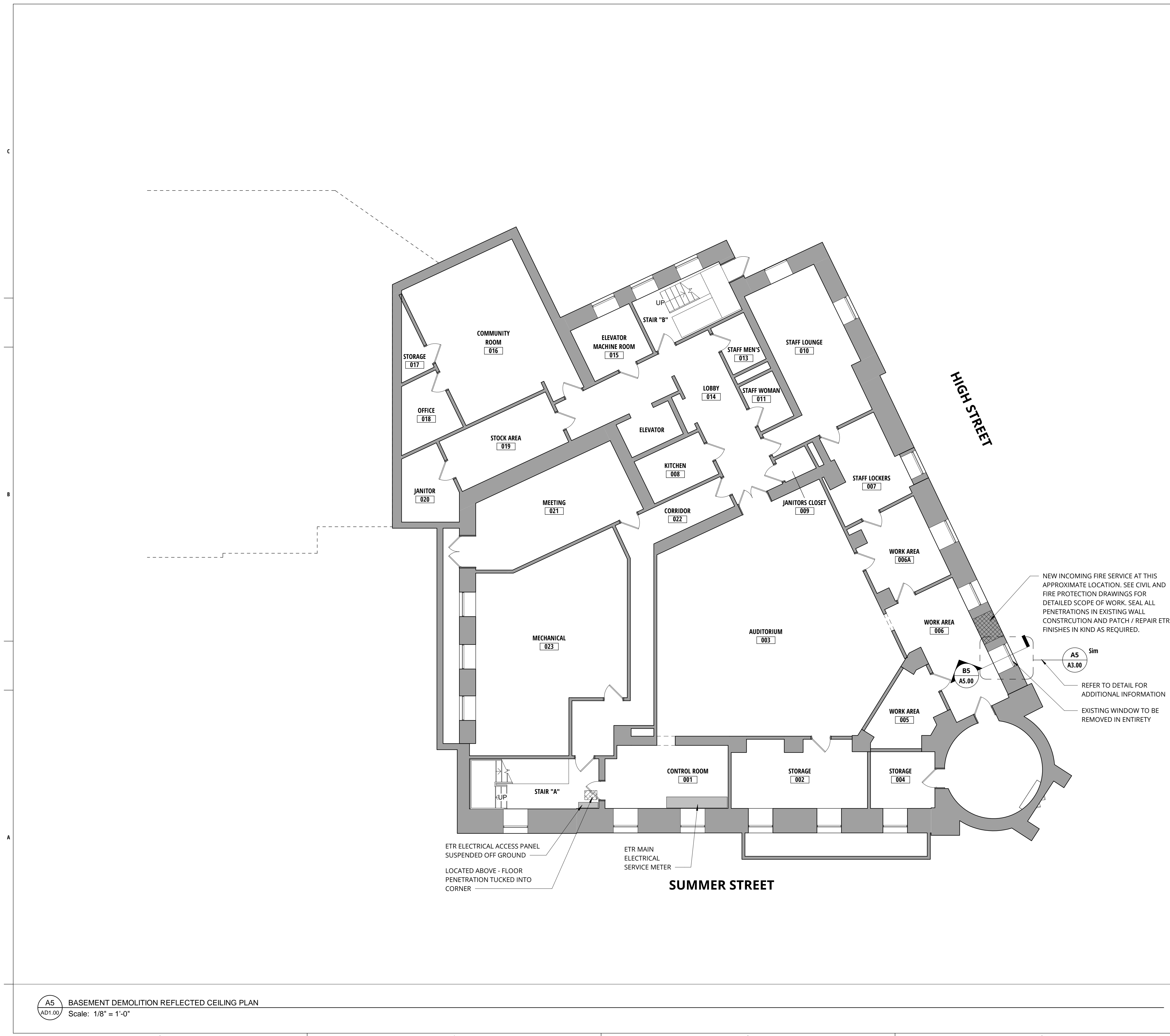
**AD1.00**

### GRAPHICS KEY - DEMOLITION WORK

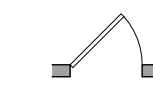


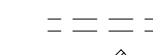
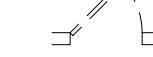
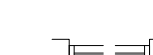




- EXISTING DOOR, FRAME & TRIM TO REMAIN, U.N.O.
- EXISTING WALL TO REMAIN
- EXISTING WINDOW TO REMAIN
- EXISTING WALL TO BE REMOVED, U.N.O.
- EXISTING DOOR AND FRAME TO BE REMOVED, U.N.O.
- EXISTING WINDOW TO BE REMOVED, U.N.O.
- EXISTING CABINET HEATER TO BE REMOVED, SEE MEP DRAWINGS FOR FULL SCOPE OF WORK
- EXISTING SITE FEATURE(S) AREA TO BE REMOVED IN ITS ENTIRETY - REFER TO KEYNOTES FOR MORE DETAILED SCOPE
- APPROXIMATE LOCATION OF FLOOR SYSTEM PENETRATION, COORDINATE WITH FIRE PROTECTION AS REQUIRED
- NEW MASONRY WALL PENETRATION LOCATION

### GENERAL NOTES - DEMOLITION WORK

1. REFER TO CIVIL & FIRE PROTECTION DRAWINGS FOR COORDINATION & DETAILED SYSTEMS DEMO SCOPE.
2. REFER TO CIVIL DRAWINGS FOR EXTERIOR IMPROVEMENTS.
3. REFER TO SHEET G0.02 FOR ADDITIONAL GENERAL DEMOLITION NOTES.

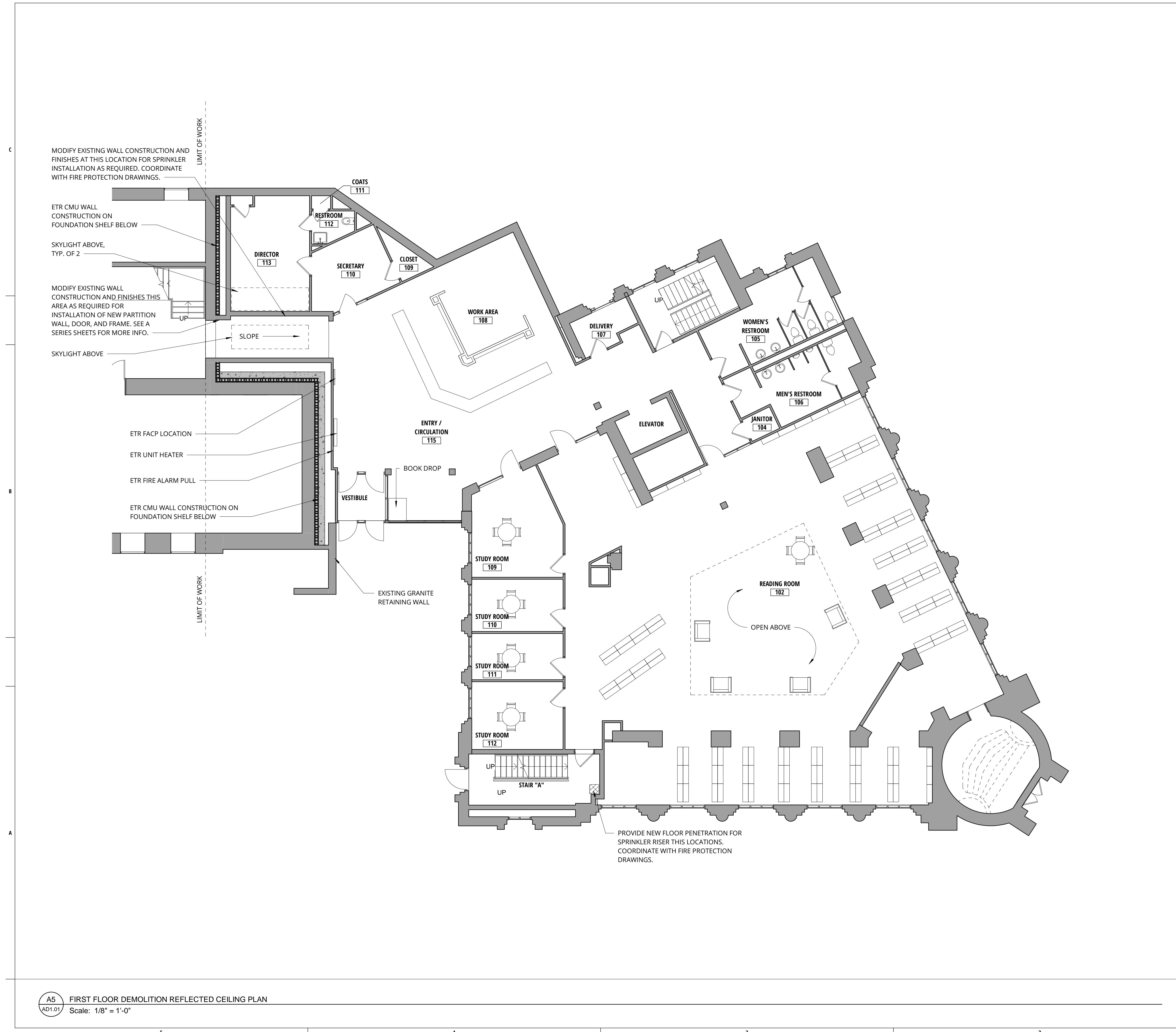


**GRAPHICS KEY - DEMOLITION WORK**

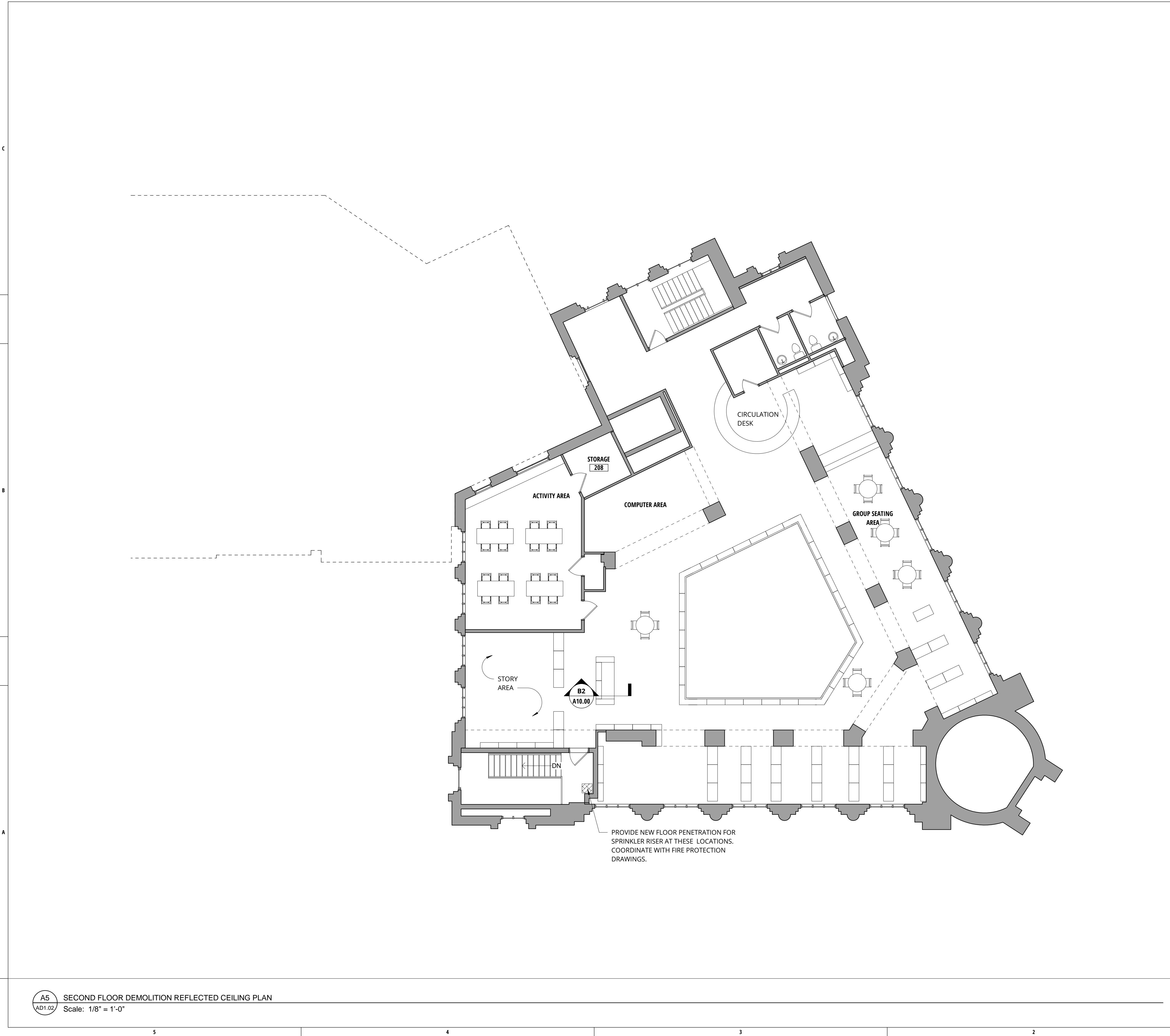
-  EXISTING DOOR, FRAME & TRIM TO REMAIN, U.N.O.
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**GRAPHICS KEY - DEMOLITION WORK**

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**GENERAL NOTES - DEMOLITION WORK**

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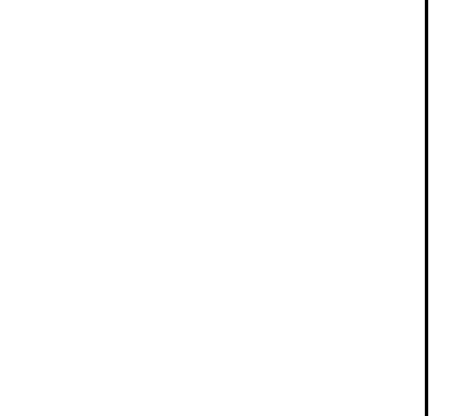
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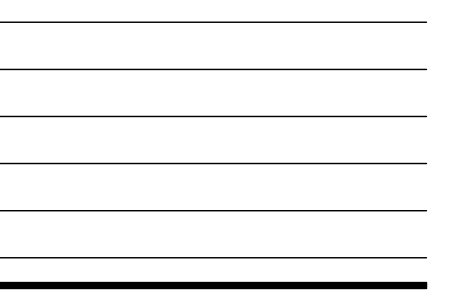
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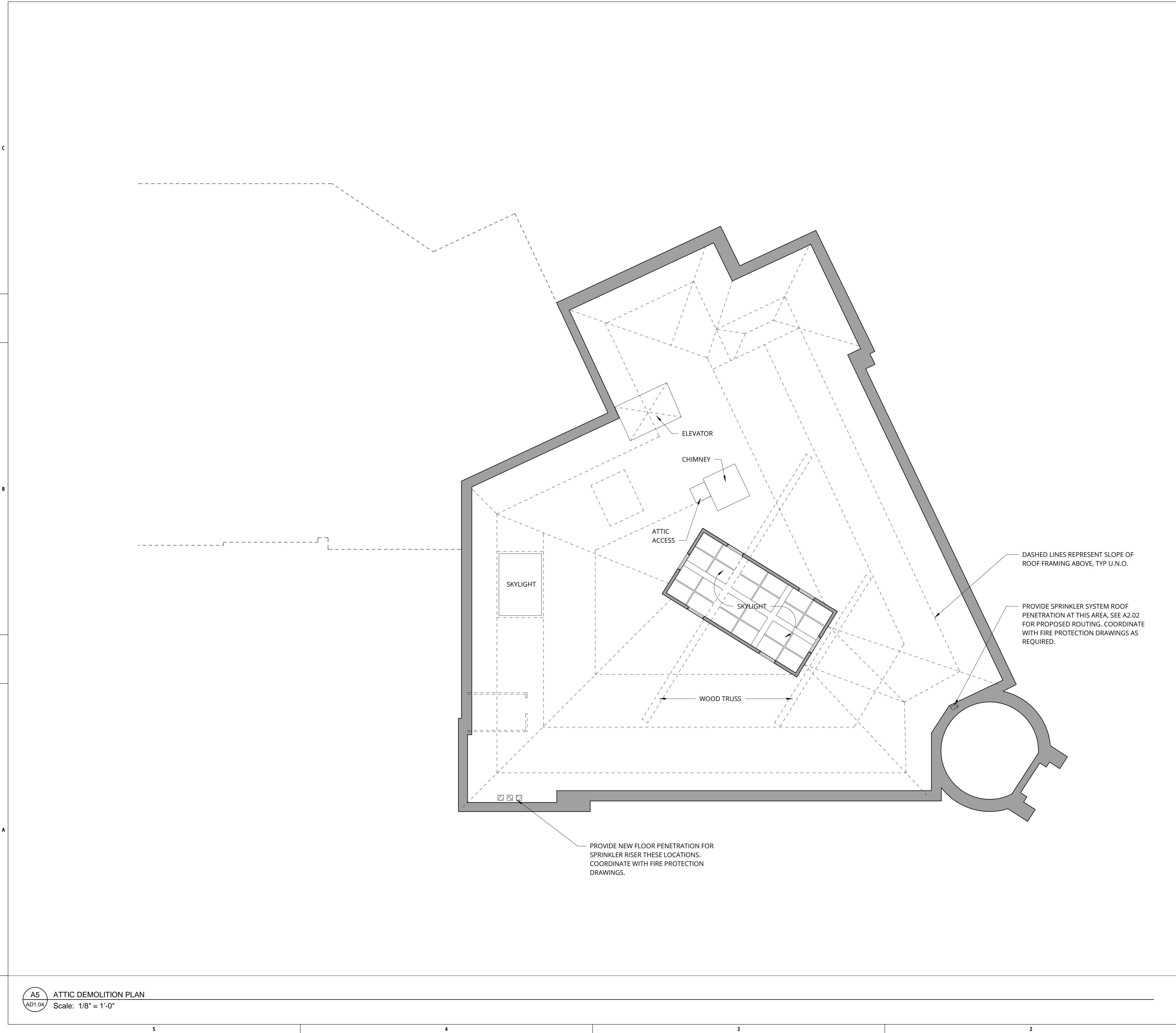
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SECOND FLOOR DEMOLITION  
PLAN

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**AD1.02**



**GRAPHICS KEY - DEMOLITION WORK**

- EXISTING DOOR, FRAME & TRIM TO REMAIN, U.N.O.
- EXISTING WALL TO REMAIN
- EXISTING WINDOW TO REMAIN
- EXISTING WALL TO BE REMOVED, U.N.O.
- EXISTING DOOR AND FRAME TO BE REMOVED, U.N.O.
- EXISTING WINDOW TO BE REMOVED, U.N.O.
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- EXISTING SITE FEATURE(S) AREA TO BE REMOVED IN ITS ENTIRETY - REFER TO KEYNOTES FOR MORE DETAILED SCOPE
- APPROXIMATE LOCATION OF FLOOR SYSTEM PENETRATION. COORDINATE WITH FIRE PROTECTION AS REQUIRED
- NEW MASONRY WALL PENETRATION LOCATION

**GENERAL NOTES - DEMOLITION WORK**

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2. REFER TO CIVIL DRAWINGS FOR EXTERIOR IMPROVEMENTS.
3. REFER TO SHEET G0.02 FOR ADDITIONAL GENERAL DEMOLITION NOTES.

DASHED LINES REPRESENT SLOPE OF ROOF FRAMING ABOVE, TYP U.N.O.

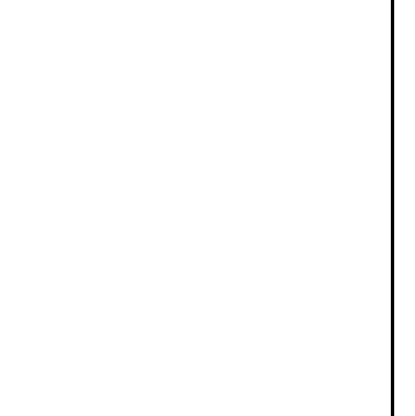
PROVIDE SPRINKLER SYSTEM ROOF PENETRATION AT THIS AREA, SEE A2.02 FOR PROPOSED ROUTING. COORDINATE WITH FIRE PROTECTION DRAWINGS AS REQUIRED.

PROVIDE NEW FLOOR PENETRATION FOR SPRINKLER RISER THESE LOCATIONS. COORDINATE WITH FIRE PROTECTION DRAWINGS.

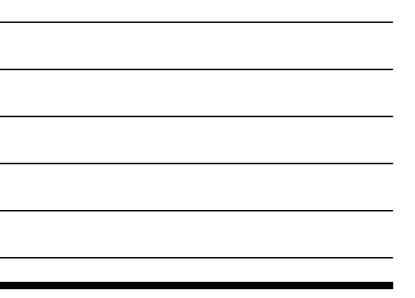


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ATTIC DEMOLITION PLAN

01/20/2023

**AD1.04**





ARCHITECTS

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### GRAPHICS KEY- DEMOLITION WORK

- EXISTING WALL TO REMAIN
- EXISTING WALL TO BE REMOVED, U.N.O.
- EXISTING 2x2 LIGHT FIXTURE TO BE REMOVED, U.N.O.
- EXISTING RECESSED CAN LIGHT FIXTURE TO BE REMOVED, U.N.O.
- CEILING DIFFUSER TO BE REMOVED, U.N.O.
- EXISTING SURFACE MOUNT LIGHT FIXTURE TO BE REMOVED
- EXISTING SURFACE MOUNTED LIGHT FIXTURE TO BE REMOVED, U.N.O.
- WALL MOUNTED LIGHT FIXTURE TO BE REMOVED, U.N.O.
- EXISTING SUSPENDED LINEAR LIGHT FIXTURE TO REMAIN
- EXISTING SMOKE DETECTOR TO BE REMOVED, U.N.O.
- EXISTING PENDANT LIGHT FIXTURE TO REMAIN
- EXISTING EXIT SIGN TO BE REMOVED
- EXISTING SECURITY CAMERA
- EXISTING SITE FEATURE(S) AREA TO BE REMOVED IN ITS ENTIRETY - REFER TO KEYNOTES FOR MORE DETAILED SCOPE
- APPROXIMATE LOCATION OF FLOOR SYSTEM PENETRATION. COORDINATE WITH FIRE PROTECTION AS REQUIRED.
- NEW MASONRY WALL PENETRATION LOCATION

### GRAPHICS NOTES - CEILING DEMO WORK

NOTES:

1. REFER TO CIVIL & FIRE PROTECTION DRAWINGS FOR COORDINATION & DETAILED SYSTEMS DEMO SCOPE.
2. REFER TO CIVIL DRAWINGS FOR EXTERIOR IMPROVEMENTS.
3. REFER TO SHEET G0.02 FOR ADDITIONAL GENERAL DEMOLITION NOTES.
4. DESIGN INTENT IS FOR ACOUSTICAL CEILING GRIDS AND TILE TO BE REMOVED AND DISPOSED OF IN THEIR ENTIRETY ON BASEMENT AND FIRST FLOOR LEVELS TO PERFORM SPRINKLER SYSTEM INSTALLATION.
5. DESIGN INTENT FOR NEW SUSPENDED ACOUSTICAL CEILING SYSTEMS TO BE INSTALLED AT ALL LOCATIONS WHERE AN EXISTING SYSTEM WAS DEMOLISHED. CEILING HEIGHT AND GRID ALIGNMENT TO MATCH FORMER DEMOLISHED CONDITION. G.C. TO TAKE CARE TO DOCUMENT EXISTING GRID CONFIGURATIONS AS REQUIRED.
6. EXISTING LIGHTING AND CEILING MOUNTED FIXTURES AND DEVICES TO REMAIN. REMOVE AND REINSTALL AS REQUIRED TO PERFORM FULL SCOPE OF WORK.
7. MODIFY ANY GWB CEILINGS AND SOFFITS AS REQUIRED FOR SPRINKLER SYSTEM INSTALLATION. AFFECTED SURFACES TO BE PATCHED AND REPAIRED IN KIND TO MATCH EXISTING.



REMOVE, SLVAGE, AND REINSTALL EXISTING CEILING MOUNTED TRACK AS REQUIRED.

ETR CEILING HUNG PROJECTOR. PROTECT DURING WORK. REMOVE AND REINSTALL AS REQUIRED TO PERFORM WORK.

WALL MOUNTED PROJECTION SCREEN





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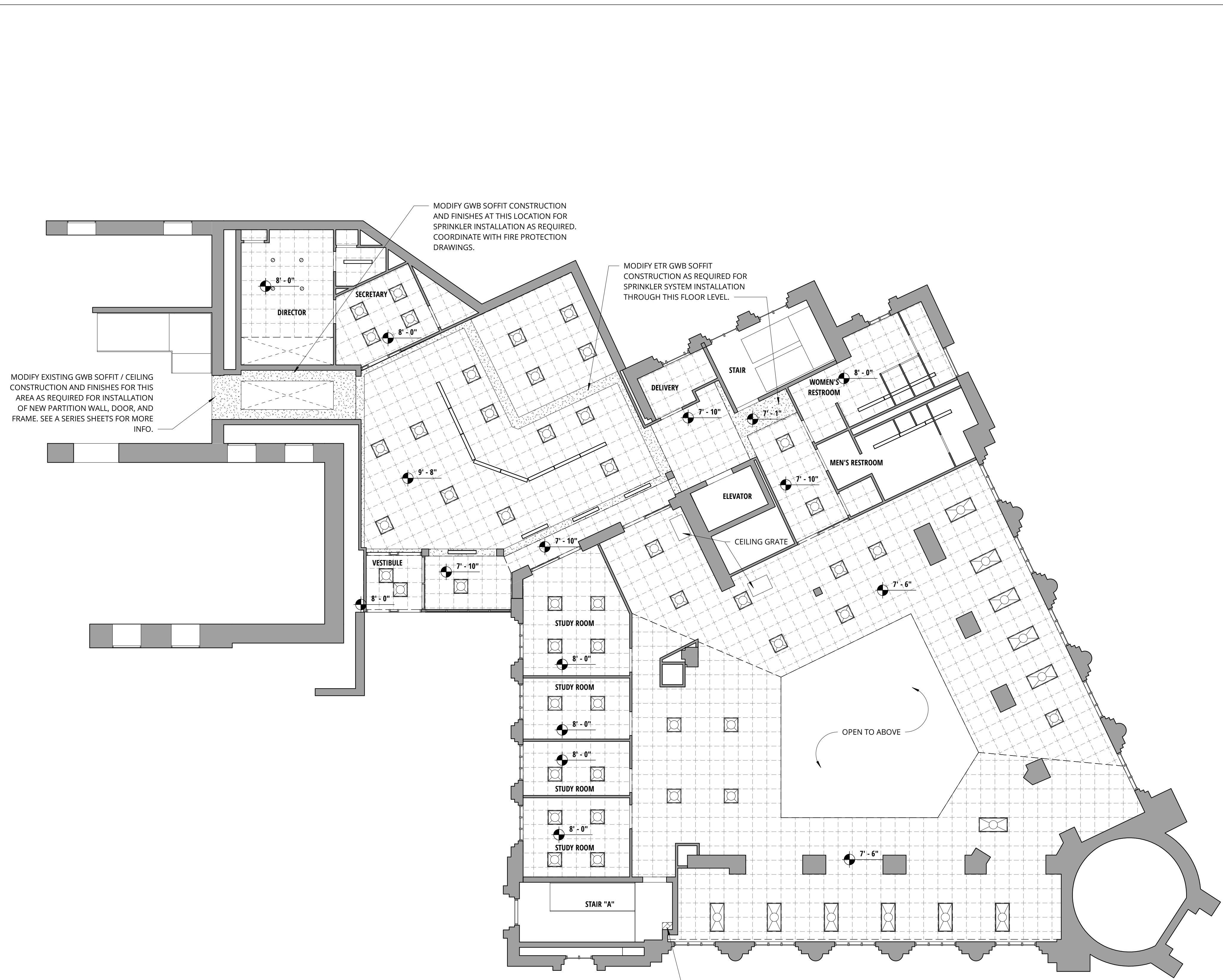
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FIRST FLOOR DEMOLITION  
 REFLECTED CEILING PLAN

01/20/2023

AD2.01





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SECOND FLOOR DEMOLITION  
REFLECTED CEILING PLAN

01/20/2023

**AD2.02**

**GRAPHICS KEY- DEMOLITION WORK**

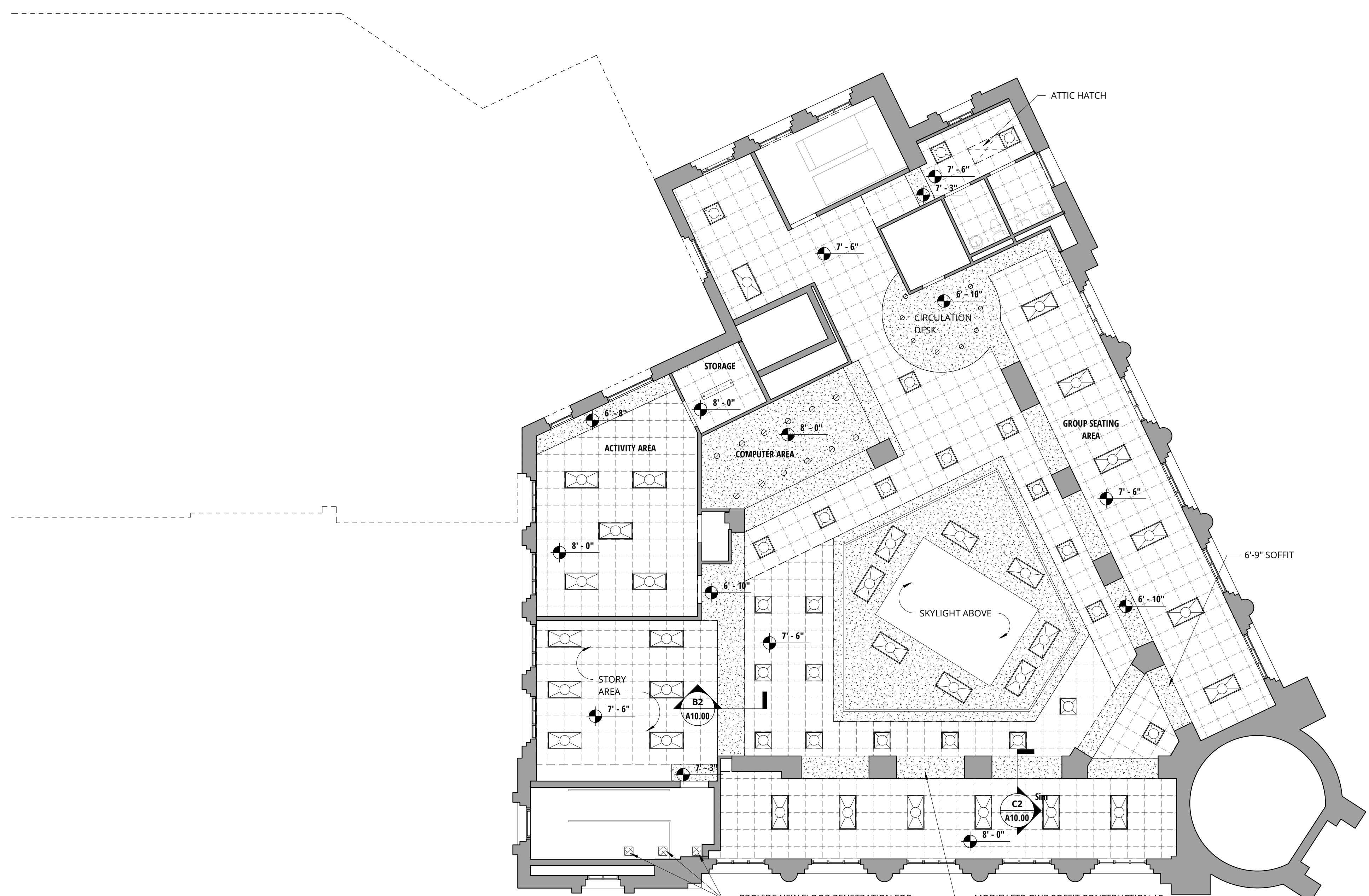
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NOTE: EXISTING SUSPENDED ACOUSTICAL TILE CEILING TO REMAIN THROUGHOUT THIS LEVEL. REMOVE AND REINSTALL EXISTING CEILING TILES AS REQUIRED TO PERFORM SCOPE OF WORK. REPLACE ANY TILES IN KIND THAT ARE DAMAGED DURING DEMOLITION OR CONSTRUCTION ACTIVITY.





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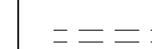



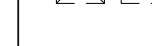

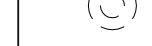

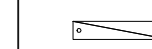





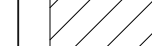
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ATTIC DEMOLITION REFLECTED  
CEILING PLAN

01/20/2023

**AD2.03**

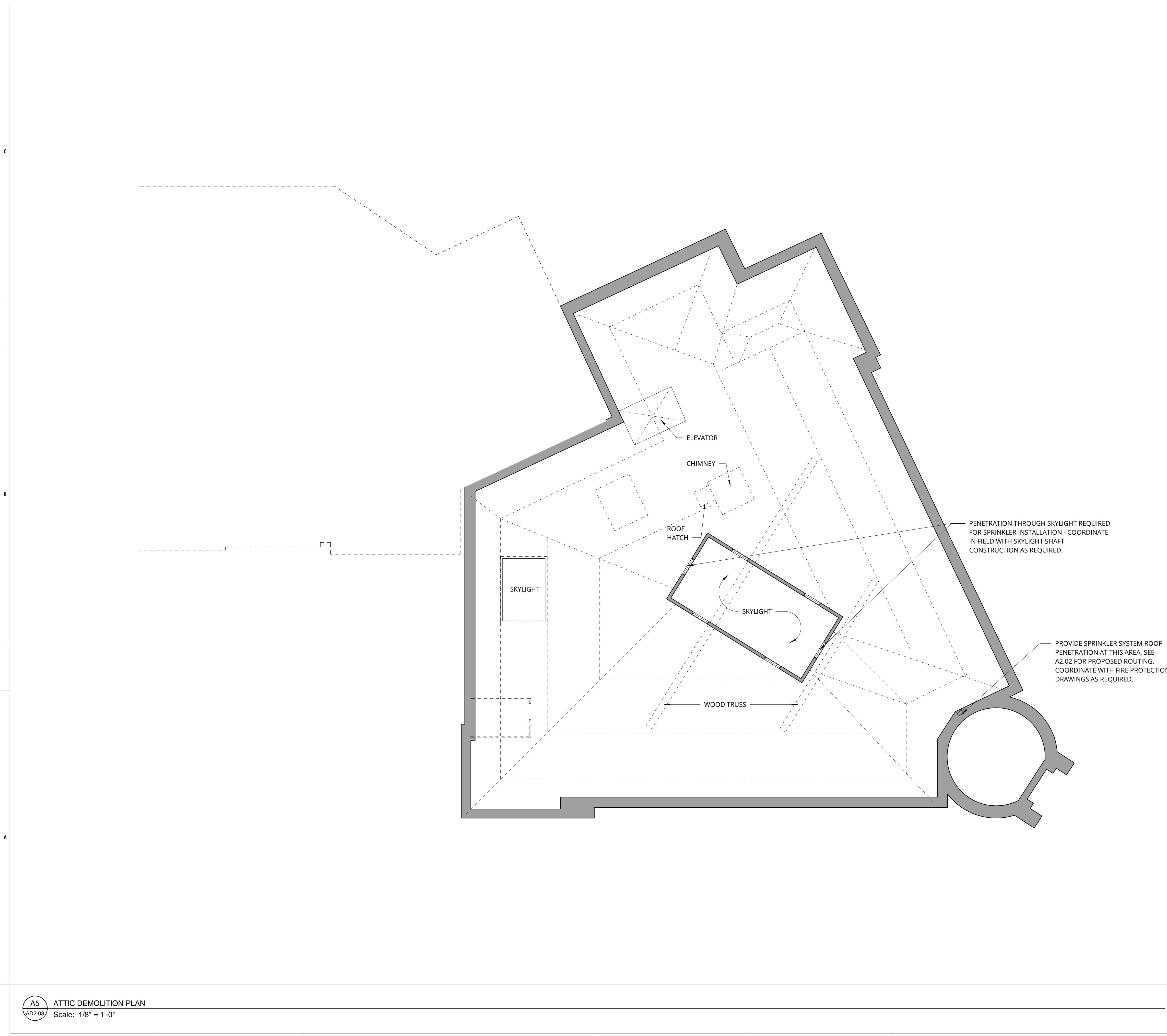
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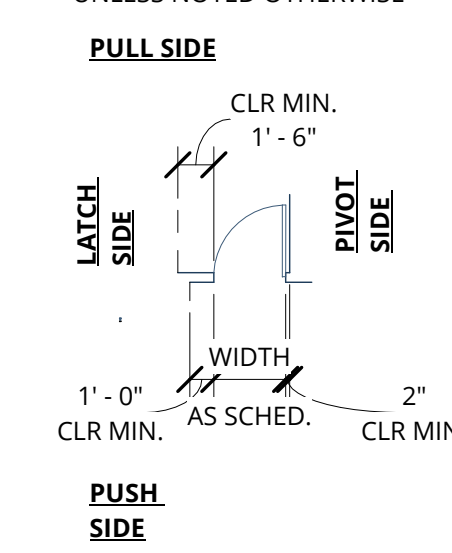
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- OVERHEAD ELEMENT, SOFFIT OR OPENING - RCP SECTIONS AND DETAILS- (REFER TO NOTES)
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- WALL MOUNTED WATER CLOSET
- WALL MOUNTED / RECESSED ADA SINK
- FLR MOUNTED MOP SINK
- COLUMN LINE
- INTERIOR SIGNAGE TAG REFER TO SHEET 10.52
- 260000.07 FIRE PULL STATION

ROOM NAME  
[ ]

ROOM TAG:  
"ROOM NAME"  
"ROOM NUMBER"  
"ROOM TYPE"

NOTE:  
REFER TO ROOM TAG FOR  
TYPICAL ROOM TYPE  
DESIGNATIONS LOCATED ON  
SHEETS A6'S.

DOOR LAYOUT; TYPICAL UNLESS NOTED OTHERWISE

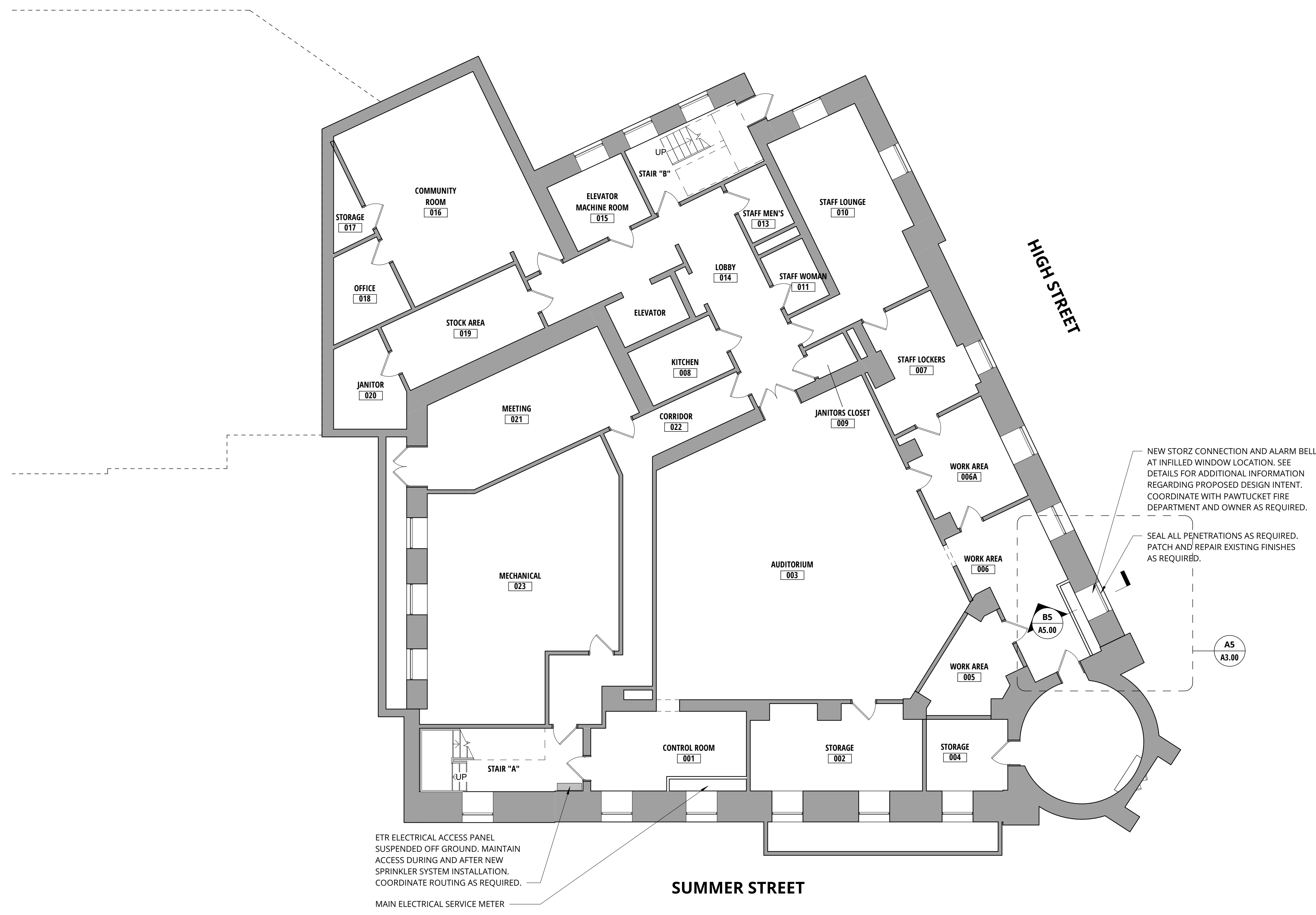


- GENERAL NOTES:
- ALL EXPOSED NEW SPRINKLER PIPING TO BE PAINTED. COLOR TO BE SELECTED BY OWNER / ARCHITECT.
  - ALL GWB AND CEILING SURFACES IMPACTED BY NEW SPRINKLER SERVICE INSTALLATION TO BE PATCHED / REPAIRED IN KIND AS REQUIRED. PAINT IMPACTED WALL AREAS IN FULL. COLOR TO BE SELECTED BY OWNER / ARCHITECT.

NEW STORZ CONNECTION AND ALARM BELL AT INFILLED WINDOW LOCATION. SEE DETAILS FOR ADDITIONAL INFORMATION REGARDING PROPOSED DESIGN INTENT. COORDINATE WITH PAWTUCKET FIRE DEPARTMENT AND OWNER AS REQUIRED.



A1 PARTIAL EAST FACADE VIEW



A5 BASEMENT FLOOR PLAN - PROPOSED Scale: 1/8" = 1'-0"

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BASEMENT FLOOR PLAN

01/20/2023

# A1.00





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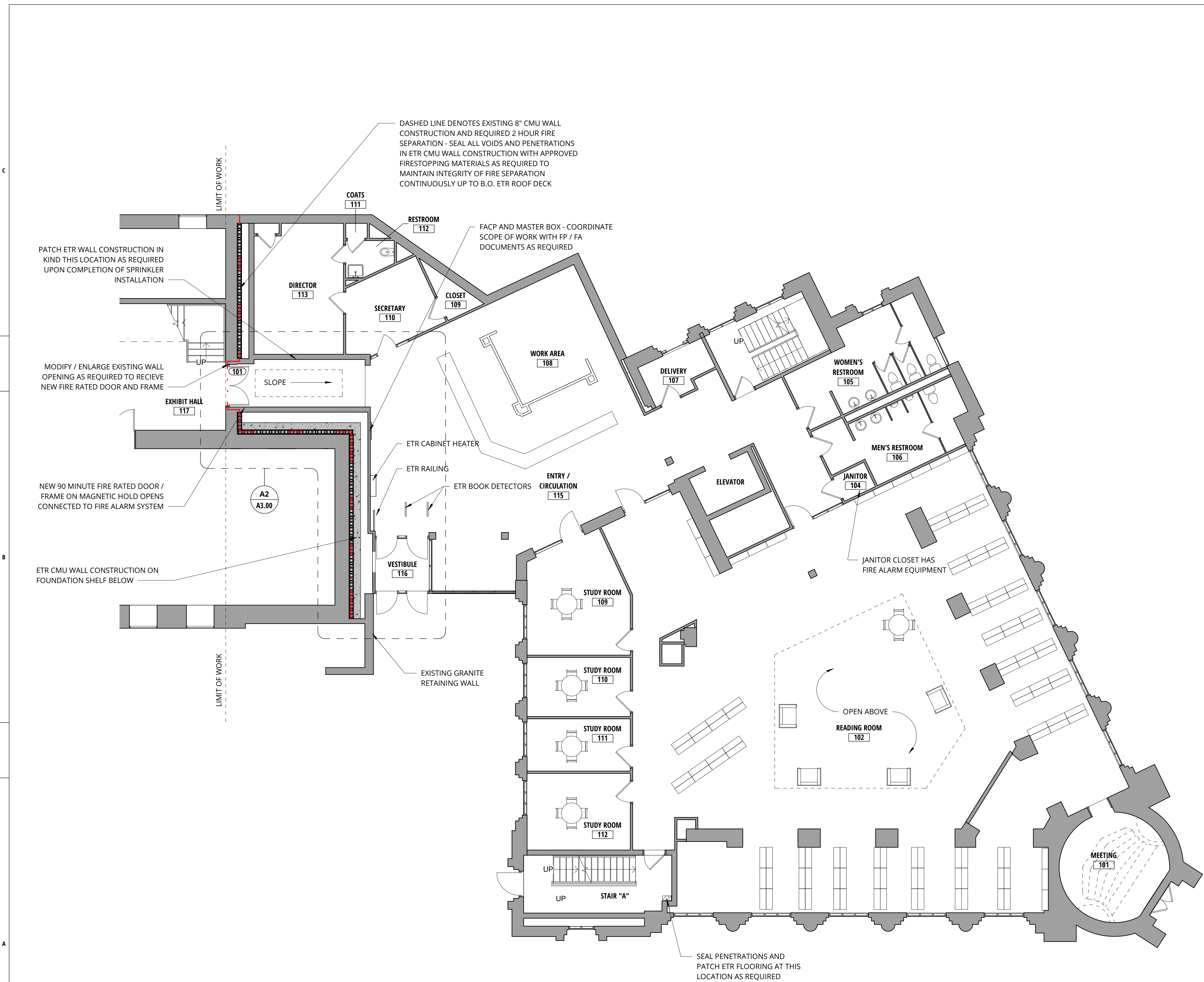
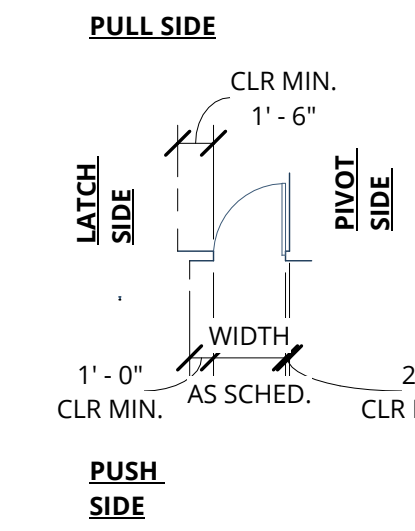
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FIRST FLOOR PLAN

01/20/2023

# A1.01



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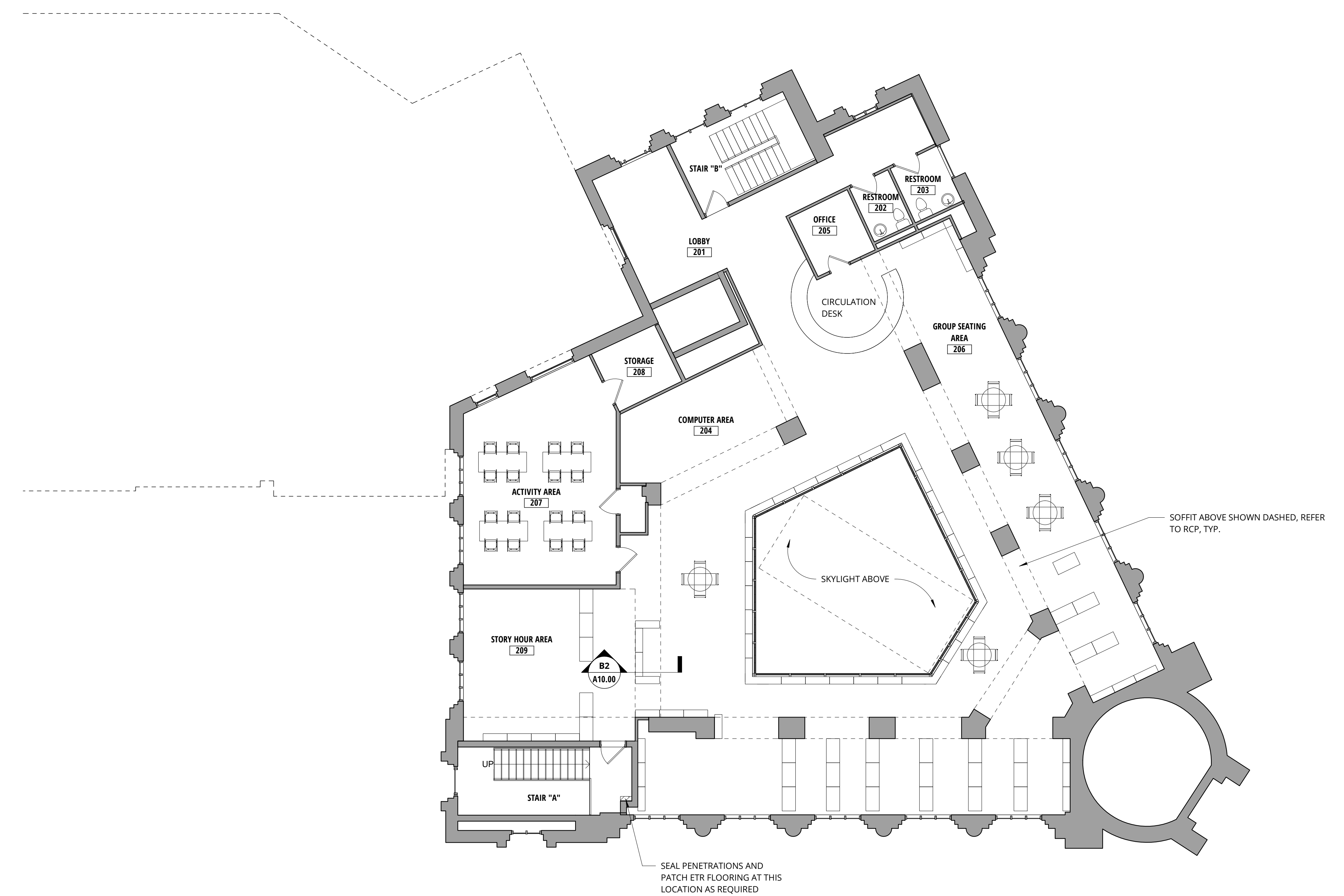
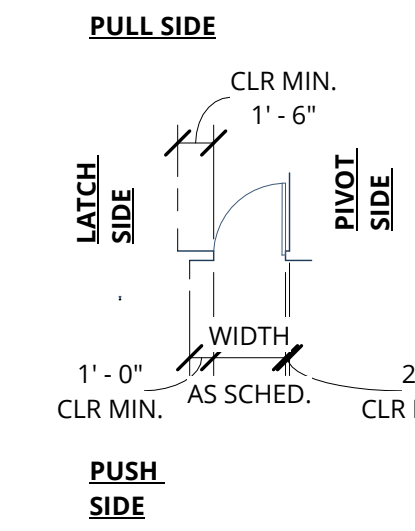
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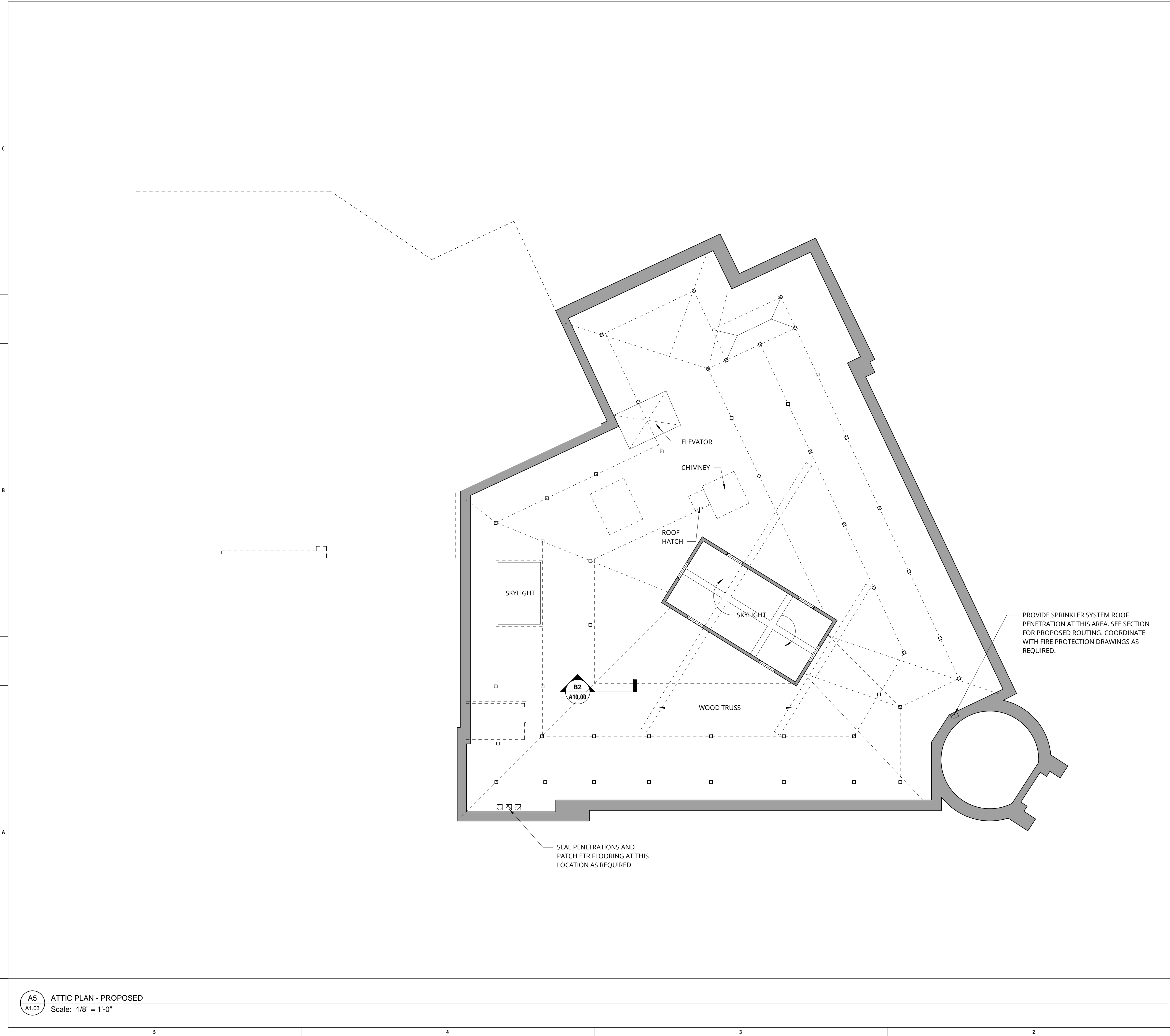
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SECOND FLOOR PLAN

01/20/2023

# A1.02

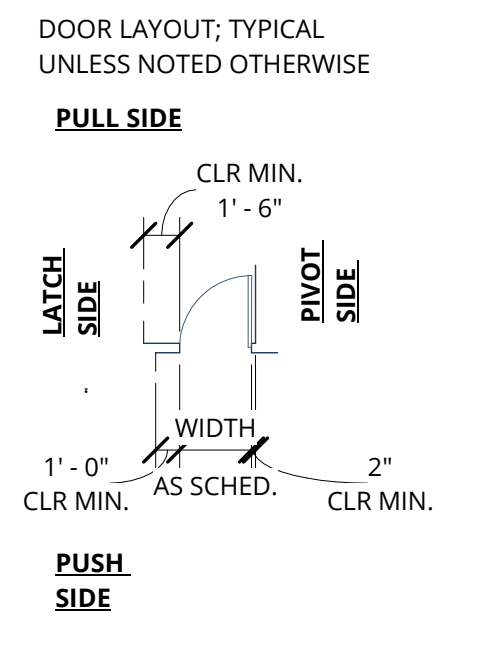


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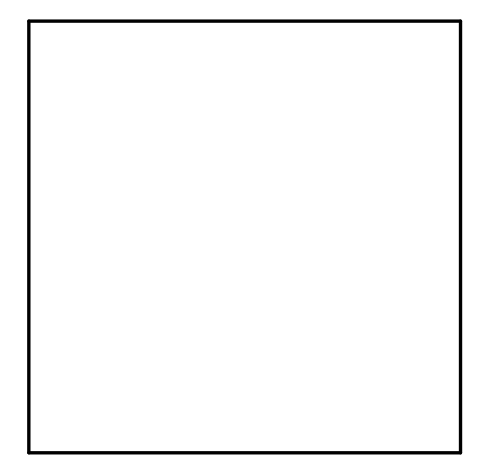
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**A1.03**





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BASEMENT REFLECTED CEILING  
PLAN

01/20/2023

**A2.00**

**RCP GENERAL NOTES**

1. CENTER DEVICES IN 2X2 CEILING TILES WHEN PHYSICALLY FEASIBLE TO DO SO.
2. ANY EXPOSED GWB SOFFITS OR CEILINGS IMPACTED BY NEW SPRINKLER SYSTEM INSTALLATION TO BE PATCHED / REPAIRED IN KIND. AFFECTED SURFACES TO BE PRIMED (2 COATS) AND PAINTED (2 COATS) TO MATCH EXISTING IN FULL TO THE NEAREST EXISTING BREAKS OR SURFACE TRANSITIONS.
3. NEW SUSPENDED ACOUSTICAL TILE CEILING SYSTEM TO BE INSTALLED TO MATCH EXISTING HEIGHT AND ALIGNMENT OF FORMER CEILING SYSTEM THROUGHOUT.
4. EXISTING LIGHTING AND OTHER CEILING MOUNTED LIGHTING AND EQUIPMENT TO BE REINSTALLED IN NEW GRID SYSTEM AT FORMER LOCATIONS.

**RCP GRAPHICS KEY**

- 
- 
- 
- 
- 
- 

**CEILING TYPES KEY**

- 
- 
- 



SEAL FLOOR PENETRATION ABOVE ELECTRICAL JUNCTION BOX AND PATCH REPAIR FINISHES AS REQUIRED FOR SPRINKLER RISER THIS LOCATION. COORDINATE WITH FIRE PROTECTION DRAWINGS.





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FIRST FLOOR REFLECTED CEILING  
PLAN

01/20/2023

**A2.01**

**RCP GENERAL NOTES**

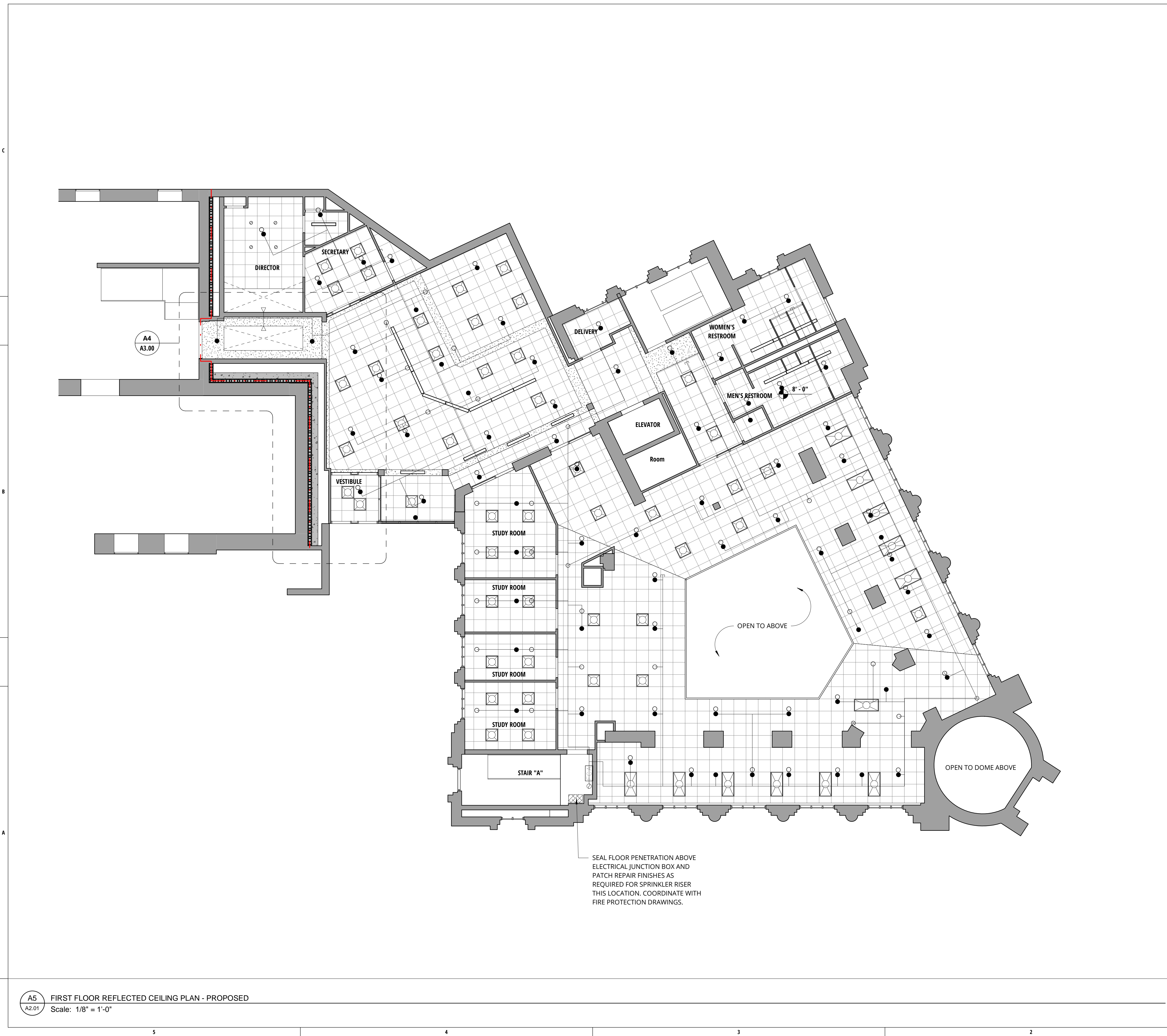
1. CENTER DEVICES IN 2X2 CEILING TILES WHEN PHYSICALLY FEASIBLE TO DO SO.
2. ANY EXPOSED GWB SOFFITS OR CEILINGS IMPACTED BY NEW SPRINKLER SYSTEM INSTALLATION TO BE PATCHED / REPAIRED IN KIND. AFFECTED SURFACES TO BE PRIMED (2 COATS) AND PAINTED (2 COATS) TO MATCH EXISTING IN FULL TO THE NEAREST EXISTING BREAKS OR SURFACE TRANSITIONS.
3. NEW SUSPENDED ACOUSTICAL TILE CEILING SYSTEM TO BE INSTALLED TO MATCH EXISTING HEIGHT AND ALIGNMENT OF FORMER CEILING SYSTEM THROUGHOUT.
4. EXISTING LIGHTING AND OTHER CEILING MOUNTED LIGHTING AND EQUIPMENT TO BE REINSTALLED IN NEW GRID SYSTEM AT FORMER LOCATIONS.

**RCP GRAPHICS KEY**

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**CEILING TYPES KEY**

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**A5**  
A2.01 FIRST FLOOR REFLECTED CEILING PLAN - PROPOSED  
Scale: 1/8" = 1'-0"





NEW SPRINKLER HEADS (TYP OF 4) AT DOME CEILING. COVERS TO BE FACTORY PAINTED TO MATCH ETR CEILING COORDINATE WITH FIRE PROTECTION DOCUMENTS AS REQUIRED.



PROVIDE NEW PENETRATION THROUGH EXISTING COPPER ROOF ASSEMBLY ABOVE DOME CEILING LEVEL. FLASH AND SEAL PENETRATION AS REQUIRED - REFER TO TYPICAL DETAIL FOR ADDITIONAL INFORMATION. COORDINATE WITH FIRE PROTECTION DOCUMENTS AS REQUIRED

PIPING TO BE PAINTED TO MATCH ADJACENT

RUN STRAIGHT UP ALONGSIDE DOME TO HEIGHT ABOVE CEILING LEVEL

JOG AROUND TOP OF ORNAMENTAL GUTTER TO GET CLOSER TO DOME

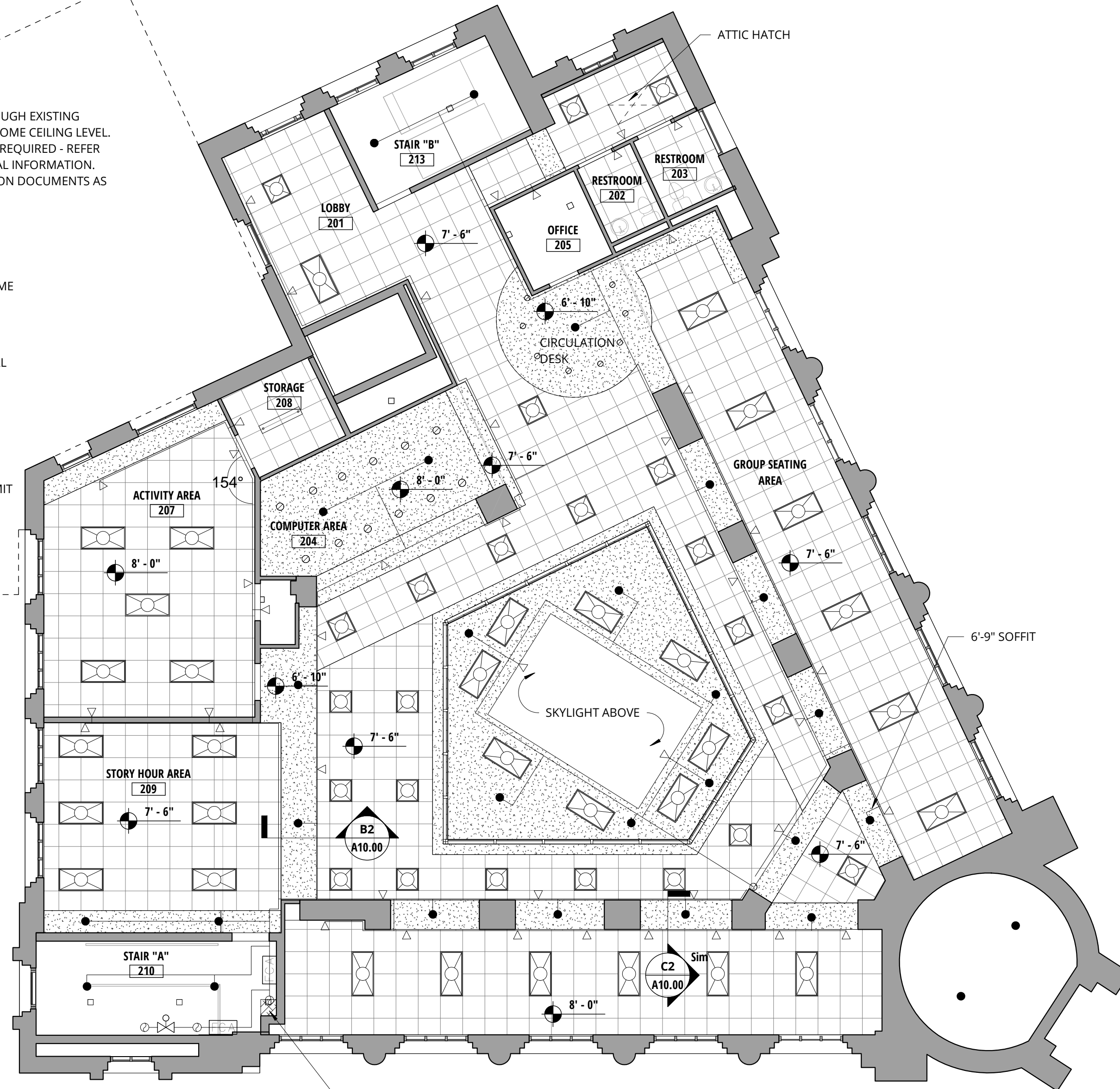
RUN STRAIGHT UP IN LINE WITH PILLAR BETWEEN WINDOWS TO LIMIT VISIBILITY

TIE NEW SPRINKLER PIPE BACK TO EXISTING PILLAR AS REQUIRED



NEW ROOF PENETRATION FROM ATTIC. REMOVE SYNTHETIC ROOFING TILES AT PENETRATION LOCATION FOR INSTALLATION AND PIPE FLASHING INTO EXISTING MEMBRANE ROOFING SYSTEM. LOCATE PENETRATION 8" MIN. ABOVE ADJACENT FLAT ROOF. SEE TYPICAL FLASHING DETAIL FOR ADDITIONAL INFORMATION

SEAL FLOOR PENETRATION ABOVE ELECTRICAL JUNCTION BOX AND PATCH REPAIR FINISHES AS REQUIRED FOR SPRINKLER RISER THIS LOCATION. COORDINATE WITH FIRE PROTECTION DRAWINGS.



**RCP GENERAL NOTES**

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4. EXISTING LIGHTING AND OTHER CEILING MOUNTED LIGHTING AND EQUIPMENT TO BE REINSTALLED IN NEW GRID SYSTEM AT FORMER LOCATIONS.

**RCP GRAPHICS KEY**

- 24" X 48" RECESSED FIXTURE
- 24" X 24" RECESSED FIXTURE
- SUSPENDED LINEAR FIXTURE
- CEILING MOUNTED LINEAR FIXTURE
- RECESSED CAN
- SUPPLY GRILLES

**CEILING TYPES KEY**

- 24" X 24" ACT CEILING
- GYPSUM CEILING
- NO CEILING

A5 A2.02 DOME FP PENETRATIONS AND ROUTING INTENT

A4 A2.02 SECOND FLOOR REFLECTED CEILING PLAN - PROPOSED  
Scale: 1/8" = 1'-0"

A1 A2.02 DOME FP PENETRATIONS



Lerner Ladds Bartels  
Pawtucket, RI  
401.421.7715

Worcester, MA  
508.556.4648

www.LLBarch.com

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**BURNS BUILDING SPRINKLER SYSTEM  
 RENOVATIONS**  
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 PAWTUCKET, RHODE ISLAND, 02860

ISSUED FOR BID  
NOT FOR CONSTRUCTION  
20 JANUARY 2023

SECOND FLOOR REFLECTED  
CEILING PLAN

01/20/2023

**A2.02**





ARCHITECTS

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ATTIC REFLECTED CEILING PLAN

01/20/2023

**A2.03**

**RCP GENERAL NOTES**

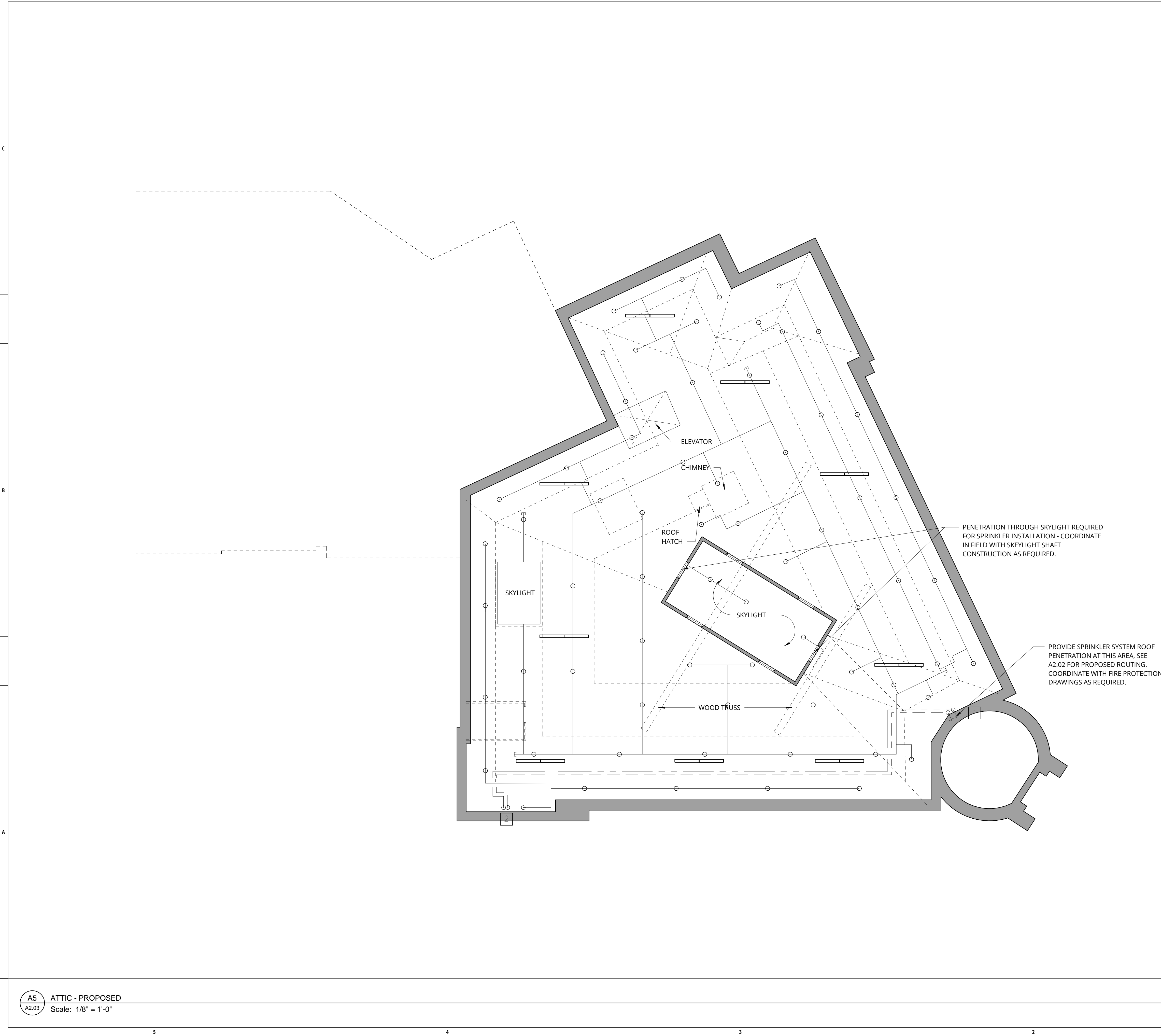
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2. ANY EXPOSED GWB SOFFITS OR CEILINGS IMPACTED BY NEW SPRINKLER SYSTEM INSTALLATION TO BE PATCHED / REPAIRED IN KIND. AFFECTED SURFACES TO BE PRIMED (2 COATS) AND PAINTED (2 COATS) TO MATCH EXISTING IN FULL TO THE NEAREST EXISTING BREAKS OR SURFACE TRANSITIONS.
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4. EXISTING LIGHTING AND OTHER CEILING MOUNTED LIGHTING AND EQUIPMENT TO BE REINSTALLED IN NEW GRID SYSTEM AT FORMER LOCATIONS.

**RCP GRAPHICS KEY**

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**CEILING TYPES KEY**

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A5 ATTIC - PROPOSED  
A2.03 Scale: 1/8" = 1'-0"



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20 JANUARY 2023

ROOF REFLECTED CEILING PLAN -  
PROPOSED

01/19/23

**A2.04**

**RCP GENERAL NOTES**

1. CENTER DEVICES IN 2X2 CEILING TILES WHEN PHYSICALLY FEASIBLE TO DO SO.
2. ANY EXPOSED GWB SOFFITS OR CEILINGS IMPACTED BY NEW SPRINKLER SYSTEM INSTALLATION TO BE PATCHED / REPAIRED IN KIND. AFFECTED SURFACES TO BE PRIMED (2 COATS) AND PAINTED (2 COATS) TO MATCH EXISTING IN FULL TO THE NEAREST EXISTING BREAKS OR SURFACE TRANSITIONS.
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4. EXISTING LIGHTING AND OTHER CEILING MOUNTED LIGHTING AND EQUIPMENT TO BE REINSTALLED IN NEW GRID SYSTEM AT FORMER LOCATIONS.

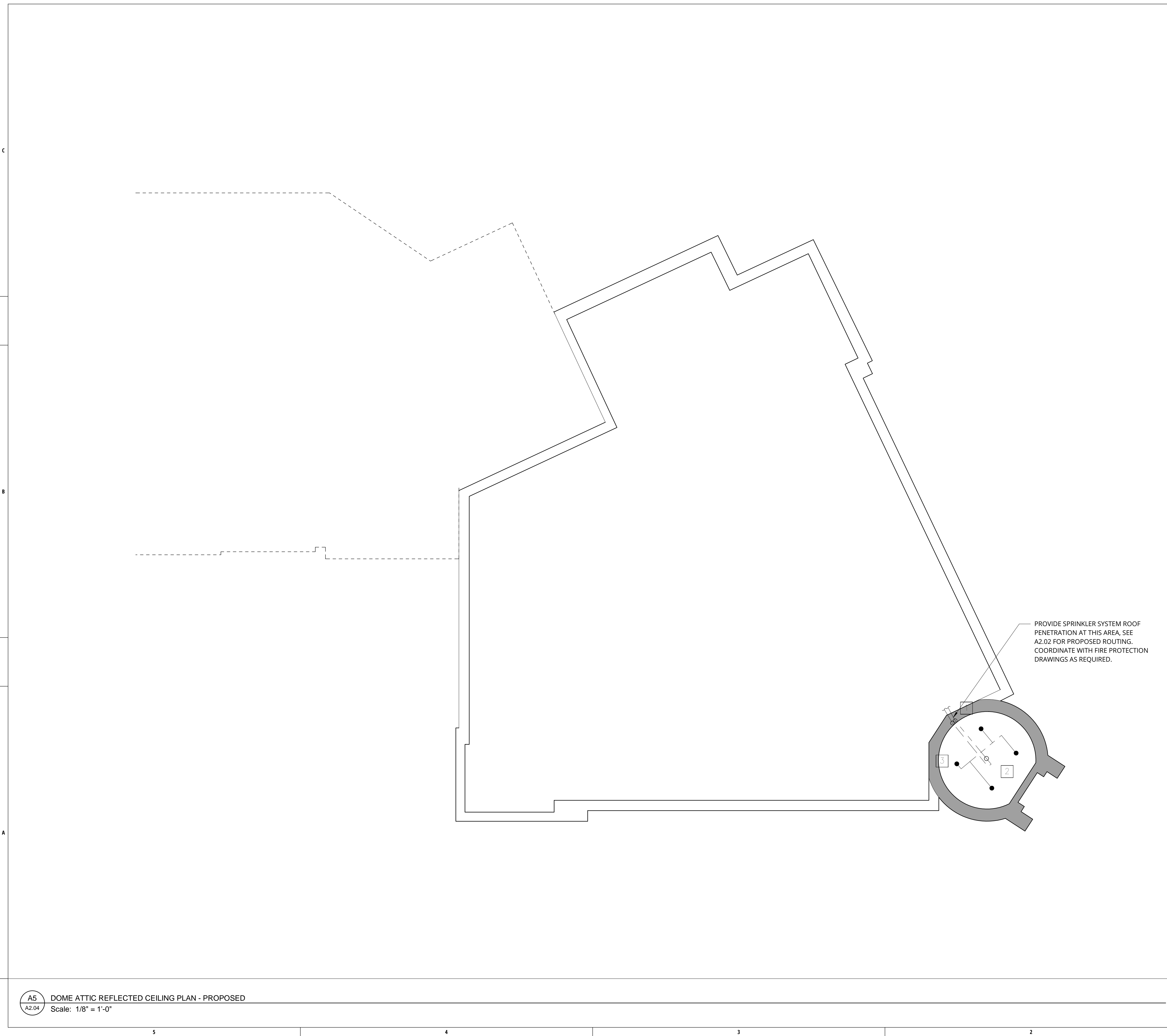
**RCP GRAPHICS KEY**

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**CEILING TYPES KEY**

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PROVIDE SPRINKLER SYSTEM ROOF PENETRATION AT THIS AREA, SEE A2.02 FOR PROPOSED ROUTING. COORDINATE WITH FIRE PROTECTION DRAWINGS AS REQUIRED.



**A5** DOME ATTIC REFLECTED CEILING PLAN - PROPOSED  
A2.04 Scale: 1/8" = 1'-0"

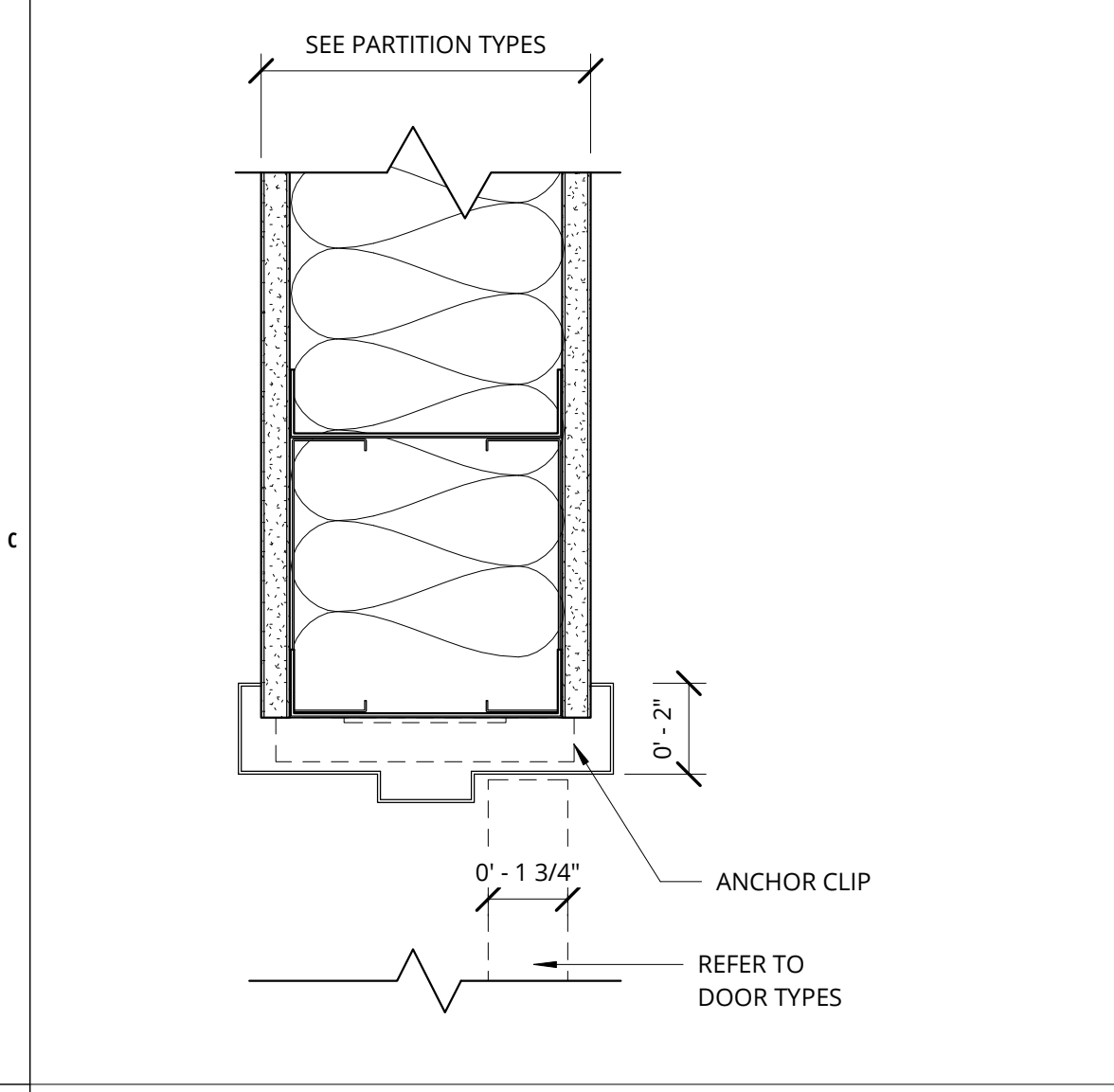
Door Definitions							
Mark	Width	Height	To Room: Number	From Room: Number	To Room: Name	From Room: Name	Fire Rating
<b>FIRST FLOOR DEMOLITION REFLECTED CEILING PLAN</b>							
101	6'-0"	7'-0"	117	115	EXHIBIT HALL	ENTRY / CIRCULATION	90 MINUTE

**BASIS OF DESIGN MANUFACTURERS**  
 1. Amweld Building Products, Inc., (A Division of Amweld International, LLC), Coppell TX.  
 2. Ceco Door Products (A Division of Assa Abloy Group Company), Milan TN.  
 3. Curries Company A Division of Assa Abloy Group Company), Mason City

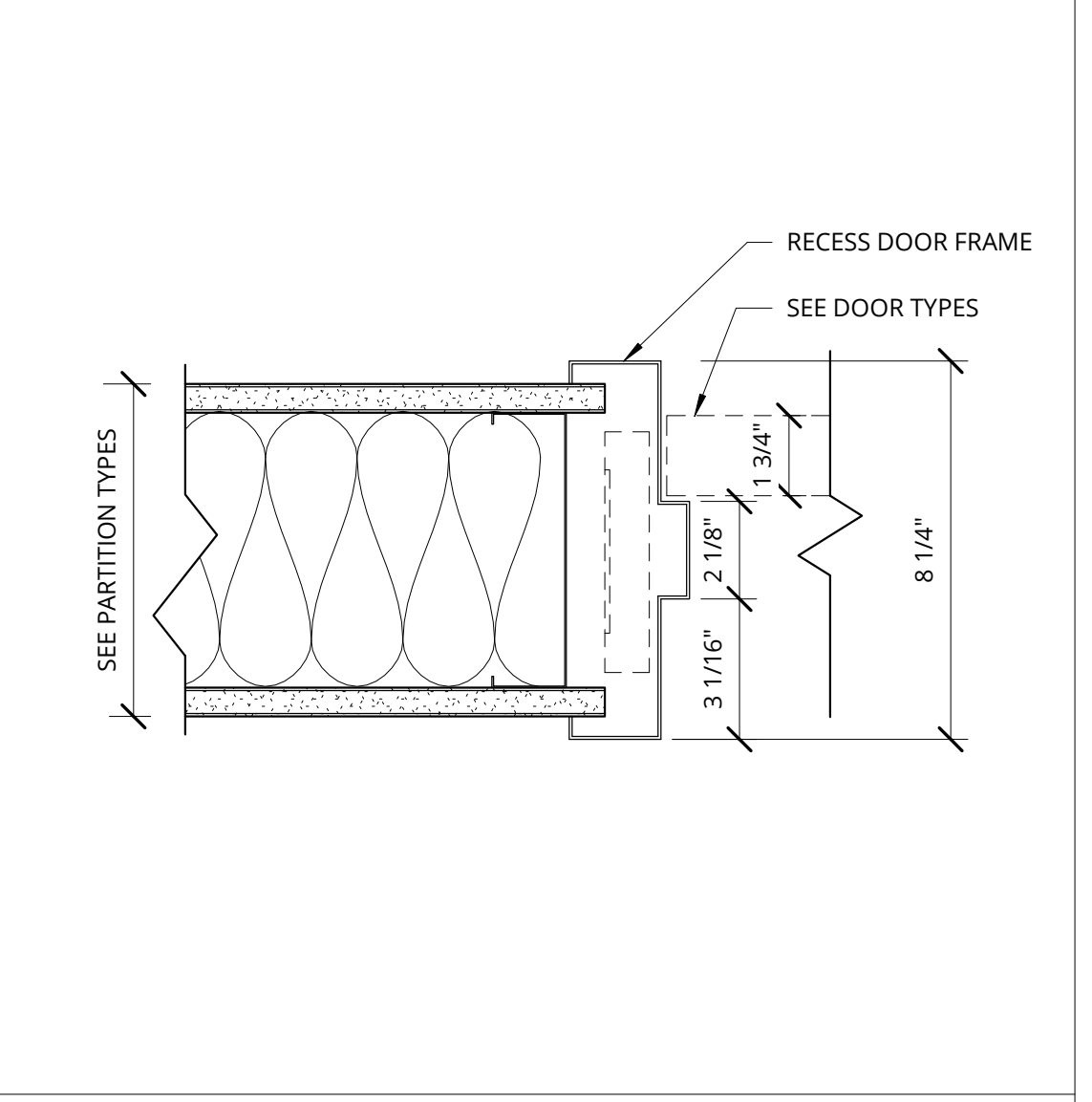
**INTERIOR DOORS**  
 1-3/4 inch thick (44.4 mm); ANSI 250.8, Level 2, Model 1 (Full Flush), ANSI A250.4 Physical Performance Level B, (Heavy Duty) having 18-gage, minimum 0.042 inch (1.0 mm) steel faces, with a minimum STC rating of 52.  
 1. Fire-rated doors: Modify specified construction to meet all construction requirements required for fire-resistive rating.  
 a. Affix appropriate UL, FM or Warnock Hersey labels to each rated door, indicating applicable rating

**HOLLOW METAL FRAME**  
 1. Fire-rated frame assemblies: Modify specified construction to meet all construction requirements required for fire-resistive rating.  
 a. Affix appropriate UL, FM or Warnock Hersey labels to each rated frame assembly, indicating applicable rating.

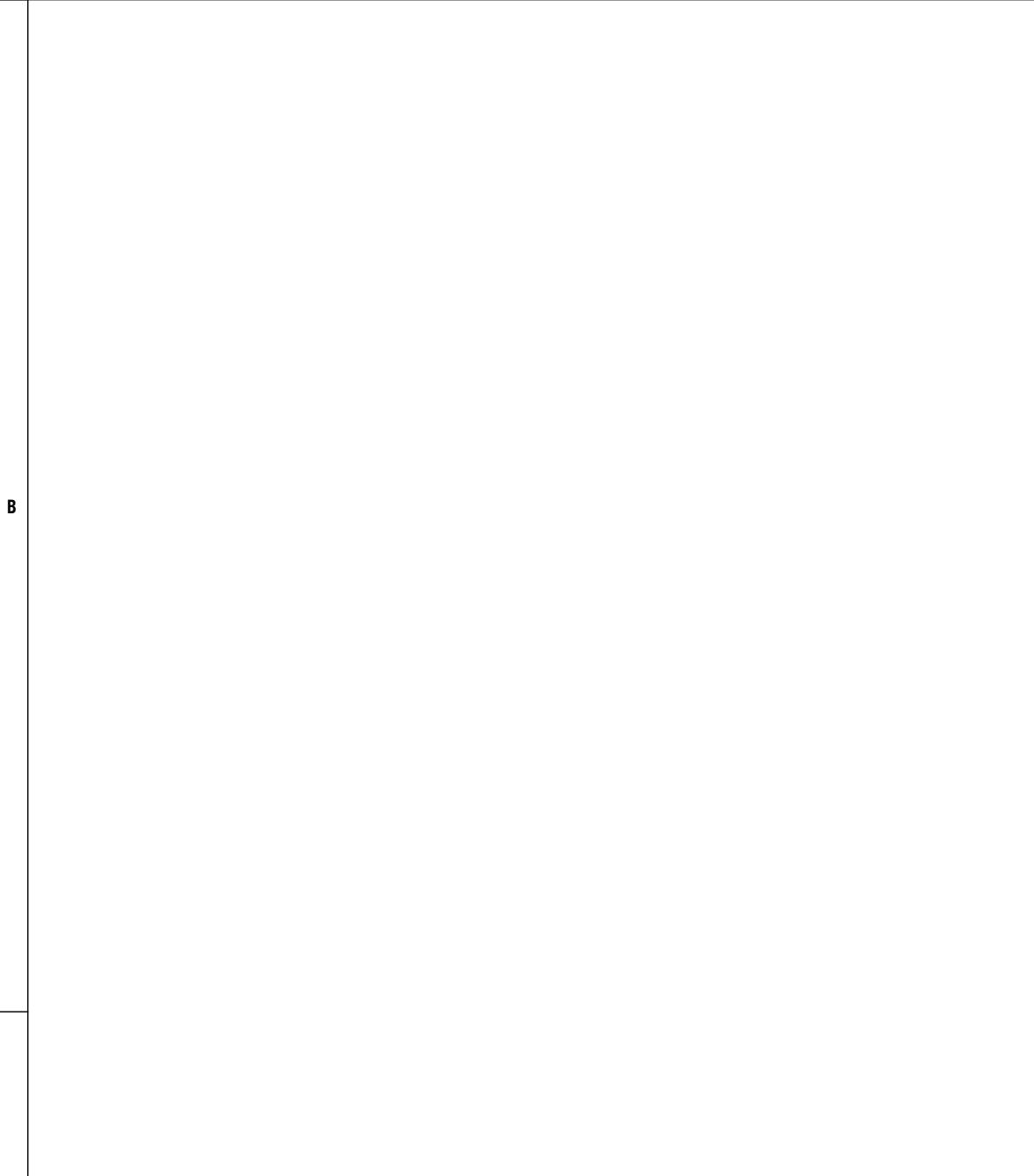
QTY	DESCRIPTION	CATALOG NUMBER	MFR
4 EA	INVISIBLE HINGE	220H	IVES HINGES
2 EA	INVISIBLE POWER TRANSFER	220PT	SOSS
2 EA	ELECTRIC FIRE EXIT HARDWARE	RX-9927-E996-L-F-LBR	VON DUPRIN
2 EA	SURFACE CLOSER	4111 EDA	LCN
4 EA	KICK PLATE	8400 10" X 1" LDW B-CS	IVES HINGES
2 EA	FIRE/LIFE WALL MAG	SEM7800 SERIES AS REQUIRED	LCN
1 EA	POWER SUPPLY	P5902 900-FA	SCHLAGE
1 EA	ASTRAGAL	328 X 2 PC	ZERO INTERNATIONAL
1 EA	GASKETING	4885	ZERO INTERNATIONAL



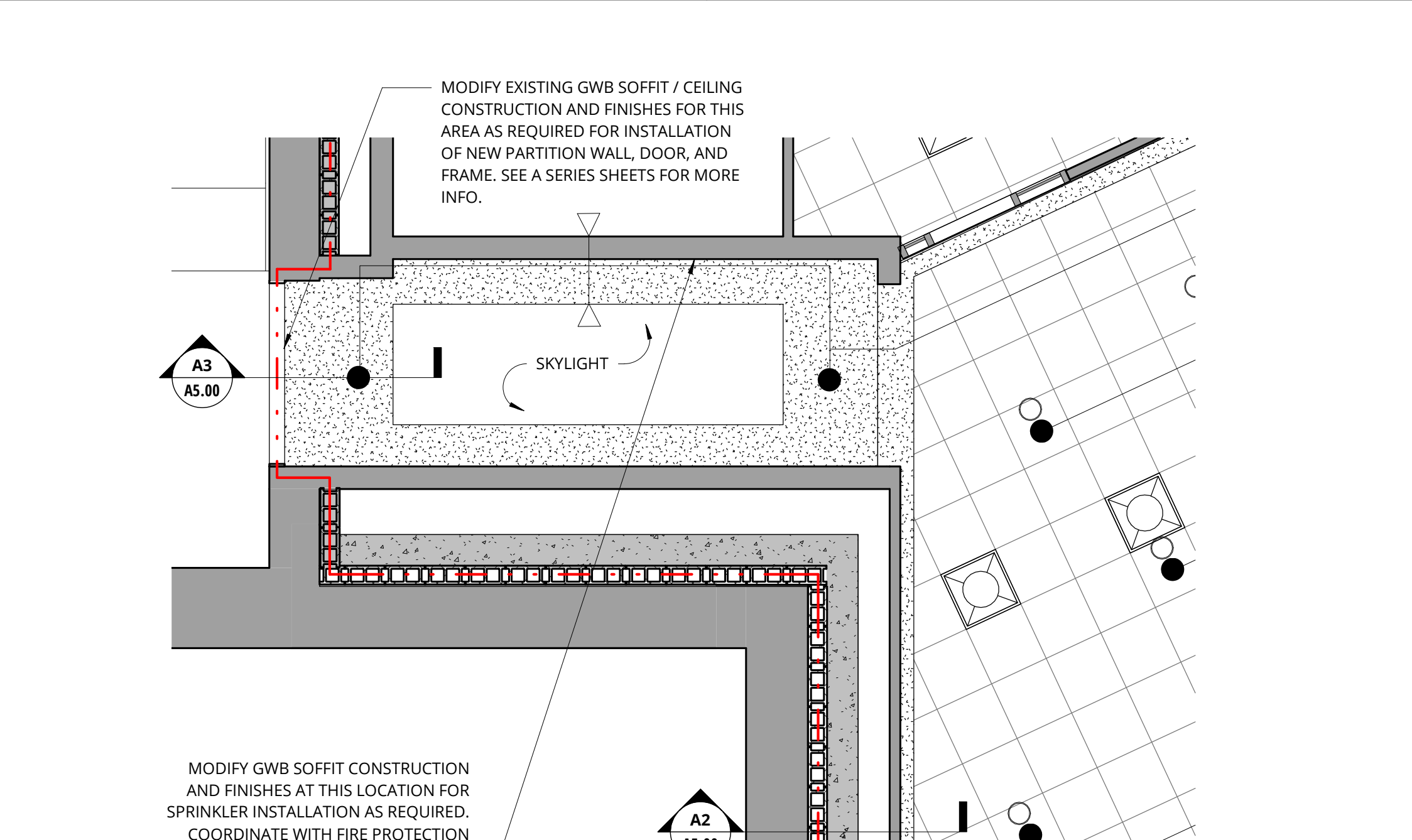
**C5**  
A3.00  
**HEAD DETAIL**  
Scale: 3" = 1'-0"



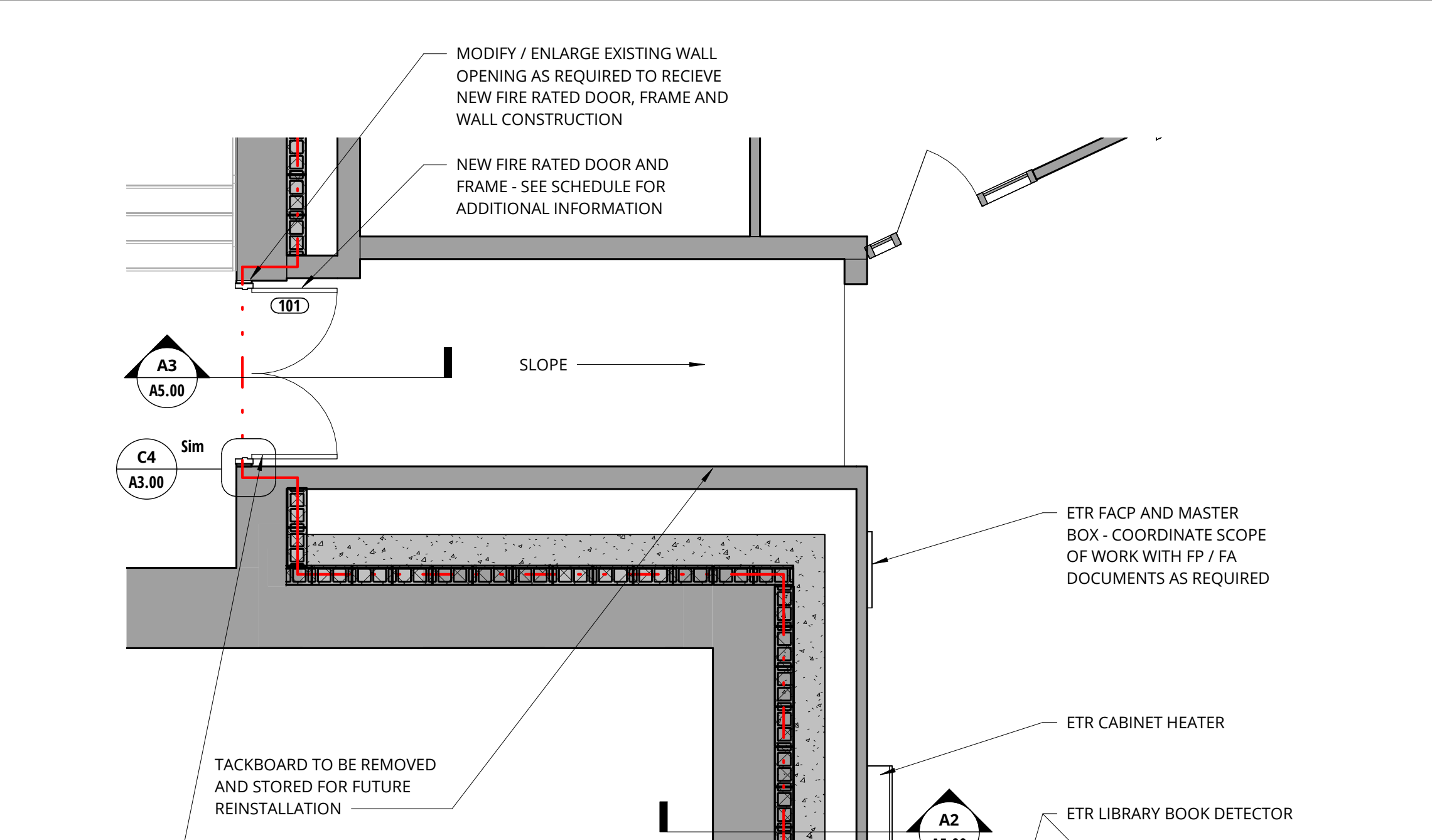
**C4**  
A3.00  
**JAMB DETAIL**  
Scale: 3" = 1'-0"



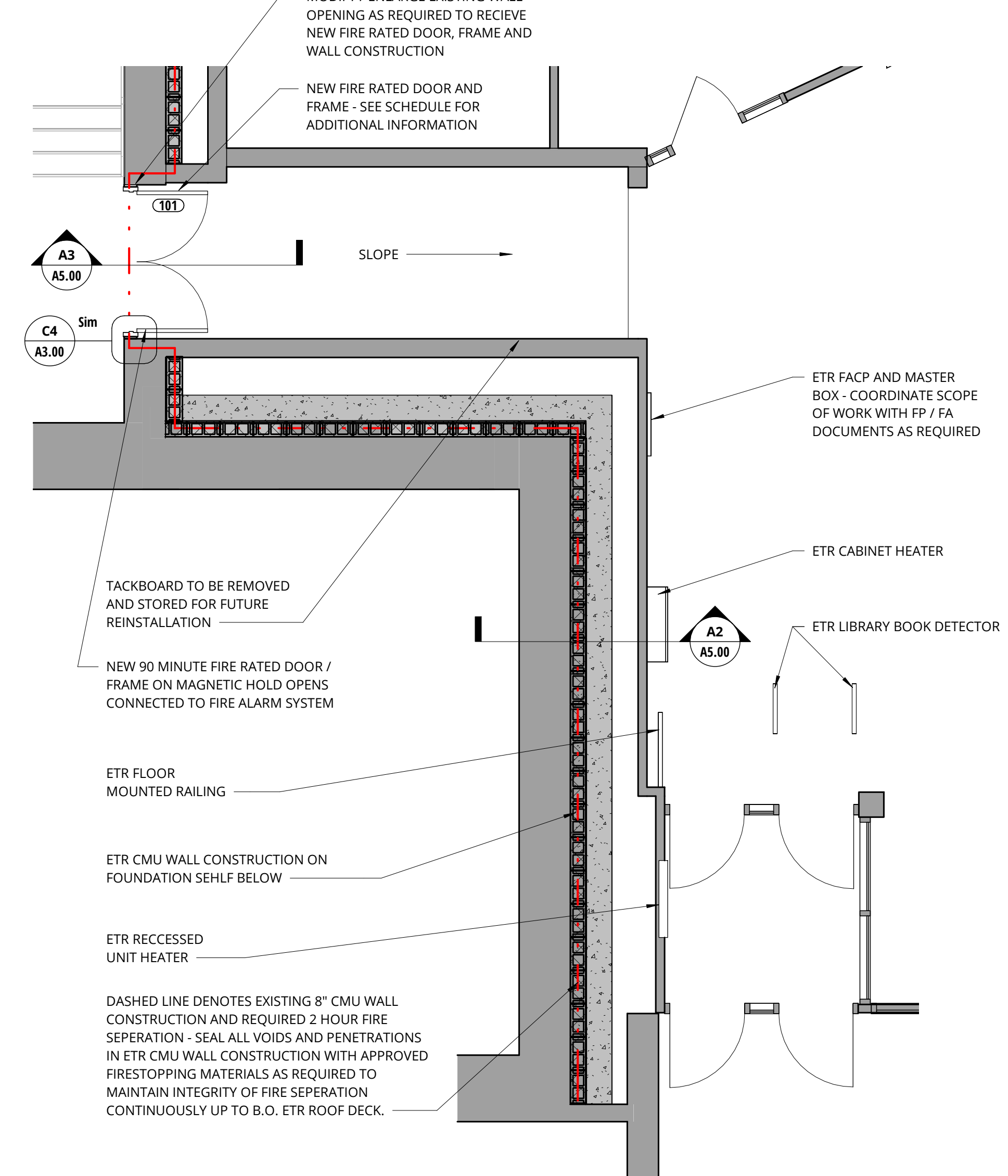
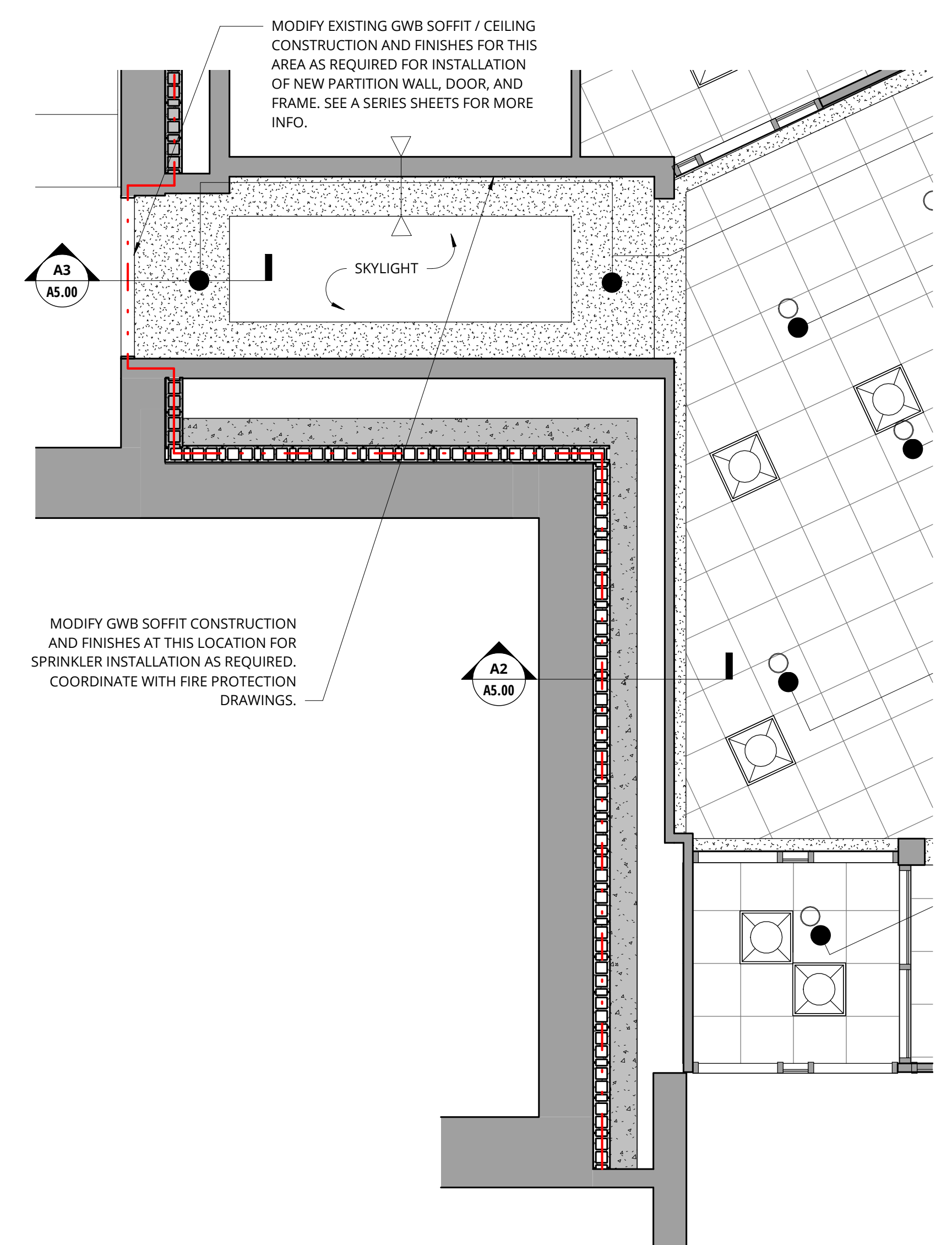
**A5**  
A3.00  
**PROPOSED MASONRY INFILL OPENING**  
Scale: 1/4" = 1'-0"



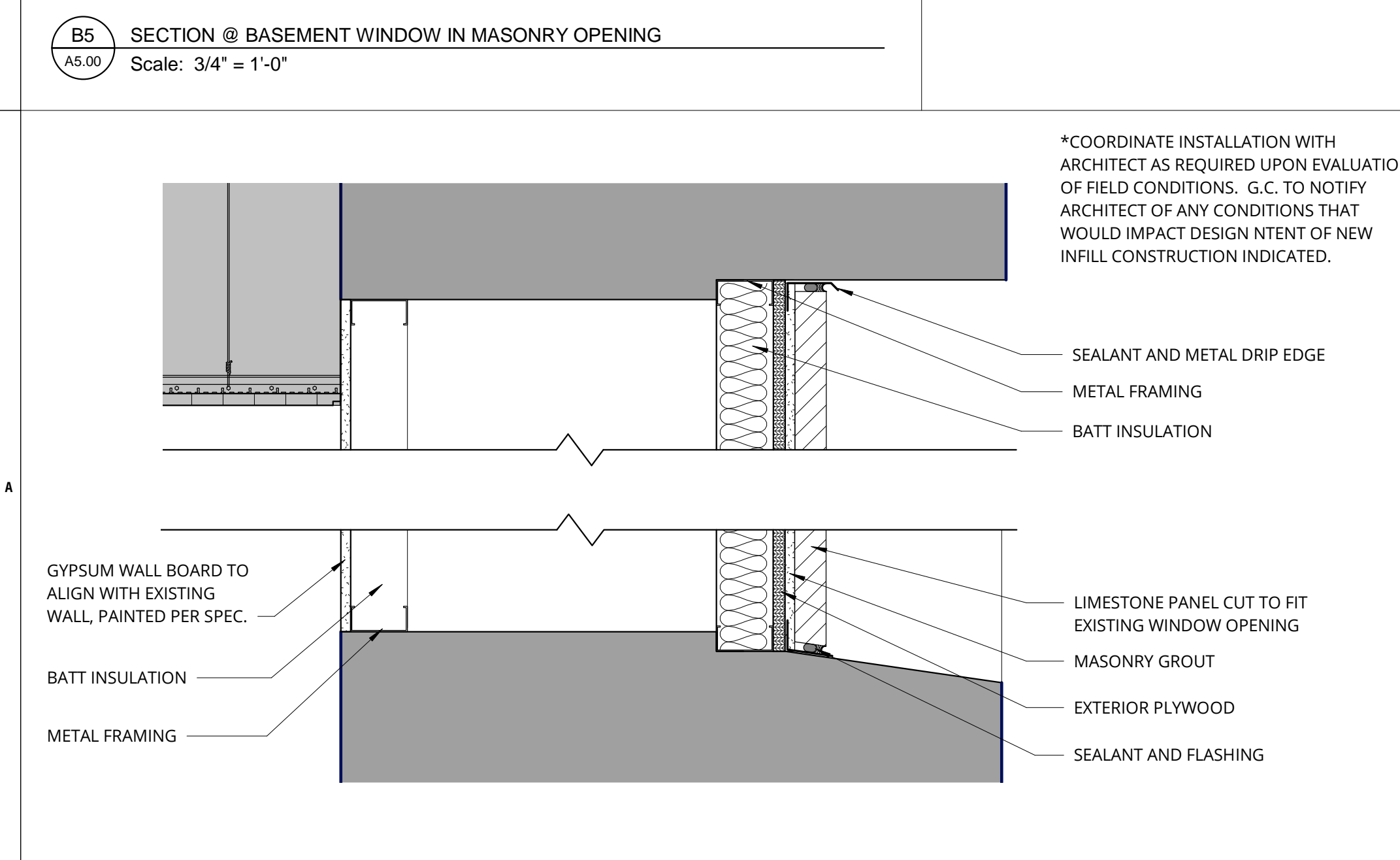
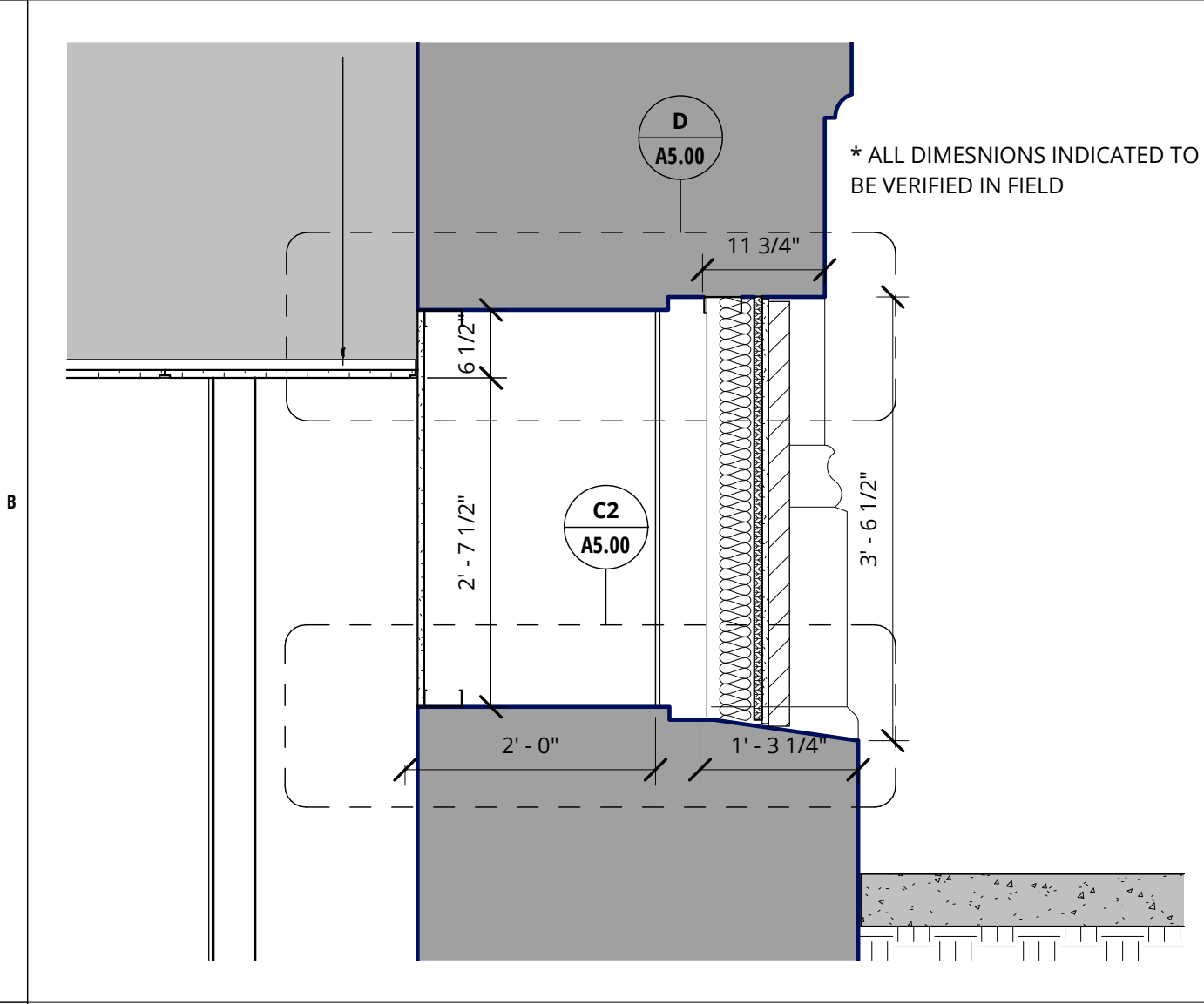
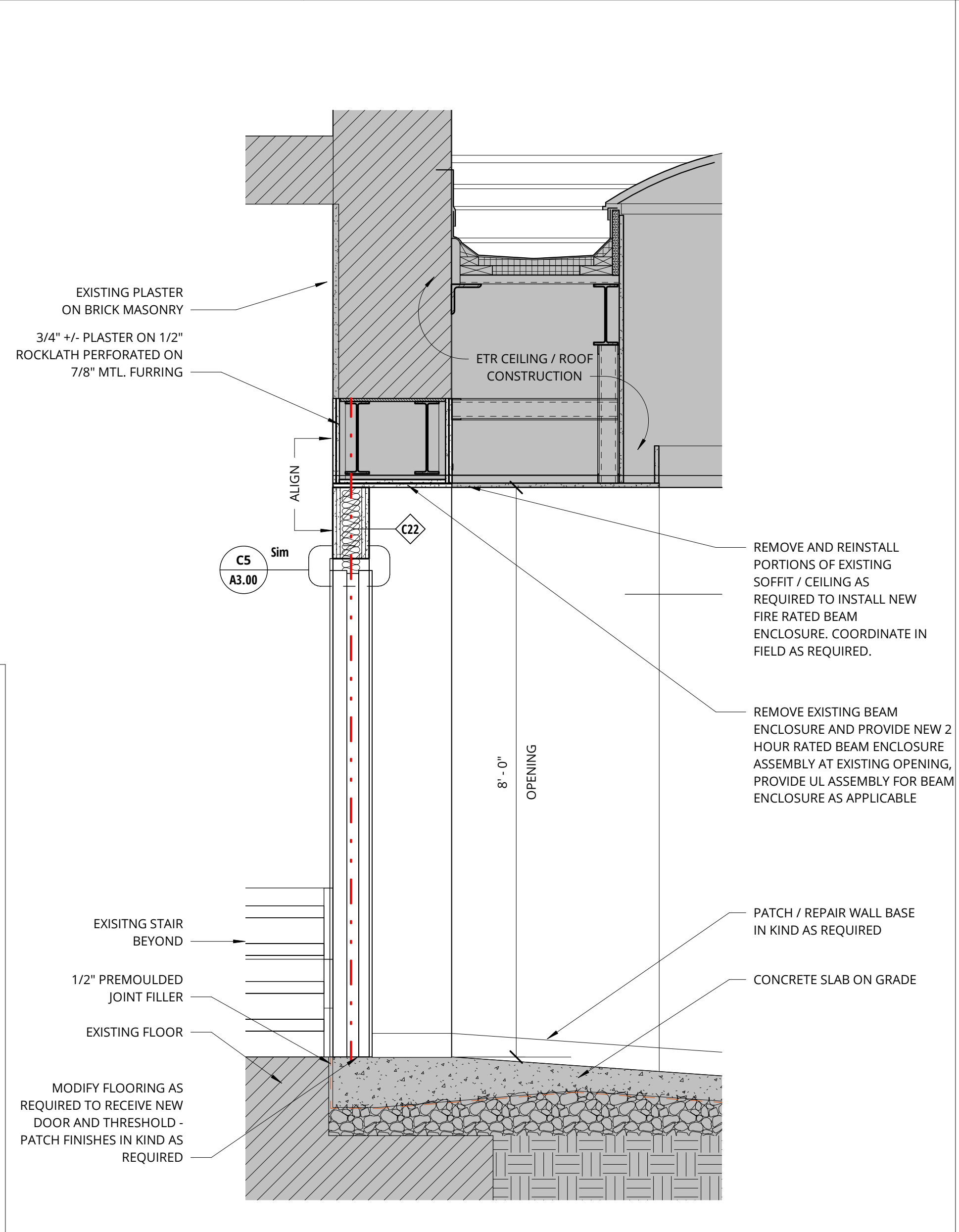
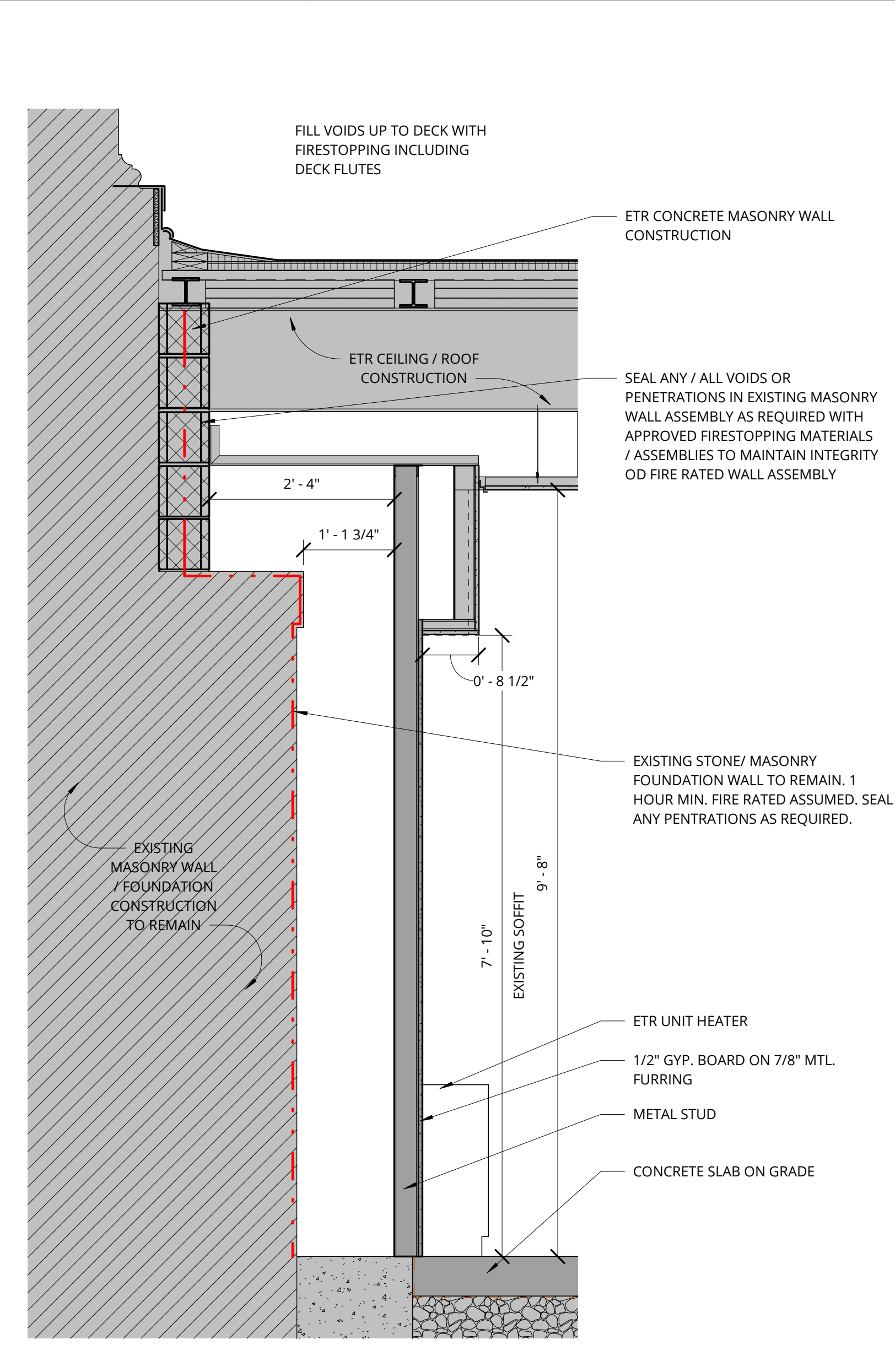
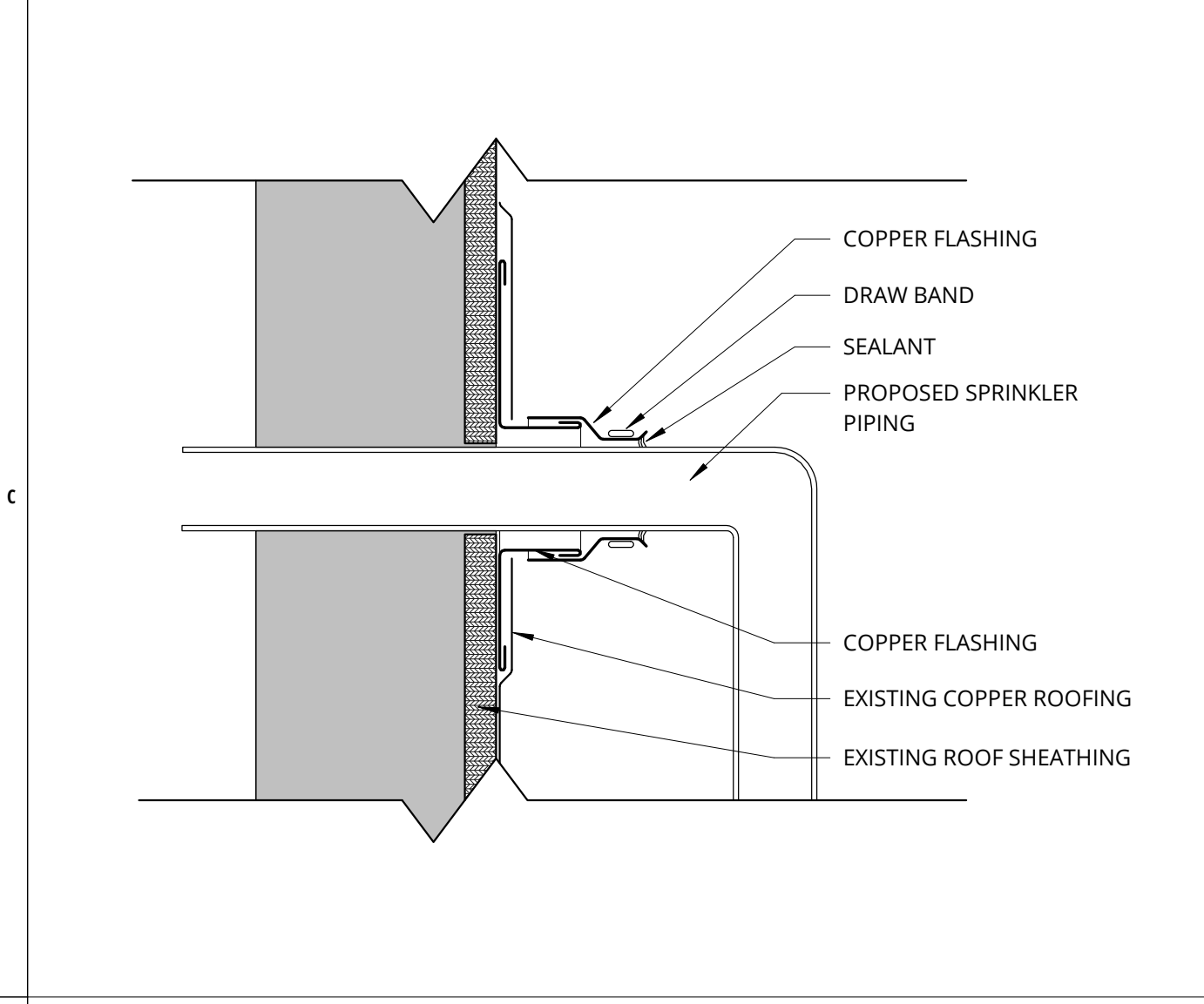
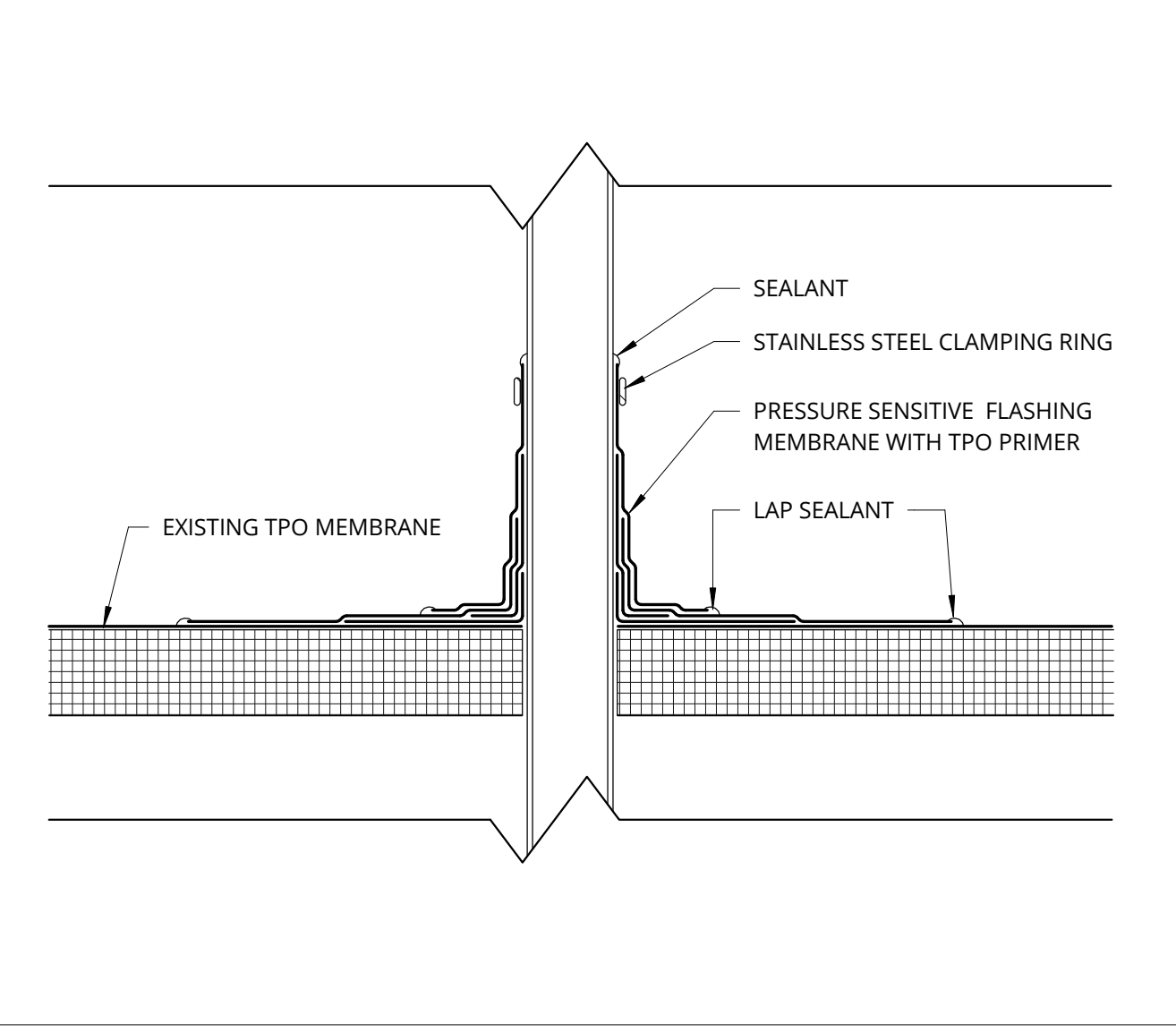
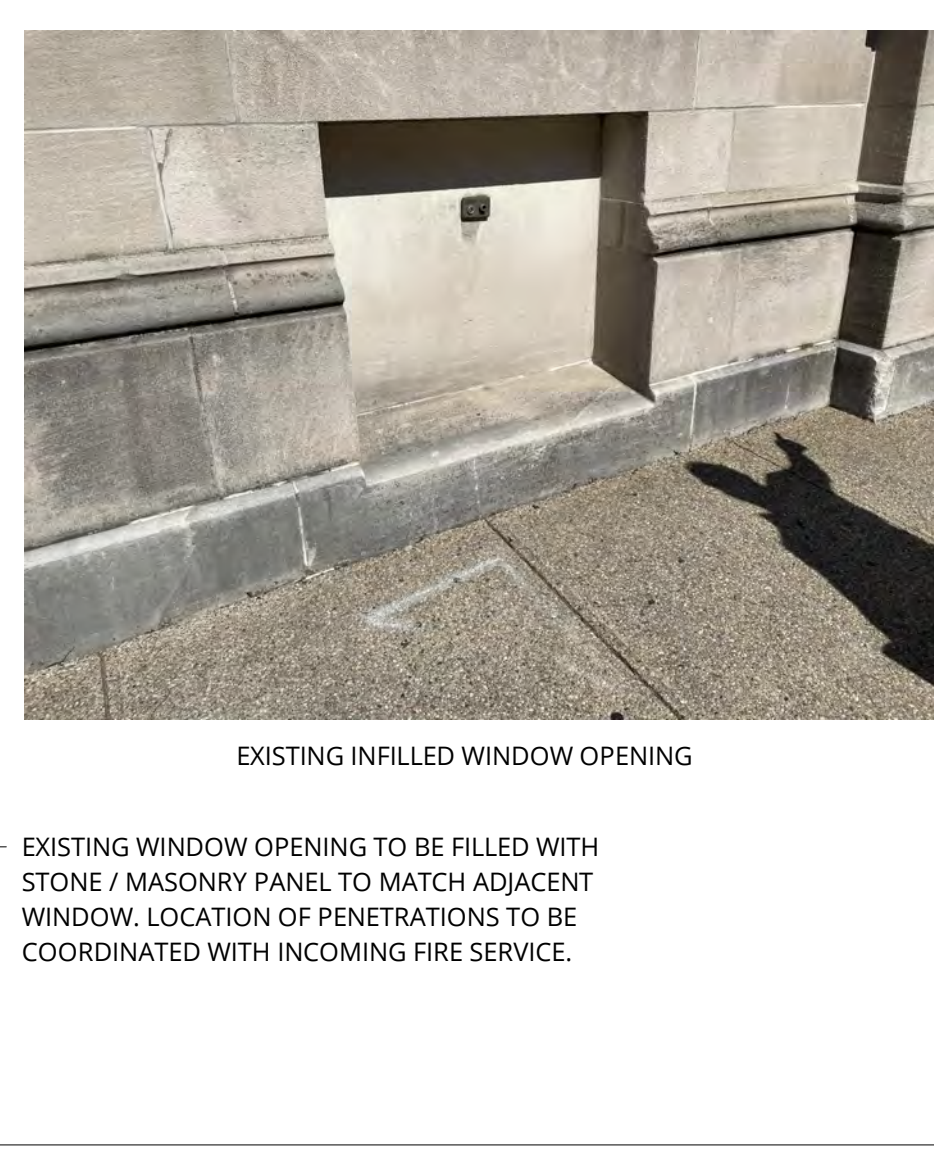
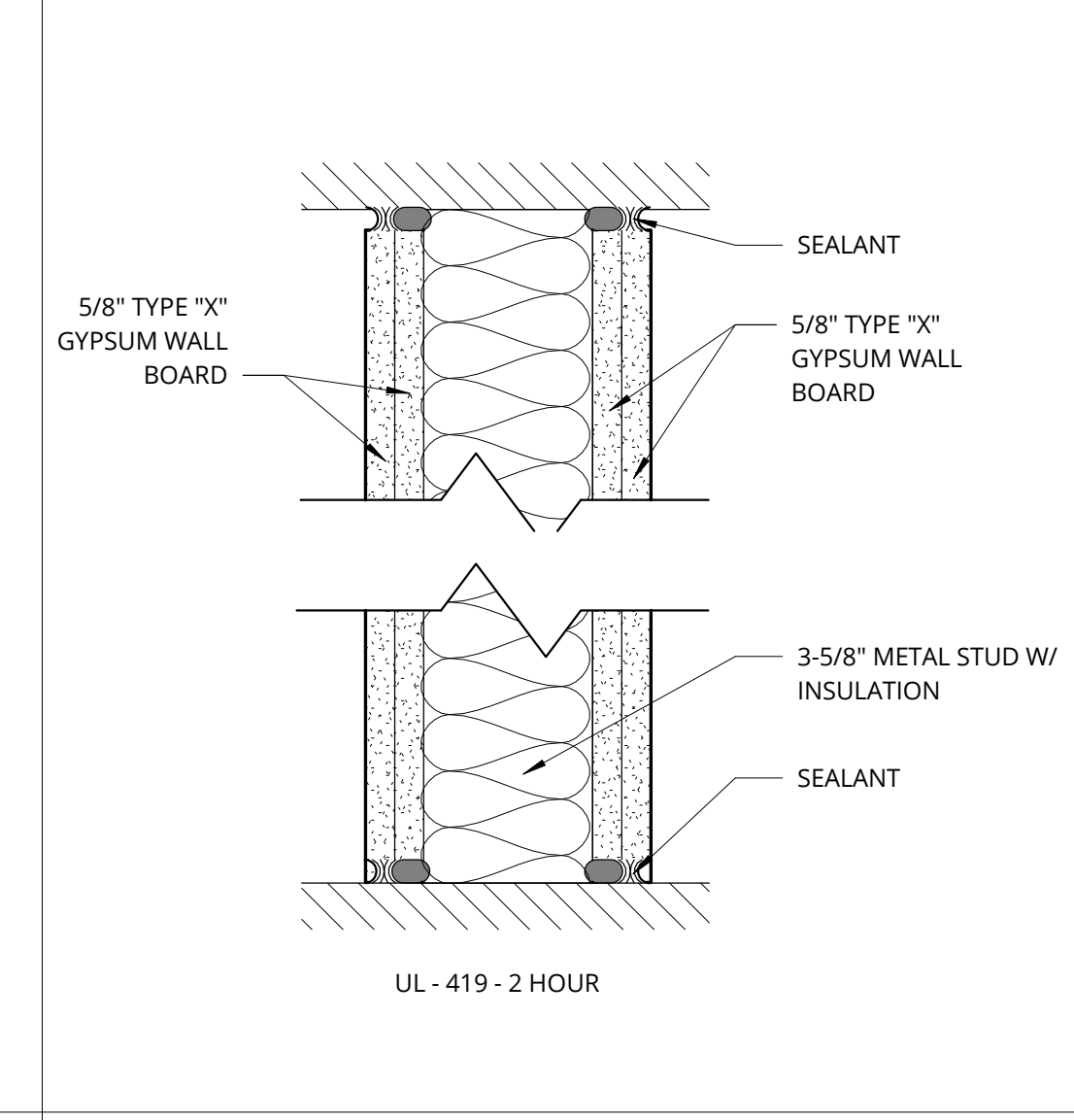
**A4**  
A3.00  
**ENLARGED PLAN - MAIN ENTRY REFLECTED CEILING PLAN**  
Scale: 1/4" = 1'-0"



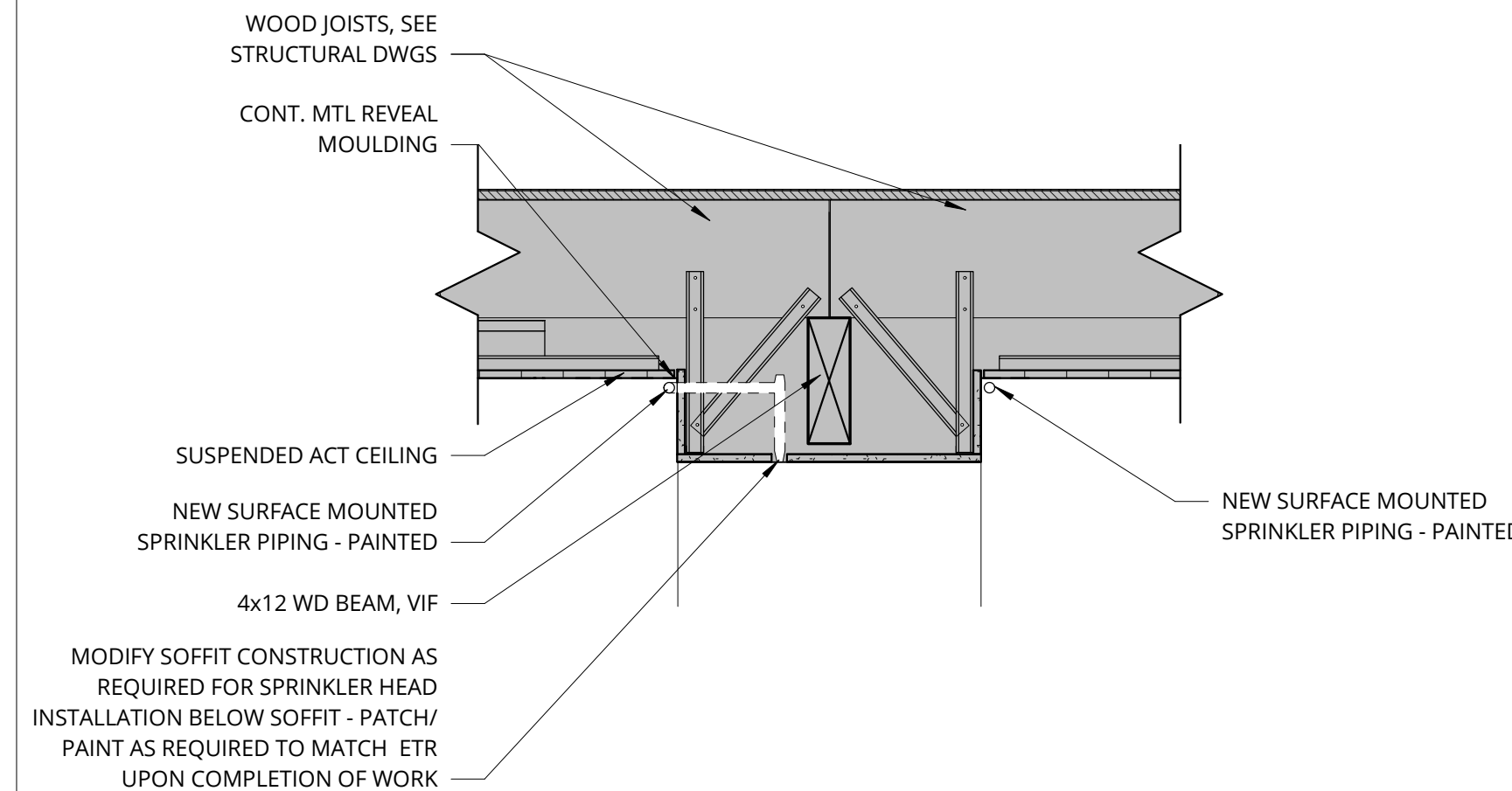
**A2**  
A3.00  
**ENLARGED PLAN - MAIN ENTRY AND RAMP**  
Scale: 1/4" = 1'-0"



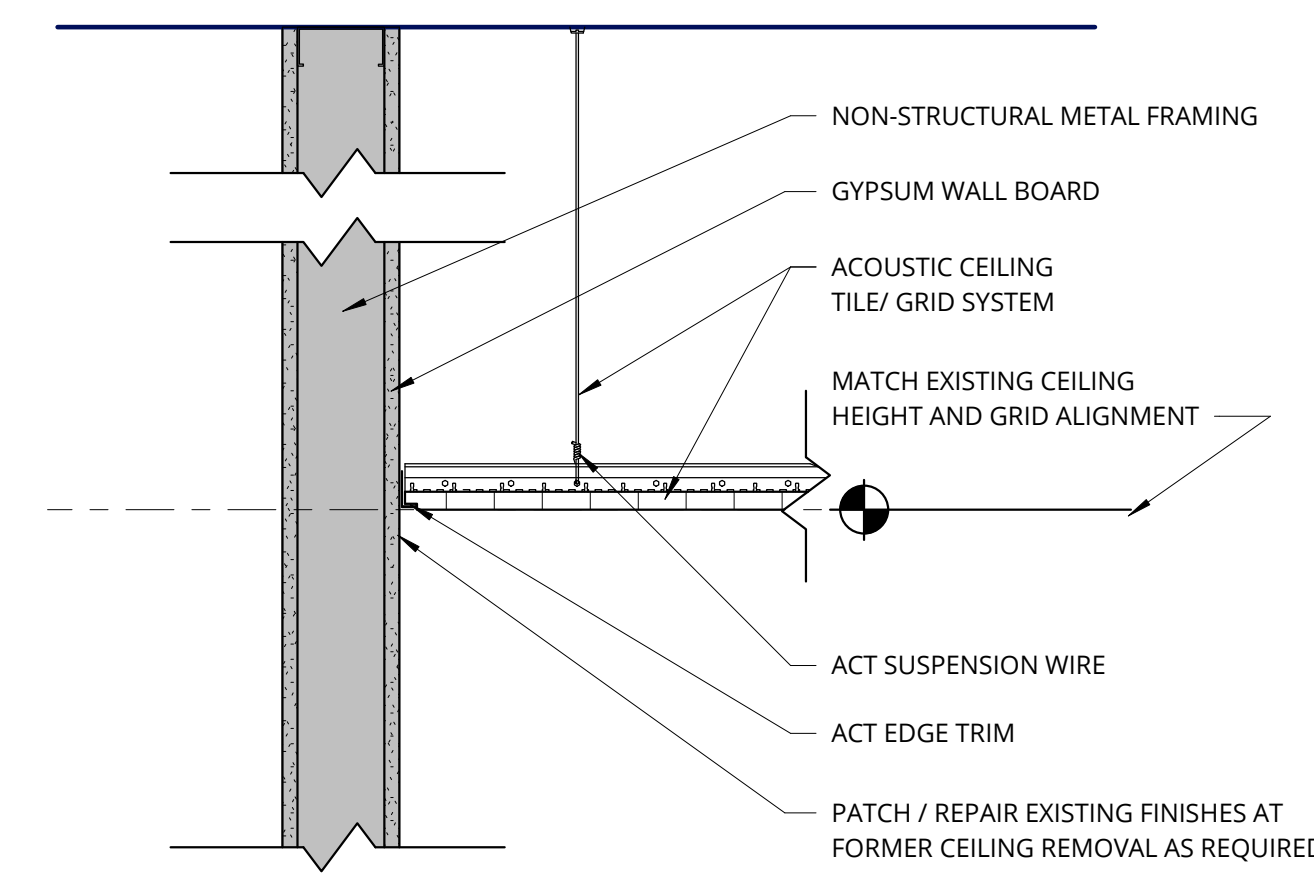




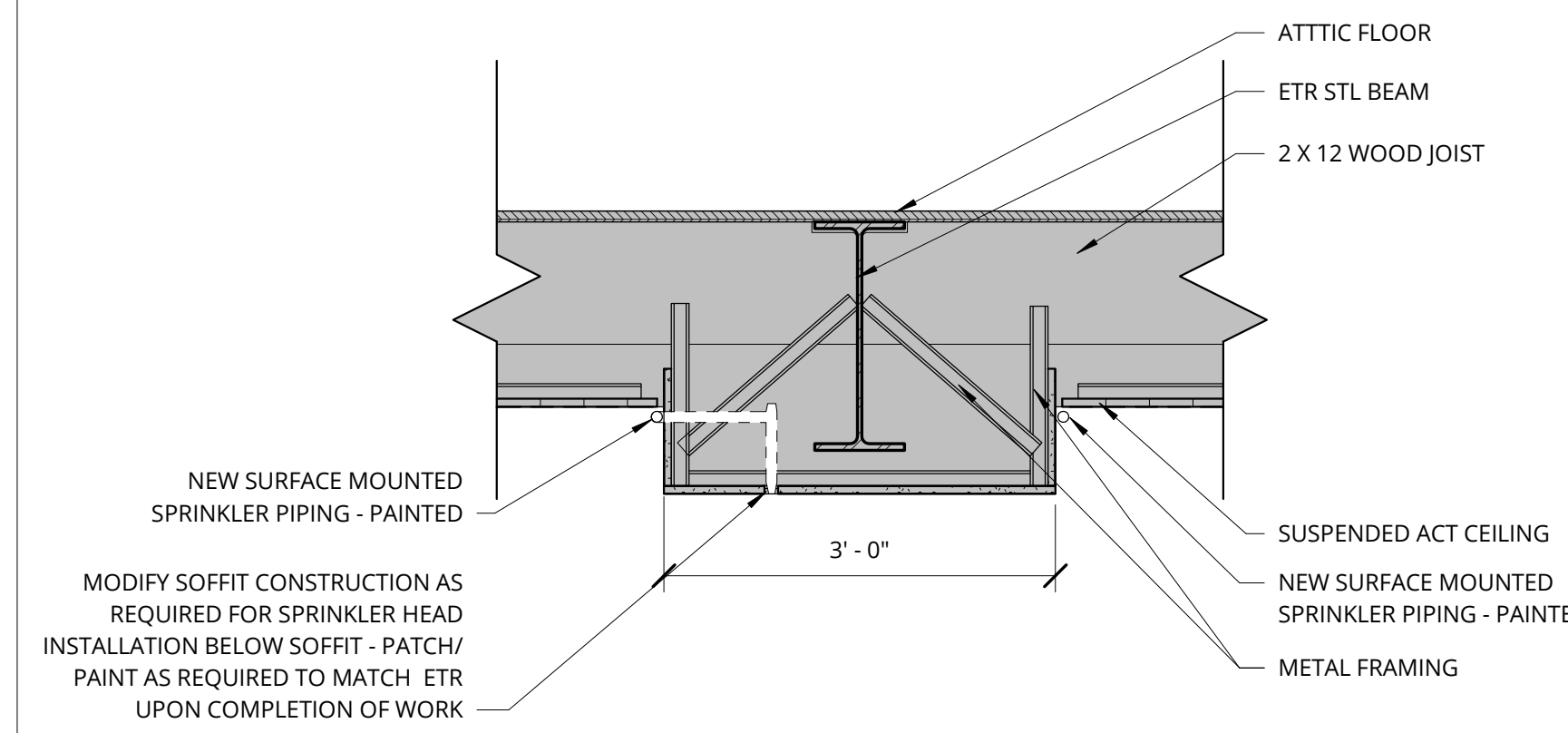




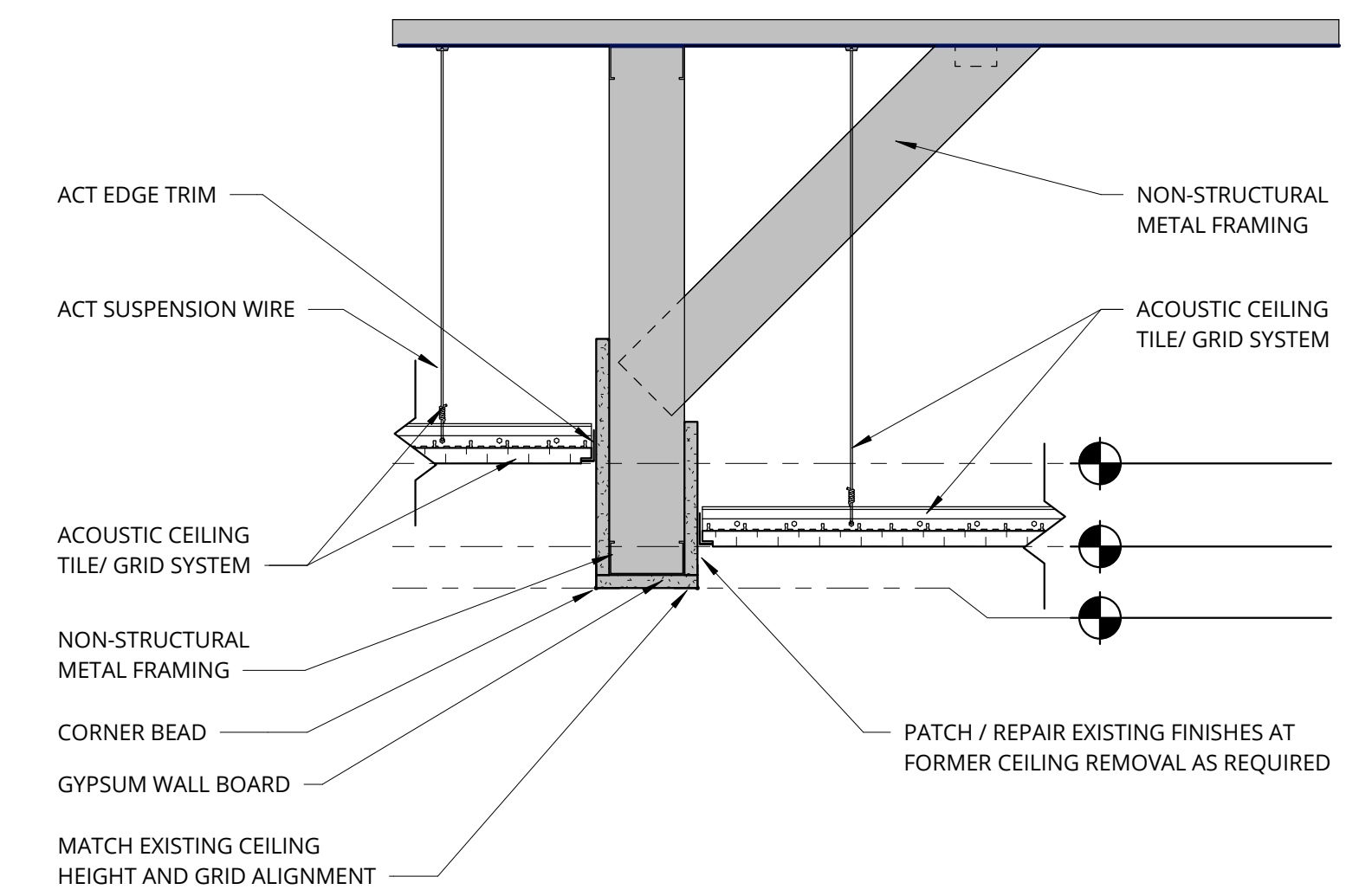
**C2** EXISTING LEVEL 2 SOFFIT DETAIL 1  
 Scale: 3/4" = 1'-0"



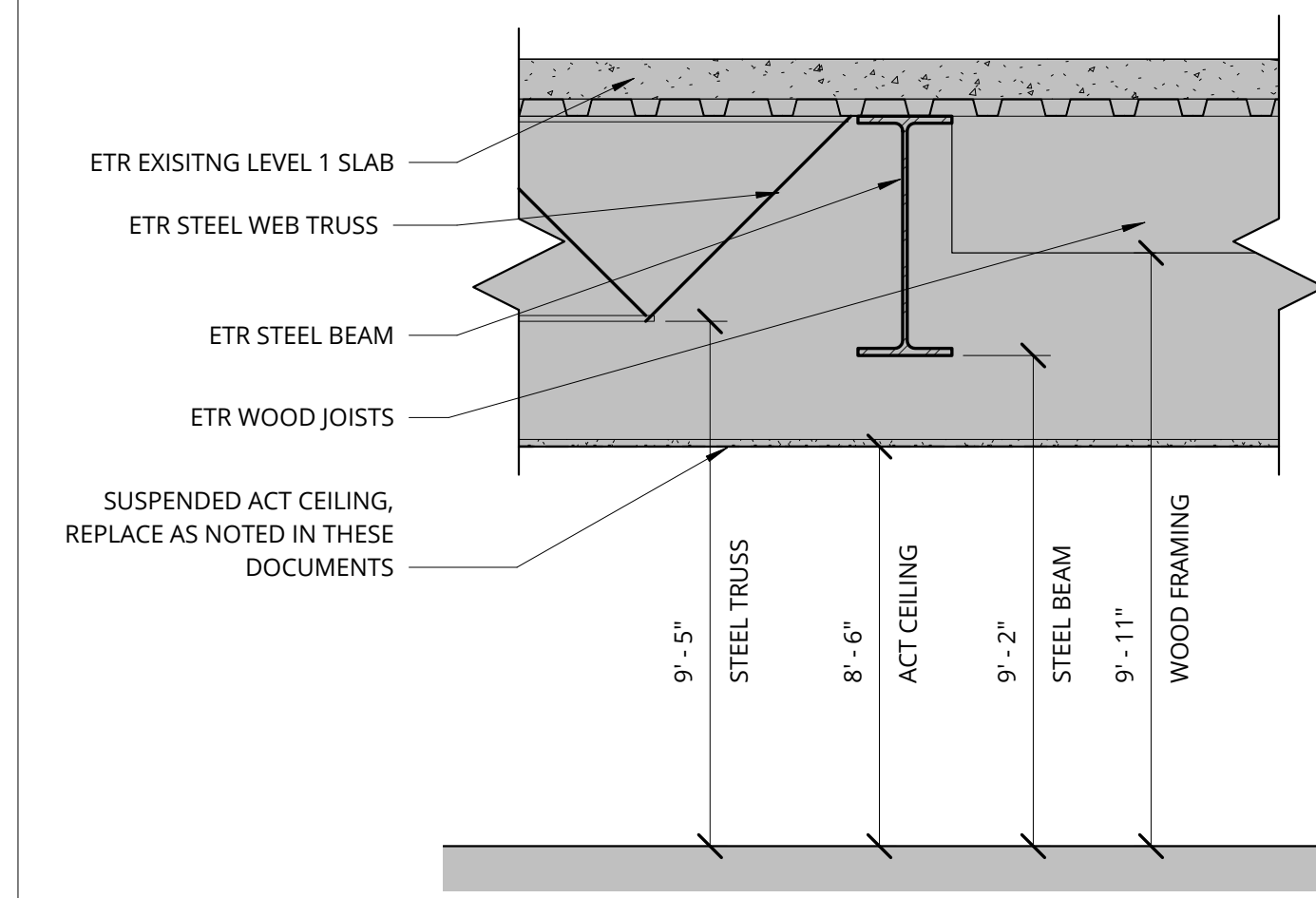
**B3** CLG DETAIL @ GYP - PERIMETER WALL  
 Scale: 1 1/2" = 1'-0"



**B2** EXISTING LEVEL 2 SOFFIT DETAIL 2  
 Scale: 3/4" = 1'-0"



**A3** CLG DETAIL @ ACT TO ACT - TRANSITION  
 Scale: 1 1/2" = 1'-0"



**A2** COORDINATION SECTION THROUGH BASEMENT WORKROOM  
 Scale: 3/4" = 1'-0"



## GENERAL NOTES

- THIS DRAWING PACKAGE IS PROVIDED TO DEPICT THE CONFIGURATION OF MAJOR AUTOMATIC SPRINKLER SYSTEM COMPONENTS INCLUDING SPRINKLER AND PIPING LOCATIONS. THE SPRINKLER CONTRACTOR SHALL FIELD VERIFY LOCATIONS OF ALL SPRINKLERS AND SYSTEM PIPING. FINAL CONFIGURATION TO BE DETERMINED BY THE CONTRACTOR.
- WHERE ACOUSTICAL CEILING TILES (ACT) ARE PRESENT, SPRINKLERS SHALL BE INSTALLED IN THE CENTER OF CEILING TILES.
- PIPE SIZES SHALL BE NO SMALLER THAN AS INDICATED BY THE DESIGN HYDRAULIC CALCULATIONS OR DESIGN DRAWINGS UNLESS VERIFIED THROUGH APPROVED CALCULATION SUBMITTAL (REVIEWED AND APPROVED BY JENSEN HUGHES).
- ACCURACY OF WALL LOCATIONS AND DIMENSIONS SHALL BE FIELD VERIFIED BY THE CONTRACTOR WITH REGARDS TO PIPE ROUTING AND PROXIMITY TO OBSTRUCTIONS.
- THE CONTRACTOR SHALL PREPARE AND SUBMIT FOR APPROVAL SHOP DRAWINGS. THE REQUIREMENTS FOR THE SUBMITTAL PACKAGE AND SHOP DRAWINGS ARE PROVIDED IN THE DESIGN SPECIFICATION. CHANGES IN THE LOCATIONS OF SPRINKLERS FROM THOSE SHOWN ON THE APPROVED SHOP DRAWINGS SHALL BE IDENTIFIED IN WRITING TO THE PROVIDENCE FIRE DEPT. AND JENSEN HUGHES PRIOR TO INSTALLATION. ALL CHANGES SHALL BE APPROVED IN WRITING PRIOR TO INSTALLATION OR ANY RELOCATIONS OR ADDITIONAL SPRINKLERS REQUIRED FOR COMPLIANCE AS A RESULT OF THE CHANGES SHALL BE FURNISHED AND INSTALLED AT THE EXPENSE OF THE CONTRACTOR.
- THE SPRINKLER CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING WITH ANY NEW SITE SPECIFIC MODIFICATIONS THAT MAY BE MADE TO THE BUILDING DURING CONSTRUCTION SUCH AS NEW LIGHTS, DROP CEILINGS, ETC.
- ALL SPRINKLER PIPING SHALL BE SECURED USING U.L./F.M. PIPE HANGERS, ANCHORS AND OTHER APPROVED MEANS TO PROPERLY SECURE THE PIPE.
- ALL PIPING 1-INCH THROUGH 2-INCH SHALL BE UL/FM ASTM A53, A135, OR A795 SCHEDULE 40 WITH THREADED ENDS.
- ALL PIPING 2½-INCH AND LARGER SHALL BE UL/FM ASTM A53, A135, OR A795 SCHEDULE 10 WITH ROLLED-GROOVED ENDS.
- THE CONTRACTOR SHALL GUARANTEE IN WRITING ALL WORK AND EQUIPMENT ASSOCIATED WITH THIS PROJECT FOR ONE (1) YEAR AFTER INSTALLATION. REFER TO THE SPECIFICATION FOR ADDITIONAL WARRANTY REQUIREMENTS.

## DESIGN CRITERIA

- DESIGN AND INSTALL THE SPRINKLER SYSTEMS TO MEET THE REQUIREMENTS OF:
  - RIFSC - RHODE ISLAND FIRE SAFETY CODE WHICH INCLUDES:
    - RIFC - RHODE ISLAND FIRE CODE (AMENDED 2018 NFPA 1)
    - RILSC - RHODE ISLAND LIFE SAFETY CODE (AMENDED 2018 NFPA 101)
  - 2016 NFPA 13, STANDARD FOR THE INSTALLATION OF SPRINKLER SYSTEMS
  - 2019 NFPA 72, NATIONAL FIRE ALARM AND SIGNALING CODE
  - 2016 NFPA 241, STANDARD FOR SAFEGUARDING CONSTRUCTION, ALTERATION AND DEMOLITION OPERATIONS
- REFER TO TECHNICAL SPECIFICATIONS FOR MORE DETAILED INFORMATION AND ADDITIONAL REQUIREMENTS.
- THE SPRINKLER SYSTEM SHALL BE DESIGNED AS LIGHT HAZARD OR ORDINARY HAZARD DEPENDING ON THE USE OF THE SPACE BEING PROTECTED.
- THE SPRINKLER SYSTEM SHALL BE HYDRAULICALLY CALCULATED BY THE CONTRACTOR USING THE DENSITY/AREA DESIGN METHOD DESCRIBED IN NFPA 13-2016, AND THE MANUFACTURERS TECHNICAL DATA SHEETS FOR EXTENDED COVERAGE AND SPECIFIC APPLICATION SPRINKLERS.
- THE SPRINKLER SYSTEM SHALL BE HYDRAULICALLY CALCULATED AND SIZED IN ACCORDANCE WITH THE FOLLOWING CRITERIA:
  - ALL LIGHT HAZARD OCCUPANCY AREAS SHALL MEET THE REQUIREMENTS OF NFPA 13-2016 AS FOLLOWS:
    - AREA OF DEMAND: 1500 S.F. (AREA REDUCTION FOR Q.R. SPRINKLERS PER NFPA 13-2016, SEC. 11.2.3.2.3.1 IS ALLOWED).
    - DENSITY: 0.10 GPM/S.F.
    - HOSE STREAM: 100 GPM.
    - SAFETY MARGIN: 5 PSI SAFETY FACTOR.
  - ALL ORDINARY HAZARD GROUP 1 OCCUPANCY AREAS SHALL MEET THE REQUIREMENTS OF NFPA 13-2016 AS FOLLOWS: (AREA REDUCTION FOR Q.R. SPRINKLERS PER NFPA 13-2016 SEC. 11.2.3.2.3.1 IS ALLOWED).
    - AREA OF DEMAND: 1500 S.F.
    - DENSITY: 0.15 GPM/S.F.
    - HOSE STREAM: 250 GPM.
    - SAFETY MARGIN: 5 PSI SAFETY FACTOR.
  - ALL ORDINARY HAZARD GROUP 2 OCCUPANCY AREAS SHALL MEET THE REQUIREMENTS OF NFPA 13-2016 AS FOLLOWS: (AREA REDUCTION FOR Q.R. SPRINKLERS PER NFPA 13-2016 SEC. 11.2.3.2.3.1 IS ALLOWED).
    - AREA OF DEMAND: 1500 S.F.
    - DENSITY: 0.20 GPM/S.F.
    - HOSE STREAM: 250 GPM.
    - SAFETY MARGIN: 5 PSI SAFETY FACTOR.
  - AREA OF OPERATION INCREASES SHALL BE INCLUDED FOR DRY-PIPE SYSTEMS, SLOPE CEILING, ETC.
- ALL STANDARD SPRAY SPRINKLERS IN LIGHT HAZARD AREAS SHALL HAVE A MAXIMUM COVERAGE AREA OF 225 S.F.
- ALL STANDARD SPRAY SPRINKLERS IN ORDINARY HAZARD GROUP 1 AND 2 AREAS SHALL HAVE A MAXIMUM COVERAGE AREA OF 130 S.F.

## SCOPE OF WORK

- THE SCOPE OF WORK IS TO BE COMPLETED BY THE SPRINKLER CONTRACTOR.
- THE WORK INCLUDES COORDINATION WITH AND PAYMENT TO SUB-CONTRACTORS NECESSARY TO COMPLETE FIRE ALARM, UNDERGROUND, AND FIRESTOPPING WORK AS DEPICTED AND DESCRIBED IN THE DESIGN DOCUMENTS.
- THE SCOPE OF WORK INCLUDES INSTALLATION OF WET PIPE AND DRY PIPE AUTOMATIC SPRINKLER SYSTEMS THROUGHOUT THE PAWTUCKET LIBRARY BURNS BUILDING AS INDICATED ON THE DRAWINGS AND IN THE TECHNICAL SPECIFICATIONS TO PROVIDE COMPLETE SPRINKLER COVERAGE THROUGHOUT THE LIBRARY.
- THE WORK INCLUDES ALL SPRINKLERS, LISTED SCHEDULE 10 & 40 PIPING, HANGERS AND OTHER ASSOCIATED COMPONENTS THROUGHOUT THE BUILDING EXCEPT FOR THE ELEVATOR SHAFT AND MACHINE ROOM.
- THE WORK INCLUDES ADDITIONAL MATERIALS, FITTINGS, ETC., WHICH ARE NOT SHOWN ON THE DRAWINGS TO PROVIDE A COMPLETE OPERATIONAL SYSTEM. THE ADDITIONAL MATERIALS AND FITTINGS SHALL BE SHOWN ON THE SHOP DRAWING SUBMITTAL. FRICTION LOSSES ASSOCIATED WITH THE ADDITIONAL PIPING AND FITTINGS SHOWN ON THE SHOP DRAWINGS SHALL BE INCORPORATED INTO THE HYDRAULIC CALCULATIONS. THE SPECIFIED 5 PSI PRESSURE CUSHION SHALL BE PROVIDED IN THE CALCULATIONS.
- THE WORK INCLUDES CONNECTION OF WATER FLOW VANE AND VALVE SUPERVISORY SWITCHES TO THE FIRE ALARM SYSTEM. THE CONTRACTOR SHALL BE RESPONSIBLE TO COORDINATE THESE WIRING CONNECTIONS WITH A LICENSED FIRE ALARM TECHNICIAN / ELECTRICIAN.
- THE WORK INCLUDES DRAINS, SUPPORTS, AND PERMITS. THE WORK SHALL COMPLY WITH NFPA AND RIFC REQUIREMENTS.
- THE WORK INCLUDES THE INSTALLATION OF A FIRE DEPARTMENT CONNECTION AS INDICATED ON THE DRAWINGS. FINAL LOCATION TO BE APPROVED BY PAWTUCKET FIRE DEPARTMENT. THE WORK INCLUDES A CHECK VALVE WITH BALL DRIP.
- THE WORK INCLUDES COORDINATION OF ALL OBSTRUCTIONS TO NEW SPRINKLER PIPING. OBSTRUCTIONS INCLUDE BUT ARE NOT LIMITED TO EMERGENCY LIGHTING, BATTERY BOXES, TELCOM EQUIPMENT AND WIRING. COORDINATE WITH THE ARCHITECT / OWNER.
- THE WORK INCLUDES INSTALLATION OF DRAIN PIPING. THE DRAINS SHALL BE PIPED DIRECTLY TO THE OUTSIDE TO AN APPROVED LOCATION BY JENSEN HUGHES AND COORDINATED WITH THE ARCHITECT.
- THE WORK INCLUDES INSTALLATION OF INSPECTOR'S TEST CONNECTIONS, DRAIN VALVES, AND PIPING.
- THE WORK INCLUDES ALL CUTTING, DRILLING, CORE DRILLING, ETC. TO INSTALL FIRE SPRINKLER PIPING THROUGH FLOORS, WALLS AND CEILINGS.
- THE WORK INCLUDES FIRESTOPPING, PATCHING AND PAINTING OF ALL PENETRATIONS THAT WERE MADE FOR INSTALLATION OF SPRINKLER PIPING THROUGH INTERIOR AND EXTERIOR BUILDING WALLS. THE FIRESTOPPING SHALL BE CONDUCTED BY A MANUFACTURER'S TRAINED PERSONNEL ACCEPTABLE TO THE OWNER. COORDINATE LOCATIONS OF PENETRATIONS WITH ARCHITECT AND ANY EXISTING FIRE RATED ASSEMBLIES.
- THE WORK INCLUDES ALL FEES AND ACTIVITIES REQUIRED TO SECURE APPROVALS FOR NECESSARY STATE AND LOCAL PERMITS.
- THE WORK INCLUDES SUBMITTING DETAILED WORKING PLANS, HYDRAULIC CALCULATIONS AND PRODUCT DATA TO THE ENGINEER FOR REVIEW PRIOR TO SUBMITTING SAME TO THE PROVIDENCE FIRE DEPT. FOR PERMIT. CONTRACTOR SHALL NOT FABRICATE PIPING, ASSEMBLE COMPONENTS OR BEGIN INSTALLATION UNTIL JENSEN HUGHES HAS APPROVED THE SUBMITTAL DOCUMENTS.
- THE WORK INCLUDES DEVELOPING AS-BUILT SPRINKLER PLANS. THE PLANS SHALL SHOW A MINIMUM OF PIPE ROUTING; PIPE DIAMETER, SPRINKLER LOCATION, SPRINKLER ORIENTATION, AND SPRINKLER MAKE, MODEL, K-FACTOR, TEMPERATURE RATING AND RESPONSE TYPE.
- THE WORK INCLUDES PERFORMING FIELD QUALITY CONTROL AND COMMISSIONING ACTIVITIES.
- THE WORK INCLUDES DOCUMENTING AND SUBMITTING THE RESULTS OF INTEGRITY AND FUNCTIONAL TESTING.
- THE WORK INCLUDES SUBMITTING AS-BUILT PLANS AND CLOSEOUT DOCUMENTATION TO JENSEN HUGHES FOR REVIEW PRIOR TO SCHEDULING OWNER DEMONSTRATION TRAINING.
- THE WORK INCLUDES TRAINING OWNER'S PERSONNEL ON THE OPERATION OF THE SYSTEM, REQUIRED MAINTENANCE TASKS AND FREQUENCIES, AND THE LOCATIONS OF ALL SPARE TOOLS AND EQUIPMENT, VALVES, ALARM AND SUPERVISORY SWITCHES, RISERS AND EQUIPMENT NECESSARY TO MAINTAIN AND OPERATE THE SPRINKLER SYSTEM.
- THE WORK INCLUDES SIGNS AT EACH CONTROL AND TEST VALVE.
- THE WORK INCLUDES A RIGID PLASTIC SIGN INDICATING THE LOCATION OF ALL VALVES. INCLUDING LOW POINT DRAINS, AND THE AREA PROTECTED BY EACH CONTROL VALVE SHALL BE IDENTIFIED. THE SIGN SHALL BE LOCATED AT THE MAIN RISER.
- THE WORK INCLUDES PROVIDING A CABINET WITH SPARE SPRINKLERS AND A LIST OF SPARE SPRINKLERS PER NFPA 13-2016 SECTION 6.2.9.
- THE WORK INCLUDES THE INSTALLATION OF ECS EJECTOR PAV-W AUTOMATIC AIR VENTS (OR EQUIVALENT) AT THE HIGH POINT OF EACH SPRINKLER SYSTEM IN ACCORDANCE WITH SECTION 7.1.5 OF NFPA 13. EACH PORTION OF THE SYSTEM SEPARATED BY A CONTROL VALVE IS CONSIDERED A SEPARATE SPRINKLER SYSTEM IN ACCORDANCE WITH NFPA 13 - 2016 SECTION 3.3.206. INSTALL EACH VENT AT AN ACCESSIBLE HIGH POINT ON THE FIRE SPRINKLER SYSTEM REMOTE FROM THE SYSTEM RISER WHERE AIR CAN BE VENTED. INSTALL THE VENTS SUCH THAT THE PRESSURE GAUGE PROVIDED FOR VISUAL MONITORING CAN BE VIEWED DIRECTLY FROM BELOW.
- THE WORK INCLUDES DEMOLITION OF THE EXISTING SPRINKLERS NOTED ON THE DRAWINGS AS EXISTING TO BE REMOVED.
- THE WORK INCLUDES INSTALLATION OF A DRY SYSTEM TO SERVE THE DOME ROOM AND DOME ROOM ATTIC. THE DRY SYSTEM SHALL CONSIST OF SCHEDULE 40 BLACK STEEL PIPE AND BE PROVIDED WITH A DRY VALVE AND TANK MOUNTED AIR COMPRESSOR AS INCLUDED IN THE DRAWINGS.
- THE WORK INCLUDES PAINTING OF ALL EXPOSED SPRINKLER PIPING PER ARCHITECTURAL DRAWINGS.

## INSTALLATION NOTES

- ALL CONDUITS DISTURBED OR DAMAGED DURING THE INSTALLATION BY CORE DRILLING OR CUTTING SHALL BE RESTORED TO ORIGINAL CONDITION PRIOR TO INSTALLATION.
- CONTRACTOR SHALL BE RESPONSIBLE FOR REPAIRING ALL DAMAGE INSIDE THE BUILDING UNLESS THE DAMAGE IS PREVIOUSLY DOCUMENTED TO THE OWNER PRIOR TO THE START OF THE WORK.
- WET CORE DRILLING SHALL BE USED WITH PROPER PROTECTION IN PLACE TO PREVENT DAMAGE TO THE BUILDING.
- PENETRATIONS SHALL BE MADE IN A NEAT AND PROFESSIONAL MANNER.
- ALL FLOORS SHALL BE PROTECTED FROM BEING DAMAGED DURING CONSTRUCTION IN THE BUILDING.

SPRINKLER SYMBOLS LEGEND			
	SPRINKLER PIPE		DRY PIPE VALVE
	UNDERGROUND PIPE		BACKFLOW PREVENTER
	DRY SPRINKLER PIPE		PIPE ELBOW DOWN
	NEW DRAIN PIPE		PIPE TEE DOWN
	FIRE DEPARTMENT CONNECTION		PIPE CONTINUATION
	OS&Y GATE VALVE		PIPE RISER
	CHECK VALVE		SPRINKLER RISER
	RISER CHECK VALVE W/ TRIM		HYDRAULIC NODE
	FLUSHING CAP		HYDRAULIC AREA
	FLOOR CONTROL ASSEMBLY		ELECTRIC BELL
	NON SPRINKLERED AREA		

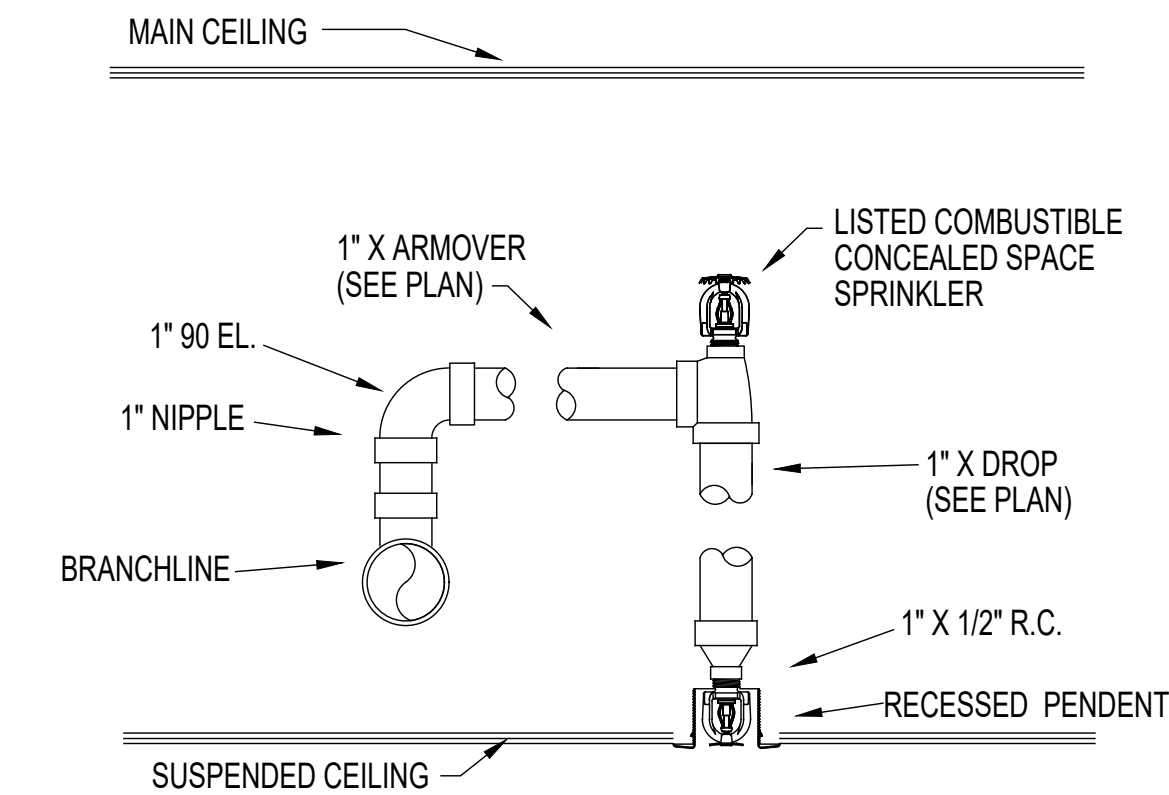
  

SUBSCRIPT LEGEND			
	200 DEGREE TEMPERATURE RATING		SPRINKLER ABOVE AND BELOW CEILING
	EXISTING TO BE REMOVED		

SPRINKLER LEGEND								
SYMBOL	MANUFACTURER	MODEL	TYPE	RESPONSE	NPT	K-FACTOR	FINISH	ESCUICHEON
	VICTAULIC	V5606	CONCEALED PENDENT	QUICK	1/2"	5.6	WHITE	NONE
	VICTAULIC	V3302	DRY PENDENT	QUICK	1/2"	5.6	WHITE	NONE
	VICTAULIC	V2704	UPRIGHT	QUICK	1/2"	5.6	BRASS	NONE
	VICTAULIC	V2710	SIDEWALL	QUICK	1/2"	5.6	WHITE	WHITE
	VICTAULIC	V27	SPRINKLER GUARD				CHROME	NONE

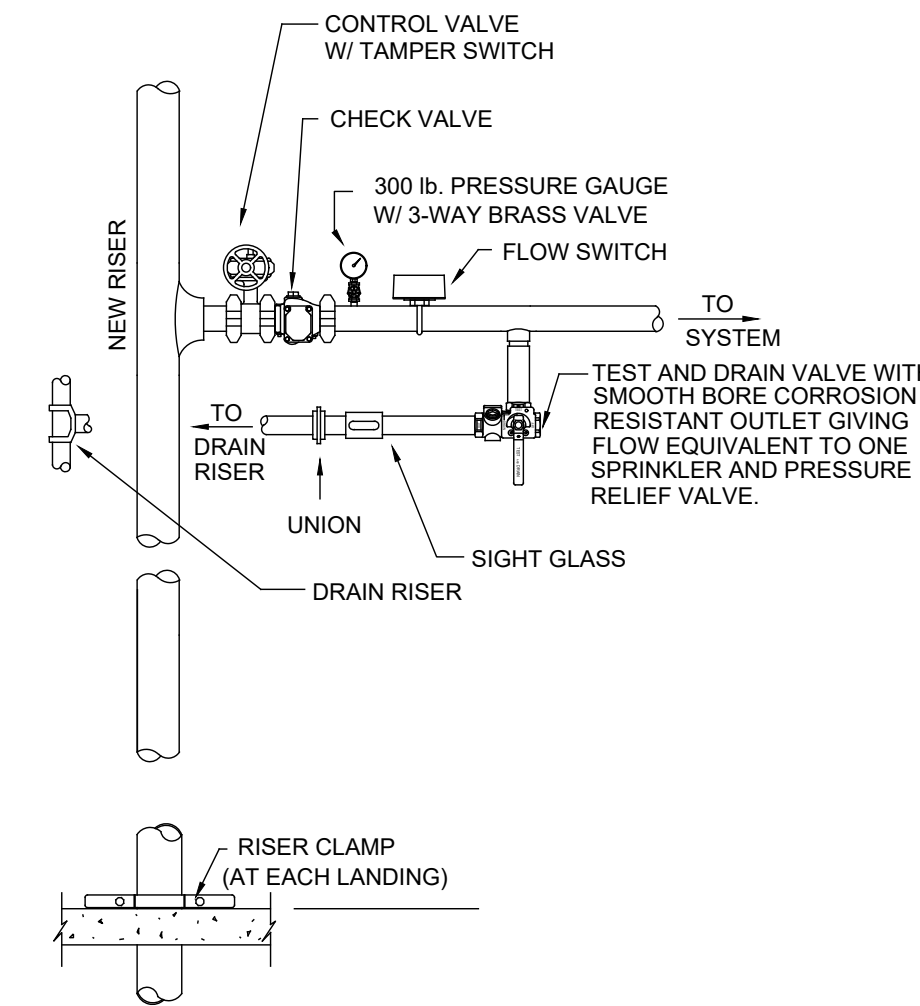
CONTRACTOR SHALL USE THE ABOVE SPECIFIED SPRINKLERS OR EQUAL.  
 SPRINKLER TEMPERATURE RATINGS SHALL BE IN ACCORDANCE WITH NFPA 13.  
 \* COVERPLATE TO BE FACTORY PAINTED TO MATCH CEILING COLOR IN DOME ROOM.

FLOW TEST RESULTS			
TEST DATE:	04/07/2022	TEST GAUGE" LOCATION:	HIGH STREET
PERFORMED BY:	PAWTUCKET WATER	HYDRANT G05-042	
STATIC:	94.3 (PSI)	"FLOW" LOCATION:	HIGH STREET
RESIDUAL:	92.6 (PSI)	HYDRANT G05-027	
FLOW:	840 (GPM)		



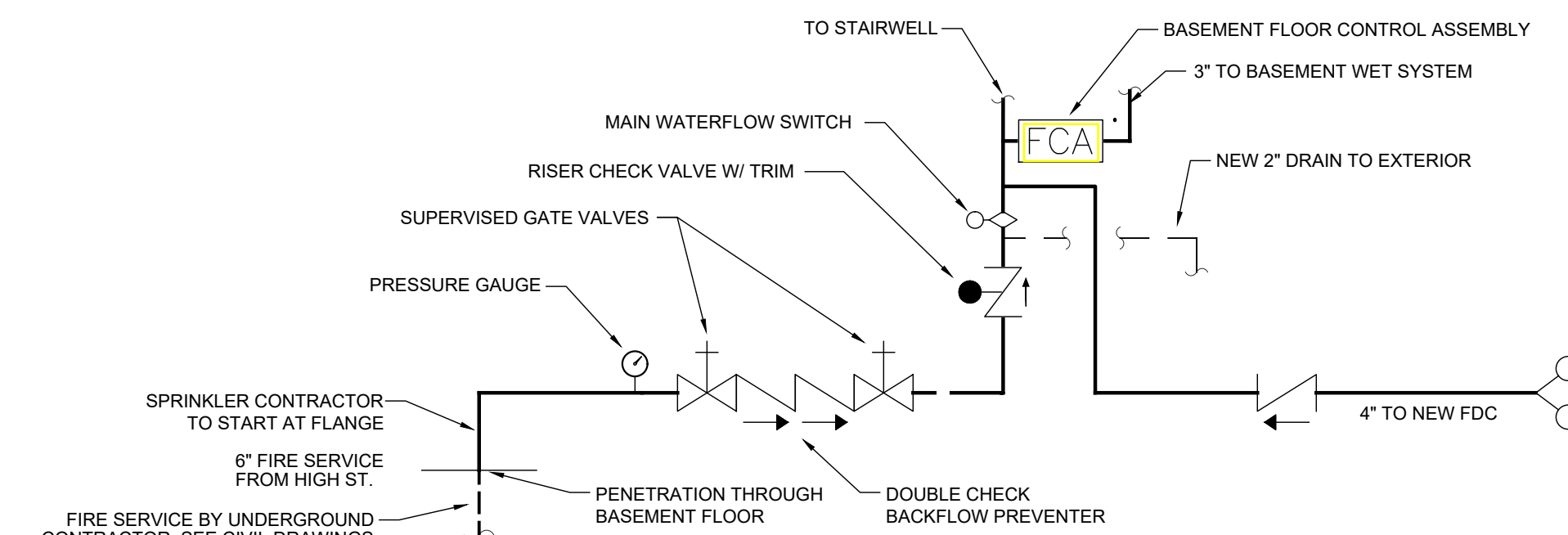
## TYPICAL SPRINKLER ABOVE/BELOW CEILING DETAIL

SCALE: NOT TO SCALE



## TYPICAL SPRINKLER FLOOR CONTROL ASSEMBLY

SCALE: NOT TO SCALE



## SPRINKLER RISER DETAIL

SCALE: NTS

LLB

ARCHITECTS

Lerner Ladds Bartels  
 Pawtucket, RI  
 401.421.7715

Worcester, MA  
 508.556.4648

www.LLBarch.com

JENSEN HUGHES

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**BURNS BUILDING SPRINKLER SYSTEM RENOVATIONS**  
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FIRE PROTECTION NOTES,  
 LEGEND, & DETAILS

01/20/2023

FP-0.1



**KEYNOTES**

**11** COORDINATE PENETRATIONS FOR NEW FDC AND ELECTRIC BELL WITH ARCHITECTURAL DRAWINGS AT PROPOSED WINDOW INFILL PANEL.

REMOTE AREA #1 - BASEMENT	
HYDRAULIC CALCULATION	
OCCUPANCY:	LIGHT HAZARD
DENSITY:	0.10 gpm/sq. ft.
AREA OF OPERATION:	934 SQ. FT.
SPRINKLER DEMAND:	175 gpm
AVAIL. PRESSURE (@ SOURCE):	94 psi
TOTAL DEMAND (@ SOURCE):	275 gpm @ 43 psi



**BASEMENT LEVEL FIRE PROTECTION PLAN**  
SCALE: 1/8" = 1' 0"



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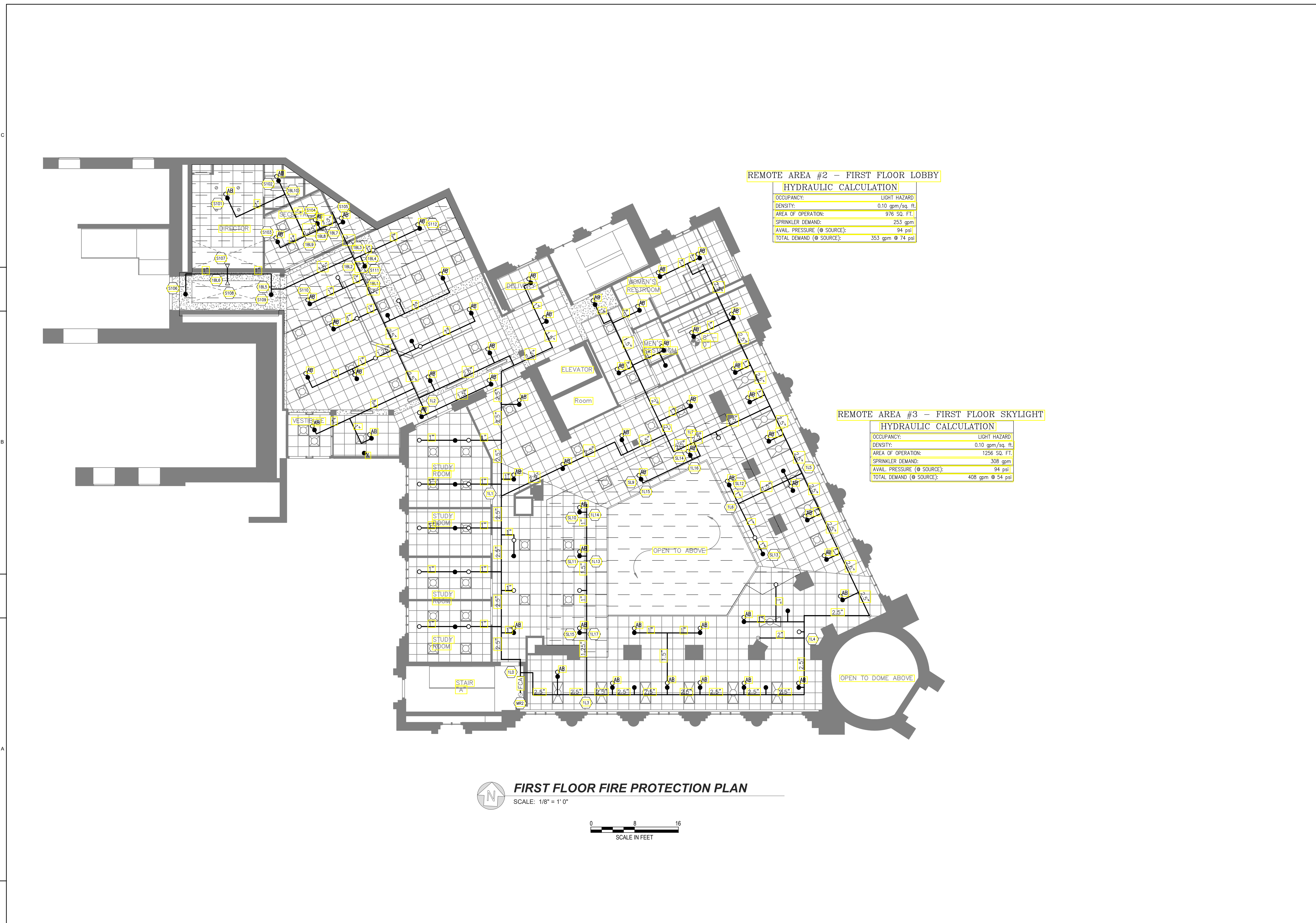
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BASEMENT FIRE PROTECTION PLAN

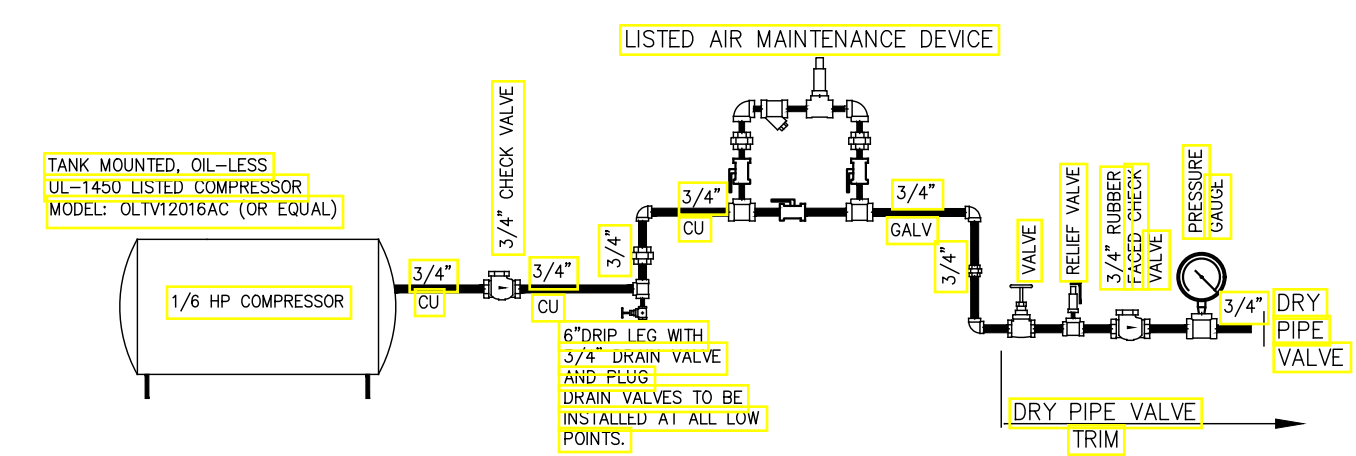
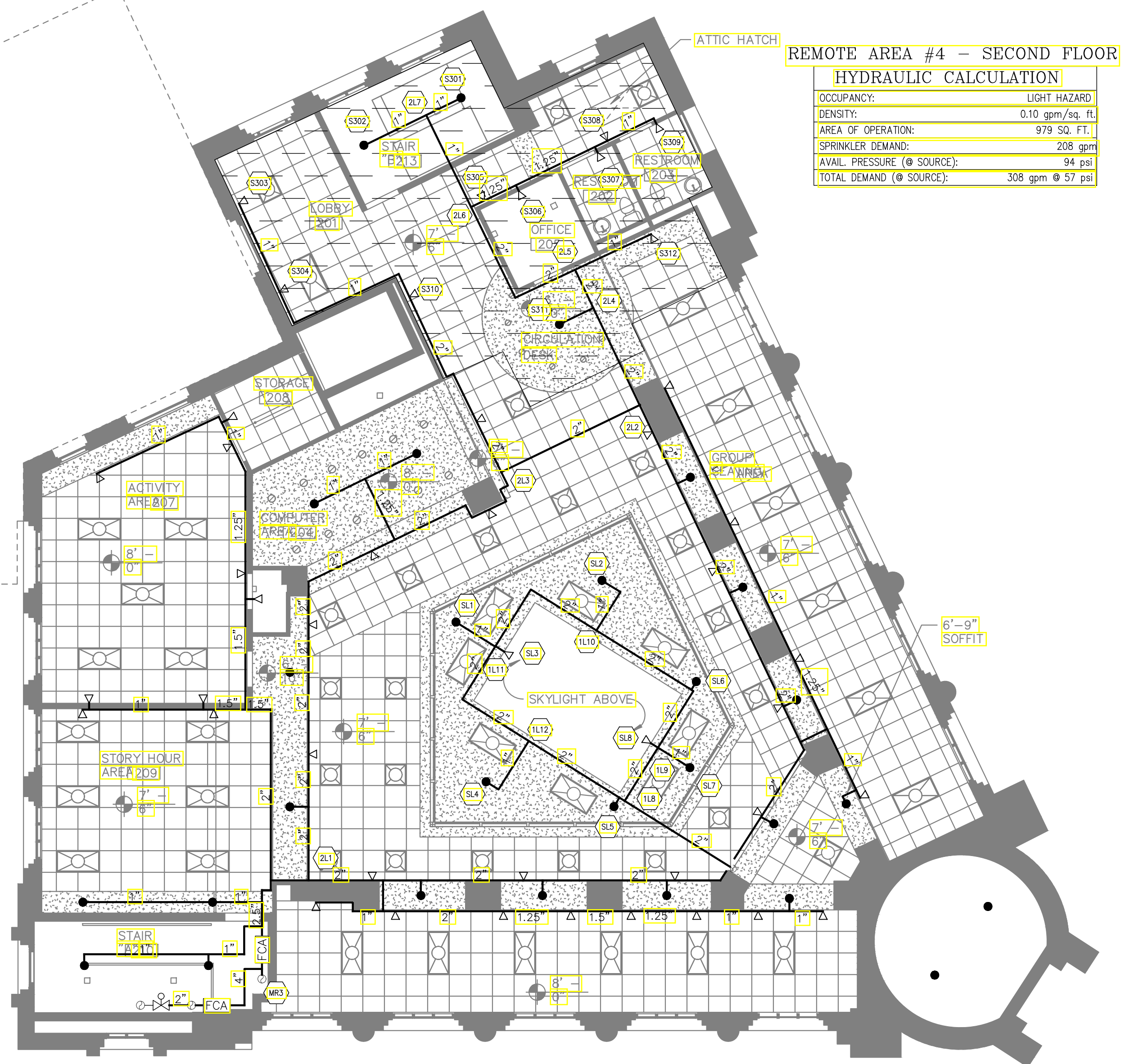
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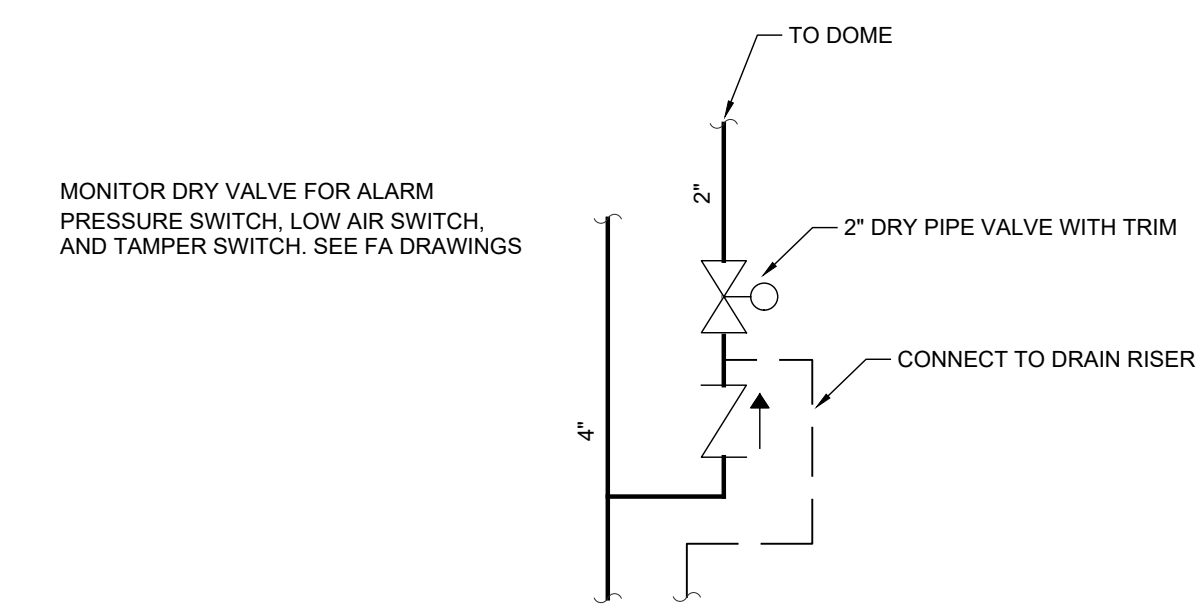




DRY SYSTEM CAPACITY = 30 GALS

**SCHEMATIC OF AIR SUPPLY CONFIGURATION**

SCALE: NTS



**DRY PIPE RISER DETAIL**

SCALE: NTS

**SECOND FLOOR FIRE PROTECTION PLAN**

SCALE: 1/8" = 1' 0"

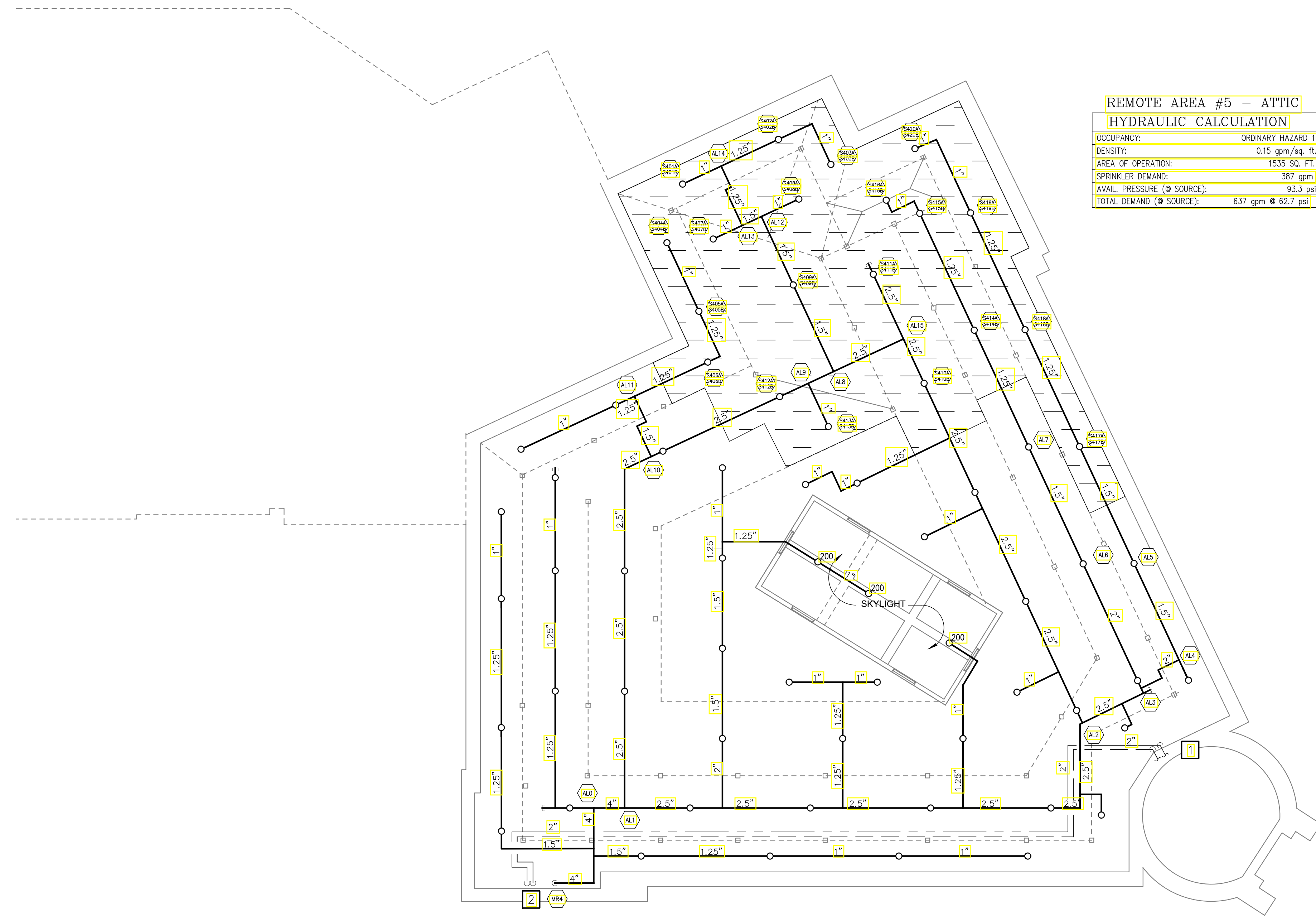




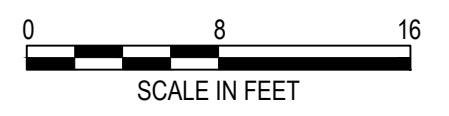
**KEYNOTES**

- 11 DRY PIPE AND DRAIN PIPE TO PENETRATE ROOF TO THE EXTERIOR. SEE CONTINUATION ON ROOF PLAN. WATER PROOF AND SEAL PER ARCHITECTURAL DRAWINGS AND DETAILS.
- 12 DRAIN PIPE TO CONNECT INTO DRAIN RISER ON SECOND FLOOR WITH SIGHT GLASS.

REMOTE AREA #5 - ATTIC	
HYDRAULIC CALCULATION	
OCCUPANCY:	ORDINARY HAZARD 1
DENSITY:	0.15 gpm/sq. ft.
AREA OF OPERATION:	1535 SQ. FT.
SPRINKLER DEMAND:	387 gpm
AVAIL. PRESSURE (@ SOURCE):	93.3 psi
TOTAL DEMAND (@ SOURCE):	637 gpm @ 62.7 psi



**ATTIC FIRE PROTECTION PLAN**  
SCALE: 1/8" = 1' 0"



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ATTIC FIRE PROTECTION PLAN

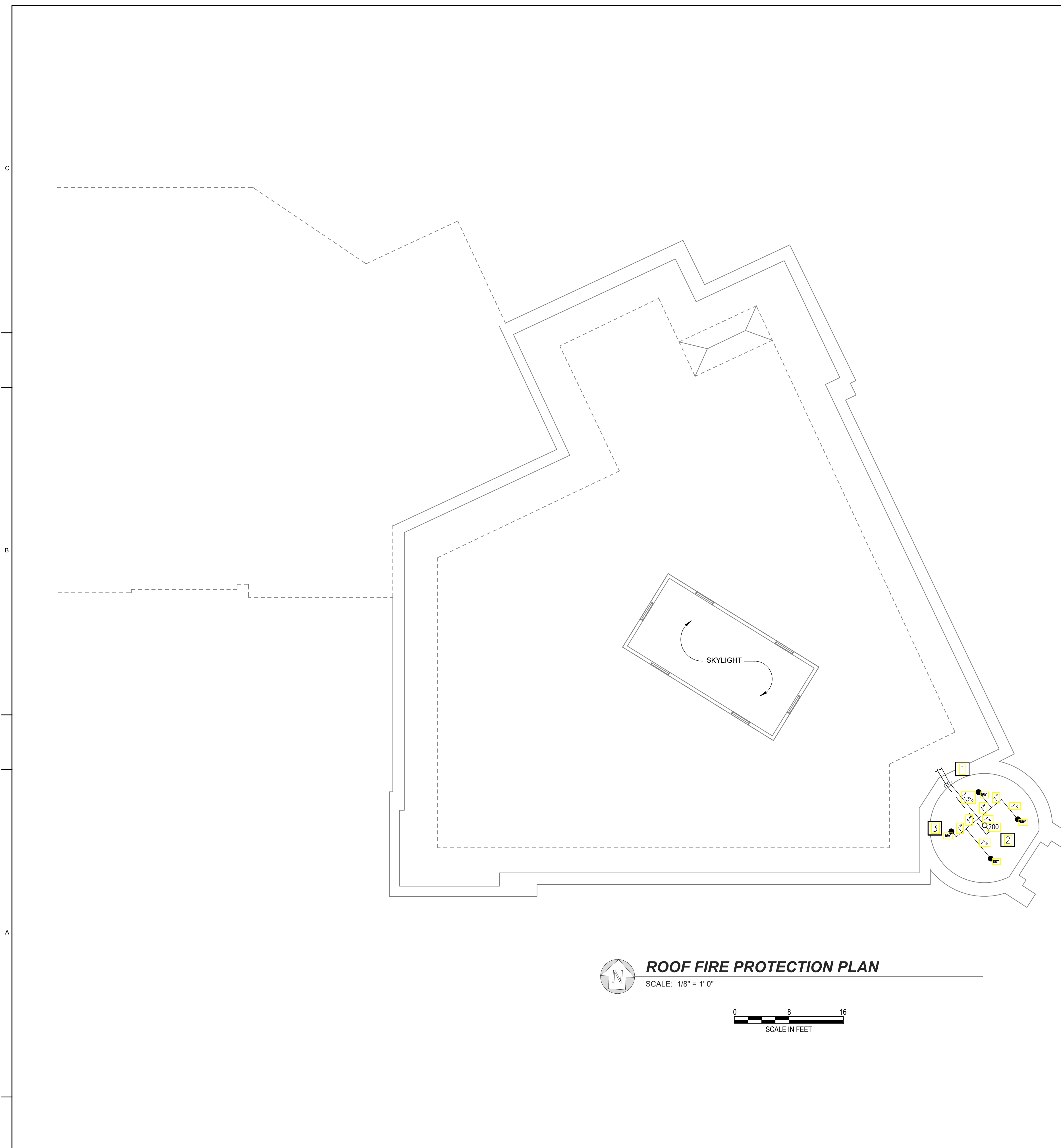
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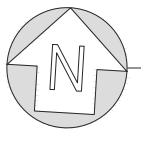

**FP-1.3**



**KEYNOTES**

- 1 DRY PIPE AND DRAIN PIPE TO RISE ON THE EXTERIOR OF THE DOME BETWEEN TWO WINDOWS. PIPE SUPPORTS TO BE COMPATIBLE WITH THE UNDERLYING COPPER ROOFING, OR PROVIDE ISOLATION BETWEEN DISSIMILAR MATERIALS TO PREVENT GALVANIC CORROSION. SEE ARCHITECTURAL DRAWINGS FOR DETAIL.
- 2 UPRIGHT SPRINKLER IN DOME ATTIC SPACE.
- 3 CONCEALED DRY PENDENT SPRINKLERS IN DOME ROOM CEILING. COVERPLATE TO MATCH COLOR OF CEILING.



 **ROOF FIRE PROTECTION PLAN**  
SCALE: 1/8" = 1' 0"  
  
SCALE IN FEET

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 ROOF FIRE PROTECTION PLAN

FIRE ALARM SYMBOL LEGEND			
	FIRE ALARM CONTROL UNIT (EXISTING TO REMAIN)		
	SIGCOM DTX SERIES 4-ZONE RADIO MASTERBOX (EXISTING NUMBER TO BE MAINTAINED)		
	ADDRESSABLE MONITOR MODULE		
	HEAT DETECTOR		
SUBSCRIPT LEGEND			
	TAMPER SWITCH		EXISTING TO REMAIN
	WATERFLOW SWITCH		NEW
	EXISTING TO BE REMOVED		PRESSURE SWITCH
	LOW AIR SWITCH		

**GENERAL NOTES & SCOPE OF WORK**

- THE FIRE ALARM SYSTEM MODIFICATIONS SHALL BE INSTALLED BY A LICENSED FIRE ALARM CONTRACTOR IN ACCORDANCE WITH THE RHODE ISLAND FIRE CODE (NFPA 1-2018 EDITION, AS AMENDED), THE RHODE ISLAND LIFE SAFETY CODE (NFPA 101-2018 EDITION, AS AMENDED), NFPA 72-2019 EDITION, AND THE DESIGN DOCUMENTS.
- THE SCOPE OF WORK TO BE COMPLETED BY THE CONTRACTOR INCLUDES CONNECTION OF NEW VALVE SUPERVISORY SWITCHES AND WATERFLOW SWITCHES TO THE FIRE ALARM SYSTEM. THE CONTRACTOR SHALL BE RESPONSIBLE TO COORDINATE THESE WIRING CONNECTIONS WITH A LICENSED FIRE ALARM TECHNICIAN/ELECTRICIAN.
  - A SUMMARY OF THE FOURTEEN (14) FIRE ALARM SYSTEM MODULES IS DEPICTED ON THE DRAWINGS AND AS FOLLOWS:
    - BASEMENT LEVEL
      - TWO (2) MONITOR MODULES FOR THE BACKFLOW PREVENTER
      - ONE (1) MONITOR MODULE FOR THE MAIN WATERFLOW SWITCH
      - TWO (2) MONITOR MODULES FOR THE FLOOR CONTROL ASSEMBLY SERVING THE BASEMENT
    - FIRST FLOOR
      - TWO (2) MONITOR MODULES FOR THE FLOOR CONTROL ASSEMBLY SERVING THE FIRST FLOOR
    - SECOND FLOOR
      - TWO (2) MONITOR MODULES FOR THE FLOOR CONTROL ASSEMBLY SERVING THE SECOND FLOOR
      - TWO (2) MONITOR MODULES FOR THE FLOOR CONTROL ASSEMBLY SERVING THE ATTIC
    - ATTIC
      - THREE (3) MONITOR MODULES FOR THE DRY VALVE ASSEMBLY SERVING THE DOME ROOM AND DOME ATTIC
- THE SCOPE OF WORK INCLUDES COORDINATING THE FIRE ALARM SYSTEM INSTALLATION WITH THE OWNER AND JENSEN HUGHES.
- ALL NEW FIRE ALARM SYSTEM CONTROL EQUIPMENT, DEVICES, AND APPLIANCES SHALL BE UL LISTED AND/OR FM APPROVED.
- THE SCOPE OF WORK INCLUDES THE INSTALLATION OF A NEW AS-BUILT DOCUMENT CABINET ADJACENT TO THE FIRE ALARM CONTROL UNIT IN EACH BUILDING. CONTRACTOR TO PROVIDE COMPLETE FIRE ALARM SYSTEM AS-BUILT DRAWINGS, A COMPLETE POINTS LIST, AND A USB DRIVE WITH FIRE ALARM SYSTEM PROGRAM IN EACH CABINET.
- THE EXISTING FIRE ALARM SYSTEM CONTROL EQUIPMENT, DEVICES, AND APPLIANCES ARE EXISTING TO REMAIN AND SHALL BE MAINTAINED WITH THE EXCEPTION OF THE FOLLOWING:
  - EXISTING ABOVE CEILING HEAT DETECTORS PRESENT IN THE BASEMENT, FIRST FLOOR, AND ATTIC ARE TO BE REMOVED WHERE SPRINKLERS ARE TO BE PROVIDED. APPROXIMATE LOCATIONS AND QUANTITIES OF EXISTING HEAT DETECTION IN THESE AREAS ARE DEPICTED ON THE DRAWINGS. CONTRACTOR TO VERIFY ACTUAL LOCATIONS AND QUANTITIES IN THE FIELD.
  - A NEW RADIO MASTERBOX IS TO BE INSTALLED. THE EXISTING MASTERBOX IS TO BE REMOVED. NECESSARY PROGRAMMING CHANGES AT THE FACP TO ACCOMMODATE THE NEW MASTERBOX AND CORRESPONDING ZONE NOTIFICATION IS PART OF THIS SCOPE OF WORK.
- ALL NEW SIGNALING LINE CIRCUITS (SLCs) SHALL BE INSTALLED CLASS A. A MINIMUM OF 25% SPARE CAPACITY SHALL BE MAINTAINED FOR EACH SLC.
- ALL FIRE ALARM SYSTEM WIRING SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS AND GUIDELINES. ALL WIRING SHALL BE INSTALLED IN METAL RACEWAY OR APPROVED MC CABLE. MC CABLE SHALL NOT BE PERMITTED TO BE INSTALLED EXPOSED. ALL EXPOSED RACEWAY INSTALLED SHALL BE PAINTED TO MATCH THE SURROUNDING CONDITIONS. PAINT COLORS SHALL BE COORDINATED WITH PROPERTY MAINTENANCE PERSONNEL. ALL WIRING SHALL MEET THE COLOR CODE AS OUTLINED IN RILSC SECTION 9.6.9.8.
- THE SEPARATION BETWEEN ALL OUTGOING AND RETURN CIRCUITS SHALL BE A MINIMUM OF 1-FOOT VERTICALLY AND 4-FEET HORIZONTALLY.
- THE CONTRACTOR IS RESPONSIBLE FOR PROVIDING ISOLATION MODULES SUCH THAT THE ADDRESSABLE DEVICES ON EACH FLOOR ARE ISOLATED FROM THE DEVICES LOCATED ON OTHER FLOORS, SUCH THAT A SHORT CONDITION ON ONE FLOOR, DOES NOT ADVERSELY EFFECT THE SLC OPERATION ON ANOTHER FLOOR. FAULT ISOLATION MODULES SHALL BE PROVIDED SUCH THAT NO MORE THAN TWENTY-FIVE (25) ADDRESSABLE DEVICES BECOME INOPERABLE DURING A SINGLE SHORT CIRCUIT CONDITION. ADDITIONALLY, FAULT ISOLATION MODULES SHALL BE PROVIDED ON BOTH SIDES OF ANY CONTROL MODULE WHICH IS RESPONSIBLE FOR ACTIVATING A REMOTE POWER SUPPLY AND TO ISOLATE ANY CONTROL MODULES WHICH ARE RESPONSIBLE FOR EMERGENCY FORCES NOTIFICATION FROM THE REMAINDER OF THE SLC.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR INSTALLING P-TOUCH LABELS ON ALL ADDRESSABLE DEVICES WHICH INDICATE THEIR ASSOCIATED SLC LOOP AND DEVICE NUMBER.
- THE CONTRACTOR SHALL BE REQUIRED TO COORDINATE AND CONDUCT 100% PRE-ACCEPTANCE TESTING OF THE FIRE ALARM SYSTEM IN THE BUILDING. THIS TEST SHALL BE WITNESSED BY JENSEN HUGHES.
- THE CONTRACTOR SHALL BE REQUIRED TO COORDINATE AND CONDUCT FINAL ACCEPTANCE TESTING OF THE FIRE ALARM SYSTEM FOR THE PAWTUCKET FIRE DEPARTMENT APPROVAL.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL CUTTING, PATCHING, AND PAINTING NECESSARY TO COMPLETE THE SCOPE OF WORK.

PARTIAL SEQUENCE OF OPERATIONS MATRIX RELATED TO NEW FIRE ALARM SYSTEM SCOPE OF WORK		REQUIRED SYSTEM OUTPUTS												
		ANNUNCIATION AND INDICATION						OFF PREMISES SIGNAL TRANSMISSION			ANCILLARY FUNCTIONS			
REQUIRED SYSTEM INPUTS	ALARM SIGNALS	SMOKE DETECTOR ACTIVATION	ACTIVATE AUDIBLE FIRE ALARM NOTIFICATION APPLIANCES THROUGHOUT BUILDING AT FACU	ACTIVATE VISIBLE FIRE ALARM NOTIFICATION APPLIANCES THROUGHOUT BUILDING AT FACU	ACTIVATE AUDIBLE/VISIBLE ALARM INDICATOR INDICATOR AT FACU	ACTIVATE AUDIBLE/VISIBLE SUPERVISORY INDICATOR AT FACU	PROVIDE DEVICE PROUIT INDICATION AT FACU	TRANSMIT ZONE #1 (GENERAL ALARM) TO PAWTUCKET FIRE DEPT. VIA NEW MASTER BOX	TRANSMIT ZONE #2 (WATERFLOW) TO PAWTUCKET FIRE DEPT. VIA NEW MASTER BOX	TRANSMIT ZONE #3 (SPRINKLER TAMPER) TO PAWTUCKET FIRE DEPT. VIA NEW MASTER BOX	SHUT DOWN ALL SUPPLY AIR HANDLING UNITS GREATER THAN 100 CFM	ACTIVATE ELECTRIC SPRINKLER BELL		
		SUPERVISORY SIGNALS	SPRINKLER WATERFLOW OR PRESSURE SWITCH ACTIVATION	●	●	●			●		●	●		
			SPRINKLER CONTROL VALVE TAMPER SWITCH ACTIVATION				●	●			●			
	TROUBLE SIGNAL	LOW AIR SWITCH ACTIVATION				●	●							
RADIO MASTER BOX TROUBLE							●	●						

NOTE 1: THE SEQUENCE OF OPERATIONS DEPICTED IS LIMITED TO THE NEW FIRE ALARM SCOPE OF WORK. THE EXISTING SYSTEM PROGRAM SHALL REMAIN AND JUST THE ADDITIONS SHOWN ABOVE SHALL BE ADDED.





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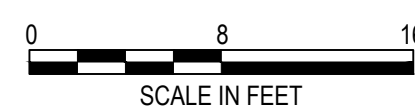
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BASEMENT FIRE ALARM PLAN

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**BASEMENT LEVEL FIRE ALARM PLAN**  
SCALE: 1/8" = 1' 0"



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A

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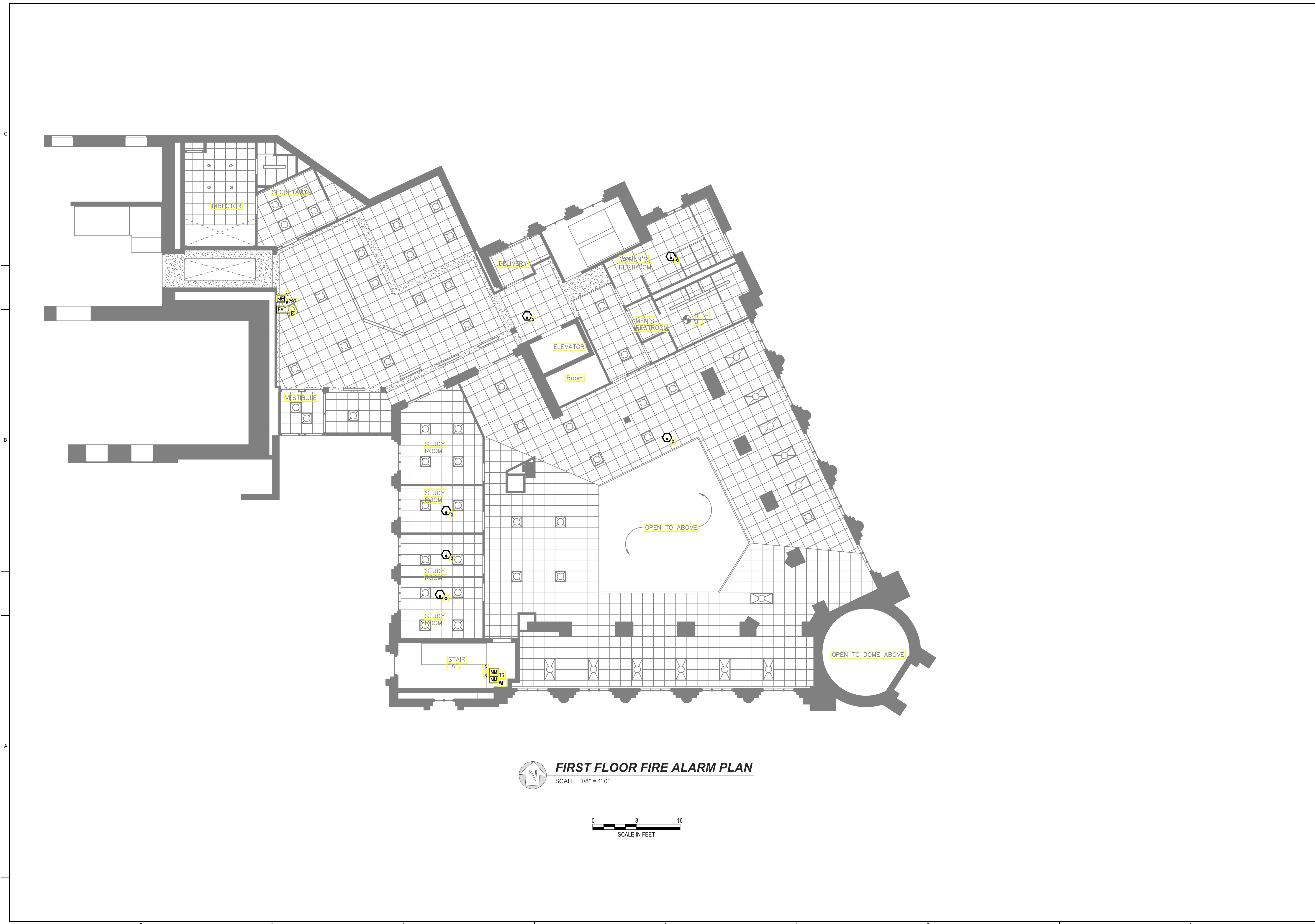
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FIRST FLOOR FIRE ALARM PLAN

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**FA-1.1**





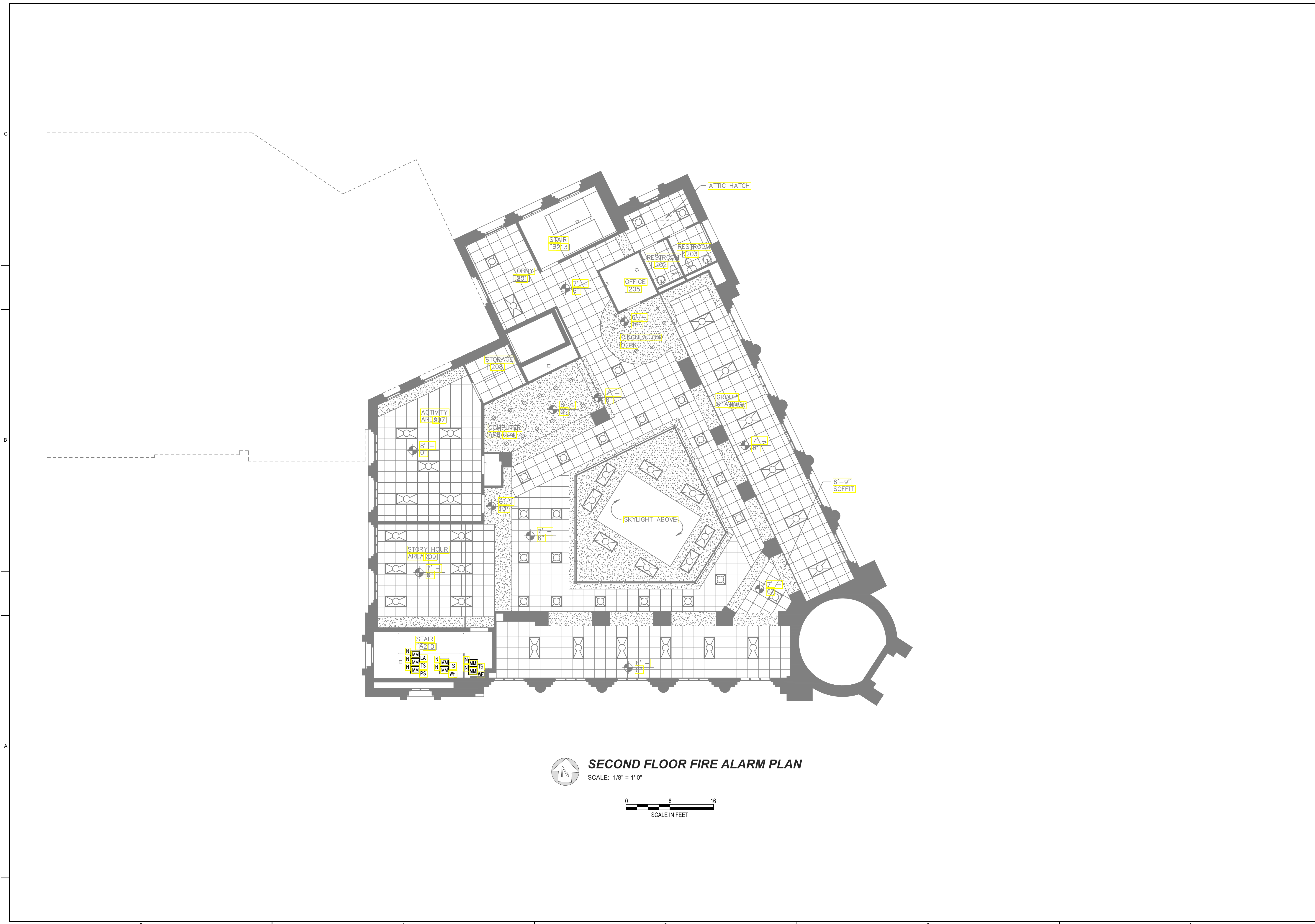
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SECOND FLOOR FIRE ALARM  
PLAN

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**FA-1.2**



**SECOND FLOOR FIRE ALARM PLAN**  
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0 8 16  
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ATTIC FIRE ALARM PLAN

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**FA-1.3**

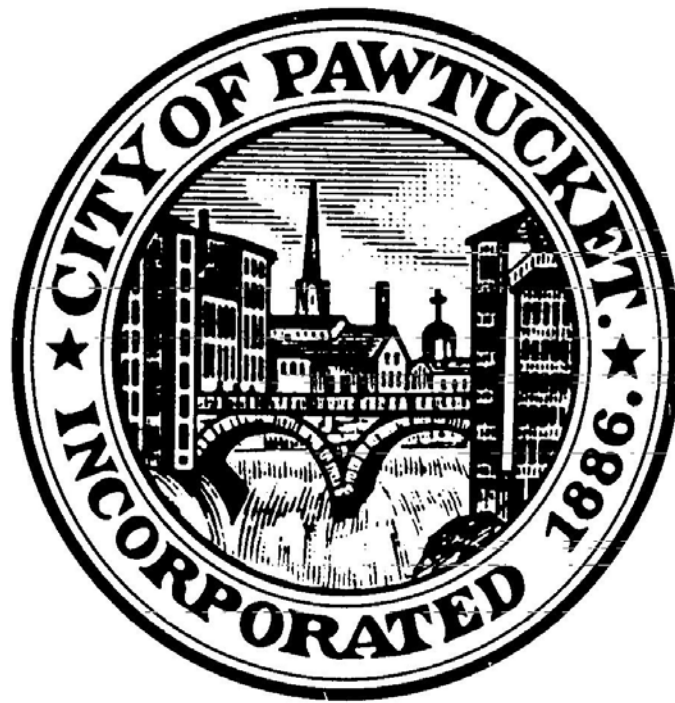


## **Appendix F**

### **Technical Specifications Issued for Bid**

# CITY OF PAWTUCKET

## REQUEST FOR PROPOSALS



**Bid #22-019**  
**Pawtucket Public Library**  
**Burns Building Sprinkler**  
**Renovation**

February 23, 2023

**PROJECT DIRECTORY**

**OWNER**

City of Pawtucket  
137 Roosevelt Avenue  
Pawtucket, RI 02860

**ARCHITECT**

LLB Architects  
161 Exchange Street  
Pawtucket, Rhode Island 02860

---

**CONSULTANTS**

**CIVIL ENGINEERING**

DiPrete Engineering  
2 Stafford Court  
Cranston, RI 02920

**SPECIFICATIONS CONSULTANT**

Wil-Spec LLC  
375 Main Street  
Boxford, Massachusetts 01921

**FIRE PROTECTION ENGINEERING**

Jensen Hughes  
117 Metro Center Blvd.  
Warwick, Rhode Island 02886

**END OF DIRECTORY**



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**TABLE OF CONTENTS****DIVISION 00 — PROCUREMENT AND CONTRACTING REQUIREMENTS**

Document 00 01 01	Cover Page
Document 00 01 02	Project Directory
Document 00 01 10	Table of Contents
Document 1.0	Bid / Solicitation Information
Document 2.0	Instructions and Notifications to Bidders
Document 3.0	Overview
Document 4.0	Scope of Work
Document 5.0	Insurance
Document 6.0	Acknowledgement of Risk and Hold Harmless Agreement
Document 7.0	Additional Insurance Requirements
Document 8.0	Proposal Content and Organization
Document 9.0	Evaluation Criteria
Document 10.0	Miscellaneous
Document 11.0	Bid Form
Document 12.0	General Conditions – AIA Document A201
Document 12.1	Addendum to General Conditions
Document 13.0	Supplementary Conditions
Document 14.0	Special Conditions
Appendix A	Anti-Kickback Acknowledgement
Appendix B	City of Pawtucket Purchasing Rules and Regulations and Terms and Conditions of Purchase
Appendix C	General Wage Rate Decision – Davis Bacon
Appendix D	City of Pawtucket Standard Form of Agreement

**DIVISION 1 — GENERAL REQUIREMENTS**

Section 01 10 00	Summary
Section 01 25 13	Product Substitution Procedures
Section 01 26 00	Contract Modification Procedures
Section 01 29 00	Payment Procedures
Section 01 31 00	Project Management and Coordination
Section 01 32 00	Construction Progress Documentation
Section 01 33 00	Submittal Procedures
Section 01 33 01	Form: Request for Submittal Review Cover
Section 01 33 02	Form: Request for Submittal Review - PDCS
Section 01 41 00	Regulatory Requirements
Section 01 42 00	References
Section 01 45 00	Quality Control
Section 01 50 00	Temporary Facilities and Controls
Section 01 60 00	Product Requirements
Section 01 73 00	Execution
Section 01 73 29	Cutting and Patching

Section 01 74 19	Construction Waste Management and Disposal
Section 01 77 00	Closeout Procedures
Section 01 78 00	Closeout Submittals
Section 01 78 36	Warranties
Section 01 79 00	Demonstration and Training

**DIVISION 02 — EXISTING CONDITIONS**

Section 02 41 19	Selective Demolition
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**DIVISION 03 — CONCRETE**

Section 03 30 00	Cast-In Place Concrete <i>(Refer to Drawings)</i>
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**DIVISION 04 — MASONRY**

Section 04 43 16	Limestone
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**DIVISION 06 — WOOD, PLASTICS AND COMPOSITES**

Section 06 10 00	Rough Carpentry
Section 06 20 00	Finish Carpentry

**DIVISION 07 — THERMAL AND MOISTURE PROTECTION**

Section 07 27 13	Modified Bituminous Sheet Air Barriers
Section 07 59 00	Cutting and Patching Membrane Roofing
Section 07 84 00	Firestopping
Section 07 92 00	Joint Sealants

**DIVISION 08 — OPENINGS**

Section 08 05 13	Common Work Results - Door and Hardware Installation
Section 08 11 13	Hollow Metal Doors and Frames
Section 08 71 00	Door Hardware <i>(Refer to Drawings)</i>

**DIVISION 09 — FINISHES**

Section 09 01 23	Plaster Patching and Repair
Section 09 22 16	Non-Structural Metal Framing
Section 09 29 00	Gypsum Board
Section 09 51 00	Acoustical Ceilings
Section 09 91 00	Painting and Coatings
Document 09 91 13	Exterior Painting Schedule
Document 09 91 23	Interior Painting Schedule

**DIVISION 21 — FIRE SUPPRESSION**

Section 21 13 00	Automatic Sprinkler Systems
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**END - TABLE OF CONTENTS**

**SECTION 01 10 00**  
**SUMMARY**

**PART 1 - GENERAL****1.1 SUMMARY**

- A. Project description.
- B. Project's environmental goals.
- C. Definitions – Owner and Architect.
- D. Work by Owner.
- E. Project Restrictions:
  - 1. Contractor's Use of Site and Premises.
  - 2. Coordination with Occupants.
  - 3. Work Restrictions.
- F. Project confidentiality and promotional material.
- G. Project Manual formats and conventions.

**1.2 PROJECT DESCRIPTION**

- A. Work covered by Contract Documents: The Project consists of installation of a new automatic sprinkler system throughout the Burns Building and Connecting Structure within the Pawtucket Public Library. The sprinkler system scope of work also includes bringing in new service from the street and the installation of a dry sprinkler system within the structure's dome room and dome. In addition to Fire Protection design, additional associated project scope includes: selective existing building material demolition, new or modified acoustic tile and hard ceilings, painting, etc. as well as other structures or finishes that may be affected by threading a new sprinkler system throughout an existing finished building. A new fire rated separation shall also be installed between the Sayles and Connector building portions of the Library.
  - 1. Project Address:
    - Pawtucket Library
    - Burns Building
    - 13 Summer Street
    - Pawtucket, RI 02860
  - 2. Work included beyond the Contract Limits: Protection and replacement of abutting sidewalks and roadways in public way, and on adjacent properties.

3. Completeness: The Work shall be as shown on the Drawings and be complete in every respect and in conformance with all applicable requirements of the governing laws and codes.
- B. Contract time: The Contractor may begin on-site work on, or after receipt of a written Notice to Proceed, or suitable Letter of Intent. After commencement of work, the Contractor shall pursue the Work continuously and with diligence, and bring the Project to Substantial Completion prior to date stipulated in Owner-Contractor Agreement.
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 the Owner can occupy or utilize the Work for its intended use. This includes any and all permits required by governmental agencies necessary for occupancy and use.
  2. Liquidated Damages stipulated in the Owner-Contractor Agreement are applicable for failure to achieve Substantial Completion by date required.
- C. Building Permits: Contractor is responsible to ensure all required permits are obtained, and that the work pertaining to permits is properly inspected and certified. Filed Subcontractors are required to obtain permits relating to their work.

### **1.3 PROJECT ENVIRONMENTAL GOALS**

- A. Objectives: Utilize pollution prevention materials, sustainable construction methods, low VOC and none-off-gassing products to maintain of healthy Indoor Air Quality (IAQ) during the construction process:
1. Incorporate green products and sustainable materials into the Project. To the greatest extent possible, the Contractor shall:
    - a. Use products with low embodied energy (production, manufacturing, and transportation).
    - b. Use products that maximize recycled content in materials products, and systems.
    - c. Use products easy to maintain, repair, and that can be cleaned using non-toxic substances.
    - d. Use products will not negatively affect healthy indoor air quality.
    - e. Use reusable and recyclable packaging.
    - f. Avoid use of ozone-depleting compounds, such as HCFCs from refrigerants or foam insulation materials.
- B. Water resource protection: Conserve and use water efficiently, limit on-site fresh water usage to the greatest extent possible, control water distribution



systems and waste, minimize use of imported or mined water. Utilize water-conserving appliances and equipment.

- C. Air Quality is achieved by compliance with the limitation of indoor air concentrations of certain pollutants, at or below the established maximum allowable concentrations. Healthy air quality goals shall be maintained during construction, and through building commissioning.
  - 1. Use construction practices that achieve the most efficient use of resources and materials.

#### **1.4 DEFINITIONS - OWNER AND ARCHITECT**

- A. Wherever the term "Owner" is used in this specification, it refers to:
  - City of Pawtucket  
137 Roosevelt Avenue  
Pawtucket, RI 02860
  - 1. The terms "Owner" and "Awarding Authority" as used in the Project Manual have the same meaning and are interchangeable in Contract Documents. Both terms refer to the same entity.
  - 2. Important Tax Note: OWNER is a non-profit organization and exempt from certain taxes. It is therefore required that the Contractor and all Subcontractors purchasing taxable goods or services make known to suppliers that tax-exempt status of the Owner, in order that such taxes will not be applied to the goods under Contract.
    - a. Fines and Penalties: Contractor and subcontractors are fully responsible for payment of all penalties and fines accessed by authorities having jurisdiction for improper and illegal use of Owner's tax exemption certificate number.
  - 3. All papers required to be delivered to the Owner shall, unless otherwise specified in writing to the contrary, be delivered to the office of the Architect:
- B. Wherever the term "Architect", "Designer", or "Architect/Engineer", is used in the Contract Documents, it refers to:
  - LLB Architects, Inc.  
161 Exchange Street  
Pawtucket, Rhode Island 02860

#### **1.5 WORK BY OWNER**

- A. Owner Furnished and Installed (OFI) Products: The Contractor has coordinating responsibility for the following work, provided by others under separate agreement(s) with the Owner:
  - 1. Furnishings and equipment, artwork, loose casegoods and similar items.

**1.6 CONTRACTOR'S USE OF SITE AND PREMISES**

- A. Restricted Use of Site: 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.
  - 1. Additionally, prior to beginning the Work of this Contract, the Contractor Construction Manager shall meet with the Owner and the Architect to determine procedures regarding access and use of the site, locations and access to staging and storage areas, temporary barriers and fencing, and any special site conditions or restrictions regarding the use of the site areas surrounding the construction.
- B. Do not disturb portions of the site and building beyond areas in which construction operations is indicated.
  - 1. Driveways, Walkways and Entrances: Keep driveways parking garage, 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 for 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.
- D. Condition of Existing Grounds: Maintain portions of existing grounds, landscaping, and hardscaping affected by construction operations throughout construction period. Repair damage caused by construction operations.

**1.7 COORDINATION WITH OCCUPANTS**

- A. Full Owner Occupancy: Owner will occupy Project site and existing and adjacent 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, nor endanger the health, safety and well-being of the facility's staff and building's occupants. Maintain existing exits unless otherwise indicated.
  - 1. Maintain access to existing walkways, corridors, and other adjacent occupied or used facilities. Do not close or obstruct walkways, corridors, or other occupied or used facilities without written permission from Owner and approval of authorities having jurisdiction.

2. Take all measures to ensure the safety of staff and the general public. The Contractor must take every reasonable precaution and employ all necessary measures including extra cleaning, special supervisory personnel and additional temporary barriers and signage to facilitate the clean, quiet, safe and continual operation of the facility.
  3. All of the work will be done in an occupied building. It is imperative that the Contractor, its subcontractors and all their personnel treat the staff and building's occupants with consideration and respect. No unnecessary noise or disruption of the activities of the staff, building's occupants or general public will be permitted.
  4. Notify Owner not less than 72 hours in advance of activities that will affect Owner's operations.
- B. Owner Limited Occupancy of Completed Areas of Construction: Owner reserves the right to occupy and to place and install equipment in completed portions of the Work, prior to Substantial Completion of the Work, provided such occupancy does not interfere with completion of the Work. Such placement of equipment and limited occupancy shall not constitute acceptance of the total Work.
1. Before limited Owner occupancy, mechanical and electrical systems shall be fully operational, and required tests and inspections shall be successfully completed. On occupancy, Owner will operate and maintain mechanical and electrical systems serving occupied portions of Work.
  2. On occupancy, Owner will assume responsibility for maintenance and custodial service for occupied portions of Work.

## **1.8 WORK RESTRICTIONS**

- A. Comply with restrictions on construction operations.
1. Comply with limitations on use of public streets, work on public streets, rights of way, and other requirements of authorities having jurisdiction.
- B. On-Site Work Hours: Limit to hours coordinated with Owner at Pre-Bid Meeting.
- 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 arranging for temporary utility services according to requirements indicated:
1. Notify Architect and Owner not less than two days in advance of proposed utility interruptions; provide notification for connecting, disconnecting, turning on or turning off any service which may affect Owner's operations.

2. Obtain Owner's written permission before proceeding with utility interruptions.
  3. Provide 48 hour notice to local fire department or disruptions in electrical services, fire alarm services and emergency power services.
  4. Any action, either planned or unplanned, by the Contractor which impairs the operation of anyone or the activation of the fire alarm detection and or suppression system shall cause notification of the appropriate party. In case of unplanned or accidental impairment, the Contractor will immediately notify the Owner. The Contractor should be prepared to provide assistance as required to correct the problem.
- D. Noise, Vibration, Dust, and Odors: Coordinate operations that may result in high levels of noise and vibration, dust, odors, or other disruption to Owner occupancy with Owner,
1. Notify Architect and Owner not less than two days in advance of proposed disruptive operations.
  2. Obtain Owner's written permission before proceeding with disruptive operations.
- E. Smoking and Controlled Substance Restrictions: Use of tobacco products, alcoholic beverages, and other controlled substances within the existing building, on Project site, or on Owner's property is not permitted.
- F. Employee Identification: Provide identification tags for Contractor personnel working on Project site. Require personnel to use identification tags at all times.
- G. Employee Screening: Comply with Owner's requirements for drug and background screening of Contractor personnel working on Project
1. Maintain list of approved screened personnel with Owner's representative.

## **1.9 PROJECT MANUAL FORMATS AND CONVENTIONS**

- A. Project Manual Format: The Project Manual is organized into Divisions and subdivided into Sections and Documents using Construction Specification Institute (CSI) publication "MasterFormat, 2004 Edition" numbering system.
1. Section Identification: Six/Eight digit Section numbers are utilized and cross-referenced throughout the Contract Documents. Sections in the Project Manual are in numeric sequence; however, the sequence is incomplete because only those Section numbers which are applicable to this Project are used.

2. Division One of the Project Manual governs procedural and administrative requirements of the Work. Division One requirements are applicable to all Sections and Documents in the Project Manual.
- B. Specification Content: The Specifications use certain conventions for the style of language and the intended meaning of certain terms, words, and phrases when used in particular situations. These conventions are as follows:
1. Abbreviated Language: Language used in the Specifications and other Contract Documents is abbreviated. Words and meanings shall be interpreted as appropriate. Words implied, but not stated, shall be inferred as the sense requires. Singular words shall be interpreted as plural, and plural words shall be interpreted as singular as applicable to the context of the Contract Documents.
  2. Imperative mood and streamlined language is generally used in the Specifications. Requirements expressed in the imperative mood are to be performed by Contractor. Occasionally, the indicative or subjunctive mood may be used in the Section Text for clarity to describe responsibilities that must be fulfilled indirectly by Contractor or by others when so noted.
    - a. The words "shall," "shall be," or "shall comply with," depending on the context, are implied where a colon (:) is used within a sentence or phrase.

**PART 2 - PRODUCTS (NOT USED)**

**PART 3 - EXECUTION (NOT USED)**

**END OF SECTION 01 10 00**



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**SECTION 01 25 13**  
**PRODUCT SUBSTITUTION PROCEDURES**

**PART 1 - GENERAL****1.1 SUMMARY**

- A. Product options.
  - 1. Product selections.
  - 2. Additional product selection requirements regarding sustainable and environmental-friendly products.
  - 3. Visual matching.
- B. Product substitution procedures.

**1.2 RELATED REQUIREMENTS**

- A. Section 01 60 00 - PRODUCT REQUIREMENTS: Basic product requirements.

**1.3 PRODUCT OPTIONS**

- A. Product selections: Comply with the following for selection of products:
  - 1. Products specified by reference standards or by description only: Provide any acceptable product meeting those standards or description.
  - 2. Products specified by performance requirements only: Provide any acceptable product which has been tested to show compliance with specified requirements, including indicated performances.
- B. Additional product selection requirements regarding environmentally friendly products and materials.
  - 1. Provide products which comply with VOC emission limits required by applicable codes, and as specified.
  - 2. Provide products which comply with specified requirements for recycled content.
  - 3. Provide complete written documentation with all product substitutions that the proposed products are fully compliant to specific environmental and sustainability requirements applicable to the substitution.
- C. Visual matching: Where Specifications require matching a sample, the Architect's decision on whether a proposed product matches is final. Where no product matches and complies with other requirements, comply with provisions for "substitutions" for selection of a matching product in another category.

**1.4 PRODUCT SUBSTITUTION**

- A. Products specified by reference standards or by description only: Any product meeting those standards or description.
- B. The Architect's evaluation and decision on whether a proposed product is equal to that specified, based on the above evaluation requirements, is final. The Contractor retains the right to appeal the Architect's determination of equality through regulated statutory provisions.
  - 1. The Architect and Owner reserve the right to reject proposed substitutions where data for VOCs is not provided or where emissions of individual VOCs are higher than for specified materials.

**PART 2 - PRODUCTS (NOT USED)****PART 3 - EXECUTION (NOT USED)****END OF SECTION 01 25 13**

**SECTION 01 26 00**  
**CONTRACT MODIFICATION PROCEDURES**

**PART 1 - GENERAL****1.1 SUMMARY**

- A. Minor Changes in the Work: Owner will issue supplemental instructions authorizing Minor Changes in the Work, not involving adjustment to the Contract Sum or the Contract Time.
  
- B. Owner Initiated Proposal Requests: Owner will issue a detailed description of proposed changes in the Work that may require adjustment to the Contract Sum or the Contract Time. If necessary, the description will include supplemental or revised Drawings and Specifications.
  - 1. Proposal Requests are for information only. They are not to be considered as instructions either to stop work in progress or to execute the proposed change.
  - 2. Within 10 days 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 taxes, delivery charges, equipment rental, and amounts of trade discounts.
    - c. Include an updated Contractor's Construction Schedule that indicates the effect of the change, including, but not limited to, changes in activity duration, start and finish times, and activity relationship. Use available total float before requesting an extension of the Contract Time.
  
- C. Contractor Initiated Proposals: If latent or unforeseen conditions require modifications to the Contract, Contractor may propose changes by submitting a request for a change.
  - 1. Include a statement outlining reasons for the change and the effect of the change on the Work. Provide a complete description of the proposed change. Indicate the effect of the proposed change on the Contract Sum and the Contract Time.
  - 2. Include a list of quantities of products required or eliminated and unit costs, with total amount of purchases and credits to be made. If requested, furnish survey data to substantiate quantities.

3. Indicate taxes, delivery charges, equipment rental, and amounts of trade discounts.
  4. Include an updated Contractor's Construction Schedule that indicates the effect of the change, including, but not limited to, changes in activity duration, start and finish times, and activity relationship. Use available total float before requesting an extension of the Contract Time.
  5. 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.
- D. Proposal Request Form: Use AIA Document G709 for Proposal Requests.
- E. Submit claims for increased costs because of a change in the allowance described in the Contract Documents, whether for the Purchase Order amount or Contractor's handling, labor, installation, overhead, and profit. Submit claims within 21 days of receipt of the Change Order or Construction Change Directive authorizing work to proceed. Owner will reject claims submitted later than 21 days after such authorization.
1. Contractor's or subcontractor's indirect expense will not be included in the Change Order cost amount unless the nature or extent of work has changed from what could have been foreseen from information in the Contract Documents.
  2. No change to Contractor's indirect expense is permitted for selection of higher or lower priced materials or systems of the same scope and nature as originally indicated.
- F. Change Order Procedures: On Owner's approval of a Proposal Request, Owner will issue a Change Order for signatures of Owner and Contractor.
- G. Construction Change Directive: Owner may issue a Construction Change Directive. 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.
  2. Documentation: Maintain detailed records on a time and material basis of work required by the Construction Change Directive.
    - a. After completion of change, submit an itemized account and supporting data necessary to substantiate cost and time adjustments to the Contract.



**PART 2 - PRODUCTS (NOT USED)**

**PART 3 - EXECUTION (NOT USED)**

**END OF SECTION 01 26 00**

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**SECTION 01 29 00**  
**PAYMENT PROCEDURES**

**PART 1 - GENERAL****1.1 SUMMARY**

- A. Schedule of Values.
- B. Applications for payment.
  - 1. Procedures for application for payment.
  - 2. Initial application for payment.
  - 3. Monthly application for payment.
  - 4. Application for payment at substantial completion.
  - 5. Final payment application.
- C. Payment for stored materials.
- D. Change procedures.

**1.2 COORDINATION**

- A. Coordinate the Schedule of Values and Applications for Payment with the Contractor's Construction Schedule, List of Subcontracts, and Submittal Schedule.
  - 1. Related Requirements:
    - a. Section 01 32 00 – CONSTRUCTION PROGRESS DOCUMENTATION: Contractor's Construction Schedule.
    - b. Section 01 33 00 - SUBMITTAL PROCEDURES: Contractor's Construction Submittal Schedule.

**1.3 SCHEDULE OF VALUES**

- A. Coordinate preparation of the Schedule of Values with preparation of the Contractor's Construction Schedule.
  - 1. Schedule of values shall be used only as basis for Contractor's application for payment.
- B. Correlate line items in the Schedule of Values with other required administrative schedules and forms, including:
  - 1. Contractor's construction schedule.
  - 2. Application for Payment form.
    - a. List of subcontractors.

- b. List of products.
  - c. List of principal suppliers and fabricators.
  - d. Schedule of submittals.
- C. Submit typewritten schedule of values to the Architect at least 30 days prior to submitting first application for payment.
- D. Sub-Schedules: Where the Work is separated into phases that require separately phased payments, provide sub-schedules showing values correlated with each phase of payment.
- E. Identification: Include the following Project identification on the Schedule of Values:
  1. Project name and location.
  2. Name of the Architect.
  3. Project number.
  4. Contractor's name and address.
  5. Date of submittal.
- F. Arrange the Schedule of Values in a tabular form with separate columns to indicate the following for each item listed. Each line item shall have a consecutive line number in left column. Provide subtotals by individual section and Filed Subcontract.
  1. Generic name.
  2. Related Specification Section.
  3. Name of subcontractor.
  4. Name of manufacturer or fabricator.
  5. Name of supplier.
  6. Change Orders (numbers) that have affected value.
  7. Dollar value.
  8. Percentage of Contract Sum to the nearest one-hundredth percent, adjusted to total 100 percent.
- G. Provide a breakdown of the Contract Sum in sufficient detail to facilitate continued evaluation of Applications for Payment and progress reports. Break principal subcontract amounts down into several line items. Provide a labor and material breakdown of each item at a minimum.
  1. Upon request by Architect, submit data that will substantiate values given.
- H. Round amounts off to the nearest whole dollar; the total shall equal the Contract Sum.

- I. For each part of the Work where an Application for Payment may include materials or equipment, purchased or fabricated and stored, but not yet installed, provide separate line items on the Schedule of Values for initial cost of the materials, for each subsequent stage of completion, and for total installed value of that part of the Work.
- J. Unit Cost Allowances: Show line item value of unit cost allowances as a product of unit cost times measured quantity as estimated from the best indication in the Contract Documents.
- K. Margins of Cost: Show line items for indirect costs, and margins on actual costs, only to the extent that such items will be listed individually in Applications for Payment. Each item in the Schedule of Values and Applications for Payment shall be complete including its total cost and proportionate share of general overhead and profit margin.
- L. At the Contractor's option, temporary facilities and other major cost items that are not direct cost of actual work-in-place may be shown as separate line items in the Schedule of Values or distributed as general overhead expense.
- M. Schedule Updating: Update and resubmit the Schedule of Values when Change Orders or Construction Change Directives result in a change in the Contract Sum.

#### **1.4 PROCEDURES FOR APPLICATIONS FOR PAYMENT**

- A. Each Application for Payment shall be consistent with previous applications and payments as certified by the Architect and paid for by the Owner. Provide a draft and final Application for Payment for review and approval by the Architect.
  - 1. The initial Application for Payment, the Application for Payment at time of Substantial Completion, and the final Application for Payment involve additional requirements.
- B. Payment Application Times: Each progress payment date is as indicated in the Agreement. The period of construction Work covered by each Application or Payment is the period indicated in the Agreement.
- C. Payment Application Forms: Use AIA Document G 702 and Continuation Sheets G 703 as the form for Application for Payment.
- D. Application Preparation: Complete every entry on the form, including notarization and execution by person authorized to sign legal documents on behalf of the Owner. Incomplete applications will be returned without action.



1. Entries shall match data on the Schedule of Values and Contractor's Construction Schedule. Use updated schedules if revisions have been made.
  2. Include amounts of Change Orders and Construction Change Directives issued prior to the last day of the construction period covered by the application.
- E. Transmittal: Submit 3 executed copies of each Application for Payment to the Architect by means ensuring receipt within 24 hours.
- F. Transmit each copy with a transmittal form listing attachments, and recording appropriate information related to the application in a manner acceptable to the Architect.

### **1.5 INITIAL APPLICATION FOR PAYMENT**

- A. Administrative actions and submittals that must precede or coincide with submittal of the first Application for Payment include the following:
1. List of subcontractors.
  2. List of principal suppliers and fabricators.
  3. Schedule of Values.
  4. Contractor's Construction Schedule (preliminary if not final).
  5. Schedule of principal products.
  6. Schedule of unit prices.
  7. Submittal Schedule (preliminary if not final).
  8. List of Contractor's staff assignments.
  9. List of Contractor's principal consultants.
  10. Copies of building permits.
  11. Copies of authorizations and licenses from governing authorities for performance of the Work.
  12. Initial progress report.
  13. Report of pre-construction meeting.
  14. Data needed to acquire Owner's insurance.
  15. Initial settlement survey and damage report, if required.

### **1.6 MONTHLY APPLICATION FOR PAYMENT**

- A. Administrative actions and submittals that must precede or coincide with submittal of the period Application for payment, include the following:
1. As-built record documents, required documents and submittal records on site.

2. Contractor's construction schedule, updated, with corrective action plan as applicable.
3. Weekly up-to-date, accurate, certified submission of payroll records.
4. Pre-installation meeting conducted in accordance with Section 01 31 00, prior to first billing for any activity.
5. Material Status Report.
6. Stored Materials forms.
7. Submittal Schedule and submittal status reports.
8. Monthly Progress report and Notarized Progress report Statement from the Contractor's project manager stating that the work is on schedule and that the Contractor will meet the Substantial Completion date for the Work and the Substantial Completion dates for every portion thereof as established under Construction Phasing Schedule Section.
9. Construction progress photographs.
10. Quality control reports and procedures in compliance with Section 01 45 00 - QUALITY CONTROL.

**1.7 APPLICATION FOR PAYMENT AT SUBSTANTIAL COMPLETION:**

- A. Following issuance of the Certificate of Substantial Completion, submit an Application for Payment; this application shall reflect any Certificates of Partial Substantial Completion issued previously for Owner occupancy of designated portions of the Work.
- B. Administrative actions and submittals that shall proceed or coincide with this application include:
  1. Occupancy permits and similar approvals.
  2. Warranties (guarantees) and maintenance agreements.
  3. Test/adjust/balance records.
  4. Maintenance instructions.
  5. Meter readings.
  6. Start-up performance reports.
  7. Change-over information related to Owner's occupancy, use, operation and maintenance.
  8. Final cleaning.
  9. Application for reduction of retainage, and consent of surety.
  10. Advice on shifting insurance coverage.
  11. Final progress photographs.

12. List of incomplete Work, recognized as exceptions to Architect's Certificate of Substantial Completion.

### **1.8 FINAL PAYMENT APPLICATION**

- A. Administrative actions and submittals which must precede or coincide with submittal of the final payment Application for Payment include the following:
  1. Completion of Project Closeout requirements.
  2. Completion of items specified for completion after Substantial Completion.
  3. Assurance that unsettled claims will be settled.
    - a. Assurance that Work not complete and accepted will be completed without undue delay.
  4. Transmittal of required Project construction records to Owner.
  5. Certified property survey.
  6. Proof that taxes, fees and similar obligations have been paid.
  7. Removal of temporary facilities and services.
  8. Removal of surplus materials, rubbish and similar elements.
  9. Change of door locks to Owner's access.

### **1.9 PAYMENT FOR STORED MATERIALS**

- A. Provide supporting documentation for the value of stored materials. Acceptable form of supporting documentation includes a certified and notarized invoice from the manufacturer or supplier which indicates the actual amount due, including discounts to which the Contractor may be entitled, and the date which the invoice was paid.
- B. Provide notice to Architect 48 hours in advance, and provide transportation for Architect and Owner's Representative to the site where materials are stored to permit inspection of the materials.
- C. With Application for Payment, submit notarized certificate of title and evidence of insurance for materials stored off-site. The Town of Foxborough shall be the named certificate holder for all approved materials stored off-site. Provide an inventory of all stored materials with photographs and a notarized transfer of title to the Owner.
- D. With each subsequent Application for Payment, indicate in the appropriate columns the value of stored material which has been taken from off-site location and brought to the project site. Provide supporting documentation.

**1.10 CHANGE PROCEDURES**

- A. The Architect will advise of minor change in the Work not involving adjustment to Contract Sum/Price or Contract Time as authorized under the General and Supplementary Conditions of Contract, by issuing supplemental instructions on AIA Form G710.
- B. The Architect may issue a Proposal Request or Notice of Change which includes a detailed description of a proposed change with supplementary or revised Drawings and Specifications, a change in Contract Time for executing the change with a stipulation of any overtime work required and the period of time during which the request price will be considered valid. The Contractor will prepare and submit an estimate within 10 days.
- C. The Contractor may propose changes by submitting a request for change to the Architect describing the proposed change and its full effect on the Work. Include a statement describing the reason for the change, and the effect on the Contract Sum/Price and Contract Time and full documentation and a statement describing the effect on Work by separate or other contractors. Document any requested substitutions in accordance with Section 01 25 13 - PRODUCT SUBSTITUTION PROCEDURES.
- D. Stipulated Sum/Price Change order:
  - 1. Based on Proposal Request or Notice of Change and Contractors price quotation or Contractors request for a Change Order as approved by the Architect.
- E. Unit Price Change Order:
  - 1. For a pre-determined unit prices and quantities, the Change Order will be executed on a fixed unit price basis. For unit costs or quantities of units of work which are not pre-determined, execute Work under a Construction Change Directive. Changes in Contract Sum/Price or Contract Time will be computed as specified for Time and Material Change Order.
- F. Construction Change Directive:
  - 1. Architect may issue a directive on AIA Form G713 Construction Change Directive signed by the Owner instructing the Contractor to proceed with a change in the Work, for subsequent inclusion in a Change Order. Document will describe changes in the Work and designate method of determining any change in Contract Sum/Price or Contract Time.
  - 2. Promptly execute the change.
- G. Time and Material Change Order:

1. Submit itemized account and supporting data after completion of change, within time limits indicated in the Conditions of the Contract. Architect will determine the change allowable in Contract Sum/Price and Contract Time as provided in the Contract Documents.
  2. Maintain detailed records of work done on Time and Material basis. Document each quotation for a change in cost or time with sufficient data to allow evaluation of proposed changes and to substantiate changes in the Work.
- H. Documentation of change in Contract Sum/Price and Contract Time:
1. Change order Forms: AIA G701 Change Order or AIA G701CM Change Order (as appropriate to Owner-Contractor Agreement).
  2. Maintain detailed records. Document each quotation for a change in cost or time with sufficient data to allow evaluation of the quotation.
  3. On request, provide additional data to support computations:
    - a. Quantities of products, labor and equipment.
    - b. Taxes, insurance and bonds.
    - c. Overhead and profit.
    - d. Justification for any change in Contract Time.
    - e. Credit for deletions from Contract, similarly document.
  4. Support each claim for additional costs and for work done on a time and material basis, with additional information:
    - a. Origin and date of claim.
    - b. Dates and times work was performed, and by whom.
    - c. Time records and wage rates paid.
    - d. Invoices and receipts for products, equipment, and subcontracts, similarly documented.
- I. Execution of Change Orders: Architect will issue Change Orders for signatures of parties as provided in the Conditions of the Contract.

**PART 2 - PRODUCTS (NOT USED)**

**PART 3 - EXECUTION (NOT USED)**

**END OF SECTION 01 29 00**



**SECTION 01 31 00**  
**PROJECT MANAGEMENT AND COORDINATION**

**PART 1 - GENERAL****1.1 SUMMARY**

- A. Project coordination.
- B. Project meetings.

**1.2 GENERAL PROJECT COORDINATION**

- A. Coordination: The General Contractor is fully responsible for coordinating the Work of this Contract including scheduling, submittals, Work and other activities included in various Sections to assure efficient and orderly sequence of installation of interdependent construction elements. The General Contractor is responsible for coordinating actual installed location and interface of work, and to make provisions to accommodate items scheduled for later installation.
- B. Where installation of one component depends on installation of other components before or after its own installation, schedule activities in the sequence required to obtain efficient installation with the least amount of alterations, or cutting and patching, to completed Work.
  - 1. The Contractor shall be responsible to uncover work completed in order to install ill-timed work, at no additional cost to the Owner.
- C. Where space is limited, coordinate installation of different components to assure maximum accessibility for maintenance, service and repair.
- D. Coordinate space requirements and installation of mechanical and electrical work which are indicated diagrammatically on Drawings. Follow routing shown for pipes, ducts, and conduit, as closely as practicable; place runs parallel with line of building. Utilize spaces efficiently to maximize accessibility for other installations, for maintenance, and for repairs.
- E. Verify that utility requirement characteristics of operating equipment are compatible with building utilities. Coordinate work of various Sections having interdependent responsibilities for installing, connecting to, and placing in service such equipment.
- F. In finished areas except as otherwise indicated, conceal pipes, ducts, and wiring within the construction. Coordinate locations of fixtures and outlets with finish elements.

- G. Coordinate completion and clean-up of Work of separate Sections in preparation for Substantial Completion and Owner's occupancy.
- H. After Owner occupancy of premises, coordinate access to site for correction of defective Work and Work not in accordance with Contract Documents, to minimize disruption of Owner's activities.

### **1.3 UTILITIES, MECHANICAL AND ELECTRICAL COORDINATION**

- A. Coordinate all Work of this Project. Provide full and complete coordination for utilities, mechanical and electrical work in Divisions 11, 13, and 21 through 28, with Work of other Divisions.
- B. Give all advance notice to public utility companies as required by law, and provide proper disposition, subject to Architect's approval of all existing pipe lines, conduits, sewers, drains, poles, wiring, and other utilities that in any way interfere with the Work, whether or not they are specifically shown on the Drawings.
- C. Coordination regarding existing utilities:
  - 1. Notify Owner and appropriate authorities when coming across an unknown utility line(s), and await decision as to how to dispose of same.
  - 2. When an existing utility line must be cut and plugged or capped, moved, or relocated, or has become damaged, notify the Owner and Utility company involved, and assure the protection, support, or moving of utilities to adjust them to the new work.
  - 3. The Contractor shall be responsible for all damage caused to existing, active utilities located within the limits of this Contract, whether or not such utilities are shown on the Drawings, including resultant damages or injuries to persons or properties.
- D. General coordination of piping, ductwork, conduits and equipment:
  - 1. The Contract Drawings are diagrammatic only intending to show general runs and general locations of piping, ductwork, equipment and sprinkler heads. Determine exact routing and location of individual systems prior to fabrication of components or installation.
    - a. Piping runs requiring pitch have "right-of-way" over those systems that do not pitch.
    - b. System components whose elevations cannot be changed have "right-of-way" over those components whose elevations can be changed.
  - 2. Adjust locations of piping, ductwork, conduits and equipment as required to accommodate new work with interferences anticipated and as encountered during installation.

- a. Locate piping, conduits and ductwork to be clear of swinging doors, access doors, and clear for unimpeded equipment access.
3. Provide all offsets, transitions and changes of direction for all systems, as may be required to maintain proper clearances for headroom, and as may be required for coordination with other "fixed-in-place" building components (such as structural systems).
  - a. Furnish all vents, drains and similar accessories as may be required for offsets, transitions and changes of direction.
4. Provide openings in the work for penetration of mechanical and electrical work.
5. Coordinate final locations of ceiling mounted devices (including air distribution devices, thermostats, heaters, control devices, sprinkler heads and similar work) with reflected ceiling plans. Review locations with Architect and obtain approval of all devices prior to installation.

#### **1.4 ELECTRICAL BOX REVIEW**

- A. Invite Architect and Owner to review all spaces once all MEP boxes are installed, but prior to the installation of conduit and piping. Provide minimum two (2) business days' notice.

#### **1.5 COORDINATION DOCUMENTS**

- A. General: Prepare coordination drawings for areas where close coordination is required for installation of products and materials fabricated off-site by separate entities, and where limited space necessitates maximum utilization of space for efficient installation of different components.
  1. Coordination Drawings include, but are not necessarily limited to:
    - a. Structure.
    - b. Partition/room layout.
    - c. Ceiling layout and heights.
    - d. Light fixtures.
    - e. Access panels.
    - f. Sheet metal, heating coils, boxes, grilles, diffusers, and similar items.
    - g. All heating piping and valves.
    - h. Smoke and fire dampers.
    - i. Soil, waste and vent piping.
    - j. Major water.
    - k. Rain water drainage piping.

- l. Major electrical conduit runs, panelboards, feeder conduit and racks of branch conduit.
        - m. Fire Alarm Control Panel.
        - n. Above ceiling miscellaneous metal.
        - o. Sprinkler piping and heads.
        - p. All equipment, including items in the Contract as well as OFCI and OFI items.
        - q. Equipment located above finished ceiling requiring access for maintenance and service. In locations where acoustical lay-in ceilings occur, indicate areas in which the required access area may be greater than the suspended grid system.
        - r. Seismic Restraints.
- B. Timing: Prior to fabricating materials or beginning work, supervise and direct the creation of one complete set of coordination drawings showing complete coordination and integration of work, including, but not limited to, structural, architectural, mechanical, plumbing, fire protection, elevators, and electrical disciplines.
- C. Intent: Coordination drawings are for the General Contractor's and use during construction and are not to be construed as replacing shop drawings or record drawings. Architect's review of submitted coordination drawings shall not relieve the General Contractor from his overall responsibility for the coordination of the Work of the Contract.
- D. Base sheets: Architect will provide CAD files for use by the General Contractor for the development of building coordination drawing "base sheets" upon signed receipt of Architect's disclaimer form. General Contractor is responsible to prepare and provide one accurately scaled set of building coordination drawing "base sheets" showing all architectural and structural work. Base sheets shall be at appropriate scale; congested areas and sections through vertical shafts shall be at larger scale.
  - 1. Highlight all fire rated and smoke partitions.
  - 2. Indicate horizontal and vertical dimensions to avoid interference with structural framing, ceilings, partitions, and other services.
  - 3. Indicate elevations relative to finish floor for bottom of ductwork and piping and conduit (6 inches and greater in diameter).
  - 4. Indicate the main paths for the installation of, equipment from mechanical and electrical rooms.
    - a. Indicate location and sizes of all penetrations in floors and roof.

- E. General Contractor shall circulate coordination drawings to the following subcontractors and any other installers whose work might conflict with other work. Each of these subcontractors shall accurately and neatly show actual size and location of respective equipment and work. Each subcontractor shall note apparent conflicts, suggest alternate solutions, and return drawings to General Contractor.
  - 1. Plumbing subcontractor.
  - 2. Fire protection subcontractor.
  - 3. Heating ventilating and air conditioning subcontractor(s).
  - 4. Electrical discipline subcontractor(s).
  - 5. Control system subcontractors.
  
- F. Review and modify and approve coordination drawings in cooperation with individual installers and subcontractors to assure conflicts are resolved before work in field is begun and to ensure location of work exposed to view is as indicated or as approved by Architect.
  - 1. The General Contractor shall stamp, sign and submit coordination drawing originals to Architect for review.
  - 2. Do not commence work in areas described in the coordination drawings until receipt of Architect's comments.

#### **1.6 GENERAL PROJECT ADMINISTRATION**

- A. Prepare memoranda for distribution to each party involved outlining required coordination procedures. Include required notices, reports, and attendance at meetings.
- B. Prepare similar memoranda for the Owner and separate contractors where coordination of their Work is required.
- C. Conduct conferences among subcontractors and others concerned with the Work, to establish and maintain coordination and schedules, and to resolve coordination matters in dispute.
- D. Administrative Procedures: Coordinate scheduling and timing of administrative procedures with other activities to avoid conflicts and ensure orderly progress. Such activities include:
  - 1. Preparation of schedules.
  - 2. Installation and removal of temporary facilities.
  - 3. Delivery and processing of submittals.
  - 4. Progress meetings.
  - 5. Project Closeout activities.



**1.7 SITE MOBILIZATION CONFERENCE**

1. Items of Agenda:
  - a. Use of premises by Owner, Contractor, and subcontractor(s).
  - b. Owner's requirements and partial occupancy considerations.
  - c. Demolition procedures, identity tagging of existing furnishings and equipment for salvage or disposal.
  - d. Temporary utilities.
  - e. Barricading and protection of the public, dust barriers.
  - f. Survey and building layout.
  - g. Potentially difficult areas of work.
  - h. Project coordination.
  - i. Indoor air quality standards and testing requirements.
  - j. Security and housekeeping procedures.
  - k. Construction schedules.
  - l. Work beyond Contract Limit.
  - m. Procedures for testing and inspection.
  - n. Procedures for maintaining record documents.
  - o. Requirements for equipment start-up.
  - p. Inspection and acceptance of equipment put into service during construction period.

**1.8 PRE-INSTALLATION/PRE-FABRICATION CONFERENCES**

- A. When required in individual specification sections, prior to commencing the work of that trade, convene a pre-installation conference at work site, if possible, on same day as weekly progress meeting.
- B. Notify Architect and Owner's Project Manager a minimum of one week in advance of meeting date.
- C. Attendance is required by Contractor's Project Manager and Superintendent, and parties directly affecting, or affected by, work of the Section.

**1.9 COORDINATION MEETINGS**

- A. In addition to other specified meetings and additional meetings as required. General Contractor shall hold project coordination meetings, at least monthly at regularly scheduled times. Hold meetings more frequently when necessary to ensure full coordination of work. Request representation at each meeting by every entity involved in coordination or planning for work of the entire project.

Conduct meetings in a similar manner to progress meetings, to resolve coordination problems.

- B. Keep minutes of coordination meetings and distribute copies to all attendees, related parties and to Owner, Resident Project Representative(s), Architect and its engineering consultants within 3 business days following meeting. Coordination meetings shall continue on an appropriate schedule, even after completion of coordination drawings by Contractor, to review progress and resolve minor conflicts not identified in the coordination drawings.
- C. The following trades shall participate in coordination meetings, preparation of coordination drawings and reviews. Additional trades shall participate as the Contractor deems necessary for proper coordination of the Work.
  - 1. Concrete work.
  - 2. Masonry.
  - 3. Metal fabrications.
  - 4. Rough carpentry.
  - 5. Air and vapor barrier work.
  - 6. Finish wall and ceiling construction.
  - 7. Fire protection systems.
  - 8. Plumbing systems, including roof drainage, waste and vent systems and distribution.
  - 9. Ductwork including appurtenances and equipment.
  - 10. HVAC piping.
  - 11. HVAC equipment and controls.
  - 12. Electrical lighting, power, communications and signaling, fire detection and related systems.
  - 13. Excavation, site utilities and site improvements.
- D. All adjustments necessary to achieve full coordination shall be determined in a timely manner, so as not to delay the work. Include time necessary for consideration by the Architect and Resident Project Representative(s) for proposed modifications. No claim for additional compensation for extension of time arising from delays due to failure of Contractor to identify potential conflicts requiring coordination in a timely manner or from additional work made necessary by such failure will be valid.

#### **1.10 PROGRESS MEETINGS**

- A. The General Contractor shall schedule and administer meetings throughout the progress of the Work at regular intervals; make arrangements for

meetings, prepare agenda with copies for participants, preside at meetings and record minutes.

1. Distribute copies within 24 hours to Architect, Owner and participants, and to those affected by decisions made. Architect will review and send comments within 2 working days from receipt of minutes.
- B. The Architect or its representative will schedule and administer meetings throughout the progress of the Work; make arrangements for meetings, prepare agenda with copies for participants, preside at meetings, record minutes and distribute copies within one week to Contractor, Owner and participants of meeting only. Contractor is responsible for distribution to subcontractors, vendors, suppliers and others who are affected by decisions made.
1. Scheduled Frequency of Meetings: Bi-Weekly.
- C. Items of Agenda:
1. Review minutes of previous meetings.
  2. Review of Work progress.
  3. Field observations, problems, and decisions.
  4. Identifications of problems which impede planned progress.
  5. Review of submittals schedule and status of submittals.
  6. Review of off-site fabrication and delivery schedules.
  7. Maintenance of progress schedule.
  8. Corrective measures to regain projected schedules.
  9. Coordination of projected progress.
  10. Maintenance of quality and work standards.
  11. Progress of Work to be adjusted under coordination requirements, and effect of proposed changes on progress schedule and coordination.
  12. Other business relating to Work.

#### **1.11 SPECIAL PROJECT MEETINGS AND BUILDING COMMITTEE MEETINGS**

- A. Special project meetings: The Contractor shall conduct special project meetings as required throughout the course of the Work. Special Project Meetings are those held in addition to the regularly scheduled progress meetings. The Architect and Owner are not required to attend these meetings. Special meeting issues include, but are not limited to:
1. Safety issues.
  2. Labor issues.
  3. Special scheduling issues.

- B. Building Committee Meetings: Contractor is advised of obligation to attend Building Committee Meetings (held in evenings) as requested by Owner or Architect, at no additional cost to the Contract.
- C. Additional Special Meetings requested by the Architect or Owner: The Contractor along with any requested or necessary subcontractors, applicators, vendors or material suppliers shall attend additional meetings when requested by the Architect or Owner as they deem necessary. Such meetings may be convened on short notice if conditions at the project site so require and attendance is mandatory. The Architect and Owner are not limited as to the number of additional meetings that may be requested, or the agenda for such meetings.

**PART 2 - PRODUCTS (NOT USED)**

**PART 3 - EXECUTION (NOT USED)**

**END OF SECTION 01 31 00**

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**SECTION 01 32 00**  
**CONSTRUCTION PROGRESS DOCUMENTATION**

**PART 1 - GENERAL****1.1 SUMMARY**

- A. Survey and layout data.
- B. Scheduling of the Work.
- C. Contract progress reporting.
- D. Work Documentation.

**1.2 SURVEY AND LAYOUT DATA**

- A. Layout work before construction work is begun on the site, notify the Architect and Owner's Project Manager, who shall conduct a field inspection of the 'stake-out'. Layout shall include indication of all penetrations in floors and walls. The Architect reserves the right to adjust the location of such layouts as it deems necessary to comply with the intent of the Contract Documents.

**1.3 SCHEDULING OF THE WORK**

- A. Submit Gantt/Bar progress schedule in triplicate within 15 days after date of Owner-Contractor Agreement for Architect's review. Revise and resubmit as required.
- B. Schedule shall be of format approved by Architect showing complete sequence of construction activity, identifying Work of separate stages and other logically grouped activities. For each separate phase, stage of Work and individual activities, indicate the early and late start dates, early and late finish dates, float dates, and duration.
  - 1. The Schedule shall show the sequence and phasing of activities required and reflect the manner in which actual work will be performed. The number of activities shown in the Schedule must be at least equal and related to the number of items listed in the Schedule of Values including back-up detail.
  - 2. Indicate implementation and termination of each temporary utility.
  - 3. Define portions of work which are dependent on the schedule of other related activities and phasing.
  - 4. Define activities on which the work is dependent, including:

- a. Submittal of shop drawings, equipment schedules, samples, color submission, coordination drawings, templates, fabrication and material delivery times.
  - b. Architect/Engineer's review of shop drawings, equipment schedules, samples and templates.
  - c. Delivery times of equipment furnished under separate Contracts with Owner, where the Contractor has responsibility for installation or coordination.
5. Conclude all activities on one common end date, show contract completion date as a milestone activity on the Schedule.

#### **1.4 CONTRACT PROGRESS REPORTING**

- A. Construction schedule updates:
1. During progress of Work, revise and resubmit with Applications for Payment in accordance with the provisions of the General Conditions and Supplementary Conditions.
  2. Maintain progress schedule with project progress and utilize the plan in planning, coordinating and performing the work under this Contract.
  3. Furnish copies of the Progress schedule, and revisions, to all subcontractors, installers, equipment vendors and suppliers.
  4. Update schedule showing actual progress of Work in progress, identify Work started and completed during the previous update period. Show the estimated time required to complete each activity started but not yet completed, and reflect any changes in the schedule.
  5. Prepare a Schedule Analysis for submission with revised project schedules. The Schedule Analysis shall include a description of problem areas, current and anticipated delaying factors and their estimated impact on performance of other activities and completion dates, and an explanation of corrective action to be taken. All activities that are behind schedule by more than two weeks shall be addressed individually in the Schedule Analysis.
  6. Submit revised schedules with attached Schedule Analysis, with each Application for Payment; clearly identify changes since previous version. Indicate estimated percentage of completion for each item of Work at each submission.
- B. Look ahead activity reports: Prepare each week throughout the term of construction a listing of upcoming construction activities. Each weekly report shall include a listing of planned construction activities for the upcoming 2 weeks (14 calendar days). Submit a Look Ahead Activity Report at each job

meeting to all participants. If no meeting is planned on a given week, mail the reports directly to both Architect/Engineer and Owner's Project Representative.

1. Maintain a record of all Look Ahead Activity Reports in a 3-ring binder in the Contractor's field office and make available for review by Architect/Engineer and Owner's Project Representative.

C. Special Reports:

1. Unusual Event Reporting: When an event of an unusual and significant nature occurs at Project site, whether or not related directly to the Work, prepare and submit a special report. List chain of events, persons participating, response by Contractor's personnel, evaluation of results or effects, and similar pertinent information.

### **1.5 WORK DOCUMENTATION - PERIODIC SITE OBSERVATIONS**

A. Observe and maintain a record of tests. Record the following:

1. Specification section number, product(s), and name of subcontractor or installer.
2. Name of testing agency and name of inspector.
3. Name of manufacturer's representative present.
4. Date, time and duration of tests.
5. Type of test and results.
6. Retesting required.

B. Observe startup and adjustments; record time and date of equipment start-up and results.

C. Observe equipment demonstrations to Owner; record times and additional information required for operation and maintenance manuals.

D. Assist Architect/Engineer with final inspections. Prepare list of items to be completed and corrected.

### **PART 2 - PRODUCTS (NOT USED)**

### **PART 3 - EXECUTION (NOT USED)**

**END OF SECTION 01 32 00**

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**SECTION 01 33 00**  
**SUBMITTAL PROCEDURES**

**PART 1 - GENERAL****1.1 SUMMARY**

- A. Submittal coordination.
- B. Submittal procedures and grading.
- C. Schedule of Submissions.
- D. Shop drawings, product data and samples.
- E. Manufacturer's instructions.
- F. Manufacturer's certificates.
- G. Emergency addresses.

**1.2 SUBMITTAL COORDINATION**

- A. General: The Contractor is fully responsible for delay in the delivery of materials, progress of the Work and damages incurred due to Contractor's failure to submit, revise and resubmit submissions in accordance with the requirements herein, and in a coordinated and timely manner.
- B. Make submittals in a proper and timely fashion, allowing for administrative procedures, Architect's review, corrections to submissions and resubmittal, if necessary, and fabrication of products without delaying the project. Minimum processing times required by the Architect are as follows:
  - 1. Review for Architect's Office only: Allow a minimum of 10 working days for review and processing. Some submittals may require additional time.
    - a. Simultaneous submission of a large number of shop drawings and product data may require longer than 10 working days for review. (In particular submittals for Divisions 3, 5, 6, 21, 22, 23, 25 and 26).
    - b. Complex Systems (structural, mechanical, electrical) may require longer than 10 working days for review each time shop drawings, layout drawings, and product data are submitted or resubmitted.
  - 2. Review by Architect and its consultant(s): Allow 10 working days for review and processing of submittals by Architect plus an additional 5 working days for review by each consultant as applicable.
  - 3. Reprocessing of submittals: For submittals requiring resubmittal, re-processing time required shall be the same as first submittal.

4. No extension of Contract Time will be authorized due to failure to transmit submittals sufficiently in advance of scheduled performance of Work.
- C. Make submittals of similar items, systems, or those specified in a single specification section together.
- D. Make submittals for products which other products are contingent upon, first.
- E. The Contractor is fully responsible for delay in the delivery of materials or progress of work caused by late review of shop drawings due to failure of the Contractor to submit, revise, or resubmit shop drawings in adequate time to allow the Architect checking and processing of each submission or resubmission.

### **1.3 SCHEDULE OF SUBMISSIONS**

- A. Schedule procedure: Immediately after being awarded the Contract, meet with the Architect to discuss the schedule of submissions and then prepare and submit within 14 calendar days for approval a schedule of submissions for the Work. The schedule of submissions shall be related to the entire Project, and shall contain the following:
  1. Shop Drawing Schedule (for shop and setting drawings to be provided by the Contractor).
  2. Sample Schedule (for samples to be provided by the Contractor).
  3. With respect to portions of the Work to be performed by Subcontractors, such schedule of submissions for the work of each Subcontractor shall be submitted for approval within 30 calendar days after execution of a subcontract with such Subcontractor.
- B. List all submissions required of each trade:
  1. Include the Specification Section number, name of subcontractor or vendor, submittal type, item, description, type, quantity and size (where applicable) of each submission.
  2. For each submission, provide the following dates, as estimated:
    - a. Scheduled date of submission.
    - b. Required date of approval. (permit time for appropriate review and resubmissions as may be required).
    - c. Estimated date of beginning fabrication or manufacture of product (where applicable).
    - d. Required date of submission of product to testing laboratory.
    - e. Required date of testing laboratory approval.



- f. Required date for delivery of product to site.
  - g. Required date for beginning of installation of product.
  - h. Required date for completion of installation (and in-place testing).
  - i. Required dates for documentation as indicated in Section 01 78 00 – CLOSEOUT SUBMITTALS.
    - 1) Project record documents.
    - 2) Project record drawings.
    - 3) Required date for operation and maintenance data and preventative maintenance instructions.
    - 4) Materials and finishes manuals.
    - 5) Warranties and bonds.
    - 6) Maintenance contracts.
    - 7) Spare parts and maintenance materials.
- C. For each submittal, schedule to allow adequate time for review by the Architect and its consultants. The Architect will not be responsible for Work performed in shop or field prior to approval. Long-lead items requiring expedited action must be clearly indicated.
- 1. The schedule shall be reviewed and resubmitted as necessary to conform to approved modifications to the construction Project Schedule, and shall be updated as may be required by the Architect.
- D. Posting of submittal schedule: Print and distribute the submittal schedule to Architect, Owner, subcontractors and other parties affected. Post copies in field.
- E. Update schedule throughout progress of the Project, coordinated with scheduling changes in the Work, and redistribute monthly in conjunction with submittal of Application for Payment.

#### **1.4 SUBMITTAL PROCEDURES AND GRADING**

- A. Prepare and submit to the Architect, all specified and requested submittals.
- B. Provide space for Contractor, Architect and engineering consultant review stamps, on the front page of each item's submittal copy. Apply Contractor's stamp, signed or initialed certifying that review, verification of products required, field dimensions, adjacent construction Work, and coordination of information, is in accordance with the requirements of the Work and the Contract Documents. The Architect's stamp shall contain the following data (Engineering consultant review stamps may vary in language, but intent of language is similar):

\_\_\_\_\_ REVIEWED  
\_\_\_\_\_ FURNISH AS CORRECTED  
\_\_\_\_\_ REVISE AND RESUBMIT  
\_\_\_\_\_ REJECTED

1. The Architect will insert the date of action taken and an identification of the person taking the action.
  2. Submittal grading:
    - a. REVIEWED - No corrections, no marks.
    - b. FURNISH AS CORRECTED - Minor corrections required are as noted; all items can be fabricated as noted, without further correction and resubmission of original submission; checking is complete and all corrections are deemed obvious without ambiguity.
    - c. REVISE AND RESUBMIT - Resubmission is required; checking may be incomplete; details of items noted by checker are to be clarified further before full review can be given. Correct and resubmit, do not fabricate noted items requiring correction.
    - d. REJECTED - Submittal is rejected as not in accord with the Contract Documents, too many corrections, or other justifiable reasons. When returning submission, Architect will state reasons for rejection. Correct and resubmit, do not fabricate.
  3. Review/approval neither extends nor alters any contractual obligations of the Architect, Engineer or Contractor.
- C. Identify all variations from Contract Documents, and product or system limitations which may be detrimental to successful performance of the completed work.
- D. Contractor's review: Review all shop drawings, product data and samples. Include, without limitation, verification of the following:
1. Proper title, original date, drawing number (which shall be changed if resubmitted), revision numbers and dates, designation of project contractor, subcontractor and/or supplier.
  2. Identification of Shop Drawings, Product Data or Samples by Specification Section and subsection or paragraph where appropriate and identification of Contract Drawings by number and detail.
  3. On each submittal, as a minimum, Contractor shall identify the following:
    - a. Errors, inconsistencies, and omissions discovered in the contract documents and field conditions must be reported at once to the Architect.

- b. Any variations from code requirements contained in the contract documents must be reported promptly in writing to both the Architect and Owner.
  - c. Promptly report to the Architect information that any design, process, or product infringes on a patent.
  - d. Names of subcontractor(s) and supplier(s). Include name(s) of contact person(s), address, telephone and fax number(s).
- E. Revise and resubmit submittals as required, identify all changes made since previous submittal. Distribute copies of reviewed submittals to concerned parties; instruct parties to promptly report any inability to comply with provisions.

### **1.5 SUBMISSION REQUIREMENTS AND QUANTITIES**

- A. Furnish Architect with electronic files through the Adobe Acrobat Portable Document Format (PDF) files for each of the following submittal types:
- 1. Schedules, including, but not limited to:
    - a. Construction Schedule.
    - b. Schedule of Values.
    - c. Schedule of shop drawings, product data, and samples.
    - d. Schedule of Environmental Submissions.
  - 2. Shop drawings.
  - 3. Product data, manufacturer's instructions and certificates and similar submissions.
  - 4. Emergency addresses: 1 file to Architect, and 1 file direct to Owner.
- B. Furnish Architect with the following quantities of the following physical submittals:
- 1. Samples: Sets of 3 identical samples of each submission required.
- C. General submission of physical submittals.; deliver to Architect at the following address:
- LLB Architects, Inc.  
161 Exchange Street  
Pawtucket, Rhode Island 02860
- D. Transmit submittals to Architect at the above address, with individual transmittal forms, Document 00 62 12 – PRODUCT SUBMITTAL FORM for each submission. Document 00 62 12 is bound into the Project Manual; unbound copies are available from the Architect.

1. On transmittal form, identify Project, Contractor, subcontractor, installer, or supplier, pertinent Drawing sheet and detail number(s), and specification Section number, as appropriate. Transmittals received by the Architect from sources other than the Contractor will be returned without any action taken.
2. Contractor shall number submittals sequentially by Specifications Section prior to submittal. Resubmitted items shall retain number and be noted as resubmitted (example 260000-1 R1).

## 1.6 SHOP DRAWINGS

- A. General: Provide accurately prepared, large scale and detailed shop drawings prepared specifically for this Project. Shop drawings shall include fabrication and installation drawings, setting diagrams, schedules, patterns, templates and similar drawings. Standard information prepared without specific reference to Project are not considered shop drawings.
  1. Show adjacent conditions and related work. Show accurate field dimensions where appropriate.
  2. Identify materials and products shown. Note all conditions where require coordination with other trades and special installation procedures.
  3. Show gage and thickness of materials.
  4. Indicate welding details and joint types.
  5. Show every component of fabricated items, notes regarding manufacturing process coatings and finishes, identifying numbers conforming to the Contract Documents (i.e. stair numbers, door numbers and similar items), dimensions, and appropriate trade names.
  6. Show anchorage and fastening details, including type, size and spacing.
  7. Review each submittal for conformity with the Contract requirements prior to submittal, certify such review on each shop drawing with Contractor's stamp, signature and date. Reference on shop drawings to other sections, installers, suppliers, or trade(s) shall designate the appropriate specification sections, and the term "by others" shall not be used.
- B. Size of Format: Not less than 8-1/2 by 11 inches, and no larger than 30 by 42 inches, except for templates, patterns and similar full-size drawings.
- C. The Architect's comments and corrections will be made on the electronic submission (PDF) and returned to the Contractor. If necessary, the Contractor then shall make the necessary corrections on the original drawings and resubmit the corrected drawings in electronic format (PDF) as specified. Prints of any submittals required for the Architect's own use, and those of engineering consultants, will be made without cost to the Contractor. The

Contractor is responsible to distribute and furnish (at no additional cost to Owner) all shop documents needed for use by the Contractor, subcontractors, installers, vendors and suppliers.

- D. Drawing submittals returned "REVIEWED" or "FURNISH AS CORRECTED" Obtain and distribute adequate prints for construction, including one print of each for designated Owner's and Architect's Project Representative(s), and then return the reproducibles to the subcontractor or supplier from whom he originally received them.
- E. Drawing submittals returned "REJECTED" or "REVISE AND RESUBMIT", Obtain a record print, and then forward originals to source for correction; resubmit new reproducibles and prints as specified herein above.
- F. Shop Drawings returned "NOT REVIEWED": Obtain a record print, and return originals to source; do not resubmit.
- G. Each drawing shall have a title block on the right hand side containing the following data:

Name of project -	PAWTUCKET LIBRARY BURNS BUILDING
Architect -	LLB Architects, Inc.
Contractor -	
Subcontractor/supplier -	
Date of submission -	

- H. Each drawing shall have a clear space on the right hand side for review stamps of both the Architect and Contractor.
  - 1. The Contractor's Review and Action Stamp: Provide suitable space on label or title block for Contractor's review and action stamp. Stamp and sign each submittal to show Contractor's review and approval prior to transmittal Architect. Submittals not signed and stamped by Contractor will be returned without action.
    - a. Only submittals received from the General Contractor will be considered for review by the Architect. Contractor shall review each submittal for accuracy and conformance with the requirements of the Contract Documents, and particularly for field measurements and proper fit with adjoining work. Modify submittals as required to show interface with adjacent work and attachment to Building.
    - b. The Contractor's Review and Action Stamp shall contain the following language or similar:

APPROVED FOR CONFORMANCE  
WITH THE CONTRACT DOCUMENTS.

All dimensions and quantities have been reviewed and are accepted by \_\_\_\_\_

***General Contractor's Name***

All dimensions and field conditions have been or will be verified prior to fabrication of the items described herein.

- c. Submittals received from the Contractor shall be signed and comply with review requirements. Submittals not certified or improperly certified (stamped but not reviewed) will be returned to the Contractor without Architect's review. Claims due to the return of uncertified, improperly prepared or inadequately reviewed submittals will be rejected.

## 1.7 PRODUCT DATA

- A. Submit Product data as specified, and as the Architect may additionally prescribe. Product data includes, but is not limited to:
1. Catalog cuts.
  2. Complete specifications.
  3. Standard color charts.
  4. Performance data.
    - a. Compliance with recognized trade association standards.
    - b. Compliance with recognized testing agency standards, labels and seals.
  5. Environmental data including, but not limited to:
    - a. Chemical composition.
    - b. VOC content.
    - c. Material certifications as applicable to product.
  6. Certified laboratory test report data.
  7. Health and safety precautions.
  8. Illustrated capacities, characteristics, wiring diagrams, controls, and other pertinent information for complete product and product use description.
- B. If more than one size or type is shown on any printed sheet, indicate clearly intended item(s).

## 1.8 SAMPLES

- A. Submit samples clearly labeled as to its material, type or make, manufacturer, size or gauge, and other pertinent data, accompanied by an appropriate



transmittal form. Samples shall show full range of color and texture variation that can be expected.

1. When accepted or not accepted, the Architect will retain one set of samples and return the other to the Contractor. Samples will not be permitted for use in the project.

#### **1.9 MANUFACTURER'S INSTRUCTIONS**

- A. When specified in individual specification Sections, submit manufacturer's printed instructions for delivery, handling, storage, assembly, installation, start-up, adjusting, and finishing.
- B. Identify conflicts between manufacturer's instructions and Contract Documents.

#### **1.10 MANUFACTURER'S CERTIFICATES**

- A. When specified in individual specification Sections, submit manufacturer's certificates and installer certificates to Architect for review.
- B. Indicate material or product conforms to or exceeds specified requirements. Submit supporting reference data, affidavits, and certifications as appropriate.
- C. Certificates may be recent or previous test results on material or product, but must be acceptable to Architect.

#### **1.11 EMERGENCY ADDRESSES**

- A. Within 15 days of Notice to Proceed, submit in writing, the name, addresses and telephone numbers of key members of their organization including Contractor's Superintendent and personnel at the site, to be contacted in the event of emergencies at the building site, which may occur during non-working hours.

### **PART 2 - PRODUCTS (NOT USED)**

### **PART 3 - EXECUTION (NOT USED)**

**END OF SECTION 01 33 00**

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THIS PAGE INTENTIONALLY LEFT BLANK**

**SECTION 01 33 01 – FORM: REQUEST FOR SUBMITTAL REVIEW – COVER**

1.1 REQUEST FOR SUBMITTAL REVIEW COVER

Contractor’s Contact Information:	Project Number (Contractor/Architect):	Contractor Package Number (if applicable):

Date of Submittal:	Submittal Number		
	Specification Section (6 digit) i.e. 00 00 00	Sequential # (3 digit)	Version # (3 digit – start w/ 001)

Submittal Name:	Submittal Type:  (Product Data, Shop Drawing, Test Report, Sample, Mock-up, other):
Specification Requirement (Cite Part 1):	
The contractor requests review comments are provided by the following date:	
Deviation Requests included herein:	Yes: _____ No: _____
Options requiring selection by Architect are clearly identi- fied.	Yes: _____ N.A.: _____

Contractor Review Certification:

The attached submittal is the contractor’s work plan for this portion of the specified Work. This submittal was either prepared by the contractor directly, or under their direct supervision by their employee or subcontractor. Specified execution or schedule requirements have been coordinated with the project schedule.  The accompanying signature signifies that the contractor’s	Print name of Contractor’s review- er:
	Signature of Contractor’s reviewer:
	Date of Contractor’s approval:

<p>review is complete and is approved by them. Deviation requests for A/E approval (if any) are made and explained on a separate page. Any options requiring Architect/Engineer selection are clearly identified.</p>	
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**END OF SECTION 01 33 01**

<b>SUBMITTAL NAME</b>
_____
<b>SUBMITTAL NUMBER</b>
_____ - _____ - _____

**SECTION 01 33 02 – FORM: REQUEST FOR SUBMITTAL REVIEW – PDCS**

REQUEST FOR SUBMITTAL REVIEW - PRODUCT DATA CONTINUATION SHEET (PDCS)

For product submittals, list each product individually. Use additional pages as needed.

	LIST PRODUCTS IN THIS SUBMITTAL	INDICATE PART 2 SPECIFICATION PARAGRAPH (I.E. 2.2) WHERE PRODUCT IS SPECIFIED.	PRODUCT MANUFACTURER	PRODUCT NAME OF LINE OR MODEL #	PRODUCT COLOR/ FINISH	G.C. INDICATE THE PAGE NUMBERS IN THIS SUBMITTAL
1.						1 -
2.						
3.						
4.						
5.						
6.						
7.						
8.						

9.						
10 .						
11 .						
12 .						
13 .						
14 .						
15 .						
16 .						
17 .						
18 .						
19 .						
20 .						



**SECTION 01 41 00**  
**REGULATORY REQUIREMENTS**

**PART 1 - GENERAL****1.1 SUMMARY**

- A. This Section consists of:
1. Applicable codes and regulations.
  2. Wage rate compliance.

**1.2 DEFINITIONS**

- A. Regulations include 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, whether lawfully imposed by authorities having jurisdiction or not.

**1.3 APPLICABLE CODES AND REGULATIONS**

- A. All work shall be performed in accordance with the latest version, by DATE OF ISSUE for Contract Documents, current on date of Owner-Contractor Agreement, except as indicated otherwise, of all applicable codes including the following:
1. *International Building Code*, 2018 edition, as published by the International Code Council, Inc. (I.C.C.), as revised by *RHODE ISLAND BUILDING CODE*, Regulation RISBC-1, effective February 1, 2022.
  2. *International Plumbing Code*, 2018 Edition, as published by the International Code Council, Inc. (I.C.C.), as revised by *RHODE ISLAND PLUMBING CODE*, Regulation RISBC-3.
  3. *International Mechanical Code*, 2018 Edition, as published by the International Code Council, Inc. (I.C.C.), as revised by *RHODE ISLAND MECHANICAL CODE*, Regulation RISBC-4.
  4. *National Electrical Code (NEC)*, 2020 Edition, as published by National Fire Protection Association (NFPA-70) as revised by *RHODE ISLAND ELECTRICAL CODE*, Regulation RISBC-5.
  5. *International Energy Conservation Code*, 2018 Edition, as published by the International Code Council, Inc. (I.C.C.), as revised by *RHODE ISLAND ENERGY CONSERVATION CODE*, Regulation RISBC-8.
  6. *Rhode Island Rehabilitation Building and Fire Code for Existing Buildings and Structures*. RISRC-1 (RIGL Tile 23, Chapter 29.1).

7. Rhode Island State Fire Safety Code; effective July 1, 2021, as amended, which includes as reference NFPA-1 (National Fire Protection Association, Inc., 2018 edition, and NFPA 72 National Fire Alarm and Signaling Code, 2019 edition.
  8. ICC/ANSI A117.1, *Accessible and Useable Buildings and Facilities*, 2010 Edition, as published by the International Code Council, Inc. (I.C.C.) and American National Standards Institute (ANSI).
  9. City of Pawtucket Zoning Bylaws, as amended.
  10. *Life Safety Code*, (NFPA-101) 2018 Edition, as published by National Fire Protection Association as revised by *RHODE ISLAND LIFE SAFETY CODE*, Rhode Island Public Laws Chapter 12-237.
  11. National Fire Protection Association: NFPA 241 – *Safeguarding Building Construction and Demolition Operations*, 2022 edition
  12. United States Occupational Safety and Health Administration (OSHA): Standard N°. 29-CFR-1926.59 - HAZARD COMMUNICATION STANDARD.
  13. United States Department of Justice, N° 28 CFR Part 36 - AMERICANS WITH DISABILITIES ACT, (Public Law 101-336).
- B. Publication Dates: Where the date of issue of a code or regulation is not specified, comply with the standard in effect as of date of Contract Documents, or as otherwise required by authorities having jurisdiction.

#### **1.4 WAGE RATE COMPLIANCE**

- A. The General Contractor is responsible to ensure that the rate per hour to be paid to mechanics, apprentices, teamsters, laborers and other workers employed on the Work shall not be less than the approved wage rates applicable to this project. A legible copy of the approved rates, along with equal opportunity requirements, shall be posted on a weatherproof bulletin board outside the field office and be clearly visible for review by all workers.

#### **PART 2 - PRODUCTS (NOT USED)**

#### **PART 3 - EXECUTION (NOT USED)**

**END OF SECTION 01 41 00**

**SECTION 01 42 00****REFERENCES****PART 1 - GENERAL****1.1 SUMMARY**

- A. Abbreviations and Acronyms.
- B. Definitions
- C. Reference Standards.

**1.2 ABBREVIATIONS AND ACRONYMS**

- A. The following list of common abbreviations are referenced in individual specification sections. This list is provided for convenience to the Contractor and is not intended to define all abbreviations use in the Contract Documents.

- 1. Abbreviations for contract and specifications.

EPA	United States Environmental Protection Agency
HVAC	Heating, ventilating, and air conditioning
IAQ	Indoor Air Quality
IEQ	Indoor Environmental Quality
MSDS	Material Safety Data Sheet
NIC	Not in Contract
OFCI	Owner Furnished, Contractor Installed
OFI or OFOI	Owner Furnished and Installed (Owner Furnished, Owner Installed)
RIGL	State of Rhode Island General Laws
RISBC	Rhode Island State Building Code
VOC	Volatile Organic Compounds

- 2. Abbreviations for measurements and quantities.

C	Celsius
cm	Centimeter
F	Fahrenheit
Hrs	Hours
Kg	Kilogram
L	Liter
M	meter
m <sup>2</sup> or SM	square meter
m <sup>3</sup> or CM	cubic meter
mm	Millimeter
Mths	Months
psi	Pounds per square inch
t	ton

### 1.3 DEFINITIONS

- A. Definitions of contracting parties (Owner, Owner's Project Manager, and Architect): Refer to Section 01 10 00 –SUMMARY.
- B. Definitions for terms utilized in the Contract Documents:
  - 1. "As necessary," "as directed," "when directed," "satisfactory," "good and sufficient," "approved," or other general qualifying terms are used on the Drawings: These terms are deemed to be followed by the words, "in the opinion of the Architect," or "by the Architect," as the case may be."
  - 2. "Addenda": written or graphic instruments issued prior to the execution of the Contract which modify or interpret the Bidding Documents, including the Drawings and Specifications, by additions, deletions, clarifications or corrections.
  - 3. "Approval," "approved," "approved equal," "or equal," or "other approved" means as approved by the Architect."
  - 4. The term "Day": is defined as the following:
    - a. The term "calendar day" is a full 24 hour period, starting from 12 AM (midnight), and includes all weekends and legal holidays.
    - b. The term "working day" shall mean any calendar day except Saturdays, Sundays, and legal holidays at the place of the building.
    - c. Where the term "day" is used without the adjective of "calendar" or "working", it shall mean "calendar day".
  - 5. "Furnish and Install" or "Provide": items identified shall be furnished and installed under this Contract. The term "Furnish", when used separately, shall mean that the items referred to shall be furnished, only. Similarly the term "install", when used separately, shall mean that the items referred to shall be installed, only.
  - 6. "Knowledge," "recognize" and "discover," their respective derivatives and similar terms in the Contract Documents, as used in reference to the Contractor, shall be interpreted to mean that which the Contractor knows (or should know), recognizes (or should recognize) and discovers (or should discover) in exercising the care, skill and diligence required by the Contract Documents. Analogously, the expression "reasonably inferable" and similar terms in the Contract Documents shall be interpreted to mean reasonably inferable by a Contractor familiar with the Project and exercising the care, skill and diligence required of the contractor by the Contract Documents.
  - 7. "Not in Contract" or "N.I.C.": equipment, furnishings, or other materials not included as a part of this Contract.
  - 8. "Product": materials, systems and equipment.

**1.4 REFERENCE STANDARDS**

- A. For products or workmanship specified by association, trade, or Federal Standards, comply with requirements of the standard, except when more rigid requirements are specified or are required by applicable codes.
- B. Conform to reference standard by DATE OF ISSUE for Contract Documents, current on date of Owner-Contractor Agreement.
- C. Should specified reference standards conflict with Contract Documents, request clarification from Architect before proceeding.
- D. The contractual relationship to the parties to the Contract shall not be altered from the Contract Documents by mention or inference otherwise in any reference document.
- E. Schedule of References
  - 1. Listed below are abbreviations for the names and titles of trade association names, federal government agencies and similar organizations which are referenced in the individual specification sections. The addresses and URL's (Uniform Resource Locators) provided are for the Contractor's convenience and are believed to be current and accurate, however addresses and URL's frequently change, and no assurance is made on their accuracy:
 

AA	Aluminum Association 900 19th Street N.W., Suite 300 Washington, DC 20006 <a href="http://www.aluminum.com">www.aluminum.com</a>
AAMA	American Architectural Manufacturer's Association 1827 Walden Office Sq., Suite 104 Schaumburg, IL 60173-4268 <a href="http://www.aamanet.org">www.aamanet.org</a>
ACI	American Concrete Institute, International 38800 Country Club Drive, Farmington Hills, Michigan 48331 <a href="http://www.aci-int.org">www.aci-int.org</a>
AFPA	American Forest & Paper Association (Formerly NFPA National Forest Products Association) 1111 19 <sup>th</sup> St. N.W., Suite 800, Washington, DC 20036 <a href="http://www.afandpa.org">www.afandpa.org</a>
AIA	American Institute of Architects 1735 New York Avenue, N.W., Washington, DC 20006-5292 <a href="http://www.aia.org">www.aia.org</a>

AMCA	Air Movement and Control Association 30 W. University Drive, Arlington Heights, IL 60004-1893 <a href="http://www.amca.org">www.amca.org</a>
ANSI	American National Standards Institute 11 W. 42 <sup>nd</sup> Street, 13 Floor, New York, NY 10036 <a href="http://www.ansi.org">www.ansi.org</a>
APA	APA - The Engineered Wood Association (formerly APA - American Plywood Association) P.O. Box 11700, Tacoma, WA 98411-0070 <a href="http://www.apawood.org">www.apawood.org</a>
ASCA	Architectural Spray Coaters Association 230 West Wells Street, Suite 311, Milwaukee WI 53203 <a href="http://www.aecinfo.com">www.aecinfo.com</a>
ASHRAE	American Society of Heating, Refrigerating, and Air- Conditioning Engineers 1791 Tullie Circle NE, Atlanta GA.30329 <a href="http://www.ashrae.org">www.ashrae.org</a>
ASME	American Society of Mechanical Engineers 345 East 47th Street, New York, NY 10017-2392 <a href="http://www.asme.org">www.asme.org</a>
ASTM	American Society for Testing and Materials 100 Barr Harbor Drive, West Conshohocken, PA 19428 <a href="http://www.astm.org">www.astm.org</a>
AWI	Architectural Woodwork Institute 46179 Westlake Drive, Suite 120, Potomac Falls, VA 20165 <a href="http://www.awinet.org">www.awinet.org</a>
AWMAC	Architectural Woodwork Manufacturers Association of Canada Unit 02A 4803 Centre St. NW, Calgary, Alberta, Canada <a href="http://www.awmac.com">www.awmac.com</a>
AWPA	American Wood Preservers' Association P.O. Box 286, Woodstock, MD 21163-0286 <a href="http://www.awpa.com">www.awpa.com</a>
AWPI	American Wood Preservers' Institution 1945 Old Gallows Rd., Suite 150, Vienna, VA 22182 <a href="http://www.oas.org">www.oas.org</a>
AWS	American Welding Society 550 LeJeune Road, N.W., Miami, FL 33126 <a href="http://www.aws.org">www.aws.org</a>



BHMA	Builders Hardware Manufacturers Association, Inc. 355 Lexington Ave., 17 Floor New York, NY 10017 <a href="http://www.buildershardware.com">www.buildershardware.com</a>
CISCA	Ceilings & Interior Systems Construction Association 579 W. North Ave., Suite 301, Elmhurst, IL 60126 <a href="http://www.cisca.org">www.cisca.org</a>
CRI	Carpet and Rug Institute 310 Holiday Ave, Dalton, GA 30720 <a href="http://ww.carpet-rug.com">ww.carpet-rug.com</a>
DHI	Door and Hardware Institute 14170 Newbrook Dr., Chantilly, VA 22021-2223 <a href="http://www.dhi.org">www.dhi.org</a>
FM	Factory Mutual Engineering & Research Corp. 1151 Boston-Providence Turnpike Norwood, MA 02062 <a href="http://www.fmglobal.com">www.fmglobal.com</a>
GA	Gypsum Association 6525 Belcrest Road, Suite 480, Hyattsville, MD 20782 <a href="http://www.gypsum.org">www.gypsum.org</a>
MCAA	Mason Contractors Association of America 1910 S. Highland Ave. Suite 101, Lombard, IL 60148 <a href="http://www.masoncontractors.org">www.masoncontractors.org</a>
MIL	Military Specifications and Standards Naval Publications and Forms Center 5801 Tabor Avenue, Philadelphia, PA 19120 <a href="http://www.milspec.com">www.milspec.com</a>
NCMA	National Concrete Masonry Association 2302 Horse Pen Road, Herndon, VA 20171-3499 <a href="http://www.ncma.org">www.ncma.org</a>
NEMA	National Electrical Manufacturers' Association 1300 N. 17 <sup>th</sup> St., Suite 1846, Rosslyn, VA 22209 <a href="http://www.nema.org">www.nema.org</a>
NFPA	National Fire Protection Association 1 Battery March Park, PO Box 9101, Quincy, MA 02269 <a href="http://www.nfpa.org">www.nfpa.org</a>
NRCA	National Roofing Contractors Association 10255 W. Higgins Road, Suite 600, Rosemont, IL 60018-5607 <a href="http://www.nrca.net">www.nrca.net</a>

PCA	Portland Cement Association 5420 Old Orchard Road, Skokie, IL 60077-1083 <a href="http://www.cement.org">www.cement.org</a>
PS	Product Standard U. S. Department of Commerce <a href="http://www.omg.org">www.omg.org</a>
SDI	Steel Door Institute 30200 Detroit Road, Cleveland, OH 44145-1967 <a href="http://www.steeldoor.org">www.steeldoor.org</a>
SMACNA	Sheet Metal and Air Conditioning Contractors' National Association 4201 Lafayette Center Dr., Chantilly, VA 22022-1209 <a href="http://www.smacnapa.org">www.smacnapa.org</a>
SPIB	Southern Pine Inspection Bureau 4709 Scenic Highway, Pensacola, FL 32504-9094 <a href="http://www.spib.org">www.spib.org</a>
SSMA	Steel Stud Manufacturer's Association 8 South Michigan Avenue, Chicago IL 60603 <a href="http://www.ssma.com">www.ssma.com</a>
SSPC	The Society for Protective Coatings 40 24 <sup>th</sup> Street, 6 <sup>th</sup> Floor, Pittsburgh PA 15222-4623 <a href="http://www.sspc.org">www.sspc.org</a>
SWRI	Sealant, Waterproofing & Restoration Institute 2841 Main Street, Suite 585, Kansas City, MO 64108 <a href="http://www.swrionline.org">www.swrionline.org</a>
TMS	The Masonry Society 3970 Broadway, Suite 201D, Boulder CO 80304 <a href="http://www.masonrysociety.org">www.masonrysociety.org</a>
UL	Underwriters' Laboratories, Inc. 333 Pflingston Road, Northbrook, IL 60602 <a href="http://www.ul.com">www.ul.com</a>
WI	Woodwork Institute PO Box 980247 West Sacramento, CA 95798 <a href="http://www.woodworkinstitute.com">www.woodworkinstitute.com</a>

**PART 2 - PRODUCTS (NOT USED)****PART 3 - EXECUTION (NOT USED)****END OF SECTION 01 42 00**

**SECTION 01 45 00**  
**QUALITY CONTROL**

**PART 1 - GENERAL****1.1 SUMMARY**

- A. General quality assurance and control of installation.
- B. Site safety, worker safety and training.
- C. Contractor's quality control (QC) program.
- D. Source quality control.
- E. Field samples and mock-ups.
- F. Manufacturer's field services and reports.
- G. Field quality control, Owner's right for confirmation.

**1.2 GENERAL QUALITY ASSURANCE AND CONTROL OF INSTALLATION**

- A. Monitor quality control over suppliers, manufacturers, products, services, site conditions, and workmanship, to produce Work of specified quality.
- B. Comply fully with manufacturers' instructions, including performance of each step in sequence. Notify Architect when manufacturers' instructions conflict with the provisions and requirements of the Contract Documents; obtain clarification before proceeding with the work affected by the conflict.
- C. Comply with specified standards as a minimum quality for the Work except when more stringent tolerances, codes, or specified requirements indicate high standards or more precise workmanship.
- D. Perform work by persons qualified to produce workmanship of specified quality.
- E. Secure products in place with positive anchorage devices designed and sized to withstand stresses, vibration, physical distortion or disfigurement.

**1.3 SITE SAFETY, WORKER SAFETY AND TRAINING**

- A. General: The Contractor (and his Subcontractors) shall, at all times, exercise reasonable precautions for the safety of all persons. All rules, regulations, and laws concerning safety that are in effect at the work site, and in particular, all applicable regulations of the Occupational Safety and Health Administration

(OSHA) of the U.S. Government, in addition to specified requirements shall be complied with in all respects.

1. Contractor's responsibility for safety shall apply continuously twenty four (24) hours per Day during the term of this Contract and is not limited to normal working hours.
- B. Contractor's safety program: Prior to commencement of the Work, the Contractor shall develop and implement a Safety and Health Plan to comply with the Occupational Safety and Health Administration (OSHA) standards for the Construction Industry and all other applicable Federal, State, local laws and regulations. Contractor's Safety and Health Plan, and included health and safety procedures and policies, shall be submitted to the Architect and Owner's Representative within fifteen (15) Days after the date of Notice to Proceed and in no event later than commencement of the Work, whichever occurs first.
1. Perform pre planning to ensure access is provided to Fire Department for all areas of the work site throughout the duration of the Contract. The Contractor shall provide the Fire Department site access maps, updated regularly, to reflect changes in the layout of the work site and shall notify the Fire Department when each update is made
  2. Post and maintain, at prominent locations throughout the Project site, emergency telephone numbers and shall insure that all personnel on site are continuously aware of this information.
  3. Ensure safe access to the Work for the Owner, Architect, Architect's consultants, their designated representatives, and all others charged with inspection, testing and monitoring of the Work, and visitors to the site. The Contractor shall furnish site visitors with safety equipment, test equipment, safety apparel and instructions that are required to insure their safety on site, and In the performance of their duties related to the Work of this Contract
- C. All employees to be employed at the worksite will have successfully completed a course in construction safety and health approved by the United States Occupational Safety and Health Administration (OSHA) that is at least 10 hours in duration. The OSHA training and certification course shall occur at the time each employee begins work. Furnish documentation to Owner and Architect, for each employee documenting successful completion of the OSHA safety training and certification course. Submit with the first certified payroll report.

#### **1.4 CONTRACTOR'S QUALITY CONTROL PROGRAM**

- A. Procedures: Contractor and each subcontractor shall include all labor, materials, equipment, services and incidental items necessary to implement quality control procedures to the extent necessary to demonstrate and maintain compliance with the Contract Documents.

- B. Quality Control Plan: Within 20 days after Notice to Proceed, the Contractor shall submit a Quality Control (QC) Plan to the Owner's Representative and Architect for approval. The plan shall address the following, as a minimum:
1. The Contractor's commitment to quality and implementing and managing the QC program.
  2. Identification of the Contractor's onsite QC Manager, with name, qualifications, duties and responsibilities. The QC Manager shall have the authority to direct the removal and replacement of non-conforming work. The QC Manager shall be present for all QC meetings, inspections and tests during the project.
  3. Procedures for addressing and commenting QC with Contractor's staff, all subcontractors and suppliers, and Owner, Architect and Owner's representative.
  4. Procedures for review of submittals and submittal status, and documentation of same.
  5. Procedures for pre-installation meetings and documentation of same.
  6. Procedures for inspections of deliveries and documentation of same.
  7. Procedures for benchmark inspections, defined as initial installations, and documentation of same.
  8. Procedures for mockup inspections and documentation of same.
  9. Procedures for equipment in place, inspections and documentation of same.
  10. Procedures for inspections prior to closures of concealment and documentation of same.
  11. Procedures for start-up and commissioning and documentation of same.
  12. Procedures for turnover and documentation of same.
  13. Procedures for identifying, recording, tracking correcting and reporting items requiring rework, using a Rolling Completion list chronological item number, phase area, date listed, description, party responsible for correction, date notified, and date corrected.
  14. Procedures for testing and documentation of same.
  15. Procedures for corrective action on Architect's Field Reports and Testing Agency reports and documentation of same.
- Procedures for reporting on all of the above on a monthly basis as a condition precedent to review of the Contractor's application for payment.

### **1.5 SOURCE QUALITY CONTROL**

- A. 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.

- B. 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.
- C. Product Labeling: Attach label from agency approved by authority having jurisdiction for products, assemblies, and systems required to be labeled by applicable code(s).
  - 1. Label Information: Include manufacturer's or fabricator's identification, approved agency identification, and the following information, as applicable, on each label.
    - a. Model number.
    - b. Serial number.
    - c. Performance characteristics.

#### **1.6 FIELD SAMPLES**

- A. Install field samples demonstrating quality level for the Work, at the site as required by individual specifications Sections for review and acceptance by Architect. Remove field samples prior to date of Final Inspection, or as directed.

#### **1.7 MOCK-UPS**

- A. Where requested by Architect, or as specified in individual specification sections, assemble and erect specified items, with specified attachment and anchorage devices, flashings, seals, and finishes. Remove mock-up assemblies prior to date of Final Inspection, or as directed.
- B. Mock-ups, when approved by the Architect/Engineer, will be used as datum for comparison with the remainder of the Work for the purposes of acceptance or rejection.
- C. Demolish and remove from site prior to requesting inspection for certification of Substantial Completion, all Mock-ups which are not permitted to remain as part of the finished work.

#### **1.8 TESTING LABORATORY AND INSPECTION SERVICES**

- A. General Contractor will appoint, employ, and pay services of an independent firm to perform inspection and testing and other services specified in individual specification Sections and as required by the Architect.



- B. Cooperate with independent firm; furnish samples of materials, design mix, equipment, tools, storage and assistance as requested.
  - 1. Notify Architect and independent firm 48 hours prior to expected time for operations requiring services.
  - 2. Make arrangements with independent firm and pay for additional samples and tests required for Contractor's use.
- C. Retesting required because of non-conformance to specified requirements shall be performed by the same independent firm on instructions by the Architect. Payment for retesting will be charged to the Contractor by deducting inspection or testing charges from the Contract Sum.

### **1.9 MANUFACTURER'S FIELD SERVICES AND REPORTS**

- A. When called for by individual Specification Sections, provide at no additional cost to the Owner, manufacturers' or product suppliers' qualified staff personnel, to observe site conditions, start-up of equipment, adjusting and balancing of equipment, conditions of surfaces and installation, quality of workmanship, and as specified under the various Sections.
  - 1. Individuals shall report all observations, site decisions, and instructions given to applicators or installers. Immediately notify Architect of any circumstances which are supplemental, or contrary to, manufacturer's written instructions.
  - 2. Submit full report within 30 calendar days from observed site conditions to Architect for review.

### **1.10 FIELD QUALITY CONTROL**

- A. The Owner reserves the right to take samples and perform, at random, tests of approved materials delivered to the job site to verify compliance of actual materials with specifications.

### **PART 2 - PRODUCTS (NOT USED)**

### **PART 3 - EXECUTION (NOT USED)**

**END OF SECTION 01 45 00**

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**SECTION 01 50 00**  
**TEMPORARY FACILITIES AND CONTROLS**

**PART 1 - GENERAL****1.1 SUMMARY**

- A. General requirements for temporary facilities and controls.

**1.2 GENERAL REQUIREMENTS**

- A. The General Contractor shall provide and maintain all temporary facilities, controls, and construction aids as specified herein until they are replaced by permanent work, or until Project Substantial Completion, as appropriate.
1. Temporary facilities removed from the Project shall remain the property of the Contractor, except as otherwise specified.
- B. Except where specifically noted otherwise, cost or use charges for temporary facilities, utility services, controls, and construction aids and similar items specified in this Section or as required to perform the Work, are not chargeable to the Awarding Authority or Architect, and will not be accepted as a basis of claims for a Change Order.
- C. Establish and initiate use of each temporary facility at time first reasonably required for proper performance of the Work. Terminate use and remove facilities at earliest reasonable time when they are no longer needed, or when permanent facilities have, with authorized use, replaced the temporary facilities.
1. Locate temporary facilities where they will serve Project adequately and result in minimum interference with performance of the Work.

**1.3 REFERENCES**

- A. Referenced Standards: Comply with applicable requirements of the following standards and those others referenced in this Section, under the provisions of Section 01 42 00 - REFERENCES. The standards referenced herein are included to establish recognized minimum quality only. Where these standards conflict with other specified requirements, the most restrictive requirements shall govern. Equivalent quality and testing standards will be acceptable, subject to their timely submission, review and acceptance by the Architect.
1. ANSI A 10 - Safety Requirements for Construction and Demolition.
  2. NFPA 70 - National Electrical Code.
  3. NFPA 241 - Building Construction and Demolition Operations.

**1.4 SUBMITTALS**

- A. Information and Review Submittals: Submit the following under provisions of Section 01 33 00 - SUBMITTAL PROCEDURES:
1. Reports of tests, inspections, meter readings and similar procedures performed on temporary utilities.
  2. Schedule showing implementation and termination of each temporary utility within 15 days of commencement of the Work.
  3. Shop drawings:
    - a. Site Plan: Show temporary facilities, utility hookups, staging areas, and parking areas for construction personnel, fence and gate locations, temporary field offices, and all other equipment, storage and facilities required for the completion of Work.

**1.5 TEMPORARY UTILITIES, GENERAL REQUIREMENTS**

- A. General Installation: Install temporary utility service(s), or connect to existing service(s) as indicated, and as specified. Comply with all applicable laws, regulations, and requirements of authorities having jurisdiction.
- B. Tests and Inspections: Arrange for authorities having jurisdiction to test and inspect each temporary utility before use. Obtain required certifications and permits.

**1.6 TEMPORARY UTILITIES, ELECTRICITY**

- A. Temporary electricity: The Owner will pay for electrical energy required for temporary light and power. The Contractor is required to hire an electrician licensed where project is located to provide temporary feeders of sufficient capacity from the facility's power lines, at the point coordinated with the Owner, to furnish electric light and power requirements for the work, while under construction.
1. Metering: The Owner reserves the right to require separate metering and for the Contractor to pay for electricity used, if, in the Owner's opinion, electricity is being wasted.
    - a. Heavy electrical loads such as welding and other equipment with similar special power requirements must be powered by individual installers using portable electric generators at each user's own cost.
      - 1) Except as otherwise specifically provided, all additional costs resulting from such use shall be borne by the Contractor.

**1.7 TEMPORARY UTILITIES, LIGHTING**

- A. Temporary lighting: Provide lighting with local switching to fulfill security requirements and provide illumination for construction operations and traffic conditions. Maintain lighting and provide routine repairs.
1. Maintain a minimum lighting intensity of at least one 200 watt lamp per 1000 square feet of floor area of building. Provide higher lighting intensities necessary for finish work or special construction operations, when required.
  2. Permanent building lighting may be utilized. Immediately prior to the Architect's inspection for substantial completion the Contractor is required to replace all used lamps which are broken or have burned out.
  3. Install and operate temporary lighting with switching that fulfills security and protection requirements without operating entire system.

**1.8 TEMPORARY UTILITIES, TELEPHONE**

- A. Temporary telephone service: Provide telephone service at time of project mobilization, and pay all costs for installation, maintenance, and removal. The General Contractor shall pay service charges for local calls; toll charges shall be paid by party who places call. Service and equipment required includes the following:
1. For Contractor's Field Office:
    - a. Provide one direct line service dedicated for use by the Contractor, and personnel engaged in construction.
    - b. One answering machine or phone service with messaging.
    - c. One (direct) separate line for facsimile (FAX) machine.
    - d. Cellular (mobile) phone service for Contractor's Superintendent, continuously maintained until Project Substantial Completion.
    - e. Other instruments at the option of the Contractor, or as additionally required by Authorities having jurisdiction.
- B. Temporary internet service: Provide internet service at time of project mobilization, and pay all costs for installation, maintenance, and removal. The General Contractor shall pay service charges through date of Substantial Completion.
1. For Contractor's Field Office, General Contractor shall provide and maintain internet and email service. Internet service shall include e-mail account allowing a minimum of 5mb attachments to ensure exchange of all construction related e-mail to Contractor's field office.

**1.9 TEMPORARY UTILITIES, WATER**

- A. Temporary water: Contractor is permitted to use existing hose bib(s). Awarding Authority will pay for water necessary for the Work; exercise measures to conserve water.
  - 1. Contractor is responsible for connections to existing water supply, and any required distribution of temporary water services as required for construction.
  - 2. Protect piping and fittings against freezing.

**1.10 TEMPORARY HEATING AND COOLING**

- A. General, Temporary Heating and Cooling: Provide temporary heating and cooling required by construction activities for curing or drying of completed installations or for protecting installed construction from adverse effects of low temperatures or high humidity. Select equipment that will not have a harmful effect on completed installations or elements being installed.
- B. Temporary heat: Unless Owner authorizes use of permanent HVAC system, provide vented, self-contained, liquid-propane-gas or fuel-oil heaters with individual space thermostatic control.
  - 1. Heating Units: UL Listed and labeled for type of fuel being consumed, by a qualified testing agency acceptable to authorities having jurisdiction, and marked for intended location and application.
    - a. Use of gasoline-burning space heaters, open-flame heaters, or salamander-type heating units is prohibited.
    - b. Vent heaters directly to outside air, in areas where concrete is less than 15 days old.
  - 2. In enclosed areas, maintain a minimum temperature of 50 degrees Fahrenheit; provide higher temperatures where required by individual specification sections. General Contractor is required to provide enclosures necessary to maintain specified temporary heat.
  - 3. Permanent HVAC System: If Owner authorizes use of permanent HVAC system for temporary use during construction, provide filter with MERV of 8 at each return-air grille in system and remove at end of construction and clean HVAC system. Replace all air filters immediately prior to occupancy.

**1.11 TEMPORARY VENTILATION AND HUMIDITY CONTROL**

- A. General:
  - 1. Humidity Control: Monitor and regulate relative humidity as required for the installation of all interior products. Relative humidity shall be maintained within the limits set by manufacturers of all interior materials



and equipment. Refer to individual specification sections in Divisions 6, 8, 9, 10, 11 and 12 for additional environmental requirements.

- a. Contractor shall enclose interior work areas, protect from weather, and maintain specified temperature and humidity prior to commencement of construction activities relating to interior finishes.
  2. Ventilate enclosed areas to assist cure of materials, to dissipate humidity, and to prevent accumulation of dust, fumes, vapors, or gases. Extend and supplement equipment with temporary fan units as required to maintain clean air for construction operations.
- B. Monitor Humidity: Provide Hygrometer to measure temperature and relative humidity in each construction area.
1. Provide dehumidifier(s), as required to maintain humidity of enclosed areas below 70 percent. Humidity level shall be maintained in all areas where interior finish work is being performed, and all areas where interior finishes has been completed.
  2. Provide fans as specified herein, and as required to eliminate significant variation in humidity levels within enclosed spaces.
- C. Temporary Construction Ventilation: Contractor shall maintain sufficient temporary ventilation of areas where materials are being used that emit VOC's and maintain ventilation continuously during installation and until emissions dissipate after installation. If continuous ventilation is not possible via the building's HVAC system(s) then Contractor shall supply ventilation via open windows and temporary fans, sufficient to provide no less than three air changes per hour.
1. Vent all areas directly to outside. Areas shall not be vented to other enclosed areas.
  2. During dust producing activities (e.g. drywall installation and finishing) Contractor shall turn off ventilation system and protect openings in supply and return HVAC system from dust infiltration. Provide temporary ventilation as required.
  3. Dissipation of VOC's: The period after installation shall be sufficient to dissipate odors and elevated concentrations of VOCs. A minimum time period of 72 hours is required except where longer periods of time are specified under individual specification sections.
- D. Preconditioning: Prior to installation, Contractor shall allow products which have odors and VOC emissions to off-gas in dry, well-ventilated space outside of building for 14 calendar days, in order to allow for reasonable dissipation of odors and emissions.

**1.12 FIELD OFFICES AND SHEDS**

- A. General:
1. Designated existing spaces in the current Pawtucket Library shall be used for field offices and for storage.
  2. Provide offices ready for occupancy within 15 days after date fixed in Notice to Proceed.
  3. Offices and sheds located within the construction area, or within 30 feet of building lines shall be of noncombustible construction. Comply with requirements of NFPA 241.
  4. General:
    - a. Contractor shall provide periodic cleaning and maintenance of field offices and storage areas.
    - b. Provide air conditioning and heating to maintain a temperature range of 65 to 78 degrees F.
    - c. Provide sufficient lighting for 50 foot candles at desk top level over 100 percent of floor area.
    - d. Excluding computer, computer software and related equipment; all other non-consumed furnishings and equipment, will be returned to contractor upon project completion.
- B. Contractor's field office(s): Provide habitable office(s) or space, of size to accommodate personnel, include as a minimum the following:
1. Furnishings:
    - a. Conference table and chairs to seat at least 8 persons;
    - b. Racks and files for Contract Documents, submittals and Project Record Documents.
  2. Outdoor weather thermometer.
  3. Hard-hats for site visitors.
  4. Duplex convenience outlets, at least one per wall.
  5. Telephone service as specified herein above.
  6. Other equipment and furniture as the Contractor deem necessary.
- C. Storage and fabrication sheds: Provide as required, sheds, equipped to accommodate materials and equipment involved.
1. Subcontractors are responsible for their own storage facilities, coordinate locations.
- D. Maintain approach walks to field office and storage/fabrication sheds free of mud, water, and snow.

- E. When permanent facilities are enclosed with operable utilities, relocate offices and storage into building, with written agreement of Awarding Authority Owner, and remove temporary buildings.

### **1.13 SANITARY FACILITIES**

- A. Sanitary facilities: Provide self-contained single-occupant chemical toilet units, wash facilities and drinking water fixtures.
  - 1. Locate sanitary facilities within the fenced construction zone.
  - 2. Permanent facilities located in completed work may not be used by the Contractor's personnel.
- B. Provide toilet tissue, paper towels, paper cups, cleaning compounds and similar materials.
- C. Maintain facilities, through-out term of construction, and keep clean, provide covered waste containers for used material.

### **1.14 FIRST AID AND FIRE EXTINGUISHERS**

- A. First aid supplies: Comply with governing regulations.
- B. Fire extinguishers: Provide and maintain on site, adequate fire extinguishers UL rated for A-B-C type fires. Provide red-painted plywood standards for each extinguisher. Additionally, provide a dry chemical fire extinguisher at each location where welding, torch cutting and other similar hazardous work is in progress.
  - 1. At welding and heat cutting work: Provide not less than a Multi-purpose dry chemical type (mono ammonium phosphate) fire extinguisher, 20 pound capacity, multi-purpose rated "2A, 120 B:C".

### **1.15 CONSTRUCTION AIDS - USE OF PERMANENT ELEVATORS**

- A. Temporary use of elevator(s): Use of the permanent elevators during construction for the transportation of personnel and handtools, shall be coordinated and scheduled with Owner. Construction Materials are not to be transported in existing elevator.

### **1.16 CONSTRUCTION AIDS - TEMPORARY HOISTS AND CRANES**

- A. Hoisting equipment and machinery: Furnish all hoisting equipment, crane services and lift machinery required to perform the Work of this Contract. Install, operate and maintain in safe condition.
  - 1. Do not charge applicators and installers for these services during normal working hours.

**1.17 CONSTRUCTION AIDS - SCAFFOLDING, PLATFORMS, STAGING, CHUTES**

- A. Provide all ladders, ramps, runways, platforms, railings, chutes, and other mounted or installed construction aids as specified herein and as required to facilitate the Work. Furnish and erect construction aids and maintain in safe condition for the use of all subcontractors, installers and applicators.
- B. Furnish and erect scaffolds, staging, and maintain in safe condition, dismantle when no longer required. The Contractor shall provide scaffolds, staging, and other similar raised platforms, required to access the Work:
  - 1. Enclose all exterior scaffolding outside of the construction fence with 6 foot height plywood enclosure at end of each work day to prohibit access to the scaffolding by unauthorized individuals.
- C. Ladders, temporary stairs, platforms and railings, shall comply with OSHA guidelines.
  - 1. Provide and maintain temporary stairs until permanent stairs are in place and functional. When permanent stairs are erected, provide temporary railings and guards. Protect permanent stairs with temporary covers and protective treads.
  - 2. Portable ladders and mobile platforms of all required heights, shall be provided by individual users.
- D. Temporary chutes: Provide, erect, and maintain properly supported and covered chutes from openings in exterior walls of each building level in convenient and accessible locations for use of all trades, that will permit direct disposal of rubbish and debris directly into trucks or disposal units.
  - 1. Do not drop or throw any materials, rubbish, or debris from openings in the exterior walls of the project, or from roof.

**1.18 VEHICULAR ACCESS AND PARKING**

- A. Provide and maintain access to fire hydrants free of obstructions. Provide unimpeded access for emergency vehicles. Maintain 20 foot width driveways with turning space between and around combustible materials.
- B. Snow and ice removal: Maintain all vehicular and pedestrian access roads and walkways free from ice and snow during the winter season for the duration of the Project.
- C. Vehicular Parking: Arrange for, and provide offsite parking for construction personnel, at no additional cost to Owner.
- D. Prior to Substantial Completion, the installed base for permanent roads and parking areas may be used for construction traffic.

1. Avoid traffic loading beyond paving design capacity.
2. Permanent parking structures and final paved areas may be used by construction personnel on execution of agreement with Awarding Authority.

### **1.19 VEHICULAR TRAFFIC CONTROL**

- A. The Contractor shall not close or obstruct any portion of any street public or private, without obtaining permits therefore from the proper authorities.
  1. Provide and pay for traffic details at any time that construction takes place in a public street (right of way). The Contractor is responsible for coordinating, requesting, and paying the prevailing rate of wage for police traffic details directly with the Pawtucket Police Department.
- B. Haul routes: Consult with governing authorities and establish public thoroughfares which will be used as haul routes and site access. Confine construction traffic to designated haul routes.
  1. Confine construction traffic to designated haul routes.
  2. Provide traffic control at critical areas of haul routes to expedite traffic flow and to minimize interference with normal public traffic.
- C. Traffic signals and signs: Provide, operate and maintain temporary equipment, services, and personnel, with traffic control and protective devices, as required to direct and maintain an orderly flow of traffic in all areas under Contractors control, or affected by Contractors operations, including but not limited to haul routes, at site entrances, at on-site access roads, and parking areas during construction.
  1. Provide traffic control and directional signs, mounted on barricades or standard posts as needed to direct construction and public traffic, including but not limited to:
    - a. At each change of direction of a roadway and each crossroad.
    - b. At detours.
  2. Provide traffic signal and detour signs with breakaway post assemblies conforming to the applicable provisions of the Standard Specifications.
  3. Provide traffic cones and drums as required to maintain orderly flow of traffic.

### **1.20 DUST CONTROL**

- A. Provide positive means to prevent air-borne dust from dispersing into atmosphere.
  1. Take all necessary measures and provide equipment and materials to minimize dust from rising and blowing across the site and also to control

surface water throughout the operation so that it does not run onto paved ways without being filtered. Control all dust created by construction operations and movement of construction vehicles, both on site and on paved ways.

2. During the progress of the work, maintain the areas of construction activities including sweeping and sprinkling of streets as necessary. Provide and use calcium chloride for more effective dust control, when deemed necessary by regulatory agencies, without additional cost to the Owner.
- B. Prevent air-borne dust from dispersing into occupied spaces (after partial Owner-occupancy, if occurs). Provide interior dust-tight temporary partitions as specified under the Article entitled "Interior enclosures".
1. Provide air filters over openings and grilles in air-return ducts occurring within construction areas.
  2. Provide openings in temporary partitions where air-return grilles occur outside of work areas. In each opening, provide standard 2 inch thick, throw-away type filter having a rated efficiency of 35 percent. Review with Architect size requirements of filtered openings, locations of openings and how many are required.
  3. Replace air filters as required to maintain their efficiency.
- C. Prevent air-borne dust from dispersing into ducts (air supply and return) during construction. Seal all open ends of completed ductwork, and overnight work-in-progress. Inspect ducts on daily basis to ensure seals are intact.
1. Prior to substantial completion the Contractor is responsible to wipe down internal surfaces of ductwork to remove all dust and debris.

#### **1.21 NOISE CONTROL**

- A. Develop and maintain a noise-abatement program and enforce strict discipline over all personnel to keep noise to a minimum.
- B. Execute construction work by methods and by use of equipment which will reduce excess noise.
1. Equip air compressors with silencers, and power equipment with mufflers.
  2. Manage vehicular traffic and scheduling to reduce noise
- C. Interior work involving cutting, drilling, hammering or noise generating procedures shall be completed during times schedule with the Owner in advance.



**1.22 TEMPORARY BARRICADES**

- A. Provide barriers and barricades to prevent unauthorized entry to construction areas.
  - 1. Comply with standards and code requirements for erection of barricades, where required provide lighting, including flashing lights.
  - 2. Paint with appropriate colors, graphics and warning signs to inform personnel and the public of the hazard being protected against.
  - 3. Provide special barriers necessary to protect entrances and areas around building and to prevent persons from coming in contact with material or construction operations.
- B. Provide temporary enclosures, as required, for protection of construction from exposure to weather, other construction operations and similar activities. Where heat is needed and the building envelope is incomplete, provide enclosures where there is no other provision for containment of heat.
  - 1. Provide doors with self-closing hardware and locks.
  - 2. Provide barricades and protective entrances at least 48 inches high around openings in floors, escalators and elevators.
- C. Provide temporary roofing as needed to maintain the building watertight.

**1.23 TEMPORARY FENCES**

- A. Construction fence: Provide a 6 foot high commercial grade chain link fence around construction site; equip with vehicular and pedestrian gates and locks.
  - 1. Relocation of all fences and gates as required due to construction phasing. Relocations shall be provided at no additional cost to the Owner.
  - 2. Vehicular and Pedestrian Gates: Build into fence at approved locations. Provide gates with cross-bracing, and hung on heavy strap hinges with post and hook for double gates. Provide heavy hasps and padlocks.
    - a. Provide a set of keys to Project Resident Engineer to facilitate emergency access.

**1.24 POLLUTION CONTROL**

- A. Provide methods, means, and facilities required to prevent contamination of soil, water, or atmosphere by, the discharge of noxious substances from construction operations.
  - 1. Comply with all applicable Federal, State, County, and municipal laws regarding pollution.
  - 2. Prevent pollution of streams, lakes, or reservoirs with fuels, oils, bitumen's, calcium chloride, acids, waste products, effluents, chemicals or

other harmful substances. Prevent from such substances from entering storm drains and sanitary sewers.

- B. Provide equipment and personnel, perform emergency measures required to contain any spillage and to remove contaminated soils or liquids.
  - 1. Excavate and legally dispose of any contaminated earth off-site, and replace with suitable compacted fill and topsoil.

#### **1.25 FIRE PREVENTION MEASURES**

- A. Prior to commencement of work at the site, the Owner's Representative, and General Contractor shall meet with the Local Fire Marshal to plan site and building access in the event of fire.
  - 1. Access paths for heavy firefighting equipment shall be laid out and maintained.
  - 2. Free access from streets to fire hydrants and to outside connections for standpipes, sprinklers or other fire extinguishing equipment shall be provided and maintained.
- B. The Contractor shall take all necessary precautions for the prevention of fire during construction. Install and maintain temporary fire protection facilities of the types needed to protect against reasonably predictable and controllable fire losses. Maintain unobstructed access to fire extinguishers, fire hydrants, temporary fire protection facilities, stairways, and other access routes. Ascertain and comply with requirements of Project insurance carrier, local fire department and the state fire marshal.
  - 1. Maintain the area within contract limits orderly and clean.
    - a. Remove combustible rubbish promptly from the site and when required, store combustible materials in containers in fire-safe locations.
  - 2. Maintain clear access to exits from within the building.
  - 3. Smoking is not permitted in the building or adjacent areas.
- C. Establish procedures for fire protection for welding, cutting and open torch work, and other potentially hazardous operations. Obtain permission from local authorities having jurisdiction for such work as required by law. Provide special fire extinguishers at welding and torch cutting work.
  - 1. After Owner occupancy or partial occupancy: Maintain a fire watch when fire protection and warning systems have been temporarily de-activated. Maintain watch during all working hours for full period of de-activation.
  - 2. The Contractor will assign personnel to inspect all construction areas at the end of each day's work for fire hazards prior to lock-up.

- D. Provide for outside storage of gas tanks, sufficiently clear of any structure. Promptly remove welding and cutting equipment from the building when no longer required. Do not store welding or cutting materials within the building when work is not being performed.
- E. Permanent fire protection system may be activated to meet these requirements. Replace fusible link heads and other expended or discharged components at time of Substantial Completion.

#### **1.26 SECURITY MEASURES**

- A. Protect Work, existing premises and Owner's operations from theft, vandalism, and unauthorized entry. Maintain security program throughout construction period until Owner occupancy precludes the need for Contractor security.
  - 1. General contractor is responsible for security of site during construction, including, prevention of illegal trespassing, unauthorized entry, theft and vandalism. All losses and damages which occur are the full responsibility of the General Contractor, who shall bear all costs incurred.
- B. Provide and maintain, for the duration of the Contract, all security precautions and proper protective measures as may be required to adequately protect the Owner's personnel, the public, and other interests of the Owner, from hazards resulting from, or related to, the work performed hereunder. When regulated by local building code or other Authority, the requirements of this Paragraph 1.02 shall be considered as minimum requirements and the Contractor shall be responsible for the protection of such minimum requirements as may be required by public safety laws.
  - 1. Take all proper precautions to protect the Owner's property from damages and replace or put in good condition, any existing items which are damaged in carrying out the work, unless designated to be permanently removed or demolished.
- C. The requirements specified herein shall be in addition to, not in lieu of, other protection requirements contained in these Contract Documents.
- D. Provide entry control:
  - 1. Restrict entrance of persons into Project Site.
  - 2. Allow entrance only to authorized persons with proper identification.
  - 3. Maintain log of workmen and visitors, make available to Awarding Authority on request.

#### **1.27 REMOVAL OF TEMPORARY UTILITIES, CONTROLS, AND FACILITIES**

- A. Remove temporary materials and construction prior to Substantial Completion.

- B. Restore permanent facilities used during construction to specified condition.
- C. Clean and repair damage caused by installation or use of temporary work.

**PART 2 - PRODUCTS (NOT USED)**

**PART 3 - EXECUTION (NOT USED)**

**END OF SECTION 01 50 00**

**SECTION 01 60 00**  
**PRODUCT REQUIREMENTS**

**PART 1 - GENERAL****1.1 SUMMARY**

- A. Definition of Terms
- B. Basic product requirements.
- C. General environmental requirements for products.
- D. Product delivery and handling requirements.
- E. Product storage and protection requirements.
- F. Construction waste management.

**1.2 RELATED REQUIREMENTS**

- A. Section 01 25 13 - PRODUCT SUBSTITUTION PROCEDURES:
  - 1. Product options.
  - 2. Product substitution procedures.
- B. Section 01 74 19 - CONSTRUCTION WASTE MANAGEMENT AND DISPOSAL: Procedural and administrative requirements for construction and demolition recycling.

**1.3 REFERENCES**

- A. Referenced Standards: Comply with applicable requirements of the following standards and those others referenced in this Section, under the provisions of Section 01 42 00 - REFERENCES. The standards referenced herein are included to establish recognized minimum quality only. Where these standards conflict with other specified requirements, the most restrictive requirements shall govern. Equivalent quality and testing standards will be acceptable, subject to their timely submission, review and acceptance by the Architect.
  - 1. International Standards For Phytosanitary Measures (ISPM) Standard No. 15. – Compliant Wood Packaging.
  - 2. OSHA Hazard Communication Standard, 29 CFR 1910.1200
  - 3. South Coast Air Quality Management District (SCAQMD) Rule #1168 – Adhesive and Sealant Applications.

**1.4 DEFINITION OF TERMS**

- A. "Products" is defined as new material, machinery, components, equipment, fixtures, and systems used in the Work. Products do not include machinery and equipment used for preparation, fabrication, conveying and erection of the Work. Products may also include existing materials or components required for re-use.
- B. "Materials" are products that are shaped, cut, worked, mixed, finished, refined or otherwise fabricated, processed, or installed to form a part of the Work.
- C. "Equipment" is a product with operational parts, whether motorized or manually operated, that requires service connections such as wiring or piping.
- D. "Fasteners" include all products required for mechanical connections and include, but are not limited to: nails, screws, bolts, expansion bolts, chemical bolts, epoxy anchors, pins, powder-actuated devices, and similar fasteners, anchors, and connections.
- E. Definitions in this article are not intended to negate the meaning of other terms used in Contract Documents, including "specialties", "systems", "structure", "finishes", "accessories", "furnishings", "special construction", and similar terms, which are self-explanatory and have recognized meanings in the construction industry.

**1.5 BASIC PRODUCT REQUIREMENTS**

- A. General Product Requirements: Provide products that comply with the Contract Documents, that are undamaged and, unless otherwise indicated, that are new at time of installation.
- B. To the fullest extent possible, provide products of the same kind, from a single source.
- C. Provide interchangeable components of the same manufacturer, for similar components.
- D. When the Contractor has the option of selecting two or more products, ensure that products selected shall be compatible with products previously installed or approved.
- E. Provide all products complete with all accessories, trim, finish, safety guards and other devices and details needed for a complete installation and for the intended use and effect.
- F. Galvanic Corrosion: Install materials in manner which will effectively isolate dissimilar metals which may potential for galvanic corrosion. Use

non-absorptive dielectric material, isolation coatings, or other protective isolator approved by Architect.

- G. Fasteners, Anchors, and Connections: Provide all fasteners, anchors, and connections needed to safely, securely, and appropriately secure all Work permanently in place.
1. General: The Contractor is solely responsible for the capacity, suitability, adequacy, and safety of all welded, fastened and anchored connections.
    - a. Comply with applicable code requirements regarding fastener selection and installation.
    - b. Provide at least two fasteners for each individual item being fastened.
    - c. Utilize fastener manufacturer's published load tables for working loads to assist in determining fastener size and space. Do not use ultimate load capacity in determining fastener selections.
    - d. Provide a minimum safety factor of 4.
    - e. Select and utilize fasteners having minimum galvanic corrosion factor.
    - f. Hydrogen embrittlement prevention:
      - 1) Do not use high-strength and low-alloy fasteners which have been subjected to an acid pre-treatment (because they can become brittle and fail), utilize instead equivalent capacity and size bi-metal, stainless steel or high strength aluminum fasteners, as appropriate to the conditions and materials where being used.
      - 2) Utilize low-hydrogen electrodes for welding high-strength steels to prevent hydrogen embrittlement.
  2. To permit the Contractor control over means and methods, some fastener conditions may not be fully defined in the Contract Documents. In particular, individual specification sections that require delegated independent engineering. In such instances the Contractor is fully responsible to determine method of fastening appropriate for each condition. The Contractor shall take into consideration substrate material(s) and product(s) being fastened, live and dead loading, and both atmospheric and visual exposure considerations. Contractor is responsible to determine fastener type, material, finish, size, diameter, length and spacing.
  3. Torque structural fasteners as recommended by fastener manufacturer, or as otherwise specified in the Contract Documents.
- H. Permanent Labels and Nameplates:



1. Restrictions:
  - a. Do not provide exposed-to-view labels, nameplates, or trademarks which are not required by code, or regulations.
  - b. Do not expose manufacturers, suppliers, or installer's name, logo, or trade names on normally visible surfaces.
  - c. Do not provide labels, nameplates or trademarks when individual specification sections specifically exclude them.
  - d. All exposed-to-view advertising and name-brand labels shall be fully removed without damage to substrate finish.
2. Location for required labels: Required labels, approval plates and stamps shall be located on a concealed surface, or where required for observation after installation on accessible non-conspicuous surface.
3. Data Plates: Provide permanent data plate on each item of service-connected or power-operated equipment.
  - a. Data Plate Information: Include manufacturer, model, serial number, date of manufacture, capacity, ratings, power requirements, and all other similar essential data.
  - b. Locate data plates on easily accessible surface that is inconspicuous in occupied spaces.

#### **1.6 GENERAL ENVIRONMENTAL REQUIREMENTS FOR PRODUCTS**

- A. General: Prohibit the use of or incorporation into the work of materials which contain toxic, hazardous and harmful materials.
  1. Hazardous materials: Defined as pesticides, biocides, and carcinogens as listed by recognized authorities, such as the Environmental Protection Agency (EPA), the International Agency for Research on Cancer (IARC) or regulated under OSHA Hazard Communication Standard, 29 CFR 1910.1200.
  2. Harmful materials: Defined as materials which contain the presence of chemical, physical, or biological elements or agents which adversely affect human health or welfare; unfavorably alter ecological balances; or degrade the utility of the environment for aesthetic, cultural, or historical purposes.
  3. Owner restricted materials: Defined as all products to which the Owner has a reasonable objection because of its content, composition, properties, or characteristics.
- B. Vapors, Gases, Fumes, Odors:
  1. General: Comply with all state and federal VOC requirements. Where ever possible use non-VOC materials.

- a. Limit use of products to the greatest extent possible which have "off-gassing", fumes, flammability, and other harmful characteristics.
    - 1) Prohibit use of products which contain substances that contribute significantly to the production of photochemical smog, tropospheric ozone, or poor indoor-air quality.
  - b. Limit use of ozone-depleting compounds to the greatest extent possible. An ozone-depleting compound is any compound with an ozone-depletion potential greater than 0.01 (CFC 11 = 1).
  - c. Use organic and biodegradable cleaners to the greatest extent possible.
2. Do not install, use for installation, and use for cleaning those materials which may produce objectionable (to Owner and public) vapors, gases, fumes, odors, or similar conditions.
  3. Do not install or use products which may have possible chemical or biological reactions with other on-site materials.
- C. Toxicity of prefabricated wood products (composite wood and agrifiber products): Products shall contain no added urea-formaldehyde resins.
1. Laminating adhesives used to fabricate on-site and shop-applied composite wood and agrifiber assemblies shall contain no added urea-formaldehyde resins.
- D. Adhesives: Provide adhesives approved by the manufacturers of the products being adhered which are Low-VOC or non-VOC, non-flammable, water-proof after cured, odor free.
- E. Interior Paints: Provide products that comply with specified VOC limits, refer to Section 09 91 00 – PAINTING for additional requirements.
1. For interior applications use paints and coatings that comply with the following limits for VOC content when calculated according to 40 CFR 59, Subpart D (EPA method 24) and the following chemical restrictions:
    - a. Flat Paints and Coatings: VOC not more than 50 g/L.
    - b. Non-Flat Paints and Coatings: VOC not more than 150 g/L.
    - c. Anti-Corrosive Coatings: VOC not more than 250 g/L.
    - d. Clear wood finishes:
      - 1) Varnishes: VOC not more than 350 g/L.
      - 2) Lacquer: VOC not more than 550 g/L
    - e. Floor coatings: VOC not more than 100 g/L
    - f. Sealers:
      - 1) Waterproofing sealers: VOC not more than 250 g/L.
      - 2) Sanding sealers: VOC not more than 275 g/L.

- 3) All other sealers: VOC not more than 200 g/L.
  - g. Stains: VOC not more than 250 g/L.
- F. Sealants: Provide products that comply with regulated VOC limits. Refer to Section 07 92 00 – JOINT SEALANTS, and as specified herein for additional requirements.
- 1. Only use sealants and primers that comply with the following limits for VOC content:
    - a. Sealants VOC Limit [g/L less water]
      - 1) Architectural 250
      - 2) Single-Ply Roof Membrane 450
      - 3) Non-membrane Roof 300
      - 4) Roadway 250
      - 5) Other 420
    - a. Sealant Primers VOC Limit [g/L less water]
      - 1) Architectural Non Porous 250
      - 2) Architectural Porous 775
      - 3) Other 750
  - 2. Sealants containing aromatic solvents, fibrous talc, formaldehyde, halogenated solvents, mercury, lead, cadmium, chromium and their compounds, are not permitted.
  - 3. Avoid the use of the following products: Butyl Rubber; Solvent Acrylic; Neoprene; Styrene Butadiene Rubber; Nitril.
- G. Material Safety Data Sheets (MSDS): Obtain and maintain on-site record data sheets for each product brought onto the Site.
- 1. Maintain an organized file of Material Safety Data Sheets at the job-site for quick reference.
  - 2. Furnish MSDS for all finishes, paints, coatings, curing compounds, sealers, adhesives, mastics, waterproofing, dampproofing, sealants, cleaning chemicals, carpets, upholstery, fabrics and all similar products.
- H. Cleaning and maintenance products:
- 1. Provide data on manufacturers’ recommended maintenance, cleaning, refinishing and disposal procedures for materials and products utilized. These procedures are for final Contractor cleaning of the project prior to substantial completion and for provided materials and products as required by the specific specification sections.
    - a. Where chemical products are recommended for these procedures, provide documentation to indicate that no component present in the cleaning product at more than 1% of the total mass of the cleaning

product is a carcinogen or reproductive toxicant as defined in the lists in this specification section.

- b. For purposes of reporting, identification of product VOC contents shall not be limited to those regulated.
2. Avoid cleaning products containing alpha-pinene, d-limonene or other unsaturated carbon double bond alkenes due to chemical reactions with ozone to form aldehydes, acidic aerosols, and ultra-fine particulate matter in indoor air.
- I. Establish written Contractor's safety and emergency response procedures for safety precautions, accidents, emergency conditions, and clean-up methods.

### **1.7 PRODUCT DELIVERY AND HANDLING REQUIREMENTS**

- A. Transport and handle products in accordance with manufacturer's instructions and as specified in individual specification sections.
- B. Packaging: Deliver materials in recyclable or in reusable packaging such as cardboard, wood, paper, or reusable blankets, which will be reclaimed by supplier or manufacturer for recycling.
  1. General: Minimize packaging materials to maximum extent possible while still ensuring protection of materials during delivery, storage, and handling.
    - a. Unacceptable Packaging Materials: Polyurethane, polyisocyanurate, polystyrene, polyethylene, and similar plastic materials such as "foam" plastics and "shrink-fit" plastics.
    - b. Reusable Blankets: Deliver and store materials in reusable blankets and mats reclaimed by manufacturers or suppliers for reuse where program exists or where program can be developed for such reuse.
      - 1) Non-returnable containers should be donated to local and community organizations to the greatest extent possible to reduce quantity of disposed materials.
    - c. Pallets: Where pallets are used, suppliers shall be responsible to ensure pallets are removed from site for reuse or for recycling. Avoid use of virgin wood pallets whenever possible. It is preferable that pallets be manufactured from recycled wood and recycled plastic.
    - d. Corrugated Cardboard and Paper: Where paper products are used, recycle as part of construction waste management recycling program, or return to material's manufacturer for use by manufacturer or supplier.
    - e. Sealants, Paint, Primers, Adhesives, and Coating Containers: Return to supplier or manufacturer for reuse where such program is available.

2. Purchase materials in bulk where possible. Take measures to avoid individual packaging for volume purchases.
- C. Labeling of plastics used for packaging: Plastic is marked by manufacturers for type of plastic material in accordance with the Society of Plastic resin codes. Maintain marks, or sort by manufacturer's resin codes for recycling purposes.
1. Type 1: Polyethylene Terephthalate (PET, PETE).
  2. Type 2: High Density Polyethylene (HDPE).
  3. Type 3: Vinyl (Polyvinyl Chloride or PVC).
  4. Type 4: Low Density Polyethylene (LDPE).
  5. Type 5: Polypropylene (PP).
  6. Type 6: Polystyrene (PS).
  7. Type 7: Other. Use of this code indicates that the package in question is made with a resin other than the six listed above, or is made of more than one resin listed above, and used in a multi-layer combination.
- D. Deliveries: Schedule deliveries to avoid delays in installation of products, to minimize long-term storage, to prevent overcrowding of construction spaces and to limit potential damage to stored materials. Coordinate with installation to ensure minimum holding time for items that are flammable, hazardous, easily damaged, or sensitive to deterioration, theft and other losses.
1. Contractor is responsible to ensure that delivery trucks are unloaded quickly to prevent encumbering loading facilities for extended periods of time.
  2. Schedule deliveries with Owner when unloading of materials which may interfere with normal business of Owner.
  3. Coordinate with Owner deliveries which require heavy equipment rigging or crane services.
- E. Promptly inspect shipments to assure that products comply with requirements, quantities are correct, and products are undamaged.
- F. Provide equipment and personnel to handle and store products by methods to prevent soiling, disfigurement, or damage.

### **1.8 PRODUCT STORAGE AND PROTECTION REQUIREMENTS**

- A. Store and protect products in accordance with manufacturer's instructions and as specified in individual specification sections.
1. Provide all necessary equipment and personnel to store products by methods to prevent soiling, disfigurement and damage.

2. Avoid excessive material handling and potential product damage, locate storage areas convenient to work areas.
  3. Store and protect products with seals and labels intact and legible.
  4. Store and handle materials in a manner as to prevent loss from weather and other damage.
- B. For exterior storage of fabricated products, place on sloped supports, above ground.
- C. Provide off-site storage and protection when site does not permit on-site storage or protection.
1. Cover products subject to deterioration with impervious sheet covering. Provide ventilation to avoid condensation.
  2. Store sensitive products in weather-tight, climate controlled enclosures.
  3. Prevent contact with material that may cause corrosion, discoloration, or staining.
- D. Arrange storage of products to permit access for inspection. Periodically inspect to assure products are undamaged and are maintained under specified conditions.
- E. Store heavy materials in locations and in a manner that will not damage or disfigure existing, or new construction.

### **1.9 MOLD PROTECTION OF PRODUCTS PRIOR TO INSTALLATION**

- A. General:
1. Keep building materials dry to prevent the growth of mold and bacteria, including, but not limited to: gypsum wallboard, wood, porous insulation, paper, and fabric.
  2. Cover materials to prevent rain damage, and if resting on the ground, use spacers to allow air to circulate between the ground and the materials.
  3. Thoroughly dry all water damaged materials within 24 hours from time of moisture damage. Materials that have been damp or wet for more than 24 hours shall not be incorporated into the Work.
    - a. Review moisture damaged materials for signs of mold and mildew, including any with moisture stains, from the site and properly dispose of them.
    - b. Replace water damaged and moldy materials with new, undamaged materials.

**1.10 CONSTRUCTION WASTE MANAGEMENT**

- A. Source separation: Separate, store, protect, and handle at the site identified recyclable and salvageable waste products in order to prevent contamination of materials and to maximize recyclability and salvaging of identified materials. Refer to the Waste Management Requirements Plan specified under Section 01 74 19 - CONSTRUCTION WASTE MANAGEMENT AND DISPOSAL.
- B. Return: Set aside and protect misdelivered and substandard products and materials and return to supplier for credit.
- C. Reuse and Salvage: Set aside, sort, and protect separated products and materials for collection, re-use by Owner, as designed for re-use on-site or designated for salvage by Owner's separate waste recycling contractor.
- D. Recycling: Arrange for timely pickups from the site or deliveries to recycling facility in order to prevent contamination of recyclable materials. Refer to the Waste Management Requirements and Plan specified under Section 01 74 19 - CONSTRUCTION WASTE MANAGEMENT AND DISPOSAL.

**PART 2 - PRODUCTS (NOT USED)****PART 3 - EXECUTION (NOT USED)****END OF SECTION 01 60 00**



**SECTION 01 73 00****EXECUTION****PART 1 - GENERAL****1.1 SUMMARY**

- A. Examination of existing conditions and acceptance of conditions.
- B. Project preparation.
- C. Execution of the Work.
- D. Cleaning.
- E. Protecting installed work.

**1.2 EXAMINATION OF AND ACCEPTANCE OF EXISTING CONDITIONS**

- A. The Contractor, its subcontractors shall inform themselves of existing conditions before submitting his bid, and shall be fully responsible for carrying out all work required to completely and properly execute the work of the Contract, regardless of the conditions encountered in the actual work. No claim for extra compensation or extension of time will be allowed on account of actual conditions inconsistent with those assumed, except those conditions described in the General Conditions.
- B. Prior to commencement of selective demolition work, inspect areas in which work will be performed. Photograph existing damage to structure surfaces, equipment, or to surrounding properties which could be misconstrued as damage resulting from selective demolition work; file with Architect prior to starting work.

**1.3 PROTECTION OF ADJACENT ELEMENTS**

- A. Protect installed Work and provide special protection where called for in individual specification Sections.
- B. Protect existing facilities and adjacent properties from damage from construction and demolition operations. Provide temporary and removable protection for installed products and occupied areas.
- C. Protect finished floors, stairs, and other surfaces from traffic, dirt, wear, damage, or movement of heavy objects, by protecting with durable sheet materials. Coordinate with requirements under individual specification sections.

- D. Prohibit traffic or storage upon waterproofed or roofed surfaces. If traffic or activity is necessary, obtain recommendations for protection from waterproofing or roofing material manufacturer.
- E. Protect all existing landscape areas [not indicated to be cleared]. Do not deface, injure, or destroy trees or other plant life. Do not remove or cut trees or other plant life, without authorization from the Owner. Do not attach any anchorages, ropes, cables or guys to any trees scheduled to remain.
  - 1. Prohibit traffic from landscaped areas.
- F. Protect non-owned vehicles, stored materials, site and structures from damage.
- G. Refer to respective Sections for other particular protection requirements.

#### **1.4 PROTECTION OF INTERIOR CONCRETE SLABS**

- A. No satisfactory chemical or cleaning procedure is available to remove petroleum stains from the concrete surface. Prevention is therefore essential for areas scheduled to receive concrete stains and sealers, specified under Division 3.
  - 1. All hydraulic powered equipment must be diapered to avoid staining of in-place concrete.
  - 2. No trade will park vehicles on the inside slab. If necessary to complete their scope of work, drop cloths will be placed under vehicles at all times.
  - 3. No pipe cutting machine will be used on the inside floor slabs.
  - 4. Steel will not be placed on interior slabs to avoid rust staining.

#### **1.5 EXECUTION REQUIREMENTS FOR INSTALLATION, APPLICATION AND ERECTION**

- A. Inspection of conditions: The Installer of each component shall inspect the substrate and conditions under which Work is performed. Do not proceed until unsatisfactory conditions have been corrected.
- B. Resource Efficiency of Materials:
  - 1. Use construction practices such as material reduction and dimensional planning that maximize efficient use of resources and materials.
    - a. Recheck measurements and dimensions, before starting installation.
  - 2. Provide materials that utilize recycled content to maximum degree possible without being detrimental to product performance or indoor air quality.
  - 3. Where possible and feasible, provide for non-destructive removal and re-use of materials after their service life in this building.

- C. Manufacturer's instructions: Comply with manufacturer's installation instructions and recommendations, to the extent that they are more stringent than requirements in Contract Documents.
- D. Inspect material immediately upon delivery and again prior to installation  
Reject damaged and defective items.
- E. Install each component during weather conditions and project status that will ensure the best results. Isolate each part from incompatible material as necessary to prevent deterioration.
- F. Coordinate temporary enclosures with inspections and tests, to minimize uncovering completed construction for that purpose.
- G. Limiting exposures: Supervise operations to ensure that no part of construction, completed or in progress, is subject to harmful or deleterious exposure.
- H. Provide attachment and connection devices and methods necessary for securing each construction element. Secure each construction element true to line and level. Allow for expansion and building movement.
- I. Visual effects: Provide uniform joint widths in exposed Work. Arrange joints to obtain the best effect. Refer questionable choices to the Architect for decision.
- J. Mounting heights: Where mounting heights are not indicated, review heights with Architect, prior to commencement of Work.
- K. Cleaning and protection: During handling and installation, clean and protect construction in progress and adjoining materials in place. Apply protective covering where required to ensure protection from damage or deterioration at Substantial Completion.
- L. Clean and maintain completed construction as often as necessary through the construction period. Adjust and lubricate operable components to ensure operability without damaging effects.

#### **1.6 PROGRESS CLEANING AND DISPOSAL OF WASTE MATERIALS**

- A. General: Maintain site in a clean and orderly condition. Maintain work and surrounding areas free of waste materials, debris, and rubbish; remove from site on an on-going basis through-out the term of construction.
  - 1. Adjacent Areas: Keep adjacent areas, neighboring properties, public ways, and all nearby areas clean and free of construction debris and dirt including windblown debris.

2. Subcontractors are responsible for cleanup and removal of their own rubbish, debris, shipping materials and waste materials throughout the term of their work.
  3. General Contractor shall furnish dumpsters and provide general site cleaning services, except as explicitly specified otherwise under individual Sections of the Specifications.
- B. Control accumulation of waste materials and rubbish; periodically dispose of off-site. The General Contractor shall bear all costs, including fees resulting from such disposal.
- C. Conduct cleaning and disposal operations to comply with local ordinances and anti-pollution laws.
1. Do not burn or bury rubbish and waste materials on site.
  2. Do not dispose of volatile wastes such as mineral spirits, oil, or paint thinner in storm or sanitary drains.
  3. Do not dispose of wastes into streams or waterways.
  4. Comply with requirements of authorities having jurisdiction including, without limitation, requirements related to fire prevention, rodents, pests, vermin, waste storage, waste trucking, waste removal, waste disposal, street cleaning, truck tire cleaning, and other requirements.
- D. Clean interior areas prior to start of finish work and maintain areas free of dust and other contaminants during finishing operations.
- E. Maintain project in accordance with all local, State of Rhode Island, and Federal Regulatory Requirements.
- F. Store volatile wastes in covered metal containers, and remove from premises daily.
- G. Prevent accumulation of wastes which create hazardous conditions.
- H. Provide adequate ventilation during use of volatile or noxious substances.
1. Remove debris and rubbish from pipe chases, plenums, attics, crawl spaces, and other closed or remote spaces, prior to enclosing the space.
  2. Broom and vacuum clean interior areas prior to start of surface finishing, and continue cleaning to eliminate dust.
- I. Use only those materials which will not create hazards to health or property and which will not damage surfaces.
- J. Use only those cleaning materials and methods recommended by manufacturer of surface material to be cleaned.

- K. Execute cleaning to ensure that the buildings, the sites, and adjacent properties are maintained free from accumulations of waste materials and rubbish and windblown debris, resulting from construction operations.
- L. General Contractor shall provide on-site containers (dumpsters) for collection and containment of, waste materials, debris and rubbish.
  - 1. Trash Barrels and Containers: Use containers with tightly fitting lids. Use only steel containers and lids when there is any evidence of rodent or pest activity.
  - 2. Returnables: Provide special, labeled containers for deposit returnables such as soda cans.
- M. Remove waste materials, debris, and rubbish from site at least once weekly, and dispose off-site. Comply with NFPA 241 for removal of combustible waste.
- N. Handle material in a controlled manner with as few handlings as possible. Do not drop or throw materials from heights.
- O. Schedule cleaning operations so that dust and other contaminants resulting from cleaning process will not damage surrounding surfaces.

#### **1.7 SITE MAINTENANCE AND CLEANING**

- A. Maintain traffic and parking areas in a sound condition, free of excavated material, construction equipment, products, mud, snow, and ice.
  - 1. Provide means of removing mud from vehicle wheels before entering public streets and Owner's parking areas and access.
- B. Maintain existing and permanent paved areas used for construction.
  - 1. If any street or private way shall be rendered unsafe by the Contractors operations, the Contractor shall make such repairs or provide such temporary ways or guards as shall be acceptable to the governing authority.
  - 2. Promptly repair breaks, potholes, low areas, standing water, and other deficiencies, to maintain paving and drainage in original, or specified, condition.

#### **1.8 FINAL CLEANING**

- A. Scheduling: Perform final cleaning immediately prior to the Architect's review of the project for issue of the Certificate of Substantial Completion.
  - 1. Re-clean all surfaces, materials and products of the Work immediately prior to Owner's occupancy of the Project.

- a. Should the Owner occupy any portion of the Work prior to completion of the Contract, the responsibilities for interim and final cleaning shall be in accordance with the General Conditions.
- B. Qualifications: Commercial cleaning firm, with a minimum of 3 years' experience specializing in the post-construction cleaning of facilities.
- C. Protection: During the operation of final cleaning, protect surrounding materials and finishes against undue damage by the exercise of reasonable care and precautions. Clean, or repair all products and surfaces which are soiled or otherwise damaged by Work of this Section, to match original profiles and finishes. Materials and finishes which cannot be cleaned, or repaired shall be removed and replaced with new work in conformance with the Contract Documents.
- D. General cleaning requirements:
  1. Remove from the job site all tools, surplus materials, equipment, scrap, debris, and waste.
  2. Remove all advertising matter and temporary instructional material from exposed surfaces throughout.
  3. Use only methods and cleaning materials which are compatible with and as recommended by the manufacturer of the material being cleaned.
  4. Finished surfaces: Remove paint smears, spots, marks, dirt, mud and dust and similar disfigurement created by the Work, from all exposed to view existing or new interior and exterior finished surfaces.
  5. Polished surfaces: Apply the polish recommended by the manufacturer of the material being polished.
  6. Cleaning Materials: Only non-hazardous cleaning materials shall be used in the final cleanup.
- E. Exterior building surfaces:
  1. Visually inspect exterior surfaces and remove all traces of soil, waste materials, smudges, and other foreign matter.
  2. Remove all traces of splashed materials from adjacent surfaces.
  3. If necessary, to achieve a uniform degree of cleanliness, hose down the exterior of the structure.
  4. In the event of stubborn stains not removable with water, the Architect may require light sandblasting or other cleaning at no additional cost to the Owner.
  5. Concrete: Clean exposed concrete free of all foreign matter. If, in the opinion of the Architect, further cleaning of specific areas is required, they shall be scrubbed with water or other cleaning agents. Acid cleaners shall

not be used, except as may otherwise specifically permitted in the trade sections.

- F. Bright metal: Clean metal surfaces, hardware, fixtures, appliances, equipment, and similar items free of all foreign matter. As required, lightly scrub specific stains with clean water, mild soap, and soft rags, thoroughly rinsed and wiped with clean, soft white rags. Do not use abrasive cleaners.
- G. Glass: Replace broken, chipped and defective glass. Remove from glass: stains, spots, marks, paint smears; dirt and foreign materials. Clean and polish both surfaces of all interior and exterior glass. Clean and polish mirrors.
- H. Carpet: Vacuum clean carpet and remove all spots and stains.
- I. Hardware: Clean and polish finished hardware, remove marks, stains, scratches and blemishes.
- J. Woodwork: Dust and clean architectural millwork, and finish woodwork items, remove all stains, spots, and foreign matter using methods and cleaning agents which will not harm the various finishes.
- K. Site: Sweep exterior paved surfaces broom clean; rake clean unpaved surfaces.
- L. Equipment: Thoroughly clean all items of food service, mechanical and electrical equipment; remove excess oils and grease from exposed surfaces.
  - 1. Clean permanent filters and replace disposable filters if ventilating units were operated during construction.
  - 2. Clean ducts, blowers and coils, if units were operated without filters during construction.

## **1.9 PROTECTING INSTALLED WORK**

- A. Protect all built, and in-place Work. In addition to requirements specified elsewhere, the Contractor shall protect all installed work from subsequent damage or deterioration from construction activities, and atmospheric damage until Owner's Substantial Completion and occupancy precludes the need for protection activities. No attempt is made in this Section to list all elements requiring protection or to describe how each element will be protected. It is the responsibility of the Contractor to determine for itself the scope and nature of protection required.
  - 1. Protection of some products/building elements may be required to remain in place for a large portion duration of the project. As such, materials should be installed to provide adequate protection throughout the full extent of construction activities. Repair or reinstall protection throughout the duration of construction as required.



- B. Finish Products: Some finishes may need to be physically isolated from construction operations by means of protective barriers and coverings.
  - 1. General: After installation, provide coverings to protect products from damage due to traffic and construction operations. Replace protective coverings which may become wet, torn, or ineffective. Remove coverings when no longer needed.
  - 2. Doors, door frames and hardware: Protect from damage due to traffic and construction operations.
  - 3. Floor and Finished Surfaces Protection: Protect against construction traffic, rolling loads, static loads, damage from material movement and storage, or similar causes of damage.
  - 4. Walls: Protect from impact, dents, marks, water damage, and similar damage.
  - 5. Glass: Protect from damage including etching and staining. Keep glass clean.
  - 6. Protect products sensitive to water damage from becoming wet.
  - 7. Protect products sensitive to ultra-violet exposure and atmospheric exposure by limiting exposure to within limits recommended by respective product manufacturer.
  - 8. Protect products from biological growth, molds and mildew.
  - 9. Protect products from rodents and other animals, birds and insect damage.
- C. Roofing systems: Protect and isolate from traffic and construction operations. Protect from chemicals. Work and traffic directly upon roofing and waterproofing is prohibited, provide temporary walkways and platforms.
- D. General Protection from chemicals:
  - 1. Cover adjacent surfaces with materials that are proven to resist chemical cleaners selected for Project unless chemicals being used will not damage adjacent surfaces. Use covering materials that contain only waterproof, UV-resistant adhesives. Apply masking agents to comply with manufacturer's written instructions. Do not apply liquid masking agent to painted or porous surfaces. When no longer needed, promptly remove masking to prevent adhesive staining.
  - 2. Do not clean surfaces during winds of sufficient force to spread cleaning solutions to unprotected surfaces.
  - 3. Neutralize and collect alkaline and acid wastes and dispose of off-site.
  - 4. Dispose of runoff from chemical operations by legal means and in a manner that prevents soil erosion, undermining of paving and

foundations, damage to landscaping, and water penetration into building interiors.

**PART 2 - PRODUCTS (NOT USED)**

**PART 3 - EXECUTION (NOT USED)**

**END OF SECTION 01 73 00**

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**Section 01 73 29**  
**CUTTING AND PATCHING**

**PART 1 - GENERAL****1.1 SUMMARY**

- A. Examination of existing conditions and acceptance of conditions.
- B. Administrative and procedural requirements for cutting and patching, including attendant excavation and backfill as required to complete the Work. General Contractor is responsible for all cutting and patching work, including but not limited to:
  - 1. Perform all cutting, altering, patching, and fitting of the Work (new and existing) as necessary for the Work and the existing improvements. Fully integrate with existing and new construction, all cutting, alterations and patching, to present the visual appearance of an entire, completed, and unified project.
    - a. Make all products and their components of the work fit together properly.
  - 2. Provide openings in elements of the Work, and the patching of same, for penetrations required by all trades, including but not limited to mechanical, plumbing, fire protection and electrical work.
    - a. Individual trades are responsible for designated types of coring and drilling penetrations for piping, conduit, ducts and other penetrations as defined elsewhere in this Section.
  - 3. Uncover work to provide for installing, inspecting, or both, of ill-timed work;
  - 4. Remove and replace work not conforming to requirements of the Contract Documents or as otherwise determined to be defective.
  - 5. Patch and match all surfaces and products disturbed or damaged by the Work.
  - 6. Remove samples of installed work as specified for testing.

**1.2 RELATED REQUIREMENTS**

- A. Section 02 41 19 - SELECTIVE DEMOLITION: Demolition of selected portions of the building for new construction.
- B. Individual product specification Sections:
  - 1. Cutting and patching of not-exposed-to-view materials incidental to work of the Section.

2. Core drilling (up to 8 inches in diameter) of interior building components, incidental to work of individual Sections.
3. Cutting and Patching work of particular exposed-to-view finish work, performed by trades as specified herein.

### 1.3 SUBMITTALS

- A. Submit written proposals to perform cutting and patching under provisions of Section 01 33 00 - SUBMITTAL PROCEDURES. Describe cutting and patching procedures in advance of the time cutting and patching.
  1. Submit a written request when cutting work affects the following:
    - a. Structural integrity of any element in the project.
    - b. Integrity of weather-exposed or moisture-resistant elements.
    - c. Integrity of any fire suppression, fire alarm, or life safety system.
    - d. Interruption or disturbance of utilities service. List utilities that will be relocated and those that will be temporarily out-of-service. Indicate how long service will be disrupted.
    - e. Efficiency, maintenance, or safety of operational elements and systems.
    - f. Aesthetic and visual qualities of exposed-to-view elements.
    - g. Efficiency, operational life, maintenance, or safety of operational elements.
    - h. Work of Owner or work performed under separate Contract.
    - i. Owners on-going operations or schedule.
  2. Include in the request:
    - a. Identification of project.
    - b. Location and description of affected work.
    - c. Necessity for cutting or alteration.
    - d. Alternatives to cutting and patching.
    - e. Scope of proposed cutting, patching, alteration or excavation.
    - f. List of tradespeople who will execute the work.
    - g. Description of products to be used.
    - h. Extent of refinishing and cleaning to be performed.
    - i. Effect on work by Owner or work performed under separate Contract, and written permission of affected party.
    - j. Date and time cutting and patching is scheduled to be executed.
    - k. Cost proposal, when applicable.

- I. Written permission of separate contractor(s) whose work will be affected.
3. Review by the Architect does not waive the Architect's right to later require complete removal and replacement of Work found to be unsatisfactory.
4. Should conditions of Work or the schedule indicate a change of products from original installation, Contractor shall submit a request for substitution in accordance with Section 01 25 13 - PRODUCT SUBSTITUTION PROCEDURES.

#### **1.4 QUALITY ASSURANCE**

- A. Only tradespersons skilled and experienced in cutting and patching shall perform such Work.
- B. In performing Work which requires cutting, fixing, or patching, Contractor and subcontractors shall utilize best efforts to protect and preserve the visual appearance and aesthetics of the Project to the reasonable satisfaction of both Owner and Architect.

#### **1.5 PERFORMANCE REQUIREMENTS**

- A. General performance requirements: Execute work by methods to avoid damage to other Work, and which will provide appropriate surfaces to receive patching and finishing.
- B. Structural elements: Do not cut and patch structural elements in a manner that would reduce the load-carrying capacity or load deflection ratio. Always obtain written approval of the cutting and patching proposal before cutting and patching structural elements.
  1. Do not drill through structural beams, slabs or columns. Core drilling through concrete block walls and stair platforms must be approved by the Architect.
  2. Where cutting and patching involves adding reinforcement to structural elements, submit details and engineering calculations showing integration of reinforcement with the original structure.
- C. Exposed elements:
  1. Employ original installer of new construction to perform cutting and patching for weather exposed and moisture resistant elements, and sight exposed surfaces.
  2. Employ an appropriate tradesperson to perform cutting and patching of existing weather-exposed and moisture-resistant construction, and exposed-to-view surfaces.

- D. Penetrating elements: Fit work tight to pipes, sleeves, ducts, conduit, and other penetrations through surfaces. At penetrations of fire rated walls, partitions, ceiling or floor construction, completely seal voids with fire rated materials in accordance to applicable codes and regulations, and compatible to surrounding construction.
- E. Visual requirements: Do not cut and patch construction exposed on the exterior or in occupied spaces, in a manner that would, in the Architect's opinion, reduce the building's aesthetic qualities, or result in visual evidence of cutting and patching. Remove and replace Work cut and patched in a visually unsatisfactory manner.
  - 1. General: Restore work with new products in accordance with the requirements of the Contract Documents.
  - 2. Engage a firm recognized and experienced in the trade or specialty operation required to cut and patch the exposed-to-view work listed below.
    - a. Gypsum and ornamental plaster.
  - 3. Engage a firm recognized and experienced in firestopping for patching of existing firestopping, smoke seals and firesafing in compliance with applicable codes and as additionally required by authorities having jurisdiction. Comply with requirements of Section 07 84 00 - FIRESTOPPING.
- F. Operational and safety limitations: Do not cut and patch operating elements or safety components in a manner that would reduce their capacity to perform as intended, or would increase maintenance, or decrease operational life or safety.
  - 1. Obtain approval of the cutting and patching proposal before cutting and patching the following operating elements or safety related systems:
    - a. Primary operational systems and equipment.
    - b. Fire resistance rated barriers and smoke barriers.
    - c. Fire protection systems.
    - d. Noise and vibration control elements and systems.
    - e. Control systems.
    - f. Communication systems.
    - g. Electrical wiring systems.

## 1.6 WARRANTY

- A. Existing Warranties: Replace, patch, and repair material and surfaces cut or damaged by methods and with materials in such a manner as not to void existing applicable warranties.



**PART 2 - PRODUCTS****2.1 MATERIALS**

- A. Patching Materials: Use patching materials identical to existing materials. If identical materials are not available or cannot be used where exposed surfaces are involved, use materials that match existing adjacent surfaces to the fullest extent possible. Use materials whose installed performance will equal or surpass that of the existing materials. Comply with specifications and standards for each specific product involved.
1. All materials used shall be approved by the Architect for consistency with the existing surfaces.

**PART 3 - EXECUTION****3.1 EXAMINATION**

- A. Examination - General: Inspect existing conditions prior to commencing Work, including elements subject to damage or movement during cutting and patching. After uncovering existing work, inspect conditions affecting performance of work. Take corrective action before proceeding, if unsafe or unsatisfactory conditions are encountered.

**3.2 PREPARATION**

- A. Protection:
1. Provide temporary supports to ensure structural integrity of the Work.
  2. Protect existing construction during cutting and patching to prevent damage.
  3. Provide protection from adverse weather conditions.
  4. Provide protection from elements for areas which may be exposed by uncovering work.

**3.3 GENERAL CUTTING AND PATCHING**

- A. Performance: Execute work by methods to avoid damage to other Work, and which will provide appropriate surfaces to receive repairs, patching, and finishing.
- B. Execute cutting, fitting, and patching, including excavation and fill, to complete the work.
1. Cut rigid materials using masonry saw or core drill. Pneumatic tools are not permitted without prior approval, from Architect
  2. Fit products together, to integrate with other work.

3. Uncover work to install ill-timed work.
  4. Remove and replace defective or non-conforming work.
  5. Remove samples of installed work for testing, when requested.
  6. Provide openings in the work for penetration of mechanical and electrical work.
- C. Cutting: Cut existing construction using methods least likely to damage elements retained or adjoining construction. Where possible, review proposed procedures with the original Installer; comply with the original Installer's recommendations.
1. In general, where cutting, use hand or small power tools designed for sawing or 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. To avoid marring existing finished surfaces, cut or drill from the exposed or finished side into concealed surfaces.
  3. Cut through concrete and masonry using a cutting machine, such as a Carborundum saw or a diamond-core drill.
  4. Comply with requirements of applicable Division 31 - EARTHWORK Sections where cutting and patching requires excavating and backfilling.
  5. Where services are required to be removed, relocated, or abandoned, bypass utility services, such as pipe or conduit, before cutting. Cut-off pipe or conduit in walls or partitions to be removed. Cap, valve, or plug and seal the remaining portion of pipe or conduit to prevent entrance of moisture or other foreign matter after by-passing and cutting.

### **3.4 FINISHING OF PATCHED AREAS:**

- A. General: Refinish surfaces to match adjacent finish. For continuous surfaces, refinish to nearest intersection or natural break; for assemblies, refinish entire unit.
1. Patching: Patch with durable seams that are as invisible as possible, showing no evidence of patching and refinishing. Restore exposed finishes of patched areas and extend finish restoration into retained adjoining construction. Comply with specified tolerances.
    - a. At penetrations of fire rated walls, partitions, ceiling or floor construction, completely seal voids with fire rated materials in accordance to applicable codes and regulations, and compatible to surrounding construction.
    - b. Fit work tight to pipes, sleeves, ducts, conduit, and other penetrations through surfaces. Provide vapor and air seal when penetrating existing vapor and air seals.

- c. Where feasible, inspect and test patched areas to demonstrate integrity of the installation.
  2. Where removing walls or partitions extends one finished area into another, patch and repair floor and wall surfaces in the new space. Provide an even surface of uniform color and appearance. Remove existing floor and wall coverings and replace with new materials, if necessary, to achieve uniform color and appearance.
    - a. Where patching occurs in a painted surface, extend final paint coat over entire unbroken surface containing the patch after the area has received primer and second coat. Extend re-painting to entire surface plane up to where plane changes direction.
  3. Patch, repair, or rehang existing ceilings as necessary to provide an even-plane surface of uniform appearance.

### **3.5 CORING AND DRILLING**

- A. Coring and Drilling of holes incidental to work of individual sections shall be performed by the trade requiring the penetration, except as follows:
  1. Coring and Drilling of holes greater than 8 inches in diameter in concrete decks and slabs.
  2. Coring and drilling requiring patching of the following existing surfaces shall be performed by the General Contractor with patching performed by the appropriate trade or subcontractor.
  3. The General Contractor is responsible for performing core drilling in wall and roof surfaces leading to, or from, the outside of the building.
  4. The General Contractor is responsible for coordination of all coring and drilling and resultant patches necessary for the completion of this Contract and for the quality and appearance of all patch Work in exposed-to-view finished materials.

### **3.6 CLEANING**

- A. Cleaning patched areas: Thoroughly clean areas and spaces where cutting and patching is performed or used as access. Remove paint, mortar, oils, putty and similar items.

## **END OF SECTION**

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**SECTION 01 74 19****CONSTRUCTION WASTE MANAGEMENT AND DISPOSAL****PART 1 - GENERAL****1.1 SUMMARY**

- A. Section includes: Special administrative and procedural requirements for the Contractor and subcontractors which is required for the Project construction and demolition waste management and recycling activities and as described herein. Note: All Construction Waste Management and Disposal requirements are currently being considered under the LEED v4.1 beta.
  - 1. Recycling goals and waste management program intent.
  - 2. List of recyclable materials.
  - 3. Resources
  - 4. Waste management plan.
  - 5. Waste management plan implementation.
  - 6. Waste management reporting.

**1.2 RELATED REQUIREMENTS**

- A. Section 01 60 00 - PRODUCT REQUIREMENTS:
  - 1. Requirements for recycling packaging materials.
  - 2. Product conservation, reuse and waste management.
- B. Section 02 41 19 - DEMOLITION.

**1.3 REFERENCES**

- A. Referenced Standards: Comply with applicable requirements of the following standards and those others referenced in this Section, under the provisions of Section 01 42 00 - REFERENCES. The standards referenced herein are included to establish recognized minimum quality only. Where these standards conflict with other specified requirements, the most restrictive requirements shall govern. Equivalent quality and testing standards will be acceptable, subject to their timely submission, review and acceptance by the Architect.
  - 1. ASTM D 6400 - Standard Specification for Labeling of Plastics Designed to be Aerobically Composted in Municipal or Industrial Facilities.
- B. Definitions:
  - 1. Asphalt Pavement, Brick, and Concrete (ABC) Rubble: Rubble that contains only weathered (cured) asphalt pavement, clay bricks and attached mortar normally used in construction, or concrete that may

- contain rebar. The rubble shall not be mixed with, or contaminated by, another waster or debris.
2. Clean: Untreated and unpainted; not contaminated with oils, solvents, caulk, or the like.
  3. Commingled: Materials of varied types deposited into the same receptacle or pile, or mixed together during demolition.
  4. Construction and Demolition Waste: Solid wastes typically including building materials, packaging, trash, debris, and rubble resulting from construction, remodeling, repair and demolition operations.
    - a. Construction and demolition waste includes excess or otherwise unusable construction materials, packaging materials for construction products, and other materials generated during the construction process but not incorporated into the work.
  5. Hazardous: Exhibiting the characteristics of hazardous substances, i.e., ignitability, corrosiveness, toxicity or reactivity.
  6. Hazardous Waste: Any material or byproduct of construction whose handling, storage and disposal is regulated by the Environmental Protection Agency.
  7. Non-hazardous: Exhibiting none of the characteristics of hazardous substances, i.e., ignitability, corrosiveness, toxicity, or reactivity.
  8. Nontoxic: Neither immediately poisonous to humans nor poisonous after a long period of exposure.
  9. Off-Site Separation: Sorting and separating commingled waste at a location other than the construction jobsite, that location having been established for the purpose of recycling.
  10. Recyclable: The ability of a product or material to be recovered at the end of its life cycle and remanufactured into a new product for reuse by others.
  11. Recycle: To remove a waste material from the Project site to another site for remanufacture into a new product for reuse by others.
  12. Recycling: The process of sorting, cleansing, treating and reconstituting solid waste and other discarded materials for the purpose of using the altered form. Recycling does not include burning, incinerating, or thermally destroying waste.
  13. Return: To give back reusable items or unused products to vendors for credit.
  14. Reuse: To reuse a construction waste material in some manner on the Project site.
  15. Salvage: To remove a waste material from the Project site to another site for resale or reuse by others.

16. Salvage and Reuse: Recovery of demolition or construction waste and subsequent incorporation into the Work.
17. Sediment: Soil and other debris that has been eroded and transported by storm or well production run-off water.
18. Source Separation: The act of keeping different types of waste materials separate beginning from the first time they become waste.
19. Toxic: Poisonous to humans either immediately or after a long period of exposure.
20. Trash: Any product or material unable to be reused, returned, recycled, or salvaged.
21. Volatile Organic Compounds (VOCs): Chemical compounds common in and emitted by many building products over time through outgassing: solvents in paints and other coatings; wood preservatives; strippers and household cleaners; adhesives in particleboard, fiberboard, and some plywoods; and foam insulation.
22. Waste Management Plan: A Project-related plan for the collection, transportation, and disposal of the waste generated at the construction site. The purpose of the plan is to ultimately reduce the amount of material being landfilled.
23. Waste: Extra material or material that has reached the end of its useful life in its intended use. Waste includes salvageable, returnable, recyclable, and reusable material.

#### **1.4 RECYCLING GOALS AND WASTE MANAGEMENT PROGRAM INTENT**

- A. Waste Stream Diversion Program Goal: It is the Owner's determination that this Project shall generate the least amount of construction waste possible, and to salvage and recycle as much nonhazardous demolition waste as possible. This program goal shall be accomplished by the following LEED processes:
  1. Develop and implement a construction and demolition management plan.
    - a. Establish waste diversion goals for project, identify not less than five materials (both structural and non-structural) which will be targeted for diversion.
      - 1) Include approximation of percentage of diversion for the (minimum five) targeted materials, as they relate to the entire project.
    - b. Provide calculations that demonstrate goals for end-of-project recycling rates, salvage rates, and landfill rates demonstrating percentage of construction and demolition wastes diverted to be recycled or salvaged.



- c. Identify materials that will be separated and method (off-site separated, or source separated).
  - 1) Describe where waste materials will be taken, and how the recycling facility will process materials.
- d. Identify materials intended to be co-mingled.
  - 1) Describe where waste materials will be taken, and how the recycling facility will process materials.
- e. Update calculations monthly and submit with monthly request for Progress Payment.
  - 1) Reports to include details of all major waste streams generated including disposal and diversion rates.
2. Diversion Requirements under LEED Credit MR 4 – Construction and Demolition Waste Management:
  - a. Owner’s preferred diversion: LEED Intent for this Project is 75 percent waste diversion, for 2 points under LEED Credit MR 4 – Construction and Demolition Waste Management.
3. Efficiently use demolition waste materials to the maximum extent as economically feasible:
  - a. Reuse and renovation of existing structures in lieu of demolition as shown in the Contract Documents.
  - b. Segregate and salvage existing materials and items for salvage and reuse on site where possible.
  - c. Segregate demolished materials for salvage and recycling, or to be recycled as mixed debris.
4. Ensure the reduction of waste generated due to errors, poor planning, breakage, mishandling, contamination, or other factors shall be employed.
5. Efficiently use waste material to the fullest extent possible in the completion of this Project, including the following.
  - a. Reuse of materials on site where possible and as permitted.
  - b. Recycling of waste generated during the construction processes.
6. The Contractor is encouraged to include additional resource efficient methods in the Project.
7. In the management of waste consideration shall be given to the availability of viable markets, the condition of the material, the ability to provide the material in suitable condition and in a quantity acceptable to available markets, and time constraints imposed by internal project completion mandates.

- B. Contractor Participation: The Contractor shall take a pro-active, responsible role in the management of construction and demolition waste and require all subcontractors, vendors, and suppliers to participate in the effort.
  - 1. The Contractor is responsible for development and implementation of waste management plan, including establishment of waste diversion goals by identification of at least five materials (both structural and nonstructural) targeted for diversion.
  - 2. The Contractor is responsible for implementation of special programs involving rebates or similar incentives related to recycling of waste.
  - 3. Revenues or other savings obtained for salvage, or recycling shall accrue to the Contractor. Firms and facilities used for recycling, reuse, and disposal shall be appropriately permitted for the intended use to the extent required by federal, state, and local regulations.
- C. Waste disposal: In no case shall material be disposed of in a landfill or incinerator where an approved and less costly recycling or reuse alternative exists. Waste disposal in landfills and incinerators shall be minimized and shall be considered the alternative of last resort.
  - 1. Contractor shall note that waste incineration (even for power generation) is not an acceptable method of landfill diversion per LEED Certification requirements.

## **1.5 QUALITY CONTROL**

- A. Qualifications for Refrigerant Recovery Technician: The Refrigerant Recovery Technician will use recycling/recovery equipment that has a current EPA Registration.

## **1.6 LIST OF RECYCLABLE MATERIALS.**

- A. Materials to be recycled, salvaged, or reused during this project include, but are not limited to, the following:
  - 1. Asphaltic paving.
  - 2. Asphalt / bituminous roofing.
  - 3. Beverage containers.
  - 4. Brick.
  - 5. Carpet and carpet pad trim.
  - 6. Cement fiber products, including shingles, panels, siding.
  - 7. Concrete, concrete block, concrete masonry units (CMU), slump stone (decorative concrete block), and rocks.
  - 8. Equipment.
  - 9. Electrical devices.

10. Fluorescent light tubes, per local regulatory requirements.
11. Furnishings.
12. Glass.
13. Green materials (i.e. tree trimmings and land clearing debris).
14. Gypsum wallboard.
15. Insulation.
16. Mechanical equipment, including refrigerants.
17. Metals including, but not limited to: stud trim, ductwork, piping, reinforcing steel (rebar), roofing, other trim, steel, iron, galvanized sheet steel, stainless steel, aluminum, copper, zinc, lead, brass, and bronze. (ferrous and non-ferrous).
18. Paint.
19. Paper, including bond, newsprint, cardboard, mixed paper, packing materials, and packaging.
20. Piping and conduit, including supports, hangers, and valves.
21. Plastics, plastic buckets and plastic sheeting.
22. Porcelain plumbing fixtures.
23. Rigid foam insulation and packing materials.
24. Soils and land clearing debris.
  - a. Pursuant to LEED requirements; Soils and land clearing debris DO NOT contribute to waste diversion.
25. Wood, including clean dimensional wood, pallet wood, plywood, oriented strand board (OSB), particle board.

## 1.7 RESOURCES

- A. Resources: The following sources may be useful in development of the specified Waste Management Plan:
  1. Licensed or Registered Construction and Demolition Debris Processing Facilities: The following list from the RHODE ISLAND DEPARTMENT OF ENVIRONMENTAL MANAGEMENT, contains licensed and registered construction and demolition debris processing facilities.. This list is provided for information only and is not necessarily comprehensive; other processors and markets are acceptable.

- a. Construction and Demolition Debris Processing Facilities:
  - Coastal Recycling  
431 Allens Avenue  
Providence, RI 02905
  - Pond View Recycling, Inc, C&D Facility  
1 Dexter Road  
East Providence, RI 02914
  - RIRRC – Plainfield Pike Facility  
2550 Plainfield Pike  
Cranston, Rhode Island
  - Waste Management Transfer Station and C&D Debris Processing Facility  
65 O’ Keefe Lane  
Warwick, Rhode Island 02888

## 1.8 SUBMITTALS

- A. Submit the following under provisions of Section 01 33 00 - SUBMITTAL PROCEDURES:
  1. Waste Management Plan: Submit draft(s) and Final Waste Management Plan, as specified herein under the Article entitled “Waste Management Plan”.
  2. Recycling Facilities List: Submit list of names, addresses, and telephone numbers for all proposed recycling facilities and obtain Architect’s acceptance prior to use of recycling facilities. Additionally, with submittal, include for each recycling facility a certification letter on recycling facility letterhead which is signed by responsible party at recycling facility containing the following information:
    - a. End use of each recycled material handled by facility.
    - b. Recycling rate of the recycling facility.
    - c. Facility Permitting Information: For ABC rubble crushing and/or recycling facilities, provide a copy of the facility’s current solid waste management facility permit.
  3. Monthly recycling analysis reports: Submit monthly with each Application for Payment, recycling analysis report. Include separate reports for demolition and construction waste. Include the following information:
    - a. Material category.
    - b. Generation point of waste.
    - c. Total quantity of waste in tons).
    - d. Quantity of waste salvaged, both estimated and actual in tons.
    - e. Quantity of waste recycled, both estimated and actual in tons.

- f. Total quantity of waste recovered (salvaged plus recycled) in tons.
  - g. Total quantity of waste recovered (salvaged plus recycled) as a percentage of total waste.
  - h. Tracking Report and Projections: Monthly recycling analysis reports shall additionally include updated projections for end-of-project recycling rates, salvage rates, and landfill rates demonstrating that the specified mandatory percentage of the construction waste will be diverted (recycled or salvaged) by date of Substantial Completion.
- B. Submit the following under provisions of Section 01 78 00 - CLOSEOUT SUBMITTALS.
- 1. Waste Reduction Calculations: Before request for Substantial Completion, submit calculated end-of-Project rates for salvage, recycling, and disposal as a percentage of total waste generated by the Work.
    - a. Record Keeping for Donations, Recycling and Landfill Disposal: Submit a complete materials audit and include the additional information specified following:
      - 1) Records of Donations: Indicate receipt and acceptance of salvageable waste donated to individuals and organizations. Indicate whether organization is tax exempt.
      - 2) Records of Sales: Indicate receipt and acceptance of salvageable waste sold to individuals and organizations. Indicate whether organization is tax exempt.
      - 3) Recycling and Processing Facility Records: Indicate receipt and acceptance of recyclable waste by recycling and processing facilities licensed to accept them. Include manifests, weight tickets, receipts, and invoices. Include documentation for backcharge fees, if any, for improperly segregated waste.
      - 4) Landfill and Incinerator Disposal Records: Indicate receipt and acceptance of waste by landfills and incinerator facilities licensed to accept them. Include manifests, weight tickets, receipts, and invoices.

## **1.9 CONSTRUCTION AND DEMOLITION WASTE MANAGEMENT PLAN**

- A. Draft Waste Management Plan: Within 14 calendar days after receipt of Notice of Award of Bid, and prior to any waste removal, the Contractor shall submit a Draft Waste Management Plan to both Architect and Owner. Submit draft Waste Management Plan and obtain approval from Architect and Owner prior to engagement of waste or recycling subcontractors. The Draft Waste Management Plan shall include as a minimum the following:
  - 1. Analysis of the jobsite waste expected to be generated, categorized by material types and approximate quantities.

- a. List specific waste materials that will be salvaged for resale, salvaged and reused, or recycled.
  - b. Estimated percentage of waste diverted by this Plan.
  - c. Identification of materials that cannot be recycled or reused
2. Disposal options: The name of all landfills and incinerators proposed for trash disposal, the respective tipping fees for each of these disposal options including transportation costs, and the projected cost of disposing of all Project waste in the landfills.
  3. Alternatives to Incineration or Landfill Disposal: A list of each material proposed to be salvaged, reused, or recycled during the course of the Project. Include the following information:
    - a. The proposed end use or market for each material.
    - b. The respective tipping fees for each end use or market (including transportation costs).
    - c. The estimated net cost savings or additional costs resulting from separating and recycling each material (versus landfilling or other disposal).
      - 1) "Net" means that the following have been subtracted from the cost of separating and recycling: (a) revenue from the sale of recycled or salvaged materials and (b) landfill tipping fees saved due to diversion of materials from the landfill.
- B. Final Waste Management Plan: Once the Owner has reviewed the draft Waste Management Plan and made appropriate suggested modifications, the Contractor shall submit, within 14 calendar days of receiving such suggested modifications, a Final Waste Management Plan, incorporating Owner's input. The Final Waste Management Plan shall contain the following:
1. Analysis of the jobsite waste expected to be generated, categorized by material types and approximate quantities.
    - a. List specific waste materials that will be salvaged for resale, salvaged and reused, or recycled.
  2. Materials Handling Procedures: A description of the means by which any waste materials identified to be salvaged, reused, or recycled, will be protected from contamination, and a description of the means to be employed in recycling the above materials consistent with requirements for acceptance by designated facilities.
  3. Markets: A list of the markets or other on-site or off-site end uses that will be used for each material that will be separated for reuse, salvage, or recycling.
    - a. Identify (and utilize) local and regional reuse programs, including non-profit organizations such as schools, local housing agencies, and

organizations that accept used materials such as materials exchange networks, and Habitat for Humanity.

4. Transportation: Describe the means of transportation of the recyclable materials and destination of all waste materials.
  - a. Transported materials includes:
    - 1) Materials that will be site-separated and hauled to designated centers
    - 2) Mixed materials will be collected by a waste hauler and removed from the site).
    - 3) Mixed materials that will be removed from site and later separated for recycling.
5. Disposal options: The name of all landfills and incinerators proposed for trash disposal, the respective tipping fees for each of these disposal options including transportation costs, and the projected cost of disposing of all Project waste in the landfill(s).
  - a. Alternatives to Incineration or Landfill Disposal: A list of each material proposed to be salvaged, reused, or recycled during the course of the Project.
6. Cost of Reuse, Salvage, or Recycling. An estimate of the cost, including separation, transportation, and marketing, to reuse, salvage, or recycle the materials identified.
7. Schedule of special meetings required to address waste management implementation.

#### **1.10 WASTE MANAGEMENT PLAN IMPLEMENTATION**

- A. Manager: The Contractor shall designate a specific party (or parties) responsible for instructing workers in recycling and overseeing and documenting results of the Waste Management Plan for the Project.
- B. Distribution: The Contractor shall distribute copies of the Waste Management Plan to the Job Site Foreman, each Subcontractor, the Owner, and the Architect.
- C. Instruction: The Contractor or his designated waste manager shall provide on-site instruction regarding appropriate separation, handling, and recycling, salvage, reuse, and return methods to be used by all involved parties at the appropriate stages of the Project.
- D. Separation facilities: As appropriate during each stage of the Project, the Contractor shall lay out and label a specific area(s) to facilitate separation of materials for potential recycling, salvage, reuse, and return. Recycling and



waste bin areas are to be kept neat and clean and clearly marked in order to avoid contamination of materials.

- E. Hazardous wastes: Hazardous wastes shall be separated, stored, and disposed of according to local regulations.

### **1.11 WASTE MANAGEMENT REPORTING**

- A. Application for Progress Payments: The Contractor shall submit with each Application for Progress Payment, a Summary of Waste generated by the Project. Failure to submit this information shall render the Application for Payment incomplete and shall delay Progress Payment. The Summary shall be submitted on a form acceptable to the Owner and shall contain the following information:
  - 1. The amount (in tons or cubic yards) of material landfilled from the Project, the identity of the landfill, the total amount of tipping fees paid, transportation costs (if separate) and the total disposal cost. Include manifests, weight tickets, receipt, and invoices.
  - 2. For each material recycled, reused, or salvaged from the Project, the amount (in tons or cubic yards), the date removed from the jobsite, the receiving party, the transportation cost, the amount of any money paid or received for the recycled or salvaged material, and the net total cost or savings of salvage or recycling each material. Attach manifests, weight tickets, receipts, and invoices.

## **PART 2 - PRODUCTS (NOT USED)**

## **PART 3 - EXECUTION**

### **3.1 GENERAL WASTE MANAGEMENT**

- A. Use detailed material estimates to reduce risk of unplanned and potentially wasteful cuts.
- B. Arrange for vendors and material suppliers is to take back shipping and packing materials for re-use or recycling to the maximum extent economically feasible.
  - 1. Include in material purchasing agreements a waste reduction provision requesting that materials and equipment be delivered in packaging made of recyclable material, that they reduce the amount of packaging, that packaging be taken back for reuse or recycling, and to take back all unused product. Insure that subcontractors require the same provisions in their purchase agreements.

- C. Provide clearly labeled containers for recycled waste that is to be recycled, with a list of acceptable and unacceptable materials. The list of acceptable materials must be the same as the materials recycled at the receiving material recovery facility or recycling processor.
  - 1. Separate corrugated cardboard in accordance with the Waste Management Plan and place in designated areas for recycling.
  - 2. Separate and recycle waste materials in accordance with the Waste Management Plan and to the maximum extent economically feasible.
  - 3. Place materials defined as hazardous or toxic waste in designated containers.
- D. Provide labeled containers for all recycled waste that is to be disposed in a landfill.
- E. Handle and transport recyclable materials in manner to prevent contamination of materials from incompatible products and materials.
- F. Conduct regular visual inspections of dumpsters and recycling bins to remove contaminants.

### **3.2 SOURCE SEPARATION**

- A. General: Separate recyclable materials from general construction waste. Separate recyclable materials by type.
  - 1. Provide containers, clearly labeled, by type of separated materials or provide other storage method for managing recyclable materials until they are removed from Project site.
  - 2. Stockpile processed materials on-site without intermixing with other materials. Place, grade, and shape stockpiles to drain surface water. Cover to prevent windblown dust.
  - 3. Stockpile materials away from demolition area. Do not store within drip line of remaining trees.
  - 4. Store components off the ground and protect from weather.
- B. Source Separation Methods:
  - 1. Waste products and materials that are recyclable shall be separated from trash and sorted into appropriately marked separate containers and then transported to the respective recycling facility for further processing.
  - 2. Comingled Method: Recyclable materials shall be placed into a single container and then transported to a recycling facility where the recyclable materials are sorted and processed.
    - a. Do not put recycled waste that will be disposed in a landfill into a comingled waste recycling container.

3. Other Methods: Other methods proposed by the Contractor may be used when approved by the Architect and Owner.
- C. Waste materials not suitable for reuse, but having value as being recyclable, shall be made available for recycling whenever economically feasible.

### **3.3 REMOVAL OF CONSTRUCTION AND DEMOLITION WASTE MATERIALS**

- A. Remove recycled waste materials from project site on a regular basis. Do not allow recycled waste to accumulate on-site.
- B. Transport recycled waste materials off Owner's property and legally dispose of them.
  1. Materials with no practical use or economic benefit shall be disposed at a landfill or incinerator.

**END OF SECTION 01 74 19**

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**SECTION 01 77 00**  
**CLOSEOUT PROCEDURES**

**PART 1 - GENERAL**

**1.1 SUMMARY**

- A. Closeout of incomplete work (punch list) requirements.
- B. Closeout procedures.
- C. Conferences occurring after Substantial Completion.

**1.2 RELATED REQUIREMENTS**

- A. Section 01 78 00 - CLOSEOUT SUBMITTALS: Requirements for project record documents.
- B. Section 01 78 36 - WARRANTIES: Administrative and procedural requirements for warranties, guarantees and bonds.

**1.3 PUNCH LIST REQUIREMENTS AND PROCEDURES**

- A. Definitions:
  - 1. Contractor's Punch List: Complete list of incomplete and incorrect Work prepared by the Contractor prior to request of Architect's inspection for Certification of Substantial Completion. As a minimum the List shall include the following information for each work item:
    - a. Location identification organized by Building, Area, Room Number, or combination thereof as appropriate to project.
    - b. Clear identification of each incomplete work item, including all subcontractor's work.
    - c. Estimated value of each incomplete work item.
    - d. A short statement of why work is not complete.
    - e. Identify subcontract responsibility, as appropriate to each item.
  - 2. Architect's Punch List: A list of incomplete and incorrect Work prepared by the Architect, which modifies the Contractor's Punch List, following review and acceptance of the Contractor's Punch List.
- B. Pre-Closeout requirements: Prior to requesting initial Architect's inspection for Certification of Substantial Completion, submit to the Architect a full and complete list of all incomplete work items (Contractor's Punch List).
- C. Punch list procedures at Substantial Completion:

1. Architect will review submitted Contractor's Punch List and determine whether it is suitable to proceed with the Substantial Completion Process.
    - a. If the Architect determines that the amount of completed work is insufficient to be considered for Substantial Completion, the Architect will not proceed with the Punch List process until sufficient completion of the Project is achieved.
    - b. The Architect will review the Contractor's Punch List and if the Architect determines that it does not reflect proper identification of the incomplete and incorrect work, he/she will request a revision and resubmission of the Contractor's Punch List.
    - c. If the Architect determines that the amount of work indicated on the Contractor's Punch List is excessive, the Architect will suspend its review until the scope of work identified in the Contractor's Punch List is reduced to a level satisfactory to the Architect.
    - d. When the Architect reviews and accepts the Contractor's Punch List as being an accurate reflection of incomplete and incorrect work; the Architect will prepare and issue to the Contractor the "Architect's Punch List".
      - 1) The "Architect's Punch List" will be based on the Contractor's Punch List with modifications and additions as may be required.
      - 2) The "Architect's Punch List" includes work which must be completed and corrected prior to final completion.
  2. Upon receipt of the "Architect's Punch List", the Contractor shall immediately distribute the list to all subcontractors.
- D. Completion of Punch List Work: Make reasonable efforts to ensure that all "Architect's Punch List" items are completed or corrected within 14 calendar days from the date of the Architect's Punch List" or within the Contract Time, whichever comes first.
- E. Architect's Final Inspection and review of Punch List Work:
1. After Contractor certification that all Punch List Work has been properly completed the Architect will then perform the Final Inspection.
    - a. Incomplete Items: If the Architect discovers any incomplete or incorrect "Architect's Punch List" items or any other deficiency in the work, the Architect will prepare a "Revised Punch List" which may also include other incomplete Contract requirements such as record documents, owner's operation and maintenance manuals, warranties, and other Contract requirements. Architect's site reviews of the Work for this "Revised Punch List" and any subsequent revised Punch Lists shall be performed as additional service to Owner, back-charged to the Contractor.

- b. The Architect may assign a dollar value for each item of incomplete or incorrect work remaining.
- F. Additional Inspections and related additional services fee: The Architect and the Architect's consultants will provide two site inspections, one at Substantial Completion, and one to confirm that the "Architect's Punch List" has been completed.
1. "Revised Punch List: If the Architect prepares and issues a "Revised Punch List: because of the Contractor's failure to complete the Work, then the Owner shall compensate the Architect and the Architect's consultants for their additional services and additional inspections. The payment for additional services and inspections will be back-charged to Contractor. The Owner will deduct the amount of the Architect's additional services fee from final payment to the Contractor by Change Order.

#### **1.4 CLOSEOUT PROCEDURES - SUBSTANTIAL COMPLETION**

- A. Prior to requesting inspection for certification of Substantial Completion, complete the following:
1. On Application for Payment, show 100 percent completion for portions of work claimed as substantially complete.
    - a. Submit list of incomplete items (Punch List), value of incomplete work, and reasons work is not complete.
  2. Obtain evidence of compliance with requirements of governmental agencies having jurisdiction including, but not necessarily limited to:
    - a. Certificate of Final Inspections, "signed off" by authorities having jurisdiction.
    - b. Certificate of Occupancy.
  3. Submission of product and installation warranties, workmanship bonds, maintenance agreements, installer certifications and similar documents specified in individual sections.
  4. Submission of test/adjust/balance reports.
  5. Change-over permanent locks and transmit keys to the Owner.
  6. Remove temporary facilities and services that are no longer required.
  7. Remove mock-ups, field samples and similar items.
  8. Complete Final Cleaning, including repair and restoration, or replacement of damaged Work.
  9. Remove surplus materials, rubbish and similar elements.
  10. Documentation of completed flush-out procedures.
  11. Application for reduction of retainage.



12. Consent of Surety.
  13. Advise the Owner of the change-over in security provisions.
  14. Notification of shifting insurance coverage.
- B. Within 2 weeks after receipt of the notice of Substantial Completion from the Contractor, the Architect will inspect to determine status of completion.
1. Should the Architect determine that the Work is not substantially complete:
    - a. The Architect will notify the Contractor in writing, stating the reasons therefore.
    - b. The Contractor shall remedy the deficiencies and send a second written notice of Substantial Completion to the Architect, requesting re-inspection.
- C. When the Architect concurs that the Work is substantially complete:
1. The Architect will prepare AIA Document G 704 - CERTIFICATE OF SUBSTANTIAL COMPLETION, in accordance with the requirements of the GENERAL CONDITIONS and SUPPLEMENTARY CONDITIONS, accompanied by the Contractor's list of items to be completed or corrected, as verified by the Architect.
  2. The Architect will submit the Certificate to the Owner, and to the Contractor, for their written acceptance of the responsibilities assigned to them in the Certificate.

## **1.5 CLOSEOUT PROCEDURES - FINAL ACCEPTANCE**

- A. Prior to requesting inspection for certification of Final Acceptance and final payment, perform the following:
1. Completion of incomplete Work. Submit a copy of the final inspection list stating that each item has been completed or otherwise resolved for acceptance.
  2. Prove that all taxes, fees and similar legal obligations have been paid.
  3. Submit final payment requests with release of all liens, and supporting documentation.
  4. Provide written assurances that all unsettled claims are in the process of and will be resolved.
  5. Submit updated final statement, including accounting for final additional changes to the Contract Sum. Show additional Contract Sum, additions and deductions, previous Change Orders, total adjusted Contract Sum, previous payments and Contract Sum due.
  6. Submit consent of surety to Final Payment.

7. Submit evidence of continuing insurance coverage complying with insurance requirements.
  8. Remove remaining temporary facilities and services.
  9. Deliver to Owner and obtain receipts for:
    - a. Operation and Maintenance Manuals for items so listed in individual Sections of the Specifications, and for other items when so directed by the Architect.
    - b. Project Record Documents.
    - c. Warranties and bonds specified in individual Sections of the Specifications.
    - d. Keys and keying schedule.
    - e. Spare parts and materials extra stock.
    - f. List of subcontractors, service organizations, and principal vendors, including names, addresses, and telephone numbers where they can be reached for emergency service at all times including nights weekends, and holidays.
  10. Submit Certification stating Work has been inspected for compliance with the Contract Documents.
  11. Submit Certification stating equipment and systems have been tested in presence of Owner's representative and are fully operational.
  12. Submit Certification stating that Work is 100 percent complete and ready for final inspection.
- B. Within 2 weeks after receipt of the request for Final Acceptance from the Contractor, the Architect will inspect to determine status of completion.
1. Should the Architect determine that the Work is incomplete or defective:
    - a. The Architect will notify the Contractor in writing, stating the reasons listing the incomplete or defective work.
    - b. The Contractor shall take immediate steps to remedy the deficiencies and send a second written notice of request for Final Acceptance to the Architect.
    - c. Costs relative to the Architects re-inspection due to failure of Work to comply with claims made by the Contractor, will be compensated by the Owner, who will deduct the amount of such compensation from the Final Payment due to the Contractor.
- C. After the Architect finds the Work acceptable, the Architect will review the Final Close-out submittals.

- D. Application for Final Payment: Submit Application for Final Payment in accordance with procedures and requirements of the General Conditions and Supplementary Conditions.
  - 1. The Architect will prepare a Final Change Order, reflecting approved adjustments to the Contract Sum not previously made by other Change Orders.

#### **1.6 CONFERENCES AFTER SUBSTANTIAL COMPLETION**

- A. The Owner reserves the right to call for conferences commencing with the date of Substantial Completion and continuing for one year thereafter, for purposes of inspecting the Work and to plan correction of any deficiencies or failures discovered during this period.
  - 1. Attendance is required by Contractor's Project Manager, Architect, and each applicator, installer, and supplier as the Owner may direct or the Contractor may wish to have present. All representatives attending such meetings shall be the same persons, or shall have the same powers and authority, as those attending progress meetings occurring prior to the Date of Substantial Completion.

#### **PART 2 - PRODUCTS (NOT USED)**

#### **PART 3 - EXECUTION (NOT USED)**

**END OF SECTION 01 77 00**

**SECTION 01 78 00**  
**CLOSEOUT SUBMITTALS**

**PART 1 - GENERAL****1.1 SUMMARY**

- A. Project record documents.
- B. Record Project Manual.
- C. Project Record Drawings (As built drawings).
- D. Emergency Manuals.
- E. Operation and maintenance data, preventive maintenance instructions.
- F. Maintenance contracts.
- G. Spare parts and maintenance materials.

**1.2 PROJECT RECORD DOCUMENTS**

- A. General: Record documents shall reflect actual "as-built" condition and the products installed. Include all changes and deviations from original Contract Documents, and incorporate information from:
  - 1. Original Contract Documents.
  - 2. Addenda.
  - 3. Change orders.
  - 4. Construction change directives.
  - 5. Field directives, and instructions from the Owner, Architect or regulatory authorities having jurisdiction.
- B. Project Record Documents include, but are not limited to:
  - 1. Record Project Manual.
  - 2. Project record drawings (as built drawings).
  - 3. Final Site Survey.
  - 4. Operation and maintenance data, preventive maintenance instructions.
  - 5. Materials and finishes manual.
  - 6. Product warranties and bonds.
  - 7. Maintenance contracts.
  - 8. Record of all test reports and inspections.

9. Wall charts and data such as valve diagrams, electrical panel board directories, and similar information.
- C. Labeling and identification of Record Documents
1. Clearly label all record documents with name of Project and the words "Record Document".
  2. Date progressive entries of information as appropriate.
  3. Date Record Documents with the final submission date.

### 1.3 SUBMITTAL QUANTITY REQUIREMENTS

- A. Furnish Architect with the following quantities of each submittal:
1. Record Project Manual: 4 bound copies.
  2. Project record drawings (as-builts):
    - a. 1 set of Drawings in Autocad™ format. Verify release version and disc type with Owner prior to submittal.
    - b. 1 "blackline print" set of Drawings.
  3. Operation and maintenance data, preventive maintenance instructions: 4 bound copies.
  4. Product warranties and bonds: 2 copies
  5. Maintenance contracts: 2 copies
  6. Record of all test reports and inspections: 4 copies.

### 1.4 RECORD PROJECT MANUAL

- A. The General Contractor is responsible to maintain a Project Manual reflecting revisions and changes to the Original Issue Project Manual.
1. Clearly label the Record Project Manual as "Record Document Specifications, in a three-ring binder.
  2. Do not use Record Project Manual for construction purposes; protect from loss in a secure location.
  3. Record all variations and deviations to the Contract Documents, including changes made by Addenda, Bulletin, Change Order, Change Directive and other modifications to the Contract.
    - a. Cut and paste revisions into their applicable specification section.
    - b. Identify all changes with cross-reference to appropriate Addendum Number, Modification Number, Change Order Number
  4. In each individual Specification Section, under "*Part 2 – Products*", identify all manufacturers and products which are actually used as part of the Work.

5. Give particular attention to concealed elements that would be difficult to measure and record at a later date.
- B. Record Project Manual: Provide prior to request for Final Acceptance.
1. Manuals shall be in 8-1/2 by 11 inch pages and bound in 3-ring (D-shape) binders with durable plastic covers. Internally subdivide the binder contents by Division with permanent page dividers.
  2. Label front cover and spine of each binder with laser printed titles, dates, and project information.
  3. All information from "in-progress" manual shall be clearly and completely transferred.
  4. Pages shall be undamaged.

### **1.5 PROJECT RECORD DRAWINGS**

- A. The General Contractor is responsible to maintain a clean, undamaged set of blue or black line white-prints of Contract Drawings and shop drawings for preparing the record drawings.
1. Where shop drawings are used, record a cross-reference at the corresponding location on the Contract Documents.
- B. Do not use Record Documents for construction purposes; protect from loss in a secure location. Mark-up these drawings to show clearly and completely the actual installation reflecting all changes made in the Work during construction.
1. Mark whichever drawing is most capable of showing conditions accurately.
  2. Record all variations and deviations to the Contract Documents, including changes made to schedules, details, and all architectural changes to structure, exterior enclosure, interior partitions and ceilings.
  3. Record new information that is important to the Owner, but was not shown on the Contract Drawings or shop drawings.
  4. Give particular attention to concealed elements that would be difficult to measure and record at a later date.
- C. The fire protection, mechanical and electrical trades shall be responsible to the Contractor to keep the record documents for their portions of the work marked currently to record all changes in the mechanical and electrical work made during construction.
- D. The Architect may periodically inspect these record drawings, and their proper maintenance may be a condition precedent to approval of applications for periodic payments.

- E. Deliver all Project Record Documents, shop drawings, product data, and samples to the Architect for the Owner's use, upon completion of the Work and prior to request for Final Acceptance of the Work.
- F. In addition, at the completion of the work, the General Contractor is responsible for the preparation and submittal of neat, clean well drafted, and complete record drawings, at no additional costs to the Owner. These reproducible Project Record Documents shall be transmitted to the Architect as a condition precedent to final payment, and include documents prepared by the fire protection, mechanical and electrical trades.

## **1.6 OPERATION AND MAINTENANCE MANUALS**

- A. Prepare data in the form of an instructional manual. Furnish manuals which contain all of the following groups of equipment:
  - 1. Fire protection system.
  - 2. Heating, ventilation and air conditioning system.
  - 3. Electrical systems.
- B. Furnish bound and properly identified Manuals prior to request for Final Acceptance.
  - 1. Manuals shall be in 8-1/2 by 11 inch pages and bound in three "D ring" capacity binders with durable plastic covers. Internally subdivide the binder contents with permanent page dividers.
    - a. Arrange content by section number and systems, process flow, under section numbers and sequence as listed in the Table of Contents of this Project Manual.
    - b. Drawings: Preferable 11 inches in height bound in with text with reinforced punched binder tab. Fold drawings larger than 8-1/2 by 11 inches to size of text pages. Provide a drawing pocket for Drawings larger than 11 by 17 inches; locate pocket inside rear cover or bound in with text.
  - 2. Each manual shall include the same following minimum information:
    - a. Table of Contents.
    - b. Directory of Contractor, subcontractors, and major equipment supplies listing addresses, phone numbers and appropriate emergency phone numbers.
      - 1) Include local sources of supplies and replacement parts.
    - c. Directory of Architect and consultants listing addresses and phone numbers.



- d. Operation and maintenance instructions. Provide schematic diagrams of control systems, circuit directories for each electric panel and charts showing the tagging of all valves.
  - e. Air and water test and balancing reports.
  - f. Maintenance and cleaning instructions for finishes.
  - g. Product and manufacturer's Certificates.
  - h. Photocopies of all extended warranties and bonds.
3. Submit one copy of completed volume in final form 21 days prior to Final Inspection. This copy will be returned after final inspection with Architect's comments; Revise and submit all volumes to Owner.
- C. For each item of equipment, include description of equipment, component parts and accessories. Identify function, normal operating characteristics, and limiting conditions. Include performance curves, with engineering data and tests, and complete nomenclature and commercial number of replaceable parts. Additionally, provide the following for each item:
1. Panelboard circuit directories: Provide electrical service characteristics, controls and communications.
  2. Include color coded wiring diagrams as installed.
  3. Operating procedures: Include start-up, break-in, and routine normal operating instructions and sequences. Include regulation, control, stopping, shut-down, and emergency instructions. Include summer, winter, and any special operating instructions.
  4. Maintenance requirements: Include routine procedures and guide for trouble-shooting; disassembly, repair, and re-assembly instructions; alignment, adjusting, balancing, and checking instructions.
    - a. Maintenance drawings: Supplement product data to illustrate relation of component parts of equipment and systems, to show control and flow diagrams. Do not use project Record Documents as maintenance drawings.
  5. Provide servicing and lubrication schedule, and list of lubricants required.
  6. Include manufacturer's printed operation and maintenance instructions.
  7. Include sequence of operation by controls manufacturer.
  8. Provide control diagrams by controls manufacturer as installed.
  9. Provide Contractor's coordination drawings, with color coded piping diagrams as installed.
  10. Provide charts of valve tag numbers, with location and function of each valve, keyed to flow and control diagrams.

11. Provide original manufacturer's parts (OEM) list, illustrations assembly drawings, and diagrams required for maintenance.
    - a. Provide list of original manufacturer's spare parts (OEM), current prices, and recommended quantities to be maintained in storage.
    - b. Include local source of supplies and replacement parts, and any other data pertinent for procurement procedures.
  12. Additional requirements: As specified in individual specification Sections.
- D. Standards:
1. Measurements: Provide all measurements in U.S. standard units such as feet and inches, pounds, and cfm; provide additional measurements in the "International System of Units" (SI).
  2. Abbreviations: Provide complete nomenclature of all parts of all equipment; include part numbers of all replaceable parts.

#### **1.7 SPARE PARTS AND MAINTENANCE MATERIALS**

- A. Provide products, spare parts, maintenance and extra materials in quantities specified in individual specification Sections.
- B. Deliver materials to on-site location designated by the Owner; obtain receipt.

#### **PART 2 - PRODUCTS (NOT USED)**

#### **PART 3 - EXECUTION (NOT USED)**

**END OF SECTION 01 78 00**

**SECTION 01 78 36****WARRANTIES****PART 1 - GENERAL****1.1 SUMMARY**

- A. General: This Section specifies general administrative and procedural requirements for warranties, guarantees and bonds required by the Contract Documents, including manufacturers standard warranties on products and special warranties. Warranty, Guarantee and Bond requirements of this Section are applicable to all trades, all Divisions of the Specifications, and applies to all Work performed under this Contract.
  - 1. Warranties required under the Contract are in addition to and not in lieu of any remedy or warranty to which the Owner is entitled under law.
  - 2. Warranties required under the Contract are not a waiver of Owner's legal rights.
- B. Contractor's Procurement Obligations: Do not purchase, subcontract for, or allow others to purchase or sub-subcontract for material or units of work for project where a special project warranty, certification or similar commitment is required, until it has been determined that entities required to countersign such commitments are willing to do so.

**1.2 RELATED REQUIREMENTS**

- A. General provisions of the Contract, including General and Supplementary Conditions apply to this Section.
- B. Individual Specification Sections contain additional specific requirements for warranties and bonds.
- C. Certifications and other commitments and agreements for continuing services to Owner are specified elsewhere in the Contract Documents.

**1.3 DISCLAIMERS AND LIMITATIONS**

- A. General Limitations: It is recognized that specific warranties are intended primarily to protect Owner against failure of the work to perform as required, and against deficient, defective, and faulty materials and workmanship, regardless of sources.
- B. Disclaimers and Limitations: Manufacturer's disclaimers and limitations on product warranties do not relieve the Contractor of the warranty on the work that incorporates the products, nor does it relieve suppliers, manufacturers,

and subcontractors required to countersign special warranties with the Contractor.

1. Pro-rating of warranties: Except where explicitly specified otherwise, each warranty issued shall cover the full cost of warranty-related repairs throughout the full term of the warranty.

#### **1.4 DEFINITIONS**

- A. Categories of Specific Warranties: Warranties on the work are in several categories, including those of General Conditions, and including (but not necessarily limited to) the following specific categories related to individual units of work specified in sections of Divisions 2 through 50 of these Specifications:
1. General Contractor's Comprehensive Warranty: The General Contractor shall provide a comprehensive one-year warranty covering all labor, materials, equipment and work related to the entire Contract, and shall promptly repair or replace defective and deficient work.
  2. Special Project Warranty (Guaranty): A warranty specifically written and signed by contractor for a defined portion of the work; and, where required, countersigned by subcontractor, installer, manufacturer or other entity engaged by Contractor. Special Warranties extend time limits provided by standard warranties or to provide greater rights for the Owner.
  3. Specified Product Warranty: A warranty which is required by Contract Documents, to be provided for a manufactured product incorporated into the work; regardless of whether manufacturer has published a similar warranty without regard for specific incorporation of product into the work, or has written and executed a special project warranty as a direct result of Contract Document requirements.
    - a. Standard Product Warranties are preprinted written warranties published by individual manufacturers for particular products and are specifically endorsed by the manufacturer to the Owner.
  4. Coincidental Product Warranty: A warranty not specifically required by Contract Documents (other than as specified in this Section), but which is available on a product incorporated into the work, by virtue of the fact that manufacturer or product has published warranty in connection with purchases and use of product without regard for specific applications except as otherwise limited by terms of warranty.

#### **1.5 WARRANTY REQUIREMENTS**

- A. Warranty Period Commencement Date: Effective stating date for Warranty periods is the Date of Substantial Completion for Project.

1. Equipment and systems start-up, operation and use, occurring prior to Project Substantial Completion, will not be considered commencement of warranty period under any terms of this Contract.
  2. Exceptions: Starting dates for warranties prior to the Project Date of Substantial Completion are not permitted, except for the two conditions below:
    - a. Warranty requirements specified in individual specification sections explicitly specify that a required warranty or guarantee shall be effective on date of shipment, date of manufacturer, or date of installation.
    - b. Warranties for Incomplete work: The effective date for warranty of work which has not been completed prior to the Date of Substantial Completion, shall be effective on the date of Final Completion and Owner's acceptance of the Work.
- B. Related Damages and Losses: In connection with Contractor's correction of warranted work which has failed, remove and replace other work of project which has been damaged as a result of such failure, or must be removed and replaced to provide access for correction of warranted work.
1. Consequential Damages: Except as otherwise indicated or required by governing regulations, special project warranties and product warranties are not extended to cover damage to building contents (other than work of Contract) which occurs as a result of failure of warranted work.
- C. Reinstatement of Warranty Period: Except as otherwise indicated, when work covered by a special project warranty or product warranty has failed and has been corrected by replacement or restoration, reinstate warranty by written endorsement starting on date of acceptance of replaced or restored work.
1. Reinstated warranty value: The reinstated warranty shall be equal to the original warranty with an equitable adjustment for depreciation.
  2. Reinstated warranty period: A period of time ending upon date original warranty would have expired, if there had been no failure, but not less than half of original warranty period of time.
- D. Warranties are Irrevocable: Warranties issued to the Owner are irrevocable.
1. Non-Payment: If warrantor refuses to issue warranty, or attempts to revoke warranty due to lack of payment by any party other than the Owner, the Contractor shall resolve the payment conflict, and cause the warranty to be issued or reinstated.
  2. Incomplete or incorrect Installation: If warrantor refuses to issue warranty, or attempts to revoke warranty due to improper installation or

other deficiency, the Contractor shall correct the deficiency and cause the warranty to be issued or reinstated.

- E. Transferable Warranties: All warranties shall permit Owner to transfer or assign warranties to future owners or other assignors at no additional cost to the Owner for the full warranty period.
- F. Replacement Cost: Upon determination that work covered by a warranty has failed, replace or rebuild the work to an acceptable condition complying with requirements of Contract Documents. The Contractor is responsible for the cost of replacing or rebuilding defective work regardless of whether the Owner has benefited from use of the work through a portion of its anticipated useful service life.
  - 1. Work repairs or replaced under warranty shall be warranted for the full duration of the original warranty.
- G. Owner's Recourse: Written warranties made to the Owner are in addition to implied warranties, and shall not limit the duties, obligations, rights and remedies otherwise available under the law, nor shall warranty periods be interpreted as limitations on time in which the Owner can enforce such other duties, obligations, rights, or remedies.
- H. Rejection of Warranties:
  - 1. Owner reserves the right, at time of substantial completion or thereafter, to reject coincidental product warranties submitted by Contractor, which in opinion of Owner tend to detract from or confuse interpretation of requirements of Contract Documents.
  - 2. Owner reserves the right to reject warranties and to limit selection to products with warranties which are not in conflict with the requirements of the Contract Documents.
- I. Owner's right to refuse Work: The Owner reserves the right to refuse to accept work for the project where a special warranty, certification, or similar commitment is required on such work or part of the work, until evidence is presented that entities required to countersign such commitments are willing to do so.

## **1.6 COMPREHENSIVE WARRANTY**

- A. Comprehensive Warranty: In addition to all other warranties, the General Contractor shall issue a Comprehensive Total Contract Warranty which shall include all work of this Contract, without limitation including consequential damages.
  - 1. Duration of Comprehensive Warranty: One full year from date of Substantial Completion.

2. Consequential damages: Warranty includes consequential damages which relate to a warranty claim, these include without limitation:
  - a. All costs required to uncover and repair all work related to warranty claim.
  - b. All costs relating to repair and restoration of damaged property, resulting from warranty claim.
  - c. All costs resulting from failure to conform to the Contract Documents, and for required rebuilding, construction or reconstruction to correct work.
  - d. Perform to the satisfaction of the Owner all repairs, reconstruction, and restoration to original condition of adjacent and related work affected by damage under a warranty claim.
- B. Warranty Claims: Owner will notify General Contractor in writing of each warranty claim. Warranty repairs shall be completed within 30 days of written notice, except as pre-approved by Owner.
  1. In the event of an emergency condition, where in the reasonable opinion of the Owner an immediate repair under warranty is necessary, warranty repairs shall be completed within 14 calendar days from date of notice.
  2. Owner's right to correct: In the event the Contractor fails to respond to a warranty claim within the specified time limits, the Owner reserves the right to make the necessary corrections or repairs and recover all costs and expenses from the General Contractor.
- C. Contractor's responsibilities under Comprehensive Warranty:
  1. Notify in writing each affected warrantor and original subcontractor, installer, vendor as appropriate to the warranty claim.
  2. Manage the warranty claim for the Owner.
  3. Assist the Owner in obtaining warranty satisfaction.
  4. Arrange and manage all warranty related work including work relating to consequential damages.

## 1.7 SUBMITTALS

- A. Submit written warranties to the Owner prior to the date certified for Substantial Completion. In compliance with requirements specified under Section 01 77 00 – CLOSEOUT PROCEDURES and Section 01 78 00 – CLOSEOUT SUBMITTALS.
  1. When a designated portion of the Work is completed and occupied, or used by the Owner by separate agreement with the Contractor during the construction period, submit properly executed warranties to the Owner within 14 calendar days of completion of the designated portion of Work.

2. Refer to individual section of Divisions 2 through 50 for the determination of units of work which are required to be specifically or individually warranted, and for the specific requirements and terms of those warranties (or guarantees).
  3. Specific Warranty Forms: Where a special project warranty (guaranty) or specified product warranty is required to be executed, prepare a written document to contain terms and appropriate identification, ready for execution by all required parties (including manufacturers, vendors, and subcontractors). Submit draft to Owner (through Architect) for approval prior to final executions.
- B. Form of Submittal: At Final Completion, compile three (3) copies of each required warranty and bond properly executed by the General Contractor, or by the General Contractor, subcontractor, supplier or manufacturer. Organize the warranty documents into an orderly sequence based on the Table of Contents of the Project Manual.
1. Bind warranties and bonds in heavy-duty, commercial quality, durable 3-ring vinyl-covered loose-leaf binders, thickness as necessary to accommodate contents, and sized to receive 8-1/2" by 11" paper.
  2. Provide heavy paper dividers with celluloid-covered tabs for each separate warranty. Mark the 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 the installer.
  3. Identify each binder on the front and the spine with the typed or printed title "WARRANTIES AND BONDS", the project title or name, and the name of the General Contractor.
  4. When operating and manuals are required for warranted construction, provide additional copies of each required warranty, as necessary, for inclusion in each required manual.

## **PART 2 - PRODUCTS (NOT USED)**

## **PART 3 - EXECUTION**

### **3.1 SCHEDULE**

- A. Provide warranties on products and installations as specified in individual specification Sections in Divisions 2 through 50 of the Project Manual.

**END OF SECTION 01 78 36**



**SECTION 01 79 00**  
**DEMONSTRATION AND TRAINING**

**PART 1 - GENERAL****1.1 SUMMARY**

- A. Demonstrating equipment.
- B. Instruction and training of Owner's personnel.

**1.2 DEMONSTRATING EQUIPMENT**

- A. Demonstrate operation and maintenance of Products to Owner's personnel 2 weeks prior to date of Substantial Completion.
- B. For equipment or systems requiring seasonal operation, perform demonstration for other season within six months.
- C. Utilize operation and maintenance manuals as basis for instruction. Review contents of manual with Owners' personnel in detail to explain all aspects of operation and maintenance.
- D. Demonstrate start-up, operation, control, adjustment, trouble-shooting, servicing, maintenance, and shutdown of each item of equipment at agreed-upon times, at equipment location.
- E. Prepare and insert additional data in operations and maintenance manuals specified under Section 01 78 00 - CLOSEOUT SUBMITTALS when need for additional data becomes apparent during instruction.

**1.3 INSTRUCTION AND TRAINING OF OWNER'S PERSONNEL**

- A. Before final inspection, instruct Owner's designated personnel in operation, adjustment, and maintenance of products, equipment, and systems, at agreed upon times.
- B. For equipment requiring seasonal operation, perform instructions for other seasons within six months.
- C. Use operation and maintenance manuals as basis for instruction. Review contents of manual with personnel in detail to explain all aspects of operation and maintenance.
- D. Prepare and insert additional data in Operation and Maintenance Manual when need for such data becomes apparent during instruction.

- E. Provide sufficient formal instructional time for training Owner's personnel, so that the Owner's personnel will fully comprehend operation and maintenance of the facility's equipment and systems. Contractor's personnel designated for Owner training shall be competent and knowledgeable and have good communication skills.
1. Training sessions shall be pre-arranged directly with the Owner.
    - a. Instructors shall arrive at pre-scheduled training sessions on-time and be fully prepared to teach using a preplanned training program.
    - b. All instructors are subject to the Owner's approval. Replace unacceptable instructors and reschedule training as directed by the Owner at no increased cost to the Owner.
  2. Training shall include the following:
    - a. General overview of Record Documents:
      - 1) Record Drawings.
      - 2) Record Project Manual.
      - 3) Operation and Maintenance Manuals.
      - 4) Finishes.
      - 5) Warranty and maintenance agreements.
      - 6) Test reports and inspections.
    - b. Fire suppression systems and equipment.
    - c. Fire alarm systems and equipment.
    - d. HVAC systems and equipment.
    - e. Electrical systems and equipment.
- F. Video Training Record: The Owner may, at its sole option, video record the instruction and training of the Owner's personnel. The Contractor and its subcontractors shall cooperate with the Owner.
- G. Final payment is condition precedent on completion of Owner training (instruction). Contractor is required to submit affidavit that training and instruction of Owner's personnel is completed.

**PART 2 - PRODUCTS (NOT USED)**

**PART 3 - EXECUTION (NOT USED)**

**END OF SECTION 01 79 00**

**SECTION 02 41 19**  
**SELECTIVE DEMOLITION**

**PART 1 - GENERAL**

**1.1 SUMMARY**

- A. General: The work described in this Section consists of selective demolition, cleaning, removal and legal disposal of all structures, equipment and materials indicated for demolition, or careful removal and temporary storage of materials and equipment indicated for salvage and re-use, or salvage and delivery to Owner. No attempt is made in this Section to list the entire scope of selective demolition required on this project or to describe each element to be removed. Drawings indicate both existing construction and final construction. It is the responsibility of the General Contractor to determine for itself the scope and nature of the existing materials, equipment and finishes required for removal or salvage, based on the information provided in the full set of Contract Documents.
1. Comply with requirements of Section 01 35 91 – HISTORIC TREATMENT PROCEDURES and Section 01 73 29 - CUTTING AND PATCHING.
- B. Permits: Obtain and pay for all demolition and construction permits required by local authorities having jurisdiction and other regulatory agencies and utility companies.
- C. Selective demolition and removal work include, but is not limited to:
1. Remove designated exterior walls, interior partitions, ceiling and suspension systems, and flooring systems
  2. Remove from site all abandoned, disconnected and dismantled fire protection, plumbing and mechanical equipment, including piping, conduits, system wiring, meters and other devices.
  3. Remove from site all abandoned, disconnected and dismantled electrical fixtures and equipment, including conduits, wiring, meters and other devices.
  4. In addition to demolition specifically shown, cut, move or remove existing construction to remain as necessary to provide access or to allow alterations and new work to proceed. Coordinate such relocation's and removal to accommodate the demands and requirements of other trades.
  5. Removal of unsuitable or extraneous materials not marked for salvage, such as abandoned furnishings and equipment, and debris such as rotted wood, rusted metals and deteriorated concrete.

- D. Remove, salvage and provide storage for removed materials, equipment and furnishings indicated for reuse, including but not limited to:
  - 1. Acoustical ceilings, including grid and acoustical panels.
- E. Conduct walk-through of existing site prior to commencement of selective demolition work and jointly identify and tag with Owner items required to be salvaged for the following
  - 1. Identify products for Owner's own use.
  - 2. Identify products for salvage and reuse.
  - 3. Identify products of historic significance for salvage and determine disposition.
- F. Identify locations of utilities for work of other sections.

## 1.2 RELATED REQUIREMENTS

- A. Section 01 50 00 – CONSTRUCTION FACILITIES AND TEMPORARY CONTROLS: Procedural and administrative requirements for temporary facilities and controls, including:
  - 1. Temporary heat.
  - 2. Temporary barriers and barricades.
  - 3. Temporary fire protection.
- B. Section 01 74 19 - CONSTRUCTION WASTE MANAGEMENT AND DISPOSAL: Procedural and administrative requirements for construction and demolition recycling.
- C. Division 21 - FIRE SUPPRESSION
  - 1. Disconnection and dismantling designated fire suppression systems and components.
- D. Division 23 - HEATING, VENTILATING AND AIR CONDITIONING (HVAC):
  - 1. Disconnection, of rooftop ventilator ducts.
  - 2. Disconnection and dismantling designated mechanical systems and components.
- E. Division 26 - ELECTRICAL:
  - 1. Disconnection and dismantling designated electrical systems and components.
  - 2. Disconnection, salvage, and re-installation of designated light fixtures.
- F. Individual specification sections: Cutting and patching incidental to work of individual specification sections shall be performed by respective trades.

- G. Individual specification sections: Utility shutoffs by respective trades.

### **1.3 REFERENCES**

- A. Referenced Standards: Comply with applicable requirements of the following standards and those others referenced in this Section, under the provisions of Section 01 42 00 - REFERENCES. The standards referenced herein are included to establish recognized minimum quality only. Where these standards conflict with other specified requirements, the most restrictive requirements shall govern. Equivalent quality and testing standards will be acceptable, subject to their timely submission, review and acceptance by the Architect.
  - 1. ANSI A10.6 – Safety Requirements for Demolition Operations.
  - 2. NFPA 241 – Standard for Safeguarding Construction, Alteration, and Demolition Operations.

### **1.4 OWNERSHIP OF REMOVED MATERIALS**

- A. If during the work, articles of unusual value, or, of historical or archaeological significance, are encountered (which have not previously identified as such in the Contract Documents) the ownership of such articles is retained by the Owner. Upon discovery, immediately furnish to the Architect and Owner, information regarding their discovery Resolution shall be handled as a Change in the Work.
- B. Ownership of materials, equipment and furnishings designated for salvage for re-use in this Project or designated for Owner's use is retained by the Owner.
- C. Ownership of materials, equipment and furnishings to be removed from the Project which are not defined by the above two paragraphs is retained by the General Contractor; if any of these are considered of salvageable value to the General Contractor, they may be removed from the Project as work progresses.
  - 1. On-site storage or sale of removed items is prohibited.

### **1.5 ADMINISTRATIVE REQUIREMENTS**

- A. Coordination:
  - 1. Comply with all requirements of this contract relative to protection, scheduling and coordination with the Owner.
  - 2. Hazardous materials: When hazardous materials are encountered, they shall be handled, removed, and disposed of in accordance with all regulatory agency requirements.
  - 3. Coordinate and arrange with utility, mechanical and electrical trades for their disconnecting, rerouting and maintenance of existing services

leading to adjacent occupied buildings, as part of the work of this Contract.

4. Coordinate Work of this Section with related utilities work identified in the Contract Documents.
- B. Pre-Demolition Meeting: At least two weeks prior to commencing the work of this Section, conduct a pre-demolition conference at the Project site. Comply with requirements of Section 01 31 00 - PROJECT MANAGEMENT AND COORDINATION. Coordinate time of meeting to occur prior to installation of work under the related sections named below.
1. Required attendees: Architect, General Contractor's project manager and on-site superintendent, demolition subcontractor's project superintendent, and representatives of related utility trades.
  2. Conference Agenda:
    - a. Scheduling of demolition operations. Review critical demolition sequencing with other work.
    - b. Coordination of utility service requirements and disconnects.
      - 1) Review functioning utility services which are to remain in service throughout demolition work.
      - 2) Review requirements for marking location of disconnected utilities, and project record (as-built) requirements.
    - c. Review conditions of existing construction to be demolished.
      - 1) Review extent and location of selective demolition.
      - 2) Review special demolition and salvage procedures required for historic building elements.
      - 3) Exploratory demolition and concealed conditions.
    - d. Coordination of demolition work with work of other contracts.
    - e. Review shoring and bracing procedures, and structural load limitations of existing structure.
    - f. Review of site use, staging, and storage locations for salvaged materials and materials for recycling program.
    - g. Emergency weather protection procedures and weather limitations.
    - h. Review conditions of existing construction to be demolished.
    - i. Review structural load limitations of existing structure.
    - j. Review extent and location of selective demolition. Review areas where existing construction is to remain and requires protection
    - k. Review special requirements for temporary protection of existing finishes and materials to remain.

- l. Review requirements of work performed by other trades that rely on substrates exposed by demolition operations.
    - m. Procedures for processing field decisions.
    - n. Procedures for handling hazardous materials.
    - o. Review fire protection procedures for cutting torches, and other potentially hazardous operations.
    - p. Review general safety regulations and requirements for demolition work.
- C. Sequencing:
  - 1. Coordinate and arrange with mechanical and electrical trades for their disconnecting, rerouting and maintenance of existing services in the buildings as required, as part of the work of this Contract.
- D. Scheduling:
  - 1. Comply with all requirements of this contract relative to protection, scheduling, phasing, and coordination with the Owner.

## 1.6 SUBMITTALS

- A. Information and Review Submittals: Submit the following under provisions of Section 01 33 00 - SUBMITTAL PROCEDURES:
  - 1. Schedule: Prior to commencement of work, prepare a schedule indicating proposed methods and sequence of operations for demolition work.
    - a. Include coordination for shut-off, capping, and continuation of utility services as required, together with details for dust and noise control protection.
    - b. Provide detailed sequence of demolition and removal work to ensure uninterrupted progress of Owner's on-site operations. Receive acceptance from Architect prior to commencing work.
  - 2. Shop drawings: Indicate demolition sequencing and locations of salvageable items.
  - 3. Design Data: Submit calculations for bracing and shoring, signed and sealed by professional engineer registered in the State of Rhode Island.
  - 4. Permits: Submit copy of permits required by regulatory agencies for demolition.
  - 5. Special Procedure Submittals: Submit copies of written agreements from private landowners, landfill operators, or other agencies accepting disposal of demolished materials at least two weeks prior to commencement of demolition work.

- B. Closeout Submittals: Submit the following under provisions of Section 01 78 39 – PROJECT RECORD DOCUMENTS.
  - 1. Record Documentation: Indicate actual location of capped site utilities.

### **1.7 REGULATORY REQUIREMENTS**

- A. Conform to applicable codes for demolition work, safety of structure, dust control, and disposal of debris. Conform to procedures applicable when discovering hazardous materials or contaminated substances.
  - 1. The General Contractor is directed not to disturb or attempt removal of any discovered hazardous materials or contaminated substances. Immediately notify both the Owner and the Architect upon discovery of such conditions.
- B. Obtain and pay for required permits and licenses required from authorities prior to commencing demolition work. Arrange and pay for legal disposal of removed materials and equipment, obtain proper disposal receipts for verification.
- C. Notify affected utility companies and Owner before starting work and comply with utility company requirements.
- D. Do not close or obstruct egress width to exits. Do not disable or disrupt building fire or life safety systems without 3 days prior written notification to the Owner.

### **1.8 QUALITY ASSURANCE**

- A. General: Conduct the work in a manner giving prime consideration to protection of the public; protection from the weather, control of noise, shocks and vibration; control of dirt and dust; orderly access for and storage of materials; protection of existing buildings; protection of adjacent surfaces and property; coordination and cooperation with the Owner at all times.
  - 1. Comply with all requirements of this contract relative to protection, scheduling and coordination with the Owner.
- B. Qualifications:
  - 1. Demolition: Company specializing in performing work of this section with minimum 3 years documented experience.
  - 2. Shoring and bracing design: Design shoring, and bracing, under direct supervision of Professional Engineer experienced in design of this Work and licensed at Project location.



**1.9 SITE CONDITIONS**

- A. Comply with wind and weather conditions established at pre-demolition meeting.

**PART 2 - PRODUCTS (NOT USED)****PART 3 - EXECUTION****3.1 EXAMINATION**

- A. Condition of Structures: Owner assumes no responsibility nor makes any claim as to the actual condition or structural adequacy of any existing construction to be demolished. The General Contractor shall investigate and assure himself of the condition of the work to be demolished and shall take all precautions to ensure safety of persons and property.
  - 1. Notify both Owner and Architect, if any type of hazardous chemicals, gases, explosives, flammable material, unmarked containers, or similar dangerous substances are discovered. Cease work in affected areas until directed by Architect. Continue work in other areas.
- B. The General Contractor shall have examined the existing conditions per requirements of the Conditions of the Contract and Division 1 - General Requirements, and reviewed Contract Documents prior to commencement of demolition. Coordinate and verify scope of selective demolition with other portions of work specified in other sections, and under separate Contract. Change orders will not be issued for the removal of any exposed to view materials or equipment, which are either indicated on the Drawings for removal, or not indicated, but necessary to remove for the Work of this Project.
- C. Prior to commencement of selective demolition work, inspect areas in which work will be performed. Photograph existing damage to structure surfaces, equipment, or to surrounding properties which could be misconstrued as damage resulting from selective demolition work; file with Architect prior to starting work. Comply with requirements of Section 01 32 00 - CONSTRUCTION PROGRESS DOCUMENTATION.

**3.2 PREPARATION**

- A. General: Provide necessary protection of non-work areas during demolition operations. Provide, erect and maintain temporary barriers as required to protect non-construction related pedestrian and vehicular traffic using the adjacent portions of the site and building.
  - 1. Erect and maintain temporary partitions to prevent spread of dust, odors, and noise to permit continued Owner occupancy of adjacent facility.

- B. Protect existing structures which are not to be demolished. Protect designated materials and equipment to be removed and retained by Owner.
  - 1. Cover or otherwise protect as necessary existing equipment, furniture and furnishing located beyond the immediate demolition work.
  - 2. Protect existing landscaping materials, structures, and appurtenances which are not to be demolished.
- C. Prevent movement of structure; provide required bracing and shoring.
  - 1. Protect existing active utility services and structures from damage during selective demolition work including during installation of bracing and removal of same. Repair or replace damages to satisfaction of Owner.
- D. Dangerous Materials: Drain, purge, or otherwise remove, collect, and dispose of chemicals, gases, explosives, acids, flammables, or other dangerous materials before proceeding with demolition operations.

### **3.3 GENERAL REQUIREMENTS FOR SELECTIVE DEMOLITION**

- A. Conduct demolition to minimize interference with adjacent building areas, in compliance with governing laws and buildings, with prime consideration given to the safety, protection and convenience of the public and Owner's personnel.
  - 1. Maintain protected egress and access to the Work at all times.
- B. Perform selective demolition in an orderly and careful manner. Carefully cut materials to be removed to eliminate damage to portions to remain. Protect existing structure designated to remain.
  - 1. Do not demolish building elements beyond what is indicated on Drawings without Architect's approval.
  - 2. Except as otherwise required by Project phasing requirements, proceed with selective demolition systematically, from higher to lower level. Complete selective demolition operations above each floor or tier before disturbing supporting members on the next lower level.
  - 3. Locate equipment and remove debris and materials so as not to impose excessive loads on supporting walls, floors, or framing.
  - 4. Remove debris from elevated portions of building by chute, hoist, or other device that will convey debris to grade level in a controlled descent. Do not throw trash from windows or from roof.
  - 5. Remove decayed, vermin-infested, or otherwise dangerous or unsuitable materials and promptly dispose of off-site.
  - 6. Remove structural framing members and lower to ground by method suitable to avoid free fall and to prevent ground impact or dust generation.

7. Pull nails and fasteners which remain after removal of attached material. Remove lath, strapping and other substructures associated with finishes to be removed.
  8. Where existing finishes are indicated to be removed, remove down to bare subsurface without causing damage to the subsurface.
    - a. After removal of non-asbestos finish flooring materials. Remove underlying mastic and prepare substrate to receive new flooring materials by shotblasting method. Create a uniform 20 mil profile. Mechanically scarify areas which cannot be profiled by shot blast method. Thoroughly wash all flooring substrate and leave clean and dry ready for application of new flooring materials.
- C. Remove foundation walls and footings as indicated on Drawings, and where indicated, to a minimum of two feet beyond area of new construction.
- D. Cutting openings and holes: Neatly cut openings and holes plumb, square, and true to dimensions required. Cut or drill from the exposed or finished side into concealed surfaces to avoid marring existing finished surfaces. 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.
1. All penetrations in floors and roof shall be framed with miscellaneous metal work prior to cutting and demolition of deck and concrete.
  2. Repair damage done to existing elements of building to remain, except repairs specified to be provided under other Sections. Repairs shall be done in such manner as to closely match construction, appearance and quality of original work.
- E. Use of cutting torches:
1. Do not use cutting torches until work area is cleared of flammable materials.
  2. Maintain adequate ventilation when using cutting torches.
  3. At concealed spaces, such as duct and pipe interiors, verify condition and contents of hidden space before starting flame-cutting operations.
  4. Maintain fire watch and portable fire-suppression devices during flame-cutting operations. Comply with fire prevention measures specified under Section 01 50 00 – CONSTRUCTION FACILITIES AND TEMPORARY CONTROLS.
- F. Carefully observe existing structure during demolition operations, cease operations immediately if structure appears to be in danger. Immediately

notify both Architect and Owner's Project Representative. Do not resume demolition operations until directed.

- G. Disconnect, cap and clearly identify designated utilities within demolition areas.
  - 1. Cap and remove abandoned existing utilities back to locations indicated, or to limit line of Contract where terminations are not indicated.
    - a. Pipes to be demolished that require a connection shall be removed to the extent required to install the new connection. Remove ripe sections by saw-cutting, removing a complete pipe section to an existing joint, or other adequate means which results in a clean joint.
  - 2. Protect and maintain conduits, drains, sewers, pipes, and similar utilities that are not to be demolished
- H. Disconnect existing equipment and fixtures to be removed, or services abandoned, and piping, wiring, and conduit which would otherwise be exposed in the finished work. Remove from site disconnected equipment and fixtures and piping not to be reused.
  - 1. General Contractor to remove and dispose of all equipment not tagged or scheduled for reuse.
- I. Abandoned Equipment, Utilities, Systems: Remove in their entirety. Abandonment in place is not acceptable, except where an item is specifically indicated to be abandoned in place.
  - 1. "Abandoned" means the item is not operational in the completed Contract.
  - 2. Without limitation, remove abandoned pipes, tubing, conduits, wires, cables, ducts, equipment, machines, and all elements and items related to abandoned work including, without limitation, hangers, connectors, anchors, valves, drains, strainers, sumps, panels, mounting boards, grounding rods, ground connectors, boxes, dampers, plenums, insulation, escutcheons, trims, and all other related items.
  - 3. Where an existing element is indicated to be abandoned in place, the abandoned item shall be cut off and, if hollow, capped.
    - a. Cut off sufficiently below the finished plane to permit space for patching over the abandoned element. The General Contractor shall provide all cutting and chipping required to recess the cut element, and to coordinate depth of cut-offs required for finishing.

**3.4 BRACING**

- A. Locate bracing to clear columns, floor framing construction, and other permanent work. If necessary, to move a brace, install new bracing prior to removal of original brace. Provide suitable bracing materials which will support loads imposed
- B. Do not place bracing where it will be cast into or included in permanent concrete work, except as otherwise acceptable to Architect.
- C. Install internal bracing, if required, to prevent spreading or distortion to braced frames.
- D. Maintain bracing until structural elements are re-braced by other bracing or until permanent construction is able to withstand designed live and dead loads.
- E. Remove bracing in stages to avoid disturbance or damage to existing structure.
- F. Repair or replace adjacent work damaged or displaced through installation or removal of bracing work.

**3.5 EXPLORATORY DEMOLITION AND CONCEALED CONDITIONS**

- A. Exploratory Demolition and Concealed Conditions:
  - 1. Selective demolition work includes controlled exploratory demolition work which is indicated on Drawings and as may be additionally field directed by the Architect. Additional exploratory demolition may also be required to thoroughly investigate and determine the exact location of existing concealed work or to expose concealed conditions to view.
  - 2. Exploratory demolition may be used to clarify the Contract Documents to improve the interface of new and existing work.
- B. Concealed conditions: Carefully check for concealed structure, pipes, conduits, wires, utilities, systems, and other elements before beginning cutting and selective demolition work.
- C. Discovery: When unknown, concealed utilities and systems are discovered, verify the purpose, routing, circulation, origin, and termination of these items.
  - 1. If the unknown, concealed items are part of a system to be abandoned, remove the item in its entirety.
  - 2. Protect discovered concealed items are part of an existing system to be preserved and incorporated into the Work, or part of an active system to remain. Protect system elements from disturbance and notify both Owner and Architect and follow the Architect's directions

- a. In circumstances when existing system to remain is damaged due to the Work (including cutting, demolition or exploratory investigation) notify both Owner and Architect immediately. Repair or re-route the damaged system components as directed by the Architect at no additional cost to the Owner

### **3.6 GENERAL DUST CONTROL**

- A. General Contractor shall employ dust and pollution prevention procedures at all times during construction.
  1. Clean up loose debris daily, or more frequently as required, to prevent the wind spreading debris. Keep dumpsters covered when not in use.
  2. Wet down debris (as appropriate) to prevent air pollution by dust rising from demolition work. Wet down dumpsters to prevent fires caused by vandals.
  3. Employ tarpaulins on all trucks carrying debris.

### **3.7 SALVAGE MATERIALS AND PRODUCTS**

- A. Carefully salvage and provide safe storage for products designated for salvage, reuse, as indicated on the Drawings, as specified herein, or as requested by Owner for reuse on the project, or to be stored for Owner's future use. Take particular care with finished items and items requiring special handling.
  1. Remove items indicated to be salvaged with extreme care to prevent damage.
  2. All components and parts of salvaged items shall be saved and packaged.
- B. Removed and Salvaged Items:
  1. Clean salvaged items.
  2. Pack or crate items after cleaning. Identify contents of containers.
  3. Store items in a secure area until delivery to Owner.
  4. Transport items to Owner's storage area as designated by Owner.
  5. Protect items from damage during transport and storage.
- C. Removed and Reinstalled Items:
  1. Clean and repair items to functional condition adequate for intended reuse. Paint equipment to match new equipment.
  2. Pack or crate items after cleaning and repairing. Identify contents of containers.
  3. Protect items from damage during transport and storage.

4. Reinstall items in locations indicated. Comply with installation requirements for new materials and equipment. Provide connections, supports, and miscellaneous materials necessary to make item functional for use indicated.
- D. 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.

### **3.8 SPECIFIC DEMOLITION REQUIREMENTS FOR MATERIALS AND SURFACES.**

- A. Walls, General:
1. Remove interior walls and partitions as indicated and as needed to accommodate new work.
  2. Where existing walls-to-remain are indicated to receive new finishes, completely remove trim and fasteners.
  3. The General Contractor shall provide patching of substrates and back-up systems except where such materials are specified as part of a Filed subcontractors system. Finishes work shall be provided under individual product specification sections.
- B. Ceilings, General:
1. Where ceilings are indicated to be removed, also remove ceiling mounted systems and equipment leaving only bare structure free from hangers.
  2. Patching: The General Contractor shall provide patching of substrates and back-up systems except where such materials are specified as part of a Filed subcontractor's system. Ceiling work shall be provided under individual product specification sections.
- C. Doors and Frames: Where doors and frames are indicated to be removed from walls or partitions which are to remain, remove doors and frames carefully so as to minimize damage to wall. Repair and patch wall as necessary to accommodate new door frame or other new work.
- D. Heating, Ventilation, Air Conditioning, and Refrigeration (HVAC&R) Equipment:
1. Drain system components designated for disposal of all lubricants, hydraulics, and refrigerants without releasing into atmosphere.
  2. HVAC&R Filed Subcontractor(s) specified under Division 23 is responsible to disconnect, cap and lower to floor items required to be removed, including but not limited to, ductwork, piping, fans, VAV boxes, unit

ventilators, and all similar system equipment. General Contractor is responsible for removal from site and proper disposal.

- E. Electrical Equipment and Lighting Fixtures:
  - 1. Electrical Filed Subcontractor specified under Division 26 is responsible to disconnect, cap and lower to floor items required to be including but not limited to, panelboards, light fixtures, and overhead devices including, fire alarm, intercom, bus ducts. General Contractor is responsible for removal from site.

### **3.9 REPAIRS**

- A. Repair all damage done to elements of buildings and structures to remain, except repairs specified to be provided under other Sections, or as indicated for removal in subsequent project phase(s). Repairs shall be done in such manner as to closely match construction, appearance and quality of original work.

### **3.10 DISPOSAL OF DEMOLISHED MATERIALS**

- A. General: Except for items or materials indicated or specified to be recycled, reused, salvaged, reinstalled, or otherwise indicated to remain Owner's property, remove demolished materials from Project site and legally dispose of them in an EPA-approved landfill.
  - 1. As work progresses, regularly remove demolished materials from site. Do not allow demolished materials to accumulate on-site, except as required for materials determined to be reused, salvaged, or as required for waste segregation and diversion for recycling.
  - 2. Remove and transport debris in a manner that will prevent spillage on adjacent surfaces and areas.
- B. Do not burn or bury demolished materials on site, arrange for legal disposal of the same.
- C. Disposal: Transport demolished materials off Owner's property and legally dispose of them.

### **3.11 CLEANING**

- A. Daily cleaning: Sweep all street and roads affected by demolition operations.
- B. Upon completion of the work of this Section; remove unused tools and equipment, surplus materials, rubbish, debris, and dust. Leave area in raked or broom-clean condition, as appropriate.



- C. Upon completion of the work of this Section; clean adjacent structures and facilities of dust, dirt and debris caused by demolition work to the satisfaction of Owner, owner(s) of adjacent properties, and authorities having jurisdiction.

**END OF SECTION 02 41 19**

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**SECTION 04 43 16****LIMESTONE****PART 1 - GENERAL****1.1 SUMMARY**

- A. General: This Section consists of limestone work where shown on the Drawings, as specified herein, and as required for a complete and proper installation.
- B. Furnish and install the following:
  - 1. Individual cut-limestone panels to match existing, for field installation at designated infill location.
  - 2. Backing system, anchors and other metal support accessories for anchoring stone veneer to other materials.
- C. Coordinate limestone work with trades installing interfacing work. Place, install and build-in, as work progresses, the following products and materials furnished under the indicated Sections:
  - 1. Flashings and reglets furnished by Section 07 62 00 - SHEET METAL FLASHING AND TRIM.
  - 2. Sealant and backer materials furnished by Section 07 92 00 - JOINT SEALERS.
- D. Build-into place as work progresses, the following products and materials furnished under the indicated Sections:
  - 1. Through-wall and membrane flashing set in place by Section 07 27 13 - MODIFIED BITUMINOUS SHEET AIR BARRIERS.
    - a. Work of this section includes the completion of all flashing work necessary at masonry walls including final forming of flashing in conjunction with the installation of masonry veneer. Loose flashing installed by others shall be bent, formed and sealed to properly complete flashing terminations including but not limited to all through wall conditions, end dams, header, sill and base flashing.
- E. Maintain air barrier and waterproofing integrity at anchors penetrating air and vapor barrier.
- F. Perform cleaning of new stone masonry.

**1.2 RELATED REQUIREMENTS**

- A. Section 02 41 19 - SELECTIVE DEMOLITION: Removal of existing stone work.

- B. Section 03 30 00 - CAST-IN-PLACE CONCRETE: Concrete foundation work, walls and slabs.
- C. Section 07 84 00 - FIRESTOPPING.
- D. Section 07 27 13 - Modified Bituminous Sheet Air Barrier.
- E. Section 07 92 00 - JOINT SEALANTS: Sealant, caulking materials, and compressible joint bead back-up, in conjunction with masonry work.
- F. Section 08 11 13 - HOLLOW METAL DOORS AND FRAMES.

### 1.3 REFERENCES

- A. Referenced Standards: Comply with applicable requirements of the following standards and those others referenced in this Section, under the provisions of Section 01 42 00 - REFERENCES. The standards referenced herein are included to establish recognized minimum quality only. Where these standards conflict with other specified requirements, the most restrictive requirements shall govern. Equivalent quality and testing standards will be acceptable, subject to their timely submission, review and acceptance by the Architect.
  - 1. ANSI A10.20 - Safety Requirements for Ceramic Tile, Terrazzo and Marble Work.
  - 2. ASCE 7-05, Minimum Design Loads for Buildings and Other Structures.
  - 3. ASTM A36/A36M – Standard Specification for Carbon Structural Steel.
  - 4. ASTM A123/A123M – Standard Specification for Zinc (Hot-Dip Galvanized) Coating on Iron and Steel Products.
  - 5. ASTM A153/A153M – Standard Specification for Zinc Coating (Hot-Dip) on Iron and Steel Hardware.
  - 6. ASTM A240/A240M – Standard Specification for Chromium and Chromium-Nickel Stainless Steel Plate, Sheet, and Strip for Pressure Vessels and for General Applications.
  - 7. ANSI/ASTM A307 - Standard Specification for Carbon Steel Bolts, Studs, and Threaded Rod 60 000 PSI Tensile Strength.
  - 8. ASTM A480/A480M – Standard Specification for General Requirements for Flat-Rolled Stainless and Heat-Resisting Steel Plate, Sheet, and Strip.
  - 9. ASTM A563 - Standard Specification for Carbon and Alloy Steel Nuts.
  - 10. ASTM A580/A580M – Standard Specification for Stainless Steel Wire.
  - 11. ASTM A653/A653M - Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process.

12. ASTM A666 - Standard Specification for Annealed or Cold-Worked Austenitic Stainless Steel Sheet, Strip, Plate, and Flat Bar.
13. ASTM A780 - Standard Practice for Repair of Damaged and Uncoated Areas of Hot-Dip Galvanized Coatings.
14. ASTM A1008/A1008M - Standard Specification for Steel, Sheet, Cold-Rolled, Carbon, Structural, High-Strength Low-Alloy, High-Strength Low-Alloy with Improved Formability, Required Hardness, Solution Hardened, and Bake Hardenable.
15. ASTM A1011/A1011M - Standard Specification for Steel, Sheet and Strip, Hot-Rolled, Carbon, Structural, High-Strength Low-Alloy, High-Strength Low-Alloy with Improved Formability, and Ultra-High Strength.
16. ASTM C97/C97M – Standard Test Methods for Absorption and Bulk Specific Gravity of Dimension Stone.
17. ASTM C99/C99M – Standard Test Method for Modulus of Rupture of Dimension Stone.
18. ASTM C144 – Standard Test Method for Modulus of Rupture of Dimension Stone.
19. ASTM C150/C150M – Standard Specification for Portland Cement.
20. ASTM C170/C170M – Standard Test Method for Compressive Strength of Dimension Stone.
21. ASTM C207 – Standard Specification for Hydrated Lime for Masonry Purposes.
22. ASTM C270 – Standard Specification for Mortar for Unit Masonry.
23. ASTM C387/C387M - Standard Specification for Packaged, Dry, Combined Materials for Concrete and High Strength Mortar.
24. ASTM C404 – Standard Specification for Aggregates for Masonry Grout.
25. ASTM C476 – Standard Specification for Grout for Masonry.
26. ASTM C586 - Standard Test Method for Potential Alkali Reactivity of Carbonate Rocks as Concrete Aggregates (Rock-Cylinder Method).
27. ASTM C780 - Standard Test Method for Preconstruction and Construction Evaluation of Mortars for Plain and Reinforced Unit Masonry.
28. ASTM C920 – Standard Specification for Elastomeric Joint Sealants.
29. ASTM C955 – Standard Specification for Cold-Formed Steel Structural Framing Members.
30. ASTM C1242 - Standard Guide for Selection, Design, and Installation of Dimension Stone Attachment Systems.
31. ASTM C1799/C1799M – Standard Guide to Dimension Stone Test Specimen Sampling and Preparation.

32. ASTM F436/F436M - Standard Specification for Hardened Steel Washers Inch and Metric Dimensions.
  33. ASTM F3125/F3125M - Standard Specification for High Strength Structural Bolts and Assemblies, Steel and Alloy Steel, Heat Treated, Inch Dimensions 120 ksi and 150 ksi Minimum Tensile Strength, and Metric Dimensions 830 MPa and 1040 MPa Minimum Tensile Strength.
  34. ASTM G90 - Standard Practice for Performing Accelerated Outdoor Weathering of Materials Using Concentrated Natural Sunlight.
- B. Inclusionary References: The following reference materials are hereby made a part of this Section by reference thereto:
1. ILL: Grading standards and requirements.
  2. Building Stone Institute: "Recommended Practices for the use of Natural Stones in Building Construction"
  3. Industrial Fasteners Institute: Handbook of Bolt, Nut and Rivet Standards.
  4. MCAA - Hot and Cold Weather Masonry Construction.

#### **1.4 ADMINISTRATIVE REQUIREMENTS**

- A. Coordination:
1. General: Coordinate the work of this Section with the respective trades responsible for installing interfacing and adjoining work for proper sequence of installation, and ensure that the work performed hereunder is acceptable to such trades for the installation of their work.
    - a. Coordinate the installation of inserts for this Work.
  2. Coordination with insulation and vapor/air barrier systems: Mark stud locations clearly prior to installation of anchorages. Mason who installs through-wall flashing will coordinate with insulation and vapor/air barrier systems to insure that this work is performed in the proper sequence with no adverse effect on the mason's through wall flashing.
- B. Pre-installation Meetings specified under individual Specification Sections: Installer of the Work of this Section is required to attend pre-installation meetings specified under the following Sections
1. Metal Framing Pre-Installation Meeting, Section 05 40 00 - COLD-FORMED METAL FRAMING.
  2. Air and Vapor Barrier Pre-Installation Meeting, Section 07 27 13 - MODIFIED BITUMINOUS SHEET AIR BARRIERS.
- C. Sequencing:
1. Field Measurements:

- a. Take field measurements before preparation of shop drawings and fabrication, where possible, to ensure proper fitting of Work.
- b. Allow for adjustments within specified tolerances wherever taking of field measurements before fabrication might delay Work.

## 1.5 SUBMITTALS

- A. Information and Review Submittals: Submit the following under provisions of Section 01 33 00 - SUBMITTAL PROCEDURES:
  1. Literature: Manufacturer's product data sheets, specifications, performance data, physical properties and installation instructions for each item furnished hereunder, including, but not limited to: stone, mortar products, anchorage devices, sealants and backing materials.
  2. Stone fabricator's field erection/setting instructions.
  3. Maintenance information: Stone maintenance data and recommended cleaning materials, and cleaning and stain removal methods, recommended polishes and waxes.
  4. Material certificates: Provide for the following, signed by manufacturer/quarry/fabricator and Contractor certifying that each material complies with requirements, including:
    - a. Each different cement product required for mortar and grout, including name of manufacturer, brand, type, and weight slips at time of delivery.
    - b. Each material and grade indicated for reinforcing bars.
    - c. Each type and size of joint reinforcement.
    - d. Each type and size of anchors, ties, and metal accessories.
  5. Shop Drawings: Developed for specific project conditions including mock-up, submittal of manufacturer's standard details is prohibited.
    - a. Indicate on setting drawings, stone piece identifying marks and locations.
    - b. Indicate sizes, dimensions, sections and profiles of stones; arrangement and provisions for jointing, supporting, anchoring, and bonding stonework; and details showing relationship with, attachment to, and reception of, related work.
    - c. Include large scale details of decorative surfaces and inscriptions.
    - d. Provide elevations of masonry work showing jointing patterns and coursing; indicate locations of expansion and control joints.
      - 1) Indicate control joint and expansion joint locations on elevations.

- e. Provide large scale design details showing typical attachment anchorages and brackets.
  - f. Mock-up Shop Drawings: Indicate size of mock-up, details of construction including, expansion/control joints, sealing penetrations, transitions with adjacent materials, and connections to the test apparatus. Include recommended sequence for air and vapor barrier installation.
    - 1) Obtain approval of mock-up shop drawings prior to installation of mock-up.
  - g. Installation Shop Drawings: Show the locations and extent of air and vapor barrier system including details of typical conditions including:
    - 1) Intersections with other envelope systems and materials.
    - 2) Membrane counter-flashings.
    - 3) Bridging of gaps.
    - 4) Penetrations through barrier including conduits, pipes and similar items.
6. Joint sealant samples:
- a. Provide sample card indicating Manufacturer's full range of sealant colors available for selection by Architect. Custom colors may be required.
  - b. Provide 12 inch long samples of sealant for verification of color, installed where directed by Architect.
7. Stone Samples: Submit a minimum of three each, showing color range of stone. If any samples are rejected, new samples shall be submitted until approved.
- a. Provide high-resolution color photographs of stone slabs, in addition to samples submitted, which shall show full range of color and markings expected of limestone.
    - 1) Indicate on photographs intended cutting for individual stone pieces, keyed with identifying marks and intended locations. Architect reserves the right to reject stone slabs in whole or in part where coloring and natural defects would deter from the overall uniformity of the installed cladding.

## 1.6 QUALITY ASSURANCE

- A. Perform all work in accordance with the Indiana Limestone Institute of America, Inc., (ILI) recommendations and standards. Purchase and maintain one copy of the most current version of the ILI Handbook on site.
  - 1. Conform to TCNA Handbook for Ceramic Tile Installation as applicable for Limestone tile setting.



- B. Single-source responsibility for stone: Obtain exposed stone work units of uniform texture and color blend within the ranges accepted for these characteristics, from one supplier having capacity and facilities for furnishing quantity and quality of stone required.
  - 1. Cut and finish stone in plants properly equipped to product finish material without causing delay in progress of Work. Provide adequate facilities at Project site for minor cutting, fitting, polishing and finishing.
  - 2. The Architect reserves the right to inspect and reject cutting and finishing in the plant, and at the Project site, at any time.
- C. Stone Anchorage: Design anchors and supports under direct supervision of a Professional Structural Engineer experienced in design of this work and licensed in in location where Project is located.
- D. Qualifications:
  - 1. Installer: Company specializing in performing the masonry and stone work of this Section with minimum of 10 years documented experience. Work shall be done by skilled workmen, fully instructed as to the requirements of this Specifications and adequately supervised during the work.
- E. Single-source responsibility for mortar materials: Obtain mortar ingredients of uniform quality, including color for exposed masonry, from one manufacturer for each cementitious component and from one source and producer for each aggregate.

### **1.7 MOCK-UPS**

- A. General: Provide components for exterior building mock-up under provisions of Section 01 45 00 - QUALITY CONTROL.
  - 1. Locate mock-ups where directed and include all surfaces and materials indicated.
  - 2. Mock-up will demonstrate quality of work, construction methods, spacing of joints, color of stone. Maintain mock-up during construction for workmanship comparison. Remove and legally dispose of mock-up when no longer required.
  - 3. Accepted mock-ups may not remain as part of the work; the number of mock-ups shall not be restricted.

### **1.8 DELIVERY, STORAGE, AND HANDLING**

- A. General: Do not deliver cement, lime, and similar perishable materials to the site until suitable storage is available. Store such materials in weatherproof structures, and ensure that materials are in perfectly fresh condition when

brought for use. Protect stone units and manufactured products of all types from wetting by rain or snow, and keep covered when not in use.

- B. Limestone: Handle all limestone pieces units carefully in transit and on the site, so as to prevent soiling or staining. Handle to avoid damage keeping edges sharp. Store stone vertically resting weight on panel edges.
  - 1. Store stone elevated above ground on non-staining skids fabricated from cypress, white pine, poplar or yellow pine without excessive amount of resin. Do not use skids fabricated from woods containing tannin or pressure treated woods.
  - 2. Cover stored stone with waterproof paper, clean canvas or polyethylene. Protect stone from discoloration.
- C. Mortar aggregates: Deliver, store and handle aggregate materials so as to prevent contamination with earth or other foreign materials.
- D. Manufactured items: Deliver all manufactured products in their original containers, plainly marked with product identification and manufacturer's name.
- E. Store cement, lime and similar products under cover and from direct contact with earth or floor slabs. Store metal accessories and the like under cover and from direct contact with ground, and in manner to prevent rust.
- F. Damaged material: Remove any damaged or contaminated materials from job site immediately, including materials in broken packages, packages containing water marks, or which show other evidence of damage, unless Architect specifically authorizes correction thereof and usage on project.

## 1.9 PROJECT CONDITIONS

- A. Hot and cold weather requirements shall be in accordance with the recommendations of the Masonry Industry Council as contained in the document "*HOT AND COLD WEATHER MASONRY CONSTRUCTION*" published by the MCAA (Masonry Contractor's Association of America).
  - 1. Hot weather requirements shall be enforced when ambient temperatures are above 90 degrees Fahrenheit (32 degrees Celsius).
  - 2. Cold weather requirements shall be enforced when ambient temperatures below 40 degrees Fahrenheit (5 degrees Celsius).
- B. Protect dimension stone cladding during erection as follows:
  - 1. Cover tops of dimension stone cladding installation with non-staining, waterproof sheeting at end of each day's work. Cover partially completed structures when work is not in progress. Extend cover a minimum of 24 inches (600 mm) down both sides and hold securely in place.

2. Prevent staining of stone from mortar, grout, sealants, and other sources. Immediately remove such materials without damaging stone.
  3. Protect base of walls from rain-splashed mud and mortar splatter by coverings spread on ground and over wall surface.
  4. Protect sills, ledges, and projections from mortar and sealant droppings.
- C. During temporary storage on site, at the end of working day, or during rainy weather, cover stone work exposed to weather with non-staining waterproof coverings, securely anchored.
- D. Do not install setting or grouting materials in a closed, unventilated environment. Ventilate propane or fossil fuel heaters to prevent damage to stone work from carbon-dioxide build up.

### **1.10 COORDINATION AND SEQUENCING**

- A. Coordinate work with that of other trades which require placement and building-in of, as work progresses, anchor bolts, wood blocking, window units, and anchorage items.
- B. Examine all Drawings as to requirements for the accommodation of work of other trades. [Provide all required recesses, chases, slots, and cutouts]. Place anchors, bolts, sleeves and other items occurring in the stone work. Take every precaution to minimize future cutting and patching. Closely coordinate the location and placement of such items.
- C. Perform drilling and cutting in stone, as required to accommodate penetrating items of other trades, from templates and instructions furnished by the respective trades.

## **PART 2 - PRODUCTS**

### **2.1 PERFORMANCE REQUIREMENTS**

- A. Performance Requirements - General: The cladding requirements shown by the general stone details are intended to establish basic dimensions of units or modules, plus profiles and sight lines for the stonework. Within these limitations, the Contractor is responsible for the design of the stonework, and shall request approval of, and make whatever modifications and additions to the details as may be required to fulfill the performance requirements. The visual concept shall be maintained as shown, including unit sizes, profiles and alignment of components.
- B. The requirements for the stone support and anchorage as shown by the details are intended to establish the basic intent of the stone anchorage system. The Contractor is responsible for the design of the support and

anchorage system and shall request approval of, and make whatever modifications and additions to the details as may be required to full fill the performance requirements. Final shapes and locations shall be as designed by a registered professional engineer, employed by the stone erector.

- C. Engineering Calculations: The system shall include all items required to connect the stone cladding system to the structure as shown and detailed on the structural and architectural drawings. A registered professional engineer, registered in the State of Missouri, employed by the stone erector shall prepare engineering calculations for the justification of all principle stonework, units, fasteners, and anchorage components for compliance with the criteria specified herein. After review, revisions, and final approval of engineering calculation, the erector's engineer shall certify a record copy of the calculations with Professional Engineer's stamp or seal. The calculations shall include, as a minimum, the following information:
1. General: Design stone anchors and anchoring systems according to ASTM C1242.
  2. Panelized framing system components, support and anchorage loads, stresses, safety factors, design loads, and allowable loads.
  3. Stone thicknesses.
  4. Support and anchorage sizes.
  5. Drawings of all support and anchorage items in sufficient detail for fabrication and for the detailing and completion of the shop drawings as prepared by the stone fabricator. The Erector's engineer shall review all stone shop drawings prepared by stone installer of fabricator.
  6. Expansion Bolts: Per ICBO evaluation report for the specific bolt to be used. If an ICBO report is not available, use not less than the following Safety Factors:
    - a. Into grouted concrete masonry units - 6 to 1
  7. Concrete Embedded (Cast-in) Items: PCI or manufacturer's recommendations whichever is more conservative. The safety factor shall be not less than 4 to 1 based on concrete failure.
  8. Seismic Loads: Per code where applicable.
  9. Vertical Loads:
    - a. Live Loads: As stipulated by code.
  10. Structural steel fabrication and erection tolerances are specified in Section 05 12 00 - STRUCTURAL STEEL FRAMING.
  11. Cold formed metal framing fabrication and erection tolerances are specified in Section 05 40 00 - COLD-FORMED METAL FRAMING.

- D. Thermal Movements: Provide dimension stone cladding system that allows for thermal movements resulting from the following maximum change (range) in ambient and surface temperatures by preventing displacement of stone, opening of joints, overstressing of components, failure of joint sealants, failure of connections, and other detrimental effects. Base engineering calculation on surface temperatures of materials due to both solar heat gain and nighttime-sky heat loss.
  - 1. Temperature Change (Range): 120 deg F (67 deg C), ambient; 180 deg F (100 deg C), material surfaces.
- E. Horizontal Building Movement (Interstory Drift): Allow for maximum horizontal building movement equal to quotient resulting from dividing floor-to-floor height at any floor by 400.
- F. Shrinkage and Creep: Allow for progressive vertical shortening of building frame equal to 1/8 inch in 10 feet (3 mm in 3 m).
- G. Safety Factors for Stone: Design dimension stone cladding system to withstand loads indicated without exceeding allowable working stress of stone determined by dividing stone's average ultimate strength, as established by testing, by the following safety factors:
  - 1. Safety Factor for Dolomitic Limestone: 6.
- H. Limit deflection in each prefabricated assembly caused by indicated loads and thermal movements, acting singly or in combination with one another, to not more than [1/720] <Insert ratio> of assembly's clear span or the following, whichever is smaller:
  - 1. 1/16 inch (1.5 mm), measured in plane of wall.
  - 2. 1/4 inch (6 mm), measured perpendicular to wall.
- I. Control of Corrosion and Staining: Prevent galvanic and other forms of corrosion as well as staining by isolating metals and other materials from direct contact with incompatible materials. Use materials that do not stain exposed surfaces of stone and joint materials.

## 2.2 STONE

- A. Cut Indiana Oolitic Limestone, Standard Grade in color and surface texture to match existing.
  - 1. Cut stone accurately to shape and dimensions and full to the square, with jointing as shown on approved shop drawings. All exposed faces shall be dressed true. Beds and joints shall be at right angles to the face, and joints shall have a uniform thickness to match existing joints in quoining.

- a. Remove one existing finial to obtain dimensions, profile for duplication.
- B. Quarried Minnesota Dolomite Limestone conforming with ASTM C586 Classification Type III - High Density veneer: Thickness, heights and lengths as indicated on Drawings.
  1. Prefabricated Limestone Panels, as available from Biesanz Stone Company, Winona, MN., or approved equal.
    - a. Exposed finishes: As indicated.
  2. Limestone units:
    - a. Height: As indicated on the Drawings.
    - b. Depth: Nominal 1-1/4 inches.
    - c. Grain direction: As indicated on Drawings, where not indicated obtain from Architect prior to preparation of shop drawings. Indicate grain direction on Shop Drawings.
    - d. Form external corners to square joint profile.
    - e. Slope exposed top surfaces of stone and horizontal sill surfaces for natural wash.

### **2.3 MORTAR**

- A. Site mixed mortar materials:
  1. Portland cement conforming to ASTM C150, Type I, non-staining, of natural color, without air entrainment. Use type III as necessary for laying stone work in cold weather.
  2. Aggregates for Mortar: Clean sand, washed uniformly well graded, conforming to ASTM C144, except for joints 1/4 inch and down use aggregate with 100% passing a No. 16 sieve.
  3. Aggregates for grout: Conforming to ASTM C144 for fine aggregate and ASTM C404, Size 8 or 89.
  4. Mortar Pigments: Commercial alkali-resistant, non-fading mortar pigments, oxides of iron where feasible, synthetic type, equal to products of Landers Segal Color, Inc., Passaic New Jersey.
  5. Lime: Approved brand of plastic hydrated lime, conforming to ASTM C207, Type "S".
  6. Water: Clean and fresh without contaminants.

### **2.4 MORTAR PROPORTIONING AND MIXING:**

- A. Mix mortar and grout in accordance with the proportion requirements of ASTM C270 and ASTM C476 as applicable. Control batching procedure to ensure

proper proportions by measuring materials by volume. Amount of mixing water and mortar consistency shall be controlled by mason.

1. Add mortar color and admixtures in accordance with manufacturer's instructions. Provide uniformity of mix and coloration, matching existing mortar.
    - a. Use Type N mortar for interior and exterior applications.
  2. Do not use anti-freeze compounds to lower the freezing point of mortar or grout.
  3. Retempering will be permitted only within the first two and a half hours of initial mix. Any mortar or grout that has partially set shall be discarded.
- B. Pouring grout shall be fluid consistency (as fluid as possible for pouring without separation of constituent parts) conforming to ASTM C476 with compressive strength of 3000 pounds per square inch at 28 days.

## **2.5 MATERIALS FOR PANELIZED FRAMING**

- A. Materials:
1. Steel Recycled Content: Use maximum available percentage of recycled content, but not less than a minimum 30 percent total recycled content, with not less than 25 percent post-consumer recycled content.
  2. Steel Sheet: ASTM A653/A653M, structural steel, of grade as follows and having G90 (Z275) galvanized coating:
    - a. Framing
      - 1) Grade: As required by structural performance but in no case less than 18 gauge.
  3. Steel Sheet for Connectors: ASTM A1011/A1011M, hot rolled or ASTM A1008/A1008M, cold rolled; cleaned, pretreated, and primed with manufacturer's baked-on, lead- and chromate-free, rust-inhibitive primer complying with performance requirements in FS TT-P-664.
    - a. Grade: As required by structural performance but in no case less than 18 gauge.
      - 1) Coating: G90 (Z275) galvanized coating.
- B. Studs: Manufacturer's standard C-shaped steel studs complying with ASTM C955. Formed of ASTM A653/A653M steel, G90 (Z275) galvanized, channel shaped with lipped flanges, punched web, size as shown on approved shop drawings, thickness and grade as required by manufacturer's structural design calculations but in no case less than 18 gauge, 0.0428 inch (1.09 mm).
- C. Tracks: Manufacturer's standard U-shaped steel track complying with ASTM C955. Formed of ASTM A653/A653M steel, same designation, coating, and

thickness as studs except as otherwise noted, channel shaped, solid web, depth compatible with studs, size, thickness and grade as required by manufacturer's structural design calculations but in no case less than 18 gauge, 0.0428 inch (1.09 mm).

- D. Channel Bridging: Manufacturer's standard or custom formed framing, complying with ASTM C955. Formed of ASTM A653/A653M steel, G90 (Z275) galvanized. Sizes as shown on approved shop drawings, thickness and grade as required by manufacturer's structural design calculations but in no case less than 14 gauge, 0.0677 inch (1.72 mm).
- E. Threaded Fasteners: Heavy hexagon structural bolts, heavy hexagon nuts, and hardened washers. ASTM A307, Grade A, for bolts; ASTM A563, Grade A, for nuts; and ASTM F436 for washers; all hot-dip or mechanically zinc coated.

## 2.6 ANCHORAGE MATERIALS

- A. Stone anchors, dowels, ties, cramps, and supports: ASTM A240/A240M, Type 304 stainless steel; of sizes and configurations required for support of stone and applicable superimposed loads.
  - 1. Bolts, washers and nuts used with stone anchors and supports shall be type 304 stainless steel.
  - 2. Relying on adhesives for anchoring will not be allowed.
- B. Stone Veneer anchorage for exterior metal stud curtain wall system: Split tail kerf anchors, Heckman Building Products, model 425 or approved equal, fabricated from Type 304 stainless steel, having minimum Fy of 45,000 psi (tested per ASTM A666).
  - 1. Anchorage thickness per Contractor's engineered calculations, but not less than 3/8 inch (9.5 mm).
  - 2. Anchorage depth, to suit depth of insulation.

## 2.7 FLASHING MATERIALS

- A. Flashing materials: As specified under Section 07 62 00 – SHEET METAL FLASHING AND TRIM.
- B. Termination and lap sealant (concealed conditions only): Joint Sealer Type PE (Polyether), single-component non-sagging gun-grade, low-odor, neutral curing polyether, sealant, conforming to FS TT-S-000227E, Type II, Class A, and ASTM C920, Type S, Class 25, Grade NS, use NT, T, M, G, A and O with a minimum movement capability of ±25 percent, equal to the following:
  - 1. BASF (Sonneborn), product, "Sonolastic 150".
  - 2. STS Coatings, product "GreatSeal PE-150" Sealant.



3. Chem Link, product "MetaLink".
4. York Manufacturing, product: "PE-150 Liquid Tape".

## 2.8 ACCESSORIES

- A. Joint Epoxy for stone joints in panels: As recommended by Manufacturer.
- B. Control Joint Filler: Dur-O-Wal DA-2015 Rapid Expansion Joint, 4.5 pcf density, black, closed cell, neoprene/SBR rubber, designed for use as a vertical expansion/control joint between stone masonry veneer panels, as indicated.
  1. Fill with backer rod and seal with Tremco Dymonic FC fast-curing, low modulus, silane end-capped, polyurethane hybrid sealant. Sealant color as selected by Architect from full range of manufacturer's colors.
- C. Bond breaker: Sheet 10 mil (0.25 mm) thick plastic.
- D. Masonry Cleaner: As recommended by stone fabricator.
  1. Hand wash stone veneer with clean, potable water and bristle brushes.
  2. Demonstrate the proposed cleaning technique on the sample wall before proceeding with final cleaning of stone veneer assembly.
  3. Cleaning solution: Non-acidic type which will not harm stone, joint materials, or adjacent surfaces.
  4. If pressure washing is proposed, contractor will demonstrate competency with pressure washing technique to the Architect, and obtain Architect's written approval, before proceeding with final cleaning.

## 2.9 FABRICATION OF BACK-UP FRAMING

- A. General: Fabricate and assemble cold-formed metal framing to comply with requirements in 05 40 00 - COLD-FORMED METAL FRAMING and as additionally specified herein.
  1. Shop fabricate backup structure to comply with AISC S335, "Specification for Structural Steel Buildings Allowable Stress Design and Plastic Design with Commentary," and supplements as issued, to accommodate construction tolerances specified, and as indicated on approved Shop Drawings.
- B. Install stone panels with ½ inch space between back of stone panel and metal stud backup structure.
- C. Weld shop connections to comply with applicable provisions of AWS D1.1, "Structural Welding Code--Steel"; and AWS D1.3, "Structural Welding Code--Sheet Steel."

- D. Fabricate joints to exclude water or to permit its escape to building exterior, at locations where water could accumulate because of condensation or other causes.
- E. For galvanized framing, clean welds, bolted connections, and abraded areas and repair galvanizing to comply with ASTM A780.

## **2.10 STONE FABRICATION - GENERAL**

- A. Stone shall be free from starts, cracks or seams which might impair its structural integrity, function or appearance. Color variation shall be only as indicated by approved samples. Exposed surfaces shall be free from spots, stains, spalls, chips and other defects; and shall be of best quality obtainable for the purpose intended.
- B. Shop fabricate units for uniform coloration with adjacent units and over the full area of the installation.
- C. Cut all stone work accurately to shape and dimensions shown on the accepted shop drawings.
  - 1. No final sizing or finishing for work shall be done until all submittals, including shop drawings are approved.
  - 2. Limestone coming in contact with structural shapes shall be back-checked as indicated on the Drawings. Stone resting on structural members shall have beds shaped to fit the supports.
- D. Fabricate limestone to the dimensions shown on the Drawings, within fabricating tolerances. specified herein.
  - 1. Tolerances in stone thickness: Variation from nominal thickness as specified shall not exceed the following:
    - a. 3/4 inch up to 1-1/2 inch  $\pm$  1/8 inch.
    - b. over 1-1/2 inch up to 2-1/2 inch  $\pm$  1/4 inch.
    - c. over 2-1/2 inch  $\pm$  3/8 inch.
  - 2. Tolerance of Face Dimension: Maximum variation in the dimension of any piece shall be 1/4 of the specified bed joint width; however in any case no less  $\pm$  1/16 inch.
  - 3. Variation from true plane, or flat surfaces, shall be determined by a 4 feet dimension in any direction on the surface.
  - 4. Such variations on polish, hone and fine rubbed surfaces shall not exceed tolerances listed below or 1/3 of the specified joint width, whichever is greater. On surfaces have other finishes, the maximum variation from true plane shall not exceed the tolerance listed below or 1/2 of the specified joint width, whichever is greater.

- a. Polished, honed or fine rubbed finishes: 1/16 inch.
  - b. Sawn finishes: 1/8 inch.
  - c. Thermal and coarse stippled finishes: 3/16 inch.
  - d. Pointed or other rough cut finishes: 1 inch.
- E. Beds and Joints: Pieces shall be bedded and jointed as shown on the approved shop drawings, and bed and joint surfaces shall be cut as follows:
1. Bed and joint surfaces shall be sawn through the full thickness of the limestone piece. Bed and joint surfaces shall be within  $\pm 3\%$  of 90-degrees to the face of the piece unless otherwise indicated.
- F. Backs of pieces:
1. Backs of pieces shall be sawn or roughly dressed to approximately true planes.
    - a. Sawn backs shall be cleaned of all rust stains and free iron particles.
  2. Wherever shown on approved shop drawings, pieces shall be backed off to clear structural members or other obstructions.
- G. Moldings, washes and drips: Provide constant profile throughout length, in strict conformity with details shown on approved shop drawings.
- H. Incidental cutting and drilling: Cut/drill holes in limestone for all anchors, cramps, dowels, called for on approved Shop Drawings.
1. Where thickness permits all pieces weighing over 100 pounds (45 kg) may have lifting clamp dimples, Lewis holes, or other provisions required to accommodate for lifting devices. Lifting holes in the top beds of panels or other locations where moisture collection is likely to occur shall be filled with non-expanding grout or high-modulus elastomeric sealant after installation and final alignment. Lewis holes may extend no closer than 2 inches from the finished face, and will not be permitted on exposed surfaces except with written permission of the Architect.
  2. Anchor Tolerances: The centers of all anchors cut into stone shall be within 1/8 inch of the location specified on the shop drawings with the exception of anchoring for precast work where location tolerances are not critical. Thickness of slots and kerfs cut into the edge of stone for anchorage purposes shall be within a tolerance of 1/16 inch of the dimension shown on the Shop Drawings. The locations across the stone thickness of the centers of slots or kerfs cut into the edge of stone shall be as stated on the shop drawings within a tolerance of  $\pm 1/16$  inch.
  3. Depth of kerfs, rebated kerfs, or anchor holes shall be as shown on shop drawings, but shall be allowed to vary in depth to a minimum required for anchorage clearance and a maximum not to impact the structural

integrity of the anchoring system. Inaccurate tolerances of minus zero inches and plus 1/4 inch will be allowed.

- I. Carve and cut decorative surfaces and inscriptions to conform with shaded drawings or models approved by Architect. Use skilled stone carvers experienced in the successful performance of work similar to that indicated.
- J. Allowable patching: Chips at the edges or corners may be patched providing the structural integrity of the stone is not affected and providing the patch matches the color and finish of the natural stone so that the patch does not detract from the appearance.

### **PART 3 - EXECUTION**

#### **3.1 EXAMINATION**

- A. Verify all measurements and dimensions. Examine wall framing, sheathing and weatherproof membrane, and verify that stud locations are suitable for spacing of veneer anchors and that installation will result in a weatherproof covering.
- B. Verify that items built-in under other sections are properly located and sized.
- C. Before being set, verify all limestone is clean and free of ice and frost.
- D. Beginning of installation means acceptance of existing project conditions.

#### **3.2 PREPARATION**

- A. Advise installers of other work about specific requirements relating to placement of anchors, inserts and similar items which will be used by stonework Installer for anchoring, supporting and flashing of stonework. Furnish installers of other work with drawings or templates showing locations of these items. Coordinate with the work of other trades relative to drawings to locate weld-plates and embeds for connection of stone skin or its system.
- B. Prior to erection, clean stone surfaces to remove soil, stains and foreign materials. Clean stones by thoroughly scrubbing stones with fiber brushes followed by a thorough drenching with clear water. Use only mild cleaning compounds that contain no acid, caustic or abrasives. Do not use wire brushes or implements with will mark or damage exposed surfaces.

#### **3.3 PREPARATION - EXTERIOR WORK**

- A. Protect surrounding work from damage or disfiguration, by the exercise of reasonable care and precautions. Repair or replace any work so damaged and soiled.

- B. Establish lines, levels, and coursing. Protect from disturbance.
- C. Direct and coordinate placement of metal anchors supplied to other Sections.
- D. Provide temporary bracing during installation of stone work. Maintain in place until building structure provides permanent bracing.
- E. Clean stone prior to erection. Do not use wire brushes or implements which will mark or damage exposed surfaces.

### **3.4 INSTALLATION, GENERAL**

- A. All Work shall be performed according to the requirements of ACI-530 / 530.1 - 08: Building Code Requirements for Masonry Structures.
- B. Anchorage: All limestone shall be anchored as shown on the approved Shop Drawings.
  - 1. Limestone facing shall be set with the correct setting device that does not damage or stain the stone and with the joint widths as specified.
  - 2. Install anchors through the insulation and sheathing to connect directly into the metal framing, concrete masonry and concrete backup (as appropriate to condition), with spacing of anchors as shown on approved shop drawings, located as necessary to support loads.
    - a. Seal each penetration caused by stone veneer anchors with same sealant specified for masonry control joints. Coordinate with air and vapor barrier system installation.
- C. Control Joints: Provide vertical control joints at locations indicated on the plans.

### **3.5 SETTING STONE - EXTERIOR WALLS**

- A. Provide and build-in through-wall flashings at lintels, heads and sills of openings and infill openings, and as indicated in the Drawings, as specified herein.
  - 1. Do not allow flashings to project beyond the face of stone. Cut off flashings until they reach the proper position in wythe without forming pockets.
  - 2. Form end dams at horizontal terminations, seal watertight using flashing manufacturer's recommended adhesive and sealer
  - 3. At steel lintels, apply a heavy bed coat of compatible adhesive mastic and embed thru-wall flashing in the mastic before laying stone.
- B. Perform setting by competent stone setters, in accordance with approved Shop Drawings.

1. Provide all stone with kerfs, corners and reliefs pre-cut. Field cutting of stone is prohibited.
  2. Set stone accurately in strict accordance with approved shop drawings, to match existing construction where applicable, and as indicated on the Contract Drawings.
- C. Match existing stone work: Match coursing, bonding, color, and texture of new stone work with existing stone work.
- D. Clean all existing stone scheduled for resetting thoroughly, remove mortar deposits from existing stone, wash with fiber brush and soap powder followed by a thorough soaking with clear water.
- E. Erect all stone work in compliance with the line and level tolerances specified herein. Arrange stone pattern to provide a consistent joint width to match existing quoining. Correct, or replace, as directed by the Architect, non-conforming stone work at no additional cost to the Contract.
1. Trim to Fit: Arrange and trim stones for accurate fit in roughly eye-level, horizontal pattern with no four-way joint intersections and no soldiers, that is, stones set in an orientation where the height is greater than the length.
- F. Set stones to comply with requirements indicated on approved shop drawings and as specified herein. Install anchors, supports, fasteners and other attachments indicated or necessary to secure stonework in place. Shim and adjust anchors, supports and accessories to set stones accurately in locations indicated with uniform joints of widths indicated with edges and faces aligned according to established relationships and indicated tolerances.
1. Exposed surfaces shall be kept free of mortar at all times.
  2. Use no mortar or shims in expansion joints.
  3. Setting: Set stones with full mortar bed and head joints approximately 3/8 inch wide, except as otherwise indicated on Drawings. Kerfed anchors shall be installed on vertical surfaces only. completely fill kerf with mortar or sealant. At flexible and expansion joints at least one side of the kerf anchor shall be set in mortar. Do not hard-set both sides of kerf anchors at expansion joints.
  4. Limestone facing shall in no case be built up more than two courses above the backing, and no piece having a greater bed width than the one below it shall be set until the lower course is backed up. Sills and other pieces subject to uneven pressure shall be bedded at their ends only.
  5. Brush Clean: Brush stone veneer work during installation to minimize the need for aggressive cleaning measures.

6. Do not set stone showing chipped edges or face defects exposed to view. Remove any such stone, if installed, patch/fill stone defects or replace with an undamaged stone, and bear all costs therefor.
- G. Install mortar in accordance with ASTM C780.
- H. To accommodate pointing mortar, rake out joints 5/8 to 3/4 inch. Brush mortar joints clean. Fill joints with pointing mortar. Pack and work into voids. Neatly tool surface to raked joints.
  1. Point and fill all holes and cracks in new mortar joints with additional fresh mortar; do not merely spread adjacent mortar over defect or use mortar droppings. Do all pointing while mortar is still soft and plastic. If hardened, chisel defect out and refill solidly with fresh additional mortar, and tool or rake joints as specified herein.
- I. Install weeps in vertical stone joints at 24 inches on center, horizontally; immediately above horizontal flashings, above shelf angles and supports, and bottom of walls. Do not permit mortar accumulation in cavity space, weep holes or areas above flashing.

### **3.6 STONE PANEL INSTALLATION**

- A. Attach framing for stone support system to structural frame of building, at connection points indicated, by welding or bolting to comply with the following:
  1. Weld connections to comply with AWS D1.1, "Structural Welding Code--Steel."
  2. Fabricate joints to exclude water or to permit its escape to building exterior, at locations where water could accumulate because of condensation or other causes.
  3. For galvanized surfaces, clean welds, bolted connections, and abraded areas and repair galvanizing to comply with ASTM A780.
- B. Fill anchor holes with sealant.
  1. Where dowel holes occur at pressure-relieving joints, provide compressible material at ends of dowels.

### **3.7 FLASHING INSTALLATION**

- A. Provide and build-in through-wall flashings at lintels, heads and sills of openings and infill openings. Additionally provide flashing where indicated on the Drawings, as specified herein and all conditions which may be considered similar to those indicated on the Drawings.
  1. Install flashing as specified under Section 07 62 00 – SHEET METAL FLASHING AND TRIM.

- a. Seal all punctures with mastic.
- B. Build-in counter flashing as indicated in the Drawings and as specified herein.
  1. Clean surface of masonry smooth and free from projections that might puncture or otherwise damage flashing membrane.
  2. Carefully fit flashing around projections, neatly fold and bed in mastic or mortar so as to direct moisture to the outside. Form flashing to required profiles without wrinkles or buckles and install in such a manner as to direct moisture to the outside.
- C. Weeps: Place the Stone Cavity Weep material directly on top of the through-wall flashing, then place mortar bed on top of the Stone Cavity Weep. Trim Stone Cavity Weep material flush with the stone wall face.
  1. Do not install weeps below grade, where stone shall set on below grade waterproofing drainage mat.

### **3.8 SEALANT JOINTS**

- A. Support stonework on gravity supports, and insert anchors for lateral loads, of type and number indicated on final shop drawings, and complying with requirements indicated for material and performance.
- B. Attach anchors securely to stones and to back up surfaces.
- C. Attach framing for stone support system to structural frame of building at connection points indicated by welded or bolted field connections complying with the following requirements:
  1. Install high strength threaded fasteners to comply with AISC "Specifications for Structural Joints using ASTM F3125/F3125M approved by the Research Council on Riveted and Bolted Structural Joints of the Engineering Foundation (RCRBSJ).
  2. Weld connections to comply with AWS D1.1 "Structural Welding Code Steel".
  3. Provide joints to exclude water or permit its escape to exterior of building. Provide weeps at locations where water could accumulate due to condensation or other causes.
  4. For galvanized surfaces of assembled framing, comply with ASTM A780 for cleaning field welds, bolted connections and abraded areas and application of galvanizing repair paint.
  5. For shop-painted surfaces, clean field welds, bolted connections, and abraded areas, immediately after erection. Apply paint to exposed areas using same material as used for shop painting.
- D. Fill anchor holes with non-staining mortar or sealant.



1. Where dowel holes occur at pressure-relieving joints, provide compressive material above and below dowels.
- E. For stones supported on clip or continuous angles, set stones on non-corrosive and non-staining shim material in sufficient area to support the load. Mortar may be used in lieu of shims provided that setting pads are provided to maintain joint sizes if stone weight squeezes out mortar.
1. Place setting buttons of adequate size, in sufficient quantity, and of same thickness as indicated joint width, to prevent mortar from squeezing out and to maintain uniform joint widths. Hold buttons back from face to stone to provide space for backer rope and sealant.
  2. The joint between bottom of relieving angles and top surface of stones below angles shall be free of mortar or shims to avoid load transfer.
- F. Keep cavities open where unfilled space is indicated between back of stone veneer and back-up wall; do not fill cavities with mortar or grout.
- G. Place weep holes/vents in joints where moisture may accumulate including base of cavity walls, above shelf angles and flashing. Locate weep holes/vents at intervals not exceeding 2' and those serving as vents only, at intervals not exceeding 5' horizontally and 20' vertically.
- H. Where mortar is used in setting stones on anchors or elsewhere, rake out mortar from joints to depths adequate to receive sealants and sealant backings.
- I. Embed ends of lugged sills on shims or mortar; leave balance of joint open until final sealing.
- J. Set the stonework with open vertical joints for installation of joint sealants. Use no shims or spacers in vertical joints.

### **3.9 CONSTRUCTION TOLERANCES**

- A. Positioning of Elements: Maximum 1/4 inch from true position.
- B. Maximum variation from plane of wall: 1/4 inch in 10 feet; 1/2 inch in 40 feet.
- C. Maximum variation between face plane of adjacent vertical panels: 1/16 inch.
- D. Maximum variation between face plane of adjacent horizontal panels: 1/32 inch.
- E. Maximum variation from plumb: For lines and surfaces of walls do not exceed 1/4 inch in 10 feet, non-cumulative; 3/8 inch in any story up to 20 feet maximum. At expansion joints and other conspicuous lines, do not exceed 1/4 inch in 20 feet.

- F. Maximum variation from level coursing: Do not exceed 1/8 inch in 3 feet, 1/4 inch in 10 feet, or 1/2 inch maximum.
- G. Maximum variation of linear building line: For position shown in plan relating to columns, walls and partitions, do not exceed 1/2 inch in 20 feet or 3/4 inch in 40 feet.
- H. Maximum variation of joint thickness/width: 1/8 inch in 3 feet, and where joints abut protrusions or change planes.

### **3.10 CUTTING AND FITTING**

- A. Obtain approval prior to cutting and fitting any item not so indicated on Drawings.
- B. Do not impair appearance or strength of stone work by cutting.

### **3.11 PROTECTION OF WORK**

- A. Staining: Prevent mortar from staining the face of stone work to be left exposed. Immediately remove fresh mortar from faces of such stone work.
- B. Protection of Stone work: During erection, cover tops of walls, projections, and sills with waterproof sheeting at end of each day's work. Cover partially completed stone work when construction is not in progress.
  - 1. Extend cover a minimum of 24 inches down both sides and hold cover securely in place.
- C. Stain Prevention: Prevent grout, mortar, and soil from staining the face of stone work to be left exposed or painted. Remove immediately any grout, mortar, and soil that come in contact with such stone work.
- D. Protect surfaces of window and door frames, as well as similar products with painted and integral finishes from mortar

### **3.12 POINTING AND CLEANING OF STONE**

- A. During the progress of the work, keep the exposed surfaces of stone clean at all times, and protected against damage. As each segment of the stone work is erected, dry-brush the surfaces free from mortar spots and droppings.
- B. Prior to performing the final cleaning work, examine all face joints in exposed stone work to locate cracks, holes or other defects in the mortar; and point up all such defects and fill with mortar as specified herein. Where necessary, in the opinion of the Architect, cut out defective joints in stone work and replace with new materials, exercising extreme care to match original work.

- C. At a time approved by the Architect, perform final cleaning operations on all stone work as specified herein and as recommended by the ILLI.
  - 1. Perform the final cleaning work only when the ambient temperature is above 40 degrees Fahrenheit, and rising.
  - 2. Do not use wire brushes or other abrasive tools in the cleaning operations.
  - 3. Perform final cleaning operations from the top down. If stone work cleaning work is performed after windows, doors, frames, and other work has been installed, provide complete protection for said items; be fully responsible for any damage due to the cleaning operations.
  - 4. Remove large mortar particles by hand with wooden paddles and non-metallic scrape hoes or chisels.
  - 5. Perform final cleaning of stone by scrubbing with stiff bristle fiber brushes and clear water, changing the water frequently.
- D. Provide suitable protective coverings for all other surfaces and materials during the final cleaning procedures, and bear full responsibility for correcting any damage caused by these operations, to the satisfaction of the Architect.

### **3.13 CLEANING**

- A. Comply with requirements of Section 01 74 19 - CONSTRUCTION WASTE MANAGEMENT AND DISPOSAL for handling and disposition of all construction and demolition waste.
- B. Protection prior to cleaning: Cover all existing exposed glass, metal, landscaping, and other materials or site features that may be negatively affected by the cleaning procedures and run-off.
- C. Progress Cleaning:
  - 1. General: Maintain site free of waste materials, debris, and rubbish resulting from the work of this Section.
    - a. Remove from work areas surplus and waste materials resulting from the work of this Section. Remove on a continual on-going basis through-out the term of construction.
  - 2. During the progress of the work, keep the exposed surfaces of masonry clean at all times, and protected against damage. As each segment of the masonry is erected, dry-brush the surfaces free from mortar spots and droppings.
  - 3. Perform progress cleaning with clean water only (no chemicals) and a stiff bristle brush. If water alone with a brush is not successful as determined by the Architect, use an approved cleaning compound. Dilute the

compound with the maximum amount of water that will allow proper cleaning as approved by the Architect.

- D. Prior to performing the final cleaning work, examine all face joints in exposed masonry to locate cracks, holes or other defects in the mortar; and point up all such defects and fill with mortar as specified herein. Where necessary, in the opinion of the Architect, cut out defective joints in masonry and replace with new materials, exercising extreme care to match original work.
- E. At a time approved by the Architect, perform final cleaning operations on all masonry as specified herein and as recommended by stone fabricator.
  - 1. Perform test patch of final cleaning in a small inconspicuous area and obtain Architect's approval prior to beginning full scale cleaning.
  - 2. Perform the final cleaning work only when the ambient temperature is above 40 degrees Fahrenheit, and rising.
  - 3. Do not use wire brushes or other abrasive tools in the cleaning operations.
  - 4. Perform final cleaning operations from the top down. If masonry cleaning work is performed after windows, doors, frames, and other work has been installed, provide complete protection for said items; be fully responsible for any damage due to the cleaning operations.
  - 5. Remove large mortar particles by hand with wooden paddles and non-metallic scrape hoes or chisels.
  - 6. Perform final cleaning of by scrubbing with stiff bristle fiber brushes and clear water, changing the water frequently. If water alone with a brush is not successful as determined by the Architect, use an approved cleaning compound. Dilute the compound with the maximum amount of water that will allow proper cleaning as approved by the Architect
- F. Provide suitable protective coverings for all other surfaces and materials during the final cleaning procedures, and bear full responsibility for correcting any damage caused by these operations, to the satisfaction of the Architect.

### **3.14 PROTECTION**

- A. Repairing Damaged Stone: Repair of stone is an accepted practice and will be permitted. Some chipping is expected; repair of small chips is not required if it does not detract from the overall appearance of the work, or impair the effectiveness of the mortar or sealant. In general the criteria for acceptance of chips and repairs will be per standards and practices of the industry, however the Owner will be the sole judge in determining the acceptance of stone repair. The Owner's judgment will be final.
- B. Remove and replace stonework of the following description:

1. Stones so damaged that repair is impossible, either structurally or aesthetically.
  2. Defective joints.
  3. Stones and joints not in conformance with approved samples and field-constructed mock-ups.
  4. Stonework not complying with other requirements indicated.
- C. Replace in manner which results in stonework conforming to approved samples and field-constructed mock-ups, complying with other requirements and showing no evidence of replacement.

**END OF SECTION**

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**SECTION 06 10 00**  
**ROUGH CARPENTRY**

**PART 1 - GENERAL**

**1.1 SUMMARY**

- A. The work of this Section consists of rough carpentry where shown on the Drawings, as specified herein, and as required for a complete and proper installation. Work includes, but is not limited to the following.
- B. Furnish and install the following:
  - 1. Fire retardant treated plywood backer panels for mounting of electrical panelboards, telephone/data backboards, HVAC and fire control equipment and other equipment.
  - 2. Various wood blockings, edgings, nailers, curbs, cants, grounds, furring, sheathing, framing members including wood preservative or fire-retardant treated as indicated, for receipt of various finishes and surfacing materials, not described herein above.
    - a. Refer to Drawings for locations of fire retardant treated wood blocking and plywood.
  - 3. Rough installation hardware, including bolts, screws, spikes, nails, clips, and connection assemblies, as needed for installation of the rough carpentry work.
    - a. Provide epoxy set 'restoration' anchors.
- C. Install the following furnished under the designated Sections:
  - 1. Metal door frames furnished under Section 08 11 13 - HOLLOW METAL DOORS AND FRAMES.
    - a. Place frames and erect in correct positions within specified tolerances. Additionally, provide temporary bracing at locations where frames are indicated to be built-into masonry. Section 04 20 00 - UNIT MASONRY shall grout frames and "build-into" into masonry work.
  - 2. Concealed anchorage devices for handicap handrails in toilet rooms: Section 10 28 13 – TOILET ACCESSORIES.
- D. Coordinate work of this Section with the work of the various trades responsible for applying finish materials and other items to rough carpentry work. Furnish and install furring, blocking, and shims, and other usual items of normal rough carpentry work as required by the various trades for the proper completion of the project.

1. The applicable requirements specified in Part 1 - GENERAL and Part 3 - EXECUTION of the individual specification sections furnishing materials to be installed under this Section, shall be included in and made a part of this Section.
- E. No attempt is made in this Section to list all elements of rough carpentry required on this project or to describe how each element will be installed. It is the responsibility of the Contractor to determine for itself the scope and nature of the work required for a complete installation from the information provided herein and in the Drawings.

## **1.2 RELATED REQUIREMENTS**

- A. Section 01 60 00 - PRODUCT REQUIREMENTS: Listing of VOC requirements for adhesives, cleaning/maintenance materials, paints, coatings, and sealants.
- B. Section 01 74 19 - CONSTRUCTION WASTE MANAGEMENT AND DISPOSAL: Procedural and administrative requirements for construction and demolition recycling.
- C. Section 06 20 00 - FINISH CARPENTRY: Wood trim.
- D. Section 08 11 13 - HOLLOW METAL DOORS AND FRAMES: Furnishing hollow metal framing.
- E. Section 09 22 16 - NON-STRUCTURAL METAL FRAMING: Metal framing for drywall construction work.
- F. Section 09 29 00 - GYPSUM BOARD: Wallboard construction work, having taped and compounded joint finish.
- G. Section 09 91 00 - PAINTING AND COATINGS: Applied primer and finish coatings to exposed to view rough carpentry work.
- H. Division 26 - ELECTRICAL: Providing and mounting electrical panels and equipment.

## **1.3 REFERENCES**

- A. Referenced Standards: Comply with applicable requirements of the following standards and those others referenced in this Section, under the provisions of Section 01 42 00 - REFERENCES. The standards referenced herein are included to establish recognized minimum quality only. Where these standards conflict with other specified requirements, the most restrictive requirements shall govern. Equivalent quality and testing standards will be acceptable, subject to their timely submission, review and acceptance by the Architect.
  1. APA - applicable grades and specifications.



2. APA PRB-108 Performance Standards and Policies for Structural-Use Panels.
3. ANSI A250.11 (formerly SDI 105) - Recommended Erection Instructions for Steel Doors and Frames.
4. ASTM E84 - Standard Test Method for Surface Burning Characteristics of Building Materials
5. ASTM D226/D226M – Standard Specification for Asphalt-Saturated Organic Felt Used in Roofing and Waterproofing
6. ASTM D3498 - Standard Specification for Adhesives for Field-Gluing Wood Structural Panels (Plywood or Oriented Strand Board) to Wood Based Floor System Framing
7. ASTM D3201 – Standard Test Method for Hygroscopic Properties of Fire-Retardant Wood and Wood-Based Products.
8. ASTM E84 - Standard Test Method for Surface Burning Characteristics of Building Materials.
9. AWPA Standards and references for preservative treated wood including Standards UC1, UC2, UC3A, UC3B, UC4A, and P5
10. AWPA Standard UCFA – Fire Protection as Required by Codes Above Ground Interior Construction.
11. AWPA Standard UCFB – Fire Protection as Required by Codes Above Ground Exterior Construction.
12. AWPA M4 – Care Of Preservative Treated Wood Products.
13. NER-643: ACQ Preserve® and ACQ Preserve Plus® Wood Preservative Treatment, ICBO Evaluation Service.
14. MIL L-1914OE - Lumber and Plywood, Fire Retardant Treated.
15. PS-56 - Structural Glued Laminated Timber.
16. SDI 122 - Installation and Troubleshooting Guide for Standard Steel Doors and Frames.
17. SPIB Grading Rules, current edition.
18. UL - Building Materials Directory
19. US. Department of Commerce Voluntary Product Standard PS1 for Construction and Industrial Plywood.
20. US. Department of Commerce Voluntary Product Standard PS2 for Wood-Based Structural-Use Panels.
21. US. Department of Commerce Voluntary Product Standard PS-20 - American Softwood Lumber Standard.
22. U.S. Department of Commerce Simplified Practice Recommendation R-16, for sizes and use classifications of lumber

23. American Lumber Standards Committee, National Lumber Grades Authority for Canadian Lumber, and applicable grading rules and standards of the various lumber associations whose species are being used for grades specified.

#### 1.4 ADMINISTRATIVE REQUIREMENTS

- A. Coordination:
  1. Coordinate the work of this Section with the respective trades responsible for locating anchorages installed into blocking which is provided under this Section.
  2. Coordinate work of this Section with the work of the various trades responsible for applying finish materials and other items to rough carpentry work, and ensure that the work performed hereunder is acceptable to such trades for the installation of their work.

#### 1.5 SUBMITTALS

- A. Information and Review Submittals: Submit the following under provisions of Section 01 33 00 - SUBMITTAL PROCEDURES:
  1. Product Data: Manufacturer's product data sheets, specifications, performance data, physical properties and installation instructions for products specified herein.
  2. Certifications:
    - a. Written certification from the respective treatment plants indicating types of wood preservative treatment and fire-retardant treatment used, treatments method, applications instructions, and conformance to the requirements specified herein.
      - 1) Provide certification that fire retardant treatment materials do not contain ammonium phosphate.
      - 2) Provide report from ICC Evaluation Service on fire retardant treated wood flame spreading, strength, corrosion and hygroscopic properties.
      - 3) Provide report from ICC Evaluation Service on pressure preservative treated wood strength, corrosion, anti-fungi, and anti-insect properties.
    - b. Urea-formaldehyde Resins: Written documentation certifying that all composite wood and agrifiber products used on this Project contain no added urea-formaldehyde.
      - 1) Written certification from Millworker, that only "no added urea-formaldehyde" manufactured composite panel products are incorporated into the Work, including all concealed

components. Composite panel products include but are not limited to particle board (PB), Medium Density Fiberboard (MDF) and similar manufactured products.

- 2) Written certification from Millworker that laminating adhesives used in product fabrication on or off site do not contain any added urea-formaldehyde resins.

## **1.6 QUALITY ASSURANCE**

- A. General: Notify the Architect where conflicts apply between referenced standards and existing materials, and existing methods of construction.
  1. All lumber shall:
    - a. Be new, dressed four sides (S4S), clear and free from warping and other defects.
    - b. Have a moisture content not exceeding 19 percent when delivered to the project.
    - c. Be in accordance with the grading rules of the lumber manufacturer's association under whose jurisdiction the lumber is produced and bear the mark of grade and mill identification.
- B. Certifications:
  1. Plywood: Conform to the requirements of Product Standard PS-1, and bear applicable APA grade trademarks.
    - a. Plywood for electrical boards treated for retardance, meet Class I or a flame spread rating of 25 or less and bear U.L. label "Classified FRS".

## **1.7 DELIVERY, STORAGE AND HANDLING**

- A. Delivery and Acceptance Requirements:
- B. Store all materials in an elevated dry location, protected by waterproof coverings.

## **1.8 WARRANTY**

- A. General: Submit the following warranties under provisions of Section 01 78 00 - CLOSEOUT SUBMITTALS, and in compliance with Section 01 78 36 - WARRANTIES.
  1. Warranties shall be effective starting from Date of Project Substantial Completion and are effective for specified term lengths.

**PART 2 - PRODUCTS****2.1 BOARD AND SHEET MATERIALS**

- A. Lumber for blocking, nailers and curbs as indicated or required: Hem-Fir, Douglas Fir, Eastern Spruce, Eastern Hemlock, or Southern Pine, surfaced dried stud or utility grade. Wood members shall be of sizes indicated on the Drawings or of the same size as the members being braced.
  - 1. For blocking and nailers used for attachment of other construction, select and cut lumber to eliminate knots and other defects that will interfere with attachment of other work.
  - 2. For furring strips for installing plywood or hardboard paneling, select boards with no knots capable of producing bent-over nails and damage to paneling.
- B. Furring: Nominal 1 by 3 inches or 1 by 4 inches Douglas Fir, Eastern Spruce, Eastern Hemlock, or Southern Pine, surfaced dried construction grade.
- C. Plywood and sheet products:
  - 1. For substrate beneath gypsum board: Square edge APA graded C-D-X EXT, touch-sanded, 1/2 inch thick, except as otherwise indicated on the Drawings
  - 2. For electric panel board mountings and similar uses: APA graded B-D INT, Group 2 species, touch-sanded, fire-retardant treated, 3/4 inch thick, except as otherwise indicated on the Drawings.
  - 3. For unspecified interior concealed from view locations: APA graded C-D PLUGGED INT, Group 2 species, thickness as indicated on the Drawings.
  - 4. Exterior plywood: 3/4 inch thick APA graded B-C, Exposure 1, EXT, Group 1 species, 5 ply/5-layer plywood, touch sanded.

**2.2 WOOD TREATMENTS**

- A. Treated wood products shall be produced by a single treatment plant, fully licensed by the chemical manufacturers, and conforming to the requirements specified herein.
  - 1. Toxicity and Environmental Quality:
    - a. Products containing chromium will not be permitted.
    - b. Products containing arsenic will not be permitted.
    - c. Fire-retardant-treated wood products shall be free of halogens, sulfates, ammonium phosphate and formaldehyde.
  - 2. Dye wood or otherwise color code all treated wood at treatment plant to clearly distinguish the different treatments in the field.

3. Kiln dry all treated lumber and plywood to the following maximum moisture content after treatment.
    - a. Lumber: 19 percent.
    - b. Plywood 15 percent.
    - c. Discard pieces with defects which might impair quality of work.
  4. Quality marks: Each piece of lumber and plywood shall be permanently affixed with a quality mark, containing the following information:
    - a. Identification of the inspection agency.
    - b. Standard to which material was treated.
    - c. Identification of the treating plant.
    - d. Fire retardant treated wood shall include: stamp signifying a FR-S rating
    - e. Preservative treated wood shall include: Retention and end use for which product is suitable.
- B. Fire retardant treated wood. Designated as "FRTW"
1. Chemical Manufacturer: Subject to compliance with the requirements specified herein, Products which may be incorporated in the work include:
    - a. Arch Wood Protection, Atlanta, GA., product, "Dricon FRT Wood".
    - b. Osmose, Inc., Griffin GA., product "FirePro".
    - c. Hoover Treated Wood Products, Inc., Thomson, GA product "PyroGuard".
    - d. Viance, LLC., Charlotte, NC, product: "D-Blaze FRT".
  2. Fire retardant treated wood shall comply with the following requirements:
    - a. All fire-retardant lumber and plywood must have an Underwriters Laboratories stamp signifying a FR-S rating certifying a 25 or less flame spread and smoke developed value, when tested in accordance to ASTM E84, or UBC Standard No. 42-1.
    - b. Corrosion rates: Less than one mil per year for carbon steel, galvanized steel, aluminum, copper and red brass in contact with the fire retardant treated wood when tested in accordance with Federal Specification MIL-L-19140E Paragraph 4.6.5.2.
    - c. The fire retardant treated wood must have an equilibrium moisture content of not more than 25 percent when tested in accordance with ASTM D3201 procedures at 95 percent relative humidity and 80 degrees Fahrenheit.
    - d. Fire retardant chemical: Registered for use as a wood preservative by the U.S. Environmental Protection Agency.

- e. Testing: Fire performance and strength properties for both lumber and plywood, of the fire-retardant treated wood shall be recognized by issuance of an ICC Evaluation Service Report. Fire retardant chemical must not damage the middle lamella of the wood structure when exposed to 170 degrees Fahrenheit and 90 percent relative humidity for 23 days.
- C. Pressure preservative treated wood. Designated as "PT"
1. Chemical Manufacturer: Subject to compliance with the requirements specified herein, Products which may be incorporated in the work include:
    - a. Osmose, Inc., Griffin GA., product "NatureWood".
    - b. Universal Forest Products, Inc., Grand Rapids MI., product "ProWood ACQ".
    - c. Viance, LLC., Charlotte, NC., product "Preserve"
  2. Treatment: Ammoniacal Copper Quaternary Compound (ACQ), arsenic-free and chromium-free chemical "ACQ Preservative" in accordance with AWPA Standards. Apply the preservative in a closed cylinder by pressure process in accordance with AWPA Standard C15.
    - a. Minimum preservative retention for floor plates, framing, lumber and plywood above ground use: 0.25 pounds per cubic foot (4.0 kg/m<sup>3</sup>) of ACQ chemical, in accordance with AWPA UC1, UC2, UC3A, and UC3B, or NER-643 as appropriate.
    - b. Minimum preservative retention for framing, lumber and plywood in contact with water, ground, concrete and masonry: 0.40 pounds per cubic foot (6.4 kg/m<sup>3</sup>) of ACQ chemical, in accordance with AWPA UC4A, UC4B, UC4C, or NER-643 as appropriate.
    - c. Minimum preservative retention for lumber and plywood in permanent wood foundations: 0.60 pounds per cubic foot (9.6 kg/m<sup>3</sup>) of ACQ chemical, in accordance with AWPA UC4B, or NER-643.
  3. Fixation of Chemical: Treated wood shall not be shipped from treatment plant until fixation of the preservative has occurred in the wood.

### 2.3 ACCESSORIES

- A. Adhesives:
1. General: Provide adhesives approved which are Low-VOC or non-VOC, non-flammable, water-proof after cured, odor free, and comply with CHPS certification requirements.
  2. Adhesive for lamination and fabrication of wood and plywood items: Exterior adhesives containing no urea formaldehydes, having a VOC limit of 70 g/L.

3. Adhesive for subfloors and underlayment: High strength, waterproof and non-freezing adhesive complying with AFG-01 "Frozen Lumber Test" and ASTM D3498, and having a VOC limit of 50 g/L.
- B. Nails (interior and exterior): Galvanized common nails, of size and type to suit application and as required by the 2018 International Building Code as revised by *Rhode Island Building Code*, Regulation RISBC-1.
- C. Screws:
1. Screws for interior applications: Flat head electroplated-galvanized wood screws of the appropriate sizes.
  2. Screws for exterior applications:
    - a. For ACQ pressure preservative treated wood: Flat head type 304 or 316 stainless steel only, wood screws, of the appropriate sizes. Aluminum, galvanized steel, and coated metal fasteners are prohibited.
    - b. For general application (non-pressure preservative treated wood): Flat head hard aluminum, or stainless steel, wood screws, of the appropriate sizes.
- D. Anchor bolts, expansion bolts and lag screws: Hot-dipped galvanized steel, of the following types:
1. For lumber having actual thickness of 1-1/2 inches or greater to masonry and concrete: Anchor bolts or expansion bolts, as most applicable for the specific receiving surface material, 3/8-inch minimum diameter, spaced as shown on drawings, and staggered as far as practicable. Countersink all bolt heads, and provide head washers of matching material.
  2. For lumber having actual thickness of greater than 7/8-inch but less than 1-1/2 inches to masonry and concrete: Anchor bolts or expansion bolts, as most applicable for the specific receiving surface material, at least 1/4-inch diameter of the most appropriate lengths for the specific application, spaced as shown, and staggered as far as practicable. Countersink all bolt heads, and provide head washers of matching material.
  3. For lumber having actual thickness of 7/8-inch and less: Anchor bolts or expansion bolts, at least 1/4-inch in diameter; or screws, of the most appropriate sizes; in lengths most suitable for the specific application, countersunk, spaced, and staggered.
- E. Protection paper: Canadian red-rosen paper or kraft paper.
- F. Building paper: ASTM D226, Non-perforated, No. 15 (73 kg/sq m) asphalt-saturated building felt.

**PART 3 - EXECUTION****3.1 PREPARATION**

- A. All materials shall be inspected before use, with all checked, split and otherwise deficient stock rejected, or used only for miscellaneous blocking, furring or other incidental use. The Contractor shall be responsible for replacing all lumber which, due to warpage, twist, splitting, or checking, results in unsatisfactory work. Such replacement shall be required at any time, whether before or after application of finish material under other Sections.
- B. Verify exact locations of toilet accessories, door stops and similar items with Architect prior to installation of blocking for accessories.

**3.2 INSTALLATION - GENERAL**

- A. Closely coordinate the installation of the rough carpentry work with the work of other trades responsible for the installation of interfacing or overlaying materials, so as not to delay the work of the related trades.
- B. Erect all rough carpentry work plumb, level, and true with tight, close fitting joints, securely attached and braced to surrounding construction, all in a first-class workmanlike manner. Counterbore for bolt heads, nuts, and washers where required to avoid interference with other materials. Bear complete responsibility for structural integrity, connections, and anchorage of all rough carpentry work.
- C. Make provisions for erection loads, and for sufficient temporary bracing to maintain structure safe, plumb, and in true alignment until completion of erection and installation of permanent bracing.
- D. Use as long lengths as practicable for wood nailers, blockings, and curbs, to minimize number of joints, and attach the members with the types, and spacing, of fasteners specified herein.
- E. Install blocking, grounds and furring, as required for proper attachment of the work of other trades, in accordance with the requirements provided by the respective related trades.
  - 1. Spacing for furring and strapping shall not exceed 16 inches on center.
- F. Field cuts of fire retardant treated lumber: Do not rip or mill fire retardant treated lumber. Only end cuts, drilling holes and joining cuts are permitted.
- G. Field cuts of ACQ pressure-treated lumber: Apply solution of copper naphthenate containing a minimum of 2 percent metallic copper in-solution, in accordance with AWPA standard M4. Brush liberally all cuts and holes.



- H. Install concealed from view plywood with specified fasteners spaced not more than 10 inches on centers.
- I. Install fire-treated plywood backer boards with counter-sunk galvanized fasteners, of specified sizes, spaced not more than 12 inches on centers.

### **3.3 INSTALLATION - EQUIPMENT BACKBOARDS**

- A. Provide panel mounting backboards for HVAC, Fire Prevention, Electrical and telephone/data equipment. Fabricate panels using fire-retardant treated 3/4 inch thick panels mounted to fire-retardant treated 2 by 4's. Provide a nominal space of 3-1/2 inches behind panels to permit wiring.

### **3.4 INSTALLATION - METAL DOOR FRAMES**

- A. Place in position all steel frames, furnished under Section 08 11 13 - HOLLOW METAL DOORS AND FRAMES, in accordance with the approved shop drawings and frame schedule. Place, erect and level all frames into correct scheduled locations, including those in masonry partitions.
  - 1. During the installation of metal door frames, after the manufacturer's steel shipping bars have been removed, install wood spreaders at door opening, carefully dimensioned to permit square and plumb installation of door frames and doors.
    - a. Provide rigid temporary bracing for frames as required to ensure maintenance of positioning, and remove only after frames have been permanently anchored.
    - b. For doors located in masonry work, maintain frame position with temporary bracing until frames are built-into-place, and grout has sufficiently cured to maintain frame position.
    - c. Spreaders shall remain in place until doors are installed.
  - 2. Coordinate installation of frames with the various trades installing abutting wall construction for anchor placement.
- B. Coordinate installation of frames with installation of hardware under Section 06 20 00 - FINISH CARPENTRY and as furnished under Section 08 71 00 - DOOR HARDWARE.
- C. Install frames in accordance with the manufacturer's recommendations, ANSI/SDI-100, SDI-105, and the Door Hardware Institute (DHI) recommendations.
  - 1. Secure frames with the following number of anchors per jamb.
    - a. For frames 7'-6" in height or less: 3 anchors per jamb.

- b. For frames 7'-6" in height or less and having doors exceeding 3'-0" feet width, and for cross corridor frames: 4 anchors per jamb.
  - c. For frames greater than 7'-6", up to 10'-0" in height: 4 anchors per jamb.
  - d. For frames greater than 7'-6", up to 10'-0" in height, and having doors exceeding 3'-0" feet width, and for cross corridor frames: 5 anchors per jamb.
  - e. For frames over 10'-0' in height: 5 anchors per jamb.
2. Secure frames, occurring in existing masonry, with expansion bolts and sleeves.
  3. Where exposed fastener heads occur in frames, fill with automotive body filler and sand smooth.

### **3.5 TOLERANCES**

- A. Door frames: Maximum diagonal distortion 1/16 inch measured with straight edge, corner to corner.

### **3.6 CLEANING**

- A. Daily clean work areas by sweeping and disposing of scraps and sawdust.
- B. Upon completion of the work of this Section in any given area, remove tools, equipment and all rubbish and debris from the work area; leave area in broom-clean condition.

### **3.7 SCHEDULES**

- A. Wood treatment schedule:
  1. Pressure preservative treat all concealed or exposed-to-view:
    - a. Lumber and plywood which comes in contact with concrete, masonry, or earth.
    - b. Lumber and plywood nailers, blocking and curbing directly related to roofing, flashing, skylights, roof hatches, and roof accessories.
    - c. Lumber and plywood rough-bucks, blocking and nailers directly related to windows, curtainwall and storefront systems.
  2. Fire retardant treat all concealed or exposed-to-view:
    - a. Wood blocking, nailers and curbing where indicated or noted on Drawings.
    - b. Equipment backer boards.

B. Wood blocking schedule: The following schedule lists common items for which blocking is required and may not be indicated on the Drawings. It is not the intention of this schedule to list all conditions requiring blocking or limit the extent of blocking required for completion of the Work; provide all wood blocking, edgings, nailers, required for receipt of various finishes and surfacing materials. Securely anchor wood blocking and run continuous between framing.

1. Blocking sizes indicated below are minimum sizes for conditions which not otherwise sized or indicated on Drawings. In case of conflict, sizes identified on Drawings govern.

Items	Nominal size of blocking with fastener notes
Door Frames, having openings exceeding 4 feet in width;	2 by 4 inch, full height of wall framing
Door frames, cross corridors;	2 by 4 inch.
Door stops, wall mounted;	1 by 3 inch.
Grab bars;	2 by 6 inch, with 1/4 inch dia. toggle bolts.
Lavatories;	3/4 inch plywood extending full height from floor to top of wall framing. Install lavatories with 1/4 inch dia. toggle bolts
Mirrors, framed;	2 by 4 inch
Soap dispensers, wall mounted;	1 by 3 inch
Paper towel dispensers, waste receptacles, feminine napkin dispensers;	1 by 3 inch.
Toilet paper dispensers;	2 by 4 inch
Towel bars;	2 by 6 inch, 1/4 inch diameter toggle bolts
Wall mounted railings;	2 by 8 inch
Window treatment:	2 by 4 inch

**END OF SECTION 06 10 00**

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**SECTION 06 20 00  
FINISH CARPENTRY**

**PART 1 - GENERAL****1.1 SUMMARY**

- A. Furnish and install:
  - 1. Patching and repair of interior finish wood trim.
- B. Backprime all wood which comes in contact with cementitious and masonry materials

**1.2 RELATED REQUIREMENTS**

- A. Section 01 74 19 - CONSTRUCTION WASTE MANAGEMENT AND DISPOSAL: Procedural and administrative requirements for construction and demolition recycling.
- B. Section 06 10 00 - ROUGH CARPENTRY: Wood blocking, and backer boards.
- C. Section 07 92 00 - JOINT SEALANTS: Sealant and backing materials, for joints between casework, countertops and abutting surfaces.
- D. Section 09 22 16 - NON-STRUCTURAL METAL FRAMING: Metal framing for drywall construction work, and attachment.
- E. Section 09 29 00 - GYPSUM BOARD: Drywall construction work having taped and compounded finish.
- F. Section 09 91 00 - PAINTING AND COATINGS: Field applied primer (excluding back priming) and finish coatings.

**1.3 REFERENCES**

- A. Referenced Standards: Comply with applicable requirements of the following standards and those others referenced in this Section, under the provisions of Section 01 42 00 - REFERENCES. The standards referenced herein are included to establish recognized minimum quality only. Where these standards conflict with other specified requirements, the most restrictive requirements shall govern. Equivalent quality and testing standards will be acceptable, subject to their timely submission, review and acceptance by the Architect.
  - 1. APA - applicable grades and specifications.
  - 2. FS MM-L-736 - Lumber; Hardwood
  - 3. PS-1 - Construction and Industrial Plywood.
  - 4. PS-20 - American Softwood Lumber Standard.

5. SPIB Grading Rules, current edition.
  6. U.S. Department of Commerce Simplified Practice Recommendation R-16, for sizes and use classifications of lumber
  7. American Lumber Standards Committee, National Lumber Grades Authority for Canadian Lumber, and applicable grading rules and standards of the various lumber associations whose species are being used for grades specified.
- B. Inclusionary References: The following reference materials are hereby made a part of this Section by reference thereto:
1. AWI/AWMAC/WI joint publication: *North America Architectural Woodwork Standards*, version 3.1, as amended by published errata, referenced herein as NAAWS.
- C. Definitions:
1. AWI: American Woodwork Institute
  2. AWMAC: Architectural Woodwork Manufacturers Association of Canada, Alberta, Canada
  3. WI: Woodwork Institute.
  4. NAUF: No added Urea Formaldehyde.

#### 1.4 SUBMITTALS

- A. Information and Review Submittals: Submit the following under provisions of Section 01 33 00 - SUBMITTAL PROCEDURES:
1. Literature: Manufacturer's product data sheets, specifications, performance data, installation instructions for hardware, adhesives and accessories furnished hereunder.
  2. Certification:
    - a. Certify that all composite wood and agrifiber products used on this Project are NAUF.
      - 1) Written certification from Millworker, that only "no-added formaldehyde" (NAUF) manufactured composite panel products are to be incorporated into the Work, including all concealed components. NAUF composite panel products include, but are not limited to, particle board (PB), oriented strand board (OSB), and medium density fiberboard (MDF) and similar manufactured products.
  3. Shop drawings:

- a. Large scale design details, minimum 1-1/2 inch to one foot scale, showing profiles, jointing and fastening methods; and complete installation details.
  - b. Provide full scale drawings of wood trim elements required to match existing, showing all profiles and dimensions.
  - c. Provide shop drawings bearing dimensions of actual measurements taken at the project.
4. Samples: Provide samples for approval by Architect and for selection of colors and finishes.

## 1.5 QUALITY ASSURANCE

- A. Quality Standards: All materials, workmanship and finishes shall meet AWI/AWMAC/WI *Architectural Woodwork Standards*, 2<sup>nd</sup>. Edition, as amended by published errata, for the following Quality Grades:
1. All work to receive transparent finishes: *Architectural Woodwork Standards*, Premium Grade.
  2. All work to receive shop-applied opaque finishes: *Architectural Woodwork Standards*, Premium Grade.
  3. All work to receive field-applied painted (opaque) finishes: *Architectural Woodwork Standards*, Premium Grade.
- B. Discard lengths of material which are unsound, warped, bowed, twisted, improperly treated, not adequately seasoned or too small to fabricate work with minimum of joints or optimum jointing arrangements, or which are of defective manufacture with respect to surfaces, sizes or patterns.

## 1.6 DELIVERY STORAGE AND HANDLING

- A. Do not deliver interior finish carpentry materials to the project until all concrete, masonry, plaster, and other wet work has been completed and dry.
- B. Ship and handle all materials and fabricated items in a manner which will prevent damage thereto, and store all materials and fabricated items at a dry, elevated, ventilated, and protected interior location maintaining 60 degrees Fahrenheit and a maximum relative humidity of 55 percent.

## PART 2 – PRODUCTS

### 2.1 WOOD MATERIALS – GENERAL REQUIREMENTS

- A. General: Materials, as fabricated and installed, shall comply with specified quality grades of AWI/AWMAC/WI *Architectural Woodwork Standards*.
1. All board products shall be S4S, except as otherwise specified.

- B. Panel Products: Composite panel products and plywood shall be “no added urea-formaldehyde”, including all concealed components.
  - 1. Composite panel products include but are not limited to particle board (PB), Medium Density Fiberboard (MDF), wheat board and strawboard and similar manufactured products.
- C. Moisture content:
  - 1. Wood for interior use shall have a moisture content between 5 and 10 percent, when delivered to the project.

## 2.2 BOARD AND PANEL MATERIALS

- A. Interior trim to receive paint (opaque finish): Wood shall be clear without knots or surface defects. and conform to AWI/AWMAC/WI “Architectural Woodwork Standards,” latest edition for specified quality grades, (as installed). Acceptable wood species are limited to the following:
  - 1. Yellow Poplar (*Liriodendron tulipifera*), Plain Sawn, clear straight-grained, C-Select or better.
  - 2. Natural Birch, Yellow Birch (*Betula alleghaniensis*), Plain Sawn.
  - 3. Natural Maple (*Acer saccharum*), Plain Sawn.
- B. Plywood and panel products:
  - 1. Engineered panels scheduled for opaque finish: Medium Density Fiberboard (MDF) of thickness indicated on the Drawings, conforming to ANSI A208.2, product class MD-EXT having a minimum density of 45 pounds per cubic foot (769 kg/m<sup>3</sup>).
    - a. Georgia Pacific product “Synergite”.
    - b. Canfibre Group Ltd., Toronto, Ontario Canada, product: “AllGreen MR MDF”.
    - c. Norbord Industries Inc., Deposit, NY, Product: “Norbord MR”
    - d. SierrePine, product “Medex NC”
- C. Provide other finish carpentry products, not specifically described, but required for a complete and proper installation, as selected by the Contractor subject to the approval of the Architect.

## 2.3 ACCESSORIES AND HARDWARE

- A. Glue for lamination and fabrication of wood, plywood and particle board items: Exterior Grade, phenolic resin glue.
- B. Nails:



1. Nails for interior trim items: 6d and 8d coated or galvanized finish nails, except as otherwise specified herein.
- C. Screws: Flat-head wood screws of the appropriate sizes, galvanized finish for interior use.
- D. Bolts, nuts, washers, blind fasteners, lags: Galvanized, of size and type to suite application as indicated in the drawings.
- E. Paint for back-priming:
  1. Products which may be considered as equal include the following, or approved equal:
    - a. California: "Wipe-Out 100% Acrylic Latex Stain Block", N° 52500.
    - b. Glidden: Wall and Woodwork Primer Sealer, N° 1020.
    - c. Moore: "Alkyd Enamel Underbody", N°. 217.
    - d. Pittsburgh: "Speedhide Alkyd Interior Quick-Drying Enamel Undercoater", 6-6 Series.
    - e. Sherwin-Williams: "Wall and Wood VOC Primer", B49 WZ2 Series.

## **2.4 WOOD TREATMENTS**

- A. Comply with requirements specified under Section 06 10 00 - ROUGH CARPENTRY.

## **PART 3 - EXECUTION**

### **3.1 EXAMINATION**

- A. Verify adequacy of blocking, backing and support framing for all finish carpentry work.
- B. Beginning of installation means acceptance of existing substrate and site conditions.

### **3.2 PREPARATION**

- A. Prime all wood surfaces of items or assemblies to be in contact with cementitious and masonry materials, prior to installation.

### **3.3 INSTALLATION - GENERAL CARPENTRY**

- A. Install work in accordance with AWI/AWMAC/WI "*Architectural Woodwork Standards*" for specified quality grades, except that all standing and running trim joints shall be field mitered and fitted.

- B. Dress and sand woodwork until free from machine and tool marks, abrasions, raised grain, or other defects that will show through the finish on surfaces exposed to view. Wherever possible, carry out sanding on a shop belt sander, not in the field. Sandpaper field joints and leave in perfect condition for finishing.
- C. Make all joints tight, and form to conceal shrinkage. Glue all miters having a dimension of 4 inches or more from heel to point. Joints shall be glued tight and so formed as to conceal shrinkage. Cope trim at returns and miter at corners to produce tight-fitting joints with full surface contact throughout length of joint.
- D. Make a minimum of splices and joints in running trim, and where such splices and joints occur, fasten securely, with all exposed surfaces having smooth, continuous planes. Stagger joints in adjacent or relate members. Use scarf joints for end-to-end joints.
- E. Scribe and cut work to fit adjoining work closely. Refinish cut surfaces in prefinished items.
- F. All nails in interior finished work shall be blind nailed wherever possible. Nail trim with finish nails only, set using appropriate nail punch and fill with matching wood filler. Sand smooth wood filler. Do not fasten trim with screws or bolts unless otherwise directed, or is to be subsequently covered with smaller trim.
- G. Woodwork shall be properly framed, closely fitted and accurately set to the required lines and levels and shall be rigidly secured in place. Shim as required using concealed shims to achieve specified tolerances.
- H. Cover exposed edges of plywood shelving with 3/8 inch hardwood edging. Width of edging to match thickness of shelving.

### **3.4 TOLERANCES**

- A. Maximum variation for wood work from true position of 1/8 inch in 8 feet for plumb and level and with a maximum of 1/16 inch offsets in adjoining surfaces intended to be flush.

### **3.5 CLEANING**

- A. Daily clean work areas by sweeping and disposing of scraps and sawdust.
- B. Upon completion of the work of this Section in any given area, remove tools, equipment and all rubbish and debris from the work area; leave area in broom-clean condition.

- C. Remove protective material from pre-finished surfaces.

**3.6 PROTECTION**

- A. During the operation of finish carpentry, protect the work of other trades against undue soilage and damage by the exercise of reasonable care and precautions. Repair or replace any work so damaged and soiled.

**END OF SECTION 06 20 00**

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**SECTION 07 27 13**  
**MODIFIED BITUMINOUS SHEET AIR BARRIERS**

**PART 1 – GENERAL****1.1 SUMMARY**

- A. Furnish and install the following:
  - 1. Self-adhesive elastomeric sheet membrane air and vapor barrier system, including specified sheet membrane, required primers and adhesives, at infill of existing exterior opening.

**1.2 RELATED REQUIREMENTS**

- A. Section 01 60 00 - PRODUCT REQUIREMENTS: Listing of VOC requirements for adhesives, cleaning/maintenance materials, paints, coatings, and sealants.
- B. Section 01 74 19 - CONSTRUCTION WASTE MANAGEMENT AND DISPOSAL: Procedural and administrative requirements for construction and demolition recycling.
  - 1. Forming and placing concrete foundations, walls and slabs.
  - 2. Waterstops cast-in concrete.
  - 3. Below slab vapor barrier.
- C. Section 04 43 16 - LIMESTONE.
- D. Section 07 92 00 - JOINT SEALANTS: Requirements for joint sealant and backing materials.

**1.3 REFERENCES**

- A. Referenced Standards: Comply with applicable requirements of the following standards and those others referenced in this Section, under the provisions of Section 01 42 00 - REFERENCES. The standards referenced herein are included to establish recognized minimum quality only. Where these standards conflict with other specified requirements, the most restrictive requirements shall govern. Equivalent quality and testing standards will be acceptable, subject to their timely submission, review and acceptance by the Architect.
  - 1. ASTM D412 – Standard Test Methods for Vulcanized Rubber & Thermoplastic Rubbers and Thermoplastic Elastomers – Tension.
  - 2. ASTM D570 - Standard Test Method for Water Absorption of Plastics.
  - 3. ASTM D1004 - Standard Test Method for Initial Tear Resistance of Plastic Film and Sheeting.
  - 4. ASTM D1876 - Standard Test Method for Peel Resistance of Adhesives.

5. ASTM D1938 - Standard Test Method for Tear Propagation Resistance of Plastic Film and Thin Sheeting by a Single-Tear Method.
  6. ASTM D1876 - Standard Test Method for Peel Resistance of Adhesives.
  7. ASTM D1970 - Standard Specifications for Self-Adhering Polymer Modified Bituminous Sheet Materials Used as Steep Roofing Underlayment for Ice Dam Protection.
  8. ASTM E96/E96M - Standard Test Methods for Water Vapor Transmission of Materials.
  9. ASTM E154/E154M - Standard Test Method for Water Vapor Retarders used in contact with Earth Under Concrete Slabs, on Walls or as Ground Cover.
  10. ASTM E2178: Standard Test Method for Air Permeance of Building Materials.
  11. ASTM E2357: Standard Test method for Determining Air Leakage of Air Barrier Assemblies.
  12. ICC ES (ICC Evaluation Service) AC48 - Acceptance Criteria for Roof Underlayment for Use in Severe Climate Areas.
- B. Inclusionary References: The following reference materials are hereby made a part of this Section by reference thereto:
1. U.S. Army Corps of Engineers Air Leakage Test Protocol for Measure Air Leakage in Buildings.
- C. Definitions:
1. "Dry weather": Less than 20 percent chance of rain per local weather forecasts.

#### **1.4 ADMINISTRATIVE REQUIREMENTS**

- A. Coordination:
1. General: Coordinate the work of this Section with the respective trades responsible for installing interfacing and adjoining work for proper sequence of installation, and ensure that the work performed hereunder is acceptable to such trades for the installation of their work.
  2. Sequence activities to accommodate required inspection and testing services with a minimum of delay. Coordinate activities to avoid the necessity of removing and replacing construction to accommodate inspections and tests.
    - a. The Contractor is responsible for scheduling times for inspections, tests, taking samples, and similar activities.

- b. Provide for continuity of the air barrier materials and products within each assembly in the air barrier system.
  - c. Provide for continuity of all the enclosure assemblies with joints and transition materials to provide a whole building air barrier system.
  - d. Cooperate with agencies performing required inspections, tests, and similar services. Notify the agency sufficiently in advance of operations to permit assignment of personnel. Provide supplemental assistance to testing agencies
    - 1) Provide access to the Work.
    - 2) Furnish incidental labor and facilities necessary to facilitate inspections and tests.
    - 3) Take adequate quantities of representative samples of materials that require testing or assist the agency in taking samples.
    - 4) Deliver samples to testing laboratories.
    - 5) Provide security and protection of samples and test equipment at the Project Site.
3. Agenda: As specified under Section 01 31 00 - PROJECT MANAGEMENT AND COORDINATION, and the following additional agenda items:
    - a. Sheet seaming requirements.

## 1.5 SUBMITTALS

- A. Information and Review Submittals: Submit the following under provisions of Section 01 33 00 - SUBMITTAL PROCEDURES:
  1. Product Data: Manufacturer's product data sheets, specifications, performance data, physical properties.
    - a. Include certification of data indicating Volatile Organic Compound (VOC) content of all components of waterproofing system.
  2. Shop Drawings: Developed for specific project conditions including mock-up, submittal of manufacturer's standard details is prohibited.
    - a. Mock-up Shop Drawings: Indicate size of mock-up, details of construction including, expansion/control joints, sealing penetrations, transitions with adjacent materials, and connections to the test apparatus. Include recommended sequence for air and vapor barrier installation.
      - 1) Obtain approval of mock-up shop drawings prior to installation of mock-up.
    - b. Installation Shop Drawings: Provide 3-D drawings. Show the locations and extent of air and vapor barrier system including details of typical conditions including:
      - 1) Intersections with other envelope systems and materials.

- 2) Membrane counter-flashings.
- 3) Bridging of gaps.
- 4) Penetrations through barrier including conduits, pipes and similar items.
- c. Provide 3-D axon drawings demonstrating step by step installation procedures.
  - 1) Include matrix showing length of UV exposure.
3. Verification Samples:
  - a. Self-adhered air and vapor barrier membrane, 12 by 12 inch size.
  - b. Through-wall flashing membrane, 6 inch length.
  - c. Transition membrane, 6 inch length.
4. Test and Evaluation Reports:
  - a. Provide an Evaluation Report as the manufacturer's documentation confirming material has been evaluated and conforms to the requirements of the ASTM E2176 Standard for Air Barrier Materials.
  - b. Provide dew point analysis of exterior wall assembly and field testing of mockup for static air, pressure air, static water, and bond/adhesion in compliance with applicable ASTM standards.
5. Manufacturer's Instructions:
  - a. Installation Instructions: indicate preparation, installation requirements and techniques, joint and crack treatment and application temperature range, product storage and handling criteria, and limitations of the material.
6. Special Procedure Submittals:
  - a. Written statement, signed by the air barrier applicator, stating that the Contract Drawings have been completely reviewed with an agent of the air barrier and vapor barrier system manufacturer; accompanied by a written statement from the manufacturer that the selected air barrier and vapor barrier system is proper, compatible, and adequate for the application shown.
    - 1) Manufacturer's review shall include recommendations for detailed conditions and specific application requirements for project. Copies shall be sent to Architect, Owner, General Contractor and application sub-contractor.
  - b. The applicator will notify the Architect and Owner in writing that the existing conditions when exposed are in conflict with the Contract Documents for the proper application of the selected air barrier and vapor barrier system or the warranty requirements.



- B. Closeout Submittals: Submit the following under provisions of Section 01 78 00 - CLOSEOUT SUBMITTALS.
  - 1. Bonds and Warranty Documentation:
    - a. Manufacturer's Warranties and Guarantees as specified elsewhere herein this Section.

## 1.6 QUALITY ASSURANCE

- A. General: Notify the Architect where conflicts apply between referenced standards and existing materials, and existing methods of construction.
- B. Sole Source: Obtain products required for the Work of this Section from a single manufacturer, or from manufacturers recommended by the prime manufacturer of air barrier system.
- C. Qualifications:
  - 1. Installer/Applicator: Minimum of 3 years documented experience demonstrating previously successful work of the type specified herein, and approved by product manufacturer.
  - 2. Testing Agencies: Laboratory accredited by International Accreditation Service Inc. (IAS), American Association for Laboratory Accreditation (A2LA), or the Standards Council of Canada (SCC).

## 1.7 DELIVERY, STORAGE AND HANDLING

- A. Delivery and Acceptance Requirements:
  - 1. Do not deliver items to the site, until all specified submittals have been submitted to, and approved by, the Architect.
  - 2. Deliver and store air barrier materials in new, sealed, containers showing manufacturer's identification, year of production, net weight, date of packaging, and location of packaging.
- B. Storage and Handling Requirements:
  - 1. Store and handle materials following manufacturer's recommended procedures, and in accordance with material safety data sheets.
    - a. Protect primers, mastic and adhesives from high heat, flames or sparks.
  - 2. Store all materials in an elevated, dry location, protected by waterproof coverings. Following manufacturer's recommended storage procedures for humidity and temperature conditions, protect materials from freezing.

**1.8 SITE CONDITIONS**

- A. Maintain ambient temperature above 30 degrees Fahrenheit for 24 hours before, during, and after installation until liquid or mastic accessories have cured.

**1.9 WARRANTY**

- A. General: Submit the following warranties under provisions of Section 01 78 00 - CLOSEOUT SUBMITTALS, and in compliance with Section 01 78 36 - WARRANTIES.
  - 1. Warranties shall be effective starting from Date of Project Substantial Completion and are effective for specified term lengths.
- B. Manufacturer Warranty:
  - 1. Provide 5 year Manufacturer's product warranty which shall include replacement of defective materials.
    - a. Warranty shall include provisions for coverage of the following:  
Membrane will bridge ruptures caused by cracking of the immediate substrate up to 1/16 inch width.
- C. Special Warranty:
  - 1. Provide 2 year Applicator's warranty or bond which shall include removal and replacement of defective materials, and repairs or replacement of Owner's materials and products damaged due to failure of air and vapor barrier installation to resist water or moisture penetration.

**PART 2 - PRODUCTS****2.1 MANUFACTURERS**

- A. Basis of Design: To establish a standard of quality, design and function desired, Drawings and specifications have been based on Henry Company, Inc., Huntington Park, CA.
  - 1. Product: "Blueskin SA".
- B. Acceptable Manufacturers: Subject to compliance with the requirements specified herein, manufacturers offering products which may be incorporated in the work include the following, or approved equal:
  - 1. Henry Company, Inc., Huntington Park, CA. (Henry)
  - 2. Carlisle Coatings & Waterproofing Inc., Wylie, TX. (Carlisle)
  - 3. GCP Applied Technologies Inc., Cambridge MA. ("GCPAT")
  - 4. W.R. Grace & Co., Construction Products Division, Cambridge MA. (Grace)
  - 5. W.R. Meadows, Hampshire, IL., ("Meadows").

6. Tremco, Inc., Beachwood OH. (Tremco)

## 2.2 PERFORMANCE/DESIGN CRITERIA

- A. General: The air barrier shall have the following characteristics:
  1. It must be continuous, with all joints made airtight.
  2. It shall have an air permeability not to exceed 0.004 cfm/ft<sup>2</sup> under a pressure differential of 0.3 inches water. (1.57 psf.) (equal to 0.02 L/s/m<sup>2</sup> @ 75 Pa.) when tested in accordance with ASTM E2178.
  3. It shall be capable of withstanding positive and negative combined design wind, fan and stack pressures on the envelope without damage or displacement, and shall transfer the load to the structure. It shall not displace adjacent materials under full load.
  4. The air barrier shall be joined in an airtight and flexible manner to the air barrier material of adjacent systems, allowing for the relative movement of systems due to thermal and moisture variations and creep. Transition connections shall be made between the following:
    - a. Foundation and walls.
    - b. Walls and windows or doors.
    - c. Different wall systems.
    - d. Wall and roof.
    - e. Wall and roof over unconditioned space.
    - f. Walls, floor and roof across construction, control and expansion joints.
    - g. Walls, floors and roof to utility, pipe and duct penetrations.
  5. All penetrations of the air barrier and paths of air infiltration/exfiltration shall be made airtight.

## 2.3 MATERIALS

- A. Sheet membrane: Prefabricated composite sheet 0.9 mm (36 mils) of self-adhesive rubberized asphalt integrally bonded to 0.1 mm (4 mils) of cross-laminated, high-density polyethylene film to provide a minimum 1 mm (40 mil) thick membrane. Membrane shall be interleaved with disposable silicone-coated release paper until installed.
  1. Performance Requirements:
    - a. Water Vapor Transmission: ASTM E96, Method B - 2.9 ng/m<sup>2</sup>sPa (0.05 perms) maximum.
    - b. Water Absorption: ASTM D570 - Max. 0.1% by weight.
    - c. Puncture Resistance: ASTM E154 - 178 N (40 lbs.).

- d. Tear Resistance:
    - 1) Initiation: ASTM D1004 - min. 58 N (7.0 lbs.) M.D.
    - 2) Propagation: ASTM D1938 - min. 40 N (4.0 lbs.) M.D.
  - e. Lap Adhesion at -4 degrees C (25 degrees F): ASTM D1876 - 880 N/m (5.0 lbs./in.) of width.
  - f. Low Temperature Flexibility: ASTM D1970 - Unaffected to -43 degrees C (-45 degrees F).
  - g. Tensile Strength: ASTM D412, Die C Modified, Min. 2.7 MPa (400 psi).
  - h. Elongation, Ultimate Failure of Rubberized Asphalt: ASTM D412 - Die C - Min. 200%.
- B. Surface conditioner, liquid membrane tape, crack filler, mastics, and accessories as recommended by the sheet membrane manufacturer and comply with the following:
- 1. Description: Latex-based, water-dispersible liquid for substrate preparation.
    - a. Flash Point: No flash to boiling point.
    - b. Solvent Type: Water.
    - c. VOC Content: Not to exceed 350 g/l.
    - d. Application Temperature: -4 degrees C (25 degrees F) and above.
    - e. Freeze/Thaw Stability: 5 cycles min.
    - f. Freezing point (as packaged): -20 degrees C (-5 degrees F).
- C. Termination Mastic: Rubberized asphalt-based mastic with 200 g/l max. VOC Content.
- D. Primer: Rubber-based primer in solvent with 680 g/l max. VOC content.

## 2.4 ACCESSORIES

- A. Flexible membrane: Minimum 1 mm (.040 inch) thick membrane comprised of 0.8 mm (0.032 inch) of self-adhesive rubberized asphalt integrally bonded to 0.2 mm (.008 in) of cross-laminated, high-density polyethylene film. Membrane shall be interleaved with disposable silicone-coated release paper until installed, and comply with the following:
- 1. Water Vapor Transmission, ASTM E 96, Method B: 2.9 ng/m<sup>2</sup>sPa (0.05 perms) max.
  - 2. Water Absorption, ASTM D 570: max. 0.1% by weight
  - 3. Puncture Resistance, ASTM E 154: 356 N (80 lbs.) min.
  - 4. Tear Resistance

- a. Initiation ASTM D 1004: min. 58 N (13.0 lbs.) M.D.
- b. Propagation ASTM D 1938: min. 40 N (9.0 lbs.) M.D.
5. Lap Adhesion at -4°C (25°F), ASTM D 1876: 880 N/m (5.0 lbs./in.) of width
6. Low Temperature Flexibility, ASTM D 1970: Unaffected to -43°C (-45°F)
7. Tensile Strength, ASTM D 412, Die C Modified: min. 5.5 MPa (800 psi)
8. Elongation, Ultimate Failure of Rubberized Asphalt, ASTM D412, Die C: min. 200%

### **PART 3 - EXECUTION**

#### **3.1 EXAMINATION**

- A. Verification of Conditions: Inspect all surfaces and verify that they are in proper condition to receive the work of this Section.
  1. Verify items which penetrate surfaces to receive air barrier and vapor barrier are rigidly installed.
  2. Verify surfaces are free of cracks, depressions, waves, or projections which may be detrimental to successful installation.
  3. Concrete Masonry Substrates: Notify the Construction Manager in writing if concrete unit masonry substrate requires filling of voids and holes greater than ½ inch, gaps and joints exceeding ¼ inch, or surface irregularities greater than ¼ inch, or other corrections required by Section 04 20 00 – UNIT MASONRY, for application of air barrier over concrete unit masonry.
  4. Do not apply air barrier and vapor barrier system to damp, frozen, dirty, dusty or surfaces unacceptable to membrane manufacturer.
  5. Examine joints and transitions to other building materials. Verify surfaces and size of transitions are suitable for products specified herein.
  6. Report in writing defects in substrates which may adversely affect the performance of the air and vapor barrier.
  7. Beginning of installation means acceptance of existing substrate and project conditions.

#### **3.2 PREPARATION**

- A. Perform all preparation work on receiving surfaces as required, including removal of fins, scaling, and projecting rough spots. Remove all dirt, oil, and other foreign matter from the concrete surfaces. Clean substrate surfaces (broom, vacuum or compressed air) to remove dust, loose stones and debris.

- B. All masonry joints shall be filled and struck flush with the face of masonry and limestone, using a 3:1 mix of sharp sand and Portland cement mixed with a one-part bonding agent to five parts water, and allowed to cure.
- C. Apply primer as recommended by manufacturer at a rate of 250 to 350 square feet per gallon; Prime only the area which will be covered with membrane in a working day, areas not covered with membrane in 24 hours must be reconditioned.
- D. Prepare inside corners by installing a fillet of liquid membrane, latex modified cement mortar or epoxy mortar, extend 6 inches in all directions beyond the corner.
- E. Cracks and joints in substrate surface must be properly sealed with waterstop, joint filler and sealant as recommended by the sheet membrane waterproofing manufacturer.

### **3.3 APPLICATION**

- A. Perform the application of the sheet membrane air barrier and vapor barrier system in strict accordance with the manufacturer's installation specifications, details, and recommendations, and as specified herein.
- B. Condition and prime substrate surfaces:
  - 1. When required by dirty or dusty site conditions; by surfaces having irregular or rough texture, or if it becomes difficult to adhere the air and vapor barrier to the substrate, apply surface conditioner by spray, brush, or roller at the rate recommended by manufacturer, prior to membrane installation. Allow surface conditioner to dry completely before membrane application.
  - 2. Apply a bead or trowel coat of mastic along membrane edges, seams, cuts, and penetrations.
  - 3. Apply primer by brush or heavy nap, natural-material roller at rate recommended by manufacturer prior to membrane installation. Allow primer to dry completely before membrane application.
- C. Application of Membrane:
  - 1. Precut pieces of air & vapor barrier into easily-handled lengths.
  - 2. Remove silicone-coated release paper and position membrane carefully before placing length horizontally against the surface.
  - 3. Begin installation at the base of the wall placing top edge of membrane immediately below any masonry reinforcement or ties protruding from substrate.

4. When properly positioned, place against surface by pressing firmly into place. Roll membrane with extension-handled countertop roller immediately after placement.
5. Overlap horizontally-adjacent pieces 2 inches [50 mm] and roll seams.
6. Subsequent sheets of membrane applied above shall be positioned immediately below masonry reinforcement or ties. Bottom edge shall be slit to fit around reinforcing wires or ties, and membrane shall overlap the membrane sheet below by 2 inches [50 mm]. Roll firmly into place.
7. Seal around masonry reinforcing or ties and all penetrations with termination mastic.
8. Continue the membrane into all openings in the wall, such as doors, windows, and terminate at points that will prevent visibility from interior.
9. Coordinate the installation of air & vapor barrier with roof installer to ensure continuity of membrane with rooftop air & vapor membrane.
10. At end of each working day seal top edge of air & vapor barrier to substrate with termination mastic.
11. Do not allow the rubberized asphalt surface of the air & vapor barrier membrane to come in contact with polysulfide sealants, creosote, uncured coal tar products or EPDM.

### **3.4 INTERFACE WITH OTHER WORK**

- A. Connect and seal exterior wall air-barrier membrane continuously to roofing-membrane air barrier, concrete below-grade structures, floor-to-floor construction, exterior glazing and window systems, glazed curtain-wall systems, storefront systems, exterior louvers, exterior door framing, and other construction used in exterior wall openings, using accessory materials.
- B. Coordinate the work of this Section with installation of curtainwall, storefront and door frames. Ensure air and vapor barrier transitions from curtain wall, storefront and door frames is completed with specified silicone sheet tie-ins.
- C. Provide compatible lap sealant over all membrane laps and terminations within 12 inches of window, curtainwall, storefront, door frames, louvers, and similar envelope openings, to silicone sheet tie-ins.
- D. Silicone sheet transition tie-ins: Install silicone transition sheet following manufacturer's instructions and recommendations, and as additionally specified herein:
  1. Preparation: Solvent wipe clean with isopropyl alcohol (IPA) using a clean, white, lint-free rag of all surfaces to receive silicone sheet transition strip from all dirt, debris, and contaminants that may affect the bond of

performance of the sealant and silicone sheet. Dry wipe using a clean, white, lint-free rag.

2. Use manufacturer's pre-made corners where applicable.
3. Lap sheets to shed water, and seal all laps and transitions.
4. Bed silicone transition sheet in a minimum 1 inch bed of approved sealant. Sealant shall extend to the outboard edge of the silicone sheet, and the counterflash from the wall AVWB onto the face of the silicone sheet.
5. Bed silicone sheet into sealant in the glazing pocket of curtain wall framing. If the silicone sheet has a dart, fully engage dart into receiver in curtain wall system. Counterflash edge of silicone sheet with sealant such that the sealant extends from the curtain wall framing onto the face of the silicone sheet. Provide continuous pressure against silicone sheet with curtain wall framing components.
6. Transitions shall be subjected to all testing conducted for air, vapor and water barriers, as well as all fenestration testing for fenestrations to which the silicone sheet is applied.

### **3.5 FIELD QUALITY CONTROL**

- A. General: Field inspections will be performed under the provisions of Section 01 45 00 – QUALITY CONTROL.
  1. Owner's testing: At the Owner's discretion, Owner intends to engage an independent third-party inspector and testing agency to perform inspections and testing of the air barrier assembly, including but not limited to the following:
    - a. Daily reports of installation observation.
    - b. Confirmation of length of exposure of air barrier system to ultra-violet light.
    - c. Measurement and confirmation of Dry Film Thickness, based on manufacturer's published installation instructions and data for optimum performance of system.
    - d. Visual inspection of air/vapor barrier membranes.
    - e. Air barrier adhesion testing (using Quantitative Testing Practice):
      - 1) Test Method: ASTM D 4541 – "Standard Test Method for Pull-Off Strength of Coating Using Portable Adhesion Testing".
      - 2) Results: Pass/Fail. Membrane shall be capable to withstand a minimum tensile load of 16 pounds per square inch, applied perpendicular to the test area. Locations of testing shall be as recommended by testing agency and approved by Architect. Perform one test for every 600 square feet of surface.



- B. Non-Conforming Work: Repair punctures, damaged areas and inadequately lapped seams with a patch of air barrier membrane sized to extend 6 inches (150 mm) in all directions from the perimeter of the affected area.
- C. Installer to perform daily inspection air and vapor barrier installation, including transitions, prior to enclosing. Repair punctures, damaged areas and inadequately lapped seams with a patch of the membrane sized to extend 6 inches [150 mm] in all directions from the perimeter of the affected area. Maintain log of thickness checks by date and location.

### **3.6 CLEANING**

- A. Daily clean work areas by sweeping and disposing of debris, and scraps.

### **3.7 PROTECTION**

- A. Protect finished work under provisions of Section 01 50 00 - TEMPORARY FACILITIES AND CONTROLS.
- B. Do not expose air and vapor barrier membrane to sunlight for more than thirty days prior to enclosure.
- C. Protect installed membrane from all deleterious environmental conditions, and damage from construction. Maintain warrantable product with respect to Manufacturer's requirements; maintain "as new condition" until covered.

**END OF SECTION 07 27 13**

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**SECTION 07 59 00**  
**CUTTING AND PATCHING MEMBRANE ROOFING**

**PART 1 - GENERAL****1.1 SUMMARY**

- A. This Section consists of roofing work where shown on the Drawings, as specified herein, and as required for a complete and proper installation. Work includes, but is not limited to the following:
  - 1. Patch existing roofing at service piping penetrations
  - 2. Repair existing roofing damaged by the work of this Contract.

**1.2 SUMMARY**

- A. Patch or replace existing roofing at service penetrations in roofing, at flashing and other penetrations occurring through existing roof.
- B. Repair existing roofing damaged by the work of this Contract.

**1.3 RELATED REQUIREMENTS**

- A. Section 01 73 29 - CUTTING AND PATCHING: Procedural and administrative requirements for cutting and patching.
- B. Section 01 74 19 - CONSTRUCTION WASTE MANAGEMENT AND DISPOSAL.
- C. Section 06 10 00 - ROUGH CARPENTRY: Pressure treated blocking, curbing and nailers.
- D. Section 07 92 00 - JOINT SEALANTS: Requirements for joint sealants and backing materials.
- E. Division 21 - FIRE PROTECTION: Fire suppression system penetrations through existing roof.
- F. Division 26 - ELECTRICAL; Electrical system penetrations through existing roof.

**1.4 REFERENCES**

- A. Referenced Standards: Comply with applicable requirements of the following standards and those others referenced in this Section, under the provisions of Section 01 42 00 - REFERENCES. The standards referenced herein are included to establish recognized minimum quality only. Where these standards conflict with other specified requirements, the most restrictive requirements shall govern. Equivalent quality and testing standards will be acceptable, subject to their timely submission, review and acceptance by the Architect.

1. FM Roof Assembly Classifications and Loss Prevention requirements, I-28 and I-29S.
  2. UL Fire Resistance Directory.
  3. All applicable federal, state and municipal codes, laws and regulations for fire-resistance roof ratings.
- B. Inclusionary References: The following reference materials are hereby made a part of this Section by reference thereto:
1. American Society of Civil Engineers, ASCE-7 - Minimum Design Loads for Buildings and Other Structures.
  2. Sheet Metal and Air Conditioning Contractors' National Association (SMACNA): Architectural Sheet Metal Manual.
  3. NRCA - Roofing and Waterproofing Manual, Latest edition.
  4. Roof System Manufacturer's published Technical Specifications, Bulletins and Advisories.
- C. Definitions:
1. Roofing Terminology: Refer to ASTM D1079 and the glossary of NRCA's "The NRCA Roofing and Waterproofing Manual" for definition of terms related to roofing work in this Section.

## **1.5 ADMINISTRATIVE REQUIREMENTS**

- A. Coordination:
1. General: Coordinate the work of this Section with the respective trades responsible for installing interfacing and adjoining work for proper sequence of installation, and ensure that the work performed hereunder is acceptable to such trades for the installation of their work.
- B. Sequencing:
1. Field Measurements
    - a. Take field measurements before preparation of shop drawings and fabrication, where possible, to ensure proper fitting of Work.
    - b. Allow for adjustments within specified tolerances wherever taking of field measurements before fabrication might delay Work.

## **1.6 SUBMITTALS**

- A. Information and Review Submittals: Submit the following under provisions of Section 01 33 00 - SUBMITTAL PROCEDURES:
1. Literature: Manufacturer's product data sheets, specifications, performance data, physical properties and installation instructions for all

proposed items and schedule indicating locations of all roofing accessories.

2. Shop drawings: Submit shop drawings showing construction details with specific instructions for attachment and tie-ins.
  3. Manufacturer's specimen warranties: Provide sample copies of manufacturers' actual warranties for all materials to be furnished under this Section, clearly defining all terms, conditions, and time periods for the coverage thereof.
  4. Review statement: Written statement, signed by the roofing applicator, stating that the Contract Drawings have been reviewed by an agent of the roofing system manufacturer; accompanied by a pre-installation written statement from the manufacturer that the selected roof system is proper, compatible, and adequate for the application shown.
    - a. The roofing applicator will notify the Architect and Owner in writing if the existing conditions when exposed are in conflict with the Contract Documents for the proper application of the selected roofing system or the warranty requirements.
  5. Qualification Submittals.
- B. Closeout Submittals: Submit the following under provisions of Section 01 78 00 - CLOSEOUT SUBMITTALS.
1. Manufacturer's field quality control reports of field inspections, including, revised "as-built" shop drawings and manufacturer's final punch list.
  2. Manufacturer's warranties: Include coverage of materials and installation and resultant damage from failure of installation to resist penetration of moisture.
  3. Record Documentation:

## 1.7 QUALITY ASSURANCE

- A. Submit Manufacturer's field quality control reports of field inspections, including, revised "as-built" shop drawings and manufacturer's final punch list.
- B. All roofing shall be provided and approved by the existing roof system manufacturer whose warranty is active. Any materials not manufactured or provided by this roofing manufacturer shall have written approval from the roofing manufacturer stating the materials are acceptable and are compatible with the other materials and systems required.
- C. The roof system manufacturer's Technical Specifications shall be considered a part of this specification and should be used as a reference for specific application procedures and recommendations. Where a conflict does exist between the manufacturer's written specifications and those procedures

specified in this Section, the more stringent requirements meeting the Manufacturer's minimum requirements for the provided warranty shall apply.

### **1.8 QUALIFICATIONS**

- A. Roofing applicator, with a minimum of 3 years documented experience demonstrating previously successful work of the type specified herein, and shall be trained and certified by roofing manufacturer of the existing roof system.

### **1.9 DELIVERY, STORAGE AND HANDLING**

- A. Delivery and Acceptance Requirements:
  - 1. Do not deliver items to the site, until all specified submittals have been submitted to, and approved by, the Architect.
  - 2. Deliver materials in original unopened packages, containers or bundles bearing brand name, and identification of manufacturer, with labels and package seals intact and legible.
- B. Storage and Handling Requirements:
  - 1. Store and handle materials following manufacturer's recommended procedures, and in accordance with material safety data sheets.
  - 2. Protect materials from damage due to moisture, direct sunlight, excessive temperatures, surface contamination, corrosion and damage from construction operations and other causes.
- C. Packaging Waste Management: Comply with packaging requirements specified under Section 01 60 00 - PRODUCT REQUIREMENTS.
  - 1. Shipping materials: Manufacturer shall utilize to the greatest extent possible packaging materials which are biodegradable and recyclable.
  - 2. Jobsite packaging waste management: Recycle packaging materials coordinated with general construction waste management specified under Section 01 74 19 - CONSTRUCTION WASTE MANAGEMENT AND DISPOSAL

### **1.10 ENVIRONMENTAL REQUIREMENTS**

- A. Do not remove existing roofing when weather conditions threaten the integrity of the building contents or intended continued occupancy.
- B. Apply roofing in dry weather; do not install roofing in inclement weather or when precipitation is predicted with greater than 20 percent possibility.
- C. Do not apply roofing membrane to damp or frozen deck surface.
- D. Apply roofing when ambient temperature is above 40 degrees Fahrenheit.

**1.11 WARRANTY**

- A. General: Submit the following warranties under provisions of Section 01 78 00 - Closeout Submittals, and in compliance with Section 01 78 36 – Warranties.
- B. Deliver to the Owner upon completion of the work of this Section, an unconditional warranty, on the work of this Section agreeing to promptly repair the roofing as necessary to prevent penetration of water through it.
  - 1. Warranty shall cover product quality, performance, and workmanship for a period of 15 [10] years.
  - 2. Warranty shall cover total roofing system including membrane, insulation, adhesives, sealants, fasteners, membrane flashings, and other materials furnished and installed under this Section.
  - 3. Warranty shall provide coverage for maximum peak gust wind speed of 55 miles per hour.

**PART 2 - PRODUCTS****2.1 MANUFACTURERS, AND MATERIALS IN GENERAL.**

- A. Materials shall be provided by manufacturer of existing roofing system, in full compliance with existing valid roofing warranty. Where an existing roofing warranty has expired and is no longer in effect, manufacturers offering products which may be incorporated in the work are limited to, the following:
  - 1. Carlisle Syntec, Carlisle PA.
  - 2. Firestone Building Products Co., LLC, Indianapolis, IN.
  - 3. Mule-Hide Products Co., Inc., Beloit WI.
  - 4. GenFlex Roofing Systems, Indianapolis, IN,
  - 5. Versico LLC, Carlisle, PA.

**2.2 ROOFING MATERIALS**

- A. Roofing membrane: Ethylene propylene diene monomers formed into uniform, flexible sheets, complying with ASTM D4637 and ANSI/RAM IPR-1, with a nominal thickness of 60 mils.
- B. Flashing material: Manufacturer's standard system compatible with flexible sheet membrane.
  - 1. .
- C. Bonding adhesive shall be as recommended by manufacturer. Adhesive shall be compatible with all materials to which the elastomeric membrane is to be bonded.

- D. All accessories, including splicing cement, in-seam sealant, lap sealant, cutoff mastic, night sealer, elastomeric accessories, nailing strips, cant strips, tapered edge strips and flashing accessories shall be as recommended by roofing manufacturer.
- E. Termination bars: Minimum 1/8 inch thick extruded aluminum, of channel profile with 1/4-inch legs and minimum overall width of 2 inches. Termination bar shall be factory punched to accept fasteners 6 inches on-center. Install with stainless steel screw fasteners.
- F. Screws: Steel fastener with fluorocarbon coating. Minimum thread diameter 0.22 inches and minimum shank diameter of 0.172 inches.
- G. Masonry fasteners: Round head stainless steel screw and neoprene washer with lead expansion anchor, equal to Rawlplug by the Rawlplug Company, Inc., New Rochelle NY. Other manufacturers offering similar products which may be considered equal, include the following:
  - 1. Dur-O-Wal Inc., Dayton, OH.
  - 2. Hilti Corporation, Tulsa OK.

### **PART 3 - EXECUTION**

#### **3.1 PREPARATION**

- A. During the operation of work of this Section, protect the work of other trades against undue soilage and damage by the exercise of reasonable care and precautions. Repair or replace any work so damaged and soiled.
- B. Carefully broom clean substrate immediately prior to patching roofing.
- C. Where surface joints at roof and wall substrates exceed 1/4-inch width, fill flush with surface with pourable sealer before proceeding with the installation.

#### **3.2 EMERGENCY MATERIALS AND PROCEDURES**

- A. Maintain continuous temporary protection prior to and during installation of new roofing system. Do not leave unfinished roof areas uncovered over-night or during inclement weather.
- B. Roofing subcontractor is fully responsible for all damage due to water penetration occurring during the Work of this Section.

#### **3.3 CUTTING AND PATCHING EXISTING ROOFING ASSEMBLY**

- A. The existing roof is under valid warranty, Contractor shall obtain warranty information from Owner, notify roofing manufacturer of changes to existing



roof and request bid list of applicators who are eligible for the work. All materials must be approved by manufacturer for use on this project.

1. Follow local, state and federal regulations, safety standards and codes. When a conflict exists, the more restrictive document shall govern.
  2. Follow insurance underwriter's requirements acceptable for use with specified products or systems.
- B. Review all special conditions, such as penetrations, projections, tie-ins with existing construction and connections with new construction. Review these conditions with the Roofing Manufacturer, submit the Roofing Manufacturer's recommendations and details to the Architect for approval.
- C. Cut and patch existing roofing to accommodate new roof top equipment and penetrations in roofing. Perform cutting and patching of existing membrane roof as required by new construction in accordance with details and specifications of roofing manufacturer.
- D. Where penetrations are made through membrane roofing system and existing insulation is disturbed by new construction, install insulation to match existing roof assembly.

#### **3.4 FLASHING INSTALLATION**

- A. Flash all penetrates (pipes, conduits.) passing through membrane. Flash pipe with molded pipe flashings where installation is possible. Where molded pipe flashings cannot be installed, use field fabricated pipe seals. Secure top edge of molded or prefabricated flashing with stainless steel clamping ring.
- B. Flashing for ductwork penetrating roof shall be as detailed and shall consist of metal cover flashing over membrane base flashing, attaching directly to ductwork with screws or flashing of prefabricated curbing. Apply sealant in accordance with manufacturer's instructions.
- C. Unusual Penetrations: Clusters of pipes and unusual shaped penetrations shall be sealed with Pourable Sealer, 2 inches deep minimum, in a pitch pocket type seal.
- D. Molded flashings, prefabricated flashings and membrane base flashings shall be products of the specified manufacturers.
- E. Elastomeric Flashings. Provide elastomeric sheet flashings at elastomeric sheet roofing work, as indicated.
1. Use longest practical lengths and widths of elastomeric sheet flashing material to eliminate or minimize joints. Complete splices between flashings and main-roof sheet before bonding flashings to vertical surfaces. Splices shall be sealed 3 inches beyond fasteners that attach

membrane to horizontal nailer in same manner as splices within roofing membrane. Flashings shall be bonded 100 percent to subsurfaces, except at coves where movement is anticipated.

- a. Install flexible tube at coves where movement is anticipated.
2. Apply bonding adhesive to flashing and surface to which it is being bonded. When bonding adhesive has dried to the point where it does not string or stick to a dry finger touch, roll flashing into adhesive. Do not bridge flashing at changes of direction.
3. Nail top of flashing 12 inches on center under sheet metal copings, counter flashing, and other sheet metal work.

### **3.5 CLEANING**

- A. Remove elastomeric adhesive markings from finished surfaces.
- B. In areas where finished surfaces are soiled by work of this section, consult manufacturer of surfaces for cleaning advice and conform to their instructions.
- C. Repair or replace defaced, or disfigured finishes caused by the work of this Section.

### **3.6 PROTECTION**

- A. Provide special protection or avoid traffic on completed work. Restore to original condition, or replace, work and roofing materials damaged.

**END OF SECTION**

**SECTION 07 84 00**  
**FIRESTOPPING**

**PART 1 - GENERAL**

**1.1 SUMMARY**

- A. Furnish and install fireproof firestopping, firesafing materials, smoke seals and related accessories required for this Project for all penetrations through fire resistance rated construction, including, but not limited to, penetrations for plumbing, fire suppression, heating, ventilating and air conditioning, electrical systems, and specialized equipment.
  - 1. Fire resistance rated construction requiring firestopping includes, but is not limited to: floors, rated partitions, smoke barriers, smoke partitions, partitions in rated corridors, passageways and stairs, shaft partitions, shaft wall (vertical and horizontal), area separation fire walls, party wall systems, and temporary fire-resistant rated partitions and barriers.
  - 2. Provide removable temporary firestopping (pillows) as required to maintain fire integrity prior to Owner's final acceptance, to permit installation of electrical, telephone, data and sound system wiring. Replace temporary firestopping with permanent, after wiring systems are completed.
- B. Furnish and install firestopping/smoke seals at construction joints occurring at tops of fire resistance rated partitions, smoke partitions, and temporary partitions between top of partition and underside of deck above.
- C. Furnish and install all firestopping, firesafing, and smoke seals at perimeter of floor/roof construction and exterior wall systems, as indicated and where required by applicable codes.
- D. Furnish and install all firestopping, firesafing, and smoke seals at expansion joints in chase walls where expansion joints are not exposed to view.
- E. Furnish and install all firestopping, firesafing, and smoke seals at masonry partition infills for acoustical sealant.
- F. Furnish and install all firestopping, firesafing, and smoke seals where required by applicable codes and as additionally required by authorities having jurisdiction at no additional cost to the Owner.

**1.2 RELATED REQUIREMENTS**

- A. Section 01 60 00 - PRODUCT REQUIREMENTS: Listing of VOC requirements for adhesives, cleaning/maintenance materials, paints, coatings, and sealants.

- B. Section 01 74 19 - CONSTRUCTION WASTE MANAGEMENT AND DISPOSAL: Procedural and administrative requirements for construction and demolition recycling.
- C. Section 09 01 23 - PLASTER PATCHING AND REPAIR.
- D. Section 09 29 00 - GYPSUM BOARD: Gypsum wallboard fireproofing.
- E. Division 21 - FIRE SUPPRESSION: Fire protection system penetrations through fire resistance rated construction.
- F. Division 22 - PLUMBING: Plumbing system penetrations through fire resistance rated construction.
- G. Division 23 - HEATING, VENTILATING AND AIR CONDITIONING: Heating, ventilating and air conditioning system penetrations through fire resistance rated construction.
- H. Division 26 - ELECTRICAL: Electrical penetrations through fire resistance rated construction.

### 1.3 REFERENCES

- A. Referenced Standards: Comply with applicable requirements of the following standards and those others referenced in this Section, under the provisions of Section 01 42 00 - REFERENCES. The standards referenced herein are included to establish recognized minimum quality only. Where these standards conflict with other specified requirements, the most restrictive requirements shall govern. Equivalent quality and testing standards will be acceptable, subject to their timely submission, review and acceptance by the Architect.
  1. ASTM C553 – Standard Specification for Mineral Fiber Blanket Thermal Insulation for Commercial and Industrial Applications.
  2. ASTM C612 - Standard Specification for Mineral Fiber Block and Board Thermal Insulation.
  3. ASTM C665 - Standard Specification for Mineral-Fiber Blanket Thermal Insulation for Light Frame Construction and Manufactured Housing.
  4. ASTM E84 – Standard Test Method for Surface Burning Characteristics of Building Materials.
  5. ASTM E119 – Standard Test Method for Fire Tests of Building Construction and Materials.
  6. ASTM E814 – Standard Test Method of Fire Tests of Through-Penetration Firestop Systems.
  7. ASTM E2174 - Standard Practice for On-site Inspection of Installed Fire Stop Systems.

8. ASTM E2393 - Standard Practice for On-site Inspection of Installed Fire Resistive Joint Systems and Perimeter Fire Barriers.
9. NFPA 70 - National Electrical Code.
10. UL - Fire Resistance Directory.
11. UL 1479 - Fire Tests of Through Penetration Firestops.

#### **1.4 PERFORMANCE REQUIREMENTS**

- A. Provide materials and work to conform to *International Building Code*, 2018 edition, as published by the International Code Council, Inc. (I.C.C.), as revised by *RHODE ISLAND BUILDING CODE*, Regulation RISBC-1, effective February 1, 2022
- B. Manufacturer's certified product test requirements:
  1. All firestop/smokeseal material shall be tested by a recognized, independent testing agency and shall conform to both Flame (F-rating) and Temperature (T-rating) requirements of ASTM E814.
  2. Conform to UL Fire Hazard Classification Requirements.
  3. Tested and classified non-combustible per ASTM E84.
- C. Firestops in place shall be of sufficient thickness, width, and density to provide a fire resistance rating at least equal to the floor, wall, or partition construction into which it is installed.
- D. Non-combustible dams shall be constructed:
  1. As necessary to achieve fire rating as tested and rated.
  2. In conformance with installation requirements for type of floor, wall, and partition construction.
  3. As recommended by firestop/smokeseal manufacturer.
- E. Combustible damming materials, if used, must be removed after proper curing.

#### **1.5 SUBMITTALS**

- A. Information and Review Submittals: Submit the following under provisions of Section 01 33 00 - SUBMITTAL PROCEDURES:
  1. Literature: Manufacturer's product data sheets, specifications, performance data, and physical properties.
    - a. Indicate requirements for manufacturer's descriptive data for products and related materials with FM, UL or Warnock-Hersey illustrations showing systems and approval of materials in systems.

2. Certification: Manufacturer's written certification stating that firestopping materials, meet or exceed the requirements specified under this Section and that all fire-resistive requirements for the indicated combustibility, Flame (F-rating) and Temperature (T-rating) Ratings have been met.
3. Manufacturer's installation instructions.
4. Test reports: Submit fire test reports from recognized, independent testing agent(s) indicating the following:
  - a. Fire test report of firestop material applied to substrate and penetration materials similar to project conditions. Tests to indicate both Flame (F-rating) and Temperature (T-rating) Ratings.
  - b. Test reports of products to be used shall indicate conformance to ASTM E814.
5. On-site sample installation to be included in Work: Minimum thirty days prior to application in any area, provide samples of firestop and smoke seal materials and installation in accordance with the following requirements.
  - a. Apply one sample of appropriate firestop and smoke seal material for each different penetration and fire rating required for the work.
  - b. Sample areas will comply with thickness, fire resistance ratings, and finished appearance of the project and applicable fire code.
  - c. Acceptance samples will constitute standard of acceptance for method of application, thickness, and finished appearance for firestop and smoke seal application. The sample(s) shall remain visible during completion of the work and shall remain as part of the completed work.
6. Shop drawings indicating requirements for penetrations in wall/deck intersections, change of planes, control joints, expansion joints and blank openings.

## 1.6 QUALITY ASSURANCE

- A. General: Notify the Architect where conflicts apply between referenced standards and existing materials, and existing methods of construction.
- B. Sole Source: Obtain firestop and smoke seal products from a single manufacturer, except as otherwise approved by Architect.
- C. Environmental Requirements for Volatile Chemicals: Use firestopping caulks that comply with the following limits for VOC content:
  1. Firestopping caulks: VOC not more than 250 g/L.

- D. Special Inspections: Allow for 3 percent of each type of firestopping system to be removed and inspected for conformance with approved submittals.
  - 1. All firestopping shall be inspected prior to installation of suspended ceilings or concealed by other materials.
- E. Qualifications:
  - 1. Installer: a specialized subcontractor having not less than 3 years documented experience demonstrating previously successful work of the type specified herein.
    - a. The manufacturer of the firestop material shall submit written certification that the firm to be used for the firestop products has been trained in the application of the products by the manufacturer.

### **1.7 MOCK-UPS**

- A. Provide mock-ups under provisions of Section 01 43 39 – MOCK-UPS for purpose of verifying quality of firestop installation.
- B. Provide firestop samples and locate as directed. Accepted samples may remain as part of the work.

### **1.8 DELIVERY, STORAGE AND HANDLING**

- A. Deliver and store firestopping materials in original, sealed, packages showing manufacturer's identification and date of packaging.
- B. Store and handle materials following manufacturer's recommended procedures, and in accordance with material safety data sheets.

### **1.9 WARRANTY**

- A. General: Submit the following warranties under provisions of Section 01 78 00 - CLOSEOUT SUBMITTALS, and in compliance with Section 01 78 36 – WARRANTIES.
  - 1. Warranties shall be effective starting from Date of Project Substantial Completion and are effective for specified term lengths.

## **PART 2 - PRODUCTS**

### **2.1 MANUFACTURERS**

- A. Acceptable Manufacturers: Subject to compliance with the requirements specified herein, manufacturers offering similar products include the following, or approved equal:
  - 1. Bio Fireshield (A Division of Rectroseal), Houston TX.
  - 2. Dow Corning Corporation, Midland MI.

3. Hilti, Inc. Tulsa OK.
4. 3M Company, Saint Paul MN.
5. Specified Technologies, Inc., Somerville NJ.
6. Metacaulk, (A Division of Rectroseal), Houston TX.
7. Tremco, Inc., Beachwood OH.

## 2.2 REGULATORY REQUIREMENTS

- A. Conform to applicable code for fire resistance ratings and surface burning characteristics.
- B. Obtain certificate of compliance from authority having jurisdiction indicating approval of combustibility.

## 2.3 MATERIALS

- A. Firestop mortar: asbestos free, cementitious mortar, U.L. classified as a "fill, void, or cavity material" for through penetration firestop system when tested in accordance with ASTM/UL1479.
  1. Acceptable products, or approved equal:
    - a. Bio Fireshield, product "Novasit K-10".
    - b. Specified Technologies, Inc., product "Spec Seal Mortar".
    - c. Tremco Inc., product "Tremstop M".
- B. Silicone Firestop sealant: Single component, non-combustible silicone elastomer firestop sealant, U.L. classified as a "fill, void, or cavity material" for through penetration firestop system when tested in accordance with ASTM E814/UL1479.
  1. Acceptable products, or approved equal:
    - a. Bio Fireshield, product "Biotherm 100" (Gun Grade) or "Biotherm 200" (Self Leveling).
    - b. Specified Technologies, Inc., product "Spec Seal Pensil 300 Sealant (gun grade)" or "Spec Seal Pensil 300SL" (Self Leveling).
    - c. 3M Company, product "Fire Barrier Silicone Sealants".
    - d. Tremco Inc., product "Tremsil" (Gun Grade) or "Tremsil S/L" (Self Leveling).
  2. Sealants will not dissolve in water.
- C. Intumescent firestop sealant and caulks: Acrylic based, water resistant sealant, which will not re-emulsify after drying.
  1. Acceptable products, or approved equal:



- a. Bio Fireshield, product "Biostop 500".
  - b. Specified Technologies, Inc., product "Spec Seal Triple-S Sealant".
  - c. 3M Company, product "Fire Barrier Caulk CP25WB+".
  - d. Tremco Inc., product "Tremstop 1A".
- D. Firestop putty: sticks or pads.
1. Acceptable products, or approved equal:
    - a. Bio Fireshield, product "Moldable Putty".
    - b. Specified Technologies, Inc., product "Spec Seal Putty Bars and Pads".
    - c. 3M Company, product "Fire Barrier Moldable Putty".
    - d. Tremco Inc., product "Flowable Putty".
- E. Firestop collars: Pre-manufactured fire protective pipe sleeve, UL classified as "fill, void, or cavity material" for through penetration firestop system when tested in accordance with ASTM E814/UL1479.
1. Provide separated (two piece) firestop collar for application when plastic pipe system is already in place. Provide non-separated firestop collar for application prior to installation of plastic pipe system.
  2. Acceptable products, or approved equal:
    - a. 3M Company, Inc., product "Fireshield Firestop Sleeve".
    - b. Specified Technologies, Inc., product "Spec Seal Collars".
    - c. 3M Company, product "Fire Barrier PPD's".
    - d. Tremco Inc., product "Fyrecan sleeve".
- F. Firestop pillows: UL Classified as "fill, void, or cavity material" for through penetration firestop system when tested in accordance with ASTM E-814/UL1479.
1. Acceptable products, or approved equal:
    - a. Bio Fireshield, product "Fireshield Firestop Pillows".
    - b. Specified Technologies, Inc., product "Spec Seal Pillows".
    - c. Tremco Inc., product "Tremstop P.S".
- G. Wrap strips:
1. Acceptable products, or approved equal:
    - a. Bio Fireshield, product "FS-195".
    - b. Specified Technologies, Inc., product "Spec Seal Wrap Strip".
    - c. 3M Company, product "Fire Barrier FS195 Wrap Strip".
    - d. Tremco Inc., product "Tremco W.S".

- H. Mineral wool fiber / ceramic wool non-combustible insulation (fire safing):  
Conforming to ASTM C665, Type 1, ASTM C612, and ASTM C553 with a minimum density of 4 pounds per cubic foot.
  - 1. Flame Spread Classification: Material shall be classified non-combustible per ASTM E814.
  - 2. Recycled content of slag: Use maximum available percentage of material (slag). Mineral wool insulation products incorporated into the work shall contain not less than 75 percent of recycled material (slag) by weight.
  - 3. Acceptable products include:
    - a. Fibrex Insulations Inc. Sarnia Ontario, Canada, product: "Fibrex FBX" Industrial board.
    - b. Rock Wool Manufacturing Company, Leeds, AL, product: "Delta Safing Mineral Wool".
    - c. Roxul, Inc., product "Roxul Safe".
    - d. Thermafiber, Inc. product "Safing 4.0 pcf".
  - 4. Accessories: Provide galvanized steel safing clips as required for installation of insulation.
- I. Elastomeric Firestopping: Non halogenated latex based elastomeric coating applied by airless spray.
  - 1. Acceptable products, or approved equal:
    - a. Specified Technologies, Inc., product "Spec Seal Elastomeric Firestop Spray".
    - b. Bio Fireshield (A Division of Rectroseal), product "Flamesafe FS900+"
    - c. Hilti, Inc., product "CP 601S."

## 2.4 ACCESSORIES

- A. Forming and damming materials: Mineral fiberboard or other type as recommended by firestopping manufacturer.
- B. Primer, sealant and solvents: As recommended by manufacturer.
- C. Woven wire mesh: Galvanized 20 gage woven wire mesh "chicken wire" or "poultry fencing", 1 inch spacing.

## PART 3 - EXECUTION

### 3.1 EXAMINATION

- A. Verification of Conditions: Inspect areas and conditions where firestops are to be installed and notify the Architect of conditions detrimental to the proper

and timely completion of the work. Do not proceed with the work until unsatisfactory conditions have been corrected.

1. Beginning of installation means acceptance of existing substrate and project conditions.

### **3.2 PREPARATION**

- A. Surface to receive firestops shall be free of dirt, dust, grease, oil, form release agents, or other matter that would impair the bond of the firestop material to the substrate or penetrating item(s).
- B. Voids and cracks in substrate shall be filled and unnecessary projection removed prior to installation of firestops.
- C. All penetrating items shall be permanently installed prior to firestop installation.
- D. Substrate shall be frost, free and, when applicable, dry.

### **3.3 INSTALLATION**

- A. General
  1. Installation of firestops shall be performed by applicators/installers qualified and trained by the manufacturer. Installation shall be performed in strict accordance with manufacturer's detailed installation procedures.
  2. Apply firestops in accordance with fire test reports, fire resistance requirements, acceptable sample installations, and manufacturer's recommendations. Conform to the 2015 International Building Code with Massachusetts Ninth Edition amendments.
  3. Coordinate with plumbing, mechanical, electrical, and other trades to assure that all pipe, conduit, cable, and other items which penetrate fire rated construction have been permanently installed prior to installation of firestops. Schedule and sequence the work to assure that partitions and other construction which would conceal penetrations are not erected prior to the installation of firestops.
    - a. Ensure that all firestopping is inspected prior to installation of suspended ceilings or concealed by other finished materials.
- B. Dam construction
  1. Install dams when required to properly contain firestopping materials within openings and as required to achieve required fire resistance rating. Combustible damming material must be removed after appropriate curing. Incombustible damming material may be left as a permanent component of the firestop system.

2. Placement of dams shall not interfere with function or adversely affect the appearance of adjacent construction.
- C. Installation of single component silicone firestop
1. Apply with manual or powered caulking gun.
  2. Apply minimum 1/2 inch thickness for 2 hour rating. Apply 1/2 inch to both sides of wall penetrations; one side only in floor penetrations.
  3. Use incombustible insulation as required to achieve fire resistance rating.
  4. Surface of gun grade silicone firestop may be tooled using clean, potable water.
  5. Clean excess material off of adjacent surfaces and tools within 10 minutes using either water or Xylol where the use of such would not be hazardous.
- D. Installation of cementitious firestop mortar.
1. Add dry powder to water and mix with mechanical mixer or hand mixing tools as recommended by firestop mortar manufacturer. Allow a average mixing time is 3 minutes and provide a average wet density of 70 pounds per cubic foot, plus or minus 5 PCF.
  2. Do not apply if ambient or substrate temperature is less than 35 degrees Fahrenheit during 24 hours after application.
  3. Wet all surfaces prior to application of firestop mortar.
  4. Mortar may be hand applied or pumped into the opening.
  5. Exposed surfaces shall be finished using conventional plastering tools prior to curing.
  6. When installation around layered cables, it is recommended to increase the fluidity of the firestop mortar to provide a better fill around the cables. Vibrate or move the cables slightly to prevent voids from forming between the cables.
  7. Allow 48 hours for initial cure prior to form removal. For full cure allow 27 days.
  8. Wet material may be cleaned with water. Dry material may require scraping or chipping.
- E. Installation of firestop collars (plastic pipe only)
1. Firestop collars may be surface mounted to a slab or wall or imbedded in Firestop Mortar to a maximum depth of 2 inches.
  2. For wall penetrations with ABS pipe firestop collars must be installed on both sides of the penetration to provide a 2 hour F and T Rating. All other applications required installation on one side only to provide a 2 hour F and T Rating.

- F. Firesafing insulation: Install firestopping safing insulation on safing clips spaced as needed between each stud and floor slab, leaving no voids. Secure safing clips to slab using fasteners recommended by insulation manufacturer. Install sealant over mineral wool in accordance with test requirements.
- G. Conclusion of work day: Wherever work is performed in areas which abut or are adjacent to Owner occupied areas, at the conclusion of the work day ensure that all penetrations and perimeter construction joints are firestopped and that there are no openings, penetrations or construction joints left unprotected.

### 3.4 LABELING

- A. Identify through-penetration firestop systems with pressure-sensitive, self-adhesive, preprinted vinyl labels. Attach labels permanently to surfaces of penetrated construction on both sides of each firestop system installation where labels will be visible to anyone seeking to remove penetrating items or firestop systems.
  1. Include the following information on labels

WARNING: THROUGH-PENETRATION FIRESTOP SYSTEM-DO NOT DISTURB.  
NOTIFY FACILITY MANAGER OF ANY DAMAGE.

- Contractor's name, address, and phone number.
- Through-penetration firestop systems designation of applicable testing and inspecting agency.
- Date of installation.
- Through-penetration firestop systems manufacturer's name.
- Installer's name.

### 3.5 FIELD QUALITY CONTROL

- A. Inspecting Agency: Owner will engage a qualified independent inspecting agency to inspect through-penetration firestop systems and to prepare test reports.
  1. Inspecting agency will state in each report whether inspected through-penetration firestop systems comply with or deviate from requirements.
- B. Proceed with enclosing through-penetration firestop systems with other construction only after inspection reports are issued.
- C. Where deficiencies are found, repair or replace through-penetration firestop systems so they comply with requirements.

**3.6 SCHEDULE**

- A. General: Typical penetrations are indicated below with list of standard firestopping/smokeseal approaches. Actual firestopping materials and combination of materials will vary with size of penetration and with individual firestopping manufacturer's approved UL Design System Requirements. Use only UL Design System materials for each penetration that best matches the wall and floor construction.
1. Where penetrations occur for which no listed UL or WH Design System test exists, obtain from the firestop system manufacturer an engineered system acceptable to the authorities having jurisdiction for firestopping such penetrations. Engineered system from manufacturer shall include a detail drawing showing the engineered system and shall contain no disclaimers.
- B. Single metal pipe (non-insulated) and conduit penetrations through floors:
1. Firestop mortar.
  2. Silicone Firestop sealant.
  3. Intumescent firestop sealant.
  4. Firestop putty, sticks or pads.
  5. Mineral fiber / ceramic wool non-combustible insulation (fire safing) in conjunction with a firestop sealant.
- C. Single metal pipe (non-insulated) and conduit penetrations through walls:
1. (masonry and concrete walls only) Firestop mortar and putty.
  2. Intumescent firestop sealant over mineral fiber / ceramic wool non-combustible insulation (fire safing).
  3. Intumescent firestop sealant with wrap strips.
- D. Multiple metal pipe and conduit penetrations through floors:
1. Firestop mortar and wrap strips.
  2. Intumescent firestop sealant over mineral fiber / ceramic wool non-combustible insulation (fire safing).
- E. Multiple metal pipe and conduit penetrations through walls:
1. Firestop mortar and putty.
  2. (through masonry walls only) Firestop pillows with woven wire mesh.
  3. Silicone Firestop sealant over mineral fiber / ceramic wool non-combustible insulation (fire safing).
- F. Insulated metal pipe penetrations through floors:

1. Firestop mortar and wrap strips.
  2. Silicone Firestop sealant over mineral fiber / ceramic wool non-combustible insulation (fire safing).
  3. Intumescent firestop sealant over mineral fiber / ceramic wool non-combustible insulation (fire safing).
  4. Silicone Firestop sealant over wrap strip.
  5. Mineral fiber / ceramic wool non-combustible insulation (fire safing) in conjunction with a firestop sealant.
- G. Insulated metal pipe penetrations (single and multiple) through walls:
1. Firestop mortar with wrap strips.
  2. Intumescent firestop sealant over mineral fiber / ceramic wool non-combustible insulation (fire safing).
  3. Intumescent firestop sealant over mineral fiber / ceramic wool non-combustible insulation (fire safing) and Wrap strips.
  4. (multiple penetrations through masonry walls only) Firestop pillows with woven wire mesh.
- H. Duct penetrations through floors or walls:
1. Rectangular and square ducts: Intumescent firestop sealant over mineral fiber / ceramic wool non-combustible insulation (fire safing), and steel flanges provided under Division 15.
  2. Round ducts: Intumescent firestop sealant over mineral fiber / ceramic wool non-combustible insulation (fire safing).
- I. Combustible plastic pipe and conduit penetrations through floors:
1. Firestop mortar with wrap strips.
  2. Firestop mortar with firestop putty and firestop collars.
  3. Silicone firestop sealant over mineral fiber / ceramic wool non-combustible insulation (fire safing).
  4. Silicone firestop sealant and firestop collars.
  5. Intumescent firestop sealant and firestop collars.
  6. Intumescent firestop sealant over mineral fiber / ceramic wool non-combustible insulation (fire safing) with firestop collars.
  7. (maximum pipe size 2 inches) Intumescent firestop sealant over mineral fiber / ceramic wool non-combustible insulation (fire safing) with wrap strips.
- J. Combustible plastic pipe and conduit penetrations through walls:

1. Intumescent firestop sealant over mineral fiber / ceramic wool non-combustible insulation (fire safing).
  2. Intumescent firestop sealant with firestop collars.
- K. Cable penetrations through floors:
1. Silicone Firestop sealant over mineral fiber / ceramic wool non-combustible insulation (fire safing).
  2. Intumescent firestop sealant over mineral fiber / ceramic wool non-combustible insulation (fire safing).
- L. Cable penetrations through walls:
1. Silicone Firestop sealant over mineral fiber / ceramic wool non-combustible insulation (fire safing).
  2. Intumescent firestop sealant over mineral fiber / ceramic wool non-combustible insulation (fire safing).
  3. (single penetrations only) Firestop putty.
  4. (electrical boxes) Firestop pads.
  5. Firestop putty over mineral fiber / ceramic wool non-combustible insulation (fire safing).
- M. Bus ducts through floors:
1. Firestop mortar and wrap strips.
  2. Intumescent firestop sealant over mineral fiber / ceramic wool non-combustible insulation (fire safing) and 28 gage (minimum) steel cover plate.
- N. Blank openings:
1. Firestop mortar.
  2. Silicone Firestop sealant over mineral fiber / ceramic wool non-combustible insulation (fire safing).
- O. Fire rated joints:
1. Silicone Firestop sealant over backer rod or bond breaker.
- P. Construction joints at head of wall/floor assemblies:
1. Silicone Firestop sealant/mastic over mineral fiber / ceramic wool non-combustible insulation (fire safing).
  2. Elastomeric spray over mineral fiber / ceramic wool non-combustible insulation (fire safing).
- Q. Smoke barrier sealant for dampers, fire door frames:



1. Silicone Firestop sealant.
- R. Temporary sealing of openings and penetrations:
1. Firestop putty, sticks or pads.
  2. Firestop pillows.

**END OF SECTION 07 84 00**

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**SECTION 07 92 00**  
**JOINT SEALANTS**

**PART 1 - GENERAL****1.1 SUMMARY**

- A. General: The work of this Section consists of sealants and backing materials where shown on the Drawings, as specified herein, and as required for a complete and proper installation.
  - 1. This Section specifies general requirements, definition of joint sealer types, and application requirements for sealant work specified within other individual specification sections.
- B. Prepare sealant substrate surfaces.
- C. Furnish and install sealant and backing materials.

**1.2 RELATED REQUIREMENTS**

- A. Section 01 74 19 - CONSTRUCTION WASTE MANAGEMENT AND DISPOSAL: Procedural and administrative requirements for construction and demolition recycling.
- B. Section 07 84 00 - FIRESTOPPING: Firestopping sealants and related backing materials.
- C. Section 09 29 00 - GYPSUM BOARD: Application of concealed acoustical sealant used in conjunction with gypsum board work at abutting surfaces (perimeter of partitions and walls).
- D. Section 09 91 00 - PAINTING: Caulks used in preparation of applied finish coatings.

**1.3 REFERENCES**

- A. Referenced Standards: Comply with applicable requirements of the following standards and those others referenced in this Section, under the provisions of Section 01 42 00 - REFERENCES. The standards referenced herein are included to establish recognized minimum quality only. Where these standards conflict with other specified requirements, the most restrictive requirements shall govern. Equivalent quality and testing standards will be acceptable, subject to their timely submission, review and acceptance by the Architect.
  - 1. ASTM C510 - Standard Test Method for Staining and Color Change of Single- or Multicomponent Joint Sealants.
  - 2. ASTM C717 - Standard Terminology of Building Seals and Sealants.

3. ASTM C719 - Standard Test Method for Adhesion and Cohesion of Elastomeric Joint Sealants Under Cyclic Movement (Hockman Cycle).
  4. ASTM C834 – Standard Specification for Latex Sealants.
  5. ASTM C919 - Standard Practice for Use of Sealants in Acoustical Applications.
  6. ASTM C920 - Standard Specification for Elastomeric Joint Sealants.
  7. ASTM C1193 – Standard Guide for Use of Joint Sealants.
  8. ASTM C1248 – Standard Test Method for Staining of Porous Substrate by Joint Sealants.
  9. ASTM C1247 - Standard Test Method for Durability of Sealants Exposed to Continuous Immersion in Liquids.
  10. ASTM C1311 – Standard Specification for Solvent Release Sealants.
  11. ASTM C1330 - Standard Specification for Cylindrical Sealant Backing for Use with Cold Liquid-Applied Sealants.
  12. ASTM C1521 - Standard Practice for Evaluating Adhesion of Installed Weatherproofing Sealant Joints.
  13. ASTM D1056 - Standard Specification for Flexible Cellular Materials - Sponge or Expanded Rubber.
  14. ASTM D3960 - Standard Practice for Determining Volatile Organic Compound (VOC) Content of Paints and Related Coatings
  15. ASTM G155 - Standard Practice for Operating Xenon Arc Light Apparatus for Exposure of Non-Metallic Materials.
  16. FS TT-S-001543A - Sealing Compound, Silicone Rubber Base.
  17. NSF /ANSI 61 – Drinking Water System Components – Health Effects.
- B. The following reference materials are hereby made a part of this Section by reference thereto:
1. SWRI – Sealant and Caulking Guide Specification.

#### **1.4 SUBMITTALS**

- A. Information and Review Submittals: Submit the following under provisions of Section 01 33 00 - SUBMITTAL PROCEDURES:
1. Product Data: Manufacturer's product data sheets, specifications, performance data, chemical and physical properties and installation instructions for each item furnished hereunder.
  2. Selection Samples: Sample card indicating Manufacturer's full range of colors available for selection by Architect.
  3. Verification Samples: 12 inch long samples of sealant for verification of color, installed where directed by Architect.

4. Certificates: Manufacturer's certification that the Products supplied meet or exceed specified requirements.
5. Test and Evaluation Reports:
  - a. Compatibility and adhesion test reports: Test reports from sealant manufacturer indicating that sealant proposed for use have been tested for compatibility and adhesion with actual samples of substrates to be used on this project. Include sealant manufacturer's interpretation of test results, and recommendations for primers and substrate preparation specific to this Project.
- B. Closeout Submittals: Submit the following under provisions of Section 01 78 39 – PROJECT RECORD DOCUMENTS.
  1. Bonds and Warranty Documentation: Manufacturer's standard Warranties and Guarantees.

### **1.5 QUALITY ASSURANCE**

- A. General: Notify the Architect where conflicts apply between referenced standards and existing materials, and existing methods of construction.
- B. Sole Source: Provide sealants from a single manufacturer for all work of this Section to the greatest extent possible. Each individual type of sealant installed in the Work shall be from a single manufacturer.
- C. Qualifications:
  1. Testing Agencies: To qualify for acceptance, an independent testing laboratory must demonstrate to Architect's satisfaction that it has the experience and capability to conduct satisfactory testing indicated without delaying progress of the Work.

### **1.6 DELIVERY, STORAGE AND HANDLING**

- A. Each container and package must bear an unbroken seal, test number and label of the manufacturer upon delivery to the site. Failure to comply with these requirements shall be sufficient cause for rejection of the material in question, by the Architect and his requiring its removal from the site. New material conforming to said requirements, shall be promptly furnished at no additional cost to the Contract.

### **1.7 SITE CONDITIONS**

- A. Do not install single component solvent curing sealant in enclosed building spaces.
- B. Environmental Requirements: Maintain temperature and humidity recommended by the sealant manufacturer during and 24 hours after

installation. Do not proceed with installation of joint sealers under the following conditions:

1. When ambient and substrate temperature conditions are below 40 degrees F.
  2. When joint substrates are wet due to rain, frost, condensation, or other causes.
- C. Do not proceed with installation of joint sealers until contaminants capable of interfering with their adhesion are removed from substrates.

## **1.8 WARRANTY**

- A. General: Provide 5-year warranty under provisions of Section 01 78 00 - CLOSEOUT SUBMITTALS, and in compliance with Section 01 78 36 - WARRANTIES.
1. Warranties shall be effective starting from Date of Project Substantial Completion and are effective for specified term lengths.
  2. Warranty shall include coverage of installed sealant and accessories which fail to achieve air tight and watertight seal, exhibit loss of adhesion or cohesion, or do not cure.

## **PART 2 - PRODUCTS**

### **2.1 MANUFACTURERS**

- A. Specified Manufacturers and Products: To establish a standard of quality, design and function desired, Drawings and specifications have been based on the products specified under this section for each individual sealant type, for the applications scheduled at the end of Section, and as may be additionally identified on the Drawings.
- B. Acceptable Manufacturers: Subject to compliance with the requirements specified herein, manufacturers offering products which may be incorporated in the work include the following, or approved equal:
1. Pecora Corporation, Harleysville PA.
  2. Sika Corp, Lyndhurst NJ.
  3. Sonneborn Building Products Inc., Minneapolis MN.
  4. Tremco, Inc., Beachwood OH.

### **2.2 SEALANT MATERIALS**

- A. Sealant Materials, General Requirements:
1. Only use sealant and primers that comply with the following limits for VOC content:

- a. Architectural Sealants: 250 g/L.
  - b. Roofing Sealants: 450 g/L.
  - c. Roadway Sealants: 250 g/L.
  - d. Sealant primer: 250 g/L.
2. Sealants containing PCB's, aromatic solvents, fibrous talc, formaldehyde, halogenated solvents, mercury, lead, cadmium, chromium and their compounds or asbestos are not permitted.
- B. Joint Sealer Type AA (Acrylic acoustical): One component acrylic latex, permanently elastic, non-staining, non-shrinking, non-migrating and paintable.
1. Tremco, product "Acoustical Sealant".
  2. USG, product "USG Acoustical Sealant".
  3. Pecora, product "AC-20 FTR".
- C. Joint Sealer Type AP (Acrylic painters caulk): One component acrylic latex caulking compound, conforming to FS 19-TP-21M and ASTM C834, paintable within 24 hours after application, with a minimum movement capability of  $\pm 12.5$  percent, equal to one of the following:
1. Sonneborn, product, "Sonolac".
  2. Tremco, product, "Tremflex 834".
  3. Bostik, product, "Chem-Calk 600".
  4. Pecora, product "AC-20+".
- D. Joint Sealer Type SC (Silicone, general construction): One-part medium modulus, natural cure, synthetic sealant, having a useful life expectancy of at least 20 years, conforming to ASTM C920, Type S, NS, Class 25, use NT, G, A, M, O with a minimum movement capability of  $\pm 50$  percent, equal to the following:
1. Dow Corning, product, "791".
  2. GE Silicones, product, "Silpruf".
  3. Pecora, product, "895".
  4. Sika, product, "Sika Sil-C 995".
  5. Sonneborn, product, "Sonolastic - OmniSeal".
  6. Tremco, product, "Spectrem 2".
- E. Joint Sealant: Type SV (Silicone, Stone Veneer): Medium modulus, neutral curing, no bleed silicone passing ASTM C1248, having a useful life expectancy of at least 20 years, conforming to ASTM C920, Type S, Grade NS, Class 50, use NT, G, M, A, and O, with a minimum movement capability of +50 percent and -50 percent, equal to the following:
1. Dow Corning, product, "756 SMS".

2. GE Silicones product: "SCS9000 SilPruf NB"
  3. Pecora, product, "890 NST".
  4. Tremco product "Spectrim 3"
- F. Joint Sealer Type SX (Silicone, Exterior construction): One-part low modulus, neutral curing, low to no bleed silicone, having a useful life expectancy of at least 20 years, conforming to ASTM C920, Type S, NS, Class 50, FS TT-S-00230C, Type II, Class A with a minimum movement capability of +50 percent and -50 percent, equal to the following:
1. Dow Corning, product, "790".
  2. GE Silicones, product, "SCS2700 SilPruf LM".
  3. Sika, product "Sikasil-WS-290".
  4. Tremco, product "Spectrem 4TS".
  5. Pecora, product, "890NST".

### 2.3 ACCESSORIES

- A. Compressible joint bead back-up: Compressible closed cell polyethylene, extruded polyolefin or polyurethane foam rod complying with ASTM C1330, Type C, 1/3 greater in diameter than width of joint. Shape and size of compressible back-up shall be as recommended by manufacturer for the specific condition used. Provide one of the following, or equal.
1. Nomaco, Inc., Zebulon, NC, product "Green Rod".
  2. Industrial Thermo Polymers Ltd., Brampton, Ontario CN, product "ITP Standard Backer Rod".
  3. BASF Sonneborn Building Products Inc., Minneapolis MN, product "Sonolastic Closed Cell Backer Rod".
  4. W.R. Meadows Inc., Hampshire, IL, product "Sealtight Kool-Rod".
- B. Primers: Furnish and install joint primers of the types, and to the extent, recommended by the respective sealant manufacturers for the specific joint materials and joint function.
- C. Bond-breaker tape, and temporary masking tape: Of types as recommended by the manufacturer of the specific sealant and caulking material used at each application, and completely free from contaminants which would adversely affect the sealant and caulking materials.



**PART 3 - EXECUTION****3.1 EXAMINATION**

- A. Examine joints indicated to receive joint sealants, with Installer present, for compliance with requirements for joint configuration, installation tolerances, and other conditions affecting joint-sealant performance.
- B. Proceed with installation only after unsatisfactory conditions have been corrected.

**3.2 PREPARATION**

- A. General:
  - 1. Weather conditions must be dry and of the temperature, as recommended by sealant manufacturer, during application operations.
  - 2. Surface receiving work of this section must be absolutely dry and dust free. All joints receiving sealant/caulking materials and primers shall be subject to the approval of the sealant manufacturer for proper use of specified materials.
- B. Thoroughly clean all joints, removing all loose mortar, oil, grease, dust, frost, and other foreign materials that will prevent proper adhesion of primers and sealant materials.
  - 1. Clean ferrous metals of all rust and coatings by wire brush, grinding or sandblasting. Remove oil, grease and protective coatings with cleaners recommended by sealant manufacturer.
- C. Prime joint substrates, as recommended in writing by joint-sealant manufacturer, as based on preconstruction joint-sealant-substrate tests or as based upon prior experience. Apply primer to comply with joint-sealant manufacturer's written instructions. Confine primers to areas of joint-sealant bond; do not allow spillage or migration onto adjoining surfaces.
- D. Verify that joint backing and release tapes are compatible with sealant.
- E. Perform preparation in accordance with ASTM C804 and C790 for solvent and latex base solvents, respectively.

**3.3 INSTALLATION**

- A. General: Conform to SWRI requirements, and sealant manufacturer's written requirements for installation.
- B. Install joint bead back-up in all joints in excess of 5/8-inch depth, and joints that have no back-up therein, placing the joint bead in the joint in a manner

that will assure a constant depth 1/8 inch greater than the sealant and caulking material depth tolerances.

1. Set beads into joints continuously, by slightly stretching during placement, to permit compression against sides of joint, without surface wrinkles or buckles.
  2. Do not stretch back-up material into joints.
- C. Install bond breaker in joints where shown in the Drawings and wherever recommended by the sealant manufacturer to prevent bond of the sealant to surfaces where such bond might impair the Work.
- D. Apply masking tape or other precautions to prevent migration or spillage of materials onto adjoining surfaces.
- E. Apply sealant and caulking materials into joints in accordance with manufacturer's instructions, using mechanical or power caulking gun equipped with nozzle of appropriate size, with sufficient pressure to completely fill the joints.
1. The depth of sealant and caulking materials shall be in accordance with manufacturer's recommendations for the specific joint function, but in no case exceed 1/2-inch in depth, nor less than 1/4-inch, regardless of the joint width.
  2. Maintain the outer edge of the sealant and caulking materials, where side faces of joints are in the same plane, back 1/8-inch from the faces.
  3. Apply sealant in continuous beads without open joints, voids or air pockets so as to provide a watertight and airtight seal for the entire joint length.
  4. After placement of the sealant and caulking materials, concave-tool the surfaces to uniform density, using a water-wet tool. Do not use detergents or soapy water for the tooling operations.
  5. Remove the temporary masking tape immediately after tooling, and before the sealant or caulking material has taken initial set.
- F. Take care not to block-off weep tubes or any through wall opening constructed to allow weeping of accumulated water.

### **3.4 CLEANING**

- A. Clean all surfaces of adjacent surfaces which have been marked or soiled by the work of this Section, removing all excess sealant and caulking materials with solvents which will not damage the surfaces in any way.

**3.5 PROTECTION**

- A. During the operation of sealant work, protect the work of other trades against undue soilage and damage by the exercise of reasonable care and precautions. Repair or replace any work so damaged and soiled.

**3.6 SCHEDULE**

- A. General: Seal joints indicated and all interior and exterior joints, seams, and intersections between dissimilar materials.

- B. Sealant Colors:

- 1. Colors for Sealant (typical):As selected by the Architect from manufacturer’s standard colors.
- 2. Color for Sealant Types “AA” and “AP”: White.
- 3. In concealed installation, and in partially or fully exposed installation where so approved by the Architect, standard gray or black sealant may be used.

- C. Exterior joints (Listed by primary building material abutting sealant joints):

- 1. Concrete:

Joint Condition	Sealant Type
a. Concrete to concrete, vertical control joints:	SE
b. Concrete to all items which penetrate exterior concrete walls, including, but not necessarily limited to, door frames, louver frames, pipes, vents, and similar items:	SE

- 2. Exterior Masonry (at limestone):

Joint Condition	Sealant Type
a. Masonry to masonry:	SV
b. Masonry to abutting masonry or concrete:	SV
c. Masonry to all items which penetrate exterior masonry walls, including, but not necessarily limited to pipes, vents, and similar items:	SV

- 3. Exterior Metal:

Joint Condition	Sealant Type
a. Metal to metal:	SX

- D. Interior joints (Listed by primary building material abutting sealant joints):

- 1. Gypsum Board:

<u>Joint Condition</u>	<u>Sealant Type</u>
a. Gypsum board to metal or wood trim:	AP
b. Gypsum board to abutting surfaces at exposed tops and bottoms partitions and walls:	AA
c. Gypsum board to masonry:	SC
d. Gypsum board to interior door and window frames, penetrating conduits and piping, light-fixtures, electrical cover plates, building specialty items, ductwork, grilles, supply diffusers, faucets, piping, escutcheon plates and similar items:	AP
e. Gypsum board to plumbing fixtures:	SM
1. Plaster:	
<u>Joint Condition</u>	<u>Sealant Type</u>
a. Plaster to metal or wood trim:	AP
b. At gaps and spaces between plaster to interior door and window frames, penetrating conduits and piping, building specialty items, ductwork, and similar items:	AP
2. Acoustical ceilings:	
<u>Joint Condition</u>	<u>Sealant Type</u>
a. Acoustical ceiling edge angle to irregular wall surface	AP
3. Interior Wood:	
<u>Joint Condition</u>	<u>Sealant Type</u>
a. Wood to wood (natural or stained finishes)	SC
b. Wood to wood (painted opaque finishes)	AP
c. Wood to metal	SC
d. Wood base to wall surfaces	AP

**END OF SECTION 07 92 00**

**SECTION 08 05 13****COMMON WORK RESULTS – DOOR AND HARDWARE INSTALLATION****PART 1 – GENERAL****1.1 SUMMARY**

- A. This Section includes general requirements for preparation, installation and temporary protection, for door frames, doors and door hardware.
- B. Install door frames, hang doors, and install finish hardware, which are furnished under the following designated Sections:
  - 1. Section 08 11 13 - HOLLOW METAL DOORS AND FRAMES.
  - 2. Section 08 71 00 - DOOR HARDWARE.

**1.2 RELATED REQUIREMENTS**

- A. Section 06 10 00 - ROUGH CARPENTRY: Wood Blocking.
- B. Section 08 11 13 - HOLLOW METAL DOORS AND FRAMES

**1.3 REFERENCES**

- A. Referenced Standards: Comply with applicable requirements of the following standards and those others referenced in this Section, under the provisions of Section 01 42 00 - REFERENCES. The standards referenced herein are included to establish recognized minimum quality only. Where these standards conflict with other specified requirements, the most restrictive requirements shall govern. Equivalent quality and testing standards will be acceptable, subject to their timely submission, review and acceptance by the Architect.
  - 1. ANSI A 117.1 - Specifications for Making Buildings and Facilities Accessible to and Usable by Physically Handicapped People.
  - 2. ANSI/BHMA A156.115 - Hardware Preparation in Steel Doors or Steel Frames View Scope
  - 3. ANSI/SDI A250.8 – Recommended Specifications for Standard Steel Doors and Frames.
  - 4. ANSI/SDI A250.11 – Recommended Erection Instructions for steel frames.
  - 5. ASTM E2074 (Withdrawn Standard) – Standard Test Method for Fire Tests of Door Assemblies, Including Positive Pressure Testing of Side-Hinged and Pivoted Swinging Door Assemblies.
  - 6. NFPA publication 80 - Fire Doors and Windows.
  - 7. WDMA Industry Standard IS 1A-13.

8. UBC 43.2 – Fire Tests of Door Assemblies.
9. UL 10B - Fire Tests of Door Assemblies.
10. UL 10C – Positive Pressure Fire Door Test Method.
11. Warnock-Hersey - Certification Listings for fire doors.
12. All applicable federal, state and municipal codes, laws and regulations for exits.

#### **1.4 ADMINISTRATIVE REQUIREMENTS**

- A. Coordination:
  1. General: Coordinate the work of this Section with the respective trades responsible for installing interfacing and adjoining work for proper sequence of installation, and ensure that the work performed hereunder is acceptable to such trades for the installation of their work.
- B. Sequencing:
  1. Field Measurements
    - a. Take field measurements before preparation of shop drawings and fabrication, where possible, to ensure proper fitting of Work.
    - b. Allow for adjustments within specified tolerances wherever taking of field measurements before fabrication might delay Work.
- C. Scheduling:
  1. Coordinate schedule of construction, size of access and route to place of installation to prevent delay of installation due to physical impediments. Any work involving the demolition and reconstruction of partitions, walls, floors, roofing, windows, or doors to place and install the work of this Section shall be performed at no additional cost to the Owner.

#### **1.5 SUBMITTALS**

- A. Information and Review Submittals: Submit the following under provisions of Section 01 33 00 - SUBMITTAL PROCEDURES:
  1. Maintenance Material Submittals: Submit the following under provisions of Section 01 78 00 - CLOSEOUT SUBMITTALS. Clearly label and package extra materials securely to prevent damage.
  2. Tools: Tools for maintenance: All special tools packaged with hardware items shall be saved, tagged/identified as to product use, and turned over to the Owner upon completion of the Work.
- B. Closeout Submittals: Submit the following under provisions of Section 01 78 00 - CLOSEOUT SUBMITTALS.

1. Bonds and Warranty Documentation:
  - a. Manufacturer's Warranties and Guarantees as specified elsewhere herein this Section.

## **1.6 QUALITY ASURANCE**

- A. General: Notify the Architect where conflicts apply between referenced standards, specified materials, and methods of construction.

## **1.7 DELIVERY, STORAGE AND HANDLING**

- A. Delivery and Acceptance Requirements:
  1. Do not deliver items to the site, until all specified submittals have been submitted to, and approved by, the Architect.
  2. Deliver materials in original unopened packages, containers or bundles bearing brand name, and identification of manufacturer, with labels and package seals intact and legible.
    - a. Tag or label packages with door opening number(s) coordinated with door and hardware schedule.
  3. Inspect doors upon delivery for damage. Minor damage may be repaired provided the refinished items are equal in respects to new work and acceptable to the Architect; otherwise remove and replace damaged items.
- B. Storage and Handling Requirements:
  1. Store and handle materials following manufacturer's recommended procedures, and in accordance with material safety data sheets.
  2. Protect materials from damage due to moisture, direct sunlight, excessive temperatures, surface contamination, corrosion and damage from construction operations and other causes.
- C. Damaged material: Remove any damaged or contaminated materials from job site immediately, including materials in broken packages, packages containing water marks, or show other evidence of damage, unless Architect specifically authorizes correction thereof and usage on project.

## **1.8 SITE CONDITIONS**

- A. Environmental Limitations: Do not deliver or install doors until spaces are enclosed and weather tight, wet work in spaces is complete and dry, and HVAC system is operating and maintaining ambient temperature and humidity conditions at occupancy levels during the remainder of the construction period

**PART 2 - PRODUCTS****2.1 ACCESSORIES**

- A. Fasteners: Use fasteners furnished with hardware for installation.
  - 1. Where fasteners are not furnished with item, use fasteners of suitable size and type to harmonize with item as to material and finish and to suit material to which fastened.
  - 2. Use machine screws and metal expansion shields to secure hardware to concrete, ceramic or quarry tile, or solid masonry. Do not use fiber, plastic, and lead plugs or adhesives.
  - 3. Use non-ferrous metal fastenings exposed to weather.
    - a. Brass/Bronze finish hardware: Bronze fasteners, matching finish of hardware.
    - b. Aluminum, stainless steel and painted steel hardware: Type 302/304 stainless steel fasteners.
    - c. Chrome finish hardware: Chrome plated brass/bronze fasteners.
- B. Hinge Shims:
  - 1. Interior door shims:
    - a. Typical hinges: steel shims in thickness for conditions required.
    - b. Stainless steel hinges: Stainless steel, type 302 or 304, thickness for conditions required.
    - c. Brass/bronze hinges with brass/bronze frames: Architectural bronze sheet in thickness for conditions required.
  - 2. Exterior door frame shims:
    - a. All hinge materials: Stainless steel, type 302 or 304, thickness for conditions required.

**PART 3 - EXECUTION****3.1 EXAMINATION**

- A. Verification of Conditions: Inspect all surfaces and verify that they are in proper condition to receive doors and frames.
  - 1. Verify that opening sizes and tolerances are acceptable and in compliance with these specifications and applicable codes.
  - 2. Beginning of installation means acceptance of existing substrate and project conditions.



**3.2 PREPARATION**

- A. Protection of In-situ Conditions: During the operation of work of this Section, protect existing finishes against undue soilage and damage by the exercise of reasonable care and precautions. Clean, or repair all existing materials which are soiled or otherwise damaged by Work of this Section, to match original profiles and finishes. Existing materials and finishes which cannot be cleaned, or repaired shall be removed and replaced with new work to match existing.

**3.3 GENERAL ERECTION/INSTALLATION FRAMES AND DOORS**

- A. General: Install frames and doors in accordance with the manufacturer's recommendations, ANSI/SDI-100, ANSI A250.8, SDI-105, NFPA-80, and the Door Hardware Institute recommendations. Install with a maximum diagonal distortion of 1/16 inch measured with a straight edge, corner to corner.
- B. Installation of fire-resistance rated and smoke rated doors:
  - 1. Install fire rated doors in accordance with NFPA 80.
  - 2. Do not remove qualified testing and inspection agency label.
- C. Final installation of loosely-attached glazing stops will be performed under Section 08 80 00 - GLAZING.

**3.4 ERECTION/INSTALLATION METAL DOOR FRAMES**

- A. Steel Place in-position all steel frames, in accordance with the approved shop drawings and frame schedule.
  - 1. During the installation of metal door frames, after the manufacturer's steel shipping bars have been removed, install wood spreaders at door opening, carefully dimensioned to permit square and plumb installation of door frames and doors.
    - a. Provide rigid temporary bracing for frames as required to ensure maintenance of positioning, and remove only after frames have been permanently anchored.
    - b. For doors located in masonry work, maintain frame position with temporary bracing until frames are built-into-place, and grout has sufficiently cured to maintain frame position.
    - c. Spreaders shall remain in place until doors are installed.
  - 2. Coordinate installation of frames with the various trades installing abutting wall construction for anchor placement.
    - a. Secure frames with the following number of anchors per jamb.
      - 1) For frames 7'-6" in height or less: 3 anchors per jamb.

- 2) For frames 7'-6" in height or less and having doors exceeding 3'-0" feet width, and for cross corridor frames: 4 anchors per jamb.
  - 3) For frames greater than 7'-6", up to 10'-0" in height: 4 anchors per jamb.
  - 4) For frames greater than 7'-6", up to 10'-0" in height, and having doors exceeding 3'-0" feet width, and for cross corridor frames: 5 anchors per jamb.
  - 5) For frames over 10'-0' in height: 5 anchors per jamb.
3. Secure frames, occurring in existing masonry, with expansion bolts and sleeves.
  4. Where exposed fastener heads occur in frames, fill with automotive body filler and sand smooth.

### **3.5 GENERAL INSTALLATION DOORS AND HARDWARE**

- A. General: Install doors and door hardware in accordance with manufacturer's instructions and requirements of referenced organizations, and the requirements of Section 08 71 00 - DOOR HARDWARE.
  1. Center doors in the opening or frame with contact surfaces fit tight and even without forcing or warping the components.
  2. Replace doors and frames that do not conform to hardware height requirements.
- B. Hang doors and install hardware when concrete work, plastering, tile setting, and other operations have been completed which increase humidity and dust in building.
- C. Install hardware (except hinges) after field painting of doors and frames, or field sealing of doors has been completed.
- D. Drill and tap screw holes in steel frames and doors for surface mounted hardware.
- E. Install hardware at the location (heights) indicated on Drawings, or as otherwise required by regulatory requirements.
- F. Carefully fit and securely attach hardware items to doors and frames.
- G. Closers including those with hold-open features:
  1. Where closers are mounted on doors, mount with hex nuts and bolts; fasten foot to frame with machine.
  2. Mount to provide maximum door opening permitted by building construction or equipment.

3. Use regular arm mounting except where door swing is less than 90 degrees or closer is on interior of exterior door or door is equipped with roller latch.
- H. Thresholds:
1. Install thresholds in a bed of sealant with machine screws and expansion shields.
  2. Cut thresholds to closely fit jambs.
  3. Drill and cut for door holders and bottom bolts where required.
- I. Rain Drips: Install rain drips for heads of door frames not protected by canopy or soffit.
- J. Weatherstripping and seals:
1. Accurately cut and fit weatherstrips and seals. Carefully aligned for full contact and tight seal and secure firmly to maintain weatherproof, waterproof, and lightproof seal without preventing smooth and easy operation of doors.
  2. Provide suitable blocking where necessary to clear hardware; and make adjustments as required to meet special conditions encountered.
  3. Light seals: Install seals on door frames for lightproof doors. Secure seals to door frames at jamb and heads with contact adhesive to prevent infiltration of light.
  4. Sound control devices: Install sound rated door gasketing and bottom seal, and adjust to obtain the specified sound rating.
  5. Automatic Door Bottoms: Install automatic door bottom so that gasket is automatically forced down to tightly seal instantly when the door is fully closed, and raised instantly when the door begins to open. Mount automatic door bottom to provide 5 mm (3/16 inch) clearance at door bottom.

### **3.6 ADJUSTING**

- A. Adjust Doors, including hardware to operate as designed without binding or deformation of the members.
- B. After installation, clean surfaces, remove temporary labels, paint spots and other defacement.
- C. Clean prefinished and plated items and items fabricated from stainless steel, aluminum and copper alloys, as recommended by the manufacturer.

- D. Prior to Final Inspection make final check and adjustment of all hardware, clean operating items as necessary to restore proper function and finish of hardware.

### **3.7 TOUCH-UP FINISHES**

- A. Field touch-up of doors, scheduled for opaque finishes, will be performed under Section 09 91 00 - PAINTING and includes the filling and touch-up of exposed job made nail or screw holes, refinish of raw surfaces resulting from fitting or job inflicted scratches and marks.
- B. Field touch-up of doors, scheduled for transparent finishes, will be performed by an authorized representative of the door fabricator. Touch-up includes refinishing surfaces resulting from fitting, or job inflicted scratches and marks.

### **3.8 CLEANING**

- A. General: Clean work under provisions of Section 01 73 00 - EXECUTION.
- B. Upon completion of the work of this Section in any given area, remove tools, equipment, packing materials, and all rubbish and debris from the work area; leave area in broom-clean condition.
  - 1. Daily clean work areas by sweeping and disposing of debris.
- C. Clean adjacent surfaces soiled by hardware installation.

### **3.9 PROTECTION**

- A. Protect doors and hardware from damage until completion of the project. Comply with provisions of Section 01 50 00 - TEMPORARY FACILITIES AND CONTROLS.

**END OF SECTION 08 05 13**

**SECTION 08 11 13**  
**HOLLOW METAL DOORS AND FRAMES**

**PART 1 – GENERAL****1.1 SUMMARY**

- A. Provide the following products:
  - 1. Flush UL-Labeled and non-labeled steel doors and frames, complete with internal reinforcing, hardware cut-outs; installed under requirements of Section 08 05 13- COMMON WORK RESULTS – DOOR AND HARDWARE INSTALLATION

**1.2 RELATED REQUIREMENTS**

- A. Section 01 74 19 - CONSTRUCTION WASTE MANAGEMENT AND DISPOSAL: Procedural and administrative requirements for construction and demolition recycling.
- B. Section 06 10 00 - ROUGH CARPENTRY: Wood blocking, and nailers.
- C. Section 07 92 00 - JOINT SEALANTS.
- D. Section 08 71 00 - DOOR HARDWARE: Furnishing finish hardware, and installation templates for hardware cutouts and reinforcing.
- E. Section 09 91 00 - PAINTING: Applied finish coatings.
- F. Division 26 – ELECTRICAL: Wiring connections for electrified door hardware.
- G. Building-in of frame anchors to wall and partition construction: By trade responsible for wall and partition erection.

**1.3 REFERENCES**

- A. Referenced Standards: Comply with applicable requirements of the following standards and those others referenced in this Section, under the provisions of Section 01 42 00 - REFERENCES. The standards referenced herein are included to establish recognized minimum quality only. Where these standards conflict with other specified requirements, the most restrictive requirements shall govern. Equivalent quality and testing standards will be acceptable, subject to their timely submission, review and acceptance by the Architect.
  - 1. ANSI A 117.1 - Specifications for Making Buildings and Facilities Accessible to and Usable by Physically Handicapped People.
  - 2. ANSI/SDI A250.4 - Test Procedure and Acceptance Criteria for Physical Endurance for Steel Doors, Frames, Frame Anchors and Hardware Reinforcing.

3. ANSI/SDI A250.8 – R2008 (formerly SDI 100) - Recommended Specifications for Standard Steel Doors and Frames.
4. ANSI/SDI A250.11 – Recommended Erection Instructions for Steel Frames.
5. ASTM E283 – Standard Test Method for Determining Rate of Air Leakage Through Exterior Windows, Skylights, Curtain Walls, and Doors Under Specified Pressure Differences Across the Specimen.
6. ASTM E1886 - Standard Test Method for Performance of Exterior Windows, Curtain Walls, Doors, and Impact Protective Systems Impacted by Missile(s) and Exposed to Cyclic Pressure Differentials.
7. ASTM E1996 - Standard Specification for Performance of Exterior Windows, Curtain Walls, Doors, and Impact Protective Systems Impacted by Windborne Debris in Hurricanes.
8. SDI 111 Series (111A-111F): Recommended Details, Steel Doors and Frames.
9. SDI 117-93: Manufacturing Tolerances for Standard Steel Doors and Frames.
10. NFPA publication 80 - Fire Doors and Windows.
11. NFPA publication 105 – Standard for the Installation of Smoke Door Assemblies.
12. UL publication 10B - Fire Tests of Door Assemblies.
13. UL publication 10C – Positive Pressure Fire Tests of Door Assemblies.
14. UL 1784 – Air Leakage Tests of Door Assemblies.
15. All applicable federal, state and municipal codes, laws and regulations for exits.

#### **1.4 ADMINISTRATIVE REQUIREMENTS**

- A. Coordination:
1. General: Coordinate the work of this Section with the respective trades responsible for installing anchorages furnished by this Section; make arrangements for delivery, receipt and installation of inserts and anchorages to prevent delay of the Work.
  2. Coordinate the work of this Section with the respective trades responsible for furnishing hardware and installing doors and frames.
  3. Ensure that the work performed hereunder is coordinated with issued templates authorized by the hardware supplier.
  4. Do not fabricate doors or frames before receiving a copy of the approved hardware schedule, submitted by the hardware supplier, reviewed by the Contractor and accepted by the Architect. Verify that issued templates are

coordinated with the approved schedule; immediately notify the Architect, in writing, of any conflicts.

### **1.5 SUBMITTALS**

- A. Information and Review Submittals: Submit the following under provisions of Section 01 33 00 - SUBMITTAL PROCEDURES:
  - 1. Literature: Manufacturer's product data sheets, specifications, for doors, frames and shop applied finishes.
  - 2. Certification: Manufacturer's written certification stating that doors, frames, and all related items to be furnished hereunder, meet or exceed the requirements specified under this Section; that specified galvanized and shop priming has been performed.
  - 3. Shop drawings: A complete schedule of doors and frames, to be furnished hereunder, coordinated with the door and frame schedule contained in the Contract Drawings. Large scale details of each type door and frame construction, indicating all gages, cut-outs for glazing in doors, reinforcing, and anchorage.

### **1.6 QUALITY ASSURANCE**

- A. General: Notify the Architect where conflicts apply between referenced standards and existing materials, and existing methods of construction.
- B. Sole Source: Obtain doors and frames specified in this Section from a single manufacturer.

### **1.7 DELIVERY, STORAGE AND HANDLING**

- A. Delivery and Acceptance Requirements:
  - 1. Prior to shipping, identify each frame and door with a removable metal or plastic label which corresponds with door schedule identifying opening number and location.
  - 2. Do not deliver items to the site, until all specified submittals have been submitted to, and approved by, the Architect.
  - 3. Deliver doors and frames boxed or crated to provide protection during transit and job storage.
  - 4. Inspect doors and frames upon delivery for damage. Minor damage may be repaired provided the refinished items are equal in respects to new work and acceptable to the Architect; otherwise remove and replace damaged items.
- B. Storage and Handling Requirements:

1. Store and handle materials following manufacturer's recommended procedures.
2. Store doors and frames at the building site upright and under cover. Place the units on wood dunnage and cover in a manner that will prevent rust and damage.

## **1.8 WARRANTY**

- A. General: Submit the following warranties under provisions of Section 01 78 00 - CLOSEOUT SUBMITTALS, and in compliance with Section 01 78 36 - WARRANTIES.
  1. Warranties shall be effective starting from Date of Project Substantial Completion and are effective for specified term lengths.

## **PART 2 - PRODUCTS**

### **2.1 MANUFACTURERS**

- A. Acceptable Manufacturers: Subject to compliance with the requirements specified herein, manufacturers offering products which may be incorporated in the work include the following, or approved equal:
  1. Amweld Building Products, Inc., (A Division of Amweld International, LLC), Coppell TX.
  2. Ceco Door Products (A Division of Assa Abloy Group Company), Milan TN.
  3. Curries Company A Division of Assa Abloy Group Company), Mason City IA.
  4. Essex Industries, Inc. New Haven CT.
  5. Republic Doors and Frames, McKenzie TN.
  6. Steelcraft (A Division of Ingersoll-Rand Company), Cincinnati OH.
- B. Unless otherwise specifically accepted by Architect, all doors and frames shall be of one manufacturer.

### **2.2 DOORS**

- A. General: Refer to the Drawings for design of doors, sizes, glazing cut-outs in doors, and details.
- B. Construction: Full flush commercial type, 1-3/4 inches thick, unless noted otherwise, meeting or exceeding the materials, gages, construction, and testing requirements of the referenced ANSI and SDI publications.
  1. Exterior Door Core Construction: Manufacturer's standard kraft-paper honeycomb, polystyrene or polyurethane core (at non-rated doors only). Fabricate exterior doors with specified R-value when tested according to ASTM C1363.



- a. Core construction:
  - 1) Manufacturer's standard expanded polystyrene complying with ASTM C 591
- b. Thermal properties when tested in accordance with ASTM C 1363:
  - 1) R-value: 10.0 (polyurethane core).
  - 2) At all exterior doors, fabricate doors with specified R-value when tested according to ASTM C 1363.
2. Interior Door Core Construction: Manufacturer's standard 99-pound (basis weight) kraft-paper honeycomb.
  - a. Interior Fire Door Core: Mineral board core, as required to provide fire-protection and temperature-rise ratings indicated.
3. Interior Door Core Construction: Manufacturer's standard polystyrene, core.
  - a. Interior Fire Door Core: As required to provide fire-protection and temperature-rise ratings indicated.
- C. Interior Doors 1-3/4 inch thick (44.4 mm): ANSI 250.8, Level 2, Model 1 (Full Flush), ANSI A250.4 Physical Performance Level B, (Heavy Duty) having 18-gage, minimum 0.042 inch (1.0 mm) steel faces, with a minimum STC rating of 52.
- D. Hardware reinforcing: Welded in place steel reinforcement, hot rolled pickled and oiled steel per ASTM A569, with the following minimum gages:
  1. Hinges, 8 gage, minimum 0.152 inch (3.8 mm) thick.
  2. Kick plates, 18 gage, minimum 0.042 inch (1.0 mm) thick.
  3. Closers, locks, and all other hardware: 10 gage, minimum 0.123 inch (3.1 mm) thick.
  4. Locations for reinforcing shall be determined from information and templates provided under Section 08 71 00 - DOOR HARDWARE.
- E. Fabrication
  1. Fabricate exposed faces of door panels from cold-rolled steel only.
  2. Fabricate concealed stiffeners, reinforcement, edge channels, louvers and moldings from either cold-rolled or hot-rolled steel (at manufacturer's option).
  3. Fabricate doors with hardware reinforcement welded in place.
  4. Attach fire rated label to each door unit.
  5. Close top and bottom edge of exterior doors with flush end closure. Seal joints watertight.

### 2.3 HOLLOW METAL FRAMES

- A. General: Refer to the Drawings for various types of frames, sizes, and profiles, and other characteristics of frames and related items.
  - 1. Frame type: Shop welded frames with mitered joints arc-welded, reinforced and ground smooth.
  
- B. Materials for frames, reinforcement, anchors, anchor clips and related items: commercial grade cold-rolled steel conforming to ASTM A109 or commercial grade hot-rolled and pickled steel conforming to ASTM A415.
  - 1. Frame gage:
    - a. Interior frames: 16-gage, 0.053 inch thick (1.3 mm), .
  - 2. Hinge, lock and strike reinforcement: 7 gage (4.4 mm) thick.
  - 3. Door closer reinforcement: 12 gage, minimum 0.093 inch (2.3 mm) thick.
  - 4. Floor clips: 16 gage (1.3 mm) thick.
  - 5. Splice plates or channels: same gage as door frame.
  
- C. Frame construction:
  - 1. Shop-fabricate frames as whole single units per door opening, except when frame size is too large to ship as a single unit. Oversized frames may be shipped in large sections as practicable for field assembly with concealed splice plates or channels.
  - 2. Frame corner construction: As specified in paragraph A, above.
  - 3. Reinforcements, stiffeners, and base angle clips: Welded to interior surfaces of frames to provide a stable base and so as to not interfere with installation of hardware.
  - 4. Appearance of finished frames: Strong, rigid, completely free from warp and buckle, with miters well-formed and in true alignment, and with surfaces smooth and free from defects of any kind.
  - 5. Silencer holes: Punch three holes in stop of strike jamb of door frames for application of silencers.
  
- D. Anchorage:
  - 1. Anchor clips for frames in metal stud partitions: 16-gage steel z-shaped clips, 1-1/2 inch upturned and downturned legs, or equivalent type standard with the manufacturer, contained within the frames, for screw attachment to metal studs under Section 09 22 16 - NON-STRUCTURAL METAL FRAMING.
  - 2. Typical frames: Provide not less than 3 anchors, clips, or bolts (as applicable), per jamb.

- a. Frames exceeding 3 feet in width, and cross corridor frames: Provide not less than 4 anchors, clips, or bolts (as applicable), per jamb.

#### **2.4 FABRICATION TOLERANCES**

- A. Maximum variation for doors and frames: Maximum diagonal distortion 1/16 inch measured with straight edge, corner to corner.

#### **2.5 FACTORY FINISHING**

- A. Preparation: Pressure-sand all surfaces of all doors, frames, accessory items, anchors, and related items, to remove blemishes and foreign matter and provide paint grip. Spot-fill imperfections with metallic filler, and sand smooth. Thoroughly clean the surfaces by applying hot or cold phosphate treatment standard with the manufacturer.
- B. Following cleaning apply one dip or spray coat of rust-inhibitive metallic oxide, zinc chromate, or synthetic resin primer to all surfaces, including those which will be concealed after erection. Bake, or oven dry, the primer at time and temperature recommended by the manufacturer for developing maximum hardness and resistance to abrasion.

### **PART 3 - EXECUTION**

#### **3.1 ERECTION AND INSTALLATION**

- A. Installation of frames and doors, including all accessories and related items furnished hereunder, will be performed under Section 08 05 13 – COMMON WORK RESULTS – DOOR AND HARDWARE INSTALLATION.
  1. Section 08 05 13 – COMMON WORK RESULTS – DOOR AND HARDWARE INSTALLATION shall place frames in correct position within specified tolerances.

**END OF SECTION 08 11 13**

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**SECTION 09 01 23**  
**PLASTER PATCHING AND REPAIR**

**PART 1 - GENERAL****1.1 SUMMARY**

- A. Patch existing damaged, deteriorated and unsound lath, plaster and trim:
  - 1. Patch all existing lath, plaster and trim disturbed by new construction.
  - 2. Patch all cracks in existing plastered surfaces which are to remain and which are indicated or required to be painted.
  - 3. Restoration of damaged ornamental plaster and decorative plaster molding; where damaged by the work.
- B. Install access panels occurring in the work of this section, furnished under Section 08 31 00 - ACCESS DOORS AND PANELS, and by trades requiring the same.
- C. Repair methods: The exact repair procedures shall be reviewed in the field, based on the guidelines and materials specified herein. Review all procedures with the Architect and obtain acceptance prior to commencing the work. Repair methods selected shall take into account the total construction system of the existing building.

**1.2 RELATED REQUIREMENTS**

- A. Section 01 74 19 - CONSTRUCTION WASTE MANAGEMENT AND DISPOSAL: Procedural and administrative requirements for construction and demolition recycling.
- B. Section 02 41 19 - SELECTIVE DEMOLITION:
  - 1. Removal of existing finishes, partitions and walls as indicated in the Drawings.
- C. Section 06 10 00 - ROUGH CARPENTRY: Wood blocking.
- D. Section 09 29 00 - GYPSUM BOARD: Gypsum board partitions.
- E. Section 09 91 00 - PAINTING: Applied finish coatings.

**1.3 REFERENCES**

- A. Referenced Standards: Comply with applicable requirements of the following standards and those others referenced in this Section, under the provisions of Section 01 42 00 - REFERENCES. The standards referenced herein are included to establish recognized minimum quality only. Where these standards conflict with other specified requirements, the most restrictive requirements shall

govern. Equivalent quality and testing standards will be acceptable, subject to their timely submission, review and acceptance by the Architect.

1. ASTM C 28 - Gypsum Plaster.
2. ASTM C 35 - Inorganic Aggregates for use in Gypsum Plaster.
3. ASTM C 206 - Finishing Hydrated Lime.
4. ASTM C 631 - Bonding Compounds for Interior Plastering.
5. ASTM C 842 - Application of Interior Gypsum Plaster.
6. ASTM C 954 - Steel Drill Screws for the Application of Gypsum Board or Metal Plaster Bases to Steel Studs from 0.33 inches to 0.112 inches in Thickness.
7. ASTM C 1002 - Steel Drill Screws for the Application of Gypsum Board or Metal Plaster Bases.
8. ASTM D 1784 - Rigid PolyVinyl Chloride (PVC) Compounds and Chlorinated PolyVinyl Chloride (CPVC) Compounds.
9. ASTM D 3678 - Rigid PolyVinyl Chloride (PVC) Interior-Profile Extrusions.
10. ASTM D 4216 - Rigid PolyVinyl Chloride (PVC) and Related PVC and Chlorinated PolyVinyl Chloride (CPVC) Building Products Compounds
11. GA - Standard Specifications for Gypsum Plastering.
12. NAAMM document ML/SFA 920 - Specifications for Metal Lathing and Furring.
13. All applicable federal, state and municipal codes, laws and regulations for fire resistance and smoke ratings of interior finishes.

#### **1.4 SUBMITTALS**

- A. Information and Review Submittals: Submit the following under provisions of Section 01 33 00 - SUBMITTAL PROCEDURES:
  1. Literature: Manufacturer's product data sheets, specifications, performance data, physical properties and installation instructions for each item furnished hereunder.
  2. Certificate: Manufacturer's certificate, that the products used meet or exceed specified requirements.
  3. Samples:
    - a. Metal lath: 12-inch square piece of each specified type.
    - b. PVC accessories: 12-inch length of each type.

#### **1.5 QUALITY ASSURANCE**

- A. General: Notify the Architect where conflicts apply between referenced standards and existing materials, and existing methods of construction.

**1.6 REGULATORY REQUIREMENTS**

- A. Conform to applicable codes and UL requirements for fire rated assemblies in conjunction with both existing construction and Section 09 29 00 - GYPSUM BOARD.

**1.7 DELIVERY, STORAGE AND HANDLING**

- A. Do not deliver items to the site, until all specified submittals have been submitted to, and approved by, the Architect.
- B. Deliver plaster materials in original packages, containers or bundles bearing brand name, identification of manufacturer.
- C. Store materials inside, under cover, and in manner to keep them dry, protected from weather, direct sunlight, contamination, corrosion and damage from construction traffic and other causes.
- D. Damaged material: Remove any damaged or contaminated materials from job site immediately, including materials in broken packages, packages containing water marks, or show other evidence of damage, unless Architect specifically authorizes correction thereof and usage on project.

**1.8 PROJECT CONDITIONS**

- A. Do not apply plaster when substrate or ambient air temperature is less than 50 degrees Fahrenheit nor more than 80 degrees Fahrenheit.
- B. Maintain minimum ambient temperature of 50 degrees Fahrenheit during and after installation of plaster, for the term of curing.
- C. Ensure that regulated ventilation will be provided during the application and curing period. Immediately report any unacceptable conditions to the Architect, requesting disposition therefore, and do not mix or apply plaster materials until all conditions are satisfactory and acceptable to the lathing and plastering applicator.

**1.9 SEQUENCING AND SCHEDULING**

- A. Do not install metal lath until all pipes, ducts, conduits, and other such items which are to be enclosed thereby, have been permanently installed, inspected and approved.
- B. Coordinate the work of this Section with the respective trades responsible for installing interfacing work, and ensure that the work performed hereunder is acceptable to such trades for the installation of their work.

**PART 2 - PRODUCTS****2.1 MANUFACTURERS**

- A. Acceptable Manufacturers: Subject to compliance with the requirements specified herein, manufacturers offering products which may be incorporated in the work include the following, or approved equal:
1. Metal lath and accessories
    - a. United States Gypsum Company, Chicago IL.
    - b. National Gypsum Company, Gold Bond Products Division, Charlotte NC.
    - c. Georgia Pacific Corporation, Gypsum Division, Atlanta GA.
  2. Plaster Materials:
    - a. United States Gypsum Company, Chicago IL.
    - b. National Gypsum Company, Gold Bond Products Division, Charlotte NC.
    - c. Georgia Pacific Corporation, Gypsum Division, Atlanta GA.
  3. Polyvinyl chloride trim and accessories:
    - a. Plastic Components, Inc. (PC) Miami FL.
    - b. Vinyl Corporation, Miami FL.
    - c. Alabama Metal Industries Corporation, (AMICO) Birmingham, AL.

**2.2 LATHING MATERIALS**

- A. Diamond mesh lath: Expanded metal lath with (small diamond) 5/16 inch wide diamonds, prime painted, weighing 3.4 pounds per square yard and complying with ASTM C 847.
- B. 3/8 inch Rib lath: Expanded metal lath, with opposed 'U-shaped' 3/8 inch deep solid metal ribs at 1-15/16 inches on center, weighing 3.4 pounds per square yard, prime painted and complying with ASTM C 847, equal to Gold Bond product "3/8 inch Rib Lath"

**2.3 PLASTER MATERIALS**

- A. Patching plasters: Gypsum plaster for patching work shall in general match existing plaster for texture and finish.
- B. Portland cement: Conforming to ASTM C 150, Type I or II.
- C. Lime: Pressure-hydrated finishing lime, conforming to ASTM C 206, Type S.



- D. Sand: Clean, sharp, free from alkali, salt, and quicksand, containing not more than 5 percent loam or clay, graded from coarse to fine, and conforming to ASTM C 35.
- E. Gypsum plaster for basecoats of gypsum gauging plaster finish: High strength gypsum plaster, conforming to ASTM C 28, USG Structo-Base Gypsum Plaster, or equal.
- F. Gypsum gauging plaster for finish coat: High strength gypsum gauging plaster, conforming to ASTM C 28, USG Structo-Gauge Gauging Plaster, or equal.
- G. Water: Clean, potable, and free from deleterious amounts of oils, salts, alkali, organic matter, and other foreign matter.

## 2.4 DECORATIVE PLASTER

- A. Gypsum special plaster for repair to molded cornices and trim: Fine grain gypsum gauging plaster, conforming to ASTM C 28, and FS SS-P-00402B, Type V, equal to USG product "Moulding Plaster".

## 2.5 ACCESSORIES

- A. Galvanized steel accessories:
  - 1. Casings: 3/4 inch ground.
  - 2. Corner beads: Minimum 2 7/8 inch expanded flanges.
  - 3. Inside corner reinforcement: 4 inch strip of diamond mesh lath bent at the center to a 100 degree angle.
  - 4. Expansion joints: Double V with expanded flanges, 3/4 inch ground.
- B. Polyvinyl chloride accessories conforming to ASTM standards D-1784, D3678, and D-4216, for interior plaster work:
  - 1. Casings:
    - a. At patching work: PVC with depth of ground to match existing, 2 inch leg and 1/4 inch exposed flange.
    - b. At new construction: Casings: 3/4-inch deep ground, with 2 inch leg and nominal 1/4 inch exposed flange.
      - 1) PC Model No. 1075X.
      - 2) Vinyl Corp.: Model No. 6675.
      - 3) AMICO Model No. AM66-750.
  - 2. "Arch" Casings for curved conditions:
    - a. At new construction: Casings: 3/4-inch deep ground, with 2 inch leg and nominal 1/4 inch exposed flange.
      - 1) PC Model No. 1075A.

- 2) Vinyl Corp.: Model No. 6675A.
- 3) AMICO Model No. AM66-750.
3. Straight Corner beads: PVC with 2-1/2 inch legs, or equal.
  - a. PC Model No. 1A.
  - b. Vinyl Corp.: Model No. 1.
  - c. (AMICO) Model No. AMX-1 ARCH.
4. Arched Corner beads (for curved conditions): PVC with 2-1/2 inch legs, or equal.
  - a. PC Model No. 1A.
  - b. Vinyl Corp.: Model No. 1ARCH.
  - c. (AMICO) Model No. AMX-1.
5. Expansion joints: PVC "V" profile, with removable tape, with depth to match existing plaster system. Provide with compatible control joint intersection trim pieces.
  - a. PC Model No. 2075.
  - b. Vinyl Corp. Model No. 1575X.
  - c. AMICO Model No. AMCJX-750.
- C. Wire for tying metal lath to itself, and for tying polyvinyl chloride accessories to lath: 18 gauge galvanized annealed steel wire.
- D. Fasteners: For attaching metal lath to concrete: Galvanized flat-head expansion screws, 1-1/4 inches long, equipped with 1/2-inch diameter galvanized steel washers.

## 2.6 PLASTER MIX

- A. Mix and proportion plaster in accordance with ANSI/ASTM C 842 and the plaster manufacturer's instructions.
  1. Use containers of known capacity, or by information contained on the specific packages, and accurately mix the materials.
  2. Do not use any lumpy or frozen materials in the mixes.
  3. Ensure that all mixing equipment, tubs, and tools are absolutely clean, before commencing the mixing operations.
  4. Use specified mix proportions, except where variations thereto would be more suitable due to prevailing conditions, and only when such variations are submitted to, and approved by, the Architect.
  5. Continue mixing process until all materials are evenly distributed and blended.
  6. Mix only the amount of material which may be applied within 2 hours.

- B. Scratch coat plaster: 2 cubic feet of sand per 100 pounds of specified basecoat plaster.
- C. Brown coat plaster: 3 cubic feet of sand per 100 pounds of specified basecoat plaster.
- D. Finish coat plaster: One part lime or lime putty and one part specified finish gauging plaster, with sufficient amount of water added to make the mix workable, in accordance with the manufacturer's recommendations.

### **PART 3 - EXECUTION**

#### **3.1 EXAMINATION**

- A. Inspect all surfaces and verify that they are in proper condition to receive the work of this Section.
  - 1. Verify surfaces are flat, honeycomb is filled flush, and surface is ready to receive Work of this Section. Verify no bituminous, water repellent, or form release agents exist on concrete surface that are detrimental to plaster.
  - 2. Verify items within walls and above ceilings concealed by this Section, have been installed and inspected.
- B. Beginning of installation means acceptance of existing substrate and site conditions.

#### **3.2 PREPARATION**

- A. During the operation of work of this Section, protect existing finishes against undue soilage and damage by the exercise of reasonable care and precautions. Clean, or repair all existing materials which are soiled or otherwise damaged by Work of this Section, to match original profiles and finishes. Existing materials and finishes which cannot be cleaned, or repaired shall be removed and replaced with new work to match existing.

#### **3.3 PATCHING - GENERAL**

- A. Patching of plaster shall match existing work in texture and finish, and at joining with plaster previously applied, shall finish flush and smooth. Heavy textured sandpaper or other abrasive shall not be used to clean or smooth off finished plaster surfaces.
- B. Remove deteriorated plaster from existing plastered surfaces which are to remain. Cut out deteriorated plaster to a point where sound plaster is encountered. Remove plaster base if base is found to be deteriorated.

- C. Install steel framing and metal lath as required to apply plaster for patching. Overlap new and existing lath at least 2 1/2 inches, and secure the two together every 6 inches on center.
- D. Apply 3 coat plaster system over lath. Plaster finish shall identically match existing plastered surface. Patch existing plastered ceilings so as to maintain fire resistance integrity of the entire ceiling.
- E. Patch holes or openings 1/2 inch or less in diameter, or equivalent size, with patching plaster.
- F. Through wall cracks on plastered surfaces shall be cut back to the base and 6 inches on each side of crack and attach wire lath to this area and replaster with scratch, brown and finish coats. Surface shall be flush and smooth with existing.

### **3.4 PATCHING ORNAMENTAL PLASTER**

- A. Identify footage and areas of existing ornamental plaster which is solid, fully attached to substrate, of full profile and not visible damaged. Obtain cross-section and surface profile through the full depth of paint-stripped ornamental plaster shapes.
  - 1. For plain straight run ornamental plaster: Obtain accurate cross section of existing plaster and fabricate new sheet metal template form from 22 gage galvanized sheet metal.
  - 2. For patterned ornamental plaster: Obtain thixotropic rubber impression of the existing molding. Mold shall be of "fingerprint detail" for patterns.
- B. Reproduction methods of ornamental plaster: Depending on field conditions the following methods of replacement plaster may be used.
  - 1. Run-in-place or mold-in-place new formed plaster in field to repair of cornice and trim. Ensure that molds and runs engage and match existing work.
  - 2. Short lengths of cornice and trim replacement sections may be bench fabricated up to 5 feet in length. Install reproduction moldings in place to exactly match existing. Point flush with finish plaster all joints between new and old plaster.

### **3.5 INSTALLATION OF LATH AND ACCESSORIES**

- A. Install lath in accordance with GA-201.
  - 1. Apply metal lath taut, with long dimension perpendicular to supports.
  - 2. Lap ends minimum 1 inch (25 mm). Secure end laps with tie wire where they occur between supports.

3. Lap sides of diamond mesh lath minimum 1-1/2 inches (38 mm). Nest outside ribs of rib lath together.
  4. Lap adjacent edges of lath a minimum of 1 inch; Secure lapped edges with wire ties at 6 inches on center.
- B. Attach metal lath to metal supports using tie wire at maximum 6 inches (150 mm) on center.
1. Place lath vertically above each top corner and each side of door [and glazed] frames to 6 inches (150 mm) above ceiling line.
  2. Place strip mesh diagonally at corners of lathed openings. Secure rigidly in place.
  3. Place 4 inch wide strips of metal lath centered over junctions of dissimilar backing materials. Secure metal lath with wire ties spaced 6 inches on center.
- C. Attach metal lath to wood supports using nails at maximum 6 inches on center.
1. Place lath vertically above each top corner and each side of door and glazed frames to 6 inches (150 mm) above ceiling line.
  2. Place strip mesh diagonally at corners of lathed openings. Secure rigidly in place.
  3. Place 4 inch wide strips of metal lath centered over junctions of dissimilar backing materials. Secure metal lath with wire ties spaced 6 inches on center.

### **3.6 INSTALLATION OF CASINGS AND TRIM**

- A. Casings: Install specified casings at perimeters of each plaster area which abuts a dissimilar material; around major openings in plaster surfaces; and in other locations so indicated on the Drawings.
1. Place casing beads at terminations of plaster finish. Butt and align ends, set level, and at the proper height to receive the required thickness of plaster. Secure with wire ties spaced 6 inches on center.
  2. Set casings plumb and level, and at the proper height to receive the required thickness of plaster.
- B. Corner beads: Install specified corner beads at external corners of plaster areas. Continuously reinforce internal angles with corner mesh, except where the metal lath returns 3 inches (75 mm) from the corner to form the angle reinforcement; fasten at perimeter edges only.
1. Secure the beaded external angle with mesh, butt and align ends, secure to metal lath with specified tie wires at outer edges of lath spaced not more than 6 inches on centers.

2. Set corner beads plumb, and at the proper height to receive the required thickness of plaster.
- C. Place base screeds at termination of plaster areas; secure rigidly in place.
  - D. Expansion joints: Install specified expansion joints, at locations to be determined by the Architect, wherever a continuous run of plaster surface exceeds 20 feet in any direction.
    1. Secure the expansion joints to metal lath with specified tie wires spaced not more than 6 inches on centers.

### **3.7 APPLICATION OF GYPSUM PLASTER**

- A. Scratch coat: Apply with sufficient material and pressure to cover well and key into the lath, then scratch to a rough surface to provide proper bond for the brown coat.
- B. Brown coat:
  1. Apply brown coat not sooner than 48 hours after installation of scratch coat.
  2. Apply brown coat to the firm and hard scratch coat, spreading the brown coat over an entire elevation, smooth without laps, in a thickness of not less than 1/4-inch over the scratch coat, and bring to a straight and true plane by rodding in every direction. Ensure that sufficient material is applied to provide a total scratch/brown coat thickness of approximately 5/8 inch. Leave surface of the brown coat rough for proper bonding of the finish coat.
- C. Finish coat:
  1. Conditions where finish coat is required:
    - a. All exposed to view conditions.
    - b. All concealed conditions behind built-in cabinets, furnishings, and equipment.
  2. Conditions where finish coat is not required:
    - a. Where plaster application will be concealed above suspended ceilings and in similar locations, finish coat may be omitted.
    - b. Where plaster application will be used as a base for adhesive application of tile and similar finishes, finish coat may be omitted.
  3. Application of Finish Coat:
    - a. Applied not sooner than 7 days after installation of brown coat.
    - b. Apply the finish coat to an entire elevation, smooth without laps, in a thickness of 1/8 to 1/4-inch over the brown coat, and steel-trowel the

surface. Double-back as necessary to provide a uniformly smooth dense finish, free from blemishes, surface defects and irregularities. All lines and arises shall be straight, plumb and level.

- c. Where plaster is finished flush with metal trim or other materials, cut a small straight V-joint in finish coat of plaster at the intersection.
- D. Total thickness of base coats and finish coats: Not less than 3/4 inch.

### **3.8 APPLICATION OF PLASTER MOULDINGS**

- A. Fabricate screeds, sleds, wood blocking as required to fabricate moulds indicated on Drawings.
- B. Mix gypsum plaster with lime putty as recommended by plaster manufacturer.
- C. Layup plaster to mass required for final profiles and screed plaster to indicated profiles. Screed plaster firmly pushing ahead 'cut' plaster. Repeat screeds as required to eliminate all pockets and voids. Provide a uniformly smooth dense finish, free from blemishes and irregularities.

### **3.9 TOLERANCES**

- A. Maximum Variation from true flatness 1/8 inch (3 mm) in 10 feet (3 m).
- B. Maximum Variation from true position 1/8 inch (3mm).

### **3.10 PLASTER REPAIR**

- A. Inspect all gypsum plaster surfaces and correct conditions which do not meet specified requirements.
- B. Repair or replace work to eliminate cracks, dents, blisters, buckles, crazing and check cracking, dry outs, efflorescence, sweat outs, and similar defects and where bond to substrate has failed.

### **3.11 CLEANING UP**

- A. Daily clean work areas by sweeping and disposing of debris.
- B. After completion of plaster work, remove equipment, and clean all wall, partition, and floor areas free from deposits of plaster, lath, and other materials installed under this Section.

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**SECTION 09 22 16**  
**NON-STRUCTURAL METAL FRAMING**

**PART 1 - GENERAL****1.1 SUMMARY**

- A. The work of this Section consists of non-load bearing metal framing for partitions, ceilings, and soffits, where shown on the Drawings, as specified herein, and as required for a complete and proper installation.
- B. Furnish and install:
  - 1. Metal furring and framing where indicated on the Drawings, including cross bracing and knee bracing.
  - 2. Reinforcing plate blocking.
  - 3. Deflection track assemblies at tops of metal stud partitions.
    - a. Provide fire-rated assemblies at fire-rated, corridor, and smoke partitions.
    - b. Provide non fire-rated assemblies at all other partitions.

**1.2 RELATED REQUIREMENTS**

- A. Section 01 60 00 - PRODUCT REQUIREMENTS: Listing of VOC requirements for adhesives, cleaning/maintenance materials, paints, coatings, and sealants.
- B. Section 01 74 19 - CONSTRUCTION WASTE MANAGEMENT AND DISPOSAL: Procedural and administrative requirements for construction and demolition recycling.
- C. Section 06 10 00 - ROUGH CARPENTRY: Wood blocking
- D. Section 08 11 13 - HOLLOW METAL DOORS AND FRAMES:
- E. Section 09 29 00 - GYPSUM BOARD: Gypsum board, applied over metal framing installed by this Section 09 22 16 including: gypsum board, and related trim components.
- F. Section 09 51 00 - ACOUSTICAL CEILINGS: Suspended acoustical tile ceiling, including metal suspension system.
- G. Division 23 - HEATING, VENTILATING AND AIR CONDITIONING: Supply and return air registers.
- H. Division 26 - ELECTRICAL: Independent hangers for suspended lighting fixtures.

**1.3 REFERENCES**

- A. Referenced Standards: Comply with applicable requirements of the following standards and those others referenced in this Section, under the provisions of Section 01 42 00 - REFERENCES. The standards referenced herein are included to

establish recognized minimum quality only. Where these standards conflict with other specified requirements, the most restrictive requirements shall govern. Equivalent quality and testing standards will be acceptable, subject to their timely submission, review and acceptance by the Architect.

1. ASTM A568 – Standard Specification for Steel, Sheet, Carbon, Structural, and High-Strength, Low-Alloy, Hot-Rolled and Cold-Rolled, General Requirements for.
2. ASTM A653/A653M - Standard Specification for Steel Sheet, Carbon, Metallic- and Nonmetallic-Coated for Cold-Formed Framing Members.
3. ASTM A1003 - Standard Specification for Steel Sheet, Carbon, Metallic- and Nonmetallic-Coated for Cold-Formed Framing Members.
4. ASTM A641 - Standard Specification for Zinc-Coated (Galvanized) Carbon Steel Wire.
5. ASTM C636/C636M – Standard Practice for Installation of Metal Ceiling Suspension Systems for Acoustical Tile and Lay-in Panels.
6. ASTM C645 - Standard Specification for Nonstructural Steel Framing Members.
7. ASTM C754 – Standard Specification for Installation of Steel Framing Members to Receive Screw-Attached Gypsum Wallboard.
8. ASTM C636 – Standard Practice for Installation of Metal Ceiling Suspension Systems for Acoustical Tile and Lay-In Panels.
9. ASTM C1002 - Standard Specification for Steel Self-Piercing Tapping Screws for Application of Gypsum Panel Products or Metal Plaster Bases to Wood Studs or Steel Studs.
10. ASTM D226 – Standard Specification for Asphalt-Saturated Organic Felt Used in Roofing and Waterproofing.
11. ASTM E90 – Standard Test Method for Laboratory Measurement of Airborne Sound Transmission Loss of Building Partitions and Elements.
12. ASTM E119 – Standard Test Methods for Fire Tests of Building Construction and Materials.
13. ASTM F1267- Standard Specification for Expanded Metal, Steel.
14. GA 203 - Installation of Screw-Type Steel Framing Members to Receive Gypsum board.

#### **1.4 SUBMITTALS**

- A. Information and Review Submittals: Submit the following under provisions of Section 01 33 00 - SUBMITTAL PROCEDURES:
  1. Literature: Manufacturer's product data sheets, specifications, performance data, physical properties for each item furnished hereunder.

**1.5 QUALITY ASSURANCE**

- A. Notify the Architect where conflicts apply between referenced standards and existing materials, and existing methods of construction.
- B. Seismic Compliance: Nonstructural components that are permanently attached to structures and their support attachments, shall be designed and constructed to resist the effects of earthquake motions in accordance to local jurisdiction
- C. Applicator, with a minimum of 3 years documented experience demonstrating previously successful work of the type specified herein.
- D. Obtain products required for the Work of this Section from a single manufacturer.

**1.6 REGULATORY REQUIREMENTS**

- A. Fire resistance ratings: Where gypsum board systems with fire-resistance ratings are indicated, provide materials and assemblies of the rating required, tested per ASTM E 119, which are identical to those indicated by reference to Gypsum Association file numbers in "Fire Resistance Design Manual" or to design designation in the Underwriters Laboratories "Fire Resistance Directory" or in listing of other testing agencies acceptable to authorities having jurisdiction and to the Owners' insurance underwriters.
  - 1. Fire-Test-Response Characteristics: Provide components that comply with rating requirements specified for fire-rated assemblies under UL 2079 for non-load bearing wall systems.
    - a. Deflection Clips and Firestop Track: Connections and/or top runner provided in fire-resistance-rated assemblies shall be certified by UL 2079 for cyclic movement requirements.

**1.7 DELIVERY, STORAGE AND HANDLING**

- A. Store materials inside under cover and in manner to keep them dry, protected from weather, corrosion and damage from construction traffic and other causes.

**1.8 SEQUENCING AND SCHEDULING**

- A. Work of this Section shall be closely coordinated with the work of Section 09 29 00 - GYPSUM BOARD to assure the steady progress of the Contract.
- B. Coordinate the work of this Section with the respective trades responsible for installing interfacing work, and ensure that the work performed hereunder is acceptable to such trades for the installation of their work.

**1.9 WARRANTIES**

- A. General: Submit the following warranties under provisions of Section 01 78 00 - CLOSEOUT SUBMITTALS, and in compliance with Section 01 78 36 – WARRANTIES.
  - 1. Warranties shall be effective starting from Date of Project Substantial Completion and are effective for specified term lengths.

**PART 2 - PRODUCTS****2.1 MANUFACTURERS**

- A. Acceptable Manufacturers: Subject to compliance with the requirements specified herein, manufacturers offering products which may be incorporated in the work include the following, or approved equal:
  - 1. Metal components and related items:
    - a. Dietrich Industries, Inc., Pittsburgh, PA.
    - b. Georgia Pacific Corporation, Gypsum Division, Atlanta, GA.
    - c. Marino Industries Corp., South Plainfield, NJ.
    - d. National Gypsum Company, Gold Bond Products Division, Charlotte, NC.
    - e. Unimast Incorporated, Franklin Park, IL.
    - f. USG Corporation, Chicago, IL.
  - 2. Suspended furring system for ceilings and soffits:
    - a. Armstrong World Industries, Inc., Lancaster, PA.
    - b. Chicago Metallic Corporation, Chicago, IL.
    - c. USG Corporation, Chicago, IL.
- B. The design and details as shown on the drawings and the model numbers specified herein are to establish the standards of design and quality and not to limit competition.

**2.2 FRAMING MATERIALS**

- A. "Hat shaped" Furring channels: 7/8 x 2-3/4 inch, roll formed, hat-shaped, furring channel 22 gage hot-dip galvanized steel conforming to ASTM C645.
- B. Studs: 'C-shaped' screw studs, hot-dip galvanized steel complying to ASTM C645, 20 gage (0.0329 inch minimum thickness), of widths indicated on the Drawings, or other gages as required under the specified standards to meet fire resistance ratings.
- C. Runners for metal studs: 'U-shaped' hemmed, hot-dip galvanized steel track conforming to ASTM C645, of gage and width to match respective stud sizes, or

heavier gage per design requirements, having 1-1/4 inch leg, provided at tops and bottoms of all studs and at heads of all openings in stud partitions.

- D. Internal reinforcement for various stud conditions, and bracing as required: 10 gage, minimum, galvanized steel.
- E. Furnish cross bracing and knee bracing, as required to assure a completely rigid assembly on metal stud partitions and furred areas.

### **2.3 DEFLECTION TRACK ASSEMBLIES**

- A. Non-Fire-Rated Assemblies
  - 1. Deflection Track: Manufacturer's standard top runner with extended flanges designed to prevent cracking of gypsum board applied to interior partitions resulting from deflection of the structure above fabricated from steel sheet complying with ASTM A653 or ASTM A568. Thickness as indicated for studs, and width to accommodate depth of studs, and the following configuration.
    - a. Top runner with extended deep flanges that either have V-shaped offsets that compress; slots 1 inch o.c. that allow fasteners attached to studs through the slots; or 16 gage sliding clip assemblies attached to top track and clipped to stud.
    - b. Deflection track assemblies shall allow for movement of a minimum of 1 inch.
- B. Fire-Rated Assemblies: Head of wall dynamic fire rated joint systems for head of wall assemblies in compliance with UL 2079 HW-D classified assemblies. Provide one of the following systems:
  - 1. Deflection track / clip system: The Steel Network, Inc., product "VertiClip", including step bushings. Clips and track 20 gage, and of width to accommodate depth of studs indicated.
  - 2. Deflection slip track System: Comply with requirements of ASTM C645 except configuration, of thickness indicated for studs and width to accommodate depth of studs indicated with flanges offset to accommodate gypsum board thickness.
    - a. Fire Trak Corp., Kimball, MN products:
      - 1) "Shadowline" at balanced and unbalanced fire-rated assembly partitions.
      - 2) "Cavity Shadowline" at shaftwall and chase wall (double stud) partitions.
    - b. Deflection track assemblies shall allow for movement of a minimum of 1 inch.
  - 3. Coordination: Verify with partition schedule on the Drawings to ensure proper depth of flange offsets at various partitions types.

**2.4 CEILING AND SOFFIT FRAMING MATERIALS**

- A. Carrying channels, 2 inches deep, 16 gage cold-rolled channels, galvanized.
- B. Support channels: 3/4 inches deep, 16 gage cold-rolled channels, galvanized.
- C. Furring Channels: 7/8 x 2-3/4 inch, roll-formed, hat-shaped, furring channel 25 gage hot-dip galvanized steel conforming to ASTM C645.
- D. Metal Studs used in ceiling framing: 'C-shaped' screw studs, hot-dip galvanized steel complying to ASTM C645, 25 gage, of widths indicated on the Drawings, or other gages as required under the specified standards to meet fire resistance ratings.
- E. Coordination: Verify with partition schedule on the Drawings to ensure proper depth of flange offsets at various partition types.

**2.5 ACCESSORIES**

- A. Metal sheet plate blocking and bracing, where indicated: galvanized sheet 0.0312 inch thickness (20 gage).
- B. Fasteners:
  - 1. Expansion-type fasteners for securing vertical concrete and masonry surfaces.
  - 2. Concrete stub nails for securing runners to concrete.
  - 3. N<sup>o</sup>.7 by 7/16 inch Pan head self-drilling screw to attach metal framing components.

**PART 3 - EXECUTION****3.1 INSTALLATION, QUALITY STANDARDS**

- A. General: Perform erection procedures for the various gypsum board system conditions, except as otherwise specified, as set forth in GA 201, GA 206, the written instructions of gypsum board manufacturer, together with the additional requirements specified herein and as indicated on the Drawings.
- B. Wherever fire-resistive rated assemblies are indicated on the Drawings, erect gypsum board systems in strict accordance with the manufacturers' UL listed test constructions for the required fire rating on each specific assembly.

**3.2 INSTALLATION OF FURRING**

- A. Install metal furring channel horizontally, with channels spaced not more than 16-inch on centers, and attaching the channels to the masonry or concrete substrates with expansion type fasteners spaced not more than 8 inches on centers. Shim beneath channels as needed to ensure that a uniform receiving plane is maintained throughout.

### **3.3 INSTALLATION OF PARTITION FRAMING, GENERAL**

- A. Install metal runners at floor and ceiling to structural elements with suitable fasteners located 2 inches from each end and intermediate fasteners spaced no greater than 24 inches.
- B. Install metal stud framing with open side facing in same direction, engaging floor and ceiling runners.
  - 1. Stud spacing:
    - a. Typical: 16 inches on-center.
    - b. For abuse resistant gypsum board finish: 16 inches on-center.
    - c. For cement board substrate to receive tile finishes: 16 inches on-center.
  - 2. When necessary to splice studs, nest stud with 8 inch overlap and screw studs together with screws on both flanges.
  - 3. Where studs are installed directly to exterior concrete walls, provide air space as detailed on the Drawings, between stud and wall.
- C. Install studs in direct contact with all door and window frame jambs, abutting partitions, partition corners and existing construction elements; screw fasten with screw through both flanges of studs and track, top and bottom.
- D. Securely anchor studs to jamb and head anchors of steel door and interior lite frames. Over head of frames and openings in partitions, install a horizontal section of runner with a web flange bent at each end, horizontally and secure to strut studs with two screws in each bent web. Provide cripple studs over wall openings.
- E. Where horizontal studs are used for wall reinforcing or framing, cut pieces of stud and install horizontally between vertical studs. Cope horizontal studs to fit between flanges of vertical studs. Bend ends of horizontal studs or install clip angles in order to secure by screwing to vertical studs.
- F. Furnish and install additional cross bracing and knee bracing and other framing elements, as required to assure a completely rigid assembly on metal stud partitions and furred areas, whether or not such bracing has been indicated on the Drawings, and for proper receipt of items which will be attached to partition surfaces.

### **3.4 INSTALLATION OF DEFLECTION TRACK**

- A. Isolate interior metal stud framing and shaft wall framing from building structure to prevent transfer of loading imposed by structural movement due to deflection.

1. Install deflection track top runner in accordance with manufacturer's instructions and as required to attain lateral support and avoid axial loading.
2. Install fire-rated deflection track top runner in accordance with manufacturer's instructions at top of fire-rated, corridor and smoke partitions.

### **3.5 INSTALLATION OF FLEXIBLE TRACK ASSEMBLIES**

- A. Install in strict compliance to manufacturer's written instructions.
  1. Do not torch cut components.
- B. Fasten flexible track members by welding or screw fastening, as standard with fabricator. Locate mechanical fasteners and install according to manufacturer's instructions with screw penetrating banding at every flange interval and joined members by not less than 3 exposed screw threads.
- C. Install flexible track members in one- or multi--piece lengths. Splice flexible track segments by overlapping bands from one flexible track member to another and attaching screwed fasteners at overlapping plates or flange intervals. Screw penetrations of not less than 3 exposed screw threads.
- D. Provide temporary bracing and leave in place until framing is permanently stabilized.
- E. Fasten reinforcement plate over web penetrations that exceed size of manufacturer's standard punched openings.

### **3.6 INSTALLATION OF CEILING AND SOFFIT FRAMING**

- A. Install framing to height indicated, independent of walls, columns, and above ceiling work. Erect after Work above ceiling is complete. Coordinate the location of hangers with other work.
- B. Securely anchor hangers to structural members or embed in structural slab. Space hangers to achieve deflection limits indicated.
- C. Space main carrying channels at maximum 48 inch centers; not more than 4 inches from wall surfaces. Lap splice securely.
- D. Securely fix furring channels or metal studs to hangers to prevent turning or twisting and to transmitted full load to hangers.
  1. Place furring channels perpendicular to carrying channels at 16 inches on center, not more 1 inch from perimeter walls and rigidly secure. Lap splice securely.



2. Screw fasten metal studs perpendicular to carrying channels at 16 inches on center, not more 1 inch from perimeter walls. Lap splice securely.
- E. Reinforce openings in suspension system which interrupt main carrying channels or furring channels with lateral channel bracing. Ex tend bracing minimum 24 inches past each opening.

**3.7 TOLERANCES**

- A. Install partition and ceiling framing and furring with a maximum variation from true flatness of 1/8 inch per 10 feet, non-cumulative.

**END OF SECTION 09 22 16**

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**SECTION 09 29 00**  
**GYPSUM BOARD**

**PART 1 – GENERAL**

**1.1 SUMMARY**

- A. The work of this Section consists of gypsum board (drywall) and trim finishes for partitions, ceilings, and soffits, where shown on the Drawings, as specified herein, and as required for a complete and proper installation.
- B. Patch all existing gypsum board finishes disturbed by new construction.
  - 1. Patch cracks, holes and defects in existing gypsum wall-board surfaces which are to remain and which are indicated or as additional required by field conditions requiring a painted or applied wall-covering finish.
- C. Furnish and install:
  - 1. Taped, compounded and sanded gypsum board finishes.
  - 2. All trim and accessory components related to gypsum board work.
  - 3. Acoustical joint sealant and backing at perimeter of gypsum board partitions.
  - 4. Acoustical insulation at all new interior partitions.
- D. Install access panels occurring in gypsum board work furnished by Section 08 31 00 - ACCESS DOORS AND PANELS, and by trades requiring the same.

**1.2 RELATED REQUIREMENTS**

- A. Section 01 60 00 - PRODUCT REQUIREMENTS: Listing of VOC requirements for adhesives, cleaning/maintenance materials, paints, coatings, and sealants.
- B. Section 01 73 29 - CUTTING AND PATCHING: Procedural and administrative requirements for cutting and patching.
- C. Section 01 74 19 - CONSTRUCTION WASTE MANAGEMENT AND DISPOSAL: Procedural and administrative requirements for construction and demolition recycling.
- D. Section 06 10 00 - ROUGH CARPENTRY.
- E. Section 08 11 13 - HOLLOW METAL DOORS AND FRAMES: Furnishing steel door frames.
- F. Section 09 22 16 - NON-STRUCTURAL METAL FRAMING.
- G. Section 09 51 00 - ACOUSTICAL CEILINGS: Suspended acoustical tile ceilings.

- H. Section 09 91 00 - PAINTING: Applied finish coatings.
- I. Division 21 - FIRE SUPPRESSION: Sprinkler heads in ceiling system.
- J. Division 23 - HEATING, VENTILATING AND AIR CONDITIONING: Supply and return air registers.
- K. Division 26 - ELECTRICAL: Independent hangers for suspended lighting fixtures.

### 1.3 REFERENCES

- A. Referenced Standards: Comply with applicable requirements of the following standards and those others referenced in this Section, under the provisions of Section 01 42 00 - REFERENCES. The standards referenced herein are included to establish recognized minimum quality only. Where these standards conflict with other specified requirements, the most restrictive requirements shall govern. Equivalent quality and testing standards will be acceptable, subject to their timely submission, review and acceptance by the Architect.
  1. ASTM C475/C475M - Standard Specification for Joint Compound and Joint Tape for Finishing Gypsum Board.
  2. ASTM C754 - Standard Specification for Installation of Steel Framing Members to Receive Screw-Attached Gypsum Board.
  3. ASTM C919 - Standard Practice for Use of Sealants in Acoustical Applications.
  4. ASTM C1002 - Standard Specification for Steel Self-Piercing Tapping Screws for the Application of Gypsum Panel Products or Metal Plaster Bases to Wood Studs or Steel Studs.
  5. ASTM C1047 - Standard Specification for Accessories for Gypsum Wallboard and Veneer Base.
  6. ASTM C1177/C1177M - Standard Specification for Glass Mat Gypsum Substrate for Use as Sheathing.
  7. ASTM C1396/C1396M - Standard Specification for Gypsum Wallboard.
  8. ASTM C1658 - Standard Specification for Glass Mat Gypsum Panels.
  9. ASTM D3273 - Standard Test Method for Resistance to Growth of Mold on the Surface of Interior Coatings in an Environmental Chamber.
  10. ASTM D3678 - Standard Specification for Rigid Poly(Vinyl Chloride) (PVC) Interior-Profile Extrusions.
  11. ASTM D1784 - Standard Classification System and Basis for Specification for Rigid Poly(Vinyl Chloride) (PVC) Compounds and Chlorinated Poly(Vinyl Chloride) (CPVC) Compounds.
  12. ASTM E90 - Standard Test Method of Laboratory Measurement of Airborne Sound Transmission Loss of Building Partitions.

13. ASTM E119 – Standard Test Methods for Fire Tests of Building Construction and Materials.
14. GA 201 - Gypsum Board for Walls and Ceilings.
15. GA 214 - Recommended Specifications for Levels of Gypsum Board Finish, Glass Mat and Fiber-Reinforced Gypsum Panels.
16. GA 216 - Recommended Specifications for the Application and Finishing of Gypsum Board.
17. GA 220 - Recommended Specifications for Gypsum Board Winter Related Job Problems.
18. UL - Fire Resistance Directory.
19. UL 723 - Tests for Surface Burning Characteristics of Building Materials.
20. All applicable federal, state and municipal codes, laws and regulations regarding flammability and smoke generation of interior finishes.

#### **1.4 ADMINISTRATIVE REQUIREMENTS**

- A. Coordination:
  1. General: Coordinate the work of this Section with the respective trades responsible for installing interfacing and adjoining work for proper sequence of installation, and ensure that the work performed hereunder is acceptable to such trades for the installation of their work.
  2. Work of this Section shall be closely coordinated with the work of Section 09 22 16 - NON-STRUCTURAL METAL FRAMING, to assure the steady progress of the Contract.
- B. Sequencing: Do not install gypsum board until all pipes, ducts, conduits, and other such items which are to be enclosed thereby, have been permanently installed, inspected and approved.

#### **1.5 SUBMITTALS**

- A. Information and Review Submittals: Submit the following under provisions of Section 01 33 00 - SUBMITTAL PROCEDURES:
  1. Product Data: Manufacturer's product data sheets, specifications, performance data, physical properties for each item furnished hereunder.
  2. Shop Drawings:
    - a. Details of any special conditions associated with fireproofing.
    - b. Mark-up a set of blackline interior elevations indicate corrections to grid layout and provide dimensioning showing locations of all proposed control joints and expansion joints.

- 1) Provide interior elevation drawings for interior elevations which are not included as part of the Contract Drawing set.

## **1.6 QUALITY ASSURANCE**

- A. General: Notify the Architect where conflicts apply between referenced standards and existing materials, and existing methods of construction.
- B. Sole Source: Obtain products required for the Work of this Section from a single manufacturer, or from manufacturers recommended by the prime manufacturer of gypsum board.

## **1.7 DELIVERY, STORAGE AND HANDLING**

- A. Delivery and Acceptance Requirements:
  1. Do not deliver items to the site, until all specified submittals have been submitted to, and approved by, the Architect.
  2. Deliver materials in original packages, containers or bundles bearing brand name and identification of manufacturer or supplier.
- B. Storage and Handling Requirements:
  1. Store materials inside, under cover and in manner to keep them dry, protected from weather, direct sunlight, surface contamination, corrosion and damage from construction traffic and other causes.
    - a. Neatly stack board materials flat to prevent sagging.
  2. Handle board materials so to prevent damage to edges, ends and surfaces.
  3. Protect trim, accessories and corner beads from being bent or damaged.

## **1.8 SITE CONDITIONS**

- A. Environmental Conditions: In accordance with GA 216, maintain minimum ambient temperature of 50 degrees Fahrenheit 48 hours before, during taping and compounding, and until completely dry thereafter.

## **1.9 WARRANTIES**

- A. General: Submit the following warranties under provisions of Section 01 78 00 - CLOSEOUT SUBMITTALS, and in compliance with Section 01 78 36 - WARRANTIES.
  1. Warranties shall be effective starting from Date of Project Substantial Completion and are effective for specified term lengths.

**PART 2 - PRODUCTS****2.1 MANUFACTURERS**

- A. Acceptable Manufacturers: Subject to compliance with the requirements specified herein, manufacturers offering products which may be incorporated in the work include the following, or approved equal:
1. Gypsum board products:
    - a. United States Gypsum Company, Chicago, IL. (USG).
    - b. National Gypsum Company, Gold Bond Products Division, Charlotte, NC. (Gold Bond).
    - c. G-P Gypsum Corporation, Atlanta, GA.
    - d. Lafarge Corporation, Hendron, VA.
  2. Acoustical glass fiber insulation:
    - a. CertainTeed Corporation, Valley Forge PA.
    - b. Johns Manville Building Insulation, Denver, CO
    - c. Owens Corning Fiberglas Corp., Toledo OH.
    - d. Schuller International, Inc., Denver CO.
    - e. USG Corp./ USG Interiors Inc., Chicago IL.
  3. Polyvinyl chloride trim and accessories:
    - a. Plastic Components, Inc., Miami FL.
    - b. Vinyl Corporation, Miami FL.
    - c. Alabama Metal Industries Corporation, (AMICO)Birmingham, AL.
  4. Joint Sealants:
    - a. Tremco, Beachwood, OH.
    - b. United States Gypsum Company, Chicago, IL.
    - c. Pecora Corporation, Harleysville, PA.
- B. The design and details as shown on the Drawings and the model numbers specified herein are to establish the standards of design and quality and not to limit competition.

**2.2 DESCRIPTION**

- A. Regulatory Requirements:
1. Fire resistance ratings: Where gypsum board systems with fire-resistance ratings are indicated, provide materials and assemblies of the rating required, tested per ASTM E119, which are identical to those indicated by reference to Gypsum Association file numbers in "Fire Resistance Design

Manual" or to design designation in the Underwriters Laboratories "Fire Resistance Directory" or in listing of other testing agencies acceptable to authorities having jurisdiction and to the Owners' insurance underwriters.

### 2.3 BOARD MATERIALS

- A. Non-rated and fire rated gypsum board (for wall fire resistant ratings 120 minutes and less): UL fire resistance rated, ASTM C1396 'Type X' board, 5/8 inch thick, 48 inch width, of lengths to minimize end joints, with tapered edges.
  - 1. Acceptable products include the following, or approved equal:
    - a. USG Sheetrock brand "Firecode Core"
    - b. National Gypsum Company, Gold Bond brand product: "Fireshield Gypsum Board".
    - c. G-P Gypsum Corporation product: "ToughRock Fireguard".
    - d. Lafarge Corporation, product: "Firecheck Type X".
- B. Sag-resistant interior gypsum board ceiling panels: Non-rated 1/2 inch thick, 48 inch width, of lengths to minimize end joints, with tapered edges, conforming to ASTM C1396.
  - 1. Acceptable products include the following or approved equal:
    - a. USG Sheetrock brand product "Interior Ceiling Panel, Sag Resistant".
    - b. National Gypsum Company, Gold Bond brand product "High Strength Ceiling Board".
    - c. G-P Gypsum Corporation product, "ToughRock CD Ceiling Board".
    - d. Lafarge Corporation, product "Sagcheck".
  - 2. At fire-resistant rated ceilings, provide 5/8 inch thick fire-rated gypsum board as specified herein.

### 2.4 ACCESSORIES

- A. Acoustical batt insulation: Mineral wool fiber insulation batts, conforming to ASTM C665 Type 1, and ASTM C553 with a nominal density of 2.5 pounds per cubic foot.
  - 1. Thickness: provide maximum thickness appropriate to framing depth, without compression of insulation.
    - a. Thicknesses: 1, and 1.5, inches having a nominal density of 3.0 to 4 pounds per cubic foot.
    - b. Thicknesses: 2, 2.5, 3, 3.5, 4, 5 and 6 inches having a nominal density of 2.5 pounds per cubic foot.
  - 2. Flame Spread Classification: Class A (less than 25, per testing by NFPA 255, ASTM E84 or UL 723).



3. Recycled content of slag in mineral wool insulation: Use maximum available percentage of material (slag). Mineral wool insulation products incorporated into the work shall contain not less than 75 percent of recycled material (slag) by weight.
  4. Acceptable products include:
    - a. Fibrex Insulations Inc. product: "Fibrex Sound Attenuation Fire Batt (SAFB)"
    - b. Roxul, Inc., product "Roxul AFB".
    - c. Thermafiber, Inc. product "Thermafiber SAFB".
- B. Polyvinyl chloride (PVC) trim accessories, conforming to ASTM D1784 and C 1047.
1. J Bead: Edge trim with exposed 1/2 inch face cap, furnish trim model number corresponding to the board thickness where installed.
    - a. Plastic Components model number: 200X-50 (for 1/2 inch thick board) or 200S-58 (for 5/8 inch thick board).
    - b. Vinyl Corp. model number: JB50 (for 1/2 inch thick board) or JB58 (for 5/8 inch thick board).
    - c. AMICO. model number: AMJB50 (for 1/2" thick board) or AMJB58 (for 5/8" thick board).
  2. L Bead: casing edge trim, furnish trim model number corresponding to the board thickness where installed
    - a. Plastic Components model number: 221-50 (for 1/2 inch thick board) or 221-58 (for 5/8 inch thick board).
    - b. Vinyl Corp. model number: SB50 (for 1/2 inch thick board) or SB58 (for 5/8 inch thick board).
    - c. AMICO. model number: AMSB50 (for 1/2 inch thick board) or AMSB58 (for 5/8 inch thick board).
  3. L-Bead with removable leg: Casing edge trim for joints at ceilings doors and windows, with removable leg strip, furnish trim model number corresponding to the board thickness where installed
    - a. Plastic Components model number: 224-50 (for 1/2 inch thick board) or 224-58 (for 5/8 inch thick board).
    - b. Vinyl Corp. model number: CT-50(for 1/2 inch thick board) or CT-58 (for 5/8 inch thick board).
    - c. AMICO product "Zip Strip" model number: AMZIP50 (for 1/2 inch thick board) or AMZIP58 (for 5/8 inch thick board).
  4. Corner beads, 90 degree with 1-1/4 inch flanges:
    - a. Plastic Components model number: 209.

- b. Vinyl Corp. model number: CB125.
- c. AMICO. model number: AMCB125.
- 5. Control joints: "V" type joint with nominal 3/16 inch reveal and removable temporary tape:
  - a. Gold bond model "EZ Strip Expansion Joint".
  - b. Plastic Components model number: 2027-16.
  - c. Vinyl Corp. model number: CJV16.
  - d. AMICO. model number: AMDCJV16.
- C. Tapes and compound:
  - 1. Joint tape (at paper-faced gypsum): Nominal 2 inch wide, high strength, cross-fibered paper drywall tape.
  - 2. Joint tape (at fiberglass faced gypsum): Nominal 2 inch wide, self-adhering (adhesive backed), fiberglass mesh tape.
  - 3. Joint Compound for setting fiberglass joint tape:
    - a. Cetainteed, Valley Forge PA., product "ProRock Moisture and Mold Resistant 90".
    - b. Georgia Pacific Gypsum LCC., Pittsburgh PA, product "Densarmor Cote"
    - c. CTS Cement Manufacturing Corporation, Cypress CA., product "Rapid Set OnePass".
  - 4. Joint Compound for setting paper joint tape: 'Speed-setting type compound', field mixed.
    - a. Acceptable products, or approved equal:
      - 1) USG product "Durabond 20".
      - 2) Gold bond product "Stay Smooth 30".
      - 3) Georgia Pacific Gypsum LCC, product "ToughRock All-Purpose Dry Mix"
  - 5. Joint Compound for finishing: field mixed joint compound or factory pre-mixed compound.
    - a. Field-mixed compounds: acceptable products, or approved equal:
      - 1) USG product "Durabond 90".
      - 2) Gold bond product "Stay Smooth 90".
      - 3) Georgia Pacific Gypsum LCC, product "ToughRock Setting Compound 90".
    - b. Factory pre-mixed compounds: acceptable products, or approved equal:
      - 1) USG product "Ready-Mixed Joint Compound".

- 2) Gold bond product "All Purpose Compound".
  - 3) Georgia Pacific Gypsum LCC, product "ToughRock Ready Mix All-Purpose Compound"
- D. Fasteners (interior board systems):
1. Type S, bugle head screws complying with ASTM C1002, for applying gypsum board to metal framing, ceiling grid system, and furring channels.
    - a. Not less than 1 inch long for single layer gypsum board.
    - b. Not less than 1-5/8 inch [41mm] long for double-layer gypsum board.
  2. Type W, bugle head screws complying with ASTM C1002, for applying gypsum board to wood plywood backing, and blocking
    - a. Not less than 1-1/4 inch [31mm] long for single layer gypsum board
    - b. Not less than 1-5/8 inch [41mm] long for double-layer gypsum board,
- E. Laminating adhesive: USG Durabond Joint Compound 90, USG Ready-mixed All-Purpose Compound, or equal.
- F. Joint Sealers (interior acoustical sealant type): One component acrylic latex, permanently elastic, non-staining, non-shrinking, non-migrating and paintable. Acceptable products include the following, or approved equal.
1. Tremco, Beachwood OH; product, "Acoustical Sealant".
  2. United States Gypsum Company, Chicago IL; product "USG Acoustical Sealant".
  3. Pecora Corporation, Harleysville PA; product "AC-20 FTR".
- G. Spot grout: Provide grout complying with ASTM C475 for setting type joint compound recommended for spot grouting hollow metal door frames.

## 2.5 SOURCE QUALITY CONTROL

- A. Obtain gypsum board products from a single manufacturer, or from manufacturers recommended by the prime manufacturer of gypsum boards.

## PART 3 - EXECUTION

### 3.1 EXAMINATION

- A. Verify that all items which are to be enclosed by Work of this Section, have been permanently installed, inspected and approved.
- B. Inspect framing and other substrates; verify that they are in proper condition to receive the work of this Section.

- C. Beginning of installation means acceptance of existing substrate and site conditions.

### **3.2 PREPARATION**

- A. During the operation of gypsum board work, protect all wood, metal, glass, flooring, and other finished materials against undue soilage and damage by the exercise of reasonable care and precautions. Repair or replace any work so damaged and soiled.

### **3.3 INSTALLATION - GENERAL**

- A. General: Perform erection procedures for the various gypsum board system conditions, except as otherwise specified, as set forth in GA 201, GA 216, GA 220, the written instructions of gypsum board manufacturer, together with the additional requirements specified herein and as indicated on the Drawings.
- B. Where fire-resistive rated assemblies are indicated, erect gypsum board systems in strict accordance with the manufacturers' UL listed test constructions for the required fire rating on each specific assembly.

### **3.4 INSTALLATION OF GYPSUM BOARD**

- A. Screw fasten only, gypsum board to framing and furring, with ends and edges occurring over firm bearing. At all door jambs screw fasten gypsum panels 8 inches on center to both box studs
  - 1. Erect single layer fire-resistance rated gypsum board vertically.
  - 2. Erect standard and moisture resistant layer board in most economical direction.
  - 3. Erect ceiling and soffit gypsum boards to meet UL requirements, where applicable, stagger end joints over supports. Secure gypsum board with fasteners inserted through ceiling buttons; anchor fasteners directly to framing or suspended support system.
- B. Wherever items penetrate the gypsum board surfaces, use extra care in cutting the gypsum board to ensure a uniformly-dimensioned joint between the penetrating item and the gypsum board, and fill joints with specified sealant material. Verify the expected deflection factor of the penetrating members, and cut the gypsum accordingly, to prevent damage thereto from the deflecting members.
- C. Treat cut edges and holes in moisture resistant gypsum board with approved liquid sealer.
  - 1. If shellac is used, apply in thin layers to dry quickly.

### 3.5 INSTALLING PVC TRIM ACCESSORIES

- A. General: For trim with back flanges intended for fasteners, attach to framing with same screw fasteners used for gypsum board. Otherwise, attach trim according to manufacturer's written instructions.
  - 1. Nailing, stapling, or crimping methods to install trim components is prohibited.
- B. Install corner beads at all exterior corners of gypsum boards.
- C. Install casings (PVC trim) wherever gypsum board meets a dissimilar material, and in other locations indicated on the Drawings, except at floors where bottom of the board will be concealed by base, integral with flooring, resilient base, wood base or carpeted base.

### 3.6 INSTALLATION OF ACOUSTICAL INSULATION

- A. Install insulation in accordance with insulation manufacturer's instructions.
- B. Install in interior walls, and ceiling spaces where indicated. Trim insulation neatly to fit spaces. Fit insulation tight in spaces. Leave no gaps or voids.

### 3.7 APPLICATION OF ACOUSTICAL SEALANT

- A. General: Install sealant and backing in accordance with the recommendations of ASTM C919 and sealant manufacturer's recommendations.
  - 1. Perform preparation in accordance with C-790. Thoroughly clean all joints, removing all loose mortar, oil, grease, dust, frost, and other foreign materials that will prevent proper adhesion of primers and sealant materials.
  - 2. If so recommended and furnished by the specific sealant manufacturer, apply primer to all joint surfaces, taking care not to stain adjacent surfaces.
- B. Seal all partition perimeters prior to taping or compounding. Where perimeters are edged with metal trim, apply sealant and backing material between trim and dissimilar material.
- C. Seal all penetrations in all partitions. Penetrations to receive sealant include electrical boxes, plumbing, heating and air conditioning ducts, telephone, intercom hookups and similar items.
  - 1. Install joint bead back-up in all joints in excess of 5/8-inch depth, and joints that have no back-up therein, placing the joint bead in the joint in a manner that will assure a constant depth 1/8 inch greater than the sealant and caulking material depth tolerances.

- a. Set beads into joints continuously, by slightly stretching during placement, to permit compression against sides of joint, without surface wrinkles or buckles.
  - b. Do not stretch back-up material into joints.
  - c. Install bond breaker wherever recommended by the sealant manufacturer to prevent bond of the sealant to surfaces where such bond might impair the Work.
2. Apply sealant in continuous beads without open joints, voids or air pockets
    - a. The depth of sealant and caulking materials shall be in accordance with manufacturer's recommendations for the specific joint function, but in no case exceed 1/2-inch in depth, nor less than 1/4-inch, regardless of the joint width.
  3. Remove the temporary masking tape immediately after tooling, and before the sealant or caulking material has taken initial set.

### **3.8 APPLICATION OF JOINT TREATMENT**

- A. Install joint tape at all joints where gypsum boards abut and where boards form internal corners, whether or not such joints will be concealed from view.
- B. Apply compound to all joints, edges, corners, fastener head depressions and abrasions in the surfaces, whether or not such conditions will be concealed from view. Sand completely smooth all compound surfaces, which will be exposed to view, and leave ready to receive applied coatings or finish.
- C. Provide the minimum levels of gypsum board finishes as defined by the Gypsum Association recommended specifications GA-214 and GA-216, per the following:
  1. At areas hidden from view, except as otherwise specified: Level 1.
  2. At surfaces scheduled to receive painted finishes: Level 4.

### **3.9 TOLERANCES**

- A. Maximum variation for gypsum board partitions and ceilings from true flatness: 1/8 inch per 10 feet, noncumulative.

### **3.10 CLEANING**

- A. Daily clean work areas by sweeping and disposing of debris, scraps, and deposits of compound and gypsum fill.

- B. After completion of the work of this Section, remove equipment, and clean all wall, partition, and floor areas free from deposits of gypsum fill, and other materials installed under this Section.

**END OF SECTION 09 29 00**

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**Section 09 51 00**  
**ACOUSTICAL CEILINGS**

**PART 1 – GENERAL**

## 1.1 SUMMARY

- A. Furnish and install the following:
  - 1. Suspended acoustical tile ceilings including suspension systems and associated edge moldings.
  - 2. Furnish and install joint sealant at ceiling edge angles where abutting walls.
  
- B. Patching acoustical tile ceilings to match existing ceilings where disturbed by demolition and Work of this Contract. This Section includes both concealed and exposed spline ceilings, suspension systems and associated edge moldings.
  - 1. In rooms where existing partitions have been removed, instead of patching, the Contractor shall replace the entire ceiling and suspension system in the room with new.

## 1.2 RELATED REQUIREMENTS

- A. Section 01 74 19 - CONSTRUCTION WASTE MANAGEMENT AND DISPOSAL: Procedural and administrative requirements for construction and demolition recycling.
  
- B. Section 02 41 19 - SELECTIVE DEMOLITION: Demolition of work abutting existing ceilings and demolition of existing ceilings for new construction.
  
- C. Section 07 92 00 – JOINT SEALANTS: Sealant at gaps between new acoustical ceiling edge angles and all irregular walls.
  
- D. Section 09 22 16 – NON-STRUCTURAL METAL FRAMING: Metal ceiling and soffit framing for gypsum board, including hanger attachments, wire hangers, and screwable metal tee grid system.
  
- E. Section 09 29 00 - GYPSUM BOARD: Suspended drywall construction ceilings and soffits.
  
- F. Division 21 – FIRE PROTECTION: Sprinkler heads in ceiling system.
  
- G. Division 23 - MECHANICAL: Air diffusion devices in ceiling.
  
- H. Division 26 - ELECTRICAL:
  - 1. Fire alarm and smoke detection equipment mounted in ceiling system.
  - 2. Light fixtures and independent hangers for suspended fixtures.

## 1.3 REFERENCES

- A. Referenced Standards: Comply with applicable requirements of the following standards and those others referenced in this Section, under the provisions of Section 01 42 00 - REFERENCES. The standards referenced herein are included to establish recognized minimum quality only. Where these standards conflict with other specified requirements, the most restrictive requirements shall govern. Equivalent quality and testing standards will be acceptable, subject to their timely submission, review and acceptance by the Architect.
1. ASTM A1008/A1008M - Standard Specification for Steel, Sheet, Cold-Rolled, Carbon, Structural, High-Strength Low-Alloy, High-Strength Low-Alloy with Improved Formability, Required Hardness, Solution Hardened, and Bake Hardenable.
  2. ASTM A641 - Standard Specification for Zinc-Coated (Galvanized) Carbon Steel Wire.
  3. ASTM A653/A653M - Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process.
  4. ASTM C423 - Standard Test Method for Sound Absorption and Sound Absorption Coefficients by the Reverberation Room Method "UL Classified".
  5. ASTM C635/C635M - Standard Specification for Manufacture, Performance, and Testing Metal Suspension Systems for Acoustical Tile and Lay-in Panel Ceilings.
  6. ASTM C636/C636M - Standard Practice for Installation of Metal Ceiling Suspension Systems for Acoustical Tile and Lay-In Panels.
  7. ASTM D3273 - Standard Test Method for Resistance to Growth of Mold on the Surface of Interior Coatings in an Environmental Chamber
  8. ASTM E84 - Standard Test Method for Surface Burning Characteristics of Building Material "UL Classified"
  9. ASTM E119 - Standard Test Methods for Fire Tests of Building Construction and Materials.
  10. ASTM E413 - Classification for Rating Sound Insulation.
  11. ASTM E580 - Standard Practice for Installation of Ceiling Suspension Systems for Acoustical Tile and Lay-in Panels in Areas Subject to Earthquake Ground Motions.
  12. ASTM E1111 - Standard Test Method for Measuring the Interzone Attenuation of Ceilings Systems
  13. ASTM E1264 - Standard Classification of Acoustical Ceiling Products.

14. ASTM E1414/E1414M - Standard Test Method for Airborne Sound Attenuation Between Rooms Sharing a Common Ceiling Plenum. "UL Classified".
  15. UL Fire Resistance Directory and Building Material Directory.
  16. All applicable federal, state and municipal codes, laws and regulations regarding flammability and smoke generation of interior finishes.
- B. General References The following reference materials are hereby made a part of this Section by reference thereto:
1. CISCA (Ceilings and Interior Systems Contractors Association) - Acoustical Ceilings: Use and Practice.

#### 1.4 ADMINISTRATIVE REQUIREMENTS

- A. Coordination: Coordinate the work of this Section with the respective trades responsible for installing interfacing and adjoining work for proper sequence of installation, and ensure that the work performed hereunder is acceptable to such trades for the installation of their work.
- B. Sequencing:
1. Field Measurements:
    - a. Take field measurements before preparation of shop drawings and fabrication, where possible, to ensure proper fitting of Work.
    - b. Allow for adjustments within specified tolerances wherever taking of field measurements before fabrication might delay Work.
  2. Coordinate the work of this Section with the respective trades responsible for installing interfacing work, to allow work which will be concealed by the ceilings to be completed prior to commencing installing the ceilings in such locations.
- C. Scheduling:
1. Install acoustical units after interior wet work is dry.
  2. Schedule work to ensure acoustical ceilings are not installed until building is enclosed, sufficient heat is provided, dust generating activities have terminated and overhead work is completed, tested and approved.

#### 1.5 SUBMITTALS

- A. Information and Review Submittals: Submit the following under provisions of Section 01 33 00 - SUBMITTAL PROCEDURES:
1. Product Data: Manufacturer's product data sheets, specifications, performance data, physical properties for each item furnished hereunder.
  2. Shop Drawings:

- a. 1/4 inch scale plans of each room or space; indicate grid layout and related dimensioning, junctions with other work or ceiling finishes, interrelation of mechanical and electrical items related to the system.
  - b. All drawings bearing dimensions of actual measurements taken at the project.
  - c. Large scale installation details of special conditions.
3. Verification Samples:
- a. Full size samples of acoustical units, illustrating material and finish.
  - b. 12 inch long samples of suspension system components including main runners, cross runner and edge trim.
  - c. 12 inch long samples of existing exposed spline suspension system components including runners and edge trim for comparison with supplied materials.
- B. Closeout Submittals: Submit the following under provisions of Section 01 78 00 – CLOSEOUT SUBMITTALS.
1. Bonds and Warranty Documentation:
    - a. Manufacturer's Warranties and guarantees as specified elsewhere herein this Section.
  - C. Maintenance Material Submittals: Submit the following under provisions of Section 01 78 00 – CLOSEOUT SUBMITTALS. Clearly label and package extra materials securely to prevent damage.
    1. Provide to the Owner, extra ceiling panel and suspension components, 10 percent of each type installed.
    2. Provide to the Owner, all extra salvaged ceiling panel and suspension components which have not been utilized in the Work.
- 1.6 QUALITY ASSURANCE
- A. General: Notify the Architect where conflicts apply between referenced standards and existing materials, and existing methods of construction.
  - B. Sole Source: Obtain products required for the Work of this Section from a single manufacturer, or from manufacturers recommended by the prime manufacturer of acoustical ceiling panels.
- 1.7 MOCK-UPS
- A. Locate mock-ups where directed and include all surfaces and materials scheduled to receive a field applied finish.

- B. Maintain mock-up during construction for workmanship comparison; remove and legally dispose of mock-up when no longer required.
- C. Accepted mock-ups may not remain as part of the work; the number of mock-ups shall not be restricted.

#### 1.8 DELIVERY, STORAGE AND HANDLING

- A. Delivery and Acceptance Requirements:
  - 1. Do not deliver items to the site, until all specified submittals have been submitted to, and approved by, the Architect.
  - 2. Do not deliver acoustical ceiling panels to the project until all concrete, masonry, plaster and other wet work has been completed and dry.
  - 3. Deliver acoustical ceiling panels in original, unopened packages and store protected in a fully enclosed space.
- B. Storage and Handling Requirements:
  - 1. Protect materials from damage due to moisture, direct sunlight, excessive temperatures, surface contamination, corrosion and damage from construction operations and other causes.
- C. Packaging Waste Management:
- D. Damaged material: Remove any damaged or contaminated materials from job site immediately, including materials in broken packages, packages containing water marks, or show other evidence of damage, unless Architect specifically authorizes correction thereof and usage on project.

#### 1.9 SITE CONDITIONS

- A. Maintain uniform temperature of minimum of 60 degrees Fahrenheit and humidity of 20 to 40 percent prior to, during, and after installation.

#### 1.10 WARRANTIES

- A. General: Submit the following warranties under provisions of Section 01 78 00 - CLOSEOUT SUBMITTALS, and in compliance with Section 01 78 36 - WARRANTIES.
  - 1. Warranties shall be effective starting from Date of Project Substantial Completion and are effective for specified term lengths.
- B. Manufacturer Warranty:
  - 1. In addition to the specific guarantee requirements of the GENERAL CONDITIONS and SUPPLEMENTAL GENERAL CONDITIONS, the Contractor shall obtain in the Owner's name the standard written manufacturer's guarantee of all materials furnished under this Section where such

guarantees are offered in the manufacturer's published product data. All these guarantees shall be in addition to, and not in lieu of, other liabilities which the Contractor may have by law or other provisions of the Contract Documents.

## **PART 2 - PRODUCTS**

### **2.1 MANUFACTURERS**

- A. Acceptable Manufacturers: Subject to compliance with the requirements specified herein, manufacturers offering products which may be incorporated in the work include the following, or approved equal:
  - 1. Acoustical ceiling panel:
    - a. Armstrong World Industries, Inc., Lancaster, PA.
    - b. USG Interiors Inc., Chicago, IL.
    - c. Certainteed Corporation, Valley Forge, PA.
  - 2. Suspension system:
    - a. Armstrong World Industries, Inc., Lancaster, PA.
    - b. USG Interiors Inc., (Donn®) Chicago, IL.
    - c. Chicago Metallic Corp., Chicago, IL.

### **2.2 DESCRIPTION**

- A. General Description: Manufacturer's standard panels of configuration indicated that comply with ASTM E1264 classifications as designated by types, patterns, acoustical ratings, and light reflectance as indicated.

### **2.3 PERFORMANCE/DESIGN CRITERIA**

- A. Fire Resistance: Where fire-resistance ratings are indicated or required by authorities having jurisdiction, provide materials and construction which are identical to assemblies whose fire-resistance ratings have been tested in compliance with ASTM E119 by independent agencies acceptable to the Architect and authorities having jurisdiction.
- B. Surface Burning Characteristics: Provide UL Classified material whose surface burning characteristics, when tested in compliance with ASTM E84 are Class A.
- C. Where the following ratings are specified, provide materials and construction which are identical to those tested by Underwriters Laboratories or equivalent independent testing agencies acceptable to the Architect.
  - 1. Noise Reduction Coefficient (NRC): Ratings have been tested in compliance with ASTM C423.

2. Ceiling Attenuation Class (CAC) : Ratings have been tested in accordance with ASTM E1414.
3. Light Reflectance (LR): Ratings has been tested in compliance with ASTM C523.

#### 2.4 ACOUSTICAL CEILING PANELS

- A. Ceiling Tile to match existing (for repairs): Conforming to ASTM E1264 Class A ceiling panel with texture, finish and color to closely match existing, Submit full size samples to Architect for verification of match
- B. Type ACT-1 Ceiling panel:
  1. Panel size: 24 by 24 inch by 5/8 inch and 12 by 48 inch by 5/8 inch.
  2. Panel edge: Tegular edge.
  3. Description: ASTM E1264 Type IV, Form 2, Pattern E, Class A flame spread, wet formed mineral fiber, non-directional fissured, medium textured panel, non-combustible, vinyl latex paint finish.
  4. Color: White.
  5. Minimum light reflectance range: LR 0.89 to 0.90.
  6. Acoustical characteristics:
    - a. NRC range: 0.70.
    - b. CAC range: 35.
  7. Acceptable products:
    - a. Armstrong product "Ultima Tegular" product number 1912.
    - b. Certainteed product "Symphony M" product number 1222BF-OVT-1.
    - c. USG product "Mars Climaplus" with FLB edge, product number 86985.

#### 2.5 CEILING GRIDS

- A. Type ACT-1 Ceiling grid: 9/16 inch exposed tee grid in white color matching ceiling panel, furnished with hemmed edge wall molding; acceptable products are:
  1. Armstrong; 9/16" Suprafine Exposed Tee Grid.
  2. Chicago Metallic; Temptra 4000.
  3. USG; Centricitee System.

#### 2.6 CEILING GRID PERIMIETER EDGE TRIM SYSTEM

- A. Perimeter edge trim system at "Floating" suspended ceiling areas. Edge trim shall be height indicated on Drawings, design to accommodate straight edges

as well as converse curved and convex curved edges as may be indicated on Drawings. Attachment to grid system is provided by a specially designed attachment clip, which snaps into the locks against hems of trim and is screw-attached to the bulb of the intersection suspension system member. Independent sections of trim are jointed together using the splice plate. Acceptable products include the following or approved equal:

1. Armstrong: Axiom Perimeter Trim.
2. Chicago Metallic: Infinity suspension trim.
3. USG: Compasso series.

## 2.7 ACCESSORIES

- A. Edge/wall moldings where ceiling abuts walls and drop-down soffits: Stepped profile "shadow" molding  $\frac{3}{4}$  inch by  $\frac{3}{4}$  inch and compatible with exposed grid system and color matched.
- B. Hanger attachments: Of the most appropriate types for the specific receiving surfaces.
- C. Hanger rods: Black finished hanger  $\frac{1}{2}$  inch diameter threaded rods at ACT-4 location.
- D. Hangers: ASTM A641 Soft temper, pre-stretched galvanized carbon steel wire, with a yield stress of at least 3 times design load, but not less than 12 gage.
- E. Joint Sealer: One component acrylic latex, permanently elastic, non-staining, non-shrinking, non-migrating and paintable.
  1. Tremco, Beachwood OH.; product, "Acoustical Sealant".
  2. United States Gypsum Company, Chicago IL.; product "USG Acoustical Sealant".
  3. Pecora Corporation, Harleysville PA.; product "AC-20 FTR".

## PART 3 - EXECUTION

### 3.1 EXAMINATION

- A. Verification of Conditions: Inspect all surfaces and verify that they are in proper condition to receive the work of this Section.
  1. Beginning of installation means acceptance of existing substrate and project conditions.

### 3.2 PREPARATION

- A. Protection of In-situ Conditions: During the operation of work of this Section, protect surrounding materials and finishes against undue soilage and damage



by the exercise of reasonable care and precautions. Clean, or repair all existing surfaces which are soiled or otherwise damaged by Work of this Section, to match indicated profiles and specified finishes. Materials and finishes which cannot be cleaned, or repaired shall be removed and replaced with new work in conformance with the Contract Documents.

B. Surface Preparation:

1. Carefully examine all receiving surfaces, to which attachments will be made hereunder, and determine the most practical way of making such attachments. Request Architect's approval of any attachment method which differs from that indicated on the approved shop drawings before proceeding with installation.
2. Permit acoustical ceiling tile to reach room temperature and a stabilized moisture content prior to installation.

C. Existing Acoustical Ceilings to be Salvaged or Patched:

1. Where existing ceilings are disturbed by the work of this Contract and are not scheduled to be replaced with new ceilings; remove ceilings including suspension system, as required. Remove only that portion of the acoustical materials and suspension system as is necessary for the required work. Coordinate with all trades to determine the extent of area to be removed.
2. Store materials in a neat manner and protect from damage and after all related work has been completed, reinstall the existing ceiling materials.
3. Where acoustical panels, acoustical tiles and suspension system have been removed because of new construction and cannot be reinstalled, install new material to match existing. All materials to be used for patching and matching shall be approved by the Architect in advance of work.

### 3.3 INSTALLATION

- A. Locate system on room axis, leaving equal sized border units of not less than one-half tile width.
- B. Install all components of the suspended grid systems in accordance with the manufacturer's instructions, the approved shop drawings, conforming to ASTM C-636 requirements. Ensure a deflection not to exceed  $1/360$  span of 48-inch simple span.
- C. Install specified edge moldings wherever ceilings intersect a wall or partition surface, and around all items having any dimension of 4 inches or more which penetrate the ceilings, including circular penetrations. Set moldings absolutely

level, using as long lengths as practicable, and secure with fasteners recommended by manufacturer for the type of substrate.

1. Sealant Bed: Apply continuous ribbon of acoustical sealant, concealed on back of vertical leg before installing moldings.
  2. Screw-attach moldings to substrate at intervals not over 16 inches on center. and not more than 3 inches from ends, leveling with ceiling suspension system to tolerance of 1/8 inch in 12'-0". Miter corners accurately and connect securely.
- D. Install hanger attachments to overhead construction in accordance with the approved shop drawings, spacing the attachments not more than 48 inches on centers over location of each main tee member.
1. Where ducts or other equipment prevent the regular spacing of hangers, reinforce the nearest affected hangers to span the extra distance.
  2. Install hanger wire to attachments with triple twists.
- E. Install main tees parallel to the long dimension of each area, spacing the tees 48 inches on centers. Secure the bottom of hanger wires through slots in the main tee members and tie with triple twists. Level the main tees as the work progresses.
- F. Lateral bracing:
1. Provide lateral bracing as required by applicable codes and regulations.
  2. Secure lateral bracing to structural members as detailed on the Drawings.
- G. Uniformly space the cross tees at 24 inches on centers, and secure the cross tees into the main tees as recommended by the system manufacturer.
- H. Provide sealant at gaps between new acoustical ceiling edge angles and all irregular walls.
- I. Fit acoustical ceiling tile units in place, free from damaged edges or other defects detrimental to appearance and function. Install acoustical ceiling tile level, in uniform plane, and free from twist, warp or dents.
1. Field cut tegular type tile with a tegular reveal at all edge conditions.
  2. Where required by governmental agencies having jurisdiction, install retention clips, provide two clips per ceiling panel installed on opposite sides of panel.

### 3.4 TOLERANCES

- A. Maximum variation from flat and level surface: 1/8 inch in 10 feet.

- B. Maximum variation from plumb of grid members caused by eccentric loads:  
2 degrees.

### 3.5 CLEANING

- A. Properly clean surfaces of panels and open grids free from dirt and handling marks. Wherever surfaces cannot be cleaned by normal methods or have defects, remove and replace with new components.
- B. Upon completion of the work of this Section in any given area, remove tools, equipment and all rubbish and debris from the work area; leave area in broom-clean condition.
- C. Clean work under provisions of Section 01 73 00 – EXECUTION.

### 3.6 PROTECTION

- A. Protect finished work under provisions of Section 01 50 00 - TEMPORARY FACILITIES AND CONTROLS.

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**SECTION 09 91 00**  
**PAINTING AND COATINGS**

**PART 1 - GENERAL****1.1 SUMMARY**

- A. Summary: This Section consists of painting work where shown on the Drawings, as specified herein, and as required for a complete and proper installation. Painting work includes, but is not limited to the surface preparation and application of coated finishes, and subsequent touch-up, of interior and exterior items and surfaces as indicated on the Contract Drawings and as scheduled herein.
1. No attempt is made in this Section to list all surfaces, fixtures and equipment requiring painting on this project. It is the responsibility of the Trade Contractor to determine for itself the scope and nature of the Work required for a complete installation from the information provided herein and in the Drawings.
  2. Exposed Surfaces:
    - a. Where item or surface is not specifically mentioned, paint same as similar adjacent materials or surfaces.
    - b. If color or finish is not designated, Architect will select from standard colors or finishes available.
- B. Surfaces and Materials: In general, without limiting the generality thereof, the following new and existing surfaces, fixtures and equipment require a painted finish:
1. Gypsum board partition and wall surfaces, ceilings and soffits.
  2. Masonry walls and partitions.
  3. Metal and wood doors and frames.
  4. Wood trim not scheduled for shop finishing.
  5. Window interiors.
  6. Access panels and frames.
  7. Historic plaster trim, molding and ornamental detailing.
  8. Miscellaneous exterior elements Indicated on drawings.
  9. Paint all ductwork, structural steel, piping and conduits both interior and exterior where exposed to view (except in attic spaces), including, but not limited to the following.
    - a. Exposed to view ductwork.
    - b. Exposed to view structural steel.

- c. Exposed to view sprinkler piping
  - d. Exposed to view electrical conduit and raceways.
  - e. Exposed to view portions of ducts, (interior side) at diffusers.
- C. DO NOT PAINT the following surfaces and materials.
- 1. Concealed from view surfaces, except as indicated otherwise in the Contract Documents or as specified herein.
  - 2. Chrome or nickel plating, stainless steel, bronze, brass.
  - 3. Aluminum other than mill finished or factory primed.
  - 4. Factory finished mechanical and electrical equipment, pumps, machinery and similar items which occur in mechanical, storage or equipment rooms or areas.
  - 5. Factory finished materials, specialties, and accessories unless otherwise specified.
  - 6. Ceramic tile, resilient flooring, and other integrally finished floor, wall and ceiling finishes.
  - 7. Prefinished millwork items.
  - 8. Fire resistant testing and certification labels, code required labels, safety warning labels, performance rating plates, nomenclature plates, identification plates, and similar other labels.

## 1.2 RELATED REQUIREMENTS

- A. Section 01 60 00 - PRODUCT REQUIREMENTS: Listing of VOC requirements for adhesives, cleaning/maintenance materials, paints, coatings, and sealants.
- B. Section 01 74 19 - CONSTRUCTION WASTE MANAGEMENT AND DISPOSAL: Procedural and administrative requirements for construction and demolition recycling.
- C. Section 03 30 00 - CAST-IN-PLACE CONCRETE: Concrete partitions and walls.
- D. Section 06 20 00 - FINISH CARPENTRY: Wood trim items, setting and filling of nails, sanding of wood trim.
- E. Section 07 92 00 - JOINT SEALANTS: Requirements for sealant and backing materials.
- F. Section 08 11 13 - HOLLOW METAL DOORS AND FRAMES: Shop priming of metal frames and steel doors.
- G. Section 09 29 00 - GYPSUM BOARD: Drywall partitions, ceilings and soffits, including joint treatment and sanding.

- H. Document 09 91 13 - EXTERIOR PAINTING SCHEDULE: Painting schedule for exterior surfaces and materials:
- I. Document 09 91 23 - INTERIOR PAINTING SCHEDULE: Refer to Drawings.
  - 1. Painting schedule for interior surfaces and materials.
  - 2. Painting schedule for Mechanical and Electrical Equipment.
- J. Division 22 - PLUMBING: Prefinished items such as plumbing fixtures, sprinkler heads, convectors, anemostates and similar surfaces and materials.
- K. Division 26 - ELECTRICAL: Prefinished items such as light fixtures, switch gear, electrical distribution cabinets and similar surfaces and materials.
- L. Respective sections: Factory-finishing of mechanical, plumbing, fire protection and electrical equipment.

### 1.3 REFERENCES

- A. Referenced Standards: Comply with applicable requirements of the following standards and those others referenced in this Section, under the provisions of Section 01 42 00 - REFERENCES. The standards referenced herein are included to establish recognized minimum quality only. Where these standards conflict with other specified requirements, the most restrictive requirements shall govern. Equivalent quality and testing standards will be acceptable, subject to their timely submission, review and acceptance by the Architect.
  - 1. ANSI/ASTM D16 - Standard Terminology for Paint, Related Coatings, Materials, and Applications.
  - 2. ASTM C346 - Standard Test Method for 45-deg Specular Gloss of Ceramic Materials.
  - 3. ASTM C834 - Standard Specification for Latex Sealants.
  - 4. ASTM D520 - Standard Specification for Zinc Dust Pigment.
  - 5. ASTM D2016 (Withdrawn Standard) - Methods of Test for Moisture Content of Wood.
  - 6. All applicable federal, state and municipal codes, laws and regulations for flammability and smoke generation of interior finishes.
- B. Definitions:
  - 1. "Paint" includes coating systems materials, primers, emulsions, enamels, stains, sealers and fillers, and other applied materials specified herein, whether used as prime, intermediate or finish coats.
  - 2. Sheen: Specular gloss readings in accordance with ASTM C346.
    - a. Flat: less than 5 (measured at 85 degrees).

- b. Eggshell: 5 – 20 (measured at 60 degrees).
  - c. Satin: 15-35 (measured at 60 degrees).
  - d. Low Luster: 25 – 35 (measured at 60 degrees).
  - e. Semi-Gloss: 30 -65 (measured at 60 degrees).
  - f. Gloss: 65 or more (measured at 60 degrees).
3. Gloss as defined for VOC requirements. Specified specular gloss readings below are as tested in accordance with ASTM C346.
- a. Flat: less than 15 (measured at 85 degrees), less than 5 (measured at 60 degrees).
  - b. Non-Flat: greater than 15 (measured at 85 degrees), greater than 5 (measured at 60 degrees).

#### 1.4 SUBMITTALS

- A. Information and Review Submittals: Submit the following under provisions of Section 01 33 00 - SUBMITTAL PROCEDURES:
1. Literature: Manufacturer's product data sheets, specifications, performance data, physical properties, material compositions, and application instructions for all finishing products to be applied hereunder.
    - a. Include certification of data indicating Volatile Organic Compound (VOC) content of all paint materials.
  2. Samples:
    - a. Manufacturer's color selector for custom mixed colors for Architect's color scheduling.
    - b. Opaque coatings: Two 9 x 12 inch finished samples on hardboard of each color scheduled in each finish for review and approval. Identify boards with finish type, color mix number and scheduled substrate surfaces or materials.
- B. Closeout Submittals: Submit the following under provisions of Section 01 78 00 – CLOSEOUT SUBMITTALS:
1. Color chips: After final approval of all colors and tints by the Architect, submit to the Owner, color chips of all coatings used, with manufacturer's name and mix designation of the coating for the purpose of future re-ordering of coatings. Color chips shall be at least six (6) square inches in size, for each color and tint.
- C. Maintenance Material Submittals: Submit the following under provisions of Section 01 78 00 - CLOSEOUT SUBMITTALS. Clearly label and package extra materials securely to prevent damage.



1. Extra Stock Materials: Provide extra materials equal to 10% of installed coatings in containers for all paints and finishes installed. Provide to the Owner extra stock of each color and finish scheduled herein. Label each container with paint mix number, and identify locations where color and tint were used.

## 1.5 QUALITY ASSURANCE

- A. Single source responsibility: Provide primers and other undercoat paint produced by same manufacturer as finish coats. Use only thinners approved by paint manufacturer, and use only within recommended limits.
- B. Environmental Requirements for Volatile Chemicals:
  1. For interior applications use paints and coatings that comply with the following limits for VOC content when calculated according to 40 CFR 59, Subpart D (EPA method 24) and the following chemical restrictions:
    - a. Flat Paints and Coatings: VOC not more than 50 g/L.
    - b. Non-Flat Paints and Coatings: VOC not more than 150 g/L.
    - c. Anti-Corrosive Coatings: VOC not more than 250 g/L.
    - d. Floor coatings: VOC not more than 100 g/L
    - e. Sealers:
      - 1) Waterproofing sealers: VOC not more than 250 g/L.
      - 2) Sanding sealers: VOC not more than 275 g/L.
      - 3) All other sealers: VOC not more than 200 g/L.
    - f. Stains: VOC not more than 250 g/L.
  2. Do not use water-based paints formulated with aromatic hydrocarbons (organic solvent with a benzene ring in its molecular structure), formaldehyde, halogenated solvents, mercury or mercury compounds, or tinted with pigments of lead, cadmium, chromium VI and their oxides. Water based paints shall be low VOC and shall have a flash point of 61 degrees C or greater.
  3. Where it is necessary to use solvent-based paints, with less than 1.0 percent by weight total aromatic compounds (hydrocarbon compounds containing one or more benzene rings).
  4. The following shall be low VOC and not be formulated with aromatic hydrocarbons (organic solvent with a benzene ring in its molecular structure).
    - a. High performance water based acrylic coatings.
    - b. Pigmented acrylic sealers.
    - c. Catalyzed epoxy coatings.

- d. High performance silicone grafted epoxy coatings.

#### **1.6 FIELD SAMPLES**

- A. Paint on-site sample areas, minimum 40 square feet, illustrating selected color, and tint.
- B. Locate samples where directed. The Contractor shall provide in the base Contract, a total amount of samples equal to one sample per room.
- C. Accepted samples may not remain as part of the work.

#### **1.7 DELIVERY, STORAGE AND HANDLING**

- A. Deliver products to site in sealed and labeled containers; container labeling shall include manufacturer's name, type of paint, color mix designation, expected coverage, surface preparation instructions, instructions for mixing and reducing, drying time, and clean-up recommendations.
- B. Store materials, conforming with applicable codes and fire regulations, in designated spaces. Keep storage area secure when direct access is not required or when not performing work under this Section. Take precautionary measures to prevent fire hazards and spontaneous combustion, maintain a dry-chemical type fire extinguisher in all areas where materials of this Section are being stored or used.
- C. Store paint materials in a well-ventilated area at minimum ambient temperature of 45 degrees Fahrenheit and a maximum of 90 degrees Fahrenheit.
- D. Do not use the sanitary system for mixing or disposal of refuse material. Carry water to mixing rooms and dump waste material in a suitable refuse receptacle. Remove oily rags and waste each day.

#### **1.8 PROJECT CONDITIONS**

- A. Provide continuous ventilation and heating facilities to maintain surface and ambient temperatures above 45 degrees Fahrenheit for 24 hours before, during and 48 hours after application of finishes, unless required otherwise by manufacturer's instructions.
- B. Do not apply exterior coatings during rain or snow, or when relative humidity is above 50 percent unless required otherwise by manufacturer's instructions.
- C. Apply paints and finishes above minimum temperature conditions in strict accordance with manufacturer's instructions.

- D. Provide sufficient lighting to maintain 80 foot-candles measured mid-height at substrate surface.

### **1.9 SEQUENCING AND SCHEDULING**

- A. The applicator of work specified herein is responsible to ensure that all paints, enamels, and coatings, proposed to be applied hereunder, are compatible with coatings used for shop-primed items and items which have been prime-coated under the work of other trades.
- B. Immediately notify the Architect in writing of conditions which may require a change in the specifications of this Section before proceeding with the work. Failure to do so, in a timely fashion, so as not to interfere with the schedule of work of this Contract, shall be construed as acceptance of the coatings specified. Perform all corrective measures, at no cost to the Owner, for any defects in the work, resulting from the use of such materials.
- C. Painting work should be scheduled so as to minimize touch-ups. Interior painting is to be without flashmarks. Should flashmarks occur due to touch-ups, the Contractor shall be required to redo the entire surrounding wall surface.

### **1.10 WARRANTY**

- A. General: Submit the following warranties under provisions of Section 01 78 00 - CLOSEOUT SUBMITTALS, and in compliance with Section 01 78 36 - WARRANTIES.
  - 1. Warranties shall be effective starting from Date of Project Substantial Completion and are effective for specified term lengths.

## **PART 2 - PRODUCTS**

### **2.1 MANUFACTURERS**

- A. Acceptable Manufacturers: Subject to compliance with the requirements specified herein, manufacturers offering products which may be incorporated in the work include the following, or approved equal:
  - 1. Paints and general finishes:
    - a. Benjamin Moore & Company, Montvale, NJ.
    - b. California Paints, Andover MA.
    - c. PPG Paint, Pittsburgh PA.
    - d. Pratt & Lambert Inc., (division of Sherwin Williams), Buffalo, NY.
    - e. Sherwin Williams, Cleveland OH.
  - 2. Caulking
    - a. Pecora Corporation, Harleysville PA.

- b. Sonneborn Building Products Inc., Minneapolis MN.
- c. Tremco, Beachwood OH.

## 2.2 MATERIALS

- A. Coatings: Ready mixed, except for field catalyzed coatings with good flow and brushing properties; capable of drying or curing free of streaks or sags. Color pigments shall be processed to a soft paste consistency, capable of being readily and uniformly dispersed to a homogeneous coating. Provide best quality grade, where manufacturer makes more than one grade of any material specified.
- B. Filler for repair of minor cracks in gypsum wallboard prior to painting: One component acrylic latex caulking compound, conforming to FS 19-TP-21M and ASTM C 834, paintable within 24 hours after application, with a minimum movement capability of  $\pm 12.5$  percent, equal to one of the following:
  1. Pecora, product "AC-20+".
  2. Sonneborn Building Products Inc., product, "Sonolac".
  3. Tremco, product, "Trimflex 834".

## 2.3 ACCESSORIES

- A. Accessory materials: other materials not specifically indicated, but are required to achieve the finishes specified of commercial quality.
- B. Cleaning Materials:
  1. Tri-Sodium Phosphate (TSP) substitute products:
    - a. Savogran, Norwood MA, products "TSP-PF", or "Liquid TSP Substitute".
    - b. Custom Building Products, Seal Beach, CA., product "Custom T.S.P. Substitute".
    - c. DAP Inc., Baltimore MD., product "T.S.P. Substitute Heavy Duty Cleaner".

## PART 3 - EXECUTION

### 3.1 EXAMINATION

- A. Inspect all surfaces and verify that they are in proper condition to receive the work of this Section. Notify Contractor of any condition that may potentially affect proper application of coatings.
- B. Measure moisture content of surfaces, do not apply finishes unless moisture content of surfaces is below the following maximums:
  1. Gypsum board and joint treatment: 12 percent.

2. Gypsum plaster: 12 percent.
  3. Interior wood: 15 percent.
- C. Beginning Work of this Section means acceptance of substrate surfaces and site conditions.

### **3.2 PREPARATION**

- A. Furnish and lay suitable drop cloths in all areas where coating work is being done to protect floors and all other painter surfaces from damage during the work. Protect adjoining surfaces with painter's mask tape.
- B. Prior to preparing surfaces or finishing, remove all finish hardware for painting doors and frames, except hinges and locks on exterior door; remove electrical plates, light fixture trim and fittings. Re-install hardware and other removed items after painted surfaces are thoroughly dry.
- C. Mix coatings thoroughly, unless otherwise directed by the manufacturer of the specific coating used, to ensure uniformity of color and mass. Strain previously opened coatings to remove skins, lumps, and other foreign matter prior to painting.
- D. Thin or reduce materials only as recommended by the specific material manufacturer, and only with the approval of the Architect.
- E. Impervious surfaces: Remove mildew by scrubbing with solution of tri-sodium phosphate and bleach. Rinse with clean water and allow surface to thoroughly dry.
- F. Uncoated steel and iron surfaces:
1. Remove grease, scale, dirt, rust, and all foreign materials, down to bright metal by wire brushing, scraping, sanding, or sandblasting where heavy coatings of scale are evident.
  2. Wash steel with solvent, apply a treatment of phosphoric acid solution, ensuring weld joints, bolts and nuts are similarly cleaned.
  3. Spot prime after repairs with metal primer product of the finish coating manufacturer.
- G. Shop primed steel surfaces:
1. Remove rust, blistered and defective shop prime paint, and all foreign materials, down to bright metal by wire brushing, scraping, sanding, or commercial paint remover. Feather edges to make touch-up patches inconspicuous.
  2. Remove all grease or dirt with mineral spirits.

3. Spot prime bare metal with metal primer product of the finish coating manufacturer. Seal top and bottom edges of metals doors with primer.
- H. New galvanized surfaces: Remove surface contamination and oils and wash with solvent. Apply coat of etching primer.
- I. Aluminum surfaces scheduled for paint finish:
  1. Remove surface contamination by steam or high pressure water.
  2. Remove oxidation with acid etch and solvent washing.
  3. Apply etching primer immediately following cleaning.
- J. Existing interior wood items scheduled to receive paint finish.
  1. Smooth minor defects by sanding. Remove all foreign matter with mineral spirits and fine sandpaper or steel wool.
  2. Touch up knots and pitch streaks with commercial stain sealer.
  3. Fill up nail wood defects, chips in layers of paint, and cracks with spackle. Ease edges of existing paint by application of spackle and sanding smooth.
- K. Gypsum board surfaces, new and existing: Fill minor defects with latex based spackle. Spot-seal all compound surfaces and repair areas in gypsum board, with specified first coat material before application of the first coat.
- L. Plaster surfaces, new and existing:
  1. Fill minor defects with joint compound or spackle and seal with primer.
  2. Cracks in plaster: Gouge minor cracks to 1/16 inch in width and depth and fill with type "AP" sealant as specified under Section 07 92 00 - JOINT SEALERS.

### **3.3 APPLICATION**

- A. Apply all materials in strict accordance with the approved manufacturer's printed instruction, and in accordance with the best trade practices. Each coat shall be reviewed and approved by the Architect before succeeding coats are applied.
- B. Do not apply successive coating until the preceding coat is thoroughly dry, and in no case in less than 24 hours after the preceding coat.
- C. Number of coats is indicated under Painting Schedules. Number of coats is indicated as a minimum number to be applied over scheduled substrates. An additional coat or coats may be required for proper color coverage of substrate as determined by the Architect, at no additional cost to the Owner. Examples of these conditions include, but are not limited to:

1. Dark colored substrates may require an additional primer or intermediate coat to stabilize color, if final applied top-coat color is light.
  2. Pre-finished or pre-primed products may require an additional field applied coat to stabilize the shop/factory applied base color prior to application of top-coat finishes.
  3. Dark color top coat finishes may require additional finish coat over white or light-colored substrates to obtain correct color density.
- D. Apply each coat to a uniform finish; Apply primer and first coat of slightly lighter in color tint than the scheduled color of the final coat.
- E. Sand lightly between coats to achieve required finish and remove sanding dust prior to applying succeeding coat.
- F. Where clear finishes are required, tint fillers to match wood. Work fillers into the grain before set. Wipe excess from surface.

### **3.4 CLEANING**

- A. Upon completion of the work in each area, remove all coating splatters from glass, prefinished surfaces, bright metals, and from other surfaces that have not been painted or finished hereunder. Do not use abrasive paper or abrasive cleaner on any prefinished surface or bright metal. Remove all materials and debris; leave work area in a clean condition.

### **3.5 PROTECTION AND TOUCH-UP**

- A. During painting work, protect the work of other trades against undue soilage and damage by the exercise of reasonable care and precautions. Properly clean, repair or replace any work so damaged and soiled.
- B. Protect all painted and finished surfaces against damage until the date of final acceptance of the work. The Architect will conduct a final review of all work performed hereunder. Re-coat or touch-up, all scratches and other blemishes on surfaces, and as directed by the Architect, any areas found which do not comply with the requirements of this Section, and bear all costs therefore.
- C. Any re-coating or touch-up work, required after the work of this Section has been reviewed and accepted by the Architect, will be paid for by the Contractor.

### **3.6 PAINTING SCHEDULE**

- A. Colors: The Architect will furnish a schedule of colors for each area and surface. Tinting and matching shall be to the satisfaction of the Architect. No limit is placed on the number of colors that may be required, or the number of

colors in any one room, area, or surface. Premium paints of deep-hued, bright, pigment intensive, accent and primary colors may be scheduled for up to 25 percent of all interior and exterior surfaces without additional cost to the Owner.

1. Colors of priming coats (and body coats where specified) shall be lighter in tint than those of finish coat.
  2. Colorants: Pure, non-fading pigments, mildew-proof, ultra-violet resistant, finely ground in approved medium; and be lime proof, when used in coatings to be applied on masonry, concrete, plaster, and gypsum board surfaces.
- B. Paint schedule for exterior surfaces and materials: Refer to Document 09 91 13.
- C. Paint schedule for interior surfaces and materials: Refer to Document 09 91 23.
- D. Paint schedule for labeling and identifying fire resistive and rated designations: Refer to Document 09 91 23.
- E. Painting schedule for mechanical and electrical equipment: Refer to Document 09 91 23.

**END OF SECTION 09 91 00**



**DOCUMENT 09 91 13**  
**EXTERIOR PAINTING SCHEDULE**

**PART 1 - GENERAL****1.1 GENERAL PROVISIONS**

- A. General: Number of coats scheduled herein below is minimum required, refer to Article entitled "APPLICATION" in specification Section 09 91 00 - PAINTING, regarding coverage.

**1.2 PAINTING SCHEDULE FOR EXTERIOR SURFACES AND MATERIALS**

- A. Exterior METAL, FERROUS, new, shop primed and existing:
1. One coat of rust prohibitive primer for unfinished metal surfaces, and touch up bare metal at shop primed, existing and previously coated surfaces:
    - a. California: "Rust-Stop DTM Primer/Finish", N°. 1061.
    - b. Devoe Coatings: Devflex 4020PF DTM Primer and Flat Finish.
    - c. Moore: "Acrylic Metal Primer", N°. P04.
    - d. Pittsburgh: "Pitt-Tech DTM Primer/Finish 100% Acrylic", 90-709/712 Series
    - e. Sherwin-Williams: "DTM Acrylic Primer Finish", B66 W1 Series.
  2. Two coats acrylic semi-gloss enamel:
    - a. California: "Rust-Stop DTM Primer/Finish", N°. 1061.
    - b. Devoe Coatings: Devflex 4216HP High Performance Waterborne Acrylic Semi-Gloss Enamel.
    - c. Moore: "Super Spec HP DTM Semi-Gloss Enamel", N°. P29.
    - d. Pittsburgh: "Pitt-Tech Plus High Performance, Semi -Gloss DTM Industrial Enamel", 90-1210 Series.
    - e. Sherwin-Williams: "Sher-Cryl HPA Semi-Gloss", B66 Series.
  3. Color and finish: Match existing.

**END OF DOCUMENT 09 91 13**

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**DOCUMENT 09 91 23**  
**INTERIOR PAINTING SCHEDULE**

**PART 1 - GENERAL****1.1 GENERAL PROVISIONS**

- A. General: Number of coats scheduled herein below is minimum required, refer to Article entitled "APPLICATION" in specification Section 09 91 00 - PAINTING, regarding coverage.

**1.2 PAINTING SCHEDULE FOR INTERIOR SURFACES AND MATERIALS**

- A. Interior EXPOSED DUCTWORK, Insulated.
1. Apply one prime coat and two finish coats of a paint recommended by the approved paint manufacturer for application on the exposed ductwork.
- B. Interior GYPSUM BOARD AND PLASTER partitions:
1. One coat latex primer.
    - a. California: "Elements 100% Acrylic White Primer", N°. 74600.
    - b. Glidden Professional: "Lifemaster No VOC Primer N°. 9116".
    - c. Moore: "Eco Spec Interior Latex Primer Sealer", N°. 231.
    - d. Pittsburgh: "Pure Performance Interior Latex Primer", N°. 9-900.
    - e. Sherwin-Williams: "Harmony Interior Latex Primer", B11W900 Series.
  2. Two coats eggshell paint:
    - a. California: "Elements 100% Acrylic Zero VOC Eggshell", N°. 731.
    - b. Glidden Professional: "Lifemaster No VOC Eggshell N°. 9300".
    - c. Moore: "Eco Spec Interior Latex Eggshell", N°. 223.
    - d. Pittsburgh: "Pure Performance Eggshell", N°. 9-300.
    - e. Sherwin-Williams: "Harmony Low Odor Interior Latex Eg-Shel", B9 Series".
- C. Interior GYPSUM BOARD AND PLASTER ceilings and underside of soffits:
1. One coat latex primer.
    - a. Basis of Design: California: "Envirotech 646xx".
    - b. Glidden Professional: "Lifemaster No VOC Primer N°. 9116".
    - c. Moore: "Eco Spec Interior Latex Primer Sealer", N°. 231.
    - d. Pittsburgh: "Pure Performance Interior Latex Primer", N°. 9-900.
    - e. Sherwin-Williams: "Harmony Interior Latex Primer", B11W900 Series.
  2. Two coats flat paint

- a. Basis of Design: California: "Envirotech 735xx".
- D. Interior METAL, FERROUS, excluding railings, to receive semi-gloss finish: (includes galvanized metal doors and frames):
1. One coat of rust prohibitive primer for unfinished metal surfaces, and touch up bare metal at shop primed, existing and previously coated surfaces:
    - a. California: "Rust-Stop DTM Primer/Finish", N°. 1061.
    - b. Glidden Professional: "Devflex" N°. 4020 DTM Flat WB Primer/Finish.
    - c. Moore: "Acrylic Metal Primer", N°. P04.
    - d. Pittsburgh: "Pitt-Tech DTM Primer/Finish 100% Acrylic", 90-709/712 Series
    - e. Sherwin-Williams: "DTM Acrylic Primer Finish", B66 W1 Series.
  2. Two coats acrylic semi-gloss enamel:
    - a. California: "Novus 466xx".
    - b. Glidden Professional: "Devflex 4216HP Semi-Gloss DTM WB Acrylic Enamel".
    - c. Moore: "Super Spec HP DTM Semi-Gloss Enamel", N°. P29.
    - d. Pittsburgh: "Pitt-Tech Plus High Performance, Semi -Gloss DTM Industrial Enamel", 90-1210 Series.
    - e. Sherwin-Williams: "Sher-Cryl HPA Semi-Gloss", B66 Series.
- E. Interior METAL, GALVANIZED, (includes exposed ductwork):
1. Touch-up with metal primer.
    - a. California: "Rust-Stop DTM Primer/Finish", N°. 1061.
    - b. Glidden Professional: "Devflex" N°. 4020 DTM Flat WB Primer/Finish.
    - c. Moore: "Acrylic Metal Primer", N°. P04.
    - d. Pittsburgh: "Pitt-Tech DTM Primer/Finish 100% Acrylic", 90-709/712 Series.
    - e. Sherwin-Williams: "DTM Acrylic Primer Finish" B66 W1 Series.
  2. Two coats acrylic semi-gloss enamel:
    - a. California: "Rust-Stop DTM Primer/Finish", N°. 1061.
    - b. Glidden Professional: "Devflex 4216HP Semi-Gloss DTM WB Acrylic Enamel".
    - c. Moore: "Super Spec HP DTM Semi-Gloss Enamel", N°. P29.
    - d. Pittsburgh: "Pitt-Tech Plus High Performance, Semi -Gloss DTM Industrial Enamel", 90-1210 Series.
    - e. Sherwin-Williams: "Sher-Cryl HPA Semi-Gloss", B66 Series.

- F. Interior exposed METAL, PIPING: Same as specified for ferrous metal.
- G. Interior METAL, RAILINGS (handrails and guardrails):
  - 1. One coat of epoxy primer (dry film coat 3.0 to 4.0 mils)
    - a. California: No equivalent.
    - b. Glidden Professional: "Tru-Glaze B" N°. 4030 Epoxy Primer.
    - c. Moore: "Epoxy Metal Primer", P33 Series.
    - d. Pittsburgh: "Aquapon WB Epoxy Primer", 98 Series
    - e. Sherwin-Williams: "Recoatable Epoxy Primer", B67 Series.
  - 2. Two coats of gloss finish epoxy coating (dry film coat 1.5 to 2.0 mils).
    - a. California: "Tile-Cote Polyamide Epoxy", N°. 12.
    - b. Glidden Professional: "Tru-Glaze B" No. 4408 Epoxy Primer.
    - c. Moore: "Acrylic Epoxy Gloss Coating", N°. P43/P44.
    - d. Pittsburgh: "Aquapon WB Epoxy Coatings", 98 Series.
    - e. Sherwin-Williams: "Hi-Solids Polyurethane-Low VOC, B65 Series".

### 1.3 PAINTING SCHEDULE FOR FIRE RESISTIVE AND RATED DESIGNATIONS

- A. In compliance with the 2018 International Building Code as revised by *Rhode Island Building Code*, Regulation RISBC-1 and as additionally specified herein, provide identification for all fire walls, fire barriers, fire partitions, smoke barriers and smoke partitions and any other wall or partition which is required to have protected openings or penetrations.
- B. In compliance with the Rhode Island State Building Code and as additionally specified herein, provide identification for all fire walls, fire barriers, fire partitions, smoke barriers and smoke partitions and any other wall or partition which is required to have protected openings or penetrations.
  - 1. Application:
    - a. Apply to outside of fire rated shafts, and to both sides of partitions at intervals not to exceed 30'-0" for entire length of partition or wall, or once on any partition 30'-0 feet or less in length.
    - b. Locate identification in all accessible concealed floor, floor-ceiling and attic spaces. Locate identification within 12 to 18 inches above finished ceilings.
    - c. Apply stenciled lettering by spray or brush, or provide permanent signage. Identification shall be waterproof, fade-proof and non-combustible. Signage shall be mechanically fastened or permanently adhered to partition.
    - d. Stencil character height: 1 inch minimum.

- e. Color: Easily identifiable color, contrasting with background, acceptable to Owner.
2. Apply stenciled lettering to the following types of partitions using wording specified:
  - a. Applied identification for 2 hour fire rated partitions shall read: "2 HOUR FIRE WALL - PROTECT ALL OPENINGS".
  - b. Applied identification for 1 hour fire rated partitions shall read: "1 HOUR FIRE WALL - PROTECT ALL OPENINGS".

#### **1.4 PAINTING SCHEDULE FOR MECHANICAL AND ELECTRICAL EQUIPMENT**

- A. Paint interior surfaces of air ducts, and convector and baseboard heating cabinets that are visible through grilles and louvers with one coat of flat black enamel.
- B. Paint dampers exposed behind louvers, grilles, and convector and baseboard cabinets to match face panels.
- C. Remove unfinished louvers, grilles, covers and access panels on and paint as scheduled above.
- D. Plywood backboards for electrical panels and other equipment. Paint both front and back surfaces and all edges of plywood backboards before backboards are installed.
  1. One coat latex primer-sealer (undercoater):
    - a. Glidden Professional: "Prep & Prime Odor-Less Interior Water-Based Primer-Sealer" LM 9116.
    - b. Moore: "EcoSpec Interior Latex Primer Sealer" 231.
    - c. Pittsburgh: "Pure Performance Interior Latex Primer".
    - d. Sherwin-Williams: "Harmony Interior Latex Primer" B11W900.
  2. Two coats latex semi-gloss paint:
    - a. Glidden Professional: "Lifemaster 2000 Interior Semi-gloss" LM9200.
    - b. Moore: "EcoSpec Interior Latex Semi-gloss" N°. 224.
    - c. Pittsburgh: "Pure Performance Interior Semi-gloss", 9-500 Series.
    - d. Sherwin-Williams: "Harmony Interior Latex Semi-gloss" B10 Series.
- E. Prime and paint insulated and exposed cold pipes, conduit, electrical boxes, insulated and exposed ducts, hangers, brackets, collars and supports, except where items are located in storage, mechanical or equipment spaces or those items which are factory prefinished.

- F. Exposed to view un-insulated hot pipes within finished painted areas: Two coats heat-resistant enamel conforming to Federal Specification TT-E-496, Type I, applied when surfaces are less than 140 degrees Fahrenheit.

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**SECTION 21 13 00**  
**AUTOMATIC SPRINKLER SYSTEMS**

**1.0 GENERAL****1.1 RELATED DOCUMENTS**

- A. Drawings, Hydraulic Calculations, and general provisions of the Contract and Agreement apply to this Section.
- B. See Hydraulic Calculations following specification.

**1.2 SUMMARY**

- A. This specification applies to the installation of the automatic sprinkler system and interfaces with the existing fire alarm system at the Pawtucket Public Library located at 13 Summer Street in Pawtucket, RI.
- B. Drawings supplied with this specification shall be used as a reference for the requirement and location of system components. Work includes coordinating with other trades and confirmation of the required quantities of equipment and specific options for locations of the same.
- C. At the time of bid, all exceptions taken to these Specifications, variances from these Specifications and all substitutions of equipment specified shall be listed in writing and forwarded to Jensen Hughes (Engineer) via the general contractor. Any such exceptions, variances, or substitutions, which were not listed at the time of bid and are identified in the submittal, shall be grounds for immediate disapproval without comment.
- D. Refer to the overall bid package for the overall scope of the project.
- E. The Work includes all labor, materials, tools, transportation, and temporary construction necessary to design, fabricate, install, test, and flush a fully operational and code compliant, automatic wet-pipe sprinkler system as follows:
  - 1. Installation of new 6-inch underground fire service into building.
  - 2. Installation of new fire sprinkler system to provide full sprinkler coverage throughout the building in accordance with NFPA 13.
  - 3. The above-ceiling space Work includes:
    - a. The installation of above-ceiling sprinklers in all combustible concealed spaces above suspended ceilings as indicated on the drawings.
  - 4. The sprinkler Work throughout the building includes:
    - a. The installation of pendent and upright sprinklers; and the installation of pendent and above-ceiling upright sprinklers throughout the areas with ACT ceiling on the basement level and first floor.
    - b. The installation of upright sprinklers with 200°F temperature classification rating in the basement mechanical room as indicated on the drawings. Sprinklers installed in the mechanical room shall be fitted with a protective guard which is listed for use

- with the specific type of sprinkler. Existing sprinklers in the mechanical room shall be removed as indicated on the drawings.
- c. The installation of sidewall sprinklers on the second floor as indicated on the drawings.
  - d. The installation of sprinklers within soffit spaces and within the skylight space on the second floor as indicated on the drawings.
  - e. The installation of upright sprinklers throughout the attic space. Upright sprinklers installed below the skylight shall have a 200°F temperature classification rating.
  - f. The installation of four (4) dry pendent sprinklers in the dome room ceiling that are painted to match the ceiling color, and one (1) upright sprinkler in the dome room attic with a 200°F temperature classification rating.
5. Install sprinklers to provide coverage below sloped ceilings in the attic in accordance with NFPA 13.
  6. Install sprinklers under obstructions greater than 48 inches (ducts, structural members, mechanical equipment, etc.):
  7. Install firestopping materials at all penetrations of fire-resistance rated walls and all floor/ceiling assemblies. Rated walls include but are not limited to corridor walls, mechanical and electrical rooms, exit stairs, storage rooms, and shafts.
  8. Sprinkler guards to be installed for all sprinklers below obstructions and where identified on the drawings.
  9. Replace and/or repair all systems impacted by the fire sprinkler scope of work.
- F. The fire alarm Work includes all labor, materials, tools, transportation, and temporary construction necessary to design, fabricate, install, and test new addressable monitor modules to interface to the new sprinkler system, and a new radio masterbox to transmit signals to the Pawtucket Fire Department. The fire alarm Work shall also include removal of heat detectors in spaces where sprinklers will be installed, including above ceiling spaces on the basement and first floor and in the attic. The fire alarm work shall also include NFPA 72 required re-acceptance testing to ensure a fully operational and code compliant fire alarm system.
- G. Drawings supplied with this specification shall be used as a reference for the requirement and location of system components. Work includes visiting the site to observe the existing conditions, and confirmation of the required quantities of devices and specific options for locations of the same.
- H. The Work includes all fees and activities required to secure approvals for necessary State and Local permits.
- I. The Work includes submitting detailed Working Plans and Product Data to the Engineer for review prior to submitting same to local officials for approval and permit.
- J. The Work includes submitting As-built Plans and closeout documentation to the Engineer for review prior to scheduling Owner demonstration training.
- K. The Work includes training Owner's personnel on the operation of the system, required maintenance tasks and frequencies, and the locations of all spare tools and equipment, valves, flow switches, risers and equipment necessary to maintain and operate the sprinkler systems.

### 1.3 PERFORMANCE REQUIREMENTS

- A. Wet-pipe, hydraulically calculated automatic fire sprinkler systems shall be installed in all areas of the building where the temperature is maintained at 40°F or higher at all times. Where indicated on the design drawings and where the temperature is not maintained at 40°F, dry sidewall sprinklers are to be installed.
- B. A combination of recessed pendent, above-ceiling upright, horizontal sidewall, and upright sprinklers shall be installed throughout the building as noted on the plans. All sprinklers installed shall be quick-response type unless otherwise noted or required by NFPA 13.
- C. Water Flow Test Data; use the following:
1. Flow Test Date: April 07, 2022
  2. Test Conducted by: Pawtucket Water Supply Board
  3. Hydrant Location: High Street #G05-042, (Pressure Hydrant); High Street #G05-027, (Flow Hydrant)
  4. Static Pressure: 94.3-psi
  5. Residual Pressure: 92.6-psi
  6. Flow: 840-gpm
- D. Pipe sizes for piping downstream and including floor control assemblies shall be determined by hydraulic calculations in accordance with NFPA 13. Verify that field modifications to the system, which require the addition of fittings and pipe, do not affect the hydraulic demand of the automatic fire sprinkler system.
1. If, given the available water supply as indicated above, the automatic fire sprinkler system cannot be designed in compliance with this specification and the applicable codes and standards, provide a report to the Owner documenting the design options that have been investigated. Additionally, copies of the hydraulic calculations, which demonstrate the inability of the water distribution system to supply the necessary water for the sprinkler system demand, shall be submitted for each option.
- E. Sprinkler system shall be designed according to the following:
1. A minimum 5 psi margin of safety shall be provided between the residual water supply pressure and the required sprinkler system demand pressure at the calculated system design flow, including all hose allowances. This safety factor is only required for calculations conducted per NFPA 13 requirements.
- F. Sprinkler Occupancy Hazard Classifications shall be as follows:
1. Light Hazard
    - a. Common corridors, offices, conference rooms, bathrooms, community room, auditorium, etc.
  2. Ordinary Hazard, Group 1
    - a. Misc. storage areas, janitor closets, mechanical equipment rooms, electrical equipment rooms, kitchens, boiler room, attic, etc.
- G. Minimum Density for Automatic Sprinkler System Piping Design:
1. Light-Hazard Occupancy areas: 0.10 gpm/s.f. over 1,500 s.f. area.
  2. Ordinary-Hazard, Group 1 Occupancy: 0.15 gpm/s.f. over 1,500- s.f. area.
  3. Area of operation increases shall be included for sloped ceilings.
  4. The area reduction for quick response sprinklers per NFPA 13 shall be permitted.
- H. Maximum Protection Area per Sprinkler:

1. Light Hazard Areas: Approx. 225 s.f. standard spray pendent and 196 s.f. horizontal sidewall on all levels
  2. Ordinary Hazard Groups 1 and 2 Areas: 130 s.f. standard spray pendent and standard spray upright and 100 s.f. horizontal sidewall on all levels
  3. Sprinklers shall be spaced per NFPA 13 requirements.
  4. All obstruction rules shall be strictly adhered to. Additional sprinklers shall be added, where required for compliance with NFPA 13.
- I. Calculate pressure loss due to elevation and friction loss through all fittings, pipes, valves and backflow prevention devices in accordance with NFPA 13.
- J. Hose Allowance:
1. A total inside and outside hose allowance of 100 gpm shall be required for light hazard occupancies.
  2. A total inside and outside hose allowance of 250 gpm shall be required for ordinary hazard occupancies.
- K. Components shall be capable of producing piping systems with 175-psig minimum working pressure rating, unless otherwise indicated.

#### 1.4 ORDER OF PRECEDENCE

- A. Should conflicts arise out of discrepancies between documents referenced in this specification, the most stringent requirement shall apply; however, should a level of stringency be indeterminable, the discrepancies shall be resolved as follows:
1. State and local codes shall take precedence over this specification.
  2. The National Fire Protection Association Standards shall take precedence over this specification.
  3. This specification shall take precedence over the drawings.

#### 1.5 SUBMITTALS

- A. Pre-Installation Documentation: Prepare and submit a minimum of one (1) electronic copy of the complete submittal package to the general contractor to be distributed to Jensen Hughes for approval prior to submitting same to local officials for approval and permit. Resubmit portions or entirety of submittal to address Engineer comments prior to submitting package to local officials for approval and permit. The pre-installation submittal package shall include:
1. Product Data: For each product specified in Part 2. Submittal shall indicate listing and approvals, selected options, finishes, etc. and electrical characteristics.
    - a. Contractor shall uniquely identify each item to be submitted, where multiple products or finishes are shown for a manufacturer's data sheet.
  2. Working Plans: Minimum 1/8" = 1'-0" scale inclusive of information required by NFPA 13 requirements.
    - a. Where Working Plans deviate from the signed construction documents prepared by Jensen Hughes, the Contractor shall submit Working Plans sealed and signed by a registered Professional Engineer (P.E.) in Rhode Island.
    - b. A single Professional Engineer (P.E.) registered in Rhode Island shall be the Engineer of Record for the project, therefore, where the Contractor modifies any

- portion of the signed construction documents; all components of the Working Plans shall be sealed and signed by a single registered P.E. in Rhode Island.
3. Hydraulic Calculations: Prepared in accordance with NFPA 13 requirements. Minimum one (1) calculation for each hazard on each level. One (1) calculation required on highest level per hazard when pipe sizing and arrangement remains typical.
    - a. Where the Hydraulic Calculations deviate from the signed construction documents prepared by Jensen Hughes, the Contractor shall submit Hydraulic Calculations sealed and signed by a registered Professional Engineer (P.E.) in Rhode Island.
    - b. A single Professional Engineer (P.E.) registered in Rhode Island shall be the Engineer of Record for the project, therefore, where the Contractor modifies any portion of the signed construction documents; all components of the Work Plans shall be sealed and signed by a single registered P.E. in Rhode Island.
- B. Acceptance Documentation: Submit the following to the Owner, Engineer and authorities having jurisdiction once system installation is complete, including field quality control and commissioning activities, and is otherwise "ready" for authority approval.
1. Field Test Reports and Certificates: Indicate and interpret test results for compliance with performance requirements and as described in NFPA 13. Include "Contractor's Material and Test Certificate for Aboveground Piping" and "Contractor's Material and Test Certificate for Underground Piping". Make submittal after commissioning and prior to acceptance testing.
  2. Statement of Completion: Upon completion of the installation of the automatic sprinkler system, a signed written statement, substantially in the form as follows:  
  
*"The undersigned, having been engaged as the Sprinkler Contractor for the Pawtucket Public Library automatic sprinkler system project in Pawtucket, Rhode Island, confirms that the automatic fire sprinkler system equipment was installed in accordance with the diagrams, instructions, directions, and technical specifications provided to us by the Manufacturer and the Building Owner."*
- C. Closeout Documentation: Prepare and submit a minimum of three (3) copies of closeout documentation packages to the Engineer for review prior to scheduling Owner demonstration and training. Resubmit portions or entirety of submittal to address Engineer comments prior to scheduling demonstration and training. The closeout submittal package shall include:
1. Maintenance Data: The maintenance manual shall describe in detail the purpose and function of all sprinkler system devices and valves. The manual shall also include all necessary inspection, testing, and maintenance forms. The Sprinkler Contractor shall provide the Owner with one (1) copy of NFPA 25, Standard for the Inspection, Testing and Maintenance of Water-Based Fire Protection Systems, in addition to the maintenance manual.
  2. As-Built Drawings: Showing all field changes from original Working Plans. Submit full-size hard copy and electronic AutoCAD files on compact disk. Coordinate AutoCAD version with Owner at time of submittal.
  3. As-Built Hydraulic Calculations: Showing all field changes from original Working Plans.
  4. Valve Chart: Provide a drawing on 11-inch x 17-inch paper identifying the location of the control valves for the fire sprinkler system shown on the floor plan of the building. This valve chart shall be framed and permanently installed adjacent to the fire alarm control unit.
  5. Statement of Warranty.

## 1.6 COORDINATION

- A. Coordinate the installation of the fire sprinkler system and testing of associated equipment with all related trades, contractors, equipment maintenance and testing representatives, the Engineer, the Owner and the Authorities Having Jurisdiction.
- B. Coordinate with and hire sub-contractors necessary to complete fire alarm, underground, and firestopping work.
- C. Coordinate furnishing and installation of sprinkler waterflow and valve supervisory switches and associated wiring connections. Coordinate work for adjusting the sprinkler waterflow switches and the valve supervisory switches to report a change in status.
- D. Coordinate furnishing and installation of the new fire service main to the flange in the building as indicated on the drawings. Coordinate furnishing and installation of all sprinkler piping to the flange where the new 6-inch fire service main enters the building.
- E. Coordinate sprinkler location and installation with other portions of the Work to ensure sprinkler locations are at the highest possible elevations located to minimize the risk of mechanical damage.
- F. Coordinate sprinkler installation with other portions of the Work to comply with NFPA 13 requirements for obstruction to sprinkler discharge.
- G. Coordinate and receive approval from Owner and/or Engineer for the routing of sprinkler piping before installation. Coordinate and receive approval from Owner and/or Engineer for the routing of sprinkler piping before installation.
- H. Coordinate sprinklers with unique ceiling features such as decorative metal panels, specialty ceilings, floating/cloud ceilings etc.

#### **1.7 QUALITY ASSURANCE**

- A. Equipment and devices shall be labeled and approved for the intended use by UL.
- B. Electrical components, devices, and accessories shall be listed, approved and labeled as defined in NFPA 70, Article 100, by a testing agency acceptable to authorities having jurisdiction.
- C. All materials and equipment shall be new and unused.
- D. All equipment shall be first quality and capable of complying with all requirements of this specification and shall have been in continuous production and in service in commercial applications for at least one year.
- E. Obsolete equipment shall not be used.
- F. Installer Qualifications: Licensed in the State of Rhode Island and experienced in the installation of automatic fire sprinkler systems in day care facilities similar to the Work described herein and has obtained design and inspection approvals for similar projects from authorities having jurisdiction.

- G. Foreman: Provide proof of competence of both their company and the individual foreman that will be assigned to this project, in the area of installing automatic fire sprinkler systems for at least five (5) years and acceptable to Owner. Once assigned, the foreman shall not be changed without the approval of the Owner.
- H. Service Organization: Capable of providing a service technician on-site within 4 hours of a request for on-site service.
- I. The automatic fire sprinkler systems shall comply with all applicable state and local codes, including:
  - 1. The Rhode Island State Building Code – current edition
  - 2. The Rhode Island Fire Safety Code – current edition, which includes:
    - a. The Rhode Island Fire Code (NFPA 1 – 2018 as amended)
    - b. The Rhode Island Life Safety Code (NFPA 101 – 2018 as amended)
- J. Products, installation and testing shall be in accordance with the applicable provisions of the latest published edition of the following as referenced by the aforementioned codes and standards:
  - 1. NFPA 13-2016, Standard for the Installation of Sprinkler Systems
  - 2. NFPA 70-2017, National Electrical Code
  - 3. NFPA 72-2019, National Fire Alarm and Signaling Code

## **1.8 SCHEDULING**

- A. The Contractor's Foreman shall act as primary point of contact and responsible-in-charge for coordinating the Pre-Acceptance Test with the other portions of the Work, Owner and the Engineer.
- B. The Contractor's Foreman shall act as primary point of contact and responsible-in-charge for coordinating the Final-Acceptance Test with the other portions of the Work, Owner, Engineer and the AHJs.
- C. Upon award, the Contractor shall provide a schedule to the Owner and Engineer for the milestones and construction progress.

## **1.9 EXTRA MATERIALS**

- A. Furnish extra materials described below that match the products installed and that are packaged with protective covering for storage and identified with labels describing the contents.
  - 1. Sprinkler Cabinet: Finished, wall-mounting steel cabinet and hinged cover, with space for a minimum of six (6) spare sprinklers for each type, model and temperature rating, plus a sprinkler wrench for each model.

## **1.10 WARRANTY**

- A. Guarantee equipment installed to be free from defects in workmanship and inherent mechanical defects for a period of one (1) year from the date of substantial completion of the project. See Part 1 "Submittals".

**1.11 QUALIFICATION OF BIDDERS**

- A. All contractors connected with this project shall provide proof of competence of both their company and the individual foreman that will be assigned to this project. The Contractor shall have been in the business of installing automatic sprinkler systems for at least five (5) years, acceptable to Jensen Hughes and Owner. Once assigned, the Contractor's foreman shall not be changed without the approval of the Jensen Hughes and Owner.
- B. Contractor shall be licensed in the State of Rhode Island and experienced in the installation of automatic sprinkler systems and has obtained design and inspection approvals for similar projects from authorities having jurisdiction.
- C. The Contractor shall have on-staff a minimum NICET Level III certified technician who is experienced in providing automatic sprinkler system installation services.
- D. Each proposed bid shall be professionally presented, be bound and shall include a title page and index.
- E. As a minimum, all bidding contractors shall include the following in the sprinkler system bid:
  - 1. The names and qualifications of the Contractor's foreman, project manager and project engineer who shall be in responsible charge during the entire project installation. Contractor's qualifications shall include years in business, service policies, warranty definitions and prior experience with similar installations.
  - 2. A list of at least three (3) similar installations with addresses of properties, contact names and types of system equipment installed.
  - 3. Nonconformance to the Qualification of Bidders requirements outlined in this specification shall be cause for immediate dismissal of the Bid Documents without comment.
  - 4. The award of the contract shall be based on the submitted information and all considerations in the best interests of the Building Owner. Once the contract is awarded, no requested changes for equipment, suppliers or subcontractors shall be accepted unless justification is made in writing. Once assigned, the Contractor's foreman shall not be changed without the approval of Jensen Hughes and the Building Owner. Upon written request from the Contractor, Jensen Hughes and the Building Owner may authorize changes, but at their sole choice and discretion. The Contractor shall be at risk for any attempt to substitute the equipment suppliers or subcontractors accepted. All cost for removal, relocation, or replacement of a substituted item shall be at the risk of the Contractor.

**2.0 PRODUCTS****2.1 MANUFACTURERS**

- A. Subject to compliance with the requirements of this section, product selection shall be limited to those offered by manufacturers included in the "Available Manufacturer" lists in each Part 2 article. Substitution of the products listed requires approval by the Owner in writing prior to installation. The contractor shall submit a "Request for Alternative Manufacturer" form, completed in full, for approval by the owner and engineer. (Applicable form will be provided).



- B. Where lists are not indicated, products, subject to compliance with the requirements of this section, may be obtained from an approved domestic manufacturer.
- C. All products are to be approved and labeled for use by Underwriter's Laboratories (UL).

## 2.2 PIPE AND TUBE

- A. Standard-Weight Steel Pipe: ASTM A53, or ASTM A135; Schedule 40 carbon steel, threaded ends for 1-inch up to 2-inch piping.
- B. Light-Weight Steel Pipe: ASTM A53, or ASTM A135; Schedule 10 carbon steel, grooved ends for piping 2½-inch through 6-inch.

## 2.3 PIPE AND TUBE FITTINGS

- A. Cast-Iron Threaded Fittings: ASME B16.4; Class 125 or Class 250 pattern as required by application.
- B. Malleable-Iron Threaded Fittings: ASME B16.3; ASME B16.4; Class 125 or Class 250 pattern as required by application.
- C. Steel Threaded Couplings: ASTM A865; ASME B16.4; Class 125 or Class 250 pattern as required by application.
- D. Steel Welding Fittings: ASTM A234/A 234M, ASME B16.9, or ASME B16.11; 300-psi pressure rating.
- E. Cast-Iron Threaded Flanges: ASME B16.1; ASME B16.4; Class 125 plain face or Class 250 raised face pattern as required by application.
- F. Steel Flanges and Flanged Fittings: ASME B16.5; ASME B16.4; Class 125 plain-face or Class 250 raised face pattern as required by application.
- G. Flange Gaskets and Bolts
  - 1. Plain-face Flanges: ASME B18.2.2 heavy-series hex-nuts and ASME B18.22.1 plain washers with ASME B16.21 1/8" full-face rubber gasket.
  - 2. Raised-face Flanges: ASME B18.2.2 heavy-series hex-nuts and ASME B18.22.1 plain washers with ASME B16.20 1/8" spiral wound gasket.
- H. Mechanical Grooved-End Fittings:
  - 1. Assembly Pressure Rating: 300-psi.
  - 2. Fittings and Couplings: UL 213; ASTM A536 ductile iron body.
  - 3. Couplings: UL 213; ASTM A536 ductile iron rigid or flexible pattern as required by application.
  - 4. Gaskets and Bolts: Pre-lubricated EPDM gaskets with ASTM A183 zinc-plated nuts and bolts.
  - 5. Available Manufacturers
    - a. Central Sprinkler Co.
    - b. Victaulic Fire Protection, Inc.

- I. Mechanical Tees: Mechanical tees are not permitted to be used.

## 2.4 VALVES

- A. General: Minimum 175-psig (1200-kPa) non-shock working-pressure rating unless higher pressure rating is required by application or otherwise indicated. Valves for grooved-end pipe may be furnished with grooved ends instead of flanged ends.
- B. Gate Valves; NPS 2-inch (DN50) and Smaller: UL 262; cast-bronze, threaded ends; solid wedge; OS&Y; and pre-grooved rising stem. NPS 2-1/2-inch (DN65) and Larger: UL 262, iron body, bronze mounted, tapered wedge, OS&Y, and pre-grooved rising stem. Include replaceable, bronze, wedge facing rings and flanged ends.
  1. Available Manufacturers
    - a. Kennedy Valve Div.; McWane, Inc.
    - b. Mueller Co.
    - c. Nibco Inc.
    - d. Stockham Valves & Fittings
    - e. Or Approved Equal
- C. Swing Check Valves; NPS 2-inch (DN50) and Smaller: UL 312; cast-bronze, threaded ends. NPS 2-1/2-inch (DN65) and Larger: UL 312, cast-iron body and bolted cap, with bronze disc or cast-iron disc with bronze-disc ring and flanged ends.
  1. Available Manufacturers
    - a. Grinnell Corp.
    - b. Kennedy Valve Div.; McWane, Inc.
    - c. Mueller Co.
    - d. Nibco Inc.
    - e. Stockham Valves & Fittings
    - f. Viking Corp.
    - g. Or Approved Equal
- D. "Riser" Swing Check Valves: UL 312, cast iron body designed for horizontal or vertical installation, with grooved ends, bronze grooved seat with O-ring seals, and single-hinge pin and latch design. Include pressure gauges and 2-inch drain valve and trim.
  1. Available Manufacturers
    - a. Central Sprinkler Co.
    - b. Reliable Sprinkler Co.
    - c. Victaulic Co.
    - d. Viking Corp.
    - e. Or Approved Equal
- E. Indicating Valves; NPS 2-inch (DN65) and Smaller: UL 1091; butterfly or ball-type, bronze body with threaded ends; and integral indicating device and pre-wired supervisory switch. NPS 2-1/2-inch (DN65) and Larger: UL 1091; butterfly-type, ductile-iron body with grooved ends; and integral indicating device and pre-wired supervisory switch.
  1. Available Manufacturers
    - a. Central Sprinkler Co.
    - b. Grinnell Corp.
    - c. Kennedy Valve Div.; McWane, Inc.

- d. Mueller Co.
  - e. Victaulic Co.
  - f. Or Approved Equal
- F. Ball Drip Valves: UL 1726, automatic drain valve, NPS 3/4 (DN20), ball check device with threaded ends. Automatic ball drip valve shall be installed on the pipe to the fire department connection to prevent water being trapped in the pipe which may become subject to freezing.
- 1. Available Manufacturers
    - a. Grinnell Corp.
    - b. Reliable Sprinkler Co
    - c. Or Approved Equal
- G. Dry Pipe Valve: UL 260, differential-pressure type. Include UL 1486, quick-opening devices, trim sets for air supply, drain, priming level, alarm connections, ball drip valves, pressure gauges, priming chamber attachment, and fill-line attachment.
- 1. Available Manufacturers
    - a. Reliable Sprinkler Co.
    - b. Viking Corp.
    - c. Victaulic Co.
    - d. Or Approved Equal

## 2.5 AIR COMPRESSOR

- A. General: Tank mounted, oil-less, UL-1450 listed compressor. Motor Horsepower: 1/6 HP.
- B. Sized for application and capable of achieving system supervisory pressure within 30 minutes in accordance with requirements of NFPA 12. Provide ASME air receiver tank as required to meet requirements on larger systems.
- C. Include filters, relieve valves, coolers, automatic drains, and gauges.
- D. Available Manufacturers
  - 1. General Air Products
  - 2. Reliable Sprinkler Co.

## 2.6 AIR-PRESSURE MAINTENANCE DEVICE

- A. General: UL 260 automatic device to maintain minimum air pressure in piping.
- B. Include shutoff valves to permit servicing without shutting down sprinkler piping, bypass valve for quick filling, pressure regulator or switch to maintain pressure, strainer, pressure rating with 14- to 60-psig adjustable range, and 175 psig outlet pressure.

## 2.7 SPRINKLERS

- A. General: UL 199 nominal 1/2-inch [K5.6] orifice standard-spray pattern sprinklers with "Ordinary" temperature classification rating, unless otherwise indicated or required by application.

- B. UL 199 nominal 1/2-inch [K5.6] orifice standard-spray upright sprinklers with 200°F temperature classification rating shall be provided in the basement mechanical room and below the skylight in the attic.
- C. Pressure Rating: 175-psi minimum unless otherwise indicated or required by application.
- D. Operating Element: Quick Response (QR) as indicated or required by application. Refer to drawings for specific sprinkler types.
- E. Sprinkler Types and Features include the following:
  - 1. Upright and pendants in areas where sprinkler is exposed (i.e. below hard ceilings or no ceilings)
  - 2. Recessed pendants in acoustic ceiling tiles and hard ceilings as shown on the drawings.
  - 3. Above-ceiling upright sprinklers in spaces above suspended ceilings as shown on the drawings.
  - 4. Horizontal sidewalls as shown on the drawings.
- F. Sprinkler Finishes shall be coordinated with Architect and Owner, but shall include the following:
  - 1. Rough-brass (bronze).
  - 2. Chrome-plated.
  - 3. White baked enamel.
  - 4. Factory paint to match ceiling.
- G. Sprinkler Guards: Wire-cage type with zinc chromate finish, including fastening device for attaching to sprinkler. Sprinkler Guards shall be used on upright, sidewall and non-recessed pendent sprinklers in the multi-purpose room, gymnasiums, mechanical spaces, crawl spaces and attic spaces. Sprinkler guards shall be listed for the sprinkler to which it is attached.
  - 1. Sprinkler guards shall be installed on all sprinklers where they are susceptible to mechanical damage as indicated on the drawings. This includes all sprinklers in mechanical rooms below obstructions.
- H. Available Manufacturers
  - 1. Tyco.
  - 2. Reliable Automatic Sprinkler Company.
  - 3. Viking Corporation.
  - 4. Victaulic Company.
  - 5. Or Approved Equal
- I. Sprinkler Temperatures:
  - 1. Sprinklers shall have a nominal temperature rating of 165 degrees F.
  - 2. Sprinklers in mechanical rooms, boiler rooms, the dome room attic, and below skylights shall have Intermediate (175 to 225 degrees F) and High (250-300 degrees F) temperature rated sprinklers where located adjacent to heat producing equipment per NFPA 13.
  - 3. Sprinklers shall have Intermediate (175 to 225 degrees F) temperature rated sprinklers where located adjacent to HVAC diffusers discharging air greater than 100 degrees F per NFPA 13.

## 2.8 FIRE ALARM MONITORING DEVICES

- A. General: NEMA enclosure suitable for intended application; include tamper resistant cover with switch that transmits signal upon removal of cover; 250-psi (1752-kPa) pressure rating; two sets, single-pole double-throw form C contacts.
- B. Water-Flow Indicators: UL 346 vane-type with field adjustable 0-90 second retard feature.
- C. Valve Supervisory Switches: UL 753 with normally closed contacts and compatible with valve stem to be monitored.
- D. Available Manufacturers
  - 1. Grinnell Corp.
  - 2. Potter Electric Signal Co.
  - 3. System Sensor Div.; Honeywell, Inc.
  - 4. Or Approved Equal

## **2.9 ADDRESSABLE MONITOR MODULES**

- A. Each addressable monitor module shall be able to support any number of normally open (N/O) devices (including but not limited to sprinkler waterflow switches, sprinkler valve supervisory switches, etc). Wiring to the device(s) being monitored shall be supervised.
- B. Module status (normal, alarm, supervisory, trouble) shall be transmitted to the FACU.
- C. Addressable monitor modules shall include a mounting plate for installation in a junction box or shall be mounted in a locked cabinet or approved box, as shown on the manufacturer's recommended specifications.
- D. The addressable monitor modules shall provide address-setting means.
- E. An LED shall be provided which shall flash under normal conditions, indicating that the monitor module is operational and in regular communication with the control unit.

## **2.10 PRESSURE SWITCHES – LOW/HIGH AIR PRESSURE SUPERVISORY**

- A. Standard: UL 346
- B. Type: Electrically supervised pressure supervisory switch
- C. Components: Two single-pole, double-throw switches
- D. Design Operation: Detects increase and/or decrease from normal supervisory air pressure
- E. Adjustability: Each switch is to be independently adjustable.
- F. Wire Separation: Pressure switch shall provide for separation of wiring to each switch connection to allow for low and high voltage connections to comply with NFPA 70 Article 760 requirements.

## **2.11 TRANSMISSION OF SIGNALS**

- A. All alarm signals shall be transmitted to the Pawtucket Fire Department via the new Sigcom DTX series 4-zone radio masterbox #297. Contractor is responsible for testing and verifying transmission of new zones for sprinkler waterflow alarm and sprinkler valve tamper switch supervisory.

## **2.12 PRESSURE GAUGES**

- A. Water Pressure Gauges: UL 393, 3-1/2- to 4-1/2-inch- (90- to 115-mm-) diameter dial with dial range of 0 to 250 psig (0 to 1725 kPa).
- B. Available Manufacturers
  1. Brecco Corp.
  2. Dresser Instruments.
  3. US Gauge.
  4. Or Approved Equal

## **2.13 BACKFLOW PREVENTER**

- A. Double Check Valve Assembly (DCVA) type with epoxy-coated cast iron or stainless-steel body, test cocks and grooved end UL 1091 indication butterfly valves or, if required by the local Water Authority, UL 262 gate valves.
  1. DCVA shall be approved by the Foundation for Cross Connection Control and Hydraulic Research at the University of Southern California (USC).
- B. Available Manufacturer and Model.
  1. Ames Co. – Maxim Series Model M200 with UL listed and UL Approved grooved gear operated butterfly valves with tamper switches, or Engineer approved equivalent.
  2. Watt Series 709 with UL listed and UL Approved OS&Y control valves and tamper switches.

## **2.14 FIRE DEPARTMENT CONNECTIONS (FDC)**

- A. Provide a check valve with automatic ball drip valve between the fire department connection and the connection to the fire protection water supply.
- B. FDC shall be a Storz 4-inch straight, Knox locking outlet. Outlet threads shall comply with Pawtucket Fire Department requirements.

## **2.15 AUTOMATIC AIR VENTS**

- A. Provide automatic air vents that do not require piping to a drain on each wet system.
- B. Available Manufacturer.
  1. ECS – Ejector PAV-W Automatic Air Vent
  2. Or Approved Equal

**2.16 PIPE SLEEVES**

- A. General: Provide pipe sleeves where piping passes entirely through walls, floors and partitions. Secure sleeves in position during construction. Provide sleeves of sufficient length to pass through entire thickness of walls, floors and roofs. Provide 1-inch minimum clearance between exterior of piping and interior of sleeve or core-drilled hole. Firmly pack space with mineral wool insulation. Seal space at both ends of the sleeve or core-drilled hole with plastic waterproof cement, which will dry to a firm but pliable mass, or provide a mechanically adjustable segmented elastomeric material. Penetrations of fire-rated barriers, wall and floor assemblies shall be sealed with a listed through penetration firestopping assembly.
1. Sleeves in Masonry and Concrete Walls, Floors, and Roofs: Provide hot-dip galvanized steel, ductile-iron, or cast-iron sleeves. Core-drilling of masonry and concrete may be provided in lieu of pipe sleeves when cavities in the core-drilled hole are completely grouted smooth.
  2. Sleeves in Other Than Masonry and Concrete Walls, Floors, and Roofs: Provide 26-gauge galvanized steel sheet.

**3.0 EXECUTION****3.1 EXAMINATION**

- A. Coordinate examinations with the Owner.
- B. Examine and verify actual location of risers, mains, and branch line piping prior to preparing pre-installation submittal.
- C. Examine walls and partitions for suitable thickness, fire- and smoke-rated construction, framing and other conditions where pipes, risers and cross-mains are to be installed prior to preparing pre-installation submittal.
- D. The contractor shall be responsible for the examination, testing, and abatement for asbestos and lead throughout the building.

**3.2 PREPARATION**

- A. Prepare and submit a minimum of three (3) complete "Pre-Installation Documentation" submittal packages to the Engineer for review prior to submitting same to local officials (as required) for approval and permit. Resubmit portions or entirety of submittal to address Engineer comments prior to submitting package to local officials (as required) for approval and permit. See Part 1 "Submittals" for submittal content.
- B. Obtain Owner approval to deliver materials and begin installation once "Pre-Installation Documentation" review process is complete and necessary local approvals and permits have been secured.

**3.3 WATER SUPPLY CONNECTION**

- A. A new 6-inch cement-lined ductile iron fire service main shall be installed to extend from the existing 12-inch water main located on High Street into the building as shown on the drawings. Refer to the civil drawings for details.

### **3.4 PIPING APPLICATION**

- A. Use threaded or grooved-end fittings to make changes in direction, branch takeoffs from mains and reduction in pipe sizes. Mechanical fittings are not permitted for branchline connections or sprinkler connections.

### **3.5 PIPING INSTALLATION**

- A. Refer to manufacturer's specifications and NFPA 13 for basic piping installation.
- B. Install exposed piping in normally occupied areas as tight to ceiling as possible. Rise with elbows in series as necessary to adjust final height of piping. Cut hanger rods to length that allows nuts to be tightened flush with ceiling and leaves band hangers at the highest elevation possible.
- C. Use threaded or grooved-end fittings to make changes in direction, branch takeoffs from mains and reduction in pipe sizes. Mechanical fittings are not permitted for branchline connections or sprinkler connections.
- D. Install unions adjacent to each valve in pipes NPS 2-inch (DN50) and smaller. Unions are not required on flanged devices or in piping installations using grooved joints.
- E. Install flanges or flange adapters on valves, apparatus, and equipment having NPS 2-1/2-inch (DN65) and larger connections as required for proper connection.
- F. Install sprinkler piping with drains for complete system drainage. All drain piping shall be routed to a location approved by the Owner and Jensen Hughes.
- G. Install alarm devices in piping systems as shown on the drawings.
- H. Install inspector's test connections. The outlet shall discharge to the exterior of the building.
- I. Hangers and Supports: Install according to NFPA 13 for sprinkler piping.
- J. Install piping with grooved joints according to manufacturer's written instructions. Construct rigid piping joints through masonry penetrations. Provide flexible couplings within 1-foot of each side of the floor/ceiling assembly on vertical sprinkler supply risers.
- K. Install pressure gauges on riser or feed main, at each sprinkler floor control valve assembly, on both sides of every check valve and at the top of each standpipe riser. Include pressure gauges with connection not less than NPS 1/4 (DN8) and with soft metal seated 3-way valve, plugged at one end and arranged for draining pipe between gauge and valve. Install gauges to permit removal and install where they will not be subject to freezing.



- L. Flanges, unions, and transition and special fittings with pressure ratings the same as or higher than the systems pressure rating may be used in aboveground applications, unless otherwise indicated.
- M. All branch lines shall be pitched at least 1/2-in. per ten (10) feet. All mains shall be pitched at least 1/4-inch per ten (10) feet.
- N. Pressurize and check dry sprinkler system piping, air-pressure maintenance devices, and air compressor.
- O. Connect air compressor to the following piping and wiring:
  - 1. Pressure gauges and controls
  - 2. Electrical power system
  - 3. Fire-alarm devices, including low-pressure alarm.
- P. Drain dry-pipe sprinkler piping.

### **3.6 JOINT CONSTRUCTION**

- A. Refer to manufacturer's specifications for basic piping joint construction.
- B. Steel-Piping, Grooved Joints: Use Schedule 40 steel pipe with grooved ends; steel, grooved-end fittings; and groove couplings. Assemble joints with couplings, gaskets, lubricant, and bolts according to manufacturer's written instructions.
- C. Dissimilar-Piping-Material Joints: Construct joints using adapters or couplings compatible with both piping materials. Use dielectric fittings if both piping materials are metal.
- D. Refer to Manufacturer's specifications for grooved pipe fittings, pipe-flange gasket materials and welding filler metals.
- E. Joint compound or tape shall be applied to male pipe threads only for all threaded joints.
- F. Transition Couplings: AWWA C219, sleeve type, or other manufactured fitting the same size as, with pressure rating at least equal to, and with ends compatible with piping to be joined.

### **3.7 VALVE APPLICATIONS**

- A. Drawings indicate valve types to be used.

### **3.8 VALVE INSTALLATION**

- A. Install valves in accessible locations with indicators clearly visible from floor level. Where valves are located above ceilings or accessible through access panels, provide and install signs to identify locations.

- B. Maintain floor control assemblies at 8'-6" above the finished floor. Where this installation height is not feasible, the particular location is to be reviewed by Jensen Hughes and the Building Owner prior to installation.
- C. Install dry-pipe valves with trim sets for air supply, drain, priming level, alarm connections, ball drip valves, pressure gauges, priming chamber attachment, and fill-line attachment.
  - 1. Install air compressor and compressed-air-supply piping.
  - 2. Install air-pressure maintenance device with shutoff valves to permit servicing without shutting down sprinkler system; bypass valve for quick system filling; pressure regulator or switch to maintain system pressure; strainer; pressure ratings with 14- to 60-psig (95- to 410-kPa) adjustable range; and 175-psig (1200-kPa) maximum inlet pressure.

### **3.9 SPRINKLER APPLICATIONS**

- A. Drawings indicate sprinkler types to be used.
  - 1. Contractor may substitute vertical sidewall sprinklers for horizontal sidewall sprinklers where unable to install the horizontal sidewall sprinklers a minimum of 4" off the wall or a maximum of 6" off the wall. The installation of the vertical sidewall sprinklers shall be in accordance with NFPA 13. See Part 3 "Wiring Installation" for identification of conductors.
- B. Use Quick-Response (QR) sprinklers in Light Hazard areas, unless otherwise noted.
- C. Use Quick-Response (QR) sprinklers in Ordinary Hazard areas, unless otherwise noted.

### **3.10 SPRINKLER INSTALLATION**

- A. Install sprinklers in accordance with NFPA 13 and in the locations indicated on the approved working drawings.
- B. Install upright sprinklers in normally occupied areas where ceiling is exposed to structure at the highest elevation possible while observing the NFPA 13 requirements for obstructions to sprinkler discharge. Do not lower the elevation of sprinklers to locate deflector below solid-continuous obstructions in lieu of providing adequate horizontal clearance in accordance with NFPA 13.
- C. Install sprinklers in the center of suspended ceiling tiles, where applicable.
- D. Do not install wet-type pendent or sidewall sprinklers in areas subject to freezing. Use upright or dry-type sprinklers with water supply from heated space.
- E. Use sprinkler guards on all sprinklers in areas subject to damage unless sprinklers are recessed.
- F. Do not install sprinklers, mains or branchline pipes in locations where likely to be inadvertently damaged, such as in front of access hatches, doors, cabinets, etc.

### **3.11 FIRE ALARM MONITORING DEVICE INSTALLATION**

- A. Install waterflow, pressure and valve supervisory switches to be connected to the Fire Alarm system. Fire alarm contractor shall be responsible for installation of addressable monitor modules,

connection to and reprogramming of the existing fire alarm system, and connection to waterflow and valve supervisory switches.

- B. Adjust retard feature of waterflow indicating switches to 45 seconds for each zone with a 60 second setting for the main waterflow switch.
- C. Coordinate installation, wiring connections, and testing with the Fire Alarm System Contractor.

### **3.12 EXTERIOR WALL PENETRATIONS**

- A. Include escutcheons and watertight annular-space “soft” seal of appropriate size for the intended hole and pipe diameters, as recommended by the seal manufacturer. Seal material shall be of an approved type.

### **3.13 LABELING AND IDENTIFICATION**

- A. Install labeling, signs and pipe markers on valves, equipment and piping in accordance with NFPA 13.
- B. Signs and label styles and locations shall be coordinated with and approved by the Owner and the authorities having jurisdiction prior to installation.
- C. Install hydraulic design information sign on the “main system riser”.

### **3.14 FIELD QUALITY CONTROL**

- A. Perform hydrostatic test of entire sprinkler system and inspect sprinkler piping according to NFPA 13, "System Acceptance" Chapter. Coordinate hydrostatic test date and time of test with the Owner, Engineer and the authorities having jurisdiction.
- B. Replace piping system components that do not pass test procedures and retest to demonstrate compliance. Repeat procedure until satisfactory results are obtained.
- C. Report test results promptly and in writing to the Owner, Engineer and the authorities having jurisdiction. See Part 1 “Submittals”.

### **3.15 CLEANING AND PROTECTION**

- A. Clean dirt and debris from sprinklers.
- B. Remove and replace sprinklers having paint other than factory applied finish.
- C. Wipe all excess pipe joint compound from threaded pipe joints.
- D. Wipe all excess oil from the exterior surface of sprinkler mains and branchline pipes.

- E. Protect sprinklers from damage until substantial completion by other trades that may be working in building.

### **3.16 COMMISSIONING**

- A. Verify that specialty valves, trim, fittings, controls, and accessories are installed and operate correctly.
- B. Verify that specified tests of piping are complete.
- C. Verify that damaged sprinklers and sprinklers with paint or coating not specified are replaced with new, correct type.
- D. Verify that sprinklers are correct types, have correct finishes and temperature ratings, and have guards as required for each application.
- E. Verify that potable-water supplies have correct types of backflow prevention devices and have been tested.
- F. Verify that fire department connections have threads compatible with the local fire department equipment and fire department connections and associated piping is adequately braced and restrained.
- G. Verify that spare sprinkler cabinet is installed with correct number of wrenches and spare sprinklers.
- H. Verify that labeling, identification, and signage is installed.
- I. Fill wet-pipe sprinkler piping with water.
- J. Energize circuits to electrical equipment and devices.
- K. Coordinate with fire alarm contractor to perform acceptance test with new valve monitoring devices and sprinkler system alarm devices. Operate as required.
- L. Coordinate with fire alarm contractor to perform testing of waterflow alarm and valve supervisory signal transmission to Pawtucket Fire Department via the new Sigcom radio masterbox #297.
- M. Report completion of commissioning promptly and in writing to the Owner, Engineer and the authorities having jurisdiction. See Part 1 "Submittals".
- N. Testing of new underground piping to be completed by the site work contractor as part of this work.

### **3.17 ACCEPTANCE TESTS**

- A. Coordinate with fire alarm contractor for re-acceptance tests. Operate as required. Demonstrate system components to authority having jurisdiction as necessary.

- B. Fire alarm system contractor shall conduct NFPA 72 required re-acceptance testing as part of this work.

**3.18 PROJECT CLOSEOUT PROCEDURES**

- A. Submit Project Closeout Documentation; see Part 1 "Submittals".
- B. Schedule Owner demonstration and training with the Owner. Provide at least five (5) working days' notice.
- C. Demonstrate equipment, specialties, and accessories with the Owner. Review operating and maintenance information with the Owner

**END OF SPECIFICATION**

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