# CLARIFICATION
# NUMBER ONE

for

## Renovations to 921 Elizabeth Avenue

in the

## City of Elizabeth

for the

## Union County

BA #12-2025
Union County Engineering Project #2022-020
USA Project No. 2024-087

Dated: February 20, 2025

USA ARCHITECTS, PLANNERS AND INTERIOR DESIGNERS, LTD
20 N. Doughty Avenue
Somerville, NJ 08876

BIDDERS QUESTIONS:

Q1: Please confirm who is the fire alarm vendor for the building.

A1: The County's fire alarm vendor is:

Pavion (DavEd Fire Systems, Inc.)
307 West Pleasantview Ave.
Hackensack, NJ 07006
201-342-7800

END OF CLARIFCATION NUMBER ONE


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# COUNTY OF UNION

**DEPARTMENT OF ENGINEERING, PUBLIC WORKS & FACILITIES MANAGEMENT**
*Joseph J. Policay, Jr., CPWM, Director*

## MEMORANDUM

**BOARD OF COUNTY COMMISSIONERS**

**LOURDES M. LEON**
*Chairwoman*

**JOSEPH C. BODEK**
*Vice-Chairman*

**JAMES E. BAKER, JR.**

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*County Manager*

**AMY CRISP WAGNER**
*Deputy County Manager*

**BRUCE H. BERGEN, ESQ.**
*County Counsel*

**JAMES E. PELLETTIERE**
*Clerk of the Board*

**RICARDO S. MATIAS**
**PE, CME, CFM**
*County Engineer*
*Director, Division of Engineering*

**TO:** All Potential Bidders

**FROM:** Ricardo S. Matias, PE, CME, CFM, (RW)
County Engineer
Director / Division of Engineering

**DATE:** February 18, 2025

**RE:** **ADDENDUM NUMBER 1**
**Renovations to 921 Elizabeth Avenue,**
**City of Elizabeth, County of Union,**
**New Jersey, BA#12-2025,**
**Union County Engineering Project #2022-020**

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Attached is Addendum Number 1 for the above referenced project.

**Please be sure to complete and submit the standard "Acknowledgement of Addendum" form included in the original bid specifications and submit it with the bid.**

# ADDENDUM
# NUMBER ONE

for

## Renovations to 921 Elizabeth Avenue

in the

## City of Elizabeth

for the

## Union County

**BA #12-2025**
**Union County Engineering Project #2022-020**
**USA Project No. 2024-087**

Dated: February 18, 2025

**USA ARCHITECTS, PLANNERS AND INTERIOR DESIGNERS, LTD**
20 N. Doughty Avenue
Somerville, NJ 08876

This Addendum is issued for the purpose of amending certain requirements of the Bidding Documents and is hereby made an integral part of the Contract Documents for this project. Statements made herein shall amend, supersede, and take precedence over any conflicting and contrary information contained in previously issued documents including previously issued addenda, if any. Bidders shall acknowledge receipt of this addendum in the space provided on the Bid Form. Failure to do so may subject the Bidder to disqualification.

**CHANGES TO PRIOR ADDENDA:**

None

**CHANGES TO PROCUREMENT AND CONTRACTING REQUIREMENTS (DIVISION 00):**

None

**CHANGES TO CONDITIONS OF THE CONTRACT:**

None

**CHANGES TO GENERAL REQUIREMENTS (DIVISION 01):**

None

**CHANGES TO SPECIFICATIONS:**

None

**CHANGES TO DRAWINGS:**

None

**BIDDERS QUESTIONS:**

**Q1:** We have sent the package to various roofing and electrical contractors. They have expressed concern regarding the antennas on the roof.
Based on conversations with them they will not move any equipment or wiring on the roof.
Will the cell phone company be willing to remove and relocate their equipment as required to complete the roofing work.

**A1:** **The cell phone companies will remove and relocate the two loose cell towers, contractors are to work around the one fixed cell tower. This will be coordinated by the owner and architect once the contract is awarded and a schedule is provided.**


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Q2: From 2nd Floor to 5th Floor drawings # A102 to A-105 have demolition key note # 8 says to Remove Existing Metal studs, GWB and insulation and that key note # 8 tagged at same location where Construction drawing tagged with new drywall partition type # A3, but details of Partition Type # A3 mentioned with Existing Stud and existing Top/Bottom Track. Please clarify that new partition type # A3 is constructing with New stud framing OR existing stud framing to remains and we just have to apply with new insulation with gypsum board. Demolition key note # 8 and detail of partition type # A3 is controversy each other. Please be advise and clarify. Also the 1st Floor drawing # A-101 do not mentioned for Existing stud for same partition type detail.

**A2: Partition Type #A3 is all new studs, including top/ bottom track.**

Q3: Construction drawings for all floors shows new partition type # A3 furred out on existing wall only at east side of the building wall but all floors R.C.P tagged with detail-4/A-600 on all (4) side of building walls. The detail-4/A-600 shows new furred out wall and 2" Thick closed cell spray insulation on top. We do not perform the closed cell spray insulation in our scope of work. Please describe the scope of work for detail-4/A-600. Is it all sides of each floor need to be construct with new furred out wall as per detail-4/A-600 OR we have to follow the construction drawing for new furred out partition# A3 on east side only at each floor. Please be advise.

**A3: Detail 4/A-600 is intended to show closed cell spray insulation only. Closed cell spray insulation shall be installed on all four exterior wall above the ceiling.**

Q4: Partition type # A3 is going to construct 0' 6" above the ceiling as per detail on all floors. R.C.P drawings do not shows some area with existing Ceiling particularly with dashed line area (Not in contract). We assume all area have existing Acoustical ceiling and new partition to be construct 0' 6" above the ceiling level. We also guess there is no area with exposed to deck. So we require to open and close/Patch acoustical ceiling with new wall molding to construct the new furred out wall where existing ceiling to remains( Particularly at dashed line area which is not in contract) Also no new wall to be construct full height to underside of deck as no exposed ceiling is there. Please confirm and be advise.

**A4: Partition type #A3 is to be constructed to 0'-6" above the ceiling, no further, above the 6" is closed cell spray insulation. Some areas are existing ceiling which need to be adjusted for partition #A-3, some areas are new ceilings.**

Q5: 5th Floor construction drawing # A-105 shows the new wall type # A2 connecting to window glass/window mullion in office # 503. Drawing do not highlighted detail for that Mullion. Specification mentioned for Mull-It-Over Trim with STC 55 . It is costly Mullion Trim item and only require 1 EA quantity for this project leads to higher cost including shipping cost. Please confirm that we must require that Mull It Over Trim for that location as per specification.

**A5: Extend wall page north to align with jamb at window. This is approximately 0'-8".**


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**ATTACHMENTS:**

1. Pre-Bid Sign-In Sheet, January 30, 2025

**END OF ADDENDUM NUMBER ONE**


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USA Architects

# SIGN-IN SHEET

| | | | |
|---|---|---|---|
| Project: | Renovations to 921 Elizabeth Ave | USA Project No. | 2024-087 |
| | | County Project No. | UC# 2022-020 |
| RE: | Pre-Bid Meeting | Date: | January 30, 2025 - 11:00AM |
| | | Location: | 921 Elizabeth Ave |

| NAME | COMPANY | PHONE | EMAIL/FAX |
|---|---|---|---|
| Andrew Adornato | USA Architects | (908) 722-2300 | a.adornato@usaarchitects.com |
| Matt Ferraro | County of Union | (908) 358-6942 | mferraro@ucnj.org |
| Ricardo Matias | County of Union | | Ricardo.matias@ucnj.org |
| Ron Zuber | County of Union | | rzuber@ucnj.org |
| DAVID REILLY | LOUIS GARGIULO | 201-432 4500 | DAVE@GARGIULO CONSTRUCTION.COM |
| KASIA | BEACON | 201-561-5352 | kasia.zawadzka@beacn.com |
| JELENA STOSIC | MOLBA | 201-488-6555 | molba@molbaconstruction.com |
| Victor Chuiquanay | Civi Construction | 917-227-4649 | |
| Angel Cabrera | Anco Co. | (908) 352-0067 | Ayd@Ancocg.com |
| FRANCISCO | A. DIAZ | 908-590-4977 | |
| Lac Van | Catcord Construction | (201) 764-2272 | Lvan@catcord.com |

# SPECIFICATIONS

# FOR

# Renovations to 921 Elizabeth Avenue, City of Elizabeth, County of Union, New Jersey

**BA#12-2025; Union County Engineering Project #2022-020**

**January 2024**

**UNION COUNTY**
**BOARD OF COUNTY COMMISSIONERS**

Lourdes M. Leon, Chairwoman
Joseph C. Bodek, Vice Chairman
James E. Baker, Jr., Commissioner
Michele S. Delisfort, Commissioner
Sergio Granados, Commissioner
Bette Jane Kowalski, Commissioner
Alexander Mirabella, Commissioner
Kimberly Palmieri-Mouded, Commissioner
Rebecca Williams, Commissioner

**CLERK OF THE BOARD**
James E. Pellettiere, RMC

**COUNTY MANAGER**
Edward T. Oatman

**DEPARTMENT OF ENGINEERING, PUBLIC WORKS AND FACILITIES MANAGEMENT**
Joseph J. Policay Jr., CPWM
Director, Department of Engineering, Public Works and Facilities Management

**COUNTY ENGINEER**
**DIVISION OF ENGINEERING**
Ricardo Matias, PE, CME, CFM

USA Architects, Planners and Interior Designers, Ltd.
20 North Doughty Avenue
Somerville, New Jersey
(T) 908-722-2300
Andrew P. Adornato, AIA

**COUNTY OF UNION**
**NOTICE TO BIDDERS**

Sealed bids will be received by the assistant director of the Division of Purchasing, or her designee, at the County of Union, New Jersey on **February 27, 2025 at 10:30 a.m**., prevailing time, in the **3rd Floor Conference Room**, U.C. Administration Building, 10 Elizabethtown Plaza, Elizabeth, New Jersey for:

**Renovations to 921 Elizabeth Avenue, City of Elizabeth,**
**County of Union, New Jersey**
**BA#12-2025; Union County Engineering Project #2022-020**

Bid Packages may be obtained at no charge by registering and downloading at http://ucnj.org/bid-specs. Bid Packages may also be obtained in person from the Division of Engineering at 2325 South Avenue, Scotch Plains, New Jersey 07076 between 8:30 a.m. and 4:00 p.m. weekdays upon payment of a non-refundable money order or bank check in the amount of $275.00 made payable to the County of Union. No Personal / Company checks will be accepted. Requests for mailing of specifications will not be honored. For further information please call 908-789-3675.

The County reserves the right to reject any and all bids and to waive any and all informalities in the bid in accordance with the New Jersey Local Public Contracts Law.

**Please note the successful bidder will be required to sign a *PROJECT LABOR AGREEMENT (PLA)* for this project. A form PLA is included in the bid package for your review. Further, take note of all documents referring to the PLA and any action required on same.**

A **pre-bid meeting** will be held on January 30, 2025 at 11:00 am. The meeting will be located at the 921 Elizabeth Avenue in Elizabeth. Specific questions regarding the project will be addressed at the pre-bid meeting.

Bids shall be submitted in a sealed envelope and clearly marked with the subject of the bid, name and address of the bidder, phone & fax number, and date of the bid opening. Each bid must be delivered to reach the Division of Purchasing prior to the stated time of the opening of the bids. The County will not be responsible for late delivery by the U.S. Mail or any other carrier. If hand delivered, please note that parking and security access at the County Complex may cause delays and bidders should take them into consideration in order to submit a timely bid. **No** late bids will be accepted.

Bidders are required to comply with the requirements of N.J.S.A. 10:5-31 et seq. and N.J.A.C. 17:27.

**MICHELLE HAGOPIAN, ASSISTANT DIRECTOR OF PURCHASING**

***Union County Board of County Commissioners***
***We're Connected to <u>You!</u>***

**Renovations to 921 Elizabeth Avenue, City of Elizabeth,**
**County of Union, New Jersey**
**BA#12-2025; Union County Engineering Project #2022-020**

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Collection of Use Tax on Sales to Local Governments Statement
Time of Completion
Disclosure of Investment Activities in Iran
Disclosure of Non-Involvement in Activities in Russia or Belarus
Federal Non-Debarment Certification
Byrd Anti-Lobbying Amendment Certification
Certification regarding lobbying
Disclosure of lobbying activities (LLL Form)

**INSURANCE AND BONDS AIA DOCUMENT A-101/2017 EXHIBIT A**
**(**Sample form until contract is awarded**)**

**GENERAL CONDITIONS OF THE CONTRACT FOR CONSTRUCTION AIA DOCUMENT A-201/2017**
**(**Sample form until contract is awarded**)**

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# UNION COUNTY BOARD OF COUNTY COMMISSIONERS
# INSTRUCTIONS TO BIDDERS AND FORMS

## DEFINITIONS

**Wherever reference is made to the County, Title of Project, Bidder, or Vendor/Contractor they shall be as follows:**

**OWNER/COUNTY:**
Union County Board of County Commissioners
UC Administration Building, 6th Floor
10 Elizabethtown Plaza
Elizabeth, New Jersey 07207

**ADDRESS INQUIRIES TO:**
Union County Division of Purchasing
UC Administration Building, 3rd Floor
10 Elizabethtown Plaza
Elizabeth, NJ 07207
Attn: Michelle Hagopian, Assistant Director, Division of Purchasing
Telephone: 908-527-4130
Facsimile: 908-558-2548
**ucbids@ucnj.org**

**ADDRESS BIDS AND SUBMIT TO:**
Union County Division of Purchasing
UC Administration Building, 3rd Floor
10 Elizabethtown Plaza
Elizabeth, NJ 07207
Attn: Michelle Hagopian, Assistant Director, Division of Purchasing
Telephone: 908-527-4130
Facsimile: 908-558-2548
**ucbids@ucnj.org**

**TITLE OF PROJECT:** Renovations to 921 Elizabeth Avenue, City of Elizabeth, County of Union, New Jersey,BA#12-2025; Union County Engineering Project #2022-020

**BIDDER: Bidder shall be a single overall contract bidder**

**ARCHITECT:**
USA Architects Planners & Interior Designers
20 N Doughty Avenue
Somerville, NJ 08876

**COUNTY ENGINEER AND/OR CONSTRUCTION MANAGER (as applicable):**

**COUNTY ENGINEER:**
Ricardo S. Matias, PE, CME, CFM
Union County
Division of Engineering

## GENERAL SPECIFICATIONS

### 1. BID FORM

Bids for this Work will be enclosed in a sealed envelope addressed to the Purchasing Division, County of Union, New Jersey, Union County Administration Building, 10 Elizabethtown Plaza, Elizabeth, New Jersey 07207, with the full name of the Project clearly marked on the outside. Refer to the sheet marked "Notice of Bid (Advertisement)" for the correct name of the Project. Bidders must submit their bids on the attached pricing sheet (Bid Form), in a sealed envelope addressed to the County and bearing on the outside: the name of the Bidder, Bidder's business address, and the title of the Project.

The Division of Purchasing will receive the bids for this Work at the Union County Administration Building, 10 Elizabethtown Plaza, Elizabeth, New Jersey on the date and time noted on the sheet marked "**Notice of Bid (Advertisement)**".

The County will not assume responsibility for bids forwarded by mail. It is the individual's responsibility to see that the bids are presented to the Purchasing Division at the time and at the place designated.

Bids will be accepted only on the Bid Form supplied. Bids on forms other than the original supplied herein will be rejected. The "complete" Bid Documents includes the Bid Bond, Bid Form, Bidder's Checklist, Consent of Surety, Ownership Disclosure Certification, Non-Collusion Affidavit, and any other documents noted in these Instructions to Bidders or Contract Document to be submitted with this Bid.

The bidder will state in the bidding sheet the price per unit of measure for each scheduled Item of Work for which he will agree to carry out the Work, and the Total Bid Price for the construction of the Project.

The prices in the Bid Form shall be typed or written in pen and ink. Erasures or alterations must be initialed by the bidder in ink.

The bidding sheet for this Project may include a fixed amount as a Bid Allowance. If applicable, all bidders are required to add this fixed amount to their base bid and to include this additional amount in their Bid Bond. This sum will be included in the Contract as well as the performance, labor and materials bond. Payment by the County will be made to the Contractor from these funds only upon the completion of extra Work pursuant to a written Change Order(s) signed by the County's Engineer or his designee and the Contractor, prior to the commencement of such Work. Work commenced prior to written approval by the County shall be done at Contactor's risk. Such payment will only be in the amount agreed to by the parties, in writing in the Change Order(s). See Section 37, Change Orders, of these general specifications for further details.

Refer to Bid Document Submission Checklist for all required documents.

In the event there is a discrepancy between the unit price given and the extended total, the unit price will govern. Any discrepancies will be mathematically adjusted.

Insert applicable alternates, if any have been specified, applicable to the Bidder's Work. All alternates MUST be bid upon. Any Bidder's failure to do so will be deemed a material, non-waivable defect and shall render the bid nonresponsive. The Bidder shall clearly designate whether the change in price is an addition or subtraction, by using either a "+" sign or the word "addition", or in the alternative, a "-"sign or the word "minus". If there is no other change in price, the Bidder shall insert "NC" or "No Charge".

When two or more low bids are equal in all respects, awards will be made according to the provisions of N.J.S.A. 40A:11-6.1(d).

Where unit prices have already been established by the Contract Documents, the Bidder agrees that such unit prices shall prevail. All unit prices, whether filled in by the Bidder or established by the Contract Documents, shall become part of the Contract. No bid will be considered or award made, unless applicable unit prices, as required, are filled in.

The County reserves the right to reject any or all bids and also reserves the right to waive any minor informalities or non-material exceptions in the bids.

The County of Union has the right to reject any and all bids from any bidder that is in, or contemplates bankruptcy of any chapter of nature. Said bidder shall notify the County, in writing, of any condition or knowledge of the same.

Conditional bids will not be accepted. Bids may be withdrawn prior to the advertised time for the opening of bids or authorized postponement thereof or in accordance with the provisions of N.J.S.A. 40A:11-23.3 discussed below. Bids received after the advertised time shall not be considered. Bidders shall be solely responsible for premature opening or late delivery of bids not properly marked, addressed, or directed.

## 2. WITHDRAWAL OF BID DUE TO MISTAKE

N.J.S.A. 40A:11-23.3 authorizes a bidder to request withdrawal of a public works bid due to a mistake on the part of the bidder. A mistake is defined by N.J.S.A. 40A:11-2(42) as a clerical error that is an **unintentional and substantial computational error** <u>or</u> **an unintentional omission of a substantial quantity of labor, material, or both, from the final bid computation.**

A bidder claiming a mistake under N.J.S.A. 40A:11-23.3 must submit a request for withdrawal, **in writing,** by certified or registered mail to Michele Hagopian, Assistant Director, Division of Purchasing, County of Union, New Jersey, Union County Administration Building, 10 Elizabethtown Plaza, Elizabeth, New Jersey 07207. The bidder must request withdrawal of a bid due to a mistake, as defined by the law, within five business days after the receipt and opening of the bids. Since the bid withdrawal

request shall be effective as of the postmark of the certified or registered mailing, Michele Hagopian, Assistant Director of the Division of Purchasing or his designee may contact all bidders, after bids are opened, to ascertain if any bidders wish to, or already have exercised a request to withdraw their bid pursuant to N.J.S.A. 40A:11-23.3.

A bidder's request to withdraw the bid **shall** contain evidence, including any pertinent documents, demonstrating that a mistake was made. Such documents and relevant written information shall be reviewed and evaluated by the County's designated staff pursuant to the statutory criteria of N.J.S.A. 40A:11-23.3.

The County will not consider any written request for a bid withdrawal for a mistake, as defined by N.J.S.A. 40A:11-2(42), by a bidder in the preparation of a bid proposal unless the postmark of the certified or registered mailing is within the five business days following the opening of bids.

## 3. QUALIFICATIONS OF BIDDERS AND REQUIRED SUBMISSIONS

The County may make such investigation as it deems necessary to determine the ability of the Bidders to perform the Work, which includes investigation of any and all subcontractors listed with the bid. The Bidder shall furnish any information and data for this purpose as the County may request.

## 4. INTERPRETATIONS AND ADDENDA

Any explanation desired by a bidder regarding the meaning or interpretation of the Contract Documents must be requested in writing to the Assistant Director, Division of Purchasing at ucbids@ucnj.org with reasonable time allowed for a reply to reach bidders before submission of their bids. Any interpretation or instruction made by the County Engineer will be in the form of an addendum to the Contract Documents or clarification and will be furnished to all prospective bidders. Oral explanations or instructions given before the award of the Contract will not be binding. Bidders are required to bring to the attention of the Assistant Director, Division of Purchasing at ucbids@ucnj.org, the discovery of any apparent ambiguity, inconsistency, error, discrepancy, omission in the Contract Documents for interpretation and correction at least ten (10) working days before opening of bids with the exception of Saturdays, Sundays and holidays.

All Addenda issued through the Office of the Division of Purchasing are amendments to the Contract Documents and shall be considered in preparing bids. Same shall become part of the Contract Documents.

Addenda take precedence over all earlier documents and over each other according to the latest date. Addenda unless themselves interpretive remain subject to interpretation the same as any other document incorporated in the Contract.

Addenda may be issued by the Assistant Director, Division of Purchasing up to seven (7) working days prior to the opening of bids. Failure of any bidder to receive an addendum shall not relieve such bidder from the obligation imposed by such addendum. Bidders are to keep themselves currently acquainted with the Contract Documents during the entire bidding period and make inquiry on their own initiative as to issuance of any Addenda. Receipts of all Addenda shall be acknowledged on the "*Acknowledgement of Receipt of Changes*" included in the bid package and must be submitted with the bid.

## 5. OBLIGATION OF BIDDER TO INSPECT SITE AND CONTRACT DOCUMENTS

At the time of the opening of bids, each Bidder will be presumed to have inspected the site(s) and to have read, and be thoroughly familiar with the Contract Documents. The failure or neglect of any Bidder to receive or examine any form, instrument, or document shall in no way relieve any Bidder from any obligation in respect to its bid.

The Bidder shall examine the contents of the Project Manual and the set of Drawings and assure itself that all pages of the Specifications, Drawings, and other Contract Documents are included in the documents obtained for bidding purposes. Should the Specifications, Drawings, and other Contract Documents be incomplete, the Bidder shall notify the County Engineer in writing, who will supply the Bidder with any missing pages of Specifications, Drawings, or other Contract Documents. The lack of such written notification by the Bidder will be construed as evidence that the Specifications, Drawings, or other Contract Documents supplied it for bidding purposes are full and complete and as a waiver of any subsequent claim to the contrary.

## 6. BID AND PERFORMANCE GUARANTEE

Each bidder must furnish a Bid Bond, Certified Check or Bank Cashier's Check in the amount of ten percent (10%) of the Bid. Checks shall be drawn to the order of the County of Union, New Jersey, not to exceed $20,000.

Each bidder must furnish with the bid a certificate from a Surety Company, i.e. Consent of Surety, stating that in the event of the contract being awarded to said bidder, such Surety Company will provide the Contractor with bonds guaranteeing the faithful performance of the Work in accordance with the plans and specifications, and the payment for labor, materials, and all other indebtedness which may accrue on the account of this Work. A Performance, Labor and Materials Bond will be furnished by the Contractor upon an award of Contract, and will be in the amount of 100% of the contract price.

A one-year Maintenance Bond will be required upon acceptance of the Project by the County in the amount as stated in Section 15 of the General Specifications. Bonds will be written by a firm authorized to issue the bonds under the laws of the State of New Jersey and be in a form acceptable to the County Counsel.

*N.J.S.A.* 40A:11-1 *et seq*. allows the prime Contractor to furnish the Performance Security for his Subcontractors. The County of Union requires Performance Security to be furnished by the prime contractor for the entire job in the total amount of the contract.

The County will return all certified checks or cashier's checks after the proposals have been opened, tabulated and reviewed except those of the three (3) bidders lowest responsible bidders. The County will return the checks of these bidders when a contract is awarded to the successful bidder within ten (10) days after the award of the contract.

If the successful bidder refuses or neglects to sign an agreement and furnish the required bonds, the Bid Bond will be held and used by the County to offset any damages for such refusal or neglect.

## 7. COMMENCEMENT AND COMPLETION

Work will not commence until a Notice to Proceed is received from the County Engineer.

Upon substantial completion of the Project, the Contractor must request a joint inspection with the County Engineer. Upon completion of this inspection, the County Engineer will prepare a list of incomplete or incorrect items (punch list) and have Contractor initial and date same. The Contractor shall rectify all deficiencies noted on the punch list within 30 calendar days of receipt of the list. The County Engineer may approve extensions for extenuating circumstances.

## 8. BIDDER AFFIDAVIT

All Bidders are required to complete, sign, and submit with their Bid, the attached "Affidavit Regarding List of Debarred, Suspended or Disqualified Bidders". (See form enclosed)

## 9. LABOR AND MATERIALS

The prices will cover all costs of any nature incident to and growing out of the Work, including all labor, material, equipment, transportation, loss by damage or destruction of the Project, settlement of damages, and for replacement of defective work or materials. N.J.S.A. 54:32B-1 et seq. exempts all materials sold to the County of Union from sales or use taxes and should not be included in the prices provided on the Bidding Sheet.

## 10. INSURANCE REQUIREMENTS

The County of Union requires all contractors to be able to comply with the following insurance requirements. In the event a bid is accepted by the County, the contractor must accept the applicable insurance requirements, as set forth below, as part of any contract awarded to it by the County.

Contractor shall carry and maintain at all times while the contract is in full force and effect, the following insurance coverage with an insurance company or companies acceptable to the County, with limits not less than those shown below. A Certificate of Insurance shall be filed with the County prior to commencement of any Work indicating the following:

a) Commercial General Liability (CGL): Coverage for all operations including, but not limited to, contractual, products and completed operations, and personal injury with limits no less than $5,000,000 per occurrence/$10,000,000 aggregate. The County of Union, its Board of County Commissioners, officers, employees, agents and servants shall be included as an additional insured. Coverage is provided on a primary and non-contributory basis to the County of Union, et al.

b) Automobile Liability: Coverage for all owned, non-owned and hired vehicles with limits not less than $5,000,000 per occurrence, combined single limits (CSL) or its equivalent.

c) Workers Compensation: As required by the State of New Jersey and Employers Liability with limits not less than $1,000,000 per accident for bodily injury or disease.

d) Professional Liability (if design/build): Coverage with limits not less than $1,000,000 per occurrence or claim, $2,000,000 aggregate

e) Contractor's Pollution Legal Liability and/or Asbestos Legal Liability and/or Errors & Omissions (if project involves environmental hazards): Coverage with limits no less than $1,000,000 per occurrence or claim/$2,000,000 aggregate.

f) Builders Risk (for major renovations): During the course of construction utilizing an "All Risk" coverage form with limits equal to the completed value of the project and no coinsurance penalty provisions.

Where applicable, a waiver of subrogation in favor of the County of Union, its Board of County Commissioners, officers, employees, agents, servants and the State of New Jersey is to be included in those policies of insurance where permitted by law.

Notice of Cancellation: Each insurance policy required above shall provide that coverage shall not be canceled, except with notice to the Entity.

Special Risks or Circumstances: The County reserves the right to modify these requirements, including limits, based on the nature of the risk, prior experience, insurer, coverage, or other special circumstances.

## 11. INDEMNIFICATION REQUIREMENTS

The County of Union requires all bidders to accept the following indemnification requirements in the event the County accepts their bid. The Contract awarded by the County to the successful bidder will contain the following provision:

> "To the fullest extent permitted by law the Contractor shall indemnify, defend, and hold harmless the owner and the owner's consultants, agents, representatives, and employees from and against any and all claims, damages, losses, costs, and expenses, including, but not limited to attorneys' fees, legal costs and legal expenses arising out of or resulting from the performance of the Contractor's work under this contract, provided that such claim, damage, loss, cost, 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) caused or alleged to be caused by the negligent acts, negligent omissions, and/or fault of the Contractor, anyone directly or indirectly employed or retained by the Contractor, or anyone for whose acts the Contractor may be liable regardless of whether caused in part by the negligent act or omission of a party indemnified hereunder provided it is not caused by the sole negligence of a party indemnified hereunder. Contractor shall further indemnify and hold harmless the County and the County's consultants, agents, representative, and employees from and against any and all claims, damages, losses, costs, and expenses, including, but not limited to attorneys' fees, legal costs and legal expenses, arising out of or resulting from performance of the work, provided that such claim, damage, loss, cost, 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) caused or alleged to be caused by the negligent acts, negligent omissions, and/or fault of the County or the County's consultants, agents, representatives, or employees and arises out of this project and provided such claim, damage, loss, cost, or expense is not caused by the sole negligence of a party indemnified hereunder."

## 12. ROYALTIES AND PATENTS

The Contractor shall pay all royalties and license fees. He shall defend all suits or claims for infringement of any patent rights and shall hold the County harmless from loss on account thereof.

## 13. PLANS AND SPECIFICATIONS

In carrying out the Work, the plan(s) and the specifications will be followed by the Contractor. Minor alterations in the plan may be made or permitted by the County Engineer from time to time and, if no additional Work is necessary, there will be no additional charge for carrying out such minor alterations.

The Contractor shall provide the County Engineer a set of reproducible as-built drawings upon completion of the Project. The Contractor shall maintain an updated construction progress plan in the Project field office at all times.

When applicable, The New Jersey Department of Transportation Standard Specifications for Road and Bridge Construction, as amended, and Supplemental Specifications for State Aid Projects, herein after referred to as the "Standard Specifications", are made a part of these specifications and contract for the improvements, and will govern the construction of this Project, the material used and the execution of this Project, except as revised and modified herein. The references to these specifications are given herein for the purpose of aiding in the rapid location of the description of the various items herein specified. The entire Work must be carried on and completed to the satisfaction of the County. The Standard Specifications are amended as follows:

> "Any reference to the Commissioner, Department, Department Laboratory, Engineer or Inspector should be redefined to be the County of Union".

## 14. GUARANTEE AGAINST DEFECTIVE WORK

Prior to final payment being made or before the release of the performance security required by Section 3 above, the Contractor and Surety shall execute and deliver to the County an original Maintenance Bond with an original signature and seal having a penal sum equal to:

A) One hundred percent (100%) of the final adjusted Contract amount, if such amount is $50,000.00 or less;
B) Fifty percent (50%) of the final adjusted Contract amount, if such amount be greater than $50,000.00 but less than $250,000.00; and,
C) Twenty-five percent (25%) of the final adjusted contract amount, if such amount is $250,000.00 or more.

The Bond and Surety shall be satisfactory to the Union County Counsel. The Surety shall hold a Certificate of Authorization to do business in the State of New Jersey and shall conform to P.L. 1995 c.384, codified as N.J.S.A. 2A:44-143, 144. The Surety Disclosure Statement and Certification required by N.J.S.A. 2A: 44-143, 144, shall be attached to the Bond. Such Maintenance Bond shall remain in full force and effect for a period of one (1) year from the date of Final Completion. Such Maintenance Bond shall also provide that the Contractor and the Surety guarantee to replace for the said period of one (1) year from the date of Final Completion, all Work performed and/or all materials

furnished that were not performed or were not furnished in accordance to the terms and performance requirements of the Contract Documents, and will make good any defects thereof which become apparent before the expiration of one (1) year. If, during that period, any part of the Project, in the judgment of the Engineer, is found defective, the Contractor will repair or replace same within five (5) days of receipt of notice from the County Engineer. If the Contractor refuses or neglects to do such Work in the time specified, the County Engineer may have the Work done by others and the Contractor or his Surety thereof will pay the cost.

The Contractor will furnish the County a Maintenance Bond for a percentage of the final adjusted contract price, as stated above. The one (1) year period will start the day of Final Completion of Project by the County. Final payment is conditional on the receipt of a maintenance bond in a form acceptable to County Counsel.

## 15. TRAFFIC AND STREET MAINTENANCE

The Work must be started and performed by the Contractor in such a manner as to minimize delays to the traveling public. It must be completed in a timely fashion, with little or no inconvenience to traffic and pedestrians, where such inconvenience may be avoided.

All municipal, county, and state roadways shall remain open to traffic unless otherwise provided for in the technical specifications.

If modified traffic patterns are authorized in order to provide a safe working or traveling environment, the Contractor is responsible for providing all equipment, barrels, cones, signs, and barricades to implement the work zone and detours, unless otherwise specified in the technical specifications. All work zones and detours shall be established in accordance with the technical plans and specifications if provided or in strict compliance with the current version of the Manual for Uniform Traffic Control Devices (MUTCD). The Contractor shall obtain approval for these work zones and detour plans from the Municipal Police or applicable police agency and the Union County Bureau of Traffic Maintenance prior to implementation.

All traffic control plans shall provide for safe movement of vehicular, bicycle, and pedestrian traffic. Particular attention shall be given to requirements of the Americans with Disabilities Act.

No portion of any street or alleyway may be used for the storage of any materials or equipment without the approval of the Municipal Police or other applicable police agency. Sidewalks, gutters, drains, fire hydrants and private drives shall be maintained for their intended use unless specifically approved by the County Engineer.

Upon suspension of Work, at the end of the day or for protracted periods, the Contractor shall remove all rubbish and materials from the Work site to the approved storage/staging location. All road cuts, saw cuts, and trenches that may pose hazard to vehicular, pedestrian, or bicycle traffic, to include handicapped users, shall be filled to the surface of the roadway or sidewalk. At no time will steel plates or settled trenches be allowed at the daily suspension of Work, unless specifically approved by the County Engineer.

Use of Traffic Control Officers shall be determined by the County in accordance with the provisions of N.J.S.A. 40A:11-23.1(c). If applicable to the Project, the County shall have provided an allowance for same as set forth in the Bid Form.

With respect to pedestrian traffic, the Contractor shall install signs restricting access of the general public and, as necessary, Union County employees to the area of construction. The Contractor shall provide safe access to required areas and place physical barriers to restricted areas. These barriers may range from caution tape to actual barriers, at the direction of the County Engineer.

## 16. CONTRACTOR'S EMPLOYEES

The Contractor must employ only suitable and competent labor in the Work, and must remove from the Work any incompetent, unsuitable, or disorderly person upon complaint from the County Engineer.

The parties to any contract resulting from this proposal do hereby agree that the provisions of N.J.S.A. 10:2-1 through 10:2-4 (discrimination in employment on public works contracts): 34:11-56.25 et seq. (payment of prevailing rate of wages determined pursuant to N.J.S.A. 34:11-56.30 by the Commissioner), and the Rules and Regulations promulgated pursuant thereto, are hereby made a part of any contract and are binding upon them.

There will be no discrimination against any employee who is employed in the Work to be covered by any contract resulting from this bid because of age, race, creed, color, national origin, ancestry, marital status or sex.

Any person, firm, or corporation violating the provisions of this Section will be deemed and judged a disorderly person.

## 17. OWNERSHIP DISCLOSURES REQUIRED

Pursuant to P.L. 2016, c. 43, codified as N.J.S.A. 52:25-24.2.no corporation, partnership, or limited liability company shall be awarded any contract nor shall any agreement be entered into for the performance of any work or the furnishing of any materials or supplies the County unless prior to the receipt of the bid or accompanying

the bid, of said corporation, said partnership, or said limited liability company there is submitted a statement setting forth the names and addresses of all stockholders in the corporation who own ten percent (10%) or more of its stock, of any class, or of all individual partners in the partnership who own a ten percent (10%) or greater interest therein, or of all members in the limited liability company who own a ten percent (10%) or greater interest therein, as the case may be. If one or more such stockholder or partner or member is itself a corporation or partnership or limited liability company, the stockholders holding ten percent (10%) or more of that corporation's stock, or the individual partners owning ten percent (10%) or greater interest in that partnership, or the members owning ten percent (10%) or greater interest in that limited liability company, as the case may be, shall also be listed. The disclosure shall be continued until names and addresses of every non corporate stockholder, and individual partner, and member, exceeding the ten percent (10%) ownership criteria has been listed.

To comply with this section, a bidder with any direct or indirect parent entity which is publicly traded may submit the name and address of each publicly traded entity and the name and address of each person that holds a ten percent (10%) or greater beneficial interest in the publicly traded entity as of the last annual filing with the federal Securities and Exchange Commission ("SEC") or the foreign equivalent, and, if there is any person that holds a ten percent (10%) or greater beneficial interest, also shall submit links to the websites containing the last annual filings with the federal SEC or the foreign equivalent and the relevant page numbers of the filings that contain the information on each person that holds a ten percent (10%) or greater beneficial interest.

(See forms attached)

## 18. NON-COLLUSION AFFIDAVIT

The Bidder shall submit with its bid either the attached completed "Non-Collusion Affidavit" or a statement of non-collusion with verbiage similar to same.

## 19. EQUAL EMPLOYMENT OPPORTUNITY COMPLIANCES

The successful bidder shall be required to complete and submit an Initial Project Workforce Report, New Jersey Department of Treasury Form AA-201, upon notification of award. Failure to submit this completed form may result in the Contract being terminated.

The successful bidder shall also be required to submit a copy of its Monthly Project Workforce Report, New Jersey Department of Treasury Form AA-202, to the New Jersey Department of Treasury's Division of Public Contracts Equal Employment Opportunity Compliance and to the Board.

## 20. COMPLIANCE WITH NEW JERSEY PREVAILING WAGE ACT

The County of Union, in order to fulfill the requirements of N.J.S.A. 34:11-56.25 et seq, requires that the following additional conditions be strictly followed. The bidders represent that he is not listed or is not on record in the Office of the Commissioner or the Department of Labor and Workforce Development as one who failed to pay prevailing wages in accordance with the provisions of this Act. The bidder agrees to the inclusion of a contract provision upon award which specifically requires said Contractor to fully comply with each and all of the requirements of the aforesaid Act as it relates to prevailing rates of wages on public contracts as set forth in the New Jersey Prevailing Wage Act, P.L. 1963, Chapter 150 and P.L. 1974, Chapter 64.

A Copy of the Prevailing Wage Rates is attached for your reference. Applicable rates are those wages and fringe benefit rates in effect on the date the contract is awarded. All predetermined rate increases listed at the time the contract award must also be paid, beginning on the dates specified. Rates may change between the time of issuance of this determination and the award of the public works contract. Therefore, prior to the award of the contract, verification must be made with the Public Contracts section, to insure that the rates contained in this determination are still prevailing.

The Contractor agrees to abide and be bound by each and all of the said statutory provisions with respect to the payment of prevailing rates of wages, and acknowledges that the County reserves the right to terminate the Contractor's (or his subcontractors') right to proceed with the scope of Work, or such portion thereof that relates to the failure to pay prevailing rates of wages. In such event or under the terms of N.J.S.A. 34:11-56.27, the Contractor and his surety will be liable to the County of Union for any excess costs occasioned by such a violation.

The Contractor or subcontractors for this Project will post the Prevailing Wage Rates for each craft and classification involved as determined by the Commissioner of Labor and Industry, including the effective date of any changes thereof, in prominent and easily accessible places at the site of the Work or at such place or places as are used by them to pay workmen their wages.

The County of Union requires a copy of payroll records from the Contractor and subcontractors. Payroll records shall be submitted with each voucher request for payment. Prevailing wage rates may be obtained from the New Jersey Labor, Division of Workplace Standards, Public Contracts Section, (609-292-2259).

In addition to compliance with the New Jersey Prevailing Wage Act, the County requires compliance with procedures established by Resolution No. 2014-0408 adopted by the Union County Board of County Commissioners on May 8, 2014. The resolution is furnished in Section 56 of these General Specifications.

**UNION LABOR IS PREFERRED ON ALL COUNTY WORK AND, WHERE NOTED, SUBJECT TO A PROJECT LABOR AGREEMENT TO BE EXECUTED BY THE CONTRACTOR AND CONSTRUCTION MANAGER PRIOR TO COMMENCEMENT OF THE WORK. FAILURE OF ANY CONTRACTOR TO COMPLY WITH THIS PROVISION CONSTITUTES A DEFAULT, RESULTING IN IMMEDIATE STOPPAGE OF THE WORK. ANY LOSSES OR OTHER DAMAGES INCURRED BY OTHER PARTIES AS A RESULT OF SAID DEFAULT SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR.**

The foregoing reference to specific laws will not be deemed to be a limitation of obligation of the Contractor to perform his obligations in full compliance with the provisions and requirements of all federal and state statues and local ordinances applicable to the Work to be done under the contract.

It is agreed and understood that any contracts and/or orders placed as a result of this proposal will be governed and construed and the rights and obligations of the parties hereto will be determined in accordance with the laws of the State of New Jersey.

Upon completion of the Work, the Contractor will furnish a Certification of Compliance with the New Jersey Prevailing Wage Act. The certificate in a form acceptable to County Counsel is a condition of the final payment. (See form attached)

## 21. BRAND NAME OR EQUAL

When the Specifications, Forms, and other Contract Documents use “brand name or equivalent” or similar language, the listed brand name shall serve as a reference or point of comparison for the functional or operational characteristic desired for the goods or services being requested. Where a bidder attempts to submit an equivalent product for a brand name, it shall be the responsibility of the bidder to fully describe and document the product to be provided with the bid in order to establish the equivalence claim.

A. If the Bidder proposes to offer substitute goods as an equal to those specified herein, the bidder shall so indicate with the Bid Proposal. For the purposes of this paragraph, a proposed item shall be considered equal to goods specified herein if:

1. The County, in its sole discretion, determines that: (i) the goods conform substantially, even with deviations, to the brand name goods specified herein; (ii) the goods are equal to or greater than the brand name goods specified herein in terms of quality, durability, functionality, appearance, strength and design; (iii) the goods are capable, at least as well as the brand name goods

specified herein, or performing with existing equipment; and (iv) the goods do not cost the County more than the brand name goods specified herein costs the County.

B. To offer substitute goods as an equal to those specified herein, it is necessary that:

1. The Bidder submits sufficient information with its bid to permit the County to determine that the goods are equivalent to the brand name goods specified herein, including, but not necessarily limited to the brand, catalog number and specifications/data sheets;

2. The Bidder fully identifies and describes the variations of the goods from the brand name goods specified herein on a separate sheet that is to be submitted with the bid proposal. Bidder's literature WILL NOT suffice in explaining exceptions to these specifications.

3. The Bidder certifies that the goods (i) are similar in substance to the brand name goods specified, and (ii) are suited to the same use as the item specified;

C. The County shall be allowed a reasonable time within which to evaluate the Bidder's proposal to offer substitute goods as an equal to those specified herein. The County shall be the sole judge of acceptability. No "or-equal" goods shall be ordered, delivered, assembled, set-up or utilized until the County's evaluation is complete. The County's determination as to equivalency shall be deemed final and absolute.

In the event the Bidder does not provide sufficient supporting documentation with the bid, it will be presumed and required that the brand name goods and services as described in the specifications will be provided.

## 22. LINES AND GRADES

Normally, horizontal and vertical control points will be provided in the technical specifications. All other surveying will be the responsibility of the Contractor unless otherwise noted.

## 23. NUMBER OF WORKING DAYS

In accordance with N.J.S.A. 40A:11-17, the Work for the within Project shall be completed as specified on the Time of Completion Form. See form attached

There shall be taken a deduction from the contract price, or any wages paid by the County, to any inspector(s) necessarily employed by it on the Work, for any number of days in excess of the number allowed in the specifications.

## 24. PROMPT PAYMENT OF CONSTRUCTION CONTRACTS (NJ Prompt Payment Act)

Pursuant to N.J.S.A. 2A:30A-1 et seq., payment to the Contractor, other than for Work done pursuant to a contact allowance, where applicable, shall be processed and paid as follows:

1. All contractor bills shall be either approved for payment, or notice provided as to why the bill or any portion of it will not be approved by the representative(s) of the governing body no later than the public meeting following 20 calendar days of the billing date as defined in the statute.

2. If the billing is approved, said bill shall be paid in the payment cycle following the meeting.

## 25. STOPPING WORK ON ACCOUNT OF BAD WEATHER

Work must only be performed in weather suitable for the type of construction planned or underway. Extremes in temperature, humidity, precipitation, evaporation, etc. can detrimentally affect the constructed product. Refer to the Standard and Technical Specifications for specific items.

## 26. ACCESS FOR OTHER CONTRACTORS

The Contractor for this Work will give proper access to other contractors who may be employed upon the Project and must not hinder or delay unnecessarily any Work that may be progressing under other contracts.

## 27. CONDEMNED MATERIALS AND WORK

Any materials and or part of the Work that may be condemned by the County Engineer will be removed and replaced by the Contractor or otherwise rectified, as may be directed by the County Engineer. No payment will be made upon the Work until such faulty work has been made good as may be directed. In the event the Contractor refuses or neglects to make good such faulty work, he will be deemed to have abandoned the contract and proceedings may be taken against him as provided herein.

## 28. STORAGE

In the event that it is necessary for the Contractor to stockpile or store materials or equipment on the job site, the Contractor shall inform the County of such necessity and the County may offer available space, if any, for storage of such materials or equipment. The Contractor shall use said space only for such purpose. Any and all materials which may be stored in such space or which may be brought onto the job site at any time by the Contractor will be at the Contractor's sole risk. The County will not be responsible for loss of or damage to said materials or equipment for any cause whatsoever. The Contractor shall take necessary measures to protect any such storage area and shall be responsible for any and all damages.

## 29. FINAL CLEAN UP

Upon completion of the Work, the Contractor will remove all equipment, unused materials, rubbish, etc., and will repair, or replace in an a manner acceptable to the County Engineer, all areas that may have been damaged in the prosecution of the Work. Same shall be a condition precedent to final payment. Should said Contractor fail to comply with this requirement, the County shall undertake the clean-up with its own forces and charge the cost of same against the Contractor's contract balance.

## 30. SUB-LETTING OF WORK

Except for the List of Subcontractors, pursuant to N.J.S.A. 40A:11-16 (See form attached), no portion of the Work will be sublet by the Contractor to any other entities, except with the consent of the County Engineer. A complete list of subcontractors must be submitted to the County Engineer at the preconstruction meeting. If the job does not warrant a preconstruction meeting, the Contractor must submit such list prior to the start of Work.

All Subcontractors will be subject to N.J.S.A. 34:11-56 et al.

N.J.S.A. 40A:11-16 requires the bidder to list in the bid sheets the name or names of all subcontractors involved in the following types of Work: plumbing and gas fitting and all kindred work, steam and hot water heating, ventilating apparatus, steam power plants and kindred work, electrical work, ornamental iron work, and structural steel. In addition, the County may require the identification of specific additional subcontractors. If these trades are expected to be part of the contract, such subcontractors should be listed on the "Subcontractor Identification Statement List of Subcontractors" and Bidder shall certify same on the accompanying sheet titled "Subcontractor Identification Certification". (See forms attached) **Bidder's failure to submit these two forms shall be considered a material defect and result in rejection of Bidder's bid.** Substitutions of any listed

subcontractors pursuant to N.J.S.A. 40A:11-16 will not be permitted except with the consent of the County Engineer.

## 31. SAFETY

The Contractor shall observe all rules and regulations of the Federal, State, and local health officials. Attention is directed to Federal, State, and local laws, rules, and regulations concerning construction safety and health standards. The Contractor shall not require any worker to work in surroundings or under conditions that are unsanitary, hazardous, or dangerous to the worker's health or safety.

The Contractor shall admit to the site, without delay and without the presentation of an inspection warrant, any inspector of OSHA or other legally responsible agency involved in safety and health administration upon presentation of proper credentials.

The Contractor shall make available to the Contractor's employees, subcontractors, the County Engineer, and the public, all information pursuant to OSHA 29 CFR Part 1926.59 of The Hazard Communication Standard 29 CFR 1910.1200, and shall also maintain a file on each job site containing all Material Safety Data Sheets (MSDS) for products in use at the Project. These Material Safety Data Sheets shall be made available to the Engineer upon request.

The Contractor shall at all times conduct the Work to provide for the safety and convenience of the general public and protection of persons and property. The safety provisions of applicable laws, OSHA regulations, building and construction codes, and the rules and regulations of the New Jersey Department of Labor and Workforce Development shall be observed.

## 32. QUALITY, SAFETY AND PERFORMANCE STANDARDS

All goods and services must be constructed and provided with the highest quality materials and workmanship. It is the intent of these specifications that only equipment equal to, or exceeding, the standard specified will be acceptable in order to protect the safety of the occupants of the Building.

## 33. MATTERS NOT MENTIONED IN CONTRACT DOCUMENTS

Any Work, material, or method, not specifically described in these specifications, but shown upon the plans of the Work, will be carried out as shown on said plan.

## 34. PERMITS

The Contractor will obtain all necessary permits required by law and provide the County with necessary approvals prior to commencement of permitted Work.

## 35. CONTRACTOR TO PROVIDE PROOF OF PAYMENT

Upon the completion of the Work, the Contractor will furnish a General Release as proof that all claims for labor, materials, etc., have been settled by the Contractor. The General Release, in a form acceptable to County Counsel, is a condition of final payment.

## 36. CHANGE ORDERS

The applicability of change orders and change order procedures shall comply with *N.J.S.A.* 40A:11-16.7 and *N.J.A.C.* 5:30-11.1 *et seq.*, "Change Orders and Open End Contracts".

## 37. SUPPLEMENTAL WORK

In case any supplemental work is necessary, it will be performed by the Contractor at a price fixed by agreement between the Contractor and the County Engineer and approved by the County as specified in Section 36. The Contractor will do no supplemental work on any character, for which the Contractor will demand pay, except upon the written order of the County.

## 38. FORM OF CONTRACT

The Contract will be subject to all statutory provisions on the matter of Public Works, Public Contracts, The Law Against Discrimination, the Laws Governing Affirmative Action and Prevailing Rates of Wages under the laws of New Jersey.

The Agreements shall be executed by both parties not later than twenty-one (21) days from the date of the award by the County (Sundays and holidays excluded); however, such time frame may be extended by agreement of the parties.

## 39. PROGRESS PAYMENTS

Monthly progress payments will be made based on the value of labor and materials incorporated in the Work and of materials suitably stored at the site. An itemized schedule of values shall be submitted with each Application for Payment.

(Refer to the Owner/Contractor Agreement for Retainage and other conditions pertaining to payment and the application of N.J.S.A. 2A:30A-1 et seq.)

All Applications for Payment shall be accompanied by paid invoices for materials incorporated in the Work and for materials suitably stored at the site, and affidavit(s) by

Subcontractors whose Work was included in the next to the last application to the effect such Work and such materials have been paid for.

No payment shall be made without Contractor having provided all submittals set forth in this Section, and the approval of same by the County.

For contracts exceeding $100,000.00, monthly payments will be made on the Work to the extent of 98% of the value of the Work done which is considered to be retainage.

For contracts less than $100,000.00, monthly payments will be on the Work to the extent of 90% of the value of the Work done. In lieu of the retainage, the Contractor will, at his option, deposit with the County Counsel negotiable bearer bonds of the State of New Jersey or any political subdivision thereof, equal to the amount otherwise withheld as retainage.

When the Project is completed, the final cost of the Project will be based on actual quantities of authorized Work done under each item scheduled in the bidding sheet and approved Change Orders, if any. The money due to the Contractor as determined by said final certificate after deduction of previous monthly payments on account, will be paid to the Contractor in accordance with the terms of the contract dealing with Prompt Payment, providing, however that before such final payment is made, all outstanding claims against the Contractor must be satisfied. Before final payment is released, the Contractor must furnish: a**)** Maintenance Bond (see Section 6 of these general specifications); **b)** Certification of Compliance, New Jersey Prevailing Wage Act (see Sections 21 and 51); and **c)** General Release (see Section 36) in a form satisfactory to County Counsel; **d)** complete set of as-built plans in the latest AutoCad on compact disc; and e) a complete set of in-progress photos in jpg, jpeg, or bmp digital format on a compact disc.

## 40. INSPECTION

The Work must be done in accordance with the plans and specifications, and will be inspected by the County Engineer. An inspector may be placed upon the Work at any time by the County Engineer to see that the plans, specifications, and instructions of the County Engineer are carried out. In connection herewith, bidders are referred to N.J.S.A. 40A:11-17.

## 41. DAMAGES

The Contractor will be held responsible for all damages that may occur to Work, or to persons or property by reason of the nature of the Work or from the elements, or by reason of inadequate protection of the Work, or from any carelessness or negligence on his part or on the part of his employees. The County will withhold payments on the Work until all suits or claims for damages sustained on, or by reason of, this Work will have been settled by the Contractor.

The construction and final completion of this Work will be guaranteed by the Contractor. Any damages that may be done to the Work or any part thereof, by the elements or otherwise, during its construction, will be made good by the Contractor.

## 42. LIQUIDATED DAMAGES

If the Project is not completed within the time specified herein or within such further time as may have been granted by the County Engineer, then the Contractor hereby agrees to pay to the County as liquidated damages, but not as a penalty, $1,000.00 per day for each and every calendar day that he is in default on time to complete the Work. The said sum will be deducted from moneys due the Contractor and if the damages exceed this amount, then the Contractor or his Surety Company will pay the excess. These damages may be waived at the option of the County.

## 43. AFFIRMATIVE ACTION REQUIREMENTS

(REVISED 01/2022)

**EXHIBIT B**

**MANDATORY EQUAL EMPLOYMENT OPPORTUNITY LANGUAGE**

**N.J.S.A. 10:5-31 et seq. (P.L.1975, c.127)**

**N.J.A.C. 17:27-1.1 et seq.**

**CONSTRUCTION CONTRACTS**

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

The contractor or subcontractor, where applicable, will not discriminate against any employee or applicant for employment because of age, race, creed, color, national origin, ancestry, marital status, affectional or sexual orientation, gender identity or expression, disability, nationality or sex. Except with respect to affectional or sexual orientation and gender identity or expression, the contractor will ensure that equal employment opportunity is afforded to such applicants in recruitment and employment, and that employees are treated during employment, without regard to their age, race, creed, color, national origin, ancestry, marital status, affectional or sexual orientation, gender identity or expression, disability, nationality or sex. Such equal employment opportunity shall include, but not be limited to the following: employment, upgrading, demotion, or transfer; recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship.

The contractor agrees to post in conspicuous places, available to employees and applicants for employment, notices to be provided by the Public Agency Compliance Officer setting forth provisions of this nondiscrimination clause.

The contractor or subcontractor, where applicable will, in all solicitations or advertisements for employees placed by or on behalf of the contractor, state that all qualified applicants will receive consideration for employment without regard to age, race, creed, color, national origin, ancestry, marital status, affectional or sexual orientation, gender identity or expression, disability, nationality or sex.

The contractor or subcontractor will send to each labor union, with which it has a collective bargaining agreement, a notice, to be provided by the agency contracting officer, advising the labor union or workers' representative of the contractor's commitments under this act and shall post copies of the notice in conspicuous places available to employees and applicants for employment.

The contractor or subcontractor, where applicable, agrees to comply with any regulations promulgated by the Treasurer, pursuant to N.J.S.A. 10:5-31 et seq., as amended and supplemented from time to time and the Americans with Disabilities Act.

When hiring or scheduling workers in each construction trade, the contractor or subcontractor agrees to make good faith efforts to employ minority and women workers in each construction trade consistent with the targeted employment goal prescribed by N.J.A.C. l7:27-7.2; provided, however, that the Dept. of LWD, Construction EEO Monitoring Program, may, in its discretion, exempt a contractor or subcontractor from compliance with the good faith procedures prescribed by the following provisions, A, B, and C, as long as the Dept. of LWD, Construction EEO Monitoring Program is satisfied that the contractor or subcontractor is employing workers provided by a union which provides evidence, in accordance with standards prescribed by the Dept. of LWD, Construction EEO Monitoring Program, that its percentage of active "card carrying" members who are minority and women workers is equal to or greater than the targeted employment goal established in accordance with N.J.A.C. 17:27-7.2. The contractor or subcontractor agrees that a good faith effort shall include compliance with the following procedures:

(A) If the contractor or subcontractor has a referral agreement or arrangement with a union for a construction trade, the contractor or subcontractor shall, within three business days of the contract award, seek assurances from the union that it will cooperate with the contractor or subcontractor as it fulfills its affirmative action obligations under this contract and in accordance with the rules promulgated by the Treasurer pursuant to N.J.S.A. 10:5-31 et. seq., as supplemented and amended from time to time and the Americans with Disabilities Act. If the contractor or subcontractor is unable to obtain said assurances from the construction trade union at least five business days prior to the commencement of construction work, the contractor or subcontractor agrees to afford equal employment opportunities minority and women workers directly, consistent with this chapter. If the

contractor's or subcontractor's prior experience with a construction trade union, regardless of whether the union has provided said assurances, indicates a significant possibility that the trade union will not refer sufficient minority and women workers consistent with affording equal employment opportunities as specified in this chapter, the contractor or subcontractor agrees to be prepared to provide such opportunities to minority and women workers directly, consistent with this chapter, by complying with the hiring or scheduling procedures prescribed under (B) below; and the contractor or subcontractor further agrees to take said action immediately if it determines that the union is not referring minority and women workers consistent with the equal employment opportunity goals set forth in this chapter.

(B) If good faith efforts to meet targeted employment goals have not or cannot be met for each construction trade by adhering to the procedures of (A) above, or if the contractor does not have a referral agreement or arrangement with a union for a construction trade, the contractor or subcontractor agrees to take the following actions:

(l) To notify the public agency compliance officer, the Dept. of LWD, Construction EEO Monitoring Program, and minority and women referral organizations listed by the Division pursuant to N.J.A.C. 17:27-5.3, of its workforce needs, and request referral of minority and women workers;

(2) To notify any minority and women workers who have been listed with it as awaiting available vacancies;

(3) Prior to commencement of work, to request that the local construction trade union refer minority and women workers to fill job openings, provided the contractor or subcontractor has a referral agreement or arrangement with a union for the construction trade;

(4) To leave standing requests for additional referral to minority and women workers with the local construction trade union, provided the contractor or subcontractor has a referral agreement or arrangement with a union for the construction trade, the State Training and Employment Service and other approved referral sources in the area;

(5) If it is necessary to lay off some of the workers in a given trade on the construction site, layoffs shall be conducted in compliance with the equal employment opportunity and nondiscrimination standards set forth in this regulation, as well as with applicable Federal and State court decisions;

(6) To adhere to the following procedure when minority and women workers apply or are referred to the contractor or subcontractor:

(i) The contactor or subcontractor shall interview the referred minority or women worker.

(ii) If said individuals have never previously received any document or certification signifying a level of qualification lower than that required in order to perform the work of the construction trade, the contractor or subcontractor shall in good faith determine the qualifications of such individuals. The contractor or subcontractor shall hire or schedule those individuals who satisfy appropriate qualification standards in conformity with the equal employment opportunity and non-discrimination principles set forth in this chapter. However, a contractor or subcontractor shall determine that the individual at least possesses the requisite skills, and experience recognized by a union, apprentice program or a referral agency, provided the referral agency is acceptable to the Dept. of LWD, Construction EEO Monitoring Program. If necessary, the contractor or subcontractor shall hire or schedule minority and women workers who qualify as trainees pursuant to these rules. All of the requirements, however, are limited by the provisions of (C) below.

(iii) The name of any interested women or minority individual shall be maintained on a waiting list, and shall be considered for employment as described in (i) above, whenever vacancies occur. At the request of the Dept. of LWD, Construction EEO Monitoring Program, the contractor or subcontractor shall provide evidence of its good faith efforts to employ women and minorities from the list to fill vacancies.

(iv) If, for any reason, said contractor or subcontractor determines that a minority individual or a woman is not qualified or if the individual qualifies as an advanced trainee or apprentice, the contractor or subcontractor shall inform the individual in writing of the reasons for the determination, maintain a copy of the determination in its files, and send a copy to the public agency compliance officer and to the Dept. of LWD, Construction EEO Monitoring Program.

(7) To keep a complete and accurate record of all requests made for the referral of workers in any trade covered by the contract, on forms made available by the Dept. of LWD, Construction EEO Monitoring Program and submitted promptly to the Dept. of LWD, Construction EEO Monitoring Program upon request.

(C) The contractor or subcontractor agrees that nothing contained in (B) above shall preclude the contractor or subcontractor from complying with the union hiring hall or apprenticeship policies in any applicable collective bargaining agreement or union hiring

hall arrangement, and, where required by custom or agreement, it shall send journeymen and trainees to the union for referral, or to the apprenticeship program for admission, pursuant to such agreement or arrangement. However, where the practices of a union or apprenticeship program will result in the exclusion of minorities and women or the failure to refer minorities and women consistent with the targeted county employment goal, the contractor or subcontractor shall consider for employment persons referred pursuant to (B) above without regard to such agreement or arrangement; provided further, however, that the contractor or subcontractor shall not be required to employ women and minority advanced trainees and trainees in numbers which result in the employment of advanced trainees and trainees as a percentage of the total workforce for the construction trade, which percentage significantly exceeds the apprentice to journey worker ratio specified in the applicable collective bargaining agreement, or in the absence of a collective bargaining agreement, exceeds the ratio established by practice in the area for said construction trade. Also, the contractor or subcontractor agrees that, in implementing the procedures of (B) above, it shall, where applicable, employ minority and women workers residing within the geographical jurisdiction of the union.

After notification of award, but prior to signing a construction contract, the contractor shall submit to the public agency compliance officer and the Dept. of LWD, Construction EEO Monitoring Program an initial project workforce report (Form AA-201) electronically provided to the public agency by the Dept. of LWD, Construction EEO Monitoring Program, through its website, for distribution to and completion by the contractor, in accordance with N.J.A.C. 17:27-7. The contractor also agrees to submit a copy of the Monthly Project Workforce Report once a month thereafter for the duration of this contract to the Dept. of LWD, Construction EEO Monitoring Program, and to the public agency compliance officer.

The contractor agrees to cooperate with the public agency in the payment of budgeted funds, as is necessary, for on-the-job and/or off-the-job programs for outreach and training of minorities and women. (D) The contractor and its subcontractors shall furnish such reports or other documents to the Dept. of LWD, Construction EEO Monitoring Program as may be requested by the Dept. of LWD, Construction EEO Monitoring Program from time to time in order to carry out the purposes of these regulations, and public agencies shall furnish such information as may be requested by the Dept. of LWD, Construction EEO Monitoring Program for conducting a compliance investigation pursuant to N.J.A.C. 17:27-1.1 et seq.

## 44. INVESTMENT ACTIVITIES IN IRAN

Pursuant to N.J.S.A. 52:32-55 et seq., prohibits State and local public contracts with persons or entities engaging in certain investment activities in energy or finance sectors of Iran.

## 45. NON-INVOLVEMENT ACTIVIES IN RUSSIA OR BELARUS

Pursuant to N.J.S.A. 52:32-60.1 et seq., Pursuant to N.J.S.A. 52:32-60.1, et seq. (L. 2022, c. 3) any person or entity (hereinafter "Vendor") that seeks to enter into or renew a contract with a State agency for the provision of goods or services, or the purchase of bonds or other obligations, must complete the certification below indicating whether or not the Vendor is identified on the Office of Foreign Assets Control (OFAC) Specially Designated Nationals and Blocked Persons list, available here:

https://sanctionssearch.ofac.treas.gov/. If the Department of the Treasury finds that a Vendor has made a certification in violation of the law, it shall take any action as may be appropriate and provided by law, rule or contract, including but not limited to, imposing sanctions, seeking compliance, recovering damages, declaring the party in default and seeking debarment or suspension of the party.

## 46. COMPLIANCE WITH THE PUBLIC WORKS CONTRACTOR REGISTRATION ACT - (N.J.S.A. 34:11-56.48 et. seq.)

Pursuant to the above-referenced law, Bidders are required to be registered with the New Jersey Department of Labor and Workforce Development and to possess a current certificate by said Department indicating compliance with the Act prior to the time and date that bids are received. Bidders are notified of this requirement of their compliance. Such certificates or applications shall also be provided for each Subcontractor furnishing plumbing and gas fitting, steam and hot water heating and ventilating apparatus, and all kindred work, steam power plants and kindred work, electrical work, structural steel and ornamental iron work, and such other subcontractors as the specifications require relative to prior identification.

## 47. UTILITIES

Attention of the bidder is directed to the fact that the approximate locations of known utility structures and facilities that may be encountered within and adjacent to the limits of the Work are shown on the plans and described herein. The accuracy and completeness of this information is not guaranteed by the County Engineer and the bidder is advised to ascertain for himself all the facts concerning the location of these and other utilities.

The Contractor will not proceed with his Work until he has made diligent inquiries of all public utility and municipal officials to determine the exact location of all-underground structures and pipes within the site of the Project. The Contractor will notify utility owners not less than ten (10) days in advance of the time he proposes to perform any Work that will endanger or affect their facilities in compliance with **New Jersey One-Call.** In excavating in any part of the Work, care must be taken not to remove or damage any gas, water, sewer, or other pipe, conduit, or structure, - public or private - without the

concurrence of the owner and the County Engineer. The Contractor will, at his own expense, shore up, secure and maintain a continuous flow in such structures, and will keep them in repair until final acceptance of the Work.

When pipes or other structures are encountered or when the removal, relocation or protection of these utilities are necessary in carrying out the Project as planned, the Contractor will cooperate with the owner of said utilities and will permit the owners or their agents access to the site of the Work in order to relocate or protect their facilities and not hinder or delay unnecessarily the Work of the owners in moving same. No extra allowance of payment will be made to the Contractor for the use of any materials, equipment, etc., or for the performance of any Work in connection with the moving of said structures unless the Contractor is specifically ordered by the County Engineer to furnish such materials, equipment, or services. If directed by the County Engineer to do any Work or furnish any materials or equipment, payment will be allowed the Contractor in accordance with the unit prices bid for such Work, or, if such items are not scheduled in the proposal, such Work shall be allowed "Supplemental Work" as provided in Section 39 of these general specifications. The corporations, companies, agencies or municipalities owning or controlling the utilities, and the name, and telephone numbers are listed in the beginning of the Technical Specifications.

## 48. MATERIAL COMPLIANCE AND SHOP DRAWINGS

The Contractor will require the manufacturer or supplier to furnish three (3) copies of Certification of Compliance with each delivery of materials, components and manufactured items for the Project. Two (2) copies will be furnished to the County Engineer; one copy will be retained by the Contractor. Certificates of Compliance will contain the following information:

1. Project to which material is consigned;
2. Name of the Contractor to which the material is supplied;
3. Kind of material supplied;
4. Quantity of material represented by the Certificate;
5. Means of identifying the consignment, such as label marking, seal number, etc.;
6. Date and method of shipment;
7. That the material is in conformity with the pertinent specifications stated in the certificate; and
8. Signature of a person having legal authority to bind the supplier.

The Contractor will submit to the County Engineer for his approval five (5) copies of complete and fully detailed shop or working drawings for those items listed in the beginning of the technical specifications.

Each drawing will identify the name of the job, location and Contractor.

All drawings will be approved in accordance with the standard specifications. Refer to the Technical Specifications for specific items.

All materials or articles used in the Work will be of American manufacture, insofar as same are available, in conformance with N.J.S.A. 40A:11-18.

## 49. PRECONSTRUCTION

In order to provide full coordination of this Project among the parties concerned, the County Engineer will arrange for a preconstruction meeting between the Contractor, County Engineer and other interested parties as soon as possible after the contract is executed. At this meeting the Contractor will present his proposed schedule of Work which shall be subject to review and approval of the County through its designated representatives.

## 50. DISPUTES UNDER THE CONTRACT

A dispute arising under the Contract shall be submitted in writing to the County Engineer with all facts and supporting data. The County Engineer will review the dispute and issue his decision or request additional facts or documentation after which he will render his decision.

In the event the dispute is not then resolved, the matter shall, pursuant to law, be submitted to mediation before being submitted to a court of competent jurisdiction venued in Union County.

The County Engineer will notify the County Counsel when a matter is to be submitted to mediation. The County Counsel will communicate with the parties and inform them of the procedures to be followed in making such a submission.

## 51. CONTRACTOR BUSINESS REGISTRATION CERTIFICATE

Pursuant to N.J.S.A. 52:32-44, the County of Union is prohibited from entering into a contract with an entity unless the bidder/proposer/contractor, and each subcontractor that is required by law to be named in a bid/proposal/contract has a valid Business Registration Certificate on file with the Division of Revenue and Enterprise Services within the Department of the Treasury.

Prior to contract award or authorization, the contractor shall provide the County of Union with its proof of business registration and that of any named subcontractor(s).

Subcontractors named in a bid or other proposal shall provide proof of business registration to the bidder, who in turn, shall provide it to the County of Union prior to the time a contract, purchase order, or other contracting document is awarded or authorized.

Proof of registration must show that the bidder was in fact registered with the State of New Jersey Department of the Treasury, Division of Revenue and obtained the business registration prior to the receipt of bids. If subcontractors are named on the bid, proof of the business registration for each must be provided prior to the award of a contract. Similarly, to the bidder, the proof must show that each subcontractor was registered with the State of New Jersey Department of the Treasury, Division of Revenue and obtained the business registration prior to the receipt of bids.

During the course of contract performance:

1) the contractor shall not enter into a contract with a subcontractor unless the subcontractor first provides the contractor with a valid proof of business registration.
2) the contractor shall maintain and submit to the County of Union a list of subcontractors and their addresses that may be updated from time to time.
3) the contractor and any subcontractor providing goods or performing services under the contract, and each of their affiliates, shall collect and remit to the Director of the Division of Taxation in the Department of the Treasury, the use tax due pursuant to the Sales and Use Tax Act, (N.J.S.A. 54:32B-1 et seq.) on all sales of tangible personal property delivered into the State. Any questions in this regard can be directed to the Division of Taxation at (609)292-6400. Form NJ-REG can be filed online at http://www.state.nj.us/treasury/revenue/busregcert.shtml.

Before final payment is made under the contract, the contractor shall submit to the County of Union a complete and accurate list of all subcontractors used and their addresses.

Pursuant to N.J.S.A. 54:49-4.1, a business organization that fails to provide a copy of a business registration as required, or that provides false business registration information, shall be liable for a penalty of $25 for each day of violation, not to exceed $50,000, for each proof of business registration not properly provided under a contract with a contracting agency.

### 52. PROJECT LABOR AGREEMENT (To be signed where the overall project cost exceeds $5 Million, irrespective of Phasing)

An Executive Order of Governor James E. McGreevey dated January 17, 2002, requires the use of a Project Labor Agreement in public construction contracts. This Executive Order was codified as N.J.S.A. 52:38-1 et seq. as a result of P.L. 2002, Chapter

44. Contractor must be prepared to abide by the terms of the within Project Labor Agreement, including obtaining the necessary and applicable Letters of Assent from subcontractors (of any tier). Through said Letters of Assent the subcontractors (of any tier) also must be prepared to abide by the terms of the Project Labor Agreement.

Contractor's failure to enter into this Project Labor Agreement shall result in the County's valid refusal to enter into a contract, for the performance of the Work with Contractor and shall constitute a default under the Contract. In addition, Contractor will be required to submit the completed Letters of Assent to the County with the executed Project Labor Agreement. The Project Labor Agreement is to be executed only where the total Project cost is $5 Million or more, irrespective of Phasing.

## PROJECT LABOR AGREEMENT

## ARTICLE 1 - PREAMBLE

WHEREAS, as the General Contractor and the Project Management Firm, on behalf of themselves, and reflecting the objectives of the County of Union as Owner, desire to provide for the efficient, safe, quality, and timely completion of (the "Project"), in a manner designed to afford lower reasonable costs to the County of Union, (hereinafter referred to as the "County" or "Owner"), and the public it represents, and the advancement of public policy objectives;

WHEREAS, this Project Labor Agreement will foster the achievement of these goals, inter alia by:

(1) ensuring a reliable source of skilled and experienced labor;

(2) standardizing the terms and conditions governing the employment of labor on the Project;

(3) permitting wide flexibility in work scheduling and shift hours and times from those which otherwise might obtain;

(4) receiving negotiated adjustments as to work rules and staffing requirements from those which otherwise might obtain;

(5) providing comprehensive and standardized mechanisms for the settlement of work disputes, including those relating to jurisdiction;

(6) avoiding the costly delays of potential strikes, slowdowns, walkouts, picketing and other disruptions arising from work disputes, and promote labor harmony and peace for the duration of the Project.

(7) furthering public policy objectives as to improved employment opportunities for minorities, women, and the economically disadvantaged in the construction industry and

expediting the construction process; and

WHEREAS, the signatory Unions desire the stability, security and work opportunities afforded by a Project Labor Agreement; and

WHEREAS, the Parties desire to maximize Project safety conditions for both workers and the public.

NOW, THEREFORE, the Parties enter into this Agreement:

SECTION 1. PARTIES TO THE AGREEMENT

This is a Project Labor Agreement (this "Agreement") entered into by and between (the "GC" or "General Contractor") and (the "PMF" or "Project Management Firm"), and their successors and assigns, for the Project's construction work to be performed on the property of the County in the State of New Jersey and by the Union County Building and Construction Trades Council, AFL-CIO, on behalf of itself and its affiliates and members, and the signatory Local Unions on behalf of themselves and their members.

## ARTICLE 2 - GENERAL CONDITIONS

SECTION 1. DEFINITIONS

Throughout this Agreement, the Union party and the Building Trades Council are referred to singularly and collectively as "the Union(s)" where specific reference is made to "Local Unions" that phrase is sometimes used; the term "Contractor(s)" shall include the General Contractor ("GC"), Project Management Firm ("PMF"), and all signatory contractors, and their subcontractors of whatever tier, engaged in on-site Project construction work within the scope of this Agreement as defined in Article 3; the County of Union is referenced as "Owner"; the Union County Building and Construction Trades Council, AFL-CIO is referenced as the "BTC", and the work covered by this Agreement (as defined in Article 3) is referred to as the "Project".

SECTION 2. CONDITIONS FOR AGREEMENT TO BECOME EFFECTIVE

This Agreement shall not become effective unless executed by the BTC and the GC and/or PMF and will remain in effect until the final completion of the Project.

SECTION 3. ENTITIES BOUND & ADMINISTRATION OF AGREEMENT

This Agreement shall be binding on all signatory Unions and the General Contractor and the Project Management Firm and all signatory Contractors performing on-site Project work, including site preparation and staging areas, as defined in Article 3. The

Contractors shall include in any subcontract that they let, for performance during the term of this Agreement, a requirement that their subcontractors, of whatever tier, become signatory and bound by this Agreement with respect to subcontracted work performed within the scope of Article 3 and execute the Letter of Assent attached as Schedule B. This Agreement shall be administered by the GC and/or PMF on behalf of all Contractors.

## SECTION 4. SUPREMACY CLAUSE

This Agreement, together with the local Collective Bargaining Agreements appended hereto as Schedule A represents the complete understanding of all signatories and supersedes any national agreement, local agreement or other collective bargaining agreement of any type which would otherwise apply to this Project, in whole or in part, except for all work performed under the NTD Articles of Agreement, the National Stack/Chimney Agreement, the National Cooling Tower Agreement, all instrument calibration work and loop checking shall be performed under the terms of the UA/IBEW Joint National Agreement for Instrument an Control Systems Technicians, and the National Agreement of the International Union of Elevator Constructors, with the exception of Article 7, 9, and 10 of this Agreement, which shall apply to such work. Where a subject covered by the provisions, explicit or implicit, of this Agreement is also covered by a Schedule A, the provisions of this Agreement shall prevail. It is further understood that neither the GC nor any Contractor shall be required to sign any other trade agreement as a condition of performing work on this Project. No practice, understanding or agreement between a Contractor and Local Union, which is not explicitly set forth in this Agreement, shall be binding on this Project unless endorsed in writing by the GC.

## SECTION 5. LIABILITY

The liability of any Contractor and the liability of any Union under this Agreement shall be several and not joint. The GC and/or PMF and any Contractor shall not be liable for any violations of this Agreement by any other Contractor and the BTC and Local Unions shall not be liable for any violations of this Agreement by any other Union.

## SECTION 6. THE GENERAL CONTRACTOR OR PROJECT MANAGEMENT FIRM

The GC and PMF shall require in its bid specifications for all work within the scope of Article 3 that all successful bidders, and their subcontractors of whatever tier, become bound by, and signatory to, this Agreement. The County is not a party to and shall not be liable in any manner under this Agreement. It is understood that nothing in this Agreement shall be construed as limiting the sole discretion of the County in determining which Contractors shall be awarded contracts for Project work. It is further understood that the County has sole discretion at any time to terminate, delay, or suspend the work, in whole or part, on this Project.

SECTION 7. AVAILABILITY AND APPLICABILITY TO ALL SUCCESSFUL BIDDERS

The Unions agree that this Agreement will be made available to, and will fully apply to any successful bidder for Project work who becomes signatory thereto, without regard to whether that successful bidder performs work at other sites on either a union or non-union basis and without regard to whether employees of such successful bidder are, or are not, members of any unions. This Agreement shall not apply to the work of any Contractor or GC or PMF, which is performed at any location other than the Project site, as defined in Article 3, Section 1.

## ARTICLE 3 - SCOPE OF THE AGREEMENT

The Project work covered by this Agreement shall be as defined and limited by the following sections of this Article.

SECTION 1: THE WORK

This Agreement shall apply to all on-site public construction work, including site preparation, demolition and hazardous waste remediation, for the Owner performed on the Project. The scope of work is confined to the on-site Project work contained in the scope of the final construction contract of the General Contractor and/or PMF awarded work on the Project.

SECTION 2. EXCLUDED EMPLOYEES

The following persons are not subject to the provisions of this Agreement, even though performing work on the Project:

A. Superintendents, supervisors (excluding superintendents and general supervisors and forepersons specifically covered by a craft's Schedule A), engineers, inspectors and testers (excluding divers specifically covered by a craft's Schedule A), quality control/assurance personnel, timekeepers, mail carriers, clerks, office workers, messengers, guards, non-manual employees, and all professional, engineering, administrative and management persons;

B. Employees of Owner or any State agency, authority or entity or employees of any municipality or other public employer;

C. Employees and entities engaged in off-site manufacture, modifications, repair,

maintenance, assembly, painting, handling or fabrication of project components, materials, equipment or machinery, unless such offsite operations are covered by the New Jersey Prevailing Wage Act (for example, by being dedicated exclusively to the performance of the public works contract or building project and are adjacent to the site of work), or involved in deliveries to and from the Project site, excepting local deliveries of all major construction materials including fill, ready mix concrete and cement, asphalt and other items which are covered by this Agreement. Provided, however, local deliveries of ready mix, concrete, cement and asphalt shall not be contracted except to a subcontractor who pays wages and benefits not less than the economic equivalent of the wages and benefits set forth in Exhibit A.

D. Employees of the GC and/or PMF, excepting those performing manual, on-site construction labor who will be covered by this Agreement;

E. Employees engaged in on-site equipment warranty.

F. Employees engaged in geophysical testing (whether land or water) other than boring for core samples;

G. Employees engaged in laboratory or specialty testing or inspections;

H. Employees engaged in ancillary Project work performed by third parties such as electric utilities, gas utilities, telephone utility companies, and railroads.

SECTION 3. NON-APPLICATION TO CERTAIN ENTITIES

This Agreement shall not apply to the parents, affiliates, subsidiaries, or other joint or sole ventures of any Contractor or of GC and/or PMF, which do not perform work at this Project. It is agreed, for the purposes of this Agreement only, that this Agreement does not have the effect of creating any joint employment, single employer or alter ego status among the Owner, the GC and/or PMF and/or any Contractor. The Agreement shall further not apply to the Owner or any other state or county agency, authority, or other municipal or public entity and nothing contained herein shall be construed to prohibit or restrict the Owner or its employees of any other state authority, agency or entity and its employees from performing on or off-site work related to the Project. As the contracts which comprise the Project work are completed and accepted, the Agreement shall not have further force or effect on such items or areas except where inspections, additions, repairs, modifications, check-out and/or warranty work are assigned in writing (copy to

Local Union involved) by the General Contractor and/or Project Management Firm for performance under the terms of this Agreement.

## ARTICLE 4 - UNION RECOGNITION AND EMPLOYMENT

### SECTION 1. PRE-HIRE RECOGNITION

The Contractors recognize the signatory Unions as the sole and exclusive bargaining representatives of all craft employees who are performing on-site Project work within the scope of this Agreement as defined in Article 3.

### SECTION 2. UNION REFERRAL

A. The Contractors agree to hire Project, craft employees covered by this Agreement through the job referral systems and hiring halls (where the referrals meet the qualifications set forth in items 1,2, and 4 subparagraph B) established in the Local Unions' area collective bargaining agreements (attached as Schedule A to this Agreement), subject to the goals of any applicable local ordinances or agreements pertaining to hiring and apprenticeship goals for minorities, women, residents of disadvantaged communities, and local residents. Notwithstanding this, the Contractors shall have sole rights to determine the competency of all referrals; the number of employees required (except with regard to pile driving and cranes); the selection of employees to be laid-off (subject to the applicable procedures in Schedule A for permanent and/or temporary layoffs and except as provided in Article 5, Section 3); and the sole right to reject any applicant referred by a Local Union, subject to the show-up payments required in the applicable Schedule A. In the event that a Local Union is unable to fill any request for qualified employees within a 48-hour period after such requisition is made by the Contractor (Saturdays, Sundays, and holidays excepted), the Contractor may employ qualified applicants from another competent source. In the event that the Local Union does not have a job referral system, the Contractor shall give the Local Union first preference to refer applicants, subject to the other provisions of this Article. The Contractor shall notify the Local Union of the Project, craft employees hired within its jurisdiction from any source other than referral by the Union.

B. A Contractor may request by name, and the Local will honor, referral of persons who have applied to the Local for Project work and who meet the following qualifications as determined by a Committee of 3 designated, respectively, by the applicable Local Union, the GC and/or PMF and a mutually selected third party or, in the absence of agreement, the permanent arbitrator (or designee) designated in Article 7:

(1) possess any license required by New Jersey law for the Project work to be

performed;

(2) have worked a total of at least 1000 hours in the Construction craft during the prior 3 years;

(3) were on the Contractor's active payroll for at least 60 out of the 180 calendar days prior to the contract award;

(4) have demonstrated ability to safely perform the basic function of the applicable trade.

Following the employment of the first employee in each craft under Schedule A or the procedure set forth above in paragraph A, no more than twelve (12%) per centum of the employees covered by this Agreement, per Contractor by craft, shall be hired through the special provisions above which, consistent with N.J.S.A. 52:38-4, permit contractors and subcontractors working on the public works project to retain a percentage of their current workforce (any fraction shall be rounded to the next highest whole number).

C. A certified MBE/WBE contractor may request from the Workforce Coordinator, through the GC and/or PMF, an exception to, and waiver of, the above per centum limitation upon the number of its employees to be hired through the special provision of Section 2.B above. This exception is based upon hardship and demonstration by the contractor that the Project work would be the contractor's only job and that it would be obliged to lay off qualified minority and female employees in its current workforce moving from the last job. The exception and waiver are also conditioned upon the employees meeting the qualifications as set forth in Section 2.B above.

SECTION 3. NON-DISCRIMINATION IN REFERRALS

The Unions represent that their hiring halls and referral systems will be operated in a non-discriminatory manner and in full compliance with all applicable federal, state and local laws and regulations, which require equal employment opportunities. Referrals shall not be affected in any way by the rules, regulations, bylaws, constitutional provisions or any other aspects or obligations of union membership, policies or requirements and shall be subject to such other conditions as are established in this Article. No employment applicant shall be discriminated against by any referral system or hiring hall because of the applicant's union membership, or lack thereof.

SECTION 4. WORKFORCE DIVERSITY

To the extent applicable, the parties hereby agree that each will implement and abide by the requirements of the Owner with regard to workforce diversity. Furthermore, General Contractor, Contractors and the Unions will comply with such affirmative action plan, including but not limited to: (1) the parties will not discriminate against any employee or applicant for employment because of age, race, creed, color, national origin, ancestry, marital status, sex or any other protected category used by government regulation; (2) the parties will endeavor to include in any solicitations or advertisements for employees or subcontractors, a notice that all qualified applicants will receive consideration for employment, and contractors and subcontractors for work, without regard to age, race, creed, color, national origin, ancestry, marital status, sex or any other protected category used by government regulation; and (3) the parties agree to utilize the best efforts to ensure that minority business enterprises and women-owned business enterprises shall have the maximum practicable opportunity to provide Construction Work under this Agreement.

The Local Unions agree and support the importance the Owner places on having and maintaining a diverse workforce. The Unions agree to refer any and all Union County resident journeymen and apprentices who are registered on the Out-of-Work list of the local union referral systems at the time of a contractor's request. The Local Unions will cooperate with Contractor requests for residents of Union County, residents of disadvantaged communities, minority or women referrals to meet the requirements of the Owner.

In the event a Union either fails, or is unable, to refer qualified minority or female applicants in percentages equaling Project affirmative action goals as set forth in the Owners bid specifications, the Contractor may employ qualified minority or female applicants from any other available source as Apprentice Equivalents. Apprentice Equivalents will have completed a DOL approved training program, applied to take a construction Apprenticeship test, and will be paid at not less than the applicable equivalent Apprentice rate. With the approval of the Local Administrative Committee ("LAC"), experience in construction related areas may be accepted as meeting the above requirements.

## SECTION 5. CROSS AND QUALIFIED REFERRALS

The Unions shall not knowingly refer to a Contractor an employee then employed by another Contractor working under this Agreement. The Local Unions will exert their utmost efforts to recruit sufficient numbers of skilled and qualified craft employees to fulfill the requirements of the Contractor.

## SECTION 6. UNION DUES / WORKING ASSESSMENTS

The union security provisions contained in the applicable Schedule A local agreements,

shall not apply to the employees covered by this Agreement as for the period of time during which they are performing on-site Project work. No employee shall be discriminated against at the Project site because of the employee's union membership or lack thereof. In the case of unaffiliated employees who have voluntarily executed dues checkoff authorization cards provided in a Schedule A local agreement, the dues payment can be received by the Unions as a working assessment fee.

SECTION 7. CRAFT FOREPERSONS AND GENERAL FOREPERSONS

The selection of craft forepersons and/or general forepersons and the number of forepersons required shall be solely the responsibility of the Contractor except where otherwise provided by specific provisions of an applicable Schedule A. All forepersons shall take orders exclusively from the designated Contractor representatives. Craft foreperson shall be designated as working forepersons at the request of the Contractor, except when an existing local Collective Bargaining Agreement prohibits a foreperson from working when the craftsperson he is leading exceed a specified number.

## ARTICLE 5 - UNION REPRESENTATION

SECTION 1. LOCAL UNION REPRESENTATIVE

Each Local Union representing on-site Project employees shall be entitled to designate in writing (copy to General Contractor involved and/or Project Management Firm) representatives, including the Business Manager, who shall be afforded access to the Project.

SECTION 2. STEWARDS

A. Each Local Union shall have the right to designate a working journey person as a Steward and an alternate, and shall notify the Contractor and GC and/or PMF of the identity of the designated Steward (and alternate) prior to the assumption of such duties. Stewards shall not exercise supervisory functions and will receive the regular rate of pay for their craft classifications. There will be no non-working Stewards on the Project.

B. In addition to their work as an employee, the Steward shall have the right to receive complaints or grievances and to discuss and assist in their adjustment with the Contractor's appropriate supervisor. Each Steward shall be concerned with the employees of the Steward's Contractor and, if applicable, subcontractors of that Contractor, but not with the employees of any other Contractor. The Contractor will not discriminate against the Steward in the proper performance of Union duties.

C. The Stewards shall not have the right to determine when overtime shall be worked,

or who shall work overtime, except pursuant to a Schedule A provision providing procedures for the equitable distribution of overtime.

SECTION 3. LAYOFF OF A STEWARD

Contractors agree to notify the appropriate Union 24 hours prior to the layoff of a Steward, except in cases of discipline or discharge for just cause. If a Steward is protected against layoff by a Schedule A, such provisions shall be recognized to the extent the Steward possesses the necessary qualifications to perform the work required. In any case in which a Steward is discharged or disciplined for just cause, the Local Union involved shall be notified immediately by the Contractor.

## ARTICLE 6 - MANAGEMENT'S RIGHTS

SECTION 1. RESERVATION OF RIGHTS

Except as expressly limited by a specific provision of this Agreement, Contractors retain full and exclusive authority for the management of their Project operations including, but not limited to: the right to direct the work force, including determination as to the number to be hired and the qualifications therefore; the promotion, transfer, layoff of its employees; or the discipline or discharge for just cause of its employees; the assignment and schedule of work; the promulgation of reasonable Project work rules; and, the requirement, timing and number of employees to be utilized for overtime work. No rules, customs, or practices, which limit or restrict productivity or efficiency of the individual, as determined by the Contractor, GC and/or PMF, and/or joint working efforts with other employees shall be permitted or observed.

SECTION 2. MATERIALS, METHODS & EQUIPMENT

There shall be no limitations or restriction upon the contractors' choice of materials, techniques, methods, technology or design, or, regardless of source or location, upon the use and installation of equipment, machinery, package units, pre-cast, pre-fabricated, pre-finished, or pre-assembled materials, tool, or other labor-saving devices. Contractors may, without restriction, install or use materials, supplies or equipment regardless of their source. The on-site installation or application of such items shall be performed by the craft having jurisdiction over such work; provided, however, it is recognized that other personnel having special qualifications may participate, in a supervisory capacity, in the installation, check-out or testing of specialized or unusual equipment or facilities as designated by the Contractor. Notwithstanding the foregoing statement of contractor rights, prefabrication issues relating to work traditionally performed at the job site shall be governed pursuant to the terms of the applicable Schedule A. There shall be no restrictions as to work, which is performed off-site for the Project, except for 1) offsite operations work covered under the New Jersey Prevailing Wage Act or 2) done in a

fabrication center, tool yard, or batch plant dedicated exclusively to the performance of work on the Project, and located adjacent to the “site of work”. Where available locally, offsite operations work covered under the New Jersey Prevailing Wage Act shall be performed within the territorial jurisdiction of the local unions signatory to this Agreement.

## ARTICLE 7 - WORK STOPPAGES AND LOCKOUTS

### SECTION 1. NO STRIKES-NO LOCKOUT

There shall not be strikes, sympathy strikes, picketing, work stoppages, slowdowns, hand billing, demonstrations or other disruptive activity at the Project for any reason by any Union or employee against any Contractor or employer while performing work at the Project. There shall be no other Union, or concerted or employee activity which disrupts or interferes with the operation of the existing free flow of traffic in the project area. Failure of any Union or employee to cross any picket line established by any union, signatory or non-signatory to this Agreement, or the picket or demonstration line of any other organization, at or in proximity to the Project site is a violation of this Article. There shall be no lockout at the Project by any signatory Contractor. Contractors and Unions shall take all steps necessary to ensure compliance with this Section 1 and to ensure uninterrupted construction and the free flow of traffic in the project area for the duration of this Agreement.

### SECTION 2. DISCHARGE FOR VIOLATION

A Contractor may discharge any employee violating Section 1, above, and any such employee will not be eligible thereafter for referral under this Agreement for a period of 100 days.

### SECTION 3. NOTIFICATION

If a Contractor contends that any Union has violated this Article, it will notify the appropriate district or area council of the Local Union involved advising of such fact, with copies of the notification to the Local Union and the BTC. The district or area council, and the BTC shall each instruct, order and otherwise use their best efforts to cause the employees, and/or the Local Unions to immediately cease and desist from any violation of this Article. A district or area council, or the BTC complying with these obligations shall not be liable for the unauthorized acts of a Local Union or its members.

### SECTION 4. EXPEDITED ARBITRATION

Any Contractor or Union alleging a violation of Section 1 of this Article may utilize the expedited procedure set forth below (in lieu of, or in addition to, any actions at law or equity) that may be brought.

A. A party invoking this procedure shall notify J.J. Pierson, Esq., FCIArb., The Arbitration Centre, 51 JFK Parkway, First Floor West, Short Hills, New Jersey 07078, telephone number (973) 359-8100, fax number (973) 359-8161, or e-mail jjpierson@jjpierson.com, who shall serve as Arbitrator under this expedited arbitration procedure. In the event that J.J. Pierson is unable to serve, a party invoking this procedure shall notify Louis Verrone, who shall serve as arbitrator under this expedited procedure. Copies of such notification will be simultaneously sent to the alleged violator and, if a Local Union is alleged to be in violation, it's International, the GC and/or PMF, and the BTC.

B. The Arbitrator shall thereupon, after notice as to time and place to the Contractor, the GC and/or PMF, the Local Union involved, and the BTC, hold a hearing within 48 hours of receipt of the notice invoking the procedure it is contended that the violation still exists. The hearing will not, however, be scheduled for less than 24 hours after the notice to the district or area council required by Section 3 above. Hearings shall be held at the jobsite or at the Newark office of the New Jersey State Board of Mediation, as directed by the Arbitrator.

C. All notices pursuant to this Article may be by telephone, telegraph, hand delivery, or fax, confirmed by overnight delivery, to the arbitrator, Contractor or Union involved. The hearing may be held on any day including Saturdays or Sundays. The hearing shall be completed in one session, which shall not exceed 8 hours duration (no more than 4 hours being allowed to either side to present their case, and conduct their cross examination) unless otherwise agreed. A failure of any Union or Contractor to attend the hearing shall not delay the hearing of evidence by those present or the issuance of an award by the Arbitrator.

D. The sole issue at the hearing shall be whether a violation of Section 1, above, occurred. If a violation is found to have occurred, the Arbitrator shall issue a Cease and Desist Award restraining such violation and serve copies on the Contractor and Union involved. The Arbitrator shall have no authority to consider any matter in justification, explanation or mitigation of such violation or to award damages, which issue is reserved solely for court proceedings, if any. The Award shall be issued in writing within 3 hours after the close of the hearing, and may be issued without an Opinion. If any involved party desires an Opinion, one shall be issued within 15 calendar days, but its issuance shall not delay compliance with, or enforcement of, the Award.

E. An Award issued under this procedure may be enforced by any court of competent jurisdiction upon the filing of this Agreement together with the Award. Notice of the filing of such enforcement proceedings shall be given to the Union or Contractor involved. In any court proceeding to obtain a temporary or preliminary order enforcing the arbitrator's Award as issued under this expedited procedure, the involved Union and Contractor waive

their right to a hearing and agree that such proceedings may be ex parte, provided notice is given to opposing counsel. Such agreement does not waive any party's right to participate in a hearing for a final court order of enforcement or in any contempt proceeding.

F. Any rights created by statue or law governing arbitration proceedings which are inconsistent with the procedure set forth in this Article, or which interfere with compliance thereto, are hereby waived by the Contractors and Unions to whom they accrue.

G. The fees and expenses of the Arbitrator shall be equally divided between the involved Contractor and Union.

SECTION 5. ARBITRATION OF DISCHARGES FOR VIOLATION

Procedures contained in Article 9 shall not be applicable to any alleged violation of this Article, with the single exception that an employee discharged for violation of Section 1, above, may have recourse to the procedures of Article 9 to determine only if the employee did, in fact, violate the provisions of Section 1 of this Article; but not for the purpose of modifying the discipline imposed where a violation is found to have occurred.

## ARTICLE 8. - LOCAL ADMINISTRATIVE COMMITTEE ("LAC")

SECTION 1. MEETINGS

The Local Administrative Committee ("LAC") will meet on a regular basis to: 1) Implement and oversee this Agreement's procedures and initiatives; 2) monitor the effectiveness of this Agreement; and 3) identify opportunities to improve efficiency and work execution.

SECTION 2. COMPOSITION

The LAC will be co-chaired by the President of the Union County Building and Construction Trades Council or his designee, and designated official of the GC and/or PMF. It will be comprised of representatives of the local unions signatory to this Agreement and representatives of the GC and/or PMF and other contractors on the project.

## ARTICLE 9 - GRIEVANCE & ARBITRATION PROCEDURE

SECTION 1. PROCEDURE FOR RESOLUTION OF GRIEVANCES

Any question, dispute or claim arising out of, or involving the interpretation or application of this Agreement (other than jurisdictional disputes or alleged violations of Article 7, Section 1) shall be considered a grievance and shall be resolved pursuant to the exclusive procedure of the steps described below; provided, in all cases, that the question, dispute or claim arose during the term of this Agreement.

Step 1:

A. When any employee covered by this Agreement feels aggrieved by a claimed violation of this Agreement, the employee shall, through the Local Union business representative or job steward give notice of the claimed violation to the work site representative of the involved Contractor. To be timely, such notice of the grievance must be given within 7 calendar days after the act, occurrence, or event giving rise to the grievance, or after the act, occurrence or event became known or should have become known to the Union. The business representative of the Local Union or the job steward and the work site representative of the involved Contractor shall meet and endeavor to adjust the matter within 7 calendar days after timely notice has been given. If they fail to resolve the matter within the prescribed period, the grieving party, may, within 7 calendar days thereafter, pursue Step 2 of the grievance procedure by serving the involved Contractor and the General Contractor and/or Project Management Firm with written copies of the grievance setting forth a description of the claimed violation, the date on which the grievance occurred, the provisions of this Agreement alleged to have been violated. Grievances and disputes settled at Step 1 are non-precedential except as to the specific Local Union, employee and Contractor directly involved, unless the settlement is accepted in writing, by the General Contractor and/or Project Management Firm, as creating a precedent.

B. Should any signatory to this Agreement have a dispute (excepting jurisdictional disputes or alleged violations of Article 7, Section 1) with any other signatory to this Agreement and, if after conferring, a settlement is not reached within 7 calendar days, the dispute shall be reduced to writing and proceed to Step 2 in the same manner as outlined in subparagraph (a) for the adjustment of employee grievances.

Step 2:

The Business Manager or designee of the involved Local Union, together with representatives of the BTC, the involved Contractor, and the General Contractor and/or Project management Firm shall meet in Step 2 within 5 calendar days of the written grievance to arrive at a satisfactory settlement.

Step 3:

A. If the grievance shall have been submitted but not resolved in Step 2, any of the

participating Step 2 entities may, within 14 calendar days after the initial Step 2 meeting, submit the grievance in writing (copies to other participants) to J.J. Pierson, Esq., FCIArb., The Arbitration Centre, 51 JFK Parkway, First Floor West, Short Hills, New Jersey 07078, telephone number (973) 359-8100, fax number (973) 359-8161, who shall act as the Arbitrator under this procedure. In the event that J.J. Pierson is unable to serve, a party invoking this procedure shall notify Louis Verrone, who shall serve as arbitrator under this expedited procedure. The Labor Arbitration Rules of the American Arbitration Association shall govern the conduct of the arbitration hearing, at which all Step 2 participants shall be parties. Hearings shall be held at the jobsite or at the Newark office of the New Jersey State Board of Mediation, as directed by the Arbitrator.

The decision of the Arbitrator shall be final and binding on the involved Contractor, Local Union and employees and the fees and expenses of such arbitration's shall be borne equally by the involved Contractor and Local Union.

B. Failure of the grieving party to adhere to the time limits set forth in this Article shall render the grievance null and void. These time limits may be extended only by written consent of the GC and/or PMF, involved Contractor and involved Local Union at the particular step where the extension is agreed upon. The Arbitrator shall have authority to make decisions only on the issues presented to him and shall not have the authority to change, add to, delete or modify any provision of this Agreement.

SECTION 2. LIMITATION AS TO RETROACTIVITY

No arbitration decision or award may provide retroactivity of any kind exceeding 30 calendar days prior to the date of service of the written grievance on the construction Project Manager and the involved Contractor or Local Union.

SECTION 3. PARTICIPATION BY GENERAL CONTRACTOR AND/OR PROJECT MANAGEMENT FIRM

The General Contractor and/or Project Management Firm shall be notified by the involved Contractor of all actions at Steps 2 and 3 and, at its election, may participate in full in all proceedings at these Steps, including Step 3 arbitration.

## ARTICLE 10 - JURISDICTIONAL DISPUTES

SECTION 1. NO DISRUPTIONS

There will be no strikes, sympathy strikes, work stoppages, slowdowns, picketing or other disruptive activity of any kind arising out of any jurisdictional dispute. Pending the resolution of the dispute, the work shall continue uninterrupted and as assigned by the

Contractor. No jurisdictional dispute shall excuse a violation of Article 7.

SECTION 2. ASSIGNMENT

A. There shall be a mandatory pre-job markup / assignment meeting prior to the commencement of any work. Attending such meeting shall be designated representatives of the Union signatories to this Agreement, the GC, and the involved Contractors. Best efforts will be made to schedule the pre-job meeting in a timely manner after Notice to Proceed is issued but not later than 30 days prior to the start of the Project.

B. All Project construction work assignments shall be made by the Contractor according to criteria set forth in Section 3, Subsection D 1-3.

C. When a Contractor has made an assignment of work, he shall continue the assignment without alteration unless otherwise directed by an arbitrator or there is agreement between the National or International Unions involved. Claims of a change of original assignment shall be processed in accordance with Article I of the Procedural Rules of the Plan for the Settlement of Jurisdictional Disputes in the Construction Industry ("the Plan").

D. In the event that a Union involved in the change of original assignment dispute is an affiliate of a National or International Union that is not affiliated with the Building and Construction Trades Department and does not wish to process a case through the Plan, the parties shall mutually select one of the following Arbitrators: Arbitrator J.J. Pierson, Arbitrator Paul Greenberg or Arbitrator Richard K. Hanft and submit the dispute directly to the Arbitrator. The selected Arbitrator shall determine whether the case requires a hearing or may be decided upon written submissions. In rendering his determination on whether there has been a change of original assignment, the Arbitrator shall be governed by the following:

1. The contractor who has the responsibility for the performance and installation shall make a specific assignment of the work which is included in his contract to a particular union(s). For instance, if contractor A subcontracts certain work to contractor B, then contractor B shall have the responsibility for making the specific assignments for the work included in his contract. If contractor B, in turn, shall subcontract certain work to contractor C, then contractor C shall have the responsibility for making the specific assignment for the work included in his contract. After work has been so assigned, such assignment will be maintained even though the assigning contractor is replaced and such work is subcontracted to another contractor. It is a violation of the Agreement for the contractor to hold up disputed work or shut down a project because of a jurisdictional dispute.

2. When a contractor has made an assignment of work, he shall continue the assignment without alteration unless otherwise directed by an arbitrator or there is agreement between the National or International Unions involved.

3. Unloading and/or handling of materials to stockpile or storage by a trade for the convenience of the responsible contractor when his employees are not on the job site, or in an emergency situation, shall not be considered to be an original assignment to that trade.

4. Starting of work by a trade without a specific assignment by an authorized representative of the responsible contractor shall not be considered an original assignment to that trade, provided that the responsible contractor, or his authorized representative, promptly, and, in any event, within eight working hours following the start of work, takes positive steps to stop further unauthorized performance of the work by that trade.

## SECTION 3. PROCEDURE FOR SETTLEMENT OF DISPUTES

A. Any Union having a jurisdictional dispute with respect to Project work assigned to another Union will submit through its International the dispute in writing to the Administrator of the Plan within 72 hours and send a copy of the letter to the other Union involved, the Contractor involved, the General Contractor, the BTC, and the district or area councils of the unions involved. Upon receipt of a dispute letter from any Union, the Administrator will invoke the procedures set forth in the Plan to resolve the jurisdictional dispute. The jurisdictional dispute letter shall contain the information described in Article IV of the Procedural Rules of the Plan.

B. Within 5 calendar days of receipt of the dispute letter, there shall be a meeting of the General Contractor, the Contractor involved, the Local Unions involved and designees of the BTC and the district or area councils of the Local Unions involved for the purpose of resolving the jurisdictional dispute.

C. In order to expedite the resolution of jurisdictional disputes, the parties have agreed in advance to mutually select one of the following designated Arbitrators: Arbitrator J. J. Pierson, Arbitrator Paul Greenberg or Arbitrator Richard K. Hanft to hear all unresolved jurisdictional disputes arising under this Agreement. All other rules and procedures of the Plan shall be followed. If none of the three Arbitrators is available to hear the dispute within the time limits of the Plan, the Plan’s arbitrator selection process shall be utilized to select another arbitrator.

D. In the event that a Union involved in the dispute is an affiliate of a National or International Union that is not affiliated with the Building and Construction Trades Department and does not wish to process a case through the Plan as described in paragraphs A-C above, the parties to the dispute shall mutually select one of the following Arbitrators: Arbitrator J. J. Pierson, Arbitrator Paul Greenberg or Arbitrator Richard K. Hanft to hear the dispute and shall submit the dispute directly to the selected arbitrator. The time limits for submission and processing disputes shall be the same as provided elsewhere in this Section. The selected Arbitrator shall schedule the hearing within seven business days from the date of submission. If he cannot hear the case within the required

timeframe, one of the other Arbitrators will be selected to hear the case unless all parties to the dispute agree to waive the seven (7) day time limit. In rendering his decision, the Arbitrator shall determine:

1. First whether a previous agreement of record or applicable agreement, including a disclaimer agreement, between the National and International Unions to the dispute governs;

2. Only if the Arbitrator finds that the dispute is not covered by an appropriate or applicable agreement of record or agreement between the crafts to the dispute, he shall then consider the established trade practice in the industry and prevailing practice in the locality. Where there is a previous decision of record governing the case, the Arbitrator shall give equal weight to such decision of record, unless the prevailing practice in the locality in the past ten years favors one craft. In that case, the Arbitrator shall base his decision on the prevailing practice in the locality. Except, that if the Arbitrator finds that a craft has improperly obtained the prevailing practice in the locality through raiding, the undercutting of wages or by the use of vertical agreements, the Arbitrator shall rely on the decision of record and established trade practice in the industry rather than the prevailing practice in the locality.

3. Only if none of the above criteria is found to exist, the Arbitrator shall then consider that because efficiency, cost or continuity and good management are essential to the wellbeing of the industry, the interests of the consumer or the past practices of the employer shall not be ignored.

The Arbitrator shall set forth the basis for his decision and shall explain his findings regarding the applicability of the above criteria. If lower-ranked criteria are relied upon, the Arbitrator shall explain why the higher-ranked criteria were not deemed applicable. The Arbitrator's decision shall only apply to the job in dispute.

Each party to the arbitration shall bear its own expense for the arbitration and agrees that the fees and expenses of the Arbitrator shall be borne by the losing party or parties as determined by the Arbitrator.

E. The Arbitrator shall render a short-form decision within 5 days of the hearing based upon the evidence submitted at the hearing, with a written decision to follow within 30 days of the close of hearing.

F. This Jurisdictional Dispute Resolution Procedure will only apply to work performed by Local Unions that represent workers employed on the Project.

G. Any Local Union involved in a jurisdictional dispute on this Project shall continue working in accordance with Section 2 above and without disruption of any kind.

SECTION 4. AWARD

Any award rendered pursuant to this Article and the Plan shall be final and binding on the disputing Local Unions and the involved Constructor on this Project only and may be enforced in accordance with the provisions of Article VII of the Plan. Any award rendered

pursuant to the alternate procedures of this Article shall be final and binding on the disputing Local Unions and the involved Contractor on this Project only, and may be enforced in any court of competent jurisdiction. Such award or resolution shall not establish a precedent on any other construction work not covered by this Agreement. In all disputes under this Article, the General Contractor and the involved Contractors shall be considered parties in interest.

## SECTION 5. LIMITATIONS

The Arbitrator shall have no authority to assign work to a double crew, that is, to more employees than the minimum required by the Contractor to perform the work involved; nor to assign work to employees who are not qualified to perform the work involved; nor to assign work being performed by non-union employees to union employees. This does not prohibit the establishment, with the agreement of the involved Contractor, of composite crews where more than 1 employee is needed for the job. The aforesaid determinations shall decide only to whom the disputed work belongs.

## SECTION 6. NO INTERFERENCE WITH WORK

A. There shall be no interference or interruption of any kind with the work of the Project while any jurisdictional dispute is being resolved. The work shall proceed as assigned by the Contractor until finally resolved under the applicable procedure of this Article. The award shall be confirmed in writing to the involved parties. There shall be no strike, work stoppage or interruption in protest of any such award. Any claims of a violation of this section shall be submitted and processed in accordance with the impediment to job progress provisions of the Plan.

B. In the event a Union alleged to have engaged in an impediment to job progress is an affiliate of a National or International Union that is not affiliated with the Building and Construction Trades Department and does not wish to have the impediment to job progress charge processed through the Plan, the parties to the dispute shall mutually select one of the three Arbitrators designated in this Article to hear the dispute. The selected Arbitrator shall schedule the hearing within two business days from the date of submission. If he cannot hear the case within the required timeframe, one of the other Arbitrators shall be selected by the parties to hear the case unless all parties to the dispute agree to waive the two day time limit. The sole issue at the hearing shall be whether or not a violation of this Section has in fact occurred, and the Arbitrator shall have no authority to consider any matter in justification, explanation or mitigation of such violation or to award damages. The Arbitrator’s decision shall be issued in writing within 3 hours after the close of the hearing, and may be issued without an opinion. If any party

desires an opinion, one shall be issued within 15 days, but its issuance shall not delay compliance with, or enforcement of, the decision. The Arbitrator may order cessation of the violation of this Section and other appropriate relief, and such decision shall be served on all parties by facsimile upon issuance. Each party to the arbitration shall bear its own expense for the arbitration and agrees that the fees and expenses of the Arbitrator shall be borne by the losing party or parties as determined by the Arbitrator.

## ARTICLE 11 - WAGES AND BENEFITS

SECTION 1. CLASSIFICATION AND BASE HOURLY RATE

All employees covered by this Agreement shall be classified in accordance with the work performed and paid the base hourly wage rates for those classifications as specified in the attached Schedules A, as amended during this Agreement. Recognizing, however, that special conditions may exist or occur on the Project, the parties, by mutual agreement may establish rates and/or hours for one or more classifications, which may differ from Schedules A. Parties to such agreements shall be the General Contractor and/or Project Management Firm, the Contractor involved, the involved Local Unions and the BTC.

SECTION 2. EMPLOYEE BENEFIT FUNDS

A. The Contractors agree to pay contributions on behalf of all employees covered by this Agreement to the established employee benefit funds in the amounts designated in the appropriate Schedule A. Bona fide jointly trusted fringe benefit plans established or negotiated through collective bargaining during the life of this Agreement may be added. However, if a defined benefit pension fund covered by the terms and conditions of this Agreement has not adopted the building and construction industry exemption authorized by subsection (b) of Section 4203 of the Employee Retirement Income Security Act of 1974, the Contractor shall not be obligated to hire employees covered by that fund.

B. The Contractor agrees to be bound by the written terms of the legally established Trust Agreements specifying the detailed basis on which payments are to be paid into, and benefits paid out of, such Trust Funds but only with regard to work done on this Project and only for those employees to whom this Agreement requires such benefit Payments.

C. Should any contractor or sub-contractor become delinquent in the payment of contributions to the fringe benefit funds, then the subcontractor at the next higher tier, or upon notice of the delinquency claim from the Union or the Funds, agrees to withhold from the subcontractor such disputed amount from the next advance, or installment payment for work performed and the amount claimed and owed will be paid within thirty (30) days after receipt of the notification by the General Contractor and/or Project Management Firm, if not paid prior to said date by the delinquent contractor/subcontractor.

## ARTICLE 12 - HOURS OF WORK, PREMIUM PAYMENTS, SHIFTS AND HOLIDAYS

SECTION 1. WORK WEEK AND WORK DAY

A. The standard work week shall consist of 40 hours of work at straight time rates per one of the following schedules:

1) Five-Day Work Week: Monday-Friday, 5 days, 8 hours plus 1/2 hour unpaid lunch period each day.

B. The Day Shift shall commence between the hours of 6:00 a.m. and 9:00 a.m. and shall end between the hours of 2:30 p.m. and 5:30 p.m. Starting and quitting times shall occur at the employees' place of work as may be designated by the Contractor in accordance with area practice.

C. Notice - Contractors shall provide not less than 5 days prior notice to the Local Union involved as to the work week and work hours schedules to be worked or such lesser notice as may be mutually agreed upon.

SECTION 2. OVERTIME

Overtime pay for hours outside of the standard work week and work day, described in paragraph A above, shall be paid in accordance with the applicable Schedule A. There will be no restriction upon the Contractor's scheduling of overtime or the non-discriminatory designation of employees who shall be worked, except as noted in Article 5, Section 2. There shall be no pyramiding of overtime pay under any circumstances. The Contractor shall have the right to schedule work so as to minimize overtime.

SECTION 3. SHIFTS

A. Flexible Schedules - Scheduling of shift work shall remain flexible in order to meet Project schedules and existing Project conditions including the minimization of interference with traffic. It is not necessary to work a day shift in order to schedule a second shift. Shifts must be worked a minimum of five consecutive work days, must have prior approval of the Construction Project Manager and must be scheduled with not less than five work days' notice to the Local Union.

B. Second/Shift - The second shift (starting between 2 p.m. and 8p.m.) shall consist of 8 hours work (or 10 hours of work) for an equal number of hours pay at the straight time rate plus 15% in lieu of overtime and exclusive of a 1/2 hour unpaid lunch period.

C. Flexible Starting Times – Shift starting times will be adjusted by the Contractor as necessary to fulfill Project requirements subject to the notice requirements of Paragraph A.

D. It is agreed that when project circumstances require a deviation from the above shifts, the involved unions, contractors and the General Contractor and/or Project

Management Firm shall adjust the starting times of the above shifts or establish shifts which meet the project requirements. It is agreed that neither party will unreasonably withhold their agreement.

SECTION 4. HOLIDAYS

A. Schedule - There shall be 8 recognized holidays on the Project:

| | |
|---|---|
| New Year's Day | Labor Day |
| Presidents Day | Veterans Day |
| Memorial Day | Thanksgiving Day |
| Fourth of July | Christmas Day |

* Presidential Election Day shall be observed as a holiday in a general election year. Work shall be scheduled on Good Friday pursuant to the craft's Schedule A. Columbus Day and the Friday after Thanksgiving shall be observed as a holiday for Elevator Constructors Local 1 only.

All said holidays shall be observed on the dates designated by New Jersey State Law. In the absence of such designations, they shall be observed on the calendar date except those holidays which occur on Sunday shall be observed on the following Monday. Holidays falling on Saturday are to be observed on the preceding Friday.

B. Payment - Regular holiday pay, if any, and/or premium pay for work performed on such a recognized holiday shall be in accordance with the applicable Schedule A.

C. Exclusivity - No holidays other than those listed in Section 4-A above shall be recognized nor observed.

SECTION 5. REPORTING PAY

A. Employees who report to the work location pursuant to regular schedule and who are not provided with work or whose work is terminated early by a Contractor, for whatever reason, shall receive minimum reporting pay in accordance with the applicable Schedule A.

B. When an employee, who has completed their scheduled shift and left the Project site, is "called back" to perform special work of a casual, incidental or irregular nature, the employee shall receive pay for actual hours worked with a minimum guarantee, as may be required by the applicable Schedule A.

C. When an employee leaves the job or work location of their own volition or is discharged for cause or is not working as a result of the Contractor's invocation of Section 7 below, they shall be paid only for the actual time worked.

D. Except as specifically set forth in this Article there shall be no premiums, bonuses,

hazardous duty, high time or other special payments of any kind.

E. There shall be no pay for time not actually worked except as specifically set forth in this Agreement or except where specifically provided in an applicable Schedule A.

## SECTION 6. PAYMENT OF WAGES

A. Payday - Payment shall be made by check, drawn on a New Jersey bank with branches located within commuting distance of the job site. Paychecks shall be issued by the Contractor at the job site by 10 a.m. on Thursdays. In the event that the following Friday is a bank holiday, paychecks shall be issued on Wednesday of that week. Not more than 3 days wages shall be held back in any pay period. Paycheck stubs shall contain the name and business address of the Contractor, together with an itemization of deductions from gross wages.

B. Termination-Employees who are laid-off or discharged for cause shall be paid in full for that which is due them at the time of termination. The Contractors shall also provide the employee with a written statement setting forth the date of lay off or discharge.

## SECTION 7. EMERGENCY WORK SUSPENSION

A Contractor or GC and/or PMF may, if considered necessary for the protection of life and /or safety of employees or others, suspend all or a portion of Project work. In such instances, employees will be paid for actual time worked; provided, however, that when a Contractor request that employees remain at the job site available for work, employees will be paid for “stand-by” time at their hourly rate of pay.

## SECTION 8. INJURY/DISABILITY

An employee who, after commencing work, suffers a work-related injury or disability while performing work duties, shall receive no less than 8 hours wages for that day. Further, the employee shall be rehired at such time as able to return to duties provided there is still work available on the Project for which the employee is qualified and able to perform.

## SECTION 9. TIME KEEPING

A Contractor may utilize brassing or other systems to check employees in and out. Each employee must check in and out. The Contractor will provide adequate facilities for checking in and out in an expeditious manner.

## SECTION 10. MEAL PERIOD

A Contractor shall schedule an unpaid period of not more than 1/2 hour duration at the work location between the 3rd and 5th hour of the scheduled shift. A Contractor may, for efficiency of operation, establish a schedule which coordinates the meal periods of two or more crafts. If an employee is required to work through the meal period, the employee shall be compensated in a manner established in the applicable Schedule A.

SECTION 11. BREAK PERIODS

There will be no rest periods, organized coffee breaks or other non-working time established during working hours. Individual coffee containers will be permitted at the employee's work location. Local area practice will prevail for coffee breaks that are not organized.

## ARTICLE 13 - APPRENTICES

SECTION 1. RATIOS

Recognizing the need to maintain continuing supportive programs designed to develop adequate numbers of competent workers in the construction industry and to provide craft entry opportunities for minorities, women and economically disadvantaged non-minority males, Contractors will employ apprentices in their respective crafts to perform such work as is within their capabilities and which is customarily performed by the craft in which they are indentured. Contractors may utilize apprentices and such other appropriate classifications as are contained in the applicable Schedule A in a ratio not to exceed the ratio provided in the applicable Schedule A collective bargaining agreements providing prevailing wage and fringe benefits as defined in N.J.S.A. 34:11-56.26(9) for the classification in Union County, New Jersey. Apprentices and such other classifications as are appropriate shall be employed in a manner consistent with the provisions of the appropriate collective bargaining agreement listed in Schedule A.

SECTION 2. DEPARTMENT OF LABOR

To assist the Contractors in attaining a maximum effort on this Project, the Unions agree to work in close cooperation with, and accept monitoring by, the New Jersey State and Federal Departments of Labor to ensure that minorities, women, or economically disadvantaged are afforded opportunities to participate in apprenticeship programs which result in the placement of apprentices on this Project. To further ensure that this Contractor effort is attained, up to 50% of the apprentices placed on this Project should be first year, minority, women or economically disadvantaged apprentices. The Local Unions will cooperate with Contractor request for minority, women or economically disadvantaged referrals to meet this Contractor effort.

SECTION 3. HELMETS TO HARDHATS

The Employers and the Unions recognize a desire to facilitate the entry into the building and construction trades of veterans who are interested in careers in the building and construction industry. The Employers and Unions agree to utilize the services of the Center for Military Recruitment, Assessment and Veterans Employment (hereinafter "Center") and the Center's "Helmets to Hardhats" program to serve as a resource for preliminary orientation, assessment of construction aptitude, referral to apprenticeship programs or hiring halls, counseling and mentoring, support network, employment opportunities and other needs as identified by the parties.

The Unions and Employers agree to coordinate with the Center to create and maintain an integrated database of veterans interested in working on the Project and of apprenticeship and employment opportunities for the Project. To the extent permitted by law, the Unions will give credit to such veterans for bona fide, provable past experience.

## ARTICLE 14 - SAFETY PROTECTION OF PERSON AND PROPERTY

### SECTION 1. SAFETY REQUIREMENTS

Each Contractor will ensure that applicable OSHA requirements and other requirements set forth in the contract documents are at all times maintained on the Project and the employees and Unions agree to cooperate fully with these efforts. Employees must perform their work at all times in a safe manner and protect themselves and the property of the Contractor and the Owner from injury or harm. Failure to do so will be grounds for discipline, including discharge.

### SECTION 2. CONTRACTOR RULES

Employees covered by this Agreement shall at all times be bound by the reasonable safety, security, and visitor rules as established by the Contractors and the GC and/or PMF for this Project. Such rules will be published and posted in conspicuous places throughout the Project.

### SECTION 3. INSPECTIONS

The Contractors and GC and/or PMF retain the right to inspect incoming shipments of equipment, apparatus, machinery, and construction materials of every kind.

## ARTICLE 15 - NO DISCRIMINATION

SECTION 1. COOPERATIVE EFFORTS

The Contractors and Unions agree that they will not discriminate against any employee or applicant for employment because of race, color, religion, sex, national origin or age in any manner prohibited by law or regulation. It is recognized that special procedures maybe established by Contractors and Local Unions and the New Jersey State Department of Labor for the training and employment of persons who have not previously qualified to be employed on construction projects of the type covered by this Agreement. The parties to this Agreement will assist in such programs and agree to use their best efforts to ensure that the goals for female and minority employment are met on this Project.

SECTION 2. LANGUAGE OF AGREEMENT

The use of the masculine or feminine gender in this Agreement shall be construed as including both genders.

## ARTICLE 16 - GENERAL TERMS

SECTION 1. PROJECT RULES

The Project Management Firm and the Contractors shall establish such reasonable Project rules as are appropriate for the good order of the Project, provided they do not violate the terms of this Agreement. These rules will be explained at the pre-job conference and posted at the Project site and may be amended thereafter as necessary. Failure of an employee to observe these rules and regulations shall be grounds for discipline, including discharge. The fact that no order was posted prohibiting a certain type of misconduct shall not be a defense to an employee disciplined or discharged for such misconduct when the action taken is for cause.

SECTION 2. TOOLS OF THE TRADES

The welding/cutting torch and chain fall are tools of the trade having jurisdiction over the work performed. Employees using these tools shall perform any of the work of the trade. There shall be no restrictions on the emergency use of any tools or equipment by any qualified employee, or on the use of any tools or equipment for the performance of work within the employee's jurisdiction.

SECTION 3. SUPERVISION

Employees shall work under the supervision of the craft foreperson or general foreperson.

SECTION 4. TRAVEL ALLOWANCES

There shall be no payments for travel expenses, travel time, subsistence allowance or other such reimbursements or special pay except as expressly set forth in this Agreement and in Schedule A.

SECTION 5. FULL WORK DAY

Employees shall be at their staging area at the starting time established by the Contractor and shall be returned to their staging area by quitting time after performing their assigned functions under the supervision of the Contractor. The signatories reaffirm their policy of a fair day's work for a fair day's wage.

SECTION 6. COOPERATION

The Project Management Firm and/or General Contractor and the Unions will cooperate in seeking any New Jersey State Department of Labor approvals that may be required for implementation of any terms of this Agreement.

## ARTICLE 17 - SAVINGS AND SEPARABILITY

SECTION 1. THIS AGREEMENT

In the event that the application of any provision of this Agreement is enjoined, on either an interlocutory or permanent basis, or otherwise found in violation of law, the provision involved shall be rendered, temporarily or permanently, null and void but the remainder of the Agreement shall remain in full force and effect. In such event, this Agreement shall remain in effect for contracts already bid and awarded or in construction where the Contractor voluntarily accepts this Agreement. The parties to this Agreement will enter into negotiations for a substitute provision in conformity with the law and the intent of the parties for contracts to be let in the future.

SECTION 2. THE BID SPECIFICATIONS

In the event that the General Contractor's and/or Project Management Firm's bid specifications, or other action, requiring that a successful bidder become signatory to this Agreement is enjoined, on either an interlocutory or permanent basis, or otherwise found in violation of law such requirement shall be rendered, temporarily or permanently, null and void but this Agreement shall remain in full force and effect to the extent allowed by law. In such event, this Agreement shall remain in effect for contracts already bid and

awarded or in constructions where the Contractor voluntarily accepts this Agreement. The parties will enter into negotiations as to modifications to this Agreement to reflect the court action taken and the intent of the parties for contracts to be let in the future.

SECTION 3. NON-LIABILITY

In the event of an occurrence referenced in Section 1 or Section 2 of this Article, neither the Owner, the Project Management Firm and/or General Contractor, or any Contractor, or any signatory Union shall be liable, directly or indirectly, for any action taken, or not taken, to comply with any court order, injunction or determination. Project bid specifications will be issued in conformance with court orders in effect and no retroactive payments or other action will be required if the original court determination is ultimately reversed.

SECTION 4. NON-WAIVER

Nothing in this Article shall be construed as waiving the prohibitions of Article 7 as to signatory Contractors and signatory Unions.

## ARTICLE 18 - FUTURE CHANGES IN SCHEDULE A AREA CONTRACTS

SECTION 1. CHANGES TO AREA CONTRACTS

A. Schedules A to this Agreement shall continue to full force and effect until the Contractor and/or Union parties to the Area Collective Bargaining Agreements, which are the basis for Schedules A, notify the General Contractor and/or Project Management Firm in writing of the mutually agreed upon changes in provisions of such agreements which are applicable to the Project, and their effective dates.

B. It is agreed that any provisions negotiated into Schedules A collective bargaining agreements will not apply to work on this Project if such provisions are less favorable to this Project than those uniformly required of contractors for construction work normally covered by those agreements; nor shall any provisions be recognized or applied on this Project if it may be construed to apply exclusively, or predominantly, to work covered by this Project Agreement.

C. Any disagreement between signatories to this Agreement over the incorporation into Schedules “A” of provisions agreed upon in the renegotiations of Area Collective Bargaining Agreements shall be resolved in accordance with the procedure set forth in Article 9 of this Agreement.

SECTION 2. LABOR DISPUTES DURING AREA CONTRACT NEGOTIATIONS

The Unions agree that there will be no strikes, work stoppages, sympathy actions, picketing, slowdowns or other disruptive activity or other violations of Article 7 affecting the Project by any Local Union involved in the renegotiations of Area Local Collective Bargaining Agreements nor shall there by any lock-out on the Project affective a Local Union during the course of such renegotiations.

IN WITNESS WHEREOF the parties have caused this Agreement to be executed and effective as of _____ _____, 202___.

ATTEST:

_____

JAMES E. PELLETTIERE, Clerk
Board of County Commissioners

County of Union

_____

EDWARD T. OATMAN
County Manager

APPROVED AS TO FORM:

_____

BRUCE H. BERGEN, ESQ.
County Counsel

_____

Affirmative Action Compliant

ATTEST:

Union County Building and Construction Trades Council AFL-CIO

_____

Corporate Secretary/Notary Public

_____

Authorized Signatory

_____

Print Name

_____

Print Title

ATTEST:

(General Contractor)

_____

Corporate Secretary/Notary Public

_____

Authorized Signatory

_____

Print Name

_____

Print Title

ATTEST:

(Project Management Firm)

_____ _____

Corporate Secretary/Notary Public Authorized Signatory

_____

Print Name

_____

Print Title

| **UNION AFFILIATES** | **SIGNATURES** |
|---|---|
| ASBESTOS WORKER LOCAL 32 | _____ |
| BOILER MAKERS LOCAL 28 | _____ |
| BRICKLAYERS AND ALLIED CRAFTS LOCAL 4 | _____ |
| CARPENTERS LOCAL 254 | _____ |
| DOCKBUILDERS LOCAL 1556 | _____ |
| ELECTRICAL WORKERS LOCAL 102 | _____ |
| ELECTRICAL WORKERS LOCAL 164 (TELECOM) | _____ |
| ELEVATOR CONSTRUCTORS LOCAL 1 | _____ |
| OPERATING ENGINEERS LOCAL 825 | _____ |

IRONWORKERS LOCAL 11 _____

STEAMFITTERS LOCAL 475 _____

LABORERS LOCAL 3 _____

HEAVY CONSTRUCTION
LABORERS LOCAL 472 _____

PAINTERS AND ALLIED TRADES,
DISTRICT COUNCIL 21 _____

PLUMBERS LOCAL 24 _____

RESILIENT FLOORING LOCAL 251 _____

ROOFERS LOCAL 4 _____

SHEET METAL WORKERS LOCAL 22 _____

SHEET METAL WORKERS LOCAL 25 _____

SPRINKLER FITTERS LOCAL 696 _____

TILE/MARBLE/TERRAZO WORKERS
LOCAL 7 _____

TEAMSTERS LOCAL 560 _____

OPERATIVE PLASTERER LOCAL 29 _____

MILLWRIGHTS LOCAL 715 _____

## PROJECT LABOR AGREEMENT

## TELE-DATA ADDENDUM

The parties hereby agree that all Tele-data work and associated electrical work performed on any of the sites during construction shall be done by employees represented by the signatory unions. For the purpose of this Agreement, Tele-data work shall include, but not limited to, the following: All receiving, placement, installation, operation, testing, inspection, maintenance, repair and service of radio, television, video, data, voice, sound, emergency call, microwave and visual production and reproduction apparatus, equipment and appliances used for domestic, commercial, education and entertainment purposes; all installation and erection of equipment, apparatus or appliance, cables and/or wire, emergency power (batteries) and all directly related work which becomes an integral part of the telecommunication and/or telecommunications related systems repair and service maintenance work of telecommunications systems and devices including, but not limited to, Private Branch Exchanges (PBX-PABX), Key equipment-owned, CCTV, CATV, card access, Systems RS 232 ethernet and/or any local area network system associated with computer installation.

_____

SIGNATORY UNIONS

BY:_____ BY:_____

## PROJECT LABOR AGREEMENT

## SHEET METAL ADDENDUM

(General Contractor) and (Project Management Firm) agrees that when subcontracting for prefabrication of H.V.A.C. duct and other related sheet metal, such prefabrication shall be subcontracted to fabricators who pay their employees engaged in such fabrication not less than the prevailing wage for comparable sheet metal fabrication as established under agreements between local affiliates of Sheet Metal Workers' International Association and local sheet metal fabricators.

General Contractor and Project Management Firm and the Sheet Metal Workers' International Association agree to work with fabrication shops referenced in the Addendum. This joint effort will be directed at improving fabricators' competitiveness through the application of continuous improvement principles.

| | |
|---|---|
| _____ | _____ |
| (General Contractor) | Sheet Metal Workers' International Assoc. Local #25 |
| _____ | _____ |
| (Project Management Firm) | Sheet Metal Workers' International Assoc. Local #22 |

## TEAMSTERS LOCAL 560 ADDENDUM

1. Notwithstanding the provisions of Article 11, Section 2 of the Project Labor Agreement, a Contractor who becomes signatory to this Project Labor Agreement who is not already a participating and contributing employer to the pension fund(s) specified in the Exhibit A collective bargaining agreement (currently the Trucking Employees of North Jersey Pension Fund;, hereinafter the "TENJ Pension Fund," and the Teamsters Local No. 408 Pension Fund), shall make direct all contributions required by the Exhibit A collective bargaining agreement exclusively to the Trucking Employees of North Jersey Annuity Fund, a defined contribution plan. Any such Contractor shall not participate in nor contribute to the TENJ or Local 408 Pension Funds, and shall have no obligation to the TENJ or Local 408 Pension Funds.

2. Any Contractor who is already participating in and contributing to the TENJ or Local 408 Pension Fund, separately from this Project Labor Agreement, shall pay contributions as provided for in Article 11, Section 2 of this Project Labor Agreement.

Agreed to and accepted this _____ day
of _____, 202__:

For the General Contractor: For Teamsters Local 560

_____ _____

**PROJECT LABOR AGREEMENT**

**LETTER OF ASSENT**

Re: Project Labor Agreement
The Union County Building & Trades Council, AFL-CIO and
_____
dated _____
(the "Agreement')

The undersigned, as a General Contractor and/or Project Management Firm, Contractor(s) or Subcontractor(s) on a Contract which is part of the Construction of the _____ Project in _____, New Jersey (the "Project"), for and in consideration of the award of a Contract to perform work on said Project, and in further consideration of the mutual promises made in the Project Labor Agreement, a copy of which was received and is acknowledged, hereby:

(1) On behalf of itself and all its employees, accepts and agrees to be bound by the terms and conditions of the Project Labor Agreement, together with any and all amendments and supplements now existing or which are later made thereto, and understands that any act of non-compliance with all such terms and conditions will subject the non-complying Contractor or employee(s) to being prohibited from the Project Site until full compliance is obtained.

(2) Certifies that it has no commitments or agreements that would preclude its full compliance with the terms and conditions of said Projects Labor Agreement.

(3) Agrees to secure from any Contractor(s) (as defined in said Project Labor Agreement) which is or becomes a Subcontractor(s) (of any tier), a duly executed Letter of Assent in form identical to this document prior to commencement of any work.

Company Name
By: _____ Contract Number_____

Title: _____ General Contractor_____

Date: _____

cc: (Unions employed by Contractor)

SCHEDULE A

SCHEDULE B

EXHIBIT A

## 53. BID PROTEST – LEGAL FEES AND COSTS

In the event a Bidder unsuccessfully challenges a Bid Submission by filing an action in a court of law concerning same, said Bidder shall be responsible for payment of reasonable legal costs and fees incurred by the County relating to said protest.

## 54. AMERICAN GOODS AND PRODUCTS WHERE POSSIBLE

Bidder shall comply with the requirements of N.J.S.A. 40A:11-18 and use only manufactured and farm products of the United States, wherever available, for the Project.

## 55. NEW JERSEY PAY-TO-PLAY REQUIREMENTS

This Contract is required by law to be publicly advertised for bids. As such, lists of political contributions pursuant to N.J.S.A. 19:44A-1 et seq. are NOT REQUIRED to be provided with the bids.

## 56. STATEMENT OF EQUIPMENT TO BE USED IN CONSTRUCTION

Pursuant to N.J.S.A. 40A:11-20 entitled Certificate of Bidder Showing Ability to Perform Contract, the County requires a Certification from all bidders submitting a bid showing that the Bidder owns, leases, or controls all necessary equipment required by the Project Plans and Specifications. All bidders shall provide this information at the time of the bid opening using the attached form entitled, “CERTIFICATE OF BIDDER SHOWING ABILITY TO PERFORM CONTRACT’.

If the Bidder is not the actual owner of the equipment, it shall state the source from which the equipment will be obtained and shall attach a certificate from the owner or person in control of the equipment demonstrating that the equipment owner has granted the Bidder control of the requisite equipment during such time as may be necessary for completion of the portion of the contract for which the equipment is necessary.

## 57. NEW JERSEY SALES AND USE TAX REQUIREMENTS,

Contractors are required to comply with the following:
New Jersey Sales and Use Tax Requirements: All contractors with subcontractors, or any of their affiliates, who enter into contracts for the

provision of goods or services with or for New Jersey local government entities, are required to collect and remit to the New Jersey Director of Taxation in the Department of the Treasury the use tax due on all of their sales of tangible personal property delivered into the State of New Jersey pursuant to the "Sales and Use Tax Act," (N.J.S.A. 54:32B-1 et seq.), regardless of whether the tangible personal property is intended for a contract with the contracting agency. This tax shall be remitted for the term of the Contract.

For purposes herein "affiliate" shall mean any entity that: (a) directly, indirectly, or constructively controls another entity, (b) is directly, indirectly, or constructively controlled by another entity, or (c) is subject to the control of a common entity. For purposes of the immediately preceding sentence, an entity controls another entity if it owns, directly or indirectly, more than fifty percent (50%) of the ownership interest in that entity. NJSA 52:32-44(g)(3).

## 58. RESOLUTION NO. 2014-408

**WHEREAS,** the County of Union recognizes there is a need to ensure that all work on significant public construction and maintenance contracts is performed by responsible, qualified firms that maintain the capacity, expertise, personnel, and other qualifications and resources necessary to successfully perform public contracts in a timely, reliable, and cost-effective manner; and

**WHEREAS,** in order to effectuate the purpose of selecting responsible contractors for significant public contracts and to protect Union County's capital investments in such contracts prospective contractors and subcontractors should be required to meet pre-established, clearly-defined, minimum standards relating to contractor responsibility, including retirements and criteria concerning qualifications, competency) expertise, adequacy of resources, including equipment, financial and personnel, and satisfactory records regarding past project performance, safety, legal compliance and business integrity; and

**WHEREAS,** the County has a compelling interest in assuring that its Public Works Projects meet the highest standard of safety and quality; and

**WHEREAS,** due to the critical impact that skilled construction craft labor has on public works projects, and due to the limited availability of skilled construction craft labor and imminent craft labor skill shortages, it is necessary to require contractors and subcontractors to participate in established, formal apprenticeship training programs for the purpose of both promoting successful project delivery and ensuring future workforce development; and

**WHEREAS,** an apprenticeship program is a structured system of training

designed to prepare individuals for occupations and lifelong careers in skilled trades and crafts by providing a wage-paying job that incorporates extensive workplace and classroom training under the supervision of experienced workers, in preparation for highly skilled occupations; and

**WHEREAS,** apprenticeship programs are a critical component in public safety, by ensuring that workers on public projects are properly trained, able, competent and capable craftsmen, and provide assurance of compliance with the County's bid specifications and achieve high quality standards; and

**WHEREAS,** for an apprenticeship program to be fully effective, the public and private sectors must recognize its value and commit to supporting its mission; and

**WHEREAS,** Union County has long recognized the value of apprenticeship programs through its support of the Union County Vocational-Technical Schools, which offer training programs to help ensure that Union County will continue to produce a skilled and educated work force in the trade specialties, and thus, strengthen Union County's economy by fostering the development of highly paid trade and craft careers; and

**WHEREAS,** the use of apprenticeship programs or apprenticeship trained employees on Union County Public Works Projects will serve the dual goal of providing the County with assurance that its public works projects are completed with a well-trained workforce, in a highly skilled and timely fashion, while creating opportunities for careers in the skilled trades and craft industry for County residents; and

**WHEREAS,** the County of Union also recognizes that it is beneficial to their employees to utilize fair business, employment, and training practices that have a positive impact on local communities affected by such contracts:

**NOW, THEREFORE, BE IT RESOLVED by** the Board of Chosen Freeholders of the County of Union as follows:

1. The County of Union shall require compliance with the provisions of this Resolution by business entities seeking to provide services to the County of Union as specified herein. The requirements of this Resolution are intended to supplement, not replace, existing contractor qualifications and performance standards or criteria currently required by law, public policy or contracting documents, including but not limited to Union County's DPMC classification and Project Labor Agreement policies

2. All contractors and subcontractors that perform significant work on

any public facility or public works project, including construction, alteration, renovation, repair, service, or maintenance work, shall meet the requirements of this Resolution. For purposes of this Resolution, the term "significant work" shall be defined as any work or activity covered under the New Jersey Prevailing Wage Act, N.J.S.A. 34:11-56.25 et seq.

3. All firms engaged in contracts covered by this Resolution shall be qualified responsible contractors or subcontractors that have sufficient capabilities in all respects to successfully perform contracts on which they are engaged, including the necessary experience, equipment, technical skills and qualifications and organizational, financial and personnel resources. Firms bidding on public contracts shall also be required to have a satisfactory past performance record and a satisfactory record of legal compliance, integrity and business ethics. Compliance with these standards shall be established by compliance with the requirements set forth in paragraph 8 of this Resolution.

4. As a condition of performing work on public works contracts over the public works threshold, the general contractor shall provide certification that he and each subcontractor working on the project shall have at least one (I) employee who has successfully completed the OSHA 10-hour construction safety and health course. As a condition of performing work on public works contracts of $500,000.00 or more total cost of project, the general contractor shall provide certification that each subcontractor working on the project shall have at least one (1) employee who has successfully completed the OSHA 30-hour construction safety and health course.

5. All contractors and subcontractors that perform significant work on any public facility or public works project shall be required to affirmatively provide evidence of and confirm compliance with proof of participation in an Apprenticeship Program currently registered and approved by the United States Department of Labor ("USDOL"), the New Jersey Department of Labor ("NJDOL") or any state having equal to or higher requirements as either the USDOL or NJDOL apprenticeship programs. Additionally, Apprenticeship Programs shall meet the criteria set forth in Section 8(i) of this Resolution.

6. As a condition of performing work on public works contracts subject to this Resolution, a general contractor seeking award of a contract shall submit a Contractor Responsibility Certification at the time it submits its bid for contract.

7. The Contractor Responsibility Certification shall be completed on a form provided by the Union County Purchasing Department and shall reference the project for which a bid is being submitted by name and

contract or project number.

8. In the Contractor Responsibility Certification, general contractors and subcontractors shall certify the following facts regarding their past performance and work history and its current qualifications and performance capabilities:

a. The firm has all valid, effective licenses, registrations or certificates required by federal, state, county, or local law, including, but not limited to, licenses, registrations, certificates required to: (1) do business in the designated locale; and (2) perform the contract work it seeks to perform. These shall include, but not be limited to, licenses, registrations or certificates for any type of trade work or specialty work, which the firm proposes to self-perform.

b. The firm meets the bonding requirements for the contract, as required by applicable law or contract specifications and any insurance requirements, as required by applicable law or contract specifications, including general liability insurance, workers compensation insurance and unemployment requirements.

c. The firm has not been debarred by any federal, state or local government agency or authority in the past three (3) years.

d. The firm has not defaulted on any project in the past three (3) years.

e. The firm has not had any type of business, contracting or trade license, registration, or other certification suspended or revoked in the past three (3) years.

f. The firm has not been cited and found guilty for a willful violation of federal or state safety laws in the past three (3) years.

g. The firm and/or its owners have not been convicted of any crime relating to the contracting business by a final decision of a court or government agency in the past three (3) years.

h. The firm will pay all craft employees that it employs on the project the current wage rates and benefits as required under applicable Federal or State prevailing wage laws.

i. The firm participates in an Apprenticeship Program that is currently registered with the USDOL, the NJDOL or any state

having equal to or higher requirements as either the USDOL or NJDOL apprenticeship programs, for each craft or trade in which it apprentices. The firm shall provide proof of meeting this qualification standard by submitting appropriate documentation as an attachment to this Certification. The firm shall continue to participate in applicable apprenticeship programs for the full duration of the contract work. The apprenticeship program in which the firm participates shall have graduated at least one (1) enrollee in each of the past three (3) years.

9. The County of Union may conduct any additional inquiries to verify that the prospective awardee and its subcontractors have the technical qualifications and performance capabilities necessary to successfully perform the contract and that the firms have a sufficient record of legal compliance and business integrity to justify the award of a public contract. In conducting such inquiries, the County of Union may seek relevant information from the firm, its prior clients or customers, its subcontractors or any other relevant source.

10. If any provision of this Resolution shall be held to be invalid or unenforceable by a court of competent jurisdiction, any such holding shall not invalidate any other provisions of this Resolution and all remaining provisions shall remain in full force and effect.

**NOW, THEREFORE, BE IT RESOLVED** by the Board of Chosen Freeholders of the County of Union that it hereby establishes and adopts the Responsible Contractor Policy, and it hereby authorizes the County Manager to sign any and all documents necessary to make said Policy effective immediately.

## 59. FEDERAL TERMS

TERMS AND CONDITIONS APPLICABLE TO ALL CONTRACTS/PURCHASES FUNDED, IN WHOLE OR IN PART, BY FEDERAL FUNDS.

The provisions set forth below apply to all contracts funded, in whole or in part, by Federal funds as required by 2 CFR 200.317.

1. CONTRACTING WITH SMALL AND MINORITY BUSINESSES, WOMEN'S BUSINESS ENTERPRISES, AND LABOR SURPLUS AREA FIRMS

Pursuant to 2 CFR 200.321, the State must take all necessary affirmative steps to assure that minority businesses, women's business enterprises, and labor surplus area firms are used when possible. Accordingly, if subawards are to be made the Contractor shall:
(1) Include qualified small and minority businesses and women's business

enterprises on solicitation lists;

(2) Assure that small and minority businesses, and women's business enterprises are solicited whenever they are potential sources;

(3) Divide total requirements, when economically feasible, into smaller tasks or quantities to permit maximum participation by small and minority businesses, and women's business enterprises;

(4) Establish delivery schedules, where the requirement permits, which encourage participation by small and minority businesses, and women's business enterprises; and,

(5) Use the services and assistance, as appropriate, of such organizations as the Small Business Administration and the Minority Business Development Agency of the Department of Commerce.

2. DOMESTIC PREFERENCE FOR PROCUREMENTS

Pursuant to 2 CFR 200.322, where appropriate, the State has a preference for the purchase, acquisition, or use of goods, products, or materials produced in the United States (including but not limited to iron, aluminum, steel, cement, and other manufactured products). If subawards are to be made the Contractor shall include a preference for the purchase, acquisition, or use of goods, products, or materials produced in the United States (including but not limited to iron, aluminum, steel, cement, and other manufactured products). For purposes of this section:

(1) "Produced in the United States" means, for iron and steel products, that all manufacturing processes, from the initial melting stage through the application of coatings, occurred in the United States.

(2) "Manufactured products" means items and construction materials composed in whole or in part of nonferrous metals such as aluminum; plastics and polymer-based products such as polyvinyl chloride pipe; aggregates such as concrete; glass, including optical fiber; and lumber.

3. PROCUREMENT OF RECOVERED MATERIALS

Where applicable, in the performance of contract, pursuant to 2 CFR 200.323, the contractor must comply with section 6002 of the Solid Waste Disposal Act, as amended by the Resource Conservation and Recovery Act. The requirements of Section 6002 include procuring only items designated in guidelines of the Environmental Protection Agency (EPA) at 40 CFR Part 247 that contain the highest percentage of recovered materials practicable, consistent with maintaining a satisfactory level of competition, where the purchase price of the item exceeds $ 10,000 or the value of the quantity acquired during the preceding fiscal year exceeded $10,000; procuring solid waste management services in a manner that maximizes energy and resource recovery; and establishing an affirmative procurement program for procurement of recovered materials identified in the EPA guidelines.

To the extent that the scope of work or specifications in the contract requires the contractor to provide recovered materials the scope of work or specifications are modified to require that as follows.

i. In the performance of this contract, the Contractor shall make maximum use of products containing recovered materials that are EPA-designated items unless the product cannot be acquired—
    1. Competitively within a timeframe providing for compliance with the contract performance schedule;
    2. Meeting contract performance requirements; or
    3. At a reasonable price.
ii. Information about this requirement, along with the list of EPA-designated items, is available at EPA's Comprehensive Procurement Guidelines web site, https://www.epa.gov/smm/comprehensive-procurement-guideline-cpg-program.
iii. The Contractor also agrees to comply with all other applicable requirements of Section 6002 of the Solid Waste Disposal Act."

4. EQUAL EMPLOYMENT OPPORTUNITY

Except as otherwise provided under 41 CFR Part 60, all contracts that meet the definition of "federally assisted construction contract" in 41 CFR Part 60-1.3 must include the equal opportunity clause provided under 41 CFR 60-1.4(b), in accordance with Executive Order 11246, "Equal Employment Opportunity" (30 FR 12319, 12935, 3 CFR Part, 1964-1965 Comp., p. 339), as amended by Executive Order 11375, "Amending Executive Order 11246 Relating to Equal Employment Opportunity," and implementing regulations at 41 CFR part 60, "Office of Federal Contract Compliance Programs, Equal Employment Opportunity, Department of Labor." See, 2 CFR Part 200, Appendix II, para. C.

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

(1) The contractor will not discriminate against any employee or applicant for employment because of race, color, religion, sex, sexual orientation, gender identity, or national origin. The contractor will take affirmative action to ensure that applicants are employed, and that employees are treated during employment without regard to their race, color, religion, sex, sexual orientation, gender identity, or national origin. Such action shall include, but not be limited to the following:
    Employment, upgrading, demotion, or transfer; recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship. The contractor agrees to post in conspicuous places, available to employees and applicants for employment, notices to be provided setting forth the provisions of this nondiscrimination clause.
(2) The contractor will, in all solicitations or advertisements for employees placed by or on behalf of the contractor, state that all qualified applicants will receive consideration for employment without regard to race, color,

religion, sex, sexual orientation, gender identity, or national origin.

(3) The contractor will not discharge or in any other manner discriminate against any employee or applicant for employment because such employee or applicant has inquired about, discussed, or disclosed the compensation of the employee or applicant or another employee or applicant. This provision shall not apply to instances in which an employee who has access to the compensation information of other employees or applicants as a part of such employee's essential job functions discloses the compensation of such other employees or applicants to individuals who do not otherwise have access to such information, unless such disclosure is in response to a formal complaint or charge, in furtherance of an investigation, proceeding, hearing, or action, including an investigation conducted by the employer, or is consistent with the contractor's legal duty to furnish information.

(4) The contractor will send to each labor union or representative of workers with which he/she has a collective bargaining agreement or other contract or understanding, a notice to be provided advising the said labor union or workers' representatives of the contractor's commitments under this section, and shall post copies of the notice in conspicuous places available to employees and applicants for employment.

(5) The contractor will comply with all provisions of Executive Order 11246 of September 24, 1965, and of the rules, regulations, and relevant orders of the Secretary of Labor.

(6) The contractor will furnish all information and reports required by Executive Order 11246 of September 24, 1965, and by rules, regulations, and orders of the Secretary of Labor, or pursuant thereto, and will permit access to his/her books, records, and accounts by the administering agency and the Secretary of Labor for purposes of investigation to ascertain compliance with such rules, regulations, and orders.

(7) In the event of the contractor's noncompliance with the nondiscrimination clauses of this contract or with any of the said rules, regulations, or orders, this contract may be canceled, terminated, or suspended in whole or in part and the contractor may be declared ineligible for further Government contracts or federally assisted construction contracts in accordance with procedures authorized in Executive Order 11246 of September 24, 1965, and such other sanctions may be imposed and remedies invoked as provided in Executive Order 11246 of September 24, 1965, or by rule, regulation, or order of the Secretary of Labor, or as otherwise provided by law.

(8) The contractor will include the portion of the sentence immediately preceding paragraph (1) and the provisions of paragraphs (1) through (8) in every subcontract or purchase order unless exempted by rules, regulations, or orders of the Secretary of Labor issued pursuant to section 204 of Executive Order 11246 of September 24, 1965, so that such provisions will be binding upon each subcontractor or vendor. The

contractor will take such action with respect to any subcontract or purchase order as the administering agency may direct as a means of enforcing such provisions, including sanctions for noncompliance:

Provided, however, that in the event a contractor becomes involved in, or is threatened with, litigation with a subcontractor or vendor as a result of such direction by the administering agency, the contractor may request the United States to enter into such litigation to protect the interests of the United States.
The applicant further agrees that it will be bound by the above equal opportunity clause with respect to its own employment practices when it participates in federally assisted construction work: Provided, That if the applicant so participating is a State or local government, the above equal opportunity clause is not applicable to any agency, instrumentality or subdivision of such government which does not participate in work on or under the contract.

The applicant agrees that it will assist and cooperate actively with the administering agency and the Secretary of Labor in obtaining the compliance of contractors and subcontractors with the equal opportunity clause and the rules, regulations, and relevant orders of the Secretary of Labor, that it will furnish the administering agency and the Secretary of Labor such information as they may require for the supervision of such compliance, and that it will otherwise assist the administering agency in the discharge of the agency's primary responsibility for securing compliance.

The applicant further agrees that it will refrain from entering into any contract or contract modification subject to Executive Order 11246 of September 24, 1965, with a contractor debarred from, or who has not demonstrated eligibility for, Government contracts and federally assisted construction contracts pursuant to the Executive Order and will carry out such sanctions and penalties for violation of the equal opportunity clause as may be imposed upon contractors and subcontractors by the administering agency or the Secretary of Labor pursuant to Part II, Subpart D of the Executive Order. In addition, the applicant agrees that if it fails or refuses to comply with these undertakings, the administering agency may take any or all of the following actions: Cancel, terminate, or suspend in whole or in part this grant (contract, loan, insurance, guarantee); refrain from extending any further assistance to the applicant under the program with respect to which the failure or refund occurred until satisfactory assurance of future compliance has been received from such applicant; and refer the case to the Department of Justice for appropriate legal proceedings.

5. DAVIS-BACON ACT, 40 U.S.C. 3141-3148, AS AMENDED

When required by Federal program legislation, all prime construction contracts in excess of $2,000 shall be done in compliance with the Davis-Bacon Act (40 U.S.C. 3141- 3144, and 3146-3148) and the requirements of 29 C.F.R. pt. 5 as may be applicable. The contractor shall comply with 40 U.S.C. 3141-3144, and 3146-3148 and the requirements of 29 C.F.R. pt. 5 as applicable. Contractors are required to pay wages to laborers and mechanics at a rate not less than the prevailing wages specified in a wage determination made by the Secretary of Labor. Additionally, contractors are required to pay wages not less than once a week. The non-Federal entity must place a copy of the current prevailing wage determination issued by the Department of Labor in each solicitation. The decision to award a contract or subcontract must be conditioned upon the acceptance of the wage determination. The non-Federal entity must report all suspected or reported violations to the Federal awarding agency.

6. COPELAND ANTI-KICKBACK ACT

Where applicable, the Contractor must comply with Copeland "Anti-Kickback" Act (40 U.S.C. 3145), as supplemented by Department of Labor regulations (29 CFR Part 3, "Contractors and Subcontractors on Public Building or Public Work Financed in Whole or in Part by Loans or Grants from the United States").

a. Contractor. The Contractor shall comply with 18 U.S.C. § 874, 40 U.S.C. § 3145, and the requirements of 29 C.F.R. pt. 3 as may be applicable, which are incorporated by reference into the OGS centralized contract.
b. Subcontracts. The Contractor or subcontractor shall insert in any subcontracts the clause above and such other clauses as FEMA may by appropriate instructions require, and also a clause requiring the subcontractors to include these clauses in any lower tier subcontracts. The prime contractor shall be responsible for the compliance by any subcontractor or lower tier subcontractor with all of these contract clauses.
c. Breach. A breach of the clauses above may be grounds for termination of the OGS centralized contract, and for debarment as a Contractor and subcontractor as provided in 29 C.F.R. § 5.12.

7. CONTRACT WORK HOURS AND SAFETY STANDARDS ACT, 40 U.S.C. 3701-3708

Where applicable, all contracts awarded by the non-Federal entity in excess of $ 100,000 that involve the employment of mechanics or laborers must comply with 40 U.S.C. 3702 and 3704, as supplemented by Department of Labor regulations (29 CFR Part 5).

(1) Overtime requirements. No contractor or subcontractor contracting for any part of the contract work which may require or involve the employment of laborers or mechanics shall require or permit any such laborer or mechanic in any workweek in which he or she is employed on such work to work in excess of forty hours in such workweek unless such laborer or mechanic receives compensation at a rate not less than one and one-half times the basic rate of pay for all hours worked in excess of forty hours in such workweek.

(2) Violation; liability for unpaid wages; liquidated damages. In the event of any violation of the clause set forth in paragraph (b)(1) of this section the contractor and any subcontractor responsible therefor shall be liable for the unpaid wages. In addition, such contractor and subcontractor shall be liable to the United States (in the case of work done under contract for the District of Columbia or a territory, to such District or to such territory), for liquidated damages. Such liquidated damages shall be computed with respect to each individual laborer or mechanic, including watchmen and guards, employed in violation of the clause set forth in paragraph (b)(1) of this section, in the sum of $27 for each calendar day on which such individual was required or permitted to work in excess of the standard workweek of forty hours without payment of the overtime wages required by the clause set forth in paragraph (b)(1) of this section.

(3) Withholding for unpaid wages and liquidated damages. The unauthorized user shall upon its own action or upon written request of an authorized representative of the Department of Labor withhold or cause to be withheld, from any moneys payable on account of work performed by the contractor or subcontractor under any such contract or any other Federal contract with the same prime contractor, or any other federally-assisted contract subject to the Contract Work Hours and Safety Standards Act, which is held by the same prime contractor, such sums as may be determined to be necessary to satisfy any liabilities of such contractor or subcontractor for unpaid wages and liquidated damages as provided in the clause set forth in paragraph (b)(2) of this section.

(4) Subcontracts. The contractor or subcontractor shall insert in any subcontracts the clauses set forth in paragraph (b)(1) through (4) of this section and also a clause requiring the subcontractors to include these clauses in any lower tier subcontracts. The prime contractor shall be responsible for compliance by any subcontractor or lower tier subcontractor with the clauses set forth in paragraphs (b)(1) through (4) of this section.

8. RIGHTS TO INVENTIONS MADE UNDER A CONTRACT OR AGREEMENT

If the Federal award meets the definition of "funding agreement" under 37 CFR § 401.2 (a) and the recipient or subrecipient wishes to enter into a

contract with a small business firm or nonprofit organization regarding the substitution of parties, assignment or performance of experimental, developmental, or research work under that "funding agreement," the recipient or subrecipient must comply with the requirements of 37 CFR Part 401, "Rights to Inventions Made by Nonprofit Organizations and Small Business Firms Under Government Grants, Contracts and Cooperative Agreements," and any implementing regulations issued by the awarding agency.

9. CLEAN AIR ACT, 42 U.S.C. 7401-7671Q, AND THE FEDERAL WATER POLLUTION CONTROL ACT, 33 U.S.C. 1251-1387, AS AMENDED

Where applicable, Contracts and subgrants of amounts in excess of $150,000, must comply with the following:

Clean Air Act

1. The contractor agrees to comply with all applicable standards, orders or regulations issued pursuant to the Clean Air Act, as amended, 42 U.S.C. § 7401 et seq.
2. The contractor agrees to report each violation to the Division of Purchase and Property and understands and agrees that the Division of Purchase and Property will, in turn, report each violation as required to assure notification to the Federal Emergency Management Agency, and the appropriate Environmental Protection Agency Regional Office.
3. The contractor agrees to include these requirements in each subcontract exceeding $150,000 financed in whole or in part with Federal assistance provided by FEMA.

Federal Water Pollution Control Act

1. The contractor agrees to comply with all applicable standards, orders, or regulations issued pursuant to the Federal Water Pollution Control Act, as amended, 33 U.S.C. 1251 et seq.
2. The contractor agrees to report each violation to the Division of Purchase and Property and understands and agrees that the Division of Purchase and Property will, in turn, report each violation as required to assure notification to the Federal Emergency Management Agency, and the appropriate Environmental Protection Agency Regional Office.
3. The contractor agrees to include these requirements in each subcontract exceeding $150,000 financed in whole or in part with Federal assistance provided by FEMA.

10. DEBARMENT AND SUSPENSION (EXECUTIVE ORDERS 12549 AND 12689)

(1) This contract is a covered transaction for purposes of 2 C.F.R. pt. 180 and 2 C.F.R. pt. 3000. As such, the contractor is required to verify that

none of the contractor's principals (defined at 2 C.F.R. § 180.995) or its affiliates (defined at 2 C.F.R. § 180.905) are excluded (defined at 2 C.F.R. § 180.940) or disqualified (defined at 2 C.F.R. § 180.935).

(2) The contractor must comply with 2 C.F.R. pt. 180, subpart C and2 C.F.R. pt. 3000, subpart C, and must include a requirement to comply with these regulations in any lower tier covered transaction it enters into.

(3) This certification is a material representation of fact relied upon by the State or authorized user. If it is later determined that the contractor did not comply with 2 C.F.R. pt. 180, subpart C and 2 C.F.R. pt. 3000, subpart C, in addition to remedies available to the State or authorized user, the Federal Government may pursue available remedies, including but not limited to suspension and/or debarment.

(4) The bidder or proposer agrees to comply with the requirements of2 C.F.R. pt. 180, subpart C and 2 C.F.R. pt. 3000, subpart C while this offer is valid and throughout the period of any contract that may arise from this offer. The bidder or proposer further agrees to include a provision requiring such compliance in its lower tier covered transactions.

11. BYRD ANTI-LOBBYING AMENDMENT, 31 U.S.C. 1352

Contractors that apply or bid for an award exceeding $100,000 must file the required certification. Each tier certifies to the tier above that it will not and has not used Federal appropriated funds to pay any person or organization for influencing or attempting to influence an officer or employee of any agency, a member of Congress, officer or employee of Congress, or an employee of a member of Congress in connection with obtaining any Federal contract, grant or any other award covered by 31 U.S.C. 1352. Each tier must also disclose any lobbying with non-Federal funds that takes place in connection with obtaining any Federal award. Such disclosures are forwarded from tier to tier up to the non-Federal award. Such disclosures are forwarded from tier to tier up to the recipient who in turn will forward the certification(s) to the awarding agency.

12. PROHIBITION ON CERTAIN TELECOMMUNICATIONS AND VIDEO SURVEILLANCE SERVICES OR EQUIPMENT

(a) Recipients and subrecipients are prohibited from obligating or expending loan or grant funds to:

(1) Procure or obtain;

(2) Extend or renew a contract to procure or obtain; or

(3) Enter into a contract (or extend or renew a contract) to procure or obtain equipment, services, or systems that uses covered telecommunications equipment or services as a substantial or essential component of any system, or as critical technology as part of any system. As described in Public Law 115–232, section 889, covered

telecommunications equipment is telecommunications equipment produced by Huawei Technologies Company or ZTE Corporation (or any subsidiary or affiliate of such entities).

(i) For the purpose of public safety, security of government facilities, physical security surveillance of critical infrastructure, and other national security purposes, video surveillance and telecommunications equipment produced by Hytera Communications Corporation, Hangzhou Hikvision Digital Technology Company, or Dahua Technology Company (or any subsidiary or affiliate of such entities).
(ii) Telecommunications or video surveillance services provided by such entities or using such equipment.
(iii) Telecommunications or video surveillance equipment or services produced or provided by an entity that the Secretary of Defense, in consultation with the Director of the National Intelligence or the Director of the Federal Bureau of Investigation, reasonably believes to be an entity owned or controlled by, or otherwise connected to, the government of a covered foreign country.

13. CONTRACTS FOR MORE THAN THE SIMPLIFIED ACQUISITION THRESHOLD

Contracts for more than the simplified acquisition threshold, which is the inflation adjusted amount determined by the Civilian Agency Acquisition Council and the Defense Acquisition Regulations Council (Councils) as authorized by 41 U.S.C. 1908, must address administrative, contractual, or legal remedies in instances where contractors violate or breach contract terms, and provide for such sanctions and penalties as appropriat

14. TERMINATION FOR CONVENIENCE PROVISION

All contracts in excess of $10,000 must address termination for cause and for convenience by the non-Federal entity including the manner by which it will be effected and the basis for settlement.

15. BONDING REQUIREMENTS

For construction or facility improvement contracts or subcontracts exceeding the Simplified Acquisition Threshold, the Federal awarding agency or pass-through entity may accept the bonding policy and requirements of the non-Federal entity provided that the Federal awarding agency or pass-through entity has made a determination that the Federal interest is adequately protected. If such a determination has not been made, the minimum requirements must be as follows:

(a) A bid guarantee from each bidder equivalent to five percent of the bid price. The “bid guarantee” must consist of a firm commitment such as a bid bond, certified check, or other negotiable instrument accompanying a bid as assurance that the bidder will, upon acceptance of the bid, execute such contractual documents as may be required within the time specified.

(b) A performance bond on the part of the contractor for 100 percent of the contract price. A “performance bond” is one executed in connection with a contract to secure fulfillment of all the contractor's requirements under such contract.

(c) A payment bond on the part of the contractor for 100 percent of the contract price. A “payment bond” is one executed in connection with a contract to assure payment as required by law of all persons supplying labor and material in the execution of the work provided for in the contract.

Bidders name _____

**EDWARD T. OATMAN**
**COUNTY MANAGER**

**MICHELE HAGOPIAN, ASSISTANT DIRECTOR**
**DIVISION OF PURCHASING**

**BID DOCUMENT SUBMISSION CHECKLIST**

**ALL SIGNATURES AND SEALS SHALL BE ORIGINALS UNLESS OTHERWISE SPECIFIED**
**BID SHEETS SHOULD NOT BE SUBMITTED DOUBLE SIDED PAGES, (SINGLE SIDE ONLY)**

**EACH BIDDER SHOULD COMPLETE THIS FORM AND INITIAL EACH ENTRY.**
*DATE COMPLETED*: _____

**PLEASE SUBMIT BID DOCUMENTS ON SINGLE SIDED PAPER ONLY, WITH THE EXCEPTION OF THE SURETY AND BID BOND DOCUMENTS.**

**IN ACCORDANCE WITH THE BID SPECIFICATIONS I HAVE REVIEWED, COMPLETED / EXECUTED AND INCLUDED THE FOLLOWING FORMS:**

_____ Bid Form Page **(Signed, Dated and Bid on all alternatives applicable to the Work)**.

_____ Security in the form of:

____ Bid bond in an amount equal to 10% of the total amount of this bid not to exceed $20,000.00; or

____ Certified check or cashier's check in the amount of 10% of this bid not to exceed $20,000.00

_____ Consent of Surety form signed by a Surety Company if the total amount of your Bid is over $36,000.00. If your bid is accepted, the Surety Company that provided the Consent shall be required to furnish a Performance, Labor and Materials Bond in the amount of 100% of the award of the contract.

The County of Union has provided its Consent of Surety form for your use. The use of this form by your Surety Company will expedite the bid review process and eliminate the possibility of having your bid rejected. If, however, you should need to use another form, please use language similar to that used on the Union County form and avoid making any additions or deletions to the Union County form language. In lieu of the Consent of Surety you may submit a Certified Check in the full amount of the bid.

_____ STATEMENT OF BIDDER OWNERSHIP. Pursuant to N.J.S.A. 52:25-24.2, which includes **BOTH** of the following documents:

- Bidder Signature Page
- Bidder Disclosure Statement **(Fill out 2 pages completely)**

_____ SUBCONTRACTOR IDENTIFICATION. Pursuant to N.J.S.A. 40A:11-16, which includes **BOTH** of the following documents:

- Subcontractor Identification Statement: List of Subcontractors **(only for certain types of work)**
- Subcontractor Identification Certification

_____ Acknowledgement of Addendum form**: (This form is to be used only when an addendum has been added to the specifications)**.

_____ A copy of the State of New Jersey Department of the Treasury, Division of Revenue, **Business Registration Certificate ("BRC")** should be included with the bids as it must be received by the County prior to the award of the contract. The BRC provided must show that the Bidder was registered at the time of receipt of bids or the bid will be rejected.

Bidders name _____

_____ A copy of the State of New Jersey Department of the Treasury, Division of Revenue, **Business Registration Certificate ("BRC")** of all named or listed subcontractors (List of Subcontractors) in a Construction bid should be included with the bid as the BRC(s) must be received by the County prior to the award of the contract. Each subcontractor's certificate provided must show that the subcontractor was registered at the time of the receipt of bids or the bid will be rejected.

_____ Affirmative Action Requirement

_____ Experience Statement

_____ Certificate of Bidder showing ability to perform Contract

_____ Non-Collusion Affidavit – Fill out completely and notarize

_____ Certificates from New Jersey Department of Labor and Workforce and Workforce Development – Public Works Contractor Registration Act. **(Only for certain types of work)**

_____ Federal Attachments **(If applicable)**

_____ NJDPMC Certificate / Notice of Classification **(If applicable)**

_____ Americans with Disabilities Act

_____ Statement of Bidder's Qualifications

_____ Contractor Performance Record

_____ Affidavit Regarding List of Debarred, Suspended or Disqualified Bidders

_____ Prior Negative Experience Questionnaire

_____ Contractor's Certification of Compliance – New Jersey Prevailing Wage Act

_____ Uncompleted Contracts Affidavit **(For Bidder, if applicable) MUST ALSO PROVIDE DPMC FORM 701**

_____ Certificate of Insurance Statement

_____ Collection of Use Tax on Sales to Local Government Statement

_____ Acknowledgement of Project Labor Agreement (PLA)

_____ Time of Completion

_____ Disclosure of Investment Activities in Iran

-------- Disclosure of non-involvement activities in Russia or Belarus

_____ Federal Non-Debarment Certification

_____ BYRD Anti-Lobbying Amendment Certification

_____ Certification Regarding Lobbying

_____ Disclosure of Lobbying Activities (LLL Form)

**I HAVE TAKEN THE FOLLOWING ACTIONS:**

_____ Visited the site and attended the Pre-Bid Meeting **(Where applicable)**

_____ Reviewed the Contract Documents (including any permits the County or its professionals may have obtained), Work, Site, Locality, and Local Conditions and Laws and Regulations that in any manner may affect Cost, Progress, Performance or Furnishing of Work.

Bidders name _____

_____ Reviewed Bond Requirements

_____ Provided Proof of Compliance with New Jersey Prevailing Wage Act

_____ Reviewed Form of Owner/Contractor Agreement and General Conditions to the Contract

**NOTE: QUESTIONS PERTAINING TO THIS BID ARE TO BE DIRECTED TO THE DIVISION OF PURCHASING AT** ucbids@ucnj.org.

**BIDDING DOCUMENTS**

The Bidding Documents consist of the following items:

- **ADDENDA, if issued**
- **CLARIFICATIONS, if issued**
- **INSTRUCTION TO BIDDERS**
- **BID FORM**
- **OWNER-CONTRACTOR AGREEMENT (AIA 101) AND GENERAL CONDITIONS (AIA 201)**
- **SPECIFCATIONS: As outlined in the Table of Contents and included in the Project Manual.**
- **DRAWINGS: As per List of Drawings, indicated on the Project Title Sheet.**

Bidders name _____

# BID FORM

I/We have carefully examined the plans, specifications, and advertisement for bid for the

**Renovations to 921 Elizabeth Avenue, City of Elizabeth,**
**County of Union, New Jersey**
**BA#12-2025; Union County Engineering Project #2022-020**

that is on file in the Union County Division of Engineering. I/We have inspected the site of the work and will contract to do all the work and furnish all materials mentioned in said plans and specifications. Work will be accomplished in the manner prescribed therein.

**LUMP SUM BID:**

_____ _____
Written Figures

**BID CONTINGENCY: (To be used if and when directed by the County)**

Three-Hundred Thousand Dollars **$** 300,000.00
Written Figures

**TOTAL LUMP SUM PLUS BID CONTINGENCY AMOUNT:**

_____ _____
Written Figures

**NOTE: Bid Contingency may include one-half of one percent of contract amount set aside for local training if and when directed by the County.**

Bidders name _____

**CONSENT OF SURETY**
TO ACCOMPANY PROPOSAL (BID)

_____ (hereinafter called Surety), organized and existing under the laws of the State of _____ duly authorized and qualified to transact business in the State of New Jersey, in consideration of the sum of One Dollar ($1.00), lawful money of the United States of America, to it in hand paid, receipt whereof is hereby acknowledged, and in consideration, hereby certifies and agrees that if the contract for which the attached proposal is made be awarded to _____ (hereinafter called Contractor) for the performance of certain work and labor or the supplying of certain materials, or both, as more particularly set forth in said proposal and described for purposes of this instrument as a proposal for _____ to the COUNTY OF UNION and if Contractor shall enter into the contract, Surety will become bound as surety for its faithful performance, labor and material payment and will provide the Contractor with a performance, labor and material payment bond in the full amount of the contract price.

**NOTE:**
Expiration date
Needed if Annual
Surety

_____

_____
**NAME OF INSURANCE COMPANY**

**ADDRESS:** _____
_____
_____

_____
**ORIGINAL SIGNATURE**
**ATTORNEY-IN-FACT FOR INSURANCE CO.**

**NOTE: PROOF OF AUTHORITY OF OFFICERS OF SURETY COMPANY TO EXECUTE THIS DOCUMENT MUST BE SUBMITTED.**

Bidders name _____

# BIDDER SIGNATURE PAGE

THE BIDDER MUST READ THE FOLLOWING INSTRUCTIONS TO COMPLETE THIS PAGE:

1. If doing business under a **trade name, partnership or a sole proprietorship**, you must submit the bid under exact title of the trade name, partnership, or proprietorship, and the bid must be signed by either the **owner**, or a **partner** and **witnessed** by a **notary public**.

2. If a **Corporation**, the bid must be signed by the **President** or **Vice President** and **witnessed** by a **Corporate Secretary** (corporate title must be exact) and **affix corporate seal**. If a Corporate Secretary does not exist, President or Vice President's signature shall be witnessed by a Notary Public.

3. Other persons **authorized** by **corporate resolution** to execute agreements in its behalf may also sign the bid documents (pages). **Copy of a resolution must accompany the bid**.

4. The person who signs this bid form **must also** sign the **Non-Collusion Affidavit**.

5. You **cannot** witness your own signature.

_____

**NAME OF BIDDER**

_____
_____
_____

**ADDRESS OF BIDDER**

_____

**ORIGINAL SIGNATURE**
**CORPORATE SECRETARY**

_____

**PRINT NAME AND TITLE**
**CORPORATE SECRETARY**

**TEL:** _____
**FAX:** _____
**E-Mail**: _____

**BY:** _____

**ORIGINAL SIGNATURE**

**Corporate Seal**

_____

_____

**PRINT OR TYPE NAME AND TITLE**

**WARNING: IF YOU FAIL TO FULLY, ACCURATELY, AND COMPLETELY SUPPLY THE INFORMATION REQUESTED ON THIS PAGE, YOUR BID MAY BE REJECTED**.

Bidders name _____

# STATEMENT OF OWNERSHIP DISCLOSURE

N.J.S.A. 52:25-24.2 (P.L. 1977, c.33, as amended by P.L. 2016, c.43)

**This statement shall be completed, certified to, and included with all bid and proposal submissions. Failure to submit the required information is cause for automatic rejection of the bid or proposal.**

**Name of Organization:** _____

**Organization Address:** _____

## Part I Check the box that represents the type of business organization:

☐ Sole Proprietorship (skip Parts II and III, execute certification in Part IV)

☐ Non-Profit Corporation (skip Parts II and III, execute certification in Part IV)

☐ For-Profit Corporation (any type) ☐ Limited Liability Company (LLC)

☐ Partnership ☐ Limited Partnership ☐ Limited Liability Partnership (LLP)

☐ Other (be specific): _____

## Part II

☐ The list below contains the names and addresses of all stockholders in the corporation who own 10 percent or more of its stock, of any class, or of all individual partners in the partnership who own a 10 percent or greater interest therein, or of all members in the limited liability company who own a 10 percent or greater interest therein, as the case may be. (**COMPLETE THE LIST BELOW IN THIS SECTION**)

**OR**

☐ No one stockholder in the corporation owns 10 percent or more of its stock, of any class, or no individual partner in the partnership owns a 10 percent or greater interest therein, or no member in the limited liability company owns a 10 percent or greater interest therein, as the case may be. (**SKIP TO PART IV**)

(Please attach additional sheets if more space is needed):

| Name of Individual or Business Entity | Address |
|---|---|
| | |
| | |
| | |
| | |
| | |
| | |

## Part III DISCLOSURE OF 10% OR GREATER OWNERSHIP IN THE STOCKHOLDERS, PARTNERS OR LLC MEMBERS LISTED IN PART II

Bidders name _____

**If a bidder has a direct or indirect parent entity which is publicly traded, and any person holds a 10 percent or greater beneficial interest in the publicly traded parent entity as of the last annual federal Security and Exchange Commission (SEC) or foreign equivalent filing,** ownership disclosure can be met by providing links to the website(s) containing the last annual filing(s) with the federal Securities and Exchange Commission (or foreign equivalent) that contain the name and address of each person holding a 10% or greater beneficial interest in the publicly traded parent entity, along with the relevant page numbers of the filing(s) that contain the information on each such person. **Attach additional sheets if more space is needed**.

| Website (URL) containing the last annual SEC (or foreign equivalent) filing | Page #'s |
|---|---|
| | |
| | |
| | |

**Please list** the names and addresses of each stockholder, partner or member owning a 10 percent or greater interest in any corresponding corporation, partnership and/or limited liability company (LLC) listed in Part II **other than for any publicly traded parent entities referenced above**. The disclosure shall be continued until names and addresses of every noncorporate stockholder, and individual partner, and member exceeding the 10 percent ownership criteria established pursuant to N.J.S.A. 52:25-24.2 has been listed. **Attach additional sheets if more space is needed.**

| Stockholder/Partner/Member and Corresponding Entity Listed in Part II | Address |
|---|---|
| | |
| | |
| | |

## Part IV Certification

I, being duly sworn upon my oath, hereby represent that the foregoing information and any attachments thereto to the best of my knowledge are true and complete. I acknowledge: that I am authorized to execute this certification on behalf of the bidder/proposer; that the ***County of Union*** is relying on the information contained herein and that I am under a continuing obligation from the date of this certification through the completion of any contracts with ***County of Union*** to notify the ***County of Union*** in writing of any changes to the information contained herein; that I am aware that it is a criminal offense to make a false statement or misrepresentation in this certification, and if I do so, I am subject to criminal prosecution under the law and that it will constitute a material breach of my agreement(s) with the, permitting the ***County of Union*** to declare any contract(s) resulting from this certification void and unenforceable.

| | | | |
|---|---|---|---|
| Full Name (Print): | | Title: | |
| Signature: | | Date: | |

Bidders name _____

# SUBCONTRACTOR IDENTIFICATION STATEMENT

## LIST OF SUBCONTRACTORS

This form is ONLY required for plumbing and gas fitting, steam and hot water heating and ventilating apparatus, steam power plants, electrical work, structural steel, ornamental iron work, and any other trades required to be identified by the specifications (including, but not limited, to satisfying any DPMC Classification requirements).

☐ **CHECK THIS BOX IF NONE OF THE ABOVE LISTED TRADES OR THOSE REQUIRED TO BE IDENTIFIED IN THE SPECIFICATIONS ARE TO BE USED TO PERFORM THE WORK**

In compliance with N.J.S.A. 40A:11-16 and the bid specifications, the undersigned hereby lists the name or names of the following subcontractors:

Company Name:_____

Address:_____

Telephone: _____ Subcontract Amount: $_____

Specific Scope of Work Subcontracted: _____

_____

License No. _____

Company Name:_____

Address: _____

Telephone: _____ Subcontract Amount: $_____

Specific Scope of Work Subcontracted: _____

_____

License No. _____

Company Name:_____

Address: _____

Telephone: _____ Subcontract Amount: $_____

Specific Scope of Work Subcontracted: _____

_____

License No. _____

**IF MORE THAN THREE SUBCONTRACTORS, PLEASE COPY THIS SHEET AS NECESSARY AND ATTACH TO THE BID PACKAGE.**

(Continued on following page)

Bidders name _____

## SUBCONTRACTOR IDENTIFICATION CERTIFICATION

Note the law does not permit the listing of alternate subcontractors. However, multiple subcontractors for the same trade are permitted to be named provided the bidder meets the following requirements:

- Bidder identifies each subcontractor named for that category;
- Bidder states the scope of work, goods and services (the portion of the work) to be performed by each subcontractor; and
- Bidder provides the price quote provided by each subcontractor.

The bidder is advised that any change of subcontractor(s) from ones listed herein is subject to the County's approval. Change of subcontractor(s) will be approved only if made for good cause and not as a result of an arbitrary purpose.

The undersigned Bidder certifies and declares that the subcontractors listed above shall be used as subcontractors to complete certain portions of the work in this project as set forth in N.J.S.A. 40A: 11-16.

_____
**Witness**

**Date** _____

_____
**NAME OF BIDDER**

_____

_____
**ADDRESS**

**By:** _____
**ORIGINAL SIGNATURE ONLY**

_____

_____
**PRINT NAME AND TITLE**

Bidders name _____

# ACKNOWLEDGMENT OF ADDENDUM

**COUNTY OF UNION**

_____ _____

**(Name of Construction /Public Works Project)** **(Project or Bid Number)**

Pursuant to N.J.S.A. 40A:11-23.1a., the undersigned bidder, hereby acknowledges receipt of the following notices, revisions, or addenda to the bid advertisement, specifications or bid documents. By indicating date of receipt, bidder acknowledges the submitted bid takes into account the provisions of the notice, revision or addendum. Note that the County of Union's record of notice to bidders shall take precedence and that failure to include provisions of changes in a bid proposal may be subject for rejection of the bid.

| Local Unit Reference Number or Title of Addendum/Revision | How Received (mail, fax, pick-up, etc.) | Date Received |
|---|---|---|
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |

**ACKNOWLEDGMENT BY BIDDER:**

**NAME OF BIDDER:** _____

**ORIGINAL SIGNATURE:** _____

**PRINTED NAME AND TITLE:**_____

**DATE:** _____

Bidders name _____

# CONTRACTOR BUSINESS REGISTRATION CERTIFICATE

Pursuant to N.J.S.A. 52:32-44, the County of Union is prohibited from entering into a contract with an entity unless the bidder/proposer/contractor, and each subcontractor that is required by law to be named in a bid/proposal/contract has a valid Business Registration Certificate on file with the Division of Revenue and Enterprise Services within the Department of the Treasury.

Prior to contract award or authorization, the contractor shall provide the County of Union with its proof of business registration and that of any named subcontractor(s).

Subcontractors named in a bid or other proposal shall provide proof of business registration to the bidder, who in turn, shall provide it to the County of Union prior to the time a contract, purchase order, or other contracting document is awarded or authorized.

Proof of registration must show that the bidder was in fact registered with the State of New Jersey Department of the Treasury, Division of Revenue and obtained the business registration prior to the receipt of bids. If subcontractors are named on the bid, proof of the business registration for each must be provided prior to the award of a contract. Similarly to the bidder, the proof must show that each subcontractor was registered with the State of New Jersey Department of the Treasury, Division of Revenue and obtained the business registration prior to the receipt of bids.

During the course of contract performance:

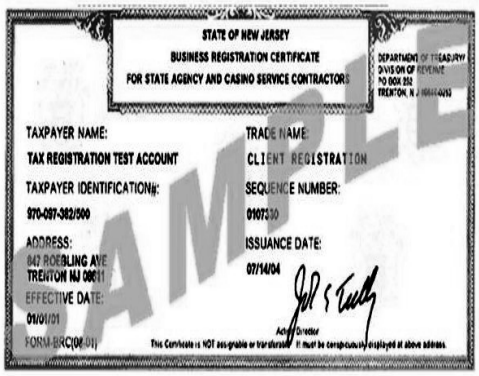
(1) the contractor shall not enter into a contract with a subcontractor unless the subcontractor first provides the contractor with a valid proof of business registration.

(2) the contractor shall maintain and submit to the County of Union a list of subcontractors and their addresses that may be updated from time to time.

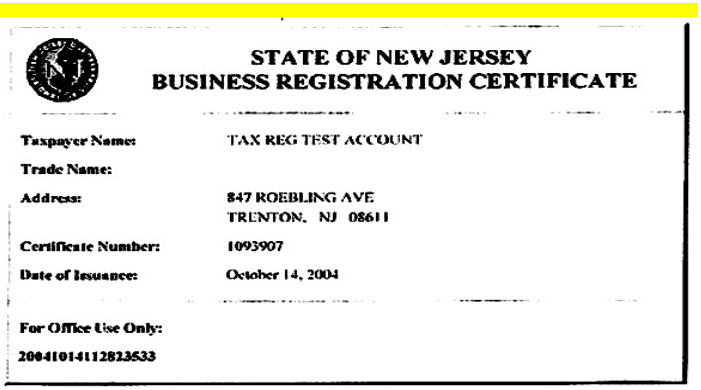
(3) the contractor and any subcontractor providing goods or performing services under the contract, and each of their affiliates, shall collect and remit to the Director of the Division of Taxation in the Department of the Treasury, the use tax due pursuant to the Sales and Use Tax Act, (N.J.S.A. 54:32B-1 et seq.) on all sales of tangible personal property delivered into the State. Any questions in this regard can be directed to the Division of Taxation at (609)292-6400. Form NJ-REG can be filed online at http://www.state.nj.us/treasury/revenue/busregcert.shtml.

Before final payment is made under the contract, the contractor shall submit to the County of Union a complete and accurate list of all subcontractors used and their addresses.

Pursuant to N.J.S.A. 54:49-4.1, a business organization that fails to provide a copy of a business registration as required, or that provides false business registration information, shall be liable for a penalty of $25 for each day of violation, not to exceed $50,000, for each proof of business registration not properly provided under a contract with a contracting agency.


STATE OF NEW JERSEY
BUSINESS REGISTRATION CERTIFICATE
FOR STATE AGENCY AND CASINO SERVICE CONTRACTORS

TAXPAYER NAME:
TAX REGISTRATION TEST ACCOUNT
TRADE NAME:
CLIENT REGISTRATION
TAXPAYER IDENTIFICATION#:
SEQUENCE NUMBER:
ADDRESS:
ISSUANCE DATE:
07/14/04
EFFECTIVE DATE:
01/01/01


STATE OF NEW JERSEY
BUSINESS REGISTRATION CERTIFICATE

Taxpayer Name: TAX REG TEST ACCOUNT
Trade Name:
Address: 847 ROEBLING AVE
TRENTON, NJ 08611
Certificate Number: 1093907
Date of Issuance: October 14, 2004
For Office Use Only:
20041014112823533

Bidders name _____

# AFFIRMATIVE ACTION REQUIREMENT

**REQUIRED AFFIRMATIVE ACTION EVIDENCE**

General Requirements of P.L. 1975, c. 127: You are hereby put on notice that:

CONSTRUCTION CONTRACTS: The successful contractor must submit within three (3) days of the notice of intent to award or the signing of the contract the initial project manning report (A.A.201). This report should be submitted at the time the signed contract is returned to the County of Union. Attention: *Affirmative Action Officer.*

**If the successful contract does not submit the initial project manning report (A.A.201) within the three (3) days from the time the signed contract is returned to the County of Union, the County of Union WILL declare the contractor non-responsive and award the contract to the next lowest responsible bidder.**

_____
**NAME OF BIDDER**

_____
**ORIGINAL SIGNATURE**

_____
**PRINT OR TYPE NAME AND TITLE**

_____
**DATE THIS FORM IS COMPLETED**

Bidders name _____

## EXPERIENCE STATEMENT

**I hereby certify that my company has performed the following private or public work, which is relevant to this bid. I further certify that my company has never defaulted under any contract. Should you not sign this form due to prior defaults, please provide details on an attached sheet.**

_____
**Witness**

_____
**Date**

_____
**NAME OF BIDDER**

_____
_____
_____
**ADDRESS**

**By:** _____
**ORIGINAL SIGNATURE ONLY**

_____

_____
**PRINT NAME AND TITLE**

**YOU MAY ATTACH ADDITIONAL SHEETS, BUT YOU MUST SIGN AND WITNESS THIS SHEET.**

Bidders name _____

## CERTIFICATE OF BIDDER SHOWING ABILITY TO PERFORM CONTRACT

STATE OF NEW JERSEY / _____)
Specify, if Other ) SS:
COUNTY OF _____)

I, _____, of the (City, Town, Borough, etc.) of _____ _____ State of _____, of full age, being duly sworn according to law on my oath depose and say that:

I am _____ of the firm of _____, the Bidder making the proposal for the above named Project ("Contractor'), and that I executed said proposal with full authority to do so; and that said Contractor, pursuant to N.J.S.A. 40A:11-20, certifies that it owns, leases or controls all the necessary equipment required by the Plans, Specifications and Advertisements under this Bids are asked for.

If the Bidder is not the actual owner or lessee of any such equipment, then the Bidder shall attach to this Certificate information identifying the source from which the equipment will be obtained, and such information shall be accompanied by a certificate from the owner or person in control of the equipment definitively granting to the Bidder the control of the equipment required during such time as may be necessary for the completion of that portion of the contract.

_____
(Also type or print name of affiant under signature)

By:_____

Bidders name _____

# NON-COLLUSION AFFIDAVIT

(N.J.S.A. 52:34-15)

**STATE OF** _____)
) **SS:**_____
**COUNTY OF** _____)

I _____, of the City of _____, in the County of _____, and the State of _____, of full age, being duly sworn according to law, on my oath depose and say that: I am _____ of the firm of _____, the bidder making the proposal for the above named project, and that I executed the said proposal for the above named project, and that I executed the said proposal with full authority to do so; that said bidder has not, directly or indirectly, entered into any agreement, participation in any collusion, or otherwise taken any action in restraint of free, competitive bidding in connection with the above named project; and that all statements contained in said proposal and in this Affidavit are true and correct, and made with full knowledge that the COUNTY OF UNION, NEW JERSEY relies upon the truth of the statements contained in said proposal and in the statements contained in the affidavit in awarding the contract for the said project.

I further warrant that no person or selling agency has been employed or retained to solicit or secure such contract upon an agreement or understanding for a commission, percentage, brokerage or contingent fee, except bona fide employees or bonafide established commercial or selling agencies maintained by _____ (N.J.S.A. 52:34-15).

_____

**NAME OF BIDDER**

_____

**ORIGINAL SIGNATURE ONLY**

**NOTE: The person who signed the bidder signature page for the bidder should sign this form also.**

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

_____
Notary Public of the State of _____
My commission expires: _____

**WARNING: IF YOU FAIL TO FULLY, ACCURATELY, AND COMPLETELY FILL OUT THIS AFFIDAVIT OF NON-COLLUSION, YOUR BID MAY BE REJECTED.**

Bidders name _____

## Contractor Registration Advisement

For Public Works Projects

A new law, known as "The Public Works Contractor Registration Act" (P.L. 1999, c.238), became effective April 11, 2000. Under the Act, no contractor/subcontractor will be permitted to bid on or engage in any contract for public work, as defined in Section 2 of P.L. 1963, c.150 (C:34:11-56.26), unless that contractor/subcontractor is registered with the New Jersey Department of Labor and Workforce and Workforce Development. The Act provides that upon registration with the Department, a public works contractor/subcontractor will be issued a certificate by the Department indicating compliance with the Act's requirements. The registration fee has been set at $300.00 per year. Upon the effective date of the Act, public bodies will be expected to request production of such a certificate from those bidding on or engaging in public works projects.

It is important to note that the term "contractor," is defined in the, Act as, "a person, partnership, association, joint stock company, trust, corporation or other legal business entity or successor thereof who enters into a contract which is subject to the provision of the "New Jersey Prevailing Wage Act," P.L. 1963, c.150 (C.34:11-56.25, et seq.) for the construction, reconstruction, demolition, alteration, repair or maintenance of a public building regularly open to and used by the general public or a public institution, and includes any subcontractor or lower tier subcontractor as defined herein: except that, for the purposes of the act, no pumping station, treatment plant or other facility associated with utility and environmental construction, reconstruction, demolition, alteration, repair or maintenance shall be regarded as a public building regularly open to and used by the general public or a public institution."

Registration forms, copies of the Act, and other relevant information can be obtained by contacting:

Contractor Registration Unit
New Jersey Department of Labor and Workforce and Workforce Development
Division of Wage & Hour Compliance
PO Box 389
Trenton, New Jersey 08625-0389
Telephone: 609-292-9464
Fax: 609-633-8591
E-mail: contreg@dol.state.nj.us

Bidders name _____

# AMERICANS WITH DISABILITIES ACT

EQUAL OPPORTUNITY FOR INDIVIDUALS WITH DISABILITIES

The contractor and the County of Union (hereafter "Owner") do hereby agree that the provisions of Title II of the Americans With Disabilities Act of 1990 (the "Act") (42 US.C. S12101 et seq.), which prohibits discrimination on the basis of disability by public entities in all services, programs and activities provided or made available by public entities, and the rules and regulations promulgated pursuant thereunto, are made a part of this contract. In providing any aid, benefit, or service on behalf of the Owner pursuant to this contract, the contractor agrees that the performance shall be in strict compliance with the Act. In the event the contractor, its agents, servants, employees, or subcontractors violate or are alleged to have violated the Act during the performance of this contract, the contractor shall defend the Owner in any action or administrative proceeding commenced pursuant to this Act. The contractor shall indemnify, protect, and save harmless the Owner, its agents, servants, and employees from and against any and all suits, claims, losses, demands, or damages of whatever kind or nature arising out of or claimed to arise out of the alleged violation. The contractor shall, at its own expense, appear, defend, and pay any and all charges for legal services and any and all costs and other expenses arising from such action or administrative proceeding or incurred in connection therewith. In any and all complaints brought pursuant to the Owner's grievance procedure, the contractor agrees to abide by any decision of the Owner which is rendered pursuant to said grievance procedure. If any action or administrative proceeding results in an award of damages against the Owner, or if the Owner incurs any expense to cure a violation of the ADA which has been brought pursuant to its grievance procedure, the contractor shall satisfy and discharge the same at its own expense.

The Owner shall, as soon as practicable after a claim has been made against it, give written notice thereof to the contractor along with full and complete particulars of the claim. If any action or administrative proceeding is brought against the Owner or any of its agents, servants, and employees, the Owner shall expeditiously forward or have forwarded to the contractor every demand, complaint, notice, summons, pleading, or process received by the Owner or its representatives.

It is expressly agreed and understood that any approval by the Owner of the services provided by the contractor pursuant to this contract will not relieve the contractor of the obligation to comply with the Act and to defend, indemnify, protect, and save harmless the Owner pursuant to this paragraph.

It is further agreed and understood that the Owner assumes no obligation to indemnify or save harmless the contractor, its agents, servants, employees and subcontractors for any claim which may arise out of their performance of this Agreement. Furthermore, the contractor expressly understands and agrees that the provisions of this indemnification clause shall in no way limit the contractor's obligations assumed in this Agreement, nor shall they be construed to relieve the contractor from any liability, nor preclude the Owner from taking any other actions available to it under any other provisions of this Agreement or otherwise at law.

**Name _____**
**(Please print or type)**

**Signature _____Date _____**

Bidders name _____

## STATEMENT OF BIDDER'S QUALIFICATIONS

All questions must be answered and the data given must be clear and comprehensive. This statement must be notarized. Questions may be answered on separate attached sheets. The Bidder may submit any additional information it desires.

1. _____
(Name of Bidder)

2. _____
(Permanent Main Office Address)

3. _____
(When Organized)

4. _____
(If a Corporation, where incorporated)

5. Number of years your organization has been engaged in construction or contracting business under present firm or trade name? _____

6. How many years of experience in construction work has your organization had (a) as a general contractor? And/or (b) As a subcontractor?_____

7. Contracts on hand: (Attach a list or table showing gross amounts of each Contract and the appropriate dates of completion)_____

_____

_____

_____

8. General character of work performed by you._____

_____

9. Have you ever failed to complete any work awarded to you? _____

_____

10. Have you ever defaulted on a Contract?_____ If so, complete details, including where and why?

_____

_____

**STATEMENT OF BIDDER'S QUALIFICATIONS - (continued)**

11. Has any officer or partner of your organization ever failed to complete a construction contract handled in its own name? If so, state name of individual, name of owner, location and type of project, and reason for the failure to complete._____

_____

_____

12. List your major equipment available for this Contract.

_____

_____

13. Experience in the construction work similar in importance to this Project.

_____

_____

14. Have you had any material adverse changes from the trades as listed in NJ Notice of Classification within last five (5) years? _____. If so, list prior classification.

15. Background and experience of the principal members of your organization, including the officers.

| Individual's Name | Present Position or Office | Yrs. of Construction Experience | Magnitude & Type of Work | In What Capacity |
|---|---|---|---|---|
| | | | | |
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| | | | | |
| | | | | |

16. Bank Reference. (Name, Address, Phone, Representative) _____

17. Will you, upon request, fill out a detailed financial Statement? _____

18. The undersigned hereby authorizes and requests any person, firm or corporation to furnish any information requested by the proper agency in verification of the responses comprising this Statement of Bidder's Qualifications.

19. Bidder's telephone number, fax number and e-mail address (if applicable).

    Phone _____

    Fax _____

    E-mail_____

    Mobile _____

Dated at _____ this _____ day of _____, 20____.

_____
BIDDER (Signature)

_____
BIDDER (Print Name)

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

_____
(Seal) Notary Public of New Jersey/
Specify Other State
My Commission Expires_____, 20__.

**NOTE: FAILURE TO COMPLETE AND SUBMIT THIS DOCUMENT WITH YOUR PROPOSAL MAY RESULT IN A REJECTION OF YOUR BID.**

Bidders name _____

## CONTRACTOR PERFORMANCE RECORD

List all contracts completed by you below or provide separate form.

| Name of Owner | Name & Location of Project: Type Of Work | Prime or Sub-Cont. | Engineer or Architect in Charge for Owner | Contract Price (Omit Cost) | Date Completed | Was Time* Extension Necessary | Were Any Penalties Imposed | Were Liens* Claims or Stop Notice Filed |
|---|---|---|---|---|---|---|---|---|
| | | | | | | | | |
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* If answer is YES, provide explanation of details in connection with non-completion of contracts, time extensions, penalties imposed, labor troubles, liens, claims and notices filed against contracts listed in preceding item “Performance Record” on an attached sheet.

**NOTE: FAILURE TO COMPLETE AND SUBMIT THIS DOCUMENT WITH YOUR PROPOSAL MAY RESULT IN A REJECTION OF YOUR BID.**

Bidders name _____

**CONTRACTOR PERFORMANCE RECORD CERTIFICATION**

The information above is true and complete to the best of my knowledge and belief.

_____
(Name of Organization)

_____
(Signature)

_____
(Title)

Subscribed and sworn to before me
This _____ day of _____, 20___.

_____
(Seal) Notary Public of New Jersey/
Specify Other State
My Commission Expires_____, 20____.

Bidders name _____

**AFFIDAVIT REGARDING LIST OF DEBARRED, SUSPENDED OR DISQUALIFIED BIDDERS**

STATE OF NEW JERSEY / _____)
Specify, if Other ) SS:
COUNTY OF _____)

I, _____, of the (City, Town, Borough, etc.) of _____ _____ State of _____, of full age, being duly sworn according to law on my oath depose and say that:

I am _____ of the firm of _____, the Bidder making the Proposal for the above named Project. I have executed the said Proposal with full authority to do so. Said Bidder is not at the time of the making this bid included on the New Jersey State Treasurer's or the Federal Government's List of Debarred, Suspended or Disqualified Bidders as a result of action taken by any State or Federal Agency.

_____
Name of Contractor

By:_____
(Signature of Authorized Representative)

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

_____
(Seal) Notary Public of New Jersey/
Specify Other State
My Commission Expires_____, 20__.

**NOTE: FAILURE TO COMPLETE AND SUBMIT THIS DOCUMENT WITH YOUR PROPOSAL MAY RESULT IN A REJECTION OF YOUR BID.**

Bidders name _____

## PRIOR NEGATIVE EXPERIENCE QUESTIONNAIRE

(N.J.S.A. 40A:11-4)

1. Within the past ten (10) years, have you been found, through either court adjudication, arbitration, mediation, or other contractually stipulated alternate dispute resolution mechanism, to have: failed to provide or perform goods or services; or failed to complete a contract in a timely manner; or otherwise performed unsatisfactorily under a prior contract with a public entity?

   _____ yes _____ no If yes, please provide full, detailed explanation.

   _____
   _____
   _____
   _____

2. Within the past ten (10) years, have you defaulted on a contract, thereby requiring a public entity to utilize the services of another contractor to provide the goods or perform the services or to correct or complete the contract?

   _____ yes _____ no If yes, please provide full, detailed explanation.

   _____
   _____
   _____
   _____

3. Within the past ten (10) years, have you defaulted on a contract, thereby requiring a public entity to look to your surety for completion of the contract or tender of the costs of completion?

   _____ yes _____ no If yes, please provide full, detailed explanation.

   _____
   _____
   _____
   _____

4. Within the past ten (10) years, have you been debarred or suspended from contracting with any of the agencies or department of the executive branch of the State of New Jersey at the time of the contract award, where the action was based on failure to perform a contact for goods or services with a public entity?

   _____ yes _____ no If yes, please provide full, detailed explanation.

   _____
   _____
   _____
   _____

Bidders name _____

## PRIOR NEGATIVE EXPERIENCE CERTIFICATION

I hereby certify that the above statements are true and accurate as of this _____day of _____ _____, 20__.

_____
Name of Contractor

By_____
(Signature of Authorized Representative)

Subscribed and sworn to before me
This _____ day of _____, 20__.

_____
(Seal) Notary Public of New Jersey/
Specify Other State
My Commission Expires_____, 20__.

**NOTE: FAILURE TO COMPLETE AND SUBMIT THIS DOCUMENT WITH YOUR PROPOSAL MAY RESULT IN A REJECTION OF YOUR BID.**

Bidders name _____

## TO BE COMPLETED ONLY WHEN FINAL PAYMENT IS REQUESTED

**CONTRACTOR'S CERTIFICATION OF COMPLIANCE - NEW JERSEY PREVAILING WAGE ACT**

**TO:** County of Union
Division of Engineering
2325 South Avenue
Scotch Plains, New Jersey 07076

**CONTRACT:**

**PROJECT:**

In accordance with the requirements of the New Jersey Prevailing Wage Act, N.J.S.A. 34:11-56 et al *, the undersigned contractor on the public work being performed for:

**COUNTY OF UNION**

hereby certifies that he/she has complied with the contract requirements regarding the payment of the minimum prevailing wages established under "The New Jersey Prevailing Wage Act" N.J.S.A. 34:11-56 et al.

**CONTRACTOR:** _____
**ADDRESS:** _____
_____
_____

**BY:** _____
**ORIGINAL SIGNATURE ONLY**

**STATE OF NEW JERSEY**
**COUNTY OF** _____

Being by me duly sworn according to law, on his oath deposes and says that _____is _____ of _____the above named contractor, and that the facts set forth in the above statement are true.

Subscribed and sworn before me this ____day of _____, 20___.

_____

Notary Public: _____
My Commission Expires: _____

* N.J.S.A. 34:11-56.33 requires the contractor and subcontractor to file written statements with the public body in form satisfactory to the Commissioner certifying to the amounts then due and owing from such contractor and subcontractor filing such statement to any and all workmen for wages due on account of the public work, setting forth therein the names of the persons whose wages are unpaid and the amount due to each respectively. Union County will withhold the amount so deducted for the benefit of the workmen whose wages are unpaid as shown by the verified statement filed, and will pay directly to any workman the amount shown by such statement to be due to him for such wages. Such payment shall thereby discharge the obligation of the contractor to the person receiving such payment to the extent of the amount thereof.

Bidders name _____

## UNCOMPLETED CONTRACTS AFFIDAVIT

**(To be submitted with DPMC Form 701)**

| PURSUANT TO N.J.A.C. 17:19-2.13, BIDDER DECLARES THE FOLLOWING WITH RESPECT TO ITS UNCOMPLETED CONTRACTS, ON ALL WORK, FROM WHATEVER SOURCE (PUBLIC AND PRIVATE), BOTH IN NEW JERSEY AND FROM OTHER GOVERNMENTAL JURISDICTIONS | | | | |
|---|---|---|---|---|
| | | | | |
| **ENTITY** | **PROJECT TITLE** | **ORIGINAL CONTRACT AMOUNT** | **UNCOMPLETED AMOUNT AS OF BID OPENING DATE** | **NAME AND TELEPHONE NUMBER OF PARTY TO BE CONTACTED FROM ENTITY FOR VERIFICATION** |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |

**TOTAL AMOUNT OF UNCOMPLETED CONTRACTS $_____**

Sworn and Subscribed to Before me

This _____day of _____20___

_____
Notary Public

**BIDDER:**

_____
(Signature)

_____
(Print Name)

**NOTE:** **FAILURE TO COMPLETE AND SUBMIT THIS DOCUMENT WITH YOUR PROPOSAL MAY RESULT IN A REJECTION OF YOUR BID.**

Bidders name _____

## CERTIFICATE OF INSURANCE STATEMENT

The Bidder fully understands the County of Union insurance requirements as stated in the Instructions to Bidders as well as the Owner/Contractor Agreement and agrees to provide all insurance required by these documents prior to the issuance of the Notice to Proceed.

_____
BIDDER (Signature)

_____
BIDDER (Print Name)

**NOTE: FAILURE TO COMPLETE AND SUBMIT THIS DOCUMENT WITH YOUR PROPOSAL MAY RESULT IN A REJECTION OF YOUR BID.**

Bidders name _____

## COLLECTION OF USE TAX ON SALES TO LOCAL GOVERNMENTS STATEMENT

The Bidder fully understands the requirements of the use tax on sales to local governments as stated in the General Conditions to the Contract for Construction and the Instructions to Bidders, and agrees at all times to comply with the "Contractor Use Tax Collection Legislation", as defined therein, and the terms relating thereto contained in the Contract Documents.

_____
BIDDER (Signature)

_____
BIDDER (Print Name)

**NOTE: FAILURE TO COMPLETE AND SUBMIT THIS DOCUMENT WITH YOUR PROPOSAL MAY RESULT IN A REJECTION OF YOUR BID.**

Bidders name _____

**ACKNOWLEDGEMENT OF PROJECT LABOR AGREEMENT**
**(Projects of $5 Million of more irrespective of Phasing)**

Contractor _____, hereby acknowledges that the within Project, upon which the undersigned has submitted a Bid Proposal, requires the execution of a Project Labor Agreement and the utilization of union employees. The undersigned agrees to execute the PLA and comply with all terms and conditions of same in the performance of the Work.

Contractor:_____

**Attest:**

By:_____

_____

Bidders name _____

## TIME OF COMPLETION

The undersigned proposed that if awarded the Contract, the scope of work will be started within ten (10) calendar days and will be substantially completed within **180 calendar days** from the date of the notice to proceed.

I, _____of _____
NAME (Print or type) COMPANY

Agree to complete work in the time frame specified _____
SIGNATURE

**SITE VISIT – GENERAL CONTRACTOR**

I, _____of _____
NAME (Print or type) COMPANY

Visited the site of the work on _____ _____
SIGNATURE

Bidders name _____

COUNTY OF UNION NEW JERSEY
Division of Purchasing
# DISCLOSURE OF INVESTMENT ACTIVITIES IN IRAN FORM

Solicitation Number: _____ Vendor/Bidder: _____

**PART 1**
CERTIFICATION
VENDOR/BIDDER MUST COMPLETE PART 1 BY CHECKING ONE OF THE BOXES
**FAILURE TO CHECK ONE OF THE BOXES WILL RENDER THE PROPOSAL NON-RESPONSIVE**

Pursuant to Public Law 2012, c. 25, any person or entity that submits a bid or proposal or otherwise proposes to enter into or renew a contract must complete the certification below to attest, under penalty of perjury, that neither the person nor entity, nor any of its parents, subsidiaries, or affiliates, is identified on the State of New Jersey, Department of the Treasury's Chapter 25 list as a person or entity engaged in investment activities in Iran. The Chapter 25 list is found on the Department's website at http://www.nj.gov/treasury/purchase/pdf/Chapter25List.pdf. Vendors/Bidders **must** review this list prior to completing the below certification. **Failure to complete the certification will render a Vendor's/Bidder's proposal non-responsive.** If the Director of the Division of Purchase and Property finds a person or entity to be in violation of the law, s/he shall take action as may be appropriate and provided by law, rule or contract, including but not limited to, imposing sanctions, seeking compliance, recovering damages, declaring the party in default and seeking debarment or suspension of the party.

**CHECK THE APPROPRIATE BOX**

☐ A. I certify, pursuant to Public Law 2012, c.25, that neither the Vendor/Bidder listed above nor any of its parents, subsidiaries, or affiliates is listed on the N.J. Department of Treasury's list of entities determined to be engaged in prohibited activities in Iran pursuant to P.L. 2012, c. 25 ("Chapter 25 List"). Disregard Part 2 and complete and sign the Certification below.

**OR**

☐ B. I am unable to certify as above because the Vendor/Bidder and/or one or more of its parents, subsidiaries, or affiliates is listed on the Department's Chapter 25 list. I will provide a detailed, accurate and precise description of the activities in Part 2 below and sign and complete the Certification below. Failure to provide such information will result in the proposal being rendered as non-responsive and appropriate penalties, fines and/or sanctions will be assessed as provided by law.

**PART 2**
PLEASE PROVIDE ADDITIONAL INFORMATION RELATED TO INVESTMENT ACTIVITIES IN IRAN
If you checked Box "B" above, provide a detailed, accurate and precise description of the activities of the Vendor/Bidder, or one of its parents, subsidiaries or affiliates, engaged in investment activities in Iran by completing the information below.

ENTITY NAME: _____
RELATIONSHIP TO VENDOR/BIDDER: _____
DESCRIPTION OF ACTIVITIES: _____
DURATION OF ENGAGEMENT: _____
ANTICIPATED CESSATION DATE: _____
VENDOR/BIDDER CONTACT NAME: _____
VENDOR/BIDDER CONTACT PHONE#: _____
*Attach Additional Sheets If Necessary*

**CERTIFICATION**
I, the undersigned, certify that I am authorized to execute this certification on behalf of the Vendor/Bidder, that the foregoing information and any attachments hereto, to the best of my knowledge are true and complete. I acknowledge that the County of Union, New Jersey is relying on the information contained herein, and that the Vendor/Bidder is under a continuing obligation from the date of this certification through the completion of any contract(s) with the County of Union to notify the County of Union in writing of any changes to the information contained herein; that I am aware that it is a criminal offense to make a false statement or misrepresentation in this certification. If I do so, I will be subject to criminal prosecution under the law, and it will constitute a material breach of my agreement(s) with the County of Union, permitting the County of Union to declare any contract(s) resulting from this certification void and unenforceable.

_____ _____
Signature Date
_____Print Name and Title

*Revised 10/19/17*

Bidders name _____

# CERTIFICATION OF NON-INVOLVEMENT IN PROHIBITED ACTIVITIES IN RUSSIA OR BELARUS

Pursuant to N.J.S.A. 52:32-60.1, et seq. (L. 2022, c. 3) any person or entity (hereinafter "Vendor[i]") that seeks to enter into or renew a contract with a State agency for the provision of goods or services, or the purchase of bonds or other obligations, must complete the certification below indicating whether or not the Vendor is identified on the Office of Foreign Assets Control (OFAC) Specially Designated Nationals and Blocked Persons list, available here: https://sanctionssearch.ofac.treas.gov/. If the Department of the Treasury finds that a Vendor has made a certification in violation of the law, it shall take any action as may be appropriate and provided by law, rule or contract, including but not limited to, imposing sanctions, seeking compliance, recovering damages, declaring the party in default and seeking debarment or suspension of the party.

I, the undersigned, certify that I have read the definition of "Vendor" below, and have reviewed the Office of Foreign Assets Control (OFAC) Specially Designated Nationals and Blocked Persons list, and having done so certify:

***(Check the Appropriate Box)***

**A.** **That the Vendor is not identified on the OFAC Specially Designated Nationals and Blocked Persons list on account of activity related to Russia and/or Belarus.**

***OR***

**B.** **That I am unable to certify as to "A" above, because the Vendor is identified on the OFAC Specially Designated Nationals and Blocked Persons list on account of activity related to Russia and/or Belarus.**

***OR***

**C.** **That I am unable to certify as to "A" above, because the Vendor is identified on the OFAC Specially Designated Nationals and Blocked Persons list. However, the Vendor is engaged in activity related to Russia and/or Belarus consistent with federal law, regulation, license or exemption. A detailed description of how the Vendor's activity related to Russia and/or Belarus is consistent with federal law is set forth below.**

_____

_____

_____

_____

***(Attach Additional Sheets If Necessary.)***

_____

_____

| | |
|---|---|
| **Signature of Vendor's Authorized Representative** | **Date** |
| **Print Name and Title of Vendor's Authorized Representative** | **Vendor's FEIN** |
| **Vendor's Name** | **Vendor's Phone Number** |
| **Vendor's Address (Street Address)** | **Vendor's Fax Number** |
| **Vendor's Address (City/State/Zip Code)** | **Vendor's Email Address** |

i Vendor means: (1) A natural person, corporation, company, limited partnership, limited liability partnership, limited liability company, business association, sole proprietorship, joint venture, partnership, society, trust, or any other nongovernmental entity, organization, or group; (2) Any governmental entity or instrumentality of a government, including a multilateral development institution, as defined in Section 1701(c)(3) of the International Financial Institutions Act, 22 U.S.C. 262r(c)(3); or (3) Any parent, successor, subunit, direct or indirect subsidiary, or any entity under common ownership or control with, any entity described in paragraph (1) or (2).

Bidders name _____

**CERTIFICATION OF NON-DEBARMENT**
**FOR FEDERAL GOVERNMENT CONTRACTS**
N.J.S.A. 52:32-44.1 (P.L. 2019, c.406)

**This certification shall be completed, certified to, and submitted to the contracting unit prior to contract award, except for emergency contracts where submission is required prior to payment.**

| **PART I: VENDOR INFORMATION** | |
|---|---|
| Individual or Organization Name | |
| Physical Address of Individual or Organization | |
| Unique Entity ID (if applicable) | |
| CAGE/NCAGE Code (if applicable) | |
| **Check the box that represents the type of business organization:** | |

☐Sole Proprietorship (skip Parts III and IV) ☐Non-Profit Corporation (skip Parts III and IV)

☐For-Profit Corporation (any type) ☐Limited Liability Company (LLC) ☐Partnership

☐Limited Partnership ☐Limited Liability Partnership (LLP)

☐Other (be specific): _____

| **PART II – CERTIFICATION OF NON-DEBARMENT: Individual or Organization** | | | |
|---|---|---|---|
| I hereby certify that the **individual or organization listed above in Part I** is not debarred by the federal government from contracting with a federal agency. I further acknowledge: that I am authorized to execute this certification on behalf of the above-named organization; that the County of Union is relying on the information contained herein and that I am under a continuing obligation from the date of this certification through the date of contract award by the County of Union to notify the County of Union in writing of any changes to the information contained herein; that I am aware that it is a criminal offense to make a false statement or misrepresentation in this certification, and if I do so, I am subject to criminal prosecution under the law and that it will constitute a material breach of my agreement(s) with the County of Union, permitting the County of Union to declare any contract(s) resulting from this certification void and unenforceable. | | | |
| Full Name (Print): | | Title: | |
| Signature: | | Date: | |

Bidders name _____

| PART III – CERTIFICATION OF NON-DEBARMENT: Individual or Entity Owning Greater than 50 Percent of Organization | |
|---|---|
| **Section A (Check the Box that applies)** | |
| ☐ | Below is the name and address of the stockholder in the corporation who owns more than 50 percent of its voting stock, or of the partner in the partnership who owns more than 50 percent interest therein, or of the member of the limited liability company owning more than 50 percent interest therein, as the case may be. |
| **Name of Individual or Organization** | |
| **Physical Address** | |
| **OR** | |
| ☐ | No one stockholder in the corporation owns more than 50 percent of its voting stock, or no partner in the partnership owns more than 50 percent interest therein, or no member in the limited liability company owns more than 50 percent interest therein, as the case may be. |
| **Section B (Skip if no Business entity is listed in Section A above)** | |
| ☐ | Below is the name and address of the stockholder in the corporation who owns more than 50 percent of the voting stock of the organization's parent entity, or of the partner in the partnership who owns more than 50 percent interest in the organization's parent entity, or of the member of the limited liability company owning more than 50 percent interest in organization's parent entity, as the case may be. |
| **Stockholder/Partner/Member Owning Greater Than 50 Percent of Parent Entity** | |
| **Physical Address** | |
| **OR** | |
| ☐ | No one stockholder in the parent entity corporation owns more than 50 percent of its voting stock, no partner in the parent entity partnership owns more than 50 percent interest therein, or no member in the parent entity limited liability company owns more than 50 percent interest therein, as the case may be. |

Bidders name _____

| Section C – Part III Certification | | | |
|---|---|---|---|
| I hereby certify that no individual or organization that is debarred by the federal government from contracting with a federal agency owns greater than 50 percent of the **Organization listed above in Part I** or, if applicable, owns greater than 50 percent of a parent entity of **<name of organization>** _____. I further acknowledge: that I am authorized to execute this certification on behalf of the above-named organization; that the County of Union is relying on the information contained herein and that I am under a continuing obligation from the date of this certification through the date of contract award by the County of Union to notify the County of Union in writing of any changes to the information contained herein; that I am aware that it is a criminal offense to make a false statement or misrepresentation in this certification, and if I do so, I am subject to criminal prosecution under the law and that it will constitute a material breach of my agreement(s) with the County of Union, permitting the County of Union to declare any contract(s) resulting from this certification void and unenforceable. | | | |
| Full Name (Print): | | Title: | |
| Signature: | | Date: | |

| Part IV – CERTIFICATION OF NON-DEBARMENT: Contractor – Controlled Entities | | |
|---|---|---|
| | | |
| Section A | | |
| ☐ | Below is the name and address of the corporation(s) in which the **Organization listed in Part I** owns more than 50 percent of voting stock, or of the partnership(s) in which the **Organization listed in Part I** owns more than 50 percent interest therein, or of the limited liability company or companies in which the **Organization listed above in Part I** owns more than 50 percent interest therein, as the case may be. | |
| **Name of Business Entity** | | **Physical Address** |
| | | |
| | | |
| | | |
| **Add additional sheets if necessary** | | |
| OR | | |
| ☐ | The **Organization listed above in Part I** does not own greater than 50 percent of the voting stock in any corporation and does not own greater than 50 percent interest in any partnership or any limited liability company. | |

Bidders name _____

| Section B (skip if no business entities are listed in Section A of Part IV) | |
|---|---|
| ☐ | Below are the names and addresses of any entities in which an entity listed in Part III A owns greater than 50 percent of the voting stock (corporation) or owns greater than 50 percent interest (partnership or limited liability company). |
| **Name of Business Entity Controlled by Entity Listed in Section A of Part IV** | **Physical Address** |
| | |
| | |
| | |
| **Add additional Sheets if necessary** | |
| **OR** | |
| ☐ | No entity listed in Part III A owns greater than 50 percent of the voting stock in any corporation or owns greater than 50 percent interest in any partnership or limited liability company. |

| Section C – Part IV Certification | | | |
|---|---|---|---|
| I hereby certify that the **Organization listed above in Part I** does not own greater than 50 percent of any entity that that is debarred by the federal government from contracting with a federal agency and, if applicable, does not own greater than 50 percent of any entity that in turns owns greater than 50 percent of any entity debarred by the federal government from contracting with a federal agency. I further acknowledge: that I am authorized to execute this certification on behalf of the above-named organization; that the County of Union is relying on the information contained herein and that I am under a continuing obligation from the date of this certification through the date of contract award by the County of Union to notify the County of Union in writing of any changes to the information contained herein; that I am aware that it is a criminal offense to make a false statement or misrepresentation in this certification, and if I do so, I am subject to criminal prosecution under the law and that it will constitute a material breach of my agreement(s) with the County of Union, permitting the County of Union to declare any contract(s) resulting from this certification void and unenforceable. | | | |
| Full Name (Print): | | Title: | |
| Signature: | | Date: | |

Bidders name _____

BYRD ANTI-LOBBYING AMENDMENT CERTIFICATION
(To be submitted with each bid, proposal or offer exceeding $100,000)

The undersigned, [Company] _____ certifies, to the best of his or her knowledge, that:

1. No Federal appropriated funds have been paid or will be paid, by or on behalf of the undersigned, to any person for influencing or attempting to influence an officer or employee of an agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with the awarding of any Federal contract, the making of any Federal grant, the making of any Federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any Federal contract, grant, loan, or cooperative agreement.

2. If any funds other than Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this Federal contract, grant, loan, or cooperative agreement, the undersigned shall complete and submit Standard Form - LLL, "Disclosure Form to Report Lobbying," in accordance with its instructions.

3. The undersigned shall require that the language of this certification be included in the award documents for all subawards at all tiers (including subcontracts, subgrants, and contracts under grants, loans, and cooperative agreements) and that all subrecipients shall certify and disclose accordingly.

This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Submission of this certification is a prerequisite for making or entering into this transaction imposed by 31, U.S.C. § 1352 (as amended by the Lobbying Disclosure Act of 1995). Any person who fails to file the required certification shall be subject to a civil penalty of not less than $10,000 and not more than $100,000 for each such failure.

The Contractor, [Company] _____, certifies or affirms the truthfulness and accuracy of each statement of its certification and disclosure, if any. In addition, the Contractor understands and agrees that the provisions of 31 U.S.C. § 3801 et seq., apply to this certification and disclosure, if any.

_____
Signature of Contractor's Authorized Representative

_____
Name and Title of Contractor's Authorized Representative

_____
Date

Bidders name _____

CERTIFICATION REGARDING LOBBYING

The undersigned certifies, to the best of his or her knowledge and belief, that:

(1) No Federal appropriated funds have been paid or will be paid, by or on behalf of the undersigned, to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with the awarding of any Federal grant, the making of any Federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment or modification of any Federal contract, grant, loan, or cooperative agreement.

(2) If any funds other than Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this Federal contract, grant, loan, or cooperative agreement, the undersigned shall complete and submit Standard Form-LLL, "Disclosure of Lobbying Activities," in accordance with its instructions.

(3) The undersigned shall require that the language of this certification be included in the award documents of all sub-awards at all tiers (including subcontracts, sub-grants, and contracts under grants, loans, and cooperative agreements) and that all subrecipients shall certify and disclose accordingly. This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Submission of this certification is a prerequisite for making or entering into this transaction imposed by section 1352, title 31, United States Code. Any person who fails to file the required certification shall be subject to a civil penalty of not less than $10,000 and not more than $100,000 for each such failure.

Organization: _____

Street address: _____

City, State, Zip: _____

_____

CERTIFIED BY: (type or print)

TITLE: _____

_____ _____

(signature) (date)

Bidders name _____

# DISCLOSURE OF LOBBYING ACTIVITIES (LLL Form)

Complete this form to disclose lobbying activities pursuant to 31 U.S.C. 1352 0348-0046

☐ N/A – My agency does not engage in any lobbying activities

| **1. Type of Federal Action:** | **2. Status of Federal Action:** | **3. Report Type:** |
|---|---|---|
| ☐ a. contract<br>b. grant<br>c. cooperative agreement<br>d. loan<br>e. loan guarantee<br>f. loan insurance | ☐ a. bid/offer/application<br>b. Initial award<br>c. Post-award | ☐ a. initial filing<br>b. material change<br><br>**For Material Change Only:**<br>year _____<br>quarter _____<br>date of last report _____ |

| **4. Name and Address of Reporting Entity:** | **5. If Reporting Entity in NO.4 is a Subawardee, enter Name and Address of Prim:** |
|---|---|
| ☐ Prime ☐ Subawardee<br>Tier _____,*if known:*<br><br>**Congressional District,** *if known:* | <br><br><br>**Congressional District,** *if known:* |
| **6. Federal Department/Agency:** | **7. Federal Program Name/Description:**<br><br>CDFA NUMBER, if applicable _____ |
| **8. Federal Action Number,** *if known:* | **9. Award Amount,** *if known:*<br><br>$ |
| **10. a. Name and address of Lobbying Registrant** *(if individual, last name, first name, MI):* | **b. Individuals Performing Services** *(including address if different from No. 10a) (las name, first name, MI):* |
| **11.** Information request through this form is authorized by title 31 U.S.C. Section 1352. This disclosure of lobbying activities is a material representation of fact upon which reliance was placed by the tier above when this transaction was made or entered into. This disclosure is required pursuant to 31 U.S.C. 1352. This information will be available for public inspection. Any person who fails to file the required disclosure shall be subject to a civil penalty of not less than $10,000 and not more than $100,000 for each such failure. | **Signature:**<br>_____<br>**Print Name:** _____<br>**Title:** _____<br>**Telephone NO.:** _____<br>**Date:** _____ |

| Federal Use Only: | Authorized for Local Reproduction Standard Form LLL (Rev. 7-97) |
|---|---|

Bidders name _____

***INSTRUCTIONS FOR COMPLETION OF SF-LLL, DISCLOSURE OF LOBBYING ACTIVITIES***

This disclosure form shall be completed by the reporting entity, whether subawardee or prime Federal recipient, at the initiation or receipt of a covered Federal action, or a material change to a previous filing, pursuant to title 31 U.S.C. section 1352. The filing of a form is required for each payment or agreement to make payment to any lobbying entity for influencing or attempting to influence an officer of employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress with a covered Federal action. Complete all items that apply for both the initial filing and material change report. Refer to the implementing guidance published by the Office of Management and Budget for additional information.

1. Identify the type of covered Federal action for which lobbying activity is and/or has been secured to influence the outcome of a Federal action.
2. Identify the status of the covered Federal action.
3. Identify the appropriate classification of this report. If this is a follow-up report caused by a material change to the information previously reported, enter the year and quarter in which the change occurred. Enter the date of the last previously submitted report by this reporting entity for this covered Federal action.
4. Enter the full name, address, city, state and zip code of the reporting entity include Congressional District, if known. Check the appropriate classification of the reporting entity that designates if it is or expects to be a prime or subaward recipient. Identify the tier of the subawardee, e.g., the first subawardee of the prime is the 1st tier. Subawards include but are not limited to subcontracts, subgrants and contract awards under grants.
5. If the organization filing the report in item 4 checks “Subawardee,” then enter the full name, address, city, state and zip code of the prime Federal recipient. Include Congressional District, if known.
6. Enter the name of the Federal agency making the award or loan commitment. Include at least one organizational level below agency name, if known. For example, Department of Transportation, United States Coast Guard.
7. Enter the Federal program name or description for the covered Federal action (item 1). If known, enter the full Catalog of Federal Domestic Assistance (CFDA) number for grants, cooperative agreements, loans and loan commitments.
8. Enter the most appropriate Federal identifying number available for the Federal action identified in item 1 (e.g., Request for Proposal (RFP) number, Invitation for Bid (IFB) number, grant announcement number, the contract, grant, or loan award number, the application/proposal control number assigned by the Federal agency.) Include prefixes, e.g. “RFP-DE-90-001.”
9. For a covered Federal action where there has been an award or loan commitment by the Federal agency, enter the Federal amount of the award/loan commitment for the prime entity identified in item 4 or 5.
10. A) Enter the full name, address, city, state and zip code of the lobbying registrant under the Lobbying Disclosure Act of 1995 engaged by the reporting entity identified in item 4 to influence the covered Federal action.
    B) Enter the full names of the individual(s) performing services, and include full address if different from 10(a). Enter last name, first name and middle initial (MI).
11. The certifying official shall sign and date the form; print his/her name, title, and telephone number.

# AIA® Document A101® – 2017

## *Standard Form of Agreement Between Owner and Contractor where the basis of payment is a Stipulated Sum*

**AGREEMENT** made as of the _____ day of _____ in the year _____
*(In words, indicate day, month and year.)*

**BETWEEN** the Owner:
*(Name, legal status, address and other information)*

and the Contractor:
*(Name, legal status, address and other information)*

for the following Project:
*(Name, location and detailed description)*

The Architect:
*(Name, legal status, address and other information)*

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

The parties should complete A101®–2017, Exhibit A, Insurance and Bonds, contemporaneously with this Agreement.

AIA Document A201®–2017, General Conditions of the Contract for Construction, is adopted in this document by reference. Do not use with other general conditions unless this document is modified.

Sample

The Owner and Contractor agree as follows.

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TABLE OF ARTICLES

1 THE CONTRACT DOCUMENTS

2 THE WORK OF THIS CONTRACT

3 DATE OF COMMENCEMENT AND SUBSTANTIAL COMPLETION

4 CONTRACT SUM

5 PAYMENTS

6 DISPUTE RESOLUTION

7 TERMINATION OR SUSPENSION

8 MISCELLANEOUS PROVISIONS

9 ENUMERATION OF CONTRACT DOCUMENTS

EXHIBIT A INSURANCE AND BONDS

## ARTICLE 1 THE CONTRACT DOCUMENTS

The Contract Documents consist of this Agreement, Conditions of the Contract (General, Supplementary, and other Conditions), Drawings, Specifications, Addenda issued prior to execution of this Agreement, other documents listed in this Agreement, and Modifications issued after execution of this Agreement, all of which form the Contract, and are as fully a part of the Contract as if attached to this Agreement or repeated herein. The Contract represents the entire and integrated agreement between the parties hereto and supersedes prior negotiations, representations, or agreements, either written or oral. An enumeration of the Contract Documents, other than a Modification, appears in Article 9.

## ARTICLE 2 THE WORK OF THIS CONTRACT

The Contractor shall fully execute the Work described in the Contract Documents, except as specifically indicated in the Contract Documents to be the responsibility of others.

## ARTICLE 3 DATE OF COMMENCEMENT AND SUBSTANTIAL COMPLETION

**§ 3.1** The date of commencement of the Work shall be:
*(Check one of the following boxes.)*

☐ The date of this Agreement.

☐ A date set forth in a notice to proceed issued by the Owner.

☐ Established as follows:
*(Insert a date or a means to determine the date of commencement of the Work.)*

If a date of commencement of the Work is not selected, then the date of commencement shall be the date of this Agreement.

**§ 3.2** The Contract Time shall be measured from the date of commencement of the Work.

### § 3.3 Substantial Completion

**§ 3.3.1** Subject to adjustments of the Contract Time as provided in the Contract Documents, the Contractor shall achieve Substantial Completion of the entire Work:
*(Check one of the following boxes and complete the necessary information.)*

☐ Not later than ( ) calendar days from the date of commencement of the Work.

Sample



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☐ By the following date:

**§ 3.3.2** Subject to adjustments of the Contract Time as provided in the Contract Documents, if portions of the Work are to be completed prior to Substantial Completion of the entire Work, the Contractor shall achieve Substantial Completion of such portions by the following dates:

| Portion of Work | Substantial Completion Date |
|---|---|

**§ 3.3.3** If the Contractor fails to achieve Substantial Completion as provided in this Section 3.3, liquidated damages, if any, shall be assessed as set forth in Section 4.5.

## ARTICLE 4 CONTRACT SUM

**§ 4.1** The Owner shall pay the Contractor the Contract Sum in current funds for the Contractor's performance of the Contract. The Contract Sum shall be ( $ ), subject to additions and deductions as provided in the Contract Documents.

**§ 4.2 Alternates**

**§ 4.2.1** Alternates, if any, included in the Contract Sum:

| Item | Price |
|---|---|

**§ 4.2.2** Subject to the conditions noted below, the following alternates may be accepted by the Owner following execution of this Agreement. Upon acceptance, the Owner shall issue a Modification to this Agreement.
*(Insert below each alternate and the conditions that must be met for the Owner to accept the alternate.)*

| Item | Price | Conditions for Acceptance |
|---|---|---|

**§ 4.3** Allowances, if any, included in the Contract Sum:
*(Identify each allowance.)*

| Item | Price |
|---|---|

**§ 4.4** Unit prices, if any:
*(Identify the item and state the unit price and quantity limitations, if any, to which the unit price will be applicable.)*

| Item | Units and Limitations | Price per Unit ($0.00) |
|---|---|---|

**§ 4.5** Liquidated damages, if any:
*(Insert terms and conditions for liquidated damages, if any.)*

**§ 4.6** Other:
*(Insert provisions for bonus or other incentives, if any, that might result in a change to the Contract Sum.)*

Sample



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## ARTICLE 5 PAYMENTS

### § 5.1 Progress Payments

**§ 5.1.1** Based upon Applications for Payment submitted to the Architect by the Contractor and Certificates for Payment issued by the Architect, the Owner shall make progress payments on account of the Contract Sum to the Contractor as provided below and elsewhere in the Contract Documents.

**§ 5.1.2** The period covered by each Application for Payment shall be one calendar month ending on the last day of the month, or as follows:

**§ 5.1.3** Provided that an Application for Payment is received by the Architect not later than the day of a month, the Owner shall make payment of the amount certified to the Contractor not later than the day of the month. If an Application for Payment is received by the Architect after the application date fixed above, payment of the amount certified shall be made by the Owner not later than ( ) days after the Architect receives the Application for Payment.
*(Federal, state or local laws may require payment within a certain period of time.)*

**§ 5.1.4** Each Application for Payment shall be based on the most recent schedule of values submitted by the Contractor in accordance with the Contract Documents. The schedule of values shall allocate the entire Contract Sum among the various portions of the Work. The schedule of values shall be prepared in such form, and supported by such data to substantiate its accuracy, as the Architect may require. This schedule of values shall be used as a basis for reviewing the Contractor's Applications for Payment.

**§ 5.1.5** Applications for Payment shall show the percentage of completion of each portion of the Work as of the end of the period covered by the Application for Payment.

**§ 5.1.6** In accordance with AIA Document A201™–2017, General Conditions of the Contract for Construction, and subject to other provisions of the Contract Documents, the amount of each progress payment shall be computed as follows:

**§ 5.1.6.1** The amount of each progress payment shall first include:

- .1 That portion of the Contract Sum properly allocable to completed Work;
- .2 That portion of the Contract Sum properly allocable to materials and equipment delivered and suitably stored at the site for subsequent incorporation in the completed construction, or, if approved in advance by the Owner, suitably stored off the site at a location agreed upon in writing; and
- .3 That portion of Construction Change Directives that the Architect determines, in the Architect's professional judgment, to be reasonably justified.

**§ 5.1.6.2** The amount of each progress payment shall then be reduced by:

- .1 The aggregate of any amounts previously paid by the Owner;
- .2 The amount, if any, for Work that remains uncorrected and for which the Architect has previously withheld a Certificate for Payment as provided in Article 9 of AIA Document A201–2017;
- .3 Any amount for which the Contractor does not intend to pay a Subcontractor or material supplier, unless the Work has been performed by others the Contractor intends to pay;
- .4 For Work performed or defects discovered since the last payment application, any amount for which the Architect may withhold payment, or nullify a Certificate of Payment in whole or in part, as provided in Article 9 of AIA Document A201–2017; and
- .5 Retainage withheld pursuant to Section 5.1.7.

### § 5.1.7 Retainage

**§ 5.1.7.1** For each progress payment made prior to Substantial Completion of the Work, the Owner may withhold the following amount, as retainage, from the payment otherwise due:
*(Insert a percentage or amount to be withheld as retainage from each Application for Payment. The amount of retainage may be limited by governing law.)*

Sample



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§ 5.1.7.1.1 The following items are not subject to retainage:
*(Insert any items not subject to the withholding of retainage, such as general conditions, insurance, etc.)*

§ 5.1.7.2 Reduction or limitation of retainage, if any, shall be as follows:
*(If the retainage established in Section 5.1.7.1 is to be modified prior to Substantial Completion of the entire Work, including modifications for Substantial Completion of portions of the Work as provided in Section 3.3.2, insert provisions for such modifications.)*

§ 5.1.7.3 Except as set forth in this Section 5.1.7.3, upon Substantial Completion of the Work, the Contractor may submit an Application for Payment that includes the retainage withheld from prior Applications for Payment pursuant to this Section 5.1.7. The Application for Payment submitted at Substantial Completion shall not include retainage as follows:
*(Insert any other conditions for release of retainage upon Substantial Completion.)*

§ 5.1.8 If final completion of the Work is materially delayed through no fault of the Contractor, the Owner shall pay the Contractor any additional amounts in accordance with Article 9 of AIA Document A201–2017.

§ 5.1.9 Except with the Owner's prior approval, the Contractor shall not make advance payments to suppliers for materials or equipment which have not been delivered and stored at the site.

### § 5.2 Final Payment

§ 5.2.1 Final payment, constituting the entire unpaid balance of the Contract Sum, shall be made by the Owner to the Contractor when

.1 the Contractor has fully performed the Contract except for the Contractor's responsibility to correct Work as provided in Article 12 of AIA Document A201–2017, and to satisfy other requirements, if any, which extend beyond final payment; and

.2 a final Certificate for Payment has been issued by the Architect.

§ 5.2.2 The Owner's final payment to the Contractor shall be made no later than 30 days after the issuance of the Architect's final Certificate for Payment, or as follows:

### § 5.3 Interest

Payments due and unpaid under the Contract shall bear interest from the date payment is due at the rate stated below, or in the absence thereof, at the legal rate prevailing from time to time at the place where the Project is located.
*(Insert rate of interest agreed upon, if any.)*

_____ % _____

## ARTICLE 6 DISPUTE RESOLUTION

### § 6.1 Initial Decision Maker

The Architect will serve as the Initial Decision Maker pursuant to Article 15 of AIA Document A201–2017, unless the parties appoint below another individual, not a party to this Agreement, to serve as the Initial Decision Maker.
*(If the parties mutually agree, insert the name, address and other contact information of the Initial Decision Maker, if other than the Architect.)*

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**§ 6.2 Binding Dispute Resolution**
For any Claim subject to, but not resolved by, mediation pursuant to Article 15 of AIA Document A201–2017, the method of binding dispute resolution shall be as follows:
*(Check the appropriate box.)*

☐ Arbitration pursuant to Section 15.4 of AIA Document A201–2017

☐ Litigation in a court of competent jurisdiction

☐ Other *(Specify)*

If the Owner and Contractor do not select a method of binding dispute resolution, or do not subsequently agree in writing to a binding dispute resolution method other than litigation, Claims will be resolved by litigation in a court of competent jurisdiction.

**ARTICLE 7 TERMINATION OR SUSPENSION**
**§ 7.1** The Contract may be terminated by the Owner or the Contractor as provided in Article 14 of AIA Document A201–2017.

**§ 7.1.1** If the Contract is terminated for the Owner's convenience in accordance with Article 14 of AIA Document A201–2017, then the Owner shall pay the Contractor a termination fee as follows:
*(Insert the amount of, or method for determining, the fee, if any, payable to the Contractor following a termination for the Owner's convenience.)*

**§ 7.2** The Work may be suspended by the Owner as provided in Article 14 of AIA Document A201–2017.

**ARTICLE 8 MISCELLANEOUS PROVISIONS**
**§ 8.1** Where reference is made in this Agreement to a provision of AIA Document A201–2017 or another Contract Document, the reference refers to that provision as amended or supplemented by other provisions of the Contract Documents.

**§ 8.2** The Owner's representative:
*(Name, address, email address, and other information)*

**§ 8.3** The Contractor's representative:
*(Name, address, email address, and other information)*

**§ 8.4** Neither the Owner's nor the Contractor's representative shall be changed without ten days' prior notice to the other party.

Sample


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**§ 8.5 Insurance and Bonds**

**§ 8.5.1** The Owner and the Contractor shall purchase and maintain insurance as set forth in AIA Document A101™–2017, Standard Form of Agreement Between Owner and Contractor where the basis of payment is a Stipulated Sum, Exhibit A, Insurance and Bonds, and elsewhere in the Contract Documents.

**§ 8.5.2** The Contractor shall provide bonds as set forth in AIA Document A101™–2017 Exhibit A, and elsewhere in the Contract Documents.

**§ 8.6** Notice in electronic format, pursuant to Article 1 of AIA Document A201–2017, may be given in accordance with AIA Document E203™–2013, Building Information Modeling and Digital Data Exhibit, if completed, or as otherwise set forth below:
*(If other than in accordance with AIA Document E203–2013, insert requirements for delivering notice in electronic format such as name, title, and email address of the recipient and whether and how the system will be required to generate a read receipt for the transmission.)*

**§ 8.7** Other provisions:

**ARTICLE 9 ENUMERATION OF CONTRACT DOCUMENTS**

**§ 9.1** This Agreement is comprised of the following documents:

.1 AIA Document A101™–2017, Standard Form of Agreement Between Owner and Contractor

.2 AIA Document A101™–2017, Exhibit A, Insurance and Bonds

.3 AIA Document A201™–2017, General Conditions of the Contract for Construction

.4 AIA Document E203™–2013, Building Information Modeling and Digital Data Exhibit, dated as indicated below:
*(Insert the date of the E203-2013 incorporated into this Agreement.)*

.5 Drawings

| Number | Title | Date |
|---|---|---|

.6 Specifications

| Section | Title | Date | Pages |
|---|---|---|---|

.7 Addenda, if any:

| Number | Date | Pages |
|---|---|---|

Portions of Addenda relating to bidding or proposal requirements are not part of the Contract Documents unless the bidding or proposal requirements are also enumerated in this Article 9.

.8 Other Exhibits:
*(Check all boxes that apply and include appropriate information identifying the exhibit where required.)*

☐ AIA Document E204™–2017, Sustainable Projects Exhibit, dated as indicated below:
*(Insert the date of the E204-2017 incorporated into this Agreement.)*

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☐ The Sustainability Plan:

| Title | Date | Pages |
|---|---|---|

☐ Supplementary and other Conditions of the Contract:

| Document | Title | Date | Pages |
|---|---|---|---|

.9 Other documents, if any, listed below:
*(List here any additional documents that are intended to form part of the Contract Documents. AIA Document A201™–2017 provides that the advertisement or invitation to bid, Instructions to Bidders, sample forms, the Contractor's bid or proposal, portions of Addenda relating to bidding or proposal requirements, and other information furnished by the Owner in anticipation of receiving bids or proposals, are not part of the Contract Documents unless enumerated in this Agreement. Any such documents should be listed here only if intended to be part of the Contract Documents.)*

This Agreement entered into as of the day and year first written above.

| | |
|---|---|
| **OWNER** *(Signature)* | **CONTRACTOR** *(Signature)* |
| *(Printed name and title)* | *(Printed name and title)* |

Sample



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# AIA® Document A101® – 2017 Exhibit A

## *Insurance and Bonds*

This Insurance and Bonds Exhibit is part of the Agreement, between the Owner and the Contractor, dated the _____ day of _____ in the year _____
*(In words, indicate day, month and year.)*

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

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

This document is intended to be used in conjunction with AIA Document A201®–2017, General Conditions of the Contract for Construction. Article 11 of A201®–2017 contains additional insurance provisions.

**THE OWNER:**
*(Name, legal status and address)*

**THE CONTRACTOR:**
*(Name, legal status and address)*

Sample

TABLE OF ARTICLES

A.1 GENERAL

A.2 OWNER'S INSURANCE

A.3 CONTRACTOR'S INSURANCE AND BONDS

A.4 SPECIAL TERMS AND CONDITIONS

### ARTICLE A.1 GENERAL

The Owner and Contractor shall purchase and maintain insurance, and provide bonds, as set forth in this Exhibit. As used in this Exhibit, the term General Conditions refers to AIA Document A201™–2017, General Conditions of the Contract for Construction.

### ARTICLE A.2 OWNER'S INSURANCE

**§ A.2.1 General**

Prior to commencement of the Work, the Owner shall secure the insurance, and provide evidence of the coverage, required under this Article A.2 and, upon the Contractor's request, provide a copy of the property insurance policy or policies required by Section A.2.3. The copy of the policy or policies provided shall contain all applicable conditions, definitions, exclusions, and endorsements.

**§ A.2.2 Liability Insurance**

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

**§ A.2.3 Required Property Insurance**

**§ A.2.3.1** Unless this obligation is placed on the Contractor pursuant to Section A.3.3.2.1, the Owner shall purchase and maintain, from an insurance company or insurance companies lawfully authorized to issue insurance in the jurisdiction where the Project is located, property insurance written on a builder's risk "all-risks" completed value or equivalent policy form and sufficient to cover the total value of the entire Project on a replacement cost basis. The Owner's

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property insurance coverage shall be no less than the amount of the initial Contract Sum, plus the value of subsequent Modifications and labor performed and materials or equipment supplied by others. The property insurance shall be maintained until Substantial Completion and thereafter as provided in Section A.2.3.1.3, unless otherwise provided in the Contract Documents or otherwise agreed in writing by the parties to this Agreement. This insurance shall include the interests of the Owner, Contractor, Subcontractors, and Sub-subcontractors in the Project as insureds. This insurance shall include the interests of mortgagees as loss payees.

**§ A.2.3.1.1 Causes of Loss.** The insurance required by this Section A.2.3.1 shall provide coverage for direct physical loss or damage, and shall not exclude the risks of fire, explosion, theft, vandalism, malicious mischief, collapse, earthquake, flood, or windstorm. The insurance shall also provide coverage for ensuing loss or resulting damage from error, omission, or deficiency in construction methods, design, specifications, workmanship, or materials. Sub-limits, if any, are as follows:
*(Indicate below the cause of loss and any applicable sub-limit.)*

| Cause of Loss | Sub-Limit |
|---|---|

**§ A.2.3.1.2 Specific Required Coverages.** The insurance required by this Section A.2.3.1 shall provide coverage for loss or damage to falsework and other temporary structures, and to building systems from testing and startup. The insurance shall also cover debris removal, including demolition occasioned by enforcement of any applicable legal requirements, and reasonable compensation for the Architect's and Contractor's services and expenses required as a result of such insured loss, including claim preparation expenses. Sub-limits, if any, are as follows:
*(Indicate below type of coverage and any applicable sub-limit for specific required coverages.)*

| Coverage | Sub-Limit |
|---|---|

**§ A.2.3.1.3** Unless the parties agree otherwise, upon Substantial Completion, the Owner shall continue the insurance required by Section A.2.3.1 or, if necessary, replace the insurance policy required under Section A.2.3.1 with property insurance written for the total value of the Project that shall remain in effect until expiration of the period for correction of the Work set forth in Section 12.2.2 of the General Conditions.

**§ A.2.3.1.4 Deductibles and Self-Insured Retentions.** If the insurance required by this Section A.2.3 is subject to deductibles or self-insured retentions, the Owner shall be responsible for all loss not covered because of such deductibles or retentions.

**§ A.2.3.2 Occupancy or Use Prior to Substantial Completion.** The Owner's occupancy or use of any completed or partially completed portion of the Work prior to Substantial Completion shall not commence until the insurance company or companies providing the insurance under Section A.2.3.1 have consented in writing to the continuance of coverage. The Owner and the Contractor shall take no action with respect to partial occupancy or use that would cause cancellation, lapse, or reduction of insurance, unless they agree otherwise in writing.

**§ A.2.3.3 Insurance for Existing Structures**
If the Work involves remodeling an existing structure or constructing an addition to an existing structure, the Owner shall purchase and maintain, until the expiration of the period for correction of Work as set forth in Section 12.2.2 of the General Conditions, "all-risks" property insurance, on a replacement cost basis, protecting the existing structure against direct physical loss or damage from the causes of loss identified in Section A.2.3.1, notwithstanding the undertaking of the Work. The Owner shall be responsible for all co-insurance penalties.

**§ A.2.4 Optional Extended Property Insurance.**
The Owner shall purchase and maintain the insurance selected and described below.
*(Select the types of insurance the Owner is required to purchase and maintain by placing an X in the box(es) next to the description(s) of selected insurance. For each type of insurance selected, indicate applicable limits of coverage or other conditions in the fill point below the selected item.)*


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☐ **§ A.2.4.1 Loss of Use, Business Interruption, and Delay in Completion Insurance,** to reimburse the Owner for loss of use of the Owner's property, or the inability to conduct normal operations due to a covered cause of loss.

☐ **§ A.2.4.2 Ordinance or Law Insurance,** for the reasonable and necessary costs to satisfy the minimum requirements of the enforcement of any law or ordinance regulating the demolition, construction, repair, replacement or use of the Project.

☐ **§ A.2.4.3 Expediting Cost Insurance,** for the reasonable and necessary costs for the temporary repair of damage to insured property, and to expedite the permanent repair or replacement of the damaged property.

☐ **§ A.2.4.4 Extra Expense Insurance,** to provide reimbursement of the reasonable and necessary excess costs incurred during the period of restoration or repair of the damaged property that are over and above the total costs that would normally have been incurred during the same period of time had no loss or damage occurred.

☐ **§ A.2.4.5 Civil Authority Insurance,** for losses or costs arising from an order of a civil authority prohibiting access to the Project, provided such order is the direct result of physical damage covered under the required property insurance.

☐ **§ A.2.4.6 Ingress/Egress Insurance,** for loss due to the necessary interruption of the insured's business due to physical prevention of ingress to, or egress from, the Project as a direct result of physical damage.

☐ **§ A.2.4.7 Soft Costs Insurance,** to reimburse the Owner for costs due to the delay of completion of the Work, arising out of physical loss or damage covered by the required property insurance: including construction loan fees; leasing and marketing expenses; additional fees, including those of architects, engineers, consultants, attorneys and accountants, needed for the completion of the construction, repairs, or reconstruction; and carrying costs such as property taxes, building permits, additional interest on loans, realty taxes, and insurance premiums over and above normal expenses.

**§ A.2.5 Other Optional Insurance.**
The Owner shall purchase and maintain the insurance selected below.
*(Select the types of insurance the Owner is required to purchase and maintain by placing an X in the box(es) next to the description(s) of selected insurance.)*

☐ **§ A.2.5.1 Cyber Security Insurance** for loss to the Owner due to data security and privacy breach, including costs of investigating a potential or actual breach of confidential or private information.
*(Indicate applicable limits of coverage or other conditions in the fill point below.)*

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☐ **§ A.2.5.2 Other Insurance**
*(List below any other insurance coverage to be provided by the Owner and any applicable limits.)*

| Coverage | Limits |
|---|---|

## ARTICLE A.3 CONTRACTOR'S INSURANCE AND BONDS

### § A.3.1 General

**§ A.3.1.1 Certificates of Insurance.** The Contractor shall provide certificates of insurance acceptable to the Owner evidencing compliance with the requirements in this Article A.3 at the following times: (1) prior to commencement of the Work; (2) upon renewal or replacement of each required policy of insurance; and (3) upon the Owner's written request. An additional certificate evidencing continuation of commercial liability coverage, including coverage for completed operations, shall be submitted with the final Application for Payment and thereafter upon renewal or replacement of such coverage until the expiration of the periods required by Section A.3.2.1 and Section A.3.3.1. The certificates will show the Owner as an additional insured on the Contractor's Commercial General Liability and excess or umbrella liability policy or policies.

**§ A.3.1.2 Deductibles and Self-Insured Retentions.** The Contractor shall disclose to the Owner any deductible or self-insured retentions applicable to any insurance required to be provided by the Contractor.

**§ A.3.1.3 Additional Insured Obligations.** To the fullest extent permitted by law, the Contractor shall cause the commercial general liability coverage 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 for which loss occurs during completed operations. The additional insured coverage shall be primary and non-contributory to any of the Owner's general liability insurance policies and shall apply to both ongoing and completed operations. To the extent commercially available, the additional insured coverage shall be no less than that provided by Insurance Services Office, Inc. (ISO) forms CG 20 10 07 04, CG 20 37 07 04, and, with respect to the Architect and the Architect's consultants, CG 20 32 07 04.

### § A.3.2 Contractor's Required Insurance Coverage

**§ A.3.2.1** The Contractor shall purchase and maintain the following types and limits of insurance from an insurance company or insurance companies lawfully authorized to issue insurance in the jurisdiction where the Project is located. The Contractor shall maintain the required insurance until the expiration of the period for correction of Work as set forth in Section 12.2.2 of the General Conditions, unless a different duration is stated below:
*(If the Contractor is required to maintain insurance for a duration other than the expiration of the period for correction of Work, state the duration.)*

### § A.3.2.2 Commercial General Liability

**§ A.3.2.2.1** Commercial General Liability insurance for the Project written on an occurrence form with policy limits of not less than _____ ( $__ ) each occurrence, _____ ( $__ ) general aggregate, and _____ ( $__ ) aggregate for products-completed operations hazard, providing coverage for claims including

- .1 damages because of bodily injury, sickness or disease, including occupational sickness or disease, and death of any person;
- .2 personal injury and advertising injury;
- .3 damages because of physical damage to, or destruction of, tangible property, including the loss of use of such property;
- .4 bodily injury or property damage arising out of completed operations; and
- .5 the Contractor's indemnity obligations under Section 3.18 of the General Conditions.


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§ A.3.2.2.2 The Contractor's Commercial General Liability policy under this Section A.3.2.2 shall not contain an exclusion or restriction of coverage for the following:

.1 Claims by one insured against another insured, if the exclusion or restriction is based solely on the fact that the claimant is an insured, and there would otherwise be coverage for the claim.

.2 Claims for property damage to the Contractor's Work arising out of the products-completed operations hazard where the damaged Work or the Work out of which the damage arises was performed by a Subcontractor.

.3 Claims for bodily injury other than to employees of the insured.

.4 Claims for indemnity under Section 3.18 of the General Conditions arising out of injury to employees of the insured

.5 Claims or loss excluded under a prior work endorsement or other similar exclusionary language.

.6 Claims or loss due to physical damage under a prior injury endorsement or similar exclusionary language.

.7 Claims related to residential, multi-family, or other habitational projects, if the Work is to be performed on such a project.

.8 Claims related to roofing, if the Work involves roofing.

.9 Claims related to exterior insulation finish systems (EIFS), synthetic stucco or similar exterior coatings or surfaces, if the Work involves such coatings or surfaces.

.10 Claims related to earth subsidence or movement, where the work involves such hazards.

.11 Claims related to explosion, collapse, and underground hazards, where the Work involves such hazards.

§ A.3.2.3 Automobile Liability covering vehicles owned, and non-owned vehicles used, by the Contractor, with policy limits of not less than _____ ( $__ ) per accident, for bodily injury, death of any person, and property damage arising out of the ownership, maintenance and use of those motor vehicles along with any other statutorily required automobile coverage.

§ A.3.2.4 The Contractor may achieve the required limits and coverage for Commercial General Liability and Automobile Liability through a combination of primary and excess or umbrella liability insurance, provided such primary and excess or umbrella insurance policies result in the same or greater coverage as the coverages required under Section A.3.2.2 and A.3.2.3, and in no event shall any excess or umbrella liability insurance provide narrower coverage than the primary policy. The excess policy shall not require the exhaustion of the underlying limits only through the actual payment by the underlying insurers.

§ A.3.2.5 Workers' Compensation at statutory limits.

§ A.3.2.6 Employers' Liability with policy limits not less than _____ ( $__ ) each accident, _____ ( $__ ) each employee, and _____ ( $__ ) policy limit.

§ A.3.2.7 Jones Act, and the Longshore & Harbor Workers' Compensation Act, as required, if the Work involves hazards arising from work on or near navigable waterways, including vessels and docks

§ A.3.2.8 If the Contractor is required to furnish professional services as part of the Work, the Contractor shall procure Professional Liability insurance covering performance of the professional services, with policy limits of not less than _____ ( $__ ) per claim and _____ ( $__ ) in the aggregate.

§ A.3.2.9 If the Work involves the transport, dissemination, use, or release of pollutants, the Contractor shall procure Pollution Liability insurance, with policy limits of not less than _____ ( $__ ) per claim and _____ ( $__ ) in the aggregate.

§ A.3.2.10 Coverage under Sections A.3.2.8 and A.3.2.9 may be procured through a Combined Professional Liability and Pollution Liability insurance policy, with combined policy limits of not less than _____ ( $__ ) per claim and _____ ( $__ ) in the aggregate.

§ A.3.2.11 Insurance for maritime liability risks associated with the operation of a vessel, if the Work requires such activities, with policy limits of not less than_____ ( $__ ) per claim and_____ ( $__ ) in the aggregate.

§ A.3.2.12 Insurance for the use or operation of manned or unmanned aircraft, if the Work requires such activities, with policy limits of not less than_____ ( $__ ) per claim and_____ ( $__ ) in the aggregate.



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**§ A.3.3 Contractor's Other Insurance Coverage**

**§ A.3.3.1** Insurance selected and described in this Section A.3.3 shall be purchased from an insurance company or insurance companies lawfully authorized to issue insurance in the jurisdiction where the Project is located. The Contractor shall maintain the required insurance until the expiration of the period for correction of Work as set forth in Section 12.2.2 of the General Conditions, unless a different duration is stated below:

*(If the Contractor is required to maintain any of the types of insurance selected below for a duration other than the expiration of the period for correction of Work, state the duration.)*

**§ A.3.3.2** The Contractor shall purchase and maintain the following types and limits of insurance in accordance with Section A.3.3.1.

*(Select the types of insurance the Contractor is required to purchase and maintain by placing an X in the box(es) next to the description(s) of selected insurance. Where policy limits are provided, include the policy limit in the appropriate fill point.)*

☐ **§ A.3.3.2.1** Property insurance of the same type and scope satisfying the requirements identified in Section A.2.3, which, if selected in this section A.3.3.2.1, relieves the Owner of the responsibility to purchase and maintain such insurance except insurance required by Section A.2.3.1.3 and Section A.2.3.3. The Contractor shall comply with all obligations of the Owner under Section A.2.3 except to the extent provided below. The Contractor shall disclose to the Owner the amount of any deductible, and the Owner shall be responsible for losses within the deductible. Upon request, the Contractor shall provide the Owner with a copy of the property insurance policy or policies required. The Owner shall adjust and settle the loss with the insurer and be the trustee of the proceeds of the property insurance in accordance with Article 11 of the General Conditions unless otherwise set forth below.

*(Where the Contractor's obligation to provide property insurance differs from the Owner's obligations as described under Section A.2.3, indicate such differences in the space below. Additionally, if a party other than the Owner will be responsible for adjusting and settling a loss with the insurer and acting as the trustee of the proceeds of property insurance in accordance with Article 11 of the General Conditions, indicate the responsible party below.)*

☐ **§ A.3.3.2.2 Railroad Protective Liability Insurance,** with policy limits of not less than _____ ( $__ ) per claim and _____ ( $__ ) in the aggregate, for Work within fifty (50) feet of railroad property.

☐ **§ A.3.3.2.3 Asbestos Abatement Liability Insurance,** with policy limits of not less than _____ ( $__ ) per claim and _____ ( $__ ) in the aggregate, for liability arising from the encapsulation, removal, handling, storage, transportation, and disposal of asbestos-containing materials.

☐ **§ A.3.3.2.4** Insurance for physical damage to property while it is in storage and in transit to the construction site on an "all-risks" completed value form.

☐ **§ A.3.3.2.5** Property insurance on an "all-risks" completed value form, covering property owned by the Contractor and used on the Project, including scaffolding and other equipment.

☐ **§ A.3.3.2.6 Other Insurance**

*(List below any other insurance coverage to be provided by the Contractor and any applicable limits.)*

| Coverage | Limits |
|---|---|

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### § A.3.4 Performance Bond and Payment Bond

The Contractor shall provide surety bonds, from a company or companies lawfully authorized to issue surety bonds in the jurisdiction where the Project is located, as follows:
*(Specify type and penal sum of bonds.)*

| Type | Penal Sum ($0.00) |
|---|---|
| Payment Bond | |
| Performance Bond | |

Payment and Performance Bonds shall be AIA Document A312™, Payment Bond and Performance Bond, or contain provisions identical to AIA Document A312™, current as of the date of this Agreement.

## ARTICLE A.4 SPECIAL TERMS AND CONDITIONS

Special terms and conditions that modify this Insurance and Bonds Exhibit, if any, are as follows:

Sample



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# AIA® Document A201® – 2017

## *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)*

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

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

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## ARTICLE 1 GENERAL PROVISIONS

### § 1.1 Basic Definitions

#### § 1.1.1 The Contract Documents

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

#### § 1.1.2 The Contract

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

#### § 1.1.3 The Work

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

#### § 1.1.4 The Project

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

#### § 1.1.5 The Drawings

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

#### § 1.1.6 The Specifications

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

#### § 1.1.7 Instruments of Service

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

#### § 1.1.8 Initial Decision Maker

The Initial Decision Maker is the person identified in the Agreement to render initial decisions on Claims in accordance with Section 15.2. The Initial Decision Maker shall not show partiality to the Owner or Contractor and shall not be liable for results of interpretations or decisions rendered in good faith.

### § 1.2 Correlation and Intent of the Contract Documents

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

**§ 1.2.1.1** The invalidity of any provision of the Contract Documents shall not invalidate the Contract or its remaining



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provisions. If it is determined that any provision of the Contract Documents violates any law, or is otherwise invalid or unenforceable, then that provision shall be revised to the extent necessary to make that provision legal and enforceable. In such case the Contract Documents shall be construed, to the fullest extent permitted by law, to give effect to the parties' intentions and purposes in executing the Contract.

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

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

### § 1.3 Capitalization

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

### § 1.4 Interpretation

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

### § 1.5 Ownership and Use of Drawings, Specifications, and Other Instruments of Service

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

**§ 1.5.2** The Contractor, Subcontractors, Sub-subcontractors, and suppliers are authorized to use and reproduce the Instruments of Service provided to them, subject to any protocols established pursuant to Sections 1.7 and 1.8, solely and exclusively for execution of the Work. All copies made under this authorization shall bear the copyright notice, if any, shown on the Instruments of Service. The Contractor, Subcontractors, Sub-subcontractors, and suppliers may not use the Instruments of Service on other projects or for additions to the Project outside the scope of the Work without the specific written consent of the Owner, Architect, and the Architect's consultants.

### § 1.6 Notice

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

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

### § 1.7 Digital Data Use and Transmission

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

### § 1.8 Building Information Models Use and Reliance

Any use of, or reliance on, all or a portion of a building information model without agreement to protocols governing the use of, and reliance on, the information contained in the model and without having those protocols set forth in AIA Document E203™–2013, Building Information Modeling and Digital Data Exhibit, and the requisite AIA Document G202™–2013, Project Building Information Modeling Protocol Form, shall be at the using or relying party's sole risk and without liability to the other party and its contractors or consultants, the authors of, or contributors to, the building



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information model, and each of their agents and employees.

## ARTICLE 2 OWNER

### § 2.1 General

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

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

### § 2.2 Evidence of the Owner's Financial Arrangements

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

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

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

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

### § 2.3 Information and Services Required of the Owner

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

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

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

**§ 2.3.4** The Owner shall furnish surveys describing physical characteristics, legal limitations and utility locations for the



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site of the Project, and a legal description of the site. The Contractor shall be entitled to rely on the accuracy of information furnished by the Owner but shall exercise proper precautions relating to the safe performance of the Work.

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

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

### § 2.4 Owner's Right to Stop the Work

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

### § 2.5 Owner's Right to Carry Out the Work

If the Contractor defaults or neglects to carry out the Work in accordance with the Contract Documents and fails within a ten-day period after receipt of notice from the Owner to commence and continue correction of such default or neglect with diligence and promptness, the Owner may, without prejudice to other remedies the Owner may have, correct such default or neglect. Such action by the Owner and amounts charged to the Contractor are both subject to prior approval of the Architect and the Architect may, pursuant to Section 9.5.1, withhold or nullify a Certificate for Payment in whole or in part, to the extent reasonably necessary to reimburse the Owner for the reasonable cost of correcting such deficiencies, including Owner's expenses and compensation for the Architect's additional services made necessary by such default, neglect, or failure. If current and future payments are not sufficient to cover such amounts, the Contractor shall pay the difference to the Owner. If the Contractor disagrees with the actions of the Owner or the Architect, or the amounts claimed as costs to the Owner, the Contractor may file a Claim pursuant to Article 15.

## ARTICLE 3 CONTRACTOR

### § 3.1 General

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

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

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

### § 3.2 Review of Contract Documents and Field Conditions by Contractor

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

**§ 3.2.2** Because the Contract Documents are complementary, the Contractor shall, before starting each portion of the Work, carefully study and compare the various Contract Documents relative to that portion of the Work, as well as the information furnished by the Owner pursuant to Section 2.3.4, shall take field measurements of any existing conditions related to that portion of the Work, and shall observe any conditions at the site affecting it. These obligations are for the purpose of facilitating coordination and construction by the Contractor and are not for the purpose of discovering errors, omissions, or inconsistencies in the Contract Documents; however, the Contractor shall promptly report to the Architect any errors, inconsistencies or omissions discovered by or made known to the Contractor as a request for information in such form as the Architect may require. It is recognized that the Contractor's review is made in the Contractor's



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capacity as a contractor and not as a licensed design professional, unless otherwise specifically provided in the Contract Documents.

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

**§ 3.2.4** If the Contractor believes that additional cost or time is involved because of clarifications or instructions the Architect issues in response to the Contractor's notices or requests for information pursuant to Sections 3.2.2 or 3.2.3, the Contractor shall submit Claims as provided in Article 15. If the Contractor fails to perform the obligations of Sections 3.2.2 or 3.2.3, the Contractor shall pay such costs and damages to the Owner, subject to Section 15.1.7, as would have been avoided if the Contractor had performed such obligations. If the Contractor performs those obligations, the Contractor shall not be liable to the Owner or Architect for damages resulting from errors, inconsistencies or omissions in the Contract Documents, for differences between field measurements or conditions and the Contract Documents, or for nonconformities of the Contract Documents to applicable laws, statutes, ordinances, codes, rules and regulations, and lawful orders of public authorities.

### § 3.3 Supervision and Construction Procedures

**§ 3.3.1** The Contractor shall supervise and direct the Work, using the Contractor's best skill and attention. The Contractor shall be solely responsible for, and have control over, construction means, methods, techniques, sequences, and procedures, and for coordinating all portions of the Work under the Contract. If the Contract Documents give specific instructions concerning construction means, methods, techniques, sequences, or procedures, the Contractor shall evaluate the jobsite safety thereof and shall be solely responsible for the jobsite safety of such means, methods, techniques, sequences, or procedures. If the Contractor determines that such means, methods, techniques, sequences or procedures may not be safe, the Contractor shall give timely notice to the Owner and Architect, and shall propose alternative means, methods, techniques, sequences, or procedures. The Architect shall evaluate the proposed alternative solely for conformance with the design intent for the completed construction. Unless the Architect objects to the Contractor's proposed alternative, the Contractor shall perform the Work using its alternative means, methods, techniques, sequences, or procedures.

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

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

### § 3.4 Labor and Materials

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

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

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

### § 3.5 Warranty

**§ 3.5.1** The Contractor warrants to the Owner and Architect that materials and equipment furnished under the Contract will be of good quality and new unless the Contract Documents require or permit otherwise. The Contractor further warrants that the Work will conform to the requirements of the Contract Documents and will be free from defects, except for those inherent in the quality of the Work the Contract Documents require or permit. Work, materials, or equipment not conforming to these requirements may be considered defective. The Contractor's warranty excludes


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remedy for damage or defect caused by abuse, alterations to the Work not executed by the Contractor, improper or insufficient maintenance, improper operation, or normal wear and tear and normal usage. If required by the Architect, the Contractor shall furnish satisfactory evidence as to the kind and quality of materials and equipment.

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

### § 3.6 Taxes

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

### § 3.7 Permits, Fees, Notices and Compliance with Laws

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

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

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

### § 3.7.4 Concealed or Unknown Conditions

If the Contractor encounters conditions at the site that are (1) subsurface or otherwise concealed physical conditions that differ materially from those indicated in the Contract Documents or (2) unknown physical conditions of an unusual nature that differ materially from those ordinarily found to exist and generally recognized as inherent in construction activities of the character provided for in the Contract Documents, the Contractor shall promptly provide notice to the Owner and the Architect before conditions are disturbed and in no event later than 14 days after first observance of the conditions. The Architect will promptly investigate such conditions and, if the Architect determines that they differ materially and cause an increase or decrease in the Contractor's cost of, or time required for, performance of any part of the Work, will recommend that an equitable adjustment be made in the Contract Sum or Contract Time, or both. If the Architect determines that the conditions at the site are not materially different from those indicated in the Contract Documents and that no change in the terms of the Contract is justified, the Architect shall promptly notify the Owner and Contractor, stating the reasons. If either party disputes the Architect's determination or recommendation, that party may submit a Claim as provided in Article 15.

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

### § 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



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.3 whenever costs are more than or less than allowances, the Contract Sum shall be adjusted accordingly by Change Order. The amount of the Change Order shall reflect (1) the difference between actual costs and the allowances under Section 3.8.2.1 and (2) changes in Contractor's costs under Section 3.8.2.2.

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

**§ 3.9 Superintendent**

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

**§ 3.9.2** The Contractor, as soon as practicable after award of the Contract, shall notify the Owner and Architect of the name and qualifications of a proposed superintendent. Within 14 days of receipt of the information, the Architect may notify the Contractor, stating whether the Owner or the Architect (1) has reasonable objection to the proposed superintendent or (2) requires additional time for review. Failure of the Architect to provide notice within the 14-day period shall constitute notice of no reasonable objection.

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

**§ 3.10 Contractor's Construction and Submittal Schedules**

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

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

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

**§ 3.11 Documents and Samples at the Site**

The Contractor shall make available, at the Project site, the Contract Documents, including Change Orders, Construction Change Directives, and other Modifications, in good order and marked currently to indicate field changes and selections made during construction, and the approved Shop Drawings, Product Data, Samples, and similar required submittals. These shall be in electronic form or paper copy, available to the Architect and Owner, and 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.



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

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

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

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

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

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

§ 3.12.10 The Contractor shall not be required to provide professional services that constitute the practice of architecture or engineering unless such services are specifically required by the Contract Documents for a portion of the Work or unless the Contractor needs to provide such services in order to carry out the Contractor's responsibilities for construction means, methods, techniques, sequences, and procedures. The Contractor shall not be required to provide professional services in violation of applicable law.

§ 3.12.10.1 If professional design services or certifications by a design professional related to systems, materials, or equipment are specifically required of the Contractor by the Contract Documents, the Owner and the Architect will specify all performance and design criteria that such services must satisfy. The Contractor shall be entitled to rely upon the adequacy and accuracy of the performance and design criteria provided in the Contract Documents. The Contractor shall cause such services or certifications to be provided by an appropriately licensed design professional, whose signature and seal shall appear on all drawings, calculations, specifications, certifications, Shop Drawings, and other submittals prepared by such professional. Shop Drawings, and other submittals related to the Work, designed or certified by such professional, if prepared by others, shall bear such professional's written approval when submitted to the Architect. The Owner and the Architect shall be entitled to rely upon the adequacy and accuracy of the services, certifications, and approvals performed or provided by such design professionals, provided the Owner and Architect have specified to the Contractor the performance and design criteria that such services must satisfy. Pursuant to this Section 3.12.10, the Architect will review and approve or take other appropriate action on submittals only for the limited purpose of checking for conformance with information given and the design concept expressed in the Contract Documents.

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


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time and in the form specified by the Architect.

### § 3.13 Use of Site

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

### § 3.14 Cutting and Patching

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

**§ 3.14.2** The Contractor shall not damage or endanger a portion of the Work or fully or partially completed construction of the Owner or Separate Contractors by cutting, patching, or otherwise altering such construction, or by excavation. The Contractor shall not cut or otherwise alter construction by the Owner or a Separate Contractor except with written consent of the Owner and of the Separate Contractor. Consent shall not be unreasonably withheld. The Contractor shall not unreasonably withhold, from the Owner or a Separate Contractor, its consent to cutting or otherwise altering the Work.

### § 3.15 Cleaning Up

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

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

### § 3.16 Access to Work

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

### § 3.17 Royalties, Patents and Copyrights

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

### § 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.


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## ARTICLE 4 ARCHITECT

### § 4.1 General

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

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

### § 4.2 Administration of the Contract

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

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

§ 4.2.3 On the basis of the site visits, the Architect will keep the Owner reasonably informed about the progress and quality of the portion of the Work completed, and promptly report to the Owner (1) known deviations from the Contract Documents, (2) known deviations from the most recent construction schedule submitted by the Contractor, and (3) defects and deficiencies observed in the Work. The Architect will not be responsible for the Contractor's failure to perform the Work in accordance with the requirements of the Contract Documents. The Architect will not have control over or charge of, and will not be responsible for acts or omissions of, the Contractor, Subcontractors, or their agents or employees, or any other persons or entities performing portions of the Work.

### § 4.2.4 Communications

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

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

§ 4.2.6 The Architect has authority to reject Work that does not conform to the Contract Documents. Whenever the Architect considers it necessary or advisable, the Architect will have authority to require inspection or testing of the Work in accordance with Sections 13.4.2 and 13.4.3, whether or not the Work is fabricated, installed or completed. However, neither this authority of the Architect nor a decision made in good faith either to exercise or not to exercise such authority shall give rise to a duty or responsibility of the Architect to the Contractor, Subcontractors, suppliers, their agents or employees, or other persons or entities performing portions of the Work.

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



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Sections 3.3, 3.5, and 3.12. The Architect's review shall not constitute approval of safety precautions or of any construction means, methods, techniques, sequences, or procedures. The Architect's approval of a specific item shall not indicate approval of an assembly of which the item is a component.

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

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

**§ 4.2.10** If the Owner and Architect agree, the Architect will provide one or more Project representatives to assist in carrying out the Architect's responsibilities at the site. The Owner shall notify the Contractor of any change in the duties, responsibilities and limitations of authority of the Project representatives.

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

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

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

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

## ARTICLE 5 SUBCONTRACTORS

### § 5.1 Definitions

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

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

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

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

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

**§ 5.2.3** If the Owner or Architect has reasonable objection to a person or entity proposed by the Contractor, the


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

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

### § 5.3 Subcontractual Relations

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

### § 5.4 Contingent Assignment of Subcontracts

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

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

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

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

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

## ARTICLE 6 CONSTRUCTION BY OWNER OR BY SEPARATE CONTRACTORS

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

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

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

**§ 6.1.3** The Owner shall provide for coordination of the activities of the Owner's own forces and of each Separate


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Contractor with the Work of the Contractor, who shall cooperate with them. The Contractor shall participate with any Separate Contractors and the Owner in reviewing their construction schedules. The Contractor shall make any revisions to its construction schedule deemed necessary after a joint review and mutual agreement. The construction schedules shall then constitute the schedules to be used by the Contractor, Separate Contractors, and the Owner until subsequently revised.

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

### § 6.2 Mutual Responsibility

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

**§ 6.2.2** If part of the Contractor's Work depends for proper execution or results upon construction or operations by the Owner or a Separate Contractor, the Contractor shall, prior to proceeding with that portion of the Work, promptly notify the Architect of apparent discrepancies or defects in the construction or operations by the Owner or Separate Contractor that would render it unsuitable for proper execution and results of the Contractor's Work. Failure of the Contractor to notify the Architect of apparent discrepancies or defects prior to proceeding with the Work shall constitute an acknowledgment that the Owner's or Separate Contractor's completed or partially completed construction is fit and proper to receive the Contractor's Work. The Contractor shall not be responsible for discrepancies or defects in the construction or operations by the Owner or Separate Contractor that are not apparent.

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

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

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

### § 6.3 Owner's Right to Clean Up

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

## ARTICLE 7 CHANGES IN THE WORK

### § 7.1 General

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

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

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

### § 7.2 Change Orders

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


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

**§ 7.3 Construction Change Directives**

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

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

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

.1 Mutual acceptance of a lump sum properly itemized and supported by sufficient substantiating data to permit evaluation;
.2 Unit prices stated in the Contract Documents or subsequently agreed upon;
.3 Cost to be determined in a manner agreed upon by the parties and a mutually acceptable fixed or percentage fee; or
.4 As provided in Section 7.3.4.

**§ 7.3.4** If the Contractor does not respond promptly or disagrees with the method for adjustment in the Contract Sum, the Architect shall determine the adjustment on the basis of reasonable expenditures and savings of those performing the Work attributable to the change, including, in case of an increase in the Contract Sum, an amount for overhead and profit as set forth in the Agreement, or if no such amount is set forth in the Agreement, a reasonable amount. In such case, and also under Section 7.3.3.3, the Contractor shall keep and present, in such form as the Architect may prescribe, an itemized accounting together with appropriate supporting data. Unless otherwise provided in the Contract Documents, costs for the purposes of this Section 7.3.4 shall be limited to the following:

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

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

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

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

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

**§ 7.3.9** Pending final determination of the total cost of a Construction Change Directive to the Owner, the Contractor may request payment for Work completed under the Construction Change Directive in Applications for Payment. The


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Architect will make an interim determination for purposes of monthly certification for payment for those costs and certify for payment the amount that the Architect determines, in the Architect's professional judgment, to be reasonably justified. The Architect's interim determination of cost shall adjust the Contract Sum on the same basis as a Change Order, subject to the right of either party to disagree and assert a Claim in accordance with Article 15.

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

### § 7.4 Minor Changes in the Work

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

## ARTICLE 8 TIME

### § 8.1 Definitions

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

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

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

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

### § 8.2 Progress and Completion

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

**§ 8.2.2** The Contractor shall not knowingly, except by agreement or instruction of the Owner in writing, commence the Work prior to the effective date of insurance required to be furnished by the Contractor and Owner.

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

### § 8.3 Delays and Extensions of Time

**§ 8.3.1** If the Contractor is delayed at any time in the commencement or progress of the Work by (1) an act or neglect of the Owner or Architect, of an employee of either, or of a Separate Contractor; (2) by changes ordered in the Work; (3) by labor disputes, fire, unusual delay in deliveries, unavoidable casualties, adverse weather conditions documented in accordance with Section 15.1.6.2, or other causes beyond the Contractor's control; (4) by delay authorized by the Owner pending mediation and binding dispute resolution; or (5) by other causes that the Contractor asserts, and the Architect determines, justify delay, then the Contract Time shall be extended for such reasonable time as the Architect may determine.

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

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

## ARTICLE 9 PAYMENTS AND COMPLETION

### § 9.1 Contract Sum

**§ 9.1.1** The Contract Sum is stated in the Agreement and, including authorized adjustments, is the total amount payable

Sample



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by the Owner to the Contractor for performance of the Work under the Contract Documents.

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

### § 9.2 Schedule of Values

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

### § 9.3 Applications for Payment

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

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

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

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

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

### § 9.4 Certificates for Payment

**§ 9.4.1** The Architect will, within seven days after receipt of the Contractor's Application for Payment, either (1) issue to the Owner a Certificate for Payment in the full amount of the Application for Payment, with a copy to the Contractor; or (2) issue to the Owner a Certificate for Payment for such amount as the Architect determines is properly due, and notify the Contractor and Owner of the Architect's reasons for withholding certification in part as provided in Section 9.5.1; or (3) withhold certification of the entire Application for Payment, and notify the Contractor and Owner of the Architect's reason for withholding certification in whole as provided in Section 9.5.1.

**§ 9.4.2** The issuance of a Certificate for Payment will constitute a representation by the Architect to the Owner, based on the Architect's evaluation of the Work and the data in the Application for Payment, that, to the best of the Architect's knowledge, information, and belief, the Work has progressed to the point indicated, the quality of the Work is in accordance with the Contract Documents, and that the Contractor is entitled to payment in the amount certified. The


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

### § 9.5 Decisions to Withhold Certification

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

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

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

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

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

### § 9.6 Progress Payments

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

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

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

**§ 9.6.4** The Owner has the right to request written evidence from the Contractor that the Contractor has properly paid Subcontractors and suppliers amounts paid by the Owner to the Contractor for subcontracted Work. If the Contractor fails to furnish such evidence within seven days, the Owner shall have the right to contact Subcontractors and suppliers


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to ascertain whether they have been properly paid. Neither the Owner nor Architect shall have an obligation to pay, or to see to the payment of money to, a Subcontractor or supplier, except as may otherwise be required by law.

**§ 9.6.5** The Contractor's payments to suppliers shall be treated in a manner similar to that provided in Sections 9.6.2, 9.6.3 and 9.6.4.

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

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

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

### § 9.7 Failure of Payment

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

### § 9.8 Substantial Completion

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

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

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

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


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

### § 9.9 Partial Occupancy or Use

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

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

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

### § 9.10 Final Completion and Final Payment

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

§ 9.10.2 Neither final payment nor any remaining retained percentage shall become due until the Contractor submits to the Architect (1) an affidavit that payrolls, bills for materials and equipment, and other indebtedness connected with the Work for which the Owner or the Owner's property might be responsible or encumbered (less amounts withheld by Owner) have been paid or otherwise satisfied, (2) a certificate evidencing that insurance required by the Contract Documents to remain in force after final payment is currently in effect, (3) a written statement that the Contractor knows of no reason that the insurance will not be renewable to cover the period required by the Contract Documents, (4) consent of surety, if any, to final payment, (5) documentation of any special warranties, such as manufacturers' warranties or specific Subcontractor warranties, and (6) if required by the Owner, other data establishing payment or satisfaction of obligations, such as receipts and releases and waivers of liens, claims, security interests, or encumbrances arising out of the Contract, to the extent and in such form as may be designated by the Owner. If a Subcontractor refuses to furnish a release or waiver required by the Owner, the Contractor may furnish a bond satisfactory to the Owner to indemnify the Owner against such lien, claim, security interest, or encumbrance. If a lien, claim, security interest, or encumbrance remains unsatisfied after payments are made, the Contractor shall refund to the Owner all money that the Owner may be compelled to pay in discharging the lien, claim, security interest, or encumbrance, including all costs and reasonable attorneys' fees.

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


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constitute a waiver of Claims.

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

- .1 liens, Claims, security interests, or encumbrances arising out of the Contract and unsettled;
- .2 failure of the Work to comply with the requirements of the Contract Documents;
- .3 terms of special warranties required by the Contract Documents; or
- .4 audits performed by the Owner, if permitted by the Contract Documents, after final payment.

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

## ARTICLE 10 PROTECTION OF PERSONS AND PROPERTY

### § 10.1 Safety Precautions and Programs

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

### § 10.2 Safety of Persons and Property

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

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

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

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

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

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

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

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


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### § 10.2.8 Injury or Damage to Person or Property

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

### § 10.3 Hazardous Materials and Substances

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

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

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

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

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

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

### § 10.4 Emergencies

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

## ARTICLE 11 INSURANCE AND BONDS

### § 11.1 Contractor's Insurance and Bonds

**§ 11.1.1** The Contractor shall purchase and maintain insurance of the types and limits of liability, containing the


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

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

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

**§ 11.1.4 Notice of Cancellation or Expiration of Contractor's Required Insurance.** Within three (3) business days of the date the Contractor becomes aware of an impending or actual cancellation or expiration of any insurance required by the Contract Documents, the Contractor shall provide notice to the Owner of such impending or actual cancellation or expiration. Upon receipt of notice from the Contractor, the Owner shall, unless the lapse in coverage arises from an act or omission of the Owner, have the right to stop the Work until the lapse in coverage has been cured by the procurement of replacement coverage by the Contractor. The furnishing of notice by the Contractor shall not relieve the Contractor of any contractual obligation to provide any required coverage.

**§ 11.2 Owner's Insurance**

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

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

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

**§ 11.3 Waivers of Subrogation**

**§ 11.3.1** The Owner and Contractor waive all rights against (1) each other and any of their subcontractors, sub-subcontractors, agents, and employees, each of the other; (2) the Architect and Architect's consultants; and (3) Separate Contractors, if any, and any of their subcontractors, sub-subcontractors, agents, and employees, for damages caused by fire, or other causes of loss, to the extent those losses are covered by property insurance required by the Agreement or other property insurance applicable to the Project, except such rights as they have to proceeds of such insurance. The


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

**§ 11.3.2** If during the Project construction period the Owner insures properties, real or personal or both, at or adjacent to the site by property insurance under policies separate from those insuring the Project, or if after final payment property insurance is to be provided on the completed Project through a policy or policies other than those insuring the Project during the construction period, to the extent permissible by such policies, the Owner waives all rights in accordance with the terms of Section 11.3.1 for damages caused by fire or other causes of loss covered by this separate property insurance.

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

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

### §11.5 Adjustment and Settlement of Insured Loss

**§ 11.5.1** A loss insured under the property insurance required by the Agreement shall be adjusted by the Owner as fiduciary and made payable to the Owner as fiduciary for the insureds, as their interests may appear, subject to requirements of any applicable mortgagee clause and of Section 11.5.2. The Owner shall pay the Architect and Contractor their just shares of insurance proceeds received by the Owner, and by appropriate agreements the Architect and Contractor shall make payments to their consultants and Subcontractors in similar manner.

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

## ARTICLE 12 UNCOVERING AND CORRECTION OF WORK

### § 12.1 Uncovering of Work

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

**§ 12.1.2** If a portion of the Work has been covered that the Architect has not specifically requested to examine prior to its being covered, the Architect may request to see such Work and it shall be uncovered by the Contractor. If such Work is in accordance with the Contract Documents, the Contractor shall be entitled to an equitable adjustment to the Contract Sum and Contract Time as may be appropriate. If such Work is not in accordance with the Contract Documents, the costs of uncovering the Work, and the cost of correction, shall be at the Contractor's expense.

### § 12.2 Correction of Work

#### § 12.2.1 Before Substantial Completion

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


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Contractor's expense.

### § 12.2.2 After Substantial Completion

**§ 12.2.2.1** In addition to the Contractor's obligations under Section 3.5, if, within one year after the date of Substantial Completion of the Work or designated portion thereof or after the date for commencement of warranties established under Section 9.9.1, or by terms of any applicable special warranty required by the Contract Documents, any of the Work is found to be not in accordance with the requirements of the Contract Documents, the Contractor shall correct it promptly after receipt of notice from the Owner to do so, unless the Owner has previously given the Contractor a written acceptance of such condition. The Owner shall give such notice promptly after discovery of the condition. During the one-year period for correction of Work, if the Owner fails to notify the Contractor and give the Contractor an opportunity to make the correction, the Owner waives the rights to require correction by the Contractor and to make a claim for breach of warranty. If the Contractor fails to correct nonconforming Work within a reasonable time during that period after receipt of notice from the Owner or Architect, the Owner may correct it in accordance with Section 2.5.

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

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

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

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

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

### § 12.3 Acceptance of Nonconforming Work

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

## ARTICLE 13 MISCELLANEOUS PROVISIONS

### § 13.1 Governing Law

The Contract shall be governed by the law of the place where the Project is located, excluding that jurisdiction's choice of law rules. If the parties have selected arbitration as the method of binding dispute resolution, the Federal Arbitration Act shall govern Section 15.4.

### § 13.2 Successors and Assigns

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

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


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### § 13.3 Rights and Remedies

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

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

### § 13.4 Tests and Inspections

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

**§ 13.4.2** If the Architect, Owner, or public authorities having jurisdiction determine that portions of the Work require additional testing, inspection, or approval not included under Section 13.4.1, the Architect will, upon written authorization from the Owner, instruct the Contractor to make arrangements for such additional testing, inspection, or approval, by an entity acceptable to the Owner, and the Contractor shall give timely notice to the Architect of when and where tests and inspections are to be made so that the Architect may be present for such procedures. Such costs, except as provided in Section 13.4.3, shall be at the Owner's expense.

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

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

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

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

### § 13.5 Interest

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

## ARTICLE 14 TERMINATION OR SUSPENSION OF THE CONTRACT

### § 14.1 Termination by the Contractor

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

- .1 Issuance of an order of a court or other public authority having jurisdiction that requires all Work to be stopped;
- .2 An act of government, such as a declaration of national emergency, that requires all Work to be stopped;
- .3 Because the Architect has not issued a Certificate for Payment and has not notified the Contractor of the reason for withholding certification as provided in Section 9.4.1, or because the Owner has not made payment on a Certificate for Payment within the time stated in the Contract Documents; or
- .4 The Owner has failed to furnish to the Contractor reasonable evidence as required by Section 2.2.


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

§ 14.1.3 If one of the reasons described in Section 14.1.1 or 14.1.2 exists, the Contractor may, upon seven days' notice to the Owner and Architect, terminate the Contract and recover from the Owner payment for Work executed, as well as reasonable overhead and profit on Work not executed, and costs incurred by reason of such termination.

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

**§ 14.2 Termination by the Owner for Cause**

§ 14.2.1 The Owner may terminate the Contract if the Contractor

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

§ 14.2.2 When any of the reasons described in Section 14.2.1 exist, and upon certification by the Architect that sufficient cause exists to justify such action, the Owner may, without prejudice to any other rights or remedies of the Owner and after giving the Contractor and the Contractor's surety, if any, seven days' notice, terminate employment of the Contractor and may, subject to any prior rights of the surety:

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

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

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

**§ 14.3 Suspension by the Owner for Convenience**

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

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

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

Sample



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**§ 14.4 Termination by the Owner for Convenience**

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

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

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

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

## ARTICLE 15 CLAIMS AND DISPUTES

### § 15.1 Claims

**§ 15.1.1 Definition**

A Claim is a demand or assertion by one of the parties seeking, as a matter of right, payment of money, a change in the Contract Time, or other relief with respect to the terms of the Contract. The term "Claim" also includes other disputes and matters in question between the Owner and Contractor arising out of or relating to the Contract. The responsibility to substantiate Claims shall rest with the party making the Claim. This Section 15.1.1 does not require the Owner to file a Claim in order to impose liquidated damages in accordance with the Contract Documents.

**§ 15.1.2 Time Limits on Claims**

The Owner and Contractor shall commence all Claims and causes of action against the other and arising out of or related to the Contract, whether in contract, tort, breach of warranty or otherwise, in accordance with the requirements of the binding dispute resolution method selected in the Agreement and within the period specified by applicable law, but in any case not more than 10 years after the date of Substantial Completion of the Work. The Owner and Contractor waive all Claims and causes of action not commenced in accordance with this Section 15.1.2.

**§ 15.1.3 Notice of Claims**

**§ 15.1.3.1** Claims by either the Owner or Contractor, where the condition giving rise to the Claim is first discovered prior to expiration of the period for correction of the Work set forth in Section 12.2.2, shall be initiated by notice to the other party and to the Initial Decision Maker with a copy sent to the Architect, if the Architect is not serving as the Initial Decision Maker. Claims by either party under this Section 15.1.3.1 shall be initiated within 21 days after occurrence of the event giving rise to such Claim or within 21 days after the claimant first recognizes the condition giving rise to the Claim, whichever is later.

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

**§ 15.1.4 Continuing Contract Performance**

**§ 15.1.4.1** Pending final resolution of a Claim, except as otherwise agreed in writing or as provided in Section 9.7 and Article 14, the Contractor shall proceed diligently with performance of the Contract and the Owner shall continue to make payments in accordance with the Contract Documents.

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

**§ 15.1.5 Claims for Additional Cost**

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

**§ 15.1.6 Claims for Additional Time**

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

Sample



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15.1.3 shall be given. The Contractor's Claim shall include an estimate of cost and of probable effect of delay on progress of the Work. In the case of a continuing delay, only one Claim is necessary.

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

**§ 15.1.7 Waiver of Claims for Consequential Damages**

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

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

This mutual waiver is applicable, without limitation, to all consequential damages due to either party's termination in accordance with Article 14. Nothing contained in this Section 15.1.7 shall be deemed to preclude assessment of liquidated damages, when applicable, in accordance with the requirements of the Contract Documents.

**§ 15.2 Initial Decision**

**§ 15.2.1** Claims, excluding those where the condition giving rise to the Claim is first discovered after expiration of the period for correction of the Work set forth in Section 12.2.2 or arising under Sections 10.3, 10.4, and 11.5, shall be referred to the Initial Decision Maker for initial decision. The Architect will serve as the Initial Decision Maker, unless otherwise indicated in the Agreement. Except for those Claims excluded by this Section 15.2.1, an initial decision shall be required as a condition precedent to mediation of any Claim. If an initial decision has not been rendered within 30 days after the Claim has been referred to the Initial Decision Maker, the party asserting the Claim may demand mediation and binding dispute resolution without a decision having been rendered. Unless the Initial Decision Maker and all affected parties agree, the Initial Decision Maker will not decide disputes between the Contractor and persons or entities other than the Owner.

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

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

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

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

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



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

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

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

**§ 15.3 Mediation**

§ 15.3.1 Claims, disputes, or other matters in controversy arising out of or related to the Contract, except those waived as provided for in Sections 9.10.4, 9.10.5, and 15.1.7, shall be subject to mediation as a condition precedent to binding dispute resolution.

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

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

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

**§ 15.4 Arbitration**

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

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

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

§ 15.4.3 The foregoing agreement to arbitrate and other agreements to arbitrate with an additional person or entity duly


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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** Subject to the rules of the American Arbitration Association or other applicable arbitration rules, either party may consolidate an arbitration conducted under this Agreement with any other arbitration to which it is a party provided that (1) the arbitration agreement governing the other arbitration permits consolidation, (2) the arbitrations to be consolidated substantially involve common questions of law or fact, and (3) the arbitrations employ materially similar procedural rules and methods for selecting arbitrator(s).

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

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

Sample



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**From:** no-reply@dol.nj.gov
**To:** MaryAnn Brennan
**Subject:** Prevailing Wage Rate Determination Confirmation No. 81727
**Date:** Monday, January 13, 2025 10:04:00 AM

*** CAUTION ***
This message came from an EXTERNAL address. DO NOT click on links or attachments unless you know the sender and the content is safe. If suspicious forward the message to pcsupport@ucnj.org

Thank you for requesting an Official Prevailing Wage Rate Determination from the New Jersey Department of Labor and Workforce Development, Division of Wage and Hour Compliance.

The official prevailing wage rate determination details are displayed below. You may also view these details at any time by visiting WageRatesConf.shtml and entering the confirmation number.

**Confirmation No.:** 81727 **Date of Determination:** 01/13/2025 10:00:29

| **Below is the list of attachments included in the official wage rate determination:** | |
|---|---|
| | |
| UNION | 008085140-union-1-8-25.pdf |
| STATE WIDE RATES | 366111347-statewide-12-31-24.pdf |
| PWConfirmation.PDF | PWConfirmation.pdf |
| | |
| **Public Body Awarding the Contract** | |
| **Name:**County of Union **FEIN:** XXXXX2481<br>**Street:** 2325 south ave<br>**City:** Scotch Plains **State & Zip:** NJ 07076<br>**Project No.:** | |
| **Requesting Officer** | |
| **First Name:** Maryann<br>**Last Name:** Brennan<br>**Title:**<br>**Company Name:** County of Union<br>**Phone No.:** 908-789-3652 Ext. **Email:** maryann.brennan@ucnj.org<br>**Street:** 2325 south ave<br>**City:** Scotch Plains **State & Zip:** NJ 07076 | |

| Contractor Who is Being Awarded the Contract |
| --- |
| **Company Name:** TBD<br>**FEIN:**<br>**Contact First Name:**<br>**Contact Last Name:**<br>**Street:**<br>**City:** **State & Zip:** NJ<br>**Contract Amount:** $ |
| **Location Where Work Will Be Performed** |
| **Street:**<br>**City:** Elizabeth |
| **Description of Work:** construction |

If any of the links/attachments are not working, please forward this email to PWRIssues@dol.nj.gov and explain which of the links/attachments are not working. Please note that this email address is for online technical issues only; any law or wage rate questions sent to this email address cannot be answered and will be deleted.

For additional information about Prevailing Wage Rate Determinations, please go online at Prevailing Wage Rates on Construction-Related Public Works Projects.

Sincerely,

NJ Department of Labor and Workforce Development
Division of Wage and Hour Compliance
Public Contracts Section
PO Box 389
Trenton, NJ 08625-0389

Tel. (609) 292-2259
Fax (609) 695-1174

*ADVISORY: No contractor shall bid on any contract for public work as defined in section 2 of P.L.1963, c. 150 (C.34:11-56.26) unless the contractor is registered pursuant to this act. No*

*contractor shall list a subcontractor in a bid proposal for the contract unless the subcontractor is registered pursuant to P.L.1999, c.238 (C.34:11-56.48 et seq.) at the time the bid is made. No contractor or subcontractor, including a subcontractor not listed in the bid proposal, shall engage in the performance of any work requiring the payment of the prevailing wage, unless the contractor or subcontractor is registered pursuant to that act. To verify a contractor/sub-contractor's registration, go online at www.nj.gov/labor (click on Worker Protections, then Wage & Hour Compliance, then Looking for a Registered Public Works Contractor?).*

STATE OF NEW JERSEY
Department of Labor and Workforce Development
Division of Wage and Hour Compliance - Public Contracts Section
PO Box 389
Trenton, NJ 08625-0389

# PREVAILING WAGE RATE DETERMINATION

The New Jersey Prevailing Wage Act (N.J.S.A. 34:11-56.25 et seq.) requires that the Department of Labor and Workforce Development establish and enforce a prevailing wage level for workers engaged in public works in order to safeguard their efficiency and general well being and to protect them as well as their employers from the effects of serious and unfair competition.

Prevailing wage rates are wage and fringe benefit rates based on the collective bargaining agreements established for a particular craft or trade in the locality in which the public work is performed. In New Jersey, these rates vary by county and by the type of work performed.

Applicable prevailing wage rates are those wages and fringe benefits in effect on the date the contract is awarded. All pre-determined rate increases listed at the time the contract is awarded must also be paid, beginning on the dates specified. Rates that have expired will remain in effect until new rates are posted.

**Prevailing Wage Rate**

The prevailing wage rate for each craft will list the effective date of the rate and the following information:

**W** = Wage Rate per Hour **B** = Fringe Benefit Rate per Hour* **T** = Total Rate per Hour

* Fringe benefits are an integral part of the prevailing wage rate. Employers not providing such benefits must pay the fringe benefit amount directly to the employee each payday. Employers providing benefits worth less than the fringe benefit amount must pay the balance directly to the employee each payday.

Unless otherwise stated in the Prevailing Wage Rate Determination, the fringe benefit rate for overtime hours remains at the straight time rate.

When the Overtime Notes in the Prevailing Wage Rate Determination state that the overtime rates are "inclusive of benefits," the benefit rate is increased by the same factor as the wage rate (i.e. multiplied by 1.5 for time and one-half, multiplied by 2 for double time, etc.).

**Apprentice Rate Schedule**

An “apprentice” is an individual who is registered with the United States Department of Labor - Office of Apprenticeship and enrolled in a certified apprenticeship program during the period in which they are working on the public works project.

The apprentice wage rate is a percentage of the journeyman wage rate, unless otherwise indicated. The apprentice benefit rate is the full journeyman benefit rate, unless otherwise indicated.

If there is no apprentice rate schedule listed, the individual must be paid at least the journeyman rate even if that individual is in a certified apprentice program for that trade.

If there is no ratio of apprentices to journeymen listed for a particular craft, then the ratio shall be one (1) apprentice to every four (4) journeymen.

**Comments/Notes**

For each craft listed there will be comments/notes that cover the definition of the regular workday, shift differentials, overtime, recognized holidays, and any other relevant information.

**Public Works Contractor Registration**

The Public Works Contractor Registration Act (N.J.S.A. 34:11-56.48, et seq.) requires that **all** contractors, subcontractors, or lower tier subcontractors who are working on or who bid on public works projects register with the Department of Labor and Workforce Development. Applications are available at *www.nj.gov/labor* (click on Wage & Hour and then go to Registration & Permits).

Pursuant to N.J.S.A. 34:11-56.51:

*No contractor shall bid on any contract for public work as defined in section 2 of P.L.1963, c. 150 (C.34:11-56.26) unless the contractor is registered pursuant to this act. No contractor shall list a subcontractor in a bid proposal for the contract unless the subcontractor is registered pursuant to P.L.1999, c.238 (C.34:11-56.48 et seq.) at the time the bid is made. No contractor or subcontractor, including a subcontractor not listed in the bid proposal, shall engage in the performance of any public work subject to the contract, unless the contractor or subcontractor is registered pursuant to that act.*

**Snow Plowing**

Snow plowing contracts are <u>not</u> subject to the New Jersey Prevailing Wage Act or the Public Works Contractor Registration Act.

**NEW JERSEY DEPARTMENT OF LABOR AND WORKFORCE DEVELOPMENT**

**PREVAILING WAGE RATE DETERMINATION**

**County - UNION**

**Craft: Air Conditioning & Refrigeration - Service and Repair** **PREVAILING WAGE RATE**

| | 03/01/24 |
|---|---|
| Journeyman (Mechanic) | W45.23<br>B30.03<br>T75.26 |

**Craft: Air Conditioning & Refrigeration - Service and Repair** **APPRENTICE RATE SCHEDULE**

| INTERVAL | PERIOD AND RATES | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| As Shown | 1st Year | 2nd Year | 3rd Year | 4th Year | 5th Year | Wage = % | of Jnymn | Wage | | |
| Wage and Bene | 40% | 50% | 60% | 70% | 80% | Bene = % | of Jnymn | Bene | | |

**Ratio of Apprentices to Journeymen - 1:4**

**Craft: Air Conditioning & Refrigeration - Service and Repair** **COMMENTS/NOTES**

THESE RATES MAY BE USED FOR THE FOLLOWING:
- Service/Repair/Maintenance Work to EXISTING facilities.
- Replacement or Installation of air conditioning and refrigeration equipment when the combined tonnage does not exceed 15 tons for refrigeration, or 25 tons for air conditioning.
- Replacement or Installation of "packaged" or "unitary" rooftop-type units when the combined tonnage of the units does not exceed 75 tons.

NOTE: These rates may NOT be used for any work in new construction (including work on new additions).

The regular workday shall consist of 8 hours, starting between 6:00 AM and 10:00 AM, Monday through Friday.

SHIFT DIFFERENTIALS:
- The second and third shifts shall be paid an additional 15% of the hourly rate.
- All shifts must run for a minimum of 5 consecutive days.

OVERTIME:
Hours worked in excess of 8 per day or before or after the regular workday, that are not shift work, and all hours on Saturday shall be paid at time and one-half the hourly rate, inclusive of benefits. All hours on Sunday and holidays shall be paid at double the hourly rate, inclusive of benefits.

RECOGNIZED HOLIDAYS: New Year's Day, Presidents' Day, Memorial Day, July 4th, Labor Day, Veterans' Day, Thanksgiving Day, Christmas Day.

**NEW JERSEY DEPARTMENT OF LABOR AND WORKFORCE DEVELOPMENT**

**PREVAILING WAGE RATE DETERMINATION**

**County - UNION**

**Craft: Boilermaker** **PREVAILING WAGE RATE**

| | 01/12/24 |
|---|---|
| Foreman | W54.11<br>B47.08<br>T101.19 |
| General Foreman | W56.11<br>B48.14<br>T104.25 |
| Journeyman | W49.11<br>B45.31<br>T94.42 |

**Craft: Boilermaker** **APPRENTICE RATE SCHEDULE**

| INTERVAL | PERIOD AND RATES | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 1000 Hours | 65% | 70% | 75% | 80% | 85% | 90% | 95% | | | |
| Benefit = | 38.33 | 39.30 | 40.32 | 41.31 | 42.32 | 43.32 | 44.30 | | | |

**Ratio of Apprentices to Journeymen - ***

* 1 apprentice will be allowed for the first 5 journeymen, 1 apprentice for the next 10 journeymen and 1 apprentice for each succeeding 20 journeymen up to a maximum of 5 apprentices per contractor on any one job.

**Craft: Boilermaker** **COMMENTS/NOTES**

HIGH WORK: All apprentices working on the erection, repair, or dismantling of smoke stacks, standpipes, or water towers shall be paid the Journeyman rate.

The regular workday shall consist of 8 hours, between 8:00 AM and 4:30 PM.

SHIFT DIFFERENTIALS:
- The second shift shall work 7? hours and receive 8 hours pay, at a rate equal to the regular hourly rate plus 10%.
- The third shift shall work 7 hours and receive 8 hours pay, at a rate equal to the regular hourly rate plus 20%.
- For "Municipal Water Works" projects only, the following shall apply: Two, four day, 10 hour shifts may be worked at straight time Monday through Thursday. The day shift shall work four days, at 10 hours, for 10 hours pay. The second shift shall work four days, at nine and a half hours, for 10 hours pay, plus 10% the hourly rate for new work and .25 cents on repair work. Friday may be used as a make-up day at straight time, due to weather conditions, hoilday or any other circumstances beyond the employer's control.

OVERTIME:
- Hours in excess of 8 per day, Monday through Friday, and all hours on Saturdays shall be paid at time and one-half the hourly rate. All hours on Sundays and holidays (except Labor Day) shall be paid at double the hourly rate. All hours on Labor Day shall be paid at four times the hourly rate.
- If any other craft employed by the same contractor, or a subcontractor thereof, receives double time in lieu of time and one-half, then the Boilermaker shall receive double time in lieu of time and one-half.
- For "Municipal Water Works" projects only, the following shall apply: Four 10 hour days may be worked Monday through Thursday at straight time. Friday may be used as a make-up day for a day lost to inclement weather, holiday or other conditions beyond the control of the employer. Overtime shall be paid for any hours that exceed 10 hours per day or 40 hours per week.

RECOGNIZED HOLIDAYS: New Year's Day, Washington's Birthday, Memorial Day, July 4th, Labor Day, Presidential Election Day, Veterans' Day, Thanksgiving Day, Christmas Day. Sunday holidays observed the following Monday.

**NEW JERSEY DEPARTMENT OF LABOR AND WORKFORCE DEVELOPMENT**

**PREVAILING WAGE RATE DETERMINATION**

**County - UNION**

**Craft: Boilermaker - Minor Repairs** **PREVAILING WAGE RATE**

| | 01/12/24 |
|---|---|
| Foreman | W35.88<br>B17.89<br>T53.77 |
| General Foreman | W36.38<br>B17.89<br>T54.27 |
| Mechanic | W34.38<br>B17.89<br>T52.27 |

**Craft: Boilermaker - Minor Repairs** **COMMENTS/NOTES**

NOTE: These rates apply to MINOR REPAIR WORK ONLY (repair work in the field for which the contract amount does not exceed $125,000.00), for boilers that do not produce electric or are not used in the heating of petroleum products.

OVERTIME:
Hours in excess of 8 per day, Monday through Friday, and all hours on Saturdays shall be paid at time and one-half the hourly rate. All hours on Sundays and holidays (except Labor Day) shall be paid at double the hourly rate. All hours on Labor Day shall be paid at four times the hourly rate.

RECOGNIZED HOLIDAYS: New Year's Day, Washington's Birthday, Good Friday, Memorial Day, July 4th, Labor Day, Presidential Election Day, Thanksgiving Day, day after Thanksgiving, Christmas Day. Saturday holidays observed the preceding Friday, Sunday holidays observed the following Monday.

**NEW JERSEY DEPARTMENT OF LABOR AND WORKFORCE DEVELOPMENT**

**PREVAILING WAGE RATE DETERMINATION**

**County - UNION**

**Craft: Bricklayer, Stone Mason** **PREVAILING WAGE RATE**

| | 05/09/24 |
|---|---|
| Deputy Foreman | W51.60<br>B37.68<br>T89.28 |
| Foreman | W56.35<br>B37.68<br>T94.03 |
| Journeyman | W48.60<br>B37.68<br>T86.28 |

**Craft: Bricklayer, Stone Mason** **APPRENTICE RATE SCHEDULE**

| INTERVAL | PERIOD AND RATES | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 6 Months | 40% | 50% | 55% | 60% | 65% | 70% | 75% | 80% | | |
| Benefits | 5.61 | 6.88 | 7.50 | 8.13 | 28.95 | 30.86 | 32.78 | 34.67 | | |

**Ratio of Apprentices to Journeymen - 1:5**

**Craft: Bricklayer, Stone Mason** **COMMENTS/NOTES**

The regular workday shall consist of 8 hours, between 6:00 AM and 4:30 PM.

SHIFT DIFFERENTIALS:
- When a 2 shift schedule (including a day shift) is established, the first, or day shift, shall be established on an 8 hour basis. The second shift shall be established on an 8 hour basis, and receive the regular rate plus 10%, inclusive of benefits.
- When a three shift schedule is established, the first shift shall be established on an 8 hour basis, the second shift on a 7.5 hour basis, and the third shift on a 7 hour basis. The first shift shall receive the regular hourly rate, the second shift shall receive the regular rate plus 10%, inclusive of benefits, and the third shift shall receive the regular rate plus 15%, inclusive of benefits.
- When there is no day shift, and a second or third shift is established, it shall be established on an 8 hour basis. The second shift shall receive the regular rate plus 10%, inclusive of benefits, and the third shift shall receive the regular rate plus 15%, inclusive of benefits.
- When an irregular shift must be established, this shift shall receive the regular rate plus 10%, inclusive of benefits.

OVERTIME:
- The first 2 hours in excess of 8 per day, or before or after the regular workday that are not shift work, Monday through Friday, shall be paid at time and one-half the regular rate, inclusive of benefits. Any additional overtime shall be paid at double the regular rate, inclusive of benefits. The first 10 hours on Saturday shall be paid at time and one-half the regular rate, inclusive of benefits. Any additional overtime shall be paid at double the regular rate, inclusive of benefits. All hours on Sundays and holidays shall be paid at double the regular rate, inclusive of benefits.
- Saturday may be used as a make-up day for hours lost to inclement weather.
- When Bricklayers/Stone Masons work on Saturday with Laborers, and no other crafts are working on the project for the day, benefits may be paid at straight time. If other crafts are present, the applicable overtime rate for benefits shall be paid.

RECOGNIZED HOLIDAYS: New Year's Day, President's Day, Memorial Day, July 4th, Labor Day, Veterans' Day, Thanksgiving Day, Christmas Day. Sunday holidays will be observed the following Monday.

**NEW JERSEY DEPARTMENT OF LABOR AND WORKFORCE DEVELOPMENT**

**PREVAILING WAGE RATE DETERMINATION**

**County - UNION**

**Craft: Carpenter** **PREVAILING WAGE RATE**

| | 05/09/24 |
|---|---|
| Foreman | W64.41<br>B38.73<br>T103.14 |
| Journeyman | W56.01<br>B33.76<br>T89.77 |

**Craft: Carpenter** **APPRENTICE RATE SCHEDULE**

| INTERVAL | PERIOD AND RATES | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Yearly | 40% | 55% | 65% | 80% | 90% | | | | | |
| Benefit | 59.25% of | Appren | tice | Wage Rate | for all | intervals | + $0.57 | | | |

**Ratio of Apprentices to Journeymen - 1:3**

For Solar installation- all work on solar projects that fall under the jurisdiction of the carpenters, and does not require an electrician, the ratio of Apprentices to Journeymen shall be 1:1.

**Craft: Carpenter** **COMMENTS/NOTES**

APPRENTICE RATE SCHEDULE FOR THOSE APPRENTICES REGISTERED AS OF 5-1-19:

INTERVAL PERIOD AND RATES
Yearly 40% 55% 65% 80%
Benefits 59.25% of apprentice wage rate for all intervals + $0.57

FOREMAN REQUIREMENTS:
- When there are 2 or more Carpenters on a job, 1 shall be designated as a Foreman.
- When there are 21 or more Carpenters on a job, 2 shall be designated as Foremen.

The regular workday shall consist of 8 hours, starting between 6:00 AM and 9:00 AM.

SHIFT DIFFERENTIALS:
- When a 2 shift schedule (including a day shift) is established, the day shift shall be established on an 8 hour basis. The second shift shall be established on an 8 hour basis, and receive the regular rate plus 10%, inclusive of benefits.
- When a three shift schedule is established, the first shift shall be established on an 8 hour basis, the second shift on a 7.5 hour basis, and the third shift on a 7 hour basis. The first shift shall receive the regular hourly rate, the second shift shall receive the regular rate plus 10% and the third shift shall receive the regular rate plus 15%, inclusive of benefits.
- When there is no day shift, and a second or third shift is established, it shall be established on an 8 hour basis. The second shift shall receive the regular rate plus 10% and the third shift shall receive the regular rate plus 15%, inclusive of benefits.
- When an irregular shift must be established, this shift shall receive the regular rate plus 15%, inclusive of benefits.
- All time worked before and after a regularly established shift shall be paid at the applicable overtime rate. When a portion of the regularly established shift works into Saturday, Sunday or a holiday, that time worked shall be paid at the established shift rate.

OVERTIME:

- All hours in excess of 8 per day, or before or after an established shift that are not shift work, and all hours on Saturdays shall be paid at time and one-half the hourly rate, inclusive of benefits. All hours on Sundays and holidays shall be paid at double the hourly rate, inclusive of benefits.
- Four 10-hour days may be worked, Monday to Thursday, at straight time. Friday may be used as a make-up day for a day lost due to inclement weather. If Friday is not a make-up day, all hours on Friday shall be paid at time and one-half the hourly rate, inclusive of benefits.

RECOGNIZED HOLIDAYS: New Year's Day, Presidents' Day, Memorial Day, July 4th, Labor Day, Veterans' Day, Thanksgiving Day, Christmas Day. Sunday holidays observed the following Monday. Veterans' Day may be substituted for the day after Thanksgiving.

**NEW JERSEY DEPARTMENT OF LABOR AND WORKFORCE DEVELOPMENT**

**PREVAILING WAGE RATE DETERMINATION**

**County - UNION**

**Craft: Carpenter - Resilient Flooring** **PREVAILING WAGE RATE**

| | 05/01/24 |
|---|---|
| Foreman | W64.41<br>B38.64<br>T103.05 |
| Journeyman | W56.01<br>B33.67<br>T89.68 |

**Craft: Carpenter - Resilient Flooring** **APPRENTICE RATE SCHEDULE**

| INTERVAL | PERIOD AND RATES | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Yearly | 40% | 55% | 65% | 80% | 90% | | | | | |
| Benefit | 59.25% | of | Appren | tice | Wage Rate | for all | intervals | + $0.48 | | |

**Ratio of Apprentices to Journeymen - ***

* 1 apprentice shall be allowed to every 2 journeymen or major fraction therof. No more than 3 apprentices on any one job or project.

**Craft: Carpenter - Resilient Flooring** **COMMENTS/NOTES**

APPRENTICE RATE SCHEDULE FOR THOSE APPRENTICES REGISTERED AS OF 5-1-19:

INTERVAL PERIOD AND RATES
Yearly 40% 55% 65% 80%
Benefits 59.25% of apprentice wage rate for all intervals + $0.48.

FOREMAN REQUIREMENTS:
- On any job where there are 4 or more Carpenters of Resilient Flooring, 1 must be designated a Foreman.

FOR SYNTHETIC TURF INSTALLATION ONLY:
- The rate shall be 90% of the wage and benefit rate.

The regular workday consists of 8 hours, starting between 6:00 AM and 9:00 AM.

SHIFT DIFFERENTIALS:
- When a 2 shift schedule (including a day shift) is established, the day shift, shall be established on an 8 hour basis. The second shift shall be established on an 8 hour basis, and receive the regular wage rate plus 10%.
- When a three shift schedule is established, the first shift shall be established on an 8 hour basis, the second shift on a 7.5 hour basis, and the third shift on a 7 hour basis. The first shift shall receive the regular wage rate, the second shift shall receive the regular wage rate plus 10% and the third shift shall receive the regular wage rate plus 15%.
- When there is no day shift, and a second or third shift is established, it shall be established on an 8 hour basis. The second shift shall receive the regular wage rate plus 10% and the third shift shall receive the regular wage rate plus 15%.
- When an irregular shift must be established, this shift shall receive the regular rate plus 15%, inclusive of benefits.

OVERTIME:
- Hours in excess of 8 per day or 40 per week, or before or after the regular workday, Monday through Friday, shall be paid at time and one-half the wage rate. Saturday may be used as a make-up day, at straight time, up to 8 hours, for hours lost to reasons beyond the control of the employer, up to a total of 40 hours per week; hours in excess of 8 on Saturday shall

then be paid at time and one-half the wage rate. If Saturday is not a make-up day, all hours on Saturday shall be paid at time and one-half the wage rate. All hours on Sundays and holidays shall be paid at double the wage rate.
- Four 10-hour days may be worked, Monday to Thursday, at straight time. Friday may be used as a make-up day for hours lost to reasons beyond the control of the employer. If Friday is not a make-up day, all hours on Friday shall be paid at time and one-half the wage rate.

RECOGNIZED HOLIDAYS: New Year's Day, Presidents' Day, Memorial Day, July 4th, Labor Day, Veterans' Day, Thanksgiving Day, Christmas Day. Sunday holidays will be observed the following Monday. Veterans' Day may be substituted for the day after Thanksgiving.

**NEW JERSEY DEPARTMENT OF LABOR AND WORKFORCE DEVELOPMENT**

**PREVAILING WAGE RATE DETERMINATION**

**County - UNION**

**Craft: Carpenter-Residential Construction** **PREVAILING WAGE RATE**

| | 05/09/24 |
|---|---|
| Foreman | W54.29<br>B11.99<br>T66.28 |
| Journeyman | W47.21<br>B11.14<br>T58.35 |

**Craft: Carpenter-Residential Construction** **APPRENTICE RATE SCHEDULE**

| INTERVAL | PERIOD AND RATES | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Yearly | 40% | 55% | 65% | 80% | | | | | | |
| Benefit | 12% of | Appren | tice | wage rate | for all | intervals | + $5.48 | | | |

**Ratio of Apprentices to Journeymen - 1:3**

**Craft: Carpenter-Residential Construction** **COMMENTS/NOTES**

FOREMAN REQUIREMENTS:
- When there are 2 or more Carpenters on a job, 1 shall be designated as a Foreman.
- When there are 21 or more Carpenters on a job, 2 shall be designated as Foremen.

The regular workday shall consist of 8 hours, starting between 6:00 AM and 9:00 AM.

RESIDENTIAL CONSTRUCTION:
All residential construction (excluding commercial buildings and institutional housing), no more than four (4) floors in height above grade consisting of those projects involving the construction, alteration, or repair of town houses or row houses, single family homes, mobile homes, multi-family homes, mixed-use buildings that include commercial space on the first floor or below grade, and apartment buildings.

SHIFT DIFFERENTIALS:
- When a 2 shift schedule (including a day shift) is established, the day shift shall be established on an 8 hour basis. The second shift shall be established on an 8 hour basis, and receive the regular rate plus 10%, inclusive of benefits.
- When a three shift schedule is established, the first shift shall be established on an 8 hour basis, the second shift on a 7.5 hour basis, and the third shift on a 7 hour basis. The first shift shall receive the regular hourly rate, the second shift shall receive the regular rate plus 10% and the third shift shall receive the regular rate plus 15%, inclusive of benefits.
- When there is no day shift, and a second or third shift is established, it shall be established on an 8 hour basis. The second shift shall receive the regular rate plus 10% and the third shift shall receive the regular rate plus 15%, inclusive of benefits.
- When an irregular shift must be established, this shift shall receive the regular rate plus 15%, inclusive of benefits.

OVERTIME:
- All hours in excess of 8 per day, or before or after an established shift that are not shift work, and all hours on Saturdays shall be paid at time and one-half the hourly rate, inclusive of benefits. All hours on Sundays and holidays shall be paid at double the hourly rate, inclusive of benefits.
- Four 10-hour days may be worked, Monday to Thursday, at straight time. Friday may be used as a make-up day for a

day lost due to inclement weather. If Friday is not a make-up day, all hours on Friday shall be paid at time and one-half the hourly rate, inclusive of benefits.

RECOGNIZED HOLIDAYS: New Year's Day, Presidents' Day, Memorial Day, July 4th, Labor Day, Veterans' Day, Thanksgiving Day, Christmas Day. Sunday holidays observed the following Monday. Veterans' Day may be substituted for the day after Thanksgiving.

**NEW JERSEY DEPARTMENT OF LABOR AND WORKFORCE DEVELOPMENT**

**PREVAILING WAGE RATE DETERMINATION**

**County - UNION**

**Craft: Cement Mason** **PREVAILING WAGE RATE**

See "Bricklayer, Stone Mason" Rates

**Craft: Cement Mason** **APPRENTICE RATE SCHEDULE**

| INTERVAL | PERIOD AND RATES | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | |
| | | | | | | | | | | |

**Ratio of Apprentices to Journeymen - 1:4**

**Craft: Cement Mason** **COMMENTS/NOTES**

***See "Bricklayer, Stone Mason" Rates***

**NEW JERSEY DEPARTMENT OF LABOR AND WORKFORCE DEVELOPMENT**

**PREVAILING WAGE RATE DETERMINATION**

**County - UNION**

**Craft: Commercial Painter** **PREVAILING WAGE RATE**

| | 05/29/24 |
|---|---|
| Foreman | W48.90<br>B30.71<br>T79.61 |
| General Foreman | W53.34<br>B30.71<br>T84.05 |
| Journeyman | W44.45<br>B30.71<br>T75.16 |

**Craft: Commercial Painter** **APPRENTICE RATE SCHEDULE**

| INTERVAL | PERIOD AND RATES | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 6 Months | 40% | 45% | 55% | 65% | 70% | 75% | 80% | 80% | | |
| Benefits | 9.40 | 9.40 | 11.90 | 11.90 | 13.00 | 13.00 | 15.90 | 15.90 | | |

**Ratio of Apprentices to Journeymen - 1:4**

**Craft: Commercial Painter** **COMMENTS/NOTES**

* Commercial Painters perform work on all commercial structures such as offices, schools, hotels, shopping malls, restaurants, condominiums, etc.

Spraying, sandblasting, lead abatement work on commercial buildings, work performed above 3 stories or 30 feet in height, or using swing scaffolds requires an additional 10% of the wage rate.

FOREMEN REQUIREMENTS:
- When there are 4 or more Painters on a job, 1 shall be designated a Foreman.
- When there are 15 or more Painters on a job, 1 shall be designated a General Foreman.

The regular workday shall consist of 8 hours between 7:00 AM and 5:30 PM.

SHIFT DIFFERENTIALS:
- The second shift shall receive an additional 10% of the hourly rate, per hour, and the third shift shall receive an additional 15% of the hourly rate, per hour.

OVERTIME:
- Hours in excess of 8 per day, or before or after the regular workday, Monday through Friday, and all hours on Saturdays shall be paid at time and one-half the regular rate. All hours on Sundays and holidays shall be paid at double the regular rate.
- Saturday or Sunday may be used to make up a day lost to inclement weather, at straight time.
- Four 10-hour days may be worked, at straight time, Monday through Friday.

RECOGNIZED HOLIDAYS: New Year's Day, President's Day, Memorial Day, July 4th, Labor Day, General Election Day,

Veterans' Day, Thanksgiving Day, Christmas Day.

**County - UNION**

**Craft: Diver** **PREVAILING WAGE RATE**

| | 05/01/24 |
|---|---|
| Diver | W64.72<br>B52.74<br>T117.46 |
| Tender | W52.98<br>B52.74<br>T105.72 |

**Craft: Diver** **COMMENTS/NOTES**

NOTE: All dive crews must consist of a Tender, a Diver, and a standby Diver (standby Diver is the same rate as a Diver).

DEPTH & PENETRATION RATES: Divers shall be paid the following depth and penetration rates, in addition to the regular hourly rate, when applicable:

AIR DIVES:
0-59 feet: No additional wage
60-74 feet: + $0.25 per foot
75-125 feet: + $0.78 per foot

MIXED GAS DIVES:
0-74 feet: No additional wage
75-125 feet: + $1.00 per foot
126-200 feet: + $2.00 per foot

PENETRATION DIVES:
126-200 feet: + $1.50 per foot
201-275 feet: + $1.75 per foot
276-350 feet: + $2.00 per foot
351-425 feet: + $2.50 per foot

SHIFT DIFFERENTIAL:
- When a 2 shift schedule (including a day shift) is established, the day shift shall be established on an 8 hour basis. The second shift shall be established on an 8 hour basis and receive an additional 113% of the wage rate.
- When a three shift schedule is established, all three shifts shall be established on an 8 hour basis, but the second and third shifts shall receive an additional 113% of the wage rate.
- Benefits on shift work shall be paid at the straight-time rate.

OVERTIME:
Hours in excess of 8 per day, Monday through Friday, and all hours on Saturdays shall be paid at time and one-half the hourly rate. All hours on Sundays and holidays shall be paid at double the hourly rate.

RECOGNIZED HOLIDAYS: New Year's Day, Presidents' Day, Memorial Day, July 4th, Labor Day, Veterans' Day, Presidential Election Day, Thanksgiving Day, Christmas Day. Veterans' Day may be switched with the day after Thanksgiving.

**NEW JERSEY DEPARTMENT OF LABOR AND WORKFORCE DEVELOPMENT**

**PREVAILING WAGE RATE DETERMINATION**

**County - UNION**

**Craft: Dockbuilder/Pile Driver** **PREVAILING WAGE RATE**

| | 05/01/24 |
|---|---|
| Foreman | W60.93<br>B52.74<br>T113.67 |
| Foreman (Concrete Form Work) | W59.82<br>B39.39<br>T99.21 |
| Journeyman | W52.98<br>B52.74<br>T105.72 |
| Journeyman (Concrete Form Work) | W52.02<br>B39.39<br>T91.41 |

**Craft: Dockbuilder/Pile Driver** **APPRENTICE RATE SCHEDULE**

| INTERVAL | PERIOD AND RATES | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Yearly | 21.19 | 26.49 | 34.44 | 42.38 | | | | | | |
| Benefits | 34.70 | for all | intervals | | | | | | | |

**Ratio of Apprentices to Journeymen - ***

* When there are 4 or fewer Dockbuilders/Pile Drivers on a job, no more than 1 may be an apprentice. When there are 5 or more Dockbuilders/Pile Drivers, there may be 1 apprentice for every 5 Dockbuilders/Pile Drivers.

**Craft: Dockbuilder/Pile Driver** **COMMENTS/NOTES**

APPRENTICE RATE SCHEDULE FOR CONCRETE FORM WORK ONLY:

| INTERVAL | PERIOD AND RATES | | | |
|---|---|---|---|---|
| Yearly | 20.81 | 26.01 | 33.81 | 41.62 |
| Benefits | 26.73 for all intervals | | | |

CREOSOTE HANDLING:
When handling creosote products on land piledriving, floating marine construction, and construction of wharves, the worker shall receive an additional $0.25 per hour.

HAZARDOUS WASTE WORK:
- Hazardous waste removal work on a state or federally designated hazardous waste site where Level A, B, or C personal protection is required: an additional 20% of the hourly rate, per hour.
- Hazardous waste removal work in Level D, or where personal protection is not required: an additional $1.00 per hour.

CERTIFIED WELDER: When required on the job by the project owner, a Certified Welder shall receive an additional $1.00 per hour.

FOREMAN REQUIREMENTS:
The first Dockbuilder/Pile Driver on the job shall be designated a Foreman.

SHIFT DIFFERENTIAL:
- When a 2 shift schedule (including a day shift) is established, the day shift shall be established on an 8 hour basis. The second shift shall be established on an 8 hour basis and receive an additional 113% of the wage rate.
- When a three shift schedule is established, all three shifts shall be established on an 8 hour basis, but the second and third shifts shall receive an additional 113% of the wage rate.
- Benefits on shift work shall be paid at the straight-time rate.

OVERTIME:
Hours in excess of 8 per day, Monday through Friday, and all hours on Saturdays shall be paid at time and one-half the hourly rate. All hours on Sundays and holidays shall be paid at double the hourly rate.

RECOGNIZED HOLIDAYS: New Year's Day, Presidents' Day, Memorial Day, July 4th, Labor Day, Veterans' Day, Presidential Election Day, Thanksgiving Day, Christmas Day. Veterans' Day may be switched with the day after Thanksgiving.

**County - UNION**

**Craft: Drywall Finisher** **PREVAILING WAGE RATE**

| | 05/29/24 |
|---|---|
| Foreman | W47.75<br>B31.11<br>T78.86 |
| General Foreman | W49.92<br>B31.11<br>T81.03 |
| Journeyman | W43.41<br>B31.11<br>T74.52 |

**Craft: Drywall Finisher** **APPRENTICE RATE SCHEDULE**

| INTERVAL | PERIOD AND RATES | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 6 Months | 40% | 50% | | 60% | 70% | | 80% | 90% | | |
| Benefits | Intervals | 1 to 2 = | 11.90 | Intervals | 3 to 4 = | 15.03 | Intervals | 5 to 6 = | 18.84 | |

**Ratio of Apprentices to Journeymen - 1:4**

**Craft: Drywall Finisher** **COMMENTS/NOTES**

The regular workday shall consist of 8 hours between 7:00 AM and 5:30 PM.

SHIFT DIFFERENTIALS:
- The second shift shall receive an additional 10% of the hourly rate, per hour, and the third shift shall receive an additional 15% of the hourly rate, per hour.
- When 3 shifts are worked, the second shift shall receive 8 hours pay for 7.5 hours of work, and the third shift shall receive 8 hours pay for 7 hours of work.
- Shift work must run for a minimum of 5 consecutive workdays.

OVERTIME:
- Hours in excess of 8 per day, Monday through Friday, and all hours on Saturdays shall be paid at time and one-half the regular rate, inclusive of benefits. All hours on Sundays and holidays shall be paid at double the regular rate, inclusive of benefits.
- Saturday or Sunday may be used to make up a day lost to inclement weather, at straight time.

RECOGNIZED HOLIDAYS: New Year's Day, Memorial Day, July 4th, Labor Day, Presidential Election Day, Veterans' Day, Thanksgiving Day, Christmas Day. Saturday holiday observed the preceding Friday. Sunday holiday observed the following Monday.

**NEW JERSEY DEPARTMENT OF LABOR AND WORKFORCE DEVELOPMENT**

**PREVAILING WAGE RATE DETERMINATION**

**County - UNION**

**Craft: Electrician** **PREVAILING WAGE RATE**

| | 06/03/24 |
|---|---|
| Cable Splicer | W69.72<br>B44.96<br>T114.68 |
| Foreman (11-20 Journeymen) | W74.15<br>B47.84<br>T121.99 |
| Foreman (1-3 Journeymen) | W69.72<br>B44.96<br>T114.68 |
| Foreman (4-10 Journeymen) | W72.89<br>B47.02<br>T119.91 |
| General Foreman (21-30 Journeymen) | W76.06<br>B49.06<br>T125.12 |
| General Foreman (31-60 Journeymen) | W82.39<br>B53.15<br>T135.54 |
| General Foreman (61+ Journeymen) | W83.66<br>B53.97<br>T137.63 |
| Journeyman | W63.38<br>B40.89<br>T104.27 |
| Sub-Foreman | W72.25<br>B46.61<br>T118.86 |

**Craft: Electrician** **APPRENTICE RATE SCHEDULE**

| **INTERVAL** | **PERIOD AND RATES** | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Yearly | 40% | 49% | 58% | 68% | 80% | | of Jour | neyman | Wage | Rate |
| Benefit | 40% | 49% | 58% | 68% | 80% | | of Jour | neyman | Benefit | Rate |

**Ratio of Apprentices to Journeymen - 2:3**

**Craft: Electrician** **COMMENTS/NOTES**

THESE RATES ALSO APPLY TO THE FOLLOWING:
-All burglar and fire alarm work.
-All fiber optic work.
-Teledata work in new construction.
-Teledata work involving 16 Voice/Data Lines or more.

The regular workday shall be 8 hours, between 8:00 AM and 4:30 PM.

FOREMAN REQUIREMENTS:
- 1 to 3 Journeymen- 1 must be a Foreman (Foreman/1-3 Journeymen rate).
-4 to 10 Journeymen- 1 must be a Foreman (Foreman/4-10 Journeymen rate).
-11 to 20 Journeymen- 1 must be Foreman (Foreman/11-20 Journeymen rate) and 1 must be a Sub-Foreman.
-21 to 30 Journeymen- 1 must be a General Foreman (General Foreman/21-30 Journeymen rate) and 2 must be a Sub-Foreman.
-31 to 40 Journeymen- 1 must be a General Foreman (General Foreman/31-40 Journeymen rate) and 3 must be a Sub-Foreman.
-41 to 50 Journeymen- 1 must be a General Foreman (General Foreman/31-60 Journeymen rate) and 4 must be a Sub-Foreman.
-51 to 60 Journeymen- 1 must be a General Foreman (General Foreman/31-60 Journeymen rate) and 5 must be a Sub-Foreman.
-61+ Journeymen- 1 must be a General Foreman (General Foreman/61+ Journeymen rate) and 6 must be a Sub-Foreman.

SHIFT DIFFERENTIALS:
- Shift work must run for a minimum of 5 consecutive workdays.
- 2nd Shift (4:30 PM to 12:30 AM) shall receive 8 hours pay for 7.5 hours work + an additional 10% of the regular rate, per hour, inclusive of benefits.
- 3rd Shift (12:30 AM to 8:00 AM) shall receive 8 hours pay for 7 hours work + an additional 15% of the regular rate, per hour, inclusive of benefits.

OVERTIME:
Hours in excess of 8 per day, or outside of the regular workday, Monday through Friday, and all hours on Saturdays, shall be paid at time and one-half the regular rate, inclusive of benefits. All hours on Sundays and holidays shall be paid at double the regular rate, inclusive of benefits.

RECOGNIZED HOLIDAYS: New Year's Day, Presidents' Day, Memorial Day, July 4th, Labor Day, Presidential Election Day, Veterans' Day, Thanksgiving Day, Christmas Day.

**NEW JERSEY DEPARTMENT OF LABOR AND WORKFORCE DEVELOPMENT**

**PREVAILING WAGE RATE DETERMINATION**

**County - UNION**

**Craft: Electrician - Teledata (15 Voice/Data Lines & Less)** **PREVAILING WAGE RATE**

| | 12/02/24 |
|---|---|
| Journeyman Technician<br>(1-2 Workers on Job) | W48.21<br>B28.45<br>T76.66 |
| Master Tech/General Foreman<br>(26 + Workers on Job) | W62.67<br>B36.99<br>T99.66 |
| Senior Technician/Lead Foreman<br>(16-25 Workers on Job) | W57.37<br>B33.86<br>T91.23 |
| Technician A/Foreman<br>(9-15 Workers on Job) | W54.96<br>B32.43<br>T87.39 |
| Technician B/Working Foreman<br>(4-8 Workers on Job) | W52.55<br>B31.01<br>T83.56 |
| Technician C/Foreman<br>(3 Workers on Job) | W50.14<br>B29.59<br>T79.73 |

**Craft: Electrician - Teledata (15 Voice/Data Lines & Less)** **APPRENTICE RATE SCHEDULE**

| **INTERVAL** | **PERIOD AND RATES** | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 6 Months | 35% | 35% | 40% | 43% | 48% | 54% | 61% | 67% | 74% | 81% |
| Benefits | 7.45 | 7.45 | 8.51 | 9.15 | 10.22 | 11.49 | 12.98 | 14.26 | 15.76 | 17.24 |

**Ratio of Apprentices to Journeymen - 2:3**

**Craft: Electrician - Teledata (15 Voice/Data Lines & Less)** **COMMENTS/NOTES**

APPRENTICE RATE SCHEDULE FOR THOSE APPRENTICES ENTERING PROGRAM AFTER 11-28-22:

NTERVAL PERIOD AND RATES
6 Months 35% 35% 40% 43% 48% 54% 61% 67% 74% 81%
Benefits 7.67 7.67 8.76 9.43 10.52 11.84 13.38 14.69 16.22 17.76

APPRENTICE RATE SCHEDULE FOR THOSE APPRENTICES ENTERING PROGRAM AFTER 12-4-23:

NTERVAL PERIOD AND RATES
6 Months 35% 35% 40% 43% 48% 54% 61% 67% 74% 81%
Benefits 7.88 7.88 9.00 9.68 10.80 12.15 13.73 15.09 16.66 18.23

APPRENTICE RATE SCHEDULE FOR THOSE APPRENTICES ENTERING PROGRAM AFTER 12-2-24:

| NTERVAL | PERIOD AND RATES | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 6 Months | 35% | 35% | 40% | 43% | 48% | 54% | 61% | 67% | 74% | 81% |
| Benefits | 8.07 | 8.07 | 9.22 | 9.91 | 11.07 | 12.45 | 14.06 | 15.44 | 17.06 | 18.68 |

NOTES:
- These rates are for service, maintenance, moves, and/or changes affecting 15 Voice/Data (teledata) lines or less. These rates may NOT be used for any teledata work in new construction (including additions) or any fiber optic work.
- The number of Teledata workers on the jobsite is the determining factor for which Foreman category applies .

The regular workday shall be 8 hours, between 7:00 AM and 5:30 PM.

SHIFT DIFFERENTIALS:
- Shift work must run for a minimum of 5 consecutive workdays.
- 2nd Shift (4:30 PM to 12:30 AM) shall receive 8 hours pay for 7.5 hours work + an additional 10% of the regular rate, per hour, inclusive of benefits.
- 3rd Shift (12:30 AM to 8:00 AM) shall receive 8 hours pay for 7 hours work + an additional 15% of the regular rate, per hour, inclusive of benefits.

OVERTIME:
Hours in excess of 8 per day, or before or after the regular workday, Monday through Friday, that are not shift work, and the first 10 hours on Saturday, shall be paid at time and one-half the regular rate, inclusive of benefits. Hours in excess of 10 on Saturday and all hours on Sunday and holidays shall be paid at double the regular rate, inclusive of benefits.
- Four 10-hour days may be worked Monday through Friday, between the hours of 7:00 AM and 5:30 PM. A make-up day may be used for a day not being worked during the four 10-hour day schedule if a holiday occurs during the week or for any other conditions that prevent an employee from working the four 10-hour day schedule.

RECOGNIZED HOLIDAYS: New Year's Day, Presidents' Day, Memorial Day, July 4th, Labor Day, Presidential Election Day, Veterans Day, Thanksgiving Day, Christmas Day. Sunday holidays will be observed the following Monday. Saturday holidays will be observed the preceding Friday.

**County - UNION**

**Craft: Electrician - Teledata (16 Instruments & More)** **PREVAILING WAGE RATE**

See "Electrician" Rates

**Craft: Electrician - Teledata (16 Instruments & More)** **COMMENTS/NOTES**

***See ELECTRICIAN Rates***

**County - UNION**

**Craft: Electrician- Outside Commercial** **PREVAILING WAGE RATE**

| | 06/03/24 |
|---|---|
| Cable Splicer | W70.04<br>B44.66<br>T114.70 |
| Certified Welder | W66.86<br>B42.62<br>T109.48 |
| Equipment Operator | W63.67<br>B40.60<br>T104.27 |
| Foreman (11-20 Journeymen workers on job) | W74.50<br>B47.50<br>T122.00 |
| Foreman (1-3 Journeymen workers on job) | W70.04<br>B44.66<br>T114.70 |
| Foreman (4-10 Journeymen workers on job) | W73.23<br>B46.70<br>T119.93 |
| General Foreman (21-30 Journeymen workers on job) | W76.41<br>B48.71<br>T125.12 |
| General Foreman (31-60 Journeymen workers on job) | W82.78<br>B52.76<br>T135.54 |
| General Foreman (61+ Journeymen workers on job) | W84.05<br>B53.58<br>T137.63 |
| Groundman | W38.21<br>B24.35<br>T62.56 |
| Journeyman Lineman/Technician | W63.67<br>B40.60<br>T104.27 |
| Sub-Foreman | W72.59<br>B46.27<br>T118.86 |

**NEW JERSEY DEPARTMENT OF LABOR AND WORKFORCE DEVELOPMENT**

**PREVAILING WAGE RATE DETERMINATION**

**County - UNION**

**Craft: Electrician- Outside Commercial** **APPRENTICE RATE SCHEDULE**

| INTERVAL | PERIOD AND RATES | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 1000 Hours | 60% | 65% | 70% | 75% | 80% | 85% | 90% | | | |
| Benefits | 61.75% of | Journey | man | wage | + $.01 | | | | | |

**Craft: Electrician- Outside Commercial** **COMMENTS/NOTES**

APPRENTICE RATE SCHEDULE AS OF 5-29-23:

Interval Period and Rates
1000 Hours 60% 65% 70% 75% 80% 85% 90%
Benefits 62.75% of the Journeyman wage + $.01

APPRENTICE RATE SCHEDULE AS OF 6-3-24:

Interval Period and Rates
1000 Hours 60% 65% 70% 75% 80% 85% 90%
Benefits 63.75% of the Journeyman wage + $.01

* FOR UTILITY WORK PLEASE SEE STATEWIDE RATES

The regular worday shall be 8 hours, between 8:00 AM and 4:30 PM.

FOREMAN REQUIREMENTS:
- 1 to 3 Journeymen- 1 must be a Foreman (Foreman/1-3 Journeymen rate).
-4 to 10 Journeymen- 1 must be a Foreman (Foreman/4-10 Journeymen rate).
-11 to 20 Journeymen- 1 must be Foreman (Foreman/11-20 Journeymen rate) and 1 must be a Sub-Foreman.
-21 to 30 Journeymen- 1 must be a General Foreman (General Foreman/21-30 Journeymen rate) and 2 must be a Sub-Foreman.
-31 to 40 Journeymen- 1 must be a General Foreman (General Foreman/31-40 Journeymen rate) and 3 must be a Sub-Foreman.
-41 to 50 Journeymen- 1 must be a General Foreman (General Foreman/31-60 Journeymen rate) and 4 must be a Sub-Foreman.
-51 to 60 Journeymen- 1 must be a General Foreman (General Foreman/31-60 Journeymen rate) and 5 must be a Sub-Foreman.
-61+ Journeymen- 1 must be a General Foreman (General Foreman/61+ Journeymen rate) and 6 must be a Sub-Foreman.

SHIFT DIFFERENTIALS:
Shift work must run for a minimum of 5 consecutive workdays.
2nd Shift (4:30 PM to 12:30 AM): 8 hrs. pay for 7.5 hrs. work + an additional 10% of the regular rate, inclusive of benefits.
3rd Shift (12:30 AM to 8:00 AM): 8 hrs. pay for 7 hrs. work + an additional 15% of the regular rate per hour, inclusive benefits.

OVERTIME:
Hours in excess of 8 per day, or outside of the regular workday, Monday through Friday, and all hours on Saturdays, shall be paid at time and one-half the regular rate, inclusive of benefits. All hours on Sundays and holidays shall be paid at double the regular rate, inclusive of benefits.

RECOGNIZED HOLIDAYS:
New Year's Day, Presidents' Day, Memorial Day, July 4th, Labor Day, Presidential Election Day, Veterans' Day,

Thanksgiving Day and Christmas Day.

**County - UNION**

**Craft: Electrician-Utility Work (North)** **PREVAILING WAGE RATE**

Rates are located in the "Statewide" rate package

**Craft: Electrician-Utility Work (North)** **APPRENTICE RATE SCHEDULE**

| INTERVAL | PERIOD AND RATES | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| * 6 Months | 60% | 65% | 70% | 75% | 80% | 85% | 90% | | | |
| Benefits | 69% of | Appren | tice | Wage | Rate | for all | intervals | | | |

**Craft: Electrician-Utility Work (North)** **COMMENTS/NOTES**

Electrician-Utility Work (North) rates are located in the "Statewide" rate package.

* The apprentice wage rate is paid at the percentage of the Journeyman Lineman wage rate located in the "Statewide" rate package.

**County - UNION**

**Craft: Electrician-Utility Work (South)** **PREVAILING WAGE RATE**

Rates are located in the "Statewide" rate package

**Craft: Electrician-Utility Work (South)** **APPRENTICE RATE SCHEDULE**

| INTERVAL | PERIOD AND RATES | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 6 Months | 33.69 | 36.50 | 39.31 | 42.11 | 44.92 | 47.73 | 50.54 | | | |
| Benefits | 29.97 | 31.72 | 33.46 | 35.21 | 36.96 | 38.71 | 40.45 | | | |

**Craft: Electrician-Utility Work (South)** **COMMENTS/NOTES**

Electrician-Utility Work (South) rates are located in the "Statewide" rate package.

**NEW JERSEY DEPARTMENT OF LABOR AND WORKFORCE DEVELOPMENT**

**PREVAILING WAGE RATE DETERMINATION**

**County - UNION**

**Craft: Elevator Constructor** **PREVAILING WAGE RATE**

| | 03/29/23 |
|---|---|
| Journeyman | W77.49<br>B45.23<br>T122.72 |

**Craft: Elevator Constructor** **APPRENTICE RATE SCHEDULE**

| INTERVAL | PERIOD AND RATES | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Yearly | 34.60 | 42.62 | 50.37 | 58.12 | | | | | | |
| Benefits | 35.56 | 36.49 | 38.02 | 39.55 | | | | | | |

**Ratio of Apprentices to Journeymen - 1:1**

**Craft: Elevator Constructor** **COMMENTS/NOTES**

The regular workday shall consist of either 7 or 8 hours to be established at the beginning of the project, between 7:00 AM and 4:30 PM.

OVERTIME:
For all hours worked before or after the regular workday, Monday through Friday, and all hours on Saturday and Sunday, shall be paid at double the hourly rate. Holiday pay is one days wages (8 hours) plus double the hourly rate for all hours worked.

RECOGNIZED HOLIDAYS: New Year's Day, Presidents' Day, Good Friday, Memorial Day, July 4th, Labor Day, Columbus Day, Veterans' Day, Thanksgiving Day and the day after, Christmas Day. Saturday holidays shall be observed on the previous Friday and Sunday holidays shall be observed on the following Monday.

**NEW JERSEY DEPARTMENT OF LABOR AND WORKFORCE DEVELOPMENT**

**PREVAILING WAGE RATE DETERMINATION**

**County - UNION**

**Craft: Elevator Modernization & Service** **PREVAILING WAGE RATE**

| | 03/29/23 |
|---|---|
| Journeyman | W60.89<br>B44.07<br>T104.96 |

**Craft: Elevator Modernization & Service** **APPRENTICE RATE SCHEDULE**

| INTERVAL | PERIOD AND RATES | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Yearly | 34.60 | 33.49 | 39.58 | 45.67 | | | | | | |
| Benefits | 35.50 | 36.07 | 37.52 | 38.97 | | | | | | |

**Ratio of Apprentices to Journeymen - 1:1**

**Craft: Elevator Modernization & Service** **COMMENTS/NOTES**

MODERNIZATION (addition, replacement, refurbishing, relocation, or changes in design or appearance, of elevator equipment in existing buildings):

- The regular workday consists of 8 hours, between 7:00 AM and 4:30 PM.

- Overtime:
Hours in excess of 8 per day, or before or after the regular workday, Monday through Friday, and all hours on Saturday and Sunday shall be paid at time and one-half the hourly rate. Holiday pay is one days wages (8 hours) plus time and one-half the hourly rate for all hours worked.

SERVICE (repair or replacement of parts for the purpose of maintaining elevator equipment in good operating condition):

- The regular workday consists of 8 hours, between 6:00 AM and 6:00 PM.

- Overtime:
Hours in excess of 8 per day, or before or after the regular workday, Monday through Friday, and all hours on Saturday shall be paid at time and one-half the hourly rate. All hours on Sunday and holidays shall be paid at double the hourly rate.

RECOGNIZED HOLIDAYS (Modernization and Service): New Year's Day, Presidents' Day, Good Friday, Memorial Day, July 4th, Labor Day, Columbus Day, Veterans' Day, Thanksgiving Day and the day after, Christmas Day. Saturday holidays shall be observed on the previous Friday and Sunday holidays shall be observed on the following Monday.

**NEW JERSEY DEPARTMENT OF LABOR AND WORKFORCE DEVELOPMENT**

**PREVAILING WAGE RATE DETERMINATION**

**County - UNION**

**Craft: Glazier** **PREVAILING WAGE RATE**

| | 05/09/24 |
|---|---|
| * Leadman | W53.43<br>B31.98<br>T85.41 |
| Foreman | W55.43<br>B32.22<br>T87.65 |
| General Foreman | W57.43<br>B32.47<br>T89.90 |
| Journeyman | W51.43<br>B31.74<br>T83.17 |

**Craft: Glazier** **APPRENTICE RATE SCHEDULE**

| INTERVAL | PERIOD AND RATES | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 6 Months | 46% | 46% | 55% | 55% | 61% | 61% | 70% | 70% | | |
| Benefits | 12.44 | 12.44 | 14.76 | 14.76 | 18.16 | 18.16 | 19.79 | 19.79 | | |

**Ratio of Apprentices to Journeymen - 1:4**

**Craft: Glazier** **COMMENTS/NOTES**

Hazard/Height Pay: +$1.00 per hour

* When there are three (3) men working on a jobsite for three (3) days or longer, 1 Journeyman may be designated as a Leadman for the duration of the job, provided he has his OSHA certification.

FOREMAN REQUIREMENTS:
- When there are 4 or more Glaziers on a job, 1 must be designated a Foreman.
- When there are 15 or more Glaziers on a job, 1 must be designated a General Foreman.

The regular workday shall consist of 8 hours, between 7:00 AM and 5:30 PM, Monday to Friday.

SHIFT DIFFERENTIALS:
- The second shift shall receive an additional 10% of the hourly rate, per hour, and the third shift shall receive an additional 15% of the hourly rate, per hour.
- When 3 shifts are worked, the second shift shall receive 8 hours pay for 7.5 hours of work, and the third shift shall receive 8 hours pay for 7 hours of work.

OVERTIME:
Hours in excess of 8 per day, or before or after the regular workday Monday through Friday, and all hours on Saturdays shall be paid at time and one-half the regular rate. All hours on Sundays and holidays shall be paid at double the regular

rate.

RECOGNIZED HOLIDAYS: New Year's Day, Memorial Day, July 4th, Labor Day, General Election Day, Veterans' Day, Thanksgiving Day, Christmas Day. Saturday holiday observed the preceding Friday. Sunday holiday observed the following Monday.

**NEW JERSEY DEPARTMENT OF LABOR AND WORKFORCE DEVELOPMENT**

**PREVAILING WAGE RATE DETERMINATION**

**County - UNION**

**Craft: Heat & Frost Insulator** **PREVAILING WAGE RATE**

| | 09/25/24 |
|---|---|
| Foreman | W61.97<br>B39.22<br>T101.19 |
| General Foreman | W64.31<br>B40.33<br>T104.64 |
| Journeyman | W59.44<br>B38.66<br>T98.10 |

**Craft: Heat & Frost Insulator** **APPRENTICE RATE SCHEDULE**

| INTERVAL | PERIOD AND RATES | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Yearly | 27.89 | 33.09 | 39.84 | 46.51 | | | | | | |
| Benefits | 22.35 | 26.53 | 29.50 | 32.61 | | | | | | |

**Ratio of Apprentices to Journeymen - 1:3**

**Craft: Heat & Frost Insulator** **COMMENTS/NOTES**

NOTE: These rates apply to the installing of insulation on hot and cold mechanical systems.

The regular workday shall be 8 hours between 7:00 AM and 3:30 PM. In addition, the regular workday may also be 8 hours between 6:00 AM and 2:30 PM.

SHIFT DIFFERENTIAL:
- Shift work must run for a minimum of 5 consecutive workdays.
- Second Shift shall work 7.5 hours and receive 8 hours pay, at the regular rate, plus 25% per hour.
- Third Shift shall work 7 hours and receive 8 hours pay, at the regular rate, plus 30% per hour.

OVERTIME:
The first 2 hours in excess of 8 per day, hours outside of the regular workday Monday through Friday that are not shift work, and the first 10 hours on Saturday, shall be paid at time and one-half the regular rate, inclusive of benefits. All hours in excess of 10 per day, and all hours on Sunday and holidays (except Labor Day) shall be paid at double the regular rate, inclusive of benefits. All hours on Labor Day shall be paid at triple the regular rate, inclusive of benefits.

RECOGNIZED HOLIDAYS: New Year's Day, President's Day, Memorial Day, July 4th, Labor Day, Veterans' Day, Presidential Election Day, Thanksgiving Day and Christmas Day. Sunday holidays observed the following Monday.

**NEW JERSEY DEPARTMENT OF LABOR AND WORKFORCE DEVELOPMENT**

**PREVAILING WAGE RATE DETERMINATION**

**County - UNION**

**Craft: Heat & Frost Insulator - Asbestos Worker** **PREVAILING WAGE RATE**

| | 09/25/24 |
|---|---|
| Asbestos Helper<br>Abatement | W36.89<br>B24.92<br>T61.81 |

**Craft: Heat & Frost Insulator - Asbestos Worker** **APPRENTICE RATE SCHEDULE**

| INTERVAL | PERIOD AND RATES | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | SEE | HEAT & | FROST | INSULATOR | | | | | | |
| | | | | | | | | | | |

**Ratio of Apprentices to Journeymen - 1:3**

**Craft: Heat & Frost Insulator - Asbestos Worker** **COMMENTS/NOTES**

NOTE: These rates apply only to the removal of insulation materials/asbestos from mechanical systems, including containment erection and demolition, and placing material in appropriate containers.

The regular workday shall be 8 hours between 7:00 AM and 3:30 PM. In addition, the regular workday may also be 8 hours between 6:00 AM and 2:30 PM.

SHIFT DIFFERENTIALS:
- Shift work must run for a minimum of 5 consecutive workdays.
- The second shift shall work 7.5 hours and receive 8 hours pay at the regular rate, plus 25% per hour.
- The third shift shall work 7 hours and receive 8 hours pay at the regular rate, plus 30% per hour.

OVERTIME: The first 2 hours in excess of 8 per day, hours outside of the regular workday Monday through Friday that are not shift work, and the first 10 hours on Saturday, shall be paid at time and one-half the regular rate, inclusive of benefits. All hours in excess of 10 per day, and all hours on Sunday and holidays (except Labor Day) shall be paid at double the regular rate, inclusive of benefits. All hours on Labor Day shall be paid at triple the regular rate, inclusive of benefits.

RECOGNIZED HOLIDAYS: New Year's Day, Presidents' Day, Memorial Day, July 4th, Labor Day, Veterans' Day, Presidential Election Day, Thanksgiving Day and Christmas Day. Sunday holidays observed the following Monday.

**NEW JERSEY DEPARTMENT OF LABOR AND WORKFORCE DEVELOPMENT**

**PREVAILING WAGE RATE DETERMINATION**

**County - UNION**

**Craft: Industrial Painter- Bridges** **PREVAILING WAGE RATE**

| | 03/21/24 | 02/01/25 | 02/01/26 |
|---|---|---|---|
| Foreman | W64.29<br>B35.91<br>T100.20 | W0.00<br>B0.00<br>T102.20 | W0.00<br>B0.00<br>T104.20 |
| General Foreman | W66.79<br>B35.91<br>T102.70 | W0.00<br>B0.00<br>T104.70 | W0.00<br>B0.00<br>T106.70 |
| Journeyman | W59.29<br>B35.91<br>T95.20 | W0.00<br>B0.00<br>T97.20 | W0.00<br>B0.00<br>T99.20 |

**Craft: Industrial Painter- Bridges** **APPRENTICE RATE SCHEDULE**

| **INTERVAL** | **PERIOD AND RATES** | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 6 Months | 50% | 70% | 90% | | | | | | | |
| Benefits | 14.10 | 21.26 | 27.88 | | | | | | | |

**Ratio of Apprentices to Journeymen - 1:3**

**Craft: Industrial Painter- Bridges** **COMMENTS/NOTES**

* Industrial Painters perform work on all industrial structures, such as bridges.

These rates apply to: All bridges that span waterways, roadways, railways and canyons. All tunnels, overpasses, viaducts and all appurtenances.

FOREMEN REQUIREMENTS:
- When there are 4 or more Painters on a job, 1 shall be designated a Foreman.
- When there are 15 or more Painters on a job, 1 shall be designated a General Foreman.

The regular workday shall consist of 8 hours between 7:00 AM and 5:30 PM.

SHIFT DIFFERENTIALS:
- The second shift shall receive an additional 10% of the hourly rate, per hour, and the third shift shall receive an additional 15% of the hourly rate, per hour.

OVERTIME:
- Hours in excess of 8 per day, Monday through Friday, and all hours on Saturdays and Sundays shall be paid at time and one-half the regular rate. All hours on holidays shall be paid at double the regular rate, except Veterans Day, which shall be paid at time and one-half the regular rate.
- During a regular work week schedule, Saturday may be used as a make-up day lost to inclement weather, paid at the regular rate.
- Four 10-hour days may be worked, at the regular rate, Monday through Thursday. When the four 10-hour day schedule is used, the 11th and 12th hours shall be paid at time and one-half the regular rate. After the 12th hour, a worker shall be paid at double the regular rate. Friday may be used as a make-up day lost to inclement weather, paid at the regular rate.

RECOGNIZED HOLIDAYS: New Year's Day, President's Day, Memorial Day, July 4th, Labor Day, Presidential Election Day, Veterans Day, Thanksgiving Day, Christmas Day. Saturday holiday observed the preceding Friday. Sunday holiday observed the following Monday.

**NEW JERSEY DEPARTMENT OF LABOR AND WORKFORCE DEVELOPMENT**

**PREVAILING WAGE RATE DETERMINATION**

**County - UNION**

**Craft: Industrial Painter- Structural Steel** **PREVAILING WAGE RATE**

| | 03/21/24 | 02/01/25 | 02/01/26 |
|---|---|---|---|
| Foreman | W53.03<br>B33.56<br>T86.59 | W0.00<br>B0.00<br>T88.59 | W0.00<br>B0.00<br>T90.59 |
| General Foreman | W55.53<br>B33.56<br>T89.09 | W0.00<br>B0.00<br>T91.09 | W0.00<br>B0.00<br>T93.09 |
| Journeyman | W48.03<br>B33.56<br>T81.59 | W0.00<br>B0.00<br>T83.59 | W0.00<br>B0.00<br>T85.59 |

**Craft: Industrial Painter- Structural Steel** **APPRENTICE RATE SCHEDULE**

| **INTERVAL** | **PERIOD AND RATES** | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | SEE | INDUST | RIAL | PAINTER | BRIDGES | | | | | |
| | | | | | | | | | | |

**Ratio of Apprentices to Journeymen - 1:3**

**Craft: Industrial Painter- Structural Steel** **COMMENTS/NOTES**

* Industrial Painters perform work on all industrial structures, such as water tanks, waste water facilitites, refineries, any structural steel work, etc.

These rates apply to: All work in power plants (any aspect). On steeples, on dams, on hangers, transformers, substations, on all open steel, in refineries, tank farms, water/sewerage treatment facilities and on pipelines.

FOREMEN REQUIREMENTS:
- When there are 4 or more Painters on a job, 1 shall be designated a Foreman.
- When there are 15 or more Painters on a job, 1 shall be designated a General Foreman.

The regular workday shall consist of 8 hours between 7:00 AM and 5:30 PM.

SHIFT DIFFERENTIALS:
- The second shift shall receive an additional 10% of the hourly rate, per hour, and the third shift shall receive an additional 15% of the hourly rate, per hour.

OVERTIME:
- Hours in excess of 8 per day, Monday through Friday, and all hours on Saturdays and Sundays shall be paid at time and one-half the regular rate. All hours on holidays shall be paid at double the regular rate, except for Veterans Day, which shall be paid at time and one-half the regular rate.
- During the regular work week schedule, Saturday may be used to make-up a day lost to inclement weather, paid at the regular rate.
- Four 10-hour days may be worked, at the regular rate, Monday through Thursday. When the four 10-hour day schedule is used, the 11th and 12th hours shall be paid at time and one-half the regular rate. After the 12th hour, a worker shall be paid at double the regular rate. Friday may be used as a make-up day lost to inclement weather, paid at the regular rate.

RECOGNIZED HOLIDAYS: New Year's Day, President's Day, Memorial Day, July 4th, Labor Day, Presidential Election Day, Veterans Day, Thanksgiving Day, Christmas Day. Saturday holiday observed the preceding Friday. Sunday holiday observed the following Monday.

**NEW JERSEY DEPARTMENT OF LABOR AND WORKFORCE DEVELOPMENT**

**PREVAILING WAGE RATE DETERMINATION**

**County - UNION**

**Craft: Industrial Painter- Water Tanks** **PREVAILING WAGE RATE**

| | 03/21/24 | 02/01/25 | 02/01/26 |
|---|---|---|---|
| Foreman | W54.08<br>B33.21<br>T87.29 | W0.00<br>B0.00<br>T89.29 | W0.00<br>B0.00<br>T91.29 |
| General Foreman | W56.58<br>B33.21<br>T89.79 | W0.00<br>B0.00<br>T91.79 | W0.00<br>B0.00<br>T93.79 |
| Journeyman | W49.08<br>B33.21<br>T82.29 | W0.00<br>B0.00<br>T84.29 | W0.00<br>B0.00<br>T86.29 |

**Craft: Industrial Painter- Water Tanks** **APPRENTICE RATE SCHEDULE**

| **INTERVAL** | **PERIOD AND RATES** | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 6 Months | 50% | 70% | 90% | | | | | | | |
| Benefits | 14.10 | 21.26 | 27.88 | | | | | | | |

**Ratio of Apprentices to Journeymen - 1:3**

**Craft: Industrial Painter- Water Tanks** **COMMENTS/NOTES**

* Industrial Painters perform work on all industrial structures, such as water tanks, waste water facilitites, refineries, any structural steel work, etc.

These rates apply to: All new and repaint water tanks (interior and exterior).

FOREMEN REQUIREMENTS:
- When there are 4 or more Painters on a job, 1 shall be designated a Foreman.
- When there are 15 or more Painters on a job, 1 shall be designated a General Foreman.

The regular workday shall consist of 8 hours between 7:00 AM and 5:30 PM.

SHIFT DIFFERENTIALS:
- The second shift shall receive an additional 10% of the hourly rate, per hour, and the third shift shall receive an additional 15% of the hourly rate, per hour.

OVERTIME:
- Hours in excess of 8 per day, Monday through Friday, and all hours on Saturdays and Sundays shall be paid at time and one-half the regular rate. All hours on holidays shall be paid at double the regular rate, except Veterans Day, which shall be paid at time and one-half the regular rate.
- During a regular work week schedule, Saturday may be used to make-up a day lost to inclement weather, paid at the regular rate.
- Four 10-hour days may be worked, at the regular rate, Monday through Thursday. When the four 10-hour day schedule is used, the 11th and 12th hours shall be paid at time and one-half the regular rate. After the 12th hour, a worker shall be paid at double the regular rate. Friday may be used as a make-up day lost to inclement weather, paid at the regular rate.

**County - UNION**

RECOGNIZED HOLIDAYS: New Year's Day, President's Day, Memorial Day, July 4th, Labor Day, Presidential Election Day, Veterans Day, Thanksgiving Day, Christmas Day. Saturday holiday observed the preceding Friday. Sunday holiday observed the following Monday.

**NEW JERSEY DEPARTMENT OF LABOR AND WORKFORCE DEVELOPMENT**

**PREVAILING WAGE RATE DETERMINATION**

**County - UNION**

**Craft: Ironworker** **PREVAILING WAGE RATE**

| | 07/03/24 |
|---|---|
| Rod /Fence Foreman | W53.29<br>B50.87<br>T104.16 |
| Rod/Fence Journeyman | W48.44<br>B50.87<br>T99.31 |
| Structural Foreman | W55.82<br>B50.87<br>T106.69 |
| Structural Journeyman | W50.74<br>B50.87<br>T101.61 |

**Craft: Ironworker** **APPRENTICE RATE SCHEDULE**

| **INTERVAL** | **PERIOD AND RATES** | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 6 Months | 50% | 60% | | Yearly | 70% | 80% | 90% | | | |
| Benefits | same as | journeyman | amount | | | | | | | |

**Ratio of Apprentices to Journeymen - 1:4**

**Craft: Ironworker** **COMMENTS/NOTES**

HAZARDOUS WASTE WORK: On hazardous waste removal work on a state or federally designated hazardous waste site where the Ironworker is required to wear Level A,B, or C personal protection: + $3.00 per hour

The regular workday consists of 8 hours between 6:00 AM and 4:30 PM.

FOREMAN REQUIREMENTS:
When there are 2 or more Ironworkers on a job, 1 shall be designated a Foreman.

SHIFT DIFFERENTIALS:
- When a 2 shift schedule is established, the first, or day shift , shall be established on an 8 hour basis .The second shift shall be established on an 8 hour basis, and receive the regular rate plus 15%.
- When a three shift schedule is established, the first shift shall be established on an 8 hour basis, the second shift on a 7.5 hour basis, and the third shift on a 7 hour basis. The first shift shall receive the regular hourly rate, the second shift shall receive the regular rate plus 15%, and the third shift shall receive the regular rate plus 20%.
- When there is no day shift, and a second or third shift is established, it shall be established on an 8 hour basis.
- When an irregular shift is established for the Ironworker (Structural) classification, the rate shall be paid at time and one-half the regular rate, inclusive of benefits. When an irregular shift is established for the Rod /Fence classification, the shift shall be established on an 8 hour basis and receive the regular rate, plus 20%.

OVERTIME:

- All hours in excess of 8 per day, or before or after an established shift that are not shift work, and all hours on Saturday, shall be paid at time and one-half the regular rate, inclusive of benefits. All hours on Sunday and holidays shall be paid at double the hourly rate, inclusive of benefits. Saturday may be used as a make-up day for a day lost to inclement weather. If Saturday is not a make-up day, all hours on Saturday shall be paid at time and one-half the hourly rate, inclusive of benefits.
- Four 10-hour days may be worked, Monday to Thursday, at straight time. Friday may be used as a make-up day for a day lost to inclement weather. If Friday is not a make-up day, all hours on Friday shall be paid at time and one-half the hourly rate, inclusive of benefits.

RECOGNIZED HOLIDAYS: New Year's Day, Presidents' Day, Memorial Day, July 4th, Labor Day, Presidential Election Day, Veterans Day, Thanksgiving Day, Christmas Day.

**NEW JERSEY DEPARTMENT OF LABOR AND WORKFORCE DEVELOPMENT**

**PREVAILING WAGE RATE DETERMINATION**

**County - UNION**

**Craft: Laborer - Asbestos & Hazardous Waste Removal** **PREVAILING WAGE RATE**

| | 08/21/24 |
|---|---|
| Foreman | W45.88<br>B26.21<br>T72.09 |
| Journeyman (Handler) | W40.78<br>B26.21<br>T66.99 |

**Craft: Laborer - Asbestos & Hazardous Waste Removal** **APPRENTICE RATE SCHEDULE**

| INTERVAL | PERIOD AND RATES | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Yearly | 22.47 | 28.55 | 32.62 | 36.70 | | | | | | |
| Benefits | 22.31 | for | all | intervals | | | | | | |

**Ratio of Apprentices to Journeymen - ***

* Ratio of apprentices to journeymen shall not be more than one apprentice for the first journeyman and no more than (1) apprentice for each additional three (3) journeymen.

**Craft: Laborer - Asbestos & Hazardous Waste Removal** **COMMENTS/NOTES**

NOTE: These rates apply to work in connection with Asbestos, Radiation, Hazardous Waste, Lead, Chemical, Biological, Mold Remediation and Abatement.

The regular workday shall be 8 hours.

OVERTIME:
- Hours in excess of 8 per day, Monday through Saturday, and all hours on Sunday and holidays shall be paid at time and one-half the regular rate.
- Benefits on ALL overtime hours shall be paid at straight time.

RECOGNIZED HOLIDAYS: New Year's Day, President's Day, Easter, Memorial Day, July 4th, Labor Day, Veterans Day, Thanksgiving Day, Christmas Day. (Holidays start at 12:00 am).

**NEW JERSEY DEPARTMENT OF LABOR AND WORKFORCE DEVELOPMENT**

**PREVAILING WAGE RATE DETERMINATION**

**County - UNION**

**Craft: Laborer - Building** **PREVAILING WAGE RATE**

| | 08/28/24 |
|---|---|
| Class A Journeyman | W39.25<br>B33.17<br>T72.42 |
| Class B Journeyman | W38.25<br>B33.17<br>T71.42 |
| Class C Journeyman | W32.51<br>B33.17<br>T65.68 |
| Foreman | W44.16<br>B33.17<br>T77.33 |
| General Foreman | W49.06<br>B33.17<br>T82.23 |

**Craft: Laborer - Building** **APPRENTICE RATE SCHEDULE**

| **INTERVAL** | **PERIOD AND RATES** | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 6 Months | 60% | 70% | 80% | 90% | of Class B | wage rate | | | | |
| Benefit | 29.92 | 29.92 | 29.92 | 29.92 | | | | | | |

**Ratio of Apprentices to Journeymen - ***

* Ratio of apprentices to journeymen shall not be more than one apprentice for the first journeyman and no more than (1) apprentice for each additional three (3) journeymen.

**Craft: Laborer - Building** **COMMENTS/NOTES**

CLASS A: Specialist laborer including mason tender or concrete pour crew; scaffold builder (scaffolds up to 14 feet in height); operator of forklifts, Bobcats (or equivalent machinery), jack hammers, tampers, motorized tampers and compactors, vibrators, street cleaning machines, hydro demolition equipment, riding motor buggies, conveyors, burners; and nozzlemen on gunite work.
CLASS B: Basic laborer - includes all laborer work not listed in Class A or Class C.
CLASS C: Janitorial-type light clean-up work associated with the TURNOVER of a project, or part of a project, to the owner. All other clean-up work is Class B.

The regular workday shall be 8 hours between 6:00 AM and 6:00 PM.

SHIFT DIFFERENTIALS:
- Shift work must run for a minimum of 5 consecutive workdays.
- When a 2-shift schedule is worked, including a day shift, both shifts shall be established on the basis of 8 hours pay for 8 hours worked. The second shift shall receive the regular rate plus an additional 10%.
- When a 3-shift schedule is worked, the day shift shall be established on the basis of 8 hours pay for 8 hours worked, the second shift shall be established on the basis of 8 hours pay for 7.5 hours worked, and the third shift shall be established

on the basis of 8 hours pay for 7 hours worked. The day shift shall receive the regular rate, the second shift shall receive the regular rate plus an additional 10%, and the third shift shall receive the regular rate plus an additional 15%.
- When a second or third shift is worked with no day shift, the second or third shift shall be established on the basis of 8 hours pay for 8 hours worked. The second shift shall receive the regular rate plus an additional 10%, and the third shift shall receive the regular rate plus an additional 15%.
- When an irregular shift must be established this shift shall receive the regular rate plus an additional 10%.

OVERTIME:
- Hours in excess of 8 per day, or outside the regular workday that are not shift work, Monday through Friday, and all hours on Saturdays shall be paid at time and one-half the regular rate. Saturday may be used as a make-up day (paid at straight time) for a day lost to inclement weather, or for a holiday that is observed during the work week, Monday through Friday. All hours on Sundays and holidays shall be paid at double the regular rate.
- Four 10-hour days may be worked Monday to Thursday, at straight time, with Friday used a make-up day for a day lost to inclement weather. If Friday is not a make-up day, all hours on Friday shall be paid at time and one-half the regular rate.
- Benefits on ALL overtime hours shall be paid at time and one-half.

RECOGNIZED HOLIDAYS: New Year's Day, Presidents' Day, Memorial Day, July 4th, Labor Day, Veterans Day, Thanksgiving Day, Christmas Day. Sunday holidays observed the following Monday.

**NEW JERSEY DEPARTMENT OF LABOR AND WORKFORCE DEVELOPMENT**

**PREVAILING WAGE RATE DETERMINATION**

**County - UNION**

**Craft: Laborer - Heavy & General** **PREVAILING WAGE RATE**

Rates are located in the
"Statewide" rate package

**Craft: Laborer - Heavy & General** **APPRENTICE RATE SCHEDULE**

| INTERVAL | PERIOD AND RATES | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 1000 Hours | 60% | 70% | 80% | 90% | | | | | | |
| Benefit | 25.08 | for | all | intervals | | | | | | |

**Ratio of Apprentices to Journeymen - ***

* No more than 1 apprentice for the first journeyman and no more than 1 apprentice for each additional 3 journeymen.

As of 3-1-25, benefits shall be 26.13.
As of 3-1-26, benefits shall be 27.13.

**Craft: Laborer - Heavy & General** **COMMENTS/NOTES**

Heavy & General Laborer rates are located in the "Statewide" rate package.

**NEW JERSEY DEPARTMENT OF LABOR AND WORKFORCE DEVELOPMENT**

**PREVAILING WAGE RATE DETERMINATION**

**County - UNION**

**Craft: Laborer-Residential and Modular Construction** **PREVAILING WAGE RATE**

| | 04/01/23 |
|---|---|
| * Skilled Tradesman (only applies to Modular Construction) | W27.90<br>B5.45<br>T33.35 |
| Foreman (person directing crew, regardless of his skill classification) | W31.90<br>B5.45<br>T37.35 |
| Laborer (for single family and stand-alone duplex owned by single owner) | W17.85<br>B2.95<br>T20.80 |
| Residential and Modular Construction Laborer | W23.90<br>B5.45<br>T29.35 |

**Craft: Laborer-Residential and Modular Construction** **APPRENTICE RATE SCHEDULE**

| INTERVAL | PERIOD AND RATES | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| As shown | 800 hours | 600 hours | 600 hours | | | | | | | |
| wage & benefits | 70% | 80% | 90% | | | | | | | |

Ratio of Apprentices to Journeymen-

One (1) apprentice shall be allowed for the first journeyman on site and no more than one (1) additional apprentice for each additional three (3) journeymen on site.

**Craft: Laborer-Residential and Modular Construction** **COMMENTS/NOTES**

* SKILLED TRADESMAN-
any worker doing work not typically done by a Building Laborer. Some examples are installing interior doors, sheet rock, hooking up appliances, installing light fixtures, installing railing systems, etc. Please note where local building codes require that certain work be performed under the supervision of a licensed tradesman (i.e. Plumber, Electrician, etc.) Laborers shall work under such supervision.

RESIDENTIAL CONSTRUCTION- All residential construction (not commercial), single-family, stand-alone duplex houses, townhouses and multi-family buildings of not more than four (4) floors. Each housing unit must be fully and independently functional; each housing unit must have its own kitchen and bathroom. The definition includes all incidental items such as site work, parking areas, utilities, streets and sidewalks. Please note the construction must be Residential in nature. A First Floor at or below grade may contain commercial space not to exceed 50% square footage of the floor; at least 50% of the First Floor must contain living accommodations or related nonresidential uses (e.g. laundry space, recreation/hobby rooms, and/or corridor space). Basement stories below grade used for storage, parking, mechanical systems/equipment, etc., are considered basement stories which are not used in determining the building's height. An attic is an unfinished space located immediately below the roof. Such space is not used in determining a building's height even if used for storage purposes. In addition, barracks and dormitories are not considered residential projects.

MODULAR RESIDENTIAL CONSTRUCTION- all aspects of modular residential construction (not commercial) at the site of installation of structures of no more than four (4) stories, including all excavation and site preparation, footings and

foundation systems whether poured on-site or prefabricated, all underground waterproofing, underground utilities, concrete slabs, sidewalks, driveways, paving, hardscape and landscaping. Please note the construction must be Residential as defined above. All work performed by the Set Crew (the crew of workers who set the modular boxes on the foundation), including the rigging, setting, attaching and assembly of all modules and structural members, preparation of the foundation to accept modules, such as sill plates, connection of all in-module and under-module connections including, but not limited to, plumbing, electrical, HVAC, fire suppression, CATS, telephone, television/internet, and fiber optic, the building or installation of any porches or decks regardless of material or method of construction, the on-site installation of, or completion of any roof system, doors, windows and fenestrations, including flashing, gutter and soffit systems, waterproofing, insulation and interior and exterior trim work, and painting. Please note that modular construction does not include on-site stick built construction, tip up construction or panel built construction.

The regular workday shall be 8 hours between 6:00 AM and 6:00 PM.

OVERTIME:
Hours worked in excess of 8 per day/40 per week, Monday through Saturday, and all hours worked on Sunday and holidays shall be paid at time and one-half the hourly rate.

RECOGNIZED HOILDAYS:
New Year's Day, Martin Luther King Day, Memorial Day, July 4th, Labor Day, Thanksgiving Day and Christmas Day.

**NEW JERSEY DEPARTMENT OF LABOR AND WORKFORCE DEVELOPMENT**

**PREVAILING WAGE RATE DETERMINATION**

**County - UNION**

**Craft: Millwright** **PREVAILING WAGE RATE**

| | 05/01/24 |
|---|---|
| Foreman | W66.04<br>B39.75<br>T105.79 |
| Journeyman | W57.43<br>B34.65<br>T92.08 |

**Craft: Millwright** **APPRENTICE RATE SCHEDULE**

| INTERVAL | PERIOD AND RATES | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 6 Months | 40% | 55% | 65% | 80% | 90% | | | | | |
| Benefits | 59.25% of | Appren | tice | Wage | Rate | for all | intervals | + $0.62 | | |

**Ratio of Apprentices to Journeymen - 1:3**

**Craft: Millwright** **COMMENTS/NOTES**

FOREMAN REQUIREMENTS:
- When there are 2 or more Millwrights on a job, 1 shall be designated as a Foreman.

The regular workday shall consist of 8 hours, starting between 6:00 AM and 9:00 AM.

SHIFT DIFFERENTIALS:
- When a 2 shift schedule (including a day shift) is established, the day shift shall be established on an 8 hour basis. The second shift shall be established on an 8 hour basis, and receive the regular rate plus 15%, inclusive of benefits.
- When a three shift schedule is established, the first shift shall be established on an 8 hour basis, the second shift on a 7.5 hour basis, and the third shift on a 7 hour basis. The first shift shall receive the regular hourly rate, the second shift shall receive the regular rate plus 15% and the third shift shall receive the regular rate plus 20%, inclusive of benefits.
- When there is no day shift, and a second or third shift is established, it shall be established on an 8 hour basis. The second shift shall receive the regular rate plus 15% and the third shift shall receive the regular rate plus 20%, inclusive of benefits.
- When an irregular shift must be established, this shift shall receive the regular rate plus 15%, inclusive of benefits.

OVERTIME:
- All hours in excess of 8 per day, or before or after an established shift that are not shift work, and all hours on Saturdays shall be paid at time and one-half the hourly rate, inclusive of benefits. All hours on Sundays and holidays shall be paid at double the hourly rate, inclusive of benefits.
- Four 10-hour days may be worked, Monday to Thursday, at straight time. Friday may be used as a make-up day for a day lost due to inclement weather. If Friday is not a make-up day, all hours on Friday shall be paid at time and one-half the hourly rate, inclusive of benefits.

RECOGNIZED HOLIDAYS: New Year's Day, Presidents' Day, Memorial Day, July 4th, Labor Day, Veterans' Day, Thanksgiving Day, Christmas Day. Sunday holidays will be observed the following Monday. Veterans' Day may be substituted for the day after Thanksgiving.

**NEW JERSEY DEPARTMENT OF LABOR AND WORKFORCE DEVELOPMENT**

**PREVAILING WAGE RATE DETERMINATION**

**County - UNION**

**Craft: Operating Engineer** **PREVAILING WAGE RATE**

Rates are located in the
"Statewide" rate package

**Craft: Operating Engineer** **APPRENTICE RATE SCHEDULE**

| INTERVAL | PERIOD AND RATES | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Yearly | 60% | 70% | 80% | 90% | | | | | | |
| | | | | | | | | | | |

**Ratio of Apprentices to Journeymen - ***

* 1 apprentice for each piece of heavy equipment. At least 10 pieces of heavy equipment or a minimum of 5 Operating Engineers must be on site.

**Craft: Operating Engineer** **COMMENTS/NOTES**

Operating Engineer rates are located in the "Statewide" rate package.

**NEW JERSEY DEPARTMENT OF LABOR AND WORKFORCE DEVELOPMENT**

**PREVAILING WAGE RATE DETERMINATION**

**County - UNION**

**Craft: Operating Engineer - Field Engineer** **PREVAILING WAGE RATE**

Rates are located in the
"Statewide" rate package

**Craft: Operating Engineer - Field Engineer** **APPRENTICE RATE SCHEDULE**

| INTERVAL | PERIOD AND RATES | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Yearly | 70% | 75% | of Rod/ | Chainman | Wage | | | | | |
| Yearly | | | 80% | 90% | Transit/ | Instrument | man | Wage | | |

**Ratio of Apprentices to Journeymen - ***

* No more than 1 Field Engineer Apprentice per Survey Crew.

**Craft: Operating Engineer - Field Engineer** **COMMENTS/NOTES**

Operating Engineer - Field Engineer rates are located in the "Statewide" rate package.

**NEW JERSEY DEPARTMENT OF LABOR AND WORKFORCE DEVELOPMENT**

**PREVAILING WAGE RATE DETERMINATION**

**County - UNION**

**Craft: Painter - Line Striping** **PREVAILING WAGE RATE**

| | 12/03/24 |
|---|---|
| Apprentice (1st year) | W31.33<br>B16.18<br>T47.51 |
| Apprentice (2nd year) | W35.74<br>B27.13<br>T62.87 |
| Foreman (Charge Person) | W45.12<br>B27.91<br>T73.03 |
| Journeyman 1 (at least 1 year of working exp. as a journeyman) | W40.35<br>B27.91<br>T68.26 |
| Journeyman 2 (at least 2 years of working exp. as a journeyman) | W44.12<br>B27.91<br>T72.03 |

**Craft: Painter - Line Striping** **APPRENTICE RATE SCHEDULE**

| INTERVAL | PERIOD AND RATES | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | |
| | | | | | | | | | | |

**Ratio of Apprentices to Journeymen - 1:1**

**Craft: Painter - Line Striping** **COMMENTS/NOTES**

OVERTIME:
Hours in excess of 8 per day, Monday through Saturday, and all hours on Sundays and holidays shall be paid at time and one-half the hourly rate.

RECOGNIZED HOLIDAYS: New Year's Day, Presidents' Day, Memorial Day, July 4th, Labor Day, Veterans Day, Thanksgiving Day and Christmas Day. Veterans Day may be substituted for the day after Thanksgiving.

**NEW JERSEY DEPARTMENT OF LABOR AND WORKFORCE DEVELOPMENT**

**PREVAILING WAGE RATE DETERMINATION**

**County - UNION**

**Craft: Paperhanger** **PREVAILING WAGE RATE**

| | 05/29/24 |
|---|---|
| Foreman | W53.79<br>B30.71<br>T84.50 |
| Journeyman | W48.90<br>B30.71<br>T79.61 |

**Craft: Paperhanger** **APPRENTICE RATE SCHEDULE**

| INTERVAL | PERIOD AND RATES | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | SEE | COMMER | CIAL | PAINTER | | | | | | |
| | | | | | | | | | | |

**Craft: Paperhanger** **COMMENTS/NOTES**

FOREMEN REQUIREMENTS:
- When there are 4 or more Paperhangers on a job, 1 shall be designated a Foreman.

The regular workday shall consist of 8 hours between 7:00 AM and 5:30 PM.

SHIFT DIFFERENTIALS:
- The second shift shall receive an additional 10% of the hourly rate, per hour, and the third shift shall receive an additional 15% of the hourly rate, per hour.

OVERTIME:
- Hours in excess of 8 per day, Monday through Friday, and all hours on Saturdays shall be paid at time and one-half the regular rate. All hours on Sundays and holidays shall be paid at double the regular rate.
- Saturday or Sunday may be used to make up a day lost to inclement weather, at straight time.
- Four 10-hour days may be worked, at straight time, Monday through Friday.

RECOGNIZED HOLIDAYS: New Year's Day, President's Day, Memorial Day, July 4th, Labor Day, General Election Day, Veterans Day, Thanksgiving Day, Christmas Day

**NEW JERSEY DEPARTMENT OF LABOR AND WORKFORCE DEVELOPMENT**

**PREVAILING WAGE RATE DETERMINATION**

**County - UNION**

**Craft: Pipefitter** **PREVAILING WAGE RATE**

| | 05/01/24 |
|---|---|
| Foreman | W59.34<br>B52.02<br>T111.36 |
| Journeyman | W55.09<br>B48.30<br>T103.39 |

**Craft: Pipefitter** **APPRENTICE RATE SCHEDULE**

| INTERVAL | PERIOD AND RATES | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Yearly | 35% | 45% | 55% | 65% | 75% | | | | | |
| Benefit | 27.62 | 30.78 | 33.95 | 37.12 | 40.29 | | | | | |

**Ratio of Apprentices to Journeymen - 1:5**

**Craft: Pipefitter** **COMMENTS/NOTES**

FOREMAN REQUIREMENTS:
- When there are 2 or more Journeyman Pipefitters on a job, 1 shall be designated a Foreman.
- There shall be a Foreman for every 8 Journeyman Pipefitters on a job.

The regular workday shall be 8 hours between 7:00 AM and 3:30 PM.

SHIFT DIFFERENTIAL:
- 2nd Shift (3:30 PM-11:30 PM) shall work 7.5 hours and receive 8 hours pay at the regular rate, plus 10% per hour on the total rate.
- 3rd Shift (11:30 PM-7:00 AM) shall work 7 hours and receive 8 hours pay at the regular rate, plus 15% per hour on the total rate.

OVERTIME:
- All hours worked in excess of 8 per day, Monday through Friday, and all hours worked on Saturday, shall be paid at time and one-half, inclusive of benefits. All hours on Sunday and holidays shall be paid at double time, inclusive of benefits.
- By mutual agreement, employees may work four 10-hour days, Monday to Thursday, at straight time rate. Friday may be used as a make-up day for a day lost to inclement weather, and may be paid at straight time. If Friday is not a make-up day, the first 8 hours shall be paid at time and one-half, inclusive of benefits; hours in excess of 8 shall be paid at double time, inclusive of benefits.

SHIFT DIFFERENTIAL (Maintenance Work Only):
- 2nd Shift (3:30 PM-11:30 PM) shall work 7.5 hours and receive 8 hours pay at the regular rate, plus 10% per hour on the total rate.
- 3rd Shift (11:30 PM-7:00 AM) shall work 7 hours and receive 8 hours pay at the regular rate, plus 15% per hour on the total rate.

OVERTIME (Maintenance Work Only):
- All hours in excess of 8 per day, Monday through Saturday, shall be paid at time and one-half, inclusive of benefits. All

hours on Sundays and holidays shall be paid at double time, inclusive of benefits.

NOTE: Maintenance work is work to repair, restore, or improve the efficiency of existing facilities. This does NOT apply to ANY new construction.

RECOGNIZED HOLIDAYS: New Year's Day, Presidents' Day, Memorial Day, July 4th, Labor Day, Presidential Election Day, Veterans' Day, Thanksgiving Day, Christmas Day. Sunday holidays are observed the following Monday.

**County - UNION**

**Craft: Plasterer** **PREVAILING WAGE RATE**

See Bricklayer, Stone Mason Rates

**Craft: Plasterer** **COMMENTS/NOTES**

***See BRICKLAYER, STONE MASON Rates***

**NEW JERSEY DEPARTMENT OF LABOR AND WORKFORCE DEVELOPMENT**

**PREVAILING WAGE RATE DETERMINATION**

**County - UNION**

**Craft: Plumber** **PREVAILING WAGE RATE**

| | 05/01/24 |
|---|---|
| Foreman | W65.33<br>B43.22<br>T108.55 |
| General Foreman | W69.56<br>B43.22<br>T112.78 |
| Journeyman | W60.49<br>B43.22<br>T103.71 |

**Craft: Plumber** **APPRENTICE RATE SCHEDULE**

| INTERVAL | PERIOD AND RATES | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Yearly | 30% | 45% | 55% | 65% | 75% | | | | | |
| Benefits | 18.23 | 24.72 | 27.02 | 29.31 | 31.60 | | | | | |

**Ratio of Apprentices to Journeymen - ***

* Employers may employ 1 apprentice on any job where 1 or 2 journeymen are employed. Thereafter, 1 apprentice may be employed for every 4 journeymen.

**Craft: Plumber** **COMMENTS/NOTES**

FOREMAN REQUIREMENTS:
- On any job having 2 or more Plumbers, 1 must be designated a Foreman.
- On any job having 9 or more Plumbers, 2 shall be designated as Foremen.

The regular workday shall consist of 8 hours between 7:00 AM and 4:30 PM.

SHIFT DIFFERENTIALS:
- Shift work must continue for a minimum of 5 consecutive workdays.
- When two shifts are worked, the second shift shall work 7.5 hours and receive 8 hours pay, at a rate equal to the hourly rate plus 10%, inclusive of benefits.
- When a third shift is worked, the third shift shall work 7 hours and receive 8 hours pay, at a rate equal to the hourly rate plus 15%, inclusive of benefits.

OVERTIME:
- All hours in excess of 8 per day, or before of after the regular workday that are not shift work, Monday through Friday, and all hours on Saturday, shall be paid at time and one-half the regular rate, inclusive of benefits. All hours on Sunday and holidays, shall be paid at double the hourly rate, inclusive of benefits.
- Four 10-hour days may be worked, Monday to Thursday, at straight time. Friday may be used as a make-up day for a day lost due to inclement weather. If Friday is not a make-up day, all hours on Friday shall be paid at time and one-half, inclusive of benefits.

RECOGNIZED HOLIDAYS: New Year's Day, Presidents' Day, Memorial Day, July 4th, Labor Day, Presidential Election Day, Veterans' Day, Thanksgiving Day, Christmas Day. Sunday holidays will be observed the following Monday.

**NEW JERSEY DEPARTMENT OF LABOR AND WORKFORCE DEVELOPMENT**

**PREVAILING WAGE RATE DETERMINATION**

**County - UNION**

**Craft: Roofer** **PREVAILING WAGE RATE**

| | 06/01/24 |
|---|---|
| Foreman | W47.52<br>B32.34<br>T79.86 |
| Journeyman | W44.52<br>B32.34<br>T76.86 |

**Craft: Roofer** **APPRENTICE RATE SCHEDULE**

| INTERVAL | PERIOD AND RATES | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 6 Months | 17.80 | 22.26 | 26.71 | 28.94 | 31.16 | 33.39 | 35.62 | 40.07 | | |
| Benefits | 2.19 | 2.19 | 28.34 | 28.34 | 28.34 | 28.34 | 28.34 | 28.34 | | |

**Ratio of Apprentices to Journeymen - ***

* A) For roofing jobs that are of the 1 or single ply nature: 1:2 or fraction thereof
B) For roofing jobs on new built up roofs: 1:3 or fraction thereof
C) For roofing jobs that are of a tear-off nature: 1:2 or fraction thereof
D) For roofing jobs {not requiring complete removal of existing systems, installation done over existing roof}: 1:3 or fraction thereof

**Craft: Roofer** **COMMENTS/NOTES**

Pitch: +.50 per hour

Mop Man: +.30 per hour

The regular workday consists of 8 hours between 8:00 AM and 4:30 PM.

OVERTIME:
Hours in excess of 8 per day, or before or after the regular workday, Monday through Friday, and all hours on Saturdays, Sundays, and holidays shall be paid at time and one-half the regular rate.

RECOGNIZED HOLIDAYS: New Year's Day, Good Friday, Memorial Day, July 4th, Labor Day, Presidential Election Day, Veterans' Day, Thanksgiving Day, Christmas Day.

**NEW JERSEY DEPARTMENT OF LABOR AND WORKFORCE DEVELOPMENT**

**PREVAILING WAGE RATE DETERMINATION**

**County - UNION**

**Craft: Sheet Metal Sign Installation** **PREVAILING WAGE RATE**

| | 04/17/24 |
|---|---|
| Foreman | W44.19<br>B43.87<br>T88.06 |
| Journeyman | W41.69<br>B43.87<br>T85.56 |

**Craft: Sheet Metal Sign Installation** **APPRENTICE RATE SCHEDULE**

| INTERVAL | PERIOD AND RATES | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 1000 hours | 35% | 40% | 45% | 50% | 55% | 60% | 65% | 70% | 75% | 80% |
| Benefits | 14.62 | 16.66 | 18.72 | 20.79 | 23.33 | 25.43 | 27.52 | 29.62 | 31.73 | 33.82 |

**Ratio of Apprentices to Journeymen - 1:3**

**Craft: Sheet Metal Sign Installation** **COMMENTS/NOTES**

FOREMAN REQUIREMENT:
When there are 6 or more Sheet Metal Sign Installers on a job, 1 shall be designated a Foreman.

The regular workday consists of 8 hours, between 7:00 AM and 3:30 PM.

OVERTIME:
Hours before or after the regular workday, Monday though Friday, and all hours worked on Saturday shall be paid at time and one-half the hourly rate. All hours on Sunday and holidays shall be paid at double the hourly rate.

Four(4) 10 hour days may be worked, Monday through Friday, at straight time, for projects lasting at least one week in duration. The fifth day may be used as a make-up day at straight time for a day lost due to inclement weather. However, if the fifth day is not a make-up day, all hours worked will be paid at time and one-half the hourly rate.

RECOGNIZED HOLIDAYS: New Year's Day, Presidents' Day, Good Friday, Memorial Day, July 4th, Labor Day, Veterans' Day, Thanksgiving Day and the day after, Christmas Day. Saturday holidays observed the preceding Friday, Sunday holidays observed the following Monday.

**NEW JERSEY DEPARTMENT OF LABOR AND WORKFORCE DEVELOPMENT**

**PREVAILING WAGE RATE DETERMINATION**

**County - UNION**

**Craft: Sheet Metal Worker** **PREVAILING WAGE RATE**

| | 06/13/24 |
|---|---|
| Foreman | W61.90<br>B50.32<br>T112.22 |
| General Foreman | W62.90<br>B50.32<br>T113.22 |
| Journeyman | W57.90<br>B50.32<br>T108.22 |

**Craft: Sheet Metal Worker** **APPRENTICE RATE SCHEDULE**

| INTERVAL | PERIOD AND RATES | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Yearly | 45% | 48% | 52% | 65% | of | Journey | man | Wage | Rate | |
| Benefit | 45% | 48% | 52% | 65% | of | Journey | man | Benefit | Rate | |

**Ratio of Apprentices to Journeymen - 1:4**

**Craft: Sheet Metal Worker** **COMMENTS/NOTES**

FOREMAN REQUIREMENTS:
- When there are 2 or more Sheet Metal Workers on a project, 1 must be designated a Foreman.
- When there are 17 or more Sheet Metal Workers on a project, 1 must be designated a General Foreman.
- When there is only 1 Sheet Metal Worker (1 Journeyman) on a project, he/she shall receive $1.00 more than the regular Journeyman's rate.

The regular workday is 8 hours between 7:00 AM and 4:30 PM.

SHIFT DIFFERENTIAL:
- 2nd Shift (3:30 PM - 12:00 AM) : +17% of regular hourly rate
- Shift work must run for a minimum of 5 consecutive workdays.

OVERTIME:
- Hours in excess of 8 per day, or before or after the regular workday, that are not shift work, and the first 10 hours on Saturdays shall be paid at time and one-half of the regular rate, inclusive of benefits. Hours in excess of 10 per day on Saturday, and all hours on Sundays and holidays shall be at double the regular rate, inclusive of benefits.
- Four 10-hour days may be worked, Monday through Friday, at straight time, with hours in excess of 10 per day, and hours in excess of 40 per week paid at the overtime rates listed above.

RECOGNIZED HOLIDAYS: New Year's Day, Presidents' Day, Good Friday, Memorial Day, July 4th, Labor Day, Presidential Election Day, Veterans' Day, Thanksgiving Day, Christmas Day. Sunday holidays will be observed the following Monday.

**NEW JERSEY DEPARTMENT OF LABOR AND WORKFORCE DEVELOPMENT**

**PREVAILING WAGE RATE DETERMINATION**

**County - UNION**

**Craft: Sprinkler Fitter** **PREVAILING WAGE RATE**

| | 01/01/25 |
|---|---|
| Foreman | W72.47<br>B40.30<br>T112.77 |
| General Foreman | W76.12<br>B40.30<br>T116.42 |
| Journeyman | W67.97<br>B40.30<br>T108.27 |

**Craft: Sprinkler Fitter** **APPRENTICE RATE SCHEDULE**

| **INTERVAL** | **PERIOD AND RATES** | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 1000 Hours | | | | | | | | | 80% | 85% |
| Benefits | | | | | | | Intervals | 9 to 10 | Jourymn | Ben. |

**Craft: Sprinkler Fitter** **COMMENTS/NOTES**

Apprentice rate schedule for those apprentices registered as of 7-1-13:

Interval Period and Rates
1000 Hrs. 25% 30% 40% 45% 55% 60% 70% 75% 85% 90%
Ben. 14.90 14.90 31.30 31.30 31.30 31.30 Intervals 7-10 Journy. Ben.

Apprentice rate schedule for those apprentices registered as of 7-1-22:

Interval Period and Rates
1000 Hrs. 30% 35% 40% 45% 50% 55% 60% 70% 85% 95%
Ben. 14.90 14.90 31.30 31.30 31.30 31.30 Intervals 7-10 Journy. Ben.

The regular workday consists of 8 consecutive hours between 6:00 AM and 4:30 PM.

FOREMAN REQUIREMENTS:
- The first Sprinkler Fitter on the job must be designated a Foreman.
- On any job having 12 or more Sprinkler Fitters, one must be designated a General Foreman.

SHIFT DIFFERENTIALS:
- Shift work must run for a minimum of 2 consecutive workdays.
- 2nd and 3rd shift shall receive an additional 15% of the regular rate, per hour.
- Any "off hours" shift starting at 8:00 PM or later shall receive an additional 25% of the regular rate, per hour.

OVERTIME:
The first 2 hours in excess of 8 per day, after the regular workday that are not shift work, Monday through Friday, shall be paid at time and one-half the regular rate. Hours worked in excess of 10 per day, Monday through Friday, and all hours on Saturday, Sunday and holidays, shall be paid double the regular rate.
Four 10 hour days may be worked, Monday through Friday, at straight-time.

RECOGNIZED HOLIDAYS: New Year's Day, Presidents' Day, Memorial Day, July 4th, Labor Day, Veterans Day, Thanksgiving Day, Christmas Day.

**NEW JERSEY DEPARTMENT OF LABOR AND WORKFORCE DEVELOPMENT**

**PREVAILING WAGE RATE DETERMINATION**

**County - UNION**

**Craft: Tile Finisher-Marble** **PREVAILING WAGE RATE**

| | 01/08/25 |
|---|---|
| Finisher | W50.22<br>B37.84<br>T88.06 |

**Craft: Tile Finisher-Marble** **APPRENTICE RATE SCHEDULE**

| INTERVAL | PERIOD AND RATES | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 750 Hours | 40% | 60% | 65% | 70% | 75% | 85% | 95% | | | |
| Benefits | Interval 1 | thru 5 = | 75% of | jyrnm. ben | rate | Interval 6 | thru 7 = | full jyrnm | benefit | rate |

**Ratio of Apprentices to Journeymen - 1:4**

**Craft: Tile Finisher-Marble** **COMMENTS/NOTES**

OVERTIME:
Hours in excess of 7 per day, Monday through Friday, and the first 7 hours on Saturdays shall be paid at time and one half the regular rate, inclusive of benefits. Hours in excess of 7 on Saturdays and all hours on Sundays and holidays shall be paid at double the regular rate, inclusive of benefits.

RECOGNIZED HOLIDAYS: New Year's Day, Presidents' Day, Good Friday, Memorial Day, July 4th, Labor Day, Columbus Day, Veterans' Day, Thanksgiving Day and the day after, Christmas Day. Sunday holidays observed the following Monday.

**NEW JERSEY DEPARTMENT OF LABOR AND WORKFORCE DEVELOPMENT**

**PREVAILING WAGE RATE DETERMINATION**

**County - UNION**

**Craft: Tile Setter - Ceramic** **PREVAILING WAGE RATE**

| | 12/03/24 |
|---|---|
| Finisher | W49.21<br>B33.44<br>T82.65 |
| Setter | W64.16<br>B36.72<br>T100.88 |

**Craft: Tile Setter - Ceramic** **APPRENTICE RATE SCHEDULE**

| INTERVAL | PERIOD AND RATES | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 750 Hours | 35% | 40% | 50% | 55% | 60% | 65% | 70% | 75% | 80% | 90% |
| | | | | | | | | | | |

**Ratio of Apprentices to Journeymen - 1:4**

**Craft: Tile Setter - Ceramic** **COMMENTS/NOTES**

OVERTIME:
Hours in excess of 7 per day, and the first 10 hours on Saturdays shall be paid at time and one-half the hourly rate. All hours on Saturdays after 10 hours shall be paid double the hourly rate. All hours on Sundays and holidays shall be paid at double the hourly rate.

RECOGNIZED HOLIDAYS: New Year's Day, Memorial Day, July 4th, Labor Day, Thanksgiving Day, Christmas Day.

**NEW JERSEY DEPARTMENT OF LABOR AND WORKFORCE DEVELOPMENT**

**PREVAILING WAGE RATE DETERMINATION**

**County - UNION**

**Craft: Tile Setter - Marble** **PREVAILING WAGE RATE**

| | 01/08/25 |
|---|---|
| Tile Setter | W64.21<br>B40.66<br>T104.87 |

**Craft: Tile Setter - Marble** **APPRENTICE RATE SCHEDULE**

| INTERVAL | PERIOD AND RATES | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 750 Hours | 40% | 60% | 65% | 70% | 75% | 85% | 95% | | | |
| Benefits | Interval 1 | thru 5 = | 75% of | jyrnm. ben | rate | Interval 6 | thru 7 = | full jyrnm | benefit | rate |

**Ratio of Apprentices to Journeymen - 1:4**

**Craft: Tile Setter - Marble** **COMMENTS/NOTES**

OVERTIME:
Hours in excess of 7 per day, Monday through Friday, and the first 7 hours on Saturdays shall be paid at time and one-half the regular rate, inclusive of benefits. Hours in excess of 7 on Saturdays, and all hours on Sundays and holidays shall be paid at double the regular rate, inclusive of benefits.

RECOGNIZED HOLIDAYS: New Year's Day, Presidents' Day, Good Friday, Memorial Day, July 4th, Labor Day, Columbus Day, Veterans' Day, Thanksgiving Day and the day after, Christmas Day. Sunday holidays observed the following Monday.

**NEW JERSEY DEPARTMENT OF LABOR AND WORKFORCE DEVELOPMENT**

**PREVAILING WAGE RATE DETERMINATION**

**County - UNION**

**Craft: Tile Setter - Mosaic & Terrazzo** **PREVAILING WAGE RATE**

| | 01/01/25 |
|---|---|
| Grinder or Assistant | W59.72<br>B42.19<br>T101.91 |
| Mechanic | W61.33<br>B42.20<br>T103.53 |
| Terrazzo Resinous Worker | W51.02<br>B34.49<br>T85.51 |

**Craft: Tile Setter - Mosaic & Terrazzo** **APPRENTICE RATE SCHEDULE**

| INTERVAL | PERIOD AND RATES | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 1500 Hours | 35% | 45% | 60% | 70% | 80% | 90% | | | | |
| | | | | | | | | | | |

**Ratio of Apprentices to Journeymen - 1:5**

**Craft: Tile Setter - Mosaic & Terrazzo** **COMMENTS/NOTES**

The regular workday consists of 7 hours, between 8:00 AM and 3:30 PM.

OVERTIME:
- Hours in excess of 7 per day, or before or after the regular workday, Monday through Friday, and all hours on Saturdays shall be paid at time and one-half the hourly rate. All hours on Sundays and holidays shall be paid at double the hourly rate.

RECOGNIZED HOLIDAYS: New Year's Day, Presidents' Day, Good Friday, Monday after Easter, Memorial Day, July 4th, Labor Day, Columbus Day, Veterans' Day, Thanksgiving Day and the day after, Christmas Day. Sunday holidays observed the following Monday.

**County - UNION**

**Craft: Truck Driver** **PREVAILING WAGE RATE**

| | 05/01/24 |
|---|---|
| Bucket, Utility, Pick-up, Fuel Delivery trucks | W45.41<br>B43.28<br>T88.69 |
| Dump truck, Asphalt Distributor, Tack Spreader | W45.41<br>B43.28<br>T88.69 |
| Euclid-type vehicles (large, off-road equipment) | W45.51<br>B43.28<br>T88.79 |
| Helper on Asphalt Distributor truck | W45.41<br>B43.28<br>T88.69 |
| Low Boy Driver | W47.01<br>B43.28<br>T90.29 |
| Slurry Seal, Seeding/Fertilizing/ Mulching truck | W45.41<br>B43.28<br>T88.69 |
| Straight 3-axle truck | W45.41<br>B43.28<br>T88.69 |
| Tractor Trailer (all types) | W45.51<br>B43.28<br>T88.79 |
| Vacuum or Vac-All truck (entire unit) | W45.41<br>B43.28<br>T88.69 |
| Winch Trailer | W45.61<br>B43.28<br>T88.89 |

**Craft: Truck Driver** **COMMENTS/NOTES**

BLENDED RATE:
When a truck driver is performing work on the site and also serving as a material delivery driver, the driver shall be paid a "blended rate" which shall be 80% of the above-listed wage rates, plus the full benefit rate. This rate shall be used when the driver "round robins" for a minimum of 6 hours during the work day.

HAZARDOUS WASTE REMOVAL:
- On hazardous waste removal work on a State designated hazardous waste site where the driver is in direct contact with hazardous materials and when personal protective equipment is required for respiratory, skin, and eye protection, the driver shall receive an additional $3.00 per hour (with or without protective gear).
- A hazardous waste related certified worker at a designated hazardous waste site who is not working in a zone requiring level A, B or C personal protection shall receive an additional $1.00 per hour.

TRUCK FOREMAN: $.75 cents per hour above regular rate. Overtime shall be increased accordingly.

The regular workday shall be 8 hours, starting between 6:00 AM and 8:00 AM.

SHIFT DIFFERENTIAL:
- Shifts starting at 4:00 PM (2nd Shift): + $3.00 per hour.
- Shifts starting at 12:00 AM (midnight/3rd Shift): time and one-half the hourly rate.
- Shifts starting at a time other than from 6:00 AM to 8:00 AM, when such hours are mandated by the project owner: + $3.00 per hour.

OVERTIME:
- Hours in excess of 8 per day, or before or after the regular workday, Monday through Friday, that are not shift work, and all hours on Saturdays shall be paid at time and one-half the hourly rate. All hours on Sundays and holidays shall be paid at double the hourly rate.
- Employees may work four 10-hour days at straight time, Monday through Thursday, with Friday used as a make-up day for a lost day. If Friday is not a make-up day, then all hours on Friday shall be paid at time and one-half the hourly rate.
-Benefits on overtime shall be $43.03.

RECOGNIZED HOLIDAYS: New Year's Day, President's Day, Memorial Day (Decoration Day), July 4th, Labor Day, Veterans Day, Thanksgiving Day, Christmas Day. Sunday holidays will be observed the following Monday. The day after Thanksgiving may be substituted for Veteran's Day.

**NEW JERSEY DEPARTMENT OF LABOR AND WORKFORCE DEVELOPMENT**

**PREVAILING WAGE RATE DETERMINATION**

**County - UNION**

**Craft: Truck Driver-Material Delivery Driver** **PREVAILING WAGE RATE**

| | 05/01/24 |
|---|---|
| Driver | W37.62<br>B43.28<br>T80.90 |

**Craft: Truck Driver-Material Delivery Driver** **COMMENTS/NOTES**

BLENDED RATE:
When a truck driver is performing work on the site and also serving as a material delivery driver, the driver shall be paid a "blended rate". See the "Truck Driver" craft for the blended rates.

Truck Foreman/Shop Steward: +$0.25 per hour

SHIFT DIFFERENTIALS:
- 2nd Shift shall receive an additional $0.50 per hour
- 3rd Shift shall receive time and one-half the hourly rate.

OVERTIME:
- Hours in excess of 8 per day, or before or after the regular workday that are not shift work, Monday through Friday, and all hours on Saturday shall be paid at time and one-half the hourly rate. All hours on Sunday and holidays shall be paid at double the hourly rate.

RECOGNIZED HOLIDAYS: New Year's Day, President's Day, Memorial Day (Decoration Day), July 4th, Labor Day, Veterans Day, Thanksgiving Day, Christmas Day. Sunday holidays will be observed the following Monday. The day after Thanksgiving may be substituted for Veterans Day.

**County - UNION**

**Craft: Welder** **PREVAILING WAGE RATE**

Welder

**Craft: Welder** **COMMENTS/NOTES**

Welders rate is the same as the craft to which the welding is incidental.

# STATEWIDE RATES

**TERRITORY**

**ENTIRE STATE**

**NEW JERSEY DEPARTMENT OF LABOR AND WORKFORCE DEVELOPMENT**

**PREVAILING WAGE RATE DETERMINATION**

**OPERATING ENGINEERS** **Rates Expiration Date :**

{For apprentice rates refer to "Operating Engineers" apprentice rates in any county rate package}

The regular workday consists of 8 hours, Monday to Friday, between 6:00 AM and 5:30 PM.

SHIFT DIFFERENTIALS:
- Shift work must be established for 5 consecutive workdays.
- Any work started outside of the allowed start time, 6:00 AM to 9:00 AM, except for * tidal work, shall be considered an irregular shift and paid at straight time, plus 15% for the first eight hours, inclusive of benefits.
- * FOR TIDAL WORK- a contractor can start their job according to tide schedules (tide schedules are the various high and low tides related to this work), providing the eight hour shift is completed between the hours of 5:00 AM and 6:30 PM.
- All time worked in excess of an established shift (an established shift is a shift that is determined at the time of the bid) shall be paid at the applicable overtime rate. When a portion of an established shift works into Saturday, Sunday or a holiday, that time worked shall be paid at the established shift rate.
- When working with other trades who receive a higher irregular shift differential, these employees shall also receive the higher differential rate.

OVERTIME:
- Hours in excess of 8 per day, or outside of the regular workday, Monday through Friday, that are not shift work, and all hours on Saturday shall be paid at time and one-half the regular rate, inclusive of benefits. All hours on Sunday and holidays shall be paid at double the regular rate, inclusive of benefits.
- Four 10-hour days may be worked, Monday through Thursday, at straight time, with all hours on Friday paid at time and one-half the regular rate, inclusive of benefits.

RECOGNIZED HOLIDAYS: New Year's Day, Presidents' Day, Memorial Day, July 4th, Labor Day, Presidential Election Day, Veterans Day, Thanksgiving Day, Christmas Day. Sunday holidays observed the following Monday. When all trades on a particular job site agree, the day after Thanksgiving may be substituted for Veterans Day.

For projects bid after April 1, 2020, on hazardous waste removal work of any kind, including a state or federally designated site, where the operating engineer is required to wear level A, B, or C personal protection, the operating engineer shall receive an hourly wage rate of his regular hourly wage plus $5.00 per hour.
- An operating engineer working at a hazardous waste removal project or site at a task requiring hazardous waste related certification, but who is not working in a zone requiring level A, B, or C personal protection, shall receive an hourly wage rate of his regular rate plus $1.00 per hour.

**OPERATING ENGINEERS** **Rates Expiration Date :**

**Effective Dates:**

| | 07/01/2024 | | 07/01/2025 |
|---|---|---|---|
| Rate | Fringe | Total | Total |
| 58.88 | 39.15 | 98.03 | 100.53 |

**CLASSIFICATIONS:**

A-Frame

Backhoe (combination)

Boom Attachment on loaders (Except pipehook)

Boring & Drilling Machine

Brush Chopper, Brush Shredder, Tree Shredder, Tree Shearer

Bulldozer, finish grade

Cableway

Carryall

Concrete Pump

Concrete Pumping System (Pumpcrete & similar types)

Conveyor, 125 feet or longer

Drill Doctor (Duties include dust collector and maintenance)

Front End Loader (2 cu. yds. but less than 5 cu. yds.)

Grader, finish

Groove Cutting Machine (ride-on type)

Heater Planer

Hoist: Outside Material Tower Hoist (all types including steam, gas, diesel, electric, air hydraulic, single and double drum, concrete, brick shaft caisson, snorkle roof, and other similar types, Except Chicago-boom type) * receives an addtional $1.00 per hour on 100 ft. up to 199 ft. total height, and an additional $2.00 per hour on 200 ft. and over total height.

Hydraulic Crane (10 tons & under)

Hydraulic Dredge

Hydro-Axe

Hydro-Blaster

**OPERATING ENGINEERS** **Rates Expiration Date :**

**Effective Dates:**

| | 07/01/2024 | | 07/01/2025 |
|---|---|---|---|
| Rate | Fringe | Total | Total |
| 58.88 | 39.15 | 98.03 | 100.53 |

**CLASSIFICATIONS:**

Jack (screw, air hydraulic, power-operated unit, or console type, Except hand jack or pile load test type)

Log Skidder

Pan

Paver, concrete

Plate & Frame Filter Press

Pumpcrete (unit type)

Pumpcrete, Squeezecrete, or Concrete Pumping machine (regardless of size)

Scraper

Side Boom

Straddle Carrier (Ross and similar types)

Whiphammer

Winch Truck (hoisting)

**OPERATING ENGINEERS** **Rates Expiration Date :**

**Effective Dates:**

| | 07/01/2024 | | 07/01/2025 |
|---|---|---|---|
| Rate | Fringe | Total | Total |
| 56.97 | 39.15 | 96.12 | 98.62 |

**CLASSIFICATIONS:**

Asphalt Curbing Machine

Asphalt Plant Engineer

Asphalt Spreader

Autograde Curb Trimmer & Sidewalk Shoulder Slipform (CMI & similar types)

Autograde Curecrete Machine (CMI & similar types)

Autograde Tube Finisher & Texturing Machine (CMI & similar types)

Bar Bending Machines (Power)

Batcher, Batching Plant, & Crusher [On Site]

Belt Conveyor System

Boom-Type Skimmer Machine

Bridge Deck Finisher

Bulldozer (all sizes)

Captain (Power Boats)

Car Dumper (railroad)

Compressor & Blower unit for loading/unloading of concrete, cement, fly ash, or similar type materials (used independently or truck-mounted)

Compressor (2 or 3 battery)

Concrete Breaking Machine

Concrete Cleaning/Decontamination Machine

Concrete Finishing Machine

Concrete Saw or Cutter (ride-on type)

Concrete Spreader (Hetzel, Rexomatic & similar types)

Concrete Vibrator

**OPERATING ENGINEERS** **Rates Expiration Date :**

**Effective Dates:**

| | 07/01/2024 | | 07/01/2025 |
|---|---|---|---|
| Rate | Fringe | Total | Total |
| 56.97 | 39.15 | 96.12 | 98.62 |

**CLASSIFICATIONS:**

Conveyors - under 125 feet

Crane Signalman

Crushing Machine

Directional Boring Machine

Ditching Machine - Small (Ditchwitch, Vermeer or similar types)

Dope Pot - Mechanical (with or without pump)

Dumpster

Elevator

Fireman

Fork Lift (Economobile, Lull & similar types)

Front End Loader (1 cu. yd. and over but less than 2 cu. yds.)

Generator (2 or 3 battery)

Giraffe Grinder

Goldhofer/Hydraulic Jacking Trailer

Grader & Motor Patrols

Grout Pump

Gunnite Machine (Excluding nozzle)

Hammer - Vibratory (in conjunction with generator)

Heavy Equipment Robotics - Operator/Technician

Hoist (roof, tugger, aerial platform hoist, house car)

Hopper

Hopper Doors (power operated)

Ladder (motorized)

**OPERATING ENGINEERS** **Rates Expiration Date :**

**Effective Dates:**

| | 07/01/2024 | | 07/01/2025 |
|---|---|---|---|
| Rate | Fringe | Total | Total |
| 56.97 | 39.15 | 96.12 | 98.62 |

**CLASSIFICATIONS:**

Laddervator

Locomotive (Dinky-type)

Maintenance Utility Man

Master Environmental Maintenance Technician

Mechanic

Mixer (Except paving mixers)

Pavement Breaker (truck-mounted or small self-propelled ride-on type)

Pavement Breaker - maintenance of compressor or hydraulic unit

Pipe Bending Machine (power)

Pitch Pump

Plaster Pump (regardless of size)

Post Hole Digger (post pounder, auger)

Rod Bending Machines

Roller (black top)

Scale (power)

Seamen Pulverizing Mixer

Shoulder Widener

Silo

Skimmmer Machine (boom type)

Steel Cutting Machine (service & maintenance)

Tamrock Drill

Tractor

Transfer Machines

**OPERATING ENGINEERS** **Rates Expiration Date :**

**Effective Dates:**

| | 07/01/2024 | | 07/01/2025 |
|---|---|---|---|
| Rate | Fringe | Total | Total |
| 56.97 | 39.15 | 96.12 | 98.62 |

**CLASSIFICATIONS:**

Tug Captains

Tug Master (Power Boats)

Ultra High Pressure Waterjet Cutting Tool System - Operator/Maintenance Technician

Vacuum Blasting Machine - Operator/Maintenance Technician

Vibrating Plant (used with unloading)

Welder & Repair Mechanic

**Effective Dates:**

| | 07/01/2024 | | 07/01/2025 |
|---|---|---|---|
| Rate | Fringe | Total | Total |
| 51.63 | 39.15 | 90.78 | 93.28 |

**CLASSIFICATIONS:**

Assistant Engineer/Oiler

Driller's Helper

Field Engineer - Transit man or Instrument man

Maintenance Apprentice (Deckhand)

Maintenance Apprentice (Oiler)

Mechanic's Helper

Off Road Back Dump

Tire Repair & Maintenance

**Effective Dates:**

| | 07/01/2024 | | 07/01/2025 |
|---|---|---|---|
| Rate | Fringe | Total | Total |
| 49.05 | 39.15 | 88.20 | 90.70 |

**CLASSIFICATIONS:**

Field Engineer - Rodman or Chainman

**TERRITORY**

**ENTIRE STATE**

**NEW JERSEY DEPARTMENT OF LABOR AND WORKFORCE DEVELOPMENT**

**PREVAILING WAGE RATE DETERMINATION**

**OPERATING ENGINEERS** **Rates Expiration Date :**

**Effective Dates:**

| | **07/01/2024** | | **07/01/2025** |
|---|---|---|---|
| Rate | Fringe | Total | Total |
| 59.21 | 39.15 | 98.36 | 100.86 |

**CLASSIFICATIONS:**

Lead Engineer, Foreman Engineer, Safety Engineer (minimum)

**OPERATING ENGINEERS** **Rates Expiration Date :**

**Effective Dates:**

| | 07/01/2024 | | 07/01/2025 |
|---|---|---|---|
| Rate | Fringe | Total | Total |
| 60.47 | 39.15 | 99.62 | 102.12 |

**CLASSIFICATIONS:**

Autograde Pavement Profiler (CMI & similar types)

Autograde Pavement Profiler - Recycle Type (CMI & similar types)

Autograde Placer/Trimmer/Spreader Combination (CMI & similar types)

Autograde Slipform Paver (CMI & similar types)

Backhoe (Excavator)

Central Power Plant

Concrete Paving Machine

Cranes, Derricks, Pile Drivers (all types), under 100 tons with a boom (including jib and/or leads) under 100 ft.

Draglines

Drill, Bauer, AMI and similar types

Drillmaster, Quarrymaster

Drillmaster/Quarrymaster (down-the-hole drill), rotary drill, self-propelled hydraulic drill, self-powered drill

Elevator Grader

Field Engineer-Chief of Party

Front End Loader (5 cu. yards or larger)

Gradall

Grader, Rago

Helicoptor Co-Pilot

Helicoptor Communications Engineer

Juntann Pile Driver

Locomotive (large)

Mucking Machine

NEW JERSEY DEPARTMENT OF LABOR AND WORKFORCE DEVELOPMENT
PREVAILING WAGE RATE DETERMINATION

**OPERATING ENGINEERS** **Rates Expiration Date :**

**Effective Dates:**

| | 07/01/2024 | | 07/01/2025 |
|---|---|---|---|
| Rate | Fringe | Total | Total |
| 60.47 | 39.15 | 99.62 | 102.12 |

**CLASSIFICATIONS:**

Pavement & Concrete Breaker (Superhammer & Hoe Ram)

Pile Driver

Prentice Truck

Roadway Surface Grinder

Scooper (loader & shovel)

Shovel (Excavator)

Trackhoe (Excavator)

Tree Chopper with boom

Trenching Machine (cable plow)

Tunnel Boring Machine

Vacuum Truck

**OPERATING ENGINEERS** **Rates Expiration Date :**

**Effective Dates:**

| | 07/01/2024 | | 07/01/2025 |
|---|---|---|---|
| Rate | Fringe | Total | Total |
| 55.34 | 39.15 | 94.49 | 96.99 |

**CLASSIFICATIONS:**

Chipper

Compressor (single)

Concrete Spreader (small type)

Conveyor Loader (Except elevator graders)

Engines, Large Diesel (1620 HP) & Staging Pump

Farm Tractor

Fertilizing Equipment (operation & maintenance)

Fine Grade Machine (small type)

Form Line Grader (small type)

Front End Loader (under 1 cubic yard)

Generator (single)

Grease, Gas, Fuel, & Oil Supply Trucks

Heaters (Nelson or other type)

Lights - portable generating light plant

Mixer, Concrete (small)

Mulching Equipment (operation & maintenance)

Power Broom or Sweeper

Pump (diesel engine & hydraulic - regardless of power)

Pump (larger than 2 inch suction, including submersible pumps)

Road Finishing Machine (small type)

Roller - grade, fill, or stone base

Seeding Equipment (operation & maintenance)

Sprinkler & Water Pump Trucks

**OPERATING ENGINEERS** **Rates Expiration Date :**

**Effective Dates:**

| | 07/01/2024 | | 07/01/2025 |
|---|---|---|---|
| Rate | Fringe | Total | Total |
| 55.34 | 39.15 | 94.49 | 96.99 |

**CLASSIFICATIONS:**

Steam Generator or Boiler

Stone Spreader

Tamping Machine (vibrating ride-on type)

Temporary Heating Plant (Nelson or other type, including proprane, natural gas, and flow-type units)

Water or Sprinkler Truck

Welding Machine (gas, diesel, or electric convertor, of any type)

Welding System - Multiple (rectifier transformer type)

Wellpoint Systems (including installation by bull gang and maintenance)

**Effective Dates:**

| | 07/01/2024 | | 07/01/2025 |
|---|---|---|---|
| Rate | Fringe | Total | Total |
| 62.29 | 39.15 | 101.44 | 103.94 |

**CLASSIFICATIONS:**

Helicoptor Pilot/Engineer

**Effective Dates:**

| | 07/01/2024 | | 07/01/2025 |
|---|---|---|---|
| Rate | Fringe | Total | Total |
| 66.97 | 39.15 | 106.12 | 108.62 |

**CLASSIFICATIONS:**

Cranes, Derricks, Pile Driver (all types), 100 tons and over and TOWER CRANE with boom (including jib and/or leads) 140 ft. and over

**Effective Dates:**

| | 07/01/2024 | | 07/01/2025 |
|---|---|---|---|
| Rate | Fringe | Total | Total |
| 65.97 | 39.15 | 105.12 | 107.62 |

**CLASSIFICATIONS:**

Cranes, Derricks, Pile Driver (all types), 100 tons and over and TOWER CRANE with boom (including jib and/or leads) from 100 ft. to 139 ft.

**OPERATING ENGINEERS** **Rates Expiration Date :**

**Effective Dates:**

| | 07/01/2024 | | 07/01/2025 |
|---|---|---|---|
| Rate | Fringe | Total | Total |
| 62.47 | 39.15 | 101.62 | 104.12 |

**CLASSIFICATIONS:**

Cranes, Derricks, Pile Driver (all types) , under 100 tons with a boom (including jib and/or leads) 140 ft. and over

**Effective Dates:**

| | 07/01/2024 | | 07/01/2025 |
|---|---|---|---|
| Rate | Fringe | Total | Total |
| 64.97 | 39.15 | 104.12 | 106.62 |

**CLASSIFICATIONS:**

Cranes, Derricks, Pile Driver (all types), 100 tons and over and TOWER CRANE with a boom (including jib and/or leads) under 100 ft.

**Effective Dates:**

| | 07/01/2024 | | 07/01/2025 |
|---|---|---|---|
| Rate | Fringe | Total | Total |
| 61.47 | 39.15 | 100.62 | 103.12 |

**CLASSIFICATIONS:**

Cranes, Derricks, Pile Driver (all types), under 100 tons with a boom (including jib and/or leads) from 100 ft. to 139 ft.

**STRUCTURAL STEEL ERECTION** **Rates Expiration Date :**

{For apprentice rates refer to "Operating Engineers" apprentice rates in any county rate package}

The regular workday consists of 8 hours, Monday to Friday, between 6:00 AM and 5:30 PM.

SHIFT DIFFERENTIALS:
- Shift work must be established for 5 consecutive workdays.
- Any work started outside of the allowed start time, 6:00 AM to 9:00 AM, except for * tidal work, shall be considered an irregular shift and paid at straight time, plus 15% for the first eight hours, inclusive of benefits.
- * FOR TIDAL WORK- a contractor can start their job according to tide schedules (tide schedules are the various high and low tides related to this work), providing the eight hour shift is completed between the hours of 5:00 AM and 6:30 PM.
- All time worked in excess of an established shift (an established shift is a shift that is determined at the time of the bid) shall be paid at the applicable overtime rate. When a portion of an established shift works into Saturday, Sunday or a holiday, that time worked shall be paid at the established shift rate.
- When working with other trades who receive a higher irregular shift differential, these employees shall also receive the higher differential rate.

OVERTIME:
- Hours in excess of 8 per day, or outside of the regular workday, Monday through Friday, that are not shift work, and all hours on Saturday shall be paid at time and one-half the regular rate, inclusive of benefits. All hours on Sunday and holidays shall be paid at double the regular rate, inclusive of benefits.
- Four 10-hour days may be worked, Monday through Thursday, at straight time, with all hours on Friday paid at time and one-half the regular rate, inclusive of benefits.

RECOGNIZED HOLIDAYS: New Year's Day, Presidents' Day, Memorial Day, July 4th, Labor Day, Presidential Election Day, Veterans Day, Thanksgiving Day, Christmas Day. Sunday holidays observed the following Monday. When all trades on a particular job site agree, the day after Thanksgiving may be substituted for Veterans Day.

For projects bid after April 1, 2020, on hazardous waste removal work of any kind, including a state or federally designated site, where the operating engineer is required to wear level A, B, or C personal protection, the operating engineer shall receive an hourly wage rate of his regular hourly wage plus $5.00 per hour.
- An operating engineer working at a hazardous waste removal project or site at a task requiring hazardous waste related certification, but who is not working in a zone requiring level A, B, or C personal protection, shall receive an hourly wage rate of his regular rate plus $1.00 per hour.

**Effective Dates:**

| | **07/01/2024** | | **07/01/2025** |
|---|---|---|---|
| Rate | Fringe | Total | Total |
| 64.10 | 39.15 | 103.25 | 105.75 |

**CLASSIFICATIONS:**

Helicopter Co-Pilot & Communications Engineer

**STRUCTURAL STEEL ERECTION** **Rates Expiration Date :**

**Effective Dates:**

| | 07/01/2024 | | 07/01/2025 |
|---|---|---|---|
| Rate | Fringe | Total | Total |
| 60.04 | 39.15 | 99.19 | 101.69 |

**CLASSIFICATIONS:**

A-Frame

Cherry Picker -10 tons or less (Over 10 tons use crane rate)

Hoist (all types Except Chicago-boom)

Jack (screw, air hydraulic, power-operated unit or console type, Except hand jack or pile load test type)

Side Boom

Straddle Carrier

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**STRUCTURAL STEEL ERECTION** **Rates Expiration Date :**

**Effective Dates:**

| 07/01/2024 | | | 07/01/2025 |
|---|---|---|---|
| Rate | Fringe | Total | Total |
| 57.38 | 39.15 | 96.53 | 99.03 |

**CLASSIFICATIONS:**

Aerial Platform Used On Hoists

Apprentice Engineer/Oiler with Compressor or Welding Machine

Captain (Power Boats)

Compressor (2 or 3 in battery)

Concrete Cleaning/Decontamination Machine Operator

Conveyor or Tugger Hoist

Directional Boring Machine

Elevator or House Car

Fireman

Forklift

Generator (2 or 3)

Heavy Equipment Robotics, Operator/Technician

Maintenance Utility Man

Master Environmental Maintenance Technician

Tug Master (Power Boats)

Ultra High Pressure Waterjet Cutting Tool System Operator/Maintenance Technician

Vacuum Blasting Machine Operator/Maintenance Technician

Welding Machines, Gas or Electric Converters on any type-2 or 3 in battery including diesels

**STRUCTURAL STEEL ERECTION** **Rates Expiration Date :**

**Effective Dates:**

| 07/01/2024 | | | 07/01/2025 |
|---|---|---|---|
| Rate | Fringe | Total | Total |
| 55.85 | 39.15 | 95.00 | 97.50 |

**CLASSIFICATIONS:**

Compressor (Single)

Generators

Welding Machines, Gas, Diesel, Or Electric Converters of any type-single

Welding System, Multiple (Rectifier Transformer Type)

**Effective Dates:**

| 07/01/2024 | | | 07/01/2025 |
|---|---|---|---|
| Rate | Fringe | Total | Total |
| 52.09 | 39.15 | 91.24 | 93.74 |

**CLASSIFICATIONS:**

Assistant Engineer/Oiler

Drillers Helper

Field Engineer - Transit/Instrument Man

Maintenance Apprentice (Deckhand)

Maintenance Apprentice (Oiler)

Off Road Back Dump

**Effective Dates:**

| 07/01/2024 | | | 07/01/2025 |
|---|---|---|---|
| Rate | Fringe | Total | Total |
| 59.66 | 39.15 | 98.81 | 101.31 |

**CLASSIFICATIONS:**

Lead Engineer, Foreman Engineer, Safety Engineer (Minimum)

**Effective Dates:**

| 07/01/2024 | | | 07/01/2025 |
|---|---|---|---|
| Rate | Fringe | Total | Total |
| 49.05 | 39.15 | 88.20 | 90.70 |

**CLASSIFICATIONS:**

Field Engineer - Rodman or Chainman

**STRUCTURAL STEEL ERECTION** **Rates Expiration Date :**

**Effective Dates:**

| 07/01/2024 | | | 07/01/2025 |
|---|---|---|---|
| Rate | Fringe | Total | Total |
| 60.80 | 39.15 | 99.95 | 102.45 |

**CLASSIFICATIONS:**

Field Engineer-Chief of Party

Vacuum Truck

**Effective Dates:**

| 07/01/2024 | | | 07/01/2025 |
|---|---|---|---|
| Rate | Fringe | Total | Total |
| 68.99 | 39.15 | 108.14 | 110.64 |

**CLASSIFICATIONS:**

Cranes (all cranes, land or floating with booms, including jib, 140 ft. and over, above ground). Derricks (all derricks, land, floating or Chicago Boom type with booms including jib, 140 ft. and over, above ground), and Pile Drivers (all types) 100 tons and over and Tower Cranes.

**Effective Dates:**

| 07/01/2024 | | | 07/01/2025 |
|---|---|---|---|
| Rate | Fringe | Total | Total |
| 67.33 | 39.15 | 106.48 | 108.98 |

**CLASSIFICATIONS:**

Cranes (all cranes, land or floating with booms including jib, less than 140 ft. abovr ground), Derricks (all derricks. land, floating or Chicago Boom type with booms including jib, less than 140 ft. above ground), Pile Drivers (all types), 100 tons and over and Tower Crane.

**Effective Dates:**

| 07/01/2024 | | | 07/01/2025 |
|---|---|---|---|
| Rate | Fringe | Total | Total |
| 64.49 | 39.15 | 103.64 | 106.14 |

**CLASSIFICATIONS:**

Cranes (all cranes, land or floating with booms including jib, 140 ft. and over, above ground), Derricks (all derricks, land, floating or Chicago Boom type with booms including jib, 140 ft. and over, above ground), Pile Drivers (all types), under 100 tons.

**Effective Dates:**

| 07/01/2024 | | | 07/01/2025 |
|---|---|---|---|
| Rate | Fringe | Total | Total |
| 62.83 | 39.15 | 101.98 | 104.48 |

**CLASSIFICATIONS:**

Cranes (all cranes, land or floating with booms including jib, less than 140 ft. above ground), Derricks (all derricks, land, floating or Chicago Boom type with booms including jib, less than 140 ft. above ground), Pile Drivers (all types), under 100 tons.

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**STRUCTURAL STEEL ERECTION** **Rates Expiration Date :**

**Effective Dates:**

| 07/01/2024 | | | 07/01/2025 |
|---|---|---|---|
| Rate | Fringe | Total | Total |
| 64.49 | 39.15 | 103.64 | 106.14 |

**CLASSIFICATIONS:**

Helicopter Pilot & Engineer

**TEST BORING PRELIMINARY TO CONSTRUCTION-SOUTH/WEST** **Rates Expiration Date :**

THESE RATES APPLY IN THE FOLLOWING COUNTIES ONLY:
Atlantic, Burlington, Camden, Cape May, Cumberland, Gloucester, Hunterdon, Mercer, Monmouth, Ocean, Salem, Sussex, Warren

The regular workday consists of 8 hours, Monday to Friday, between 6:00 AM and 5:30 PM.

SHIFT DIFFERENTIALS:
- Shift work must be established for 5 consecutive workdays.
- Any work started outside of the allowed start time, 6:00 AM to 9:00 AM, except for * tidal work, shall be considered an irregular shift and paid at straight time, plus 15% for the first eight hours, inclusive of benefits.
- * FOR TIDAL WORK- a contractor can start their job according to tide schedules (tide schedules are the various high and low tides related to this work), providing the eight hour shift is completed between the hours of 5:00 AM and 6:30 PM.
- All time worked in excess of an established shift (an established shift is a shift that is determined at the time of the bid) shall be paid at the applicable overtime rate. When a portion of an established shift works into Saturday, Sunday or a holiday, that time worked shall be paid at the established shift rate.
- When working with other trades who receive a higher irregular shift differential, these employees shall also receive the higher differential rate.

OVERTIME:
- Hours in excess of 8 per day, or outside of the regular workday, Monday through Friday, that are not shift work, and all hours on Saturday shall be paid at time and one-half the regular rate, inclusive of benefits. All hours on Sunday and holidays shall be paid at double the regular rate, inclusive of benefits.
- Four 10-hour days may be worked, Monday through Thursday, at straight time, with all hours on Friday paid at time and one-half the regular rate, inclusive of benefits.

RECOGNIZED HOLIDAYS: New Year's Day, Presidents' Day, Memorial Day, July 4th, Labor Day, Presidential Election Day, Veterans Day, Thanksgiving Day, Christmas Day. Sunday holidays observed the following Monday. When all trades on a particular job site agree, the day after Thanksgiving may be substituted for Veterans Day.

For projects bid after April 1, 2020, on hazardous waste removal work of any kind, including a state or federally designated site, where the operating engineer is required to wear level A, B, or C personal protection, the operating engineer shall receive an hourly wage rate of his regular hourly wage plus $5.00 per hour.
- An operating engineer working at a hazardous waste removal project or site at a task requiring hazardous waste related certification, but who is not working in a zone requiring level A, B, or C personal protection, shall receive an hourly wage rate of his regular rate plus $1.00 per hour.

**Effective Dates:**

| | **07/01/2024** | | **07/01/2025** |
|---|---|---|---|
| Rate | Fringe | Total | Total |
| 60.47 | 39.15 | 99.62 | 102.12 |

**CLASSIFICATIONS:**

Driller

**Effective Dates:**

| | **07/01/2024** | | **07/01/2025** |
|---|---|---|---|
| Rate | Fringe | Total | Total |
| 53.63 | 39.15 | 92.78 | 95.28 |

**CLASSIFICATIONS:**

Driller's Helper

**FREE AIR TUNNEL JOBS** **Rates Expiration Date :**

{For apprentice rates refer to "Heavy & General" apprentice rates in any county rate package}

The regular workday consists of 8 hours, starting at 7:00 AM or 8:00 AM.

SHIFT DIFFERENTIALS:
- Shifts must start at 3:00 PM, 4:00 PM, 12:00 AM, or 1:00 AM, to be considered shift work, except when the project owner mandates special hours of work in the job specifications, in which case those hours may be considered shift work.
- When such hours are mandated by the project owner, a shift that begins before midnight on Friday and ends on Saturday morning, or that begins at or after 8:00 PM on Sunday and ends on Monday morning may be paid at the shift differential rate.
- Shifts shall receive an additional $3.00 per hour.

OVERTIME:
- Hours in excess of 8 per day, Monday through Friday, or outside of the regular workday that are not shift work, and all hours on Saturdays, shall be paid at time and one-half the hourly rate. All hours on Sundays and holidays shall be paid at double the hourly rate.
- Four 10-hour days may be worked, Monday through Thursday, at straight time, with Friday used as a make-up day for a day lost to inclement weather. If Friday is not a make-up day, all hours on Friday shall be paid at time and one-half the hourly rate.

RECOGNIZED HOLIDAYS: New Year's Day, Presidents' Day, Memorial Day, July 4th, Labor Day, Presidential Election Day, Veterans' Day, Thanksgiving Day, Christmas Day. Sunday holidays observed the following Monday. Veterans Day may be substituted for the day after Thanksgiving. However, in the trading of Veterans Day for the day after Thanksgiving, if overtime is worked on Veterans Day, it shall be paid at double the hourly rate.

Hazardous Waste Work:
-where Level A, B, or C protection is required: + $5.00/hr
-other Hazardous Waste site: + $1.00/hr

Traffic Control Coordinator: When either of the work classifications found below are working as a Traffic Control Coordinator they are to receive $.75 above their current rate of pay.

**Effective Dates:**

| 04/17/2024 | | | 03/01/2025 | 03/01/2026 |
|---|---|---|---|---|
| Rate | Fringe | Total | Total | Total |
| 65.06 | 37.33 | 102.39 | 106.26 | 109.94 |

**CLASSIFICATIONS:**

Walking Boss & Superintendent

**Effective Dates:**

| 04/17/2024 | | | 03/01/2025 | 03/01/2026 |
|---|---|---|---|---|
| Rate | Fringe | Total | Total | Total |
| 64.69 | 37.33 | 102.02 | 105.88 | 109.57 |

**CLASSIFICATIONS:**

Heading Foreman, Shaft Foreman, Rod Foreman, Electrician Foreman, Rigging Foreman

**FREE AIR TUNNEL JOBS** **Rates Expiration Date :**

**Effective Dates:**

| | 04/17/2024 | | 03/01/2025 | 03/01/2026 |
|---|---|---|---|---|
| Rate | Fringe | Total | Total | Total |
| 64.06 | 37.33 | 101.39 | 105.26 | 108.94 |

**CLASSIFICATIONS:**

Iron Foreman, Caulking Foreman, Form Foreman, Cement Finishing Foreman, Concrete Foreman, Track Foreman, Cleanup Foreman, Grout Foreman

**Effective Dates:**

| | 04/17/2024 | | 03/01/2025 | 03/01/2026 |
|---|---|---|---|---|
| Rate | Fringe | Total | Total | Total |
| 67.19 | 37.33 | 104.52 | 108.38 | 112.07 |

**CLASSIFICATIONS:**

Blaster

**Effective Dates:**

| | 04/17/2024 | | 03/01/2025 | 03/01/2026 |
|---|---|---|---|---|
| Rate | Fringe | Total | Total | Total |
| 63.38 | 37.33 | 100.71 | 104.57 | 108.26 |

**CLASSIFICATIONS:**

Top Labor Foreman

**Effective Dates:**

| | 04/17/2024 | | 03/01/2025 | 03/01/2026 |
|---|---|---|---|---|
| Rate | Fringe | Total | Total | Total |
| 62.94 | 37.33 | 100.27 | 104.13 | 107.82 |

**CLASSIFICATIONS:**

Skilled Men (including Caulker, Powder Carrier, all other skilled men)

Skilled Men (including Miner, Drill Runner, Iron Man, Conveyor Man, Manitenance Man, Safety Miner, Rigger, Block Layer, Cement Finisher, Tod Man)

**Effective Dates:**

| | 04/17/2024 | | 03/01/2025 | 03/01/2026 |
|---|---|---|---|---|
| Rate | Fringe | Total | Total | Total |
| 62.75 | 37.33 | 100.08 | 103.94 | 107.63 |

**CLASSIFICATIONS:**

Semi-Skilled Men (including Bell or Signal Man Top or Bottom, Form Worker & Mover, Concrete Worker, Shaft Man, Tunnel Laborer, Caulker's Helper, all other semi-skilled)

Semi-Skilled Men (including Miner's Helper, Chuck Tender, Track Man, Nipper, Brake Man, Derail Man, Cable Man, Hose Man, Gravel Man, Form Man)

**TERRITORY**

**ENTIRE STATE**

**NEW JERSEY DEPARTMENT OF LABOR AND WORKFORCE DEVELOPMENT**

**PREVAILING WAGE RATE DETERMINATION**

**FREE AIR TUNNEL JOBS** **Rates Expiration Date :**

**Effective Dates:**

| | **04/17/2024** | | **03/01/2025** | **03/01/2026** |
|---|---|---|---|---|
| Rate | Fringe | Total | Total | Total |
| 62.25 | 37.33 | 99.58 | 103.44 | 107.13 |

**CLASSIFICATIONS:**

All Others (including Powder Watchman, Change House Attendant, Top Laborer)

**DRILL FOR GROUND WATER SUPPLY** **Rates Expiration Date :**

The well driller and/or helper may perform all work relative to the construction, finishing, and servicing of wells, pumps and borings for ground water supply. The present methods of well drilling entailing as they do, many diverse job operations calling for drilling, pump discharge, piping, and the operation of various types of related power equipment, shall all be within the job duties and functions of the well driller and/or helper. In the event that an extension of work should occur beyond water well drilling functions, into the field of general construction work, such extension of work would come under the appropriate rates listed elsewhere in this wage determination.

- For Work Hours, Shift Differentials, Overtime Rates, and Recognized Holidays see the "Operating Engineers" section of this wage determination.

**Effective Dates:**

| 07/01/2024 | | | 07/01/2025 |
|---|---|---|---|
| Rate | Fringe | Total | Total |
| 59.22 | 39.15 | 98.37 | 100.87 |

**CLASSIFICATIONS:**

Driller

**Effective Dates:**

| 07/01/2024 | | | 07/01/2025 |
|---|---|---|---|
| Rate | Fringe | Total | Total |
| 52.38 | 39.15 | 91.53 | 94.03 |

**CLASSIFICATIONS:**

Driller's Helper

NEW JERSEY DEPARTMENT OF LABOR AND WORKFORCE DEVELOPMENT
PREVAILING WAGE RATE DETERMINATION

**OPERATING ENGINEERS MARINE-DREDGING** **Rates Expiration Date :**

NOTE: These wage rates only apply to dredging and other marine construction activities occurring in navigable waters and their tributaries.
Boat crews carrying explosive material (dynamite, pourfex, and other similar materials) shall be paid at 120% of the hourly wage rate for hours engaged in handling of said materials. Employees required to possess a Hazardous Material Certification as a condition of employment shall be compensated at 120% of the hourly wage rate.
OVERTIME:
Hours in excess of 40 per week, and all hours on Saturdays and Sundays, shall be paid at time and one-half the hourly rate. All hours on holidays shall be paid at double the hourly rate.
RECOGNIZED HOLIDAYS: New Year's Day, Martin Luther King Day, Good Friday, Memorial Day, July 4th, Labor Day, Veterans Day, Thanksgiving Day, Christmas Day. Sunday holidays observed the following Monday.

**Effective Dates:**

| 10/03/2024 | | | 10/01/2025 | 10/01/2026 |
|---|---|---|---|---|
| Rate | Fringe | Total | Total | Total |
| 47.07 | 15.34 | 62.41 | 63.92 | 65.74 |

**CLASSIFICATIONS:**

Lead Dredgerman, Operator, Leverman

Licensed Tug Operator with MOTV, Deck Captain

**Effective Dates:**

| 10/03/2024 | | | 10/01/2025 | 10/01/2026 |
|---|---|---|---|---|
| Rate | Fringe | Total | Total | Total |
| 40.71 | 14.90 | 55.61 | 56.92 | 58.47 |

**CLASSIFICATIONS:**

Derrick Operator, Spider/Spill Barge Operator

Engineer, Electrician, Chief Welder, Chief Mate

Fill Placer, Operator II

Licensed Boat Operator

Maintenance Engineer

**Effective Dates:**

| 10/03/2024 | | | 10/01/2025 | 10/01/2026 |
|---|---|---|---|---|
| Rate | Fringe | Total | Total | Total |
| 38.31 | 14.73 | 53.04 | 54.27 | 55.75 |

**CLASSIFICATIONS:**

Certified Welder

**OPERATING ENGINEERS MARINE-DREDGING** **Rates Expiration Date :**

**Effective Dates:**

| 10/03/2024 | | | 10/01/2025 | 10/01/2026 |
|---|---|---|---|---|
| Rate | Fringe | Total | Total | Total |
| 37.26 | 14.66 | 51.92 | 53.12 | 54.54 |

**CLASSIFICATIONS:**

Mate, Drag Barge Operator, Steward, Assistant Fill Placer

Welder

**Effective Dates:**

| 10/03/2024 | | | 10/01/2025 | 10/01/2026 |
|---|---|---|---|---|
| Rate | Fringe | Total | Total | Total |
| 36.07 | 14.57 | 50.64 | 51.80 | 53.18 |

**CLASSIFICATIONS:**

Boat Operator

**Effective Dates:**

| 10/03/2024 | | | 10/01/2025 | 10/01/2026 |
|---|---|---|---|---|
| Rate | Fringe | Total | Total | Total |
| 29.96 | 14.15 | 44.11 | 45.07 | 46.22 |

**CLASSIFICATIONS:**

Shoreman, Deckhand, Rodman, Scowman

**Effective Dates:**

| 10/03/2024 | | | 10/01/2025 | 10/01/2026 |
|---|---|---|---|---|
| Rate | Fringe | Total | Total | Total |
| 41.94 | 14.99 | 56.93 | 58.27 | 59.89 |

**CLASSIFICATIONS:**

Crane Operator

**MICROSURFACING/SLURRY SEAL** **Rates Expiration Date :**

THESE RATES APPLY IN THE FOLLOWING COUNTIES ONLY:
Atlantic, Burlington, Camden, Cape May, Cumberland, Gloucester, Mercer, Ocean, Salem
***IN ALL OTHER COUNTIES use the Heavy and General Laborers - North "Slurry Seal Laborer" rates.***

SHIFT DIFFERENTIALS:
Any shift starting at 3:30 PM or later shall receive an additional $0.35/hr

OVERTIME:
Hours in excess of 8 per day or 40 per week shall be paid at time and one-half the hourly rate. All hours on holidays shall be paid at double the hourly rate.

RECOGNIZED HOLIDAYS: New Year's Day, Washington's Birthday, Memorial Day, July 4th, Labor Day, Presidential Election Day, Veterans' Day, Thanksgiving Day, Christmas Day.

**Effective Dates:**

**03/01/2017**

| Rate | Fringe | Total |
|---|---|---|
| 36.50 | 21.27 | 57.77 |

**CLASSIFICATIONS:**

Foreman

**Effective Dates:**

**03/01/2017**

| Rate | Fringe | Total |
|---|---|---|
| 33.80 | 21.27 | 55.07 |

**CLASSIFICATIONS:**

Box man

**Effective Dates:**

**03/01/2017**

| Rate | Fringe | Total |
|---|---|---|
| 31.75 | 21.27 | 53.02 |

**CLASSIFICATIONS:**

Microsurface/Slurry Preparation

**Effective Dates:**

**03/01/2017**

| Rate | Fringe | Total |
|---|---|---|
| 31.75 | 21.27 | 53.02 |

**CLASSIFICATIONS:**

Squeegee man

**MICROSURFACING/SLURRY SEAL** **Rates Expiration Date :**

**Effective Dates:**

**03/01/2017**

| Rate | Fringe | Total |
|---|---|---|
| 30.30 | 21.27 | 51.57 |

**CLASSIFICATIONS:**

Cleaner, Taper

**ASPHALT LABORERS - SOUTH** **Rates Expiration Date :**

"THESE RATES APPLY IN THE FOLLOWING COUNTIES ONLY: Atlantic, Burlington, Camden, Cape May, Cumberland, Gloucester, Mercer, Ocean, Salem
{For apprentice rates refer to "Laborer - Heavy & General" apprentice rates in any county rate package}
The regular workday consists of 8 hours, starting at 7:00 AM or 8:00 AM.
SHIFT DIFFERENTIALS:
- Shifts must start at 3:00 PM, 4:00 PM, 12:00 AM, or 1:00 AM, to be considered shift work, except when the project owner mandates special hours of work in the job specifications, in which case those hours may be considered shift work.
- When such hours are mandated by the project owner, a shift that begins before midnight on Friday and ends on Saturday morning, or that begins at or after 8:00 PM on Sunday and ends on Monday morning may be paid at the shift differential rate.
- Shifts shall receive an additional $3.00 per hour.
OVERTIME:
- Hours in excess of 8 per day, Monday through Friday, or outside of the regular workday that are not shift work, and all hours on Saturdays, shall be paid at time and one-half the hourly rate. All hours on Sundays and holidays shall be paid at double the hourly rate.
- Four 10-hour days may be worked, Monday through Thursday, at straight time, with Friday used as a make-up day for a day lost to inclement weather. If Friday is not a make-up day, all hours on Friday shall be paid at time and one-half the hourly rate.
RECOGNIZED HOLIDAYS: New Year's Day, Presidents' Day, Memorial Day, July 4th, Labor Day, Presidential Election Day, Veterans' Day, Thanksgiving Day, Christmas Day. Sunday holidays observed the following Monday. Veterans Day may be substituted for the day after Thanksgiving. However, in the trading of Veterans Day for the day after Thanksgiving, if overtime is worked on Veterans Day, it shall be paid at double the hourly rate.
Hazardous Waste Work:
-where Level A, B, or C protection is required: + $5.00/hr
-other Hazardous Waste site: + $1.00/hr
FOR TIDE WORK (pertains to tidal water): A contractor can start their job according to tide schedules (tide schedules are the various high and low tides related to this work) providing the eight (8) hour shift is completed between the hours of 5:00 AM and 6:30 PM.

**Effective Dates:**

| 03/21/2024 | | | 03/01/2025 | 03/01/2026 |
|---|---|---|---|---|
| Rate | Fringe | Total | Total | Total |
| 53.55 | 37.33 | 90.88 | 94.33 | 97.58 |

**CLASSIFICATIONS:**

Paving Foreman

**Effective Dates:**

| 03/21/2024 | | | 03/01/2025 | 03/01/2026 |
|---|---|---|---|---|
| Rate | Fringe | Total | Total | Total |
| 50.10 | 37.33 | 87.43 | 90.88 | 94.13 |

**CLASSIFICATIONS:**

Head Raker

**Effective Dates:**

| 03/21/2024 | | | 03/01/2025 | 03/01/2026 |
|---|---|---|---|---|
| Rate | Fringe | Total | Total | Total |
| 50.25 | 37.33 | 87.58 | 91.03 | 94.28 |

**CLASSIFICATIONS:**

Screedman

**ASPHALT LABORERS - SOUTH** **Rates Expiration Date :**

**Effective Dates:**

| 03/21/2024 | | | 03/01/2025 | 03/01/2026 |
|---|---|---|---|---|
| Rate | Fringe | Total | Total | Total |
| 49.70 | 37.33 | 87.03 | 90.48 | 93.73 |

**CLASSIFICATIONS:**

Tampers, Smoothers, Kettlemen,
Painters, Shovelers, Roller Boys

**Effective Dates:**

| 03/21/2024 | | | 03/01/2025 | 03/01/2026 |
|---|---|---|---|---|
| Rate | Fringe | Total | Total | Total |
| 49.80 | 37.33 | 87.13 | 90.58 | 93.83 |

**CLASSIFICATIONS:**

Milling Controller

**Effective Dates:**

| 03/21/2024 | | | 03/01/2025 | 03/01/2026 |
|---|---|---|---|---|
| Rate | Fringe | Total | Total | Total |
| 50.00 | 37.33 | 87.33 | 90.78 | 94.03 |

**CLASSIFICATIONS:**

Traffic Control Coordinator

**Effective Dates:**

| 03/21/2024 | | | 03/01/2025 | 03/01/2026 |
|---|---|---|---|---|
| Rate | Fringe | Total | Total | Total |
| 49.95 | 37.33 | 87.28 | 90.73 | 93.98 |

**CLASSIFICATIONS:**

Raker, Luteman

**Effective Dates:**

| Rate | Fringe | Total |
|---|---|---|

**CLASSIFICATIONS:**

Certified Paving Foreman

**TEST BORING PRELIMINARY TO CONSTRUCTION-NORTH** **Rates Expiration Date :**

THESE RATES APPLY IN THE FOLLOWING COUNTIES ONLY:
Bergen, Essex, Hudson, Middlesex, Morris, Passaic, Somerset, Union

SHIFT DIFFERENTIAL:
Employees on a shift other than between the hours of 8:00 AM and 5:00 PM shall receive an additional $2.00 per hour.

OVERTIME:
Hours in excess of 8 per day, Monday through Friday, and all hours on Saturday shall be paid at time and one-half the regular rate. All hours on Sundays and holidays shall be paid at double the regular rate.

RECOGNIZED HOLIDAYS: New Year's Day, Memorial Day, July 4th, Labor Day, Thanksgiving Day, and Christmas Day. Sunday holidays observed the following Monday.

Hazardous Waste Pay (for Levels A, B, and C): an additional 15% of the hourly rate, per hour.

A newly hired Helper with no experience in the industry shall be paid as follows:
1st year on the job - 70% of Helper wage rate
2nd year on the job - 80% of Helper wage rate
3rd year on the job - 90% of Helper wage rate
All helpers receive full fringe benefit rate.

**Effective Dates:**

**10/18/2024**

| Rate | Fringe | Total |
|---|---|---|
| 37.58 | 34.49 | 72.07 |

**CLASSIFICATIONS:**

Helper (4th year helper)

**Effective Dates:**

**10/18/2024**

| Rate | Fringe | Total |
|---|---|---|
| 47.88 | 34.49 | 82.37 |

**CLASSIFICATIONS:**

Driller

**Effective Dates:**

**10/18/2024**

| Rate | Fringe | Total |
|---|---|---|
| 54.50 | 34.49 | 88.99 |

**CLASSIFICATIONS:**

Foreman

**HEAVY & GENERAL LABORERS - NORTH** **Rates Expiration Date :**

THESE RATES APPLY IN THE FOLLOWING COUNTIES ONLY:
Bergen, Essex, Hudson, Hunterdon, Middlesex, Monmouth, Morris, Passaic, Somerset, Sussex, Union, Warren

{For apprentice rates refer to "Laborer - Heavy & General" apprentice rates in any county rate package}

The regular workday consists of 8 hours, starting at 7:00 AM or 8:00 AM.

SHIFT DIFFERENTIALS:
- Shifts must start at 3:00 PM, 4:00 PM, 12:00 AM, or 1:00 AM, to be considered shift work, except when the project owner mandates special hours of work in the job specifications, in which case those hours may be considered shift work.
- When such hours are mandated by the project owner, a shift that begins before midnight on Friday and ends on Saturday morning, or that begins at or after 8:00 PM on Sunday and ends on Monday morning may be paid at the shift differential rate.
- Shifts shall receive an additional $3.00 per hour.

FOR TIDE WORK (pertains to tidal water): A contractor can start their job according to tide schedules (tide schedules are the various high and low tides related to this work) providing the eight (8) hour shift is completed between the hours of 5:00 AM and 6:30 PM.

OVERTIME:
- Hours in excess of 8 per day, Monday through Friday, or outside of the regular workday that are not shift work, and all hours on Saturdays, shall be paid at time and one-half the hourly rate. All hours on Sundays and holidays shall be paid at double the hourly rate.
- Four 10-hour days may be worked, Monday through Thursday, at straight time, with Friday used as a make-up day for a day lost to inclement weather. If Friday is not a make-up day, all hours on Friday shall be paid at time and one-half the hourly rate.

RECOGNIZED HOLIDAYS: New Year's Day, Presidents' Day, Memorial Day, July 4th, Labor Day, Presidential Election Day, Veterans' Day, Thanksgiving Day, Christmas Day. Sunday holidays observed the following Monday. Veterans Day may be substituted for the day after Thanksgiving. However, in the trading of Veterans Day for the day after Thanksgiving, if overtime is worked on Veterans Day, it shall be paid at double the hourly rate.

Hazardous Waste Work:
-where Level A, B, or C protection is required: + $5.00/hr
-other Hazardous Waste site: + $1.00/hr

**Effective Dates:**

| | 11/12/2024 | | 03/01/2025 | 03/01/2026 |
|---|---|---|---|---|
| Rate | Fringe | Total | Total | Total |
| 49.30 | 37.33 | 86.63 | 90.08 | 93.33 |

**CLASSIFICATIONS:**

"D" Rate:
basic, landscape, asphalt, slurry seal, or railroad track laborer; utility meter installer; flagman; salamander tender; pitman; dumpman; rakers or tampers on cold patch work; wrappers or coaters of pipe; waterproofer; timberman; wagon drill or drill master helper; powder carrier; magazine tender; signal man; power buggy operator; tree cutter; operator of basic power tools

**Effective Dates:**

| | 11/12/2024 | | 03/01/2025 | 03/01/2026 |
|---|---|---|---|---|
| Rate | Fringe | Total | Total | Total |
| 50.00 | 37.33 | 87.33 | 90.78 | 94.03 |

**CLASSIFICATIONS:**

"C" Rate:
pipe layer; laser man; conduit or duct line layer; operator of jack hammer, chipping hammer, pavement breaker, concrete cutter, asphalt cutter, sheet hammer, or walk-behind saw cutter; sandblaster; acetylene cutting or burning; wagon drill, directional drill, or hydraulic drill operator; drill master; core driller; asphalt raker or lute man

**HEAVY & GENERAL LABORERS - NORTH** **Rates Expiration Date :**

**Effective Dates:**

| 11/12/2024 | | | 03/01/2025 | 03/01/2026 |
|---|---|---|---|---|
| Rate | Fringe | Total | Total | Total |
| 50.25 | 37.33 | 87.58 | 91.03 | 94.28 |

**CLASSIFICATIONS:**

"B" Rate:
concrete finisher; setter of brick or stone pavers; stone cutter; form setter; manhole, catch basin, or inlet builder; asphalt screedman; rammer; hardscaping; gunite nozzle man

**Effective Dates:**

| 11/12/2024 | | | 03/01/2025 | 03/01/2026 |
|---|---|---|---|---|
| Rate | Fringe | Total | Total | Total |
| 53.80 | 37.33 | 91.13 | 94.58 | 97.83 |

**CLASSIFICATIONS:**

"A" Rate:
blaster

**Effective Dates:**

| 11/12/2024 | | | 03/01/2025 | 03/01/2026 |
|---|---|---|---|---|
| Rate | Fringe | Total | Total | Total |
| 53.55 | 37.33 | 90.88 | 94.33 | 97.58 |

**CLASSIFICATIONS:**

"FOREMAN" Rate:
labor foreman, asphalt foreman, drill foreman, pipe foreman, grade foreman, finisher foreman, concrete foreman

**Effective Dates:**

| 11/12/2024 | | | 03/01/2025 | 03/01/2026 |
|---|---|---|---|---|
| Rate | Fringe | Total | Total | Total |
| 54.55 | 37.33 | 91.88 | 95.33 | 98.58 |

**CLASSIFICATIONS:**

"GENERAL FOREMAN" Rate

**Effective Dates:**

| 11/12/2024 | | | 03/01/2025 | 03/01/2026 |
|---|---|---|---|---|
| Rate | Fringe | Total | Total | Total |
| 50.75 | 37.33 | 88.08 | 91.53 | 94.78 |

**CLASSIFICATIONS:**

TRAFFIC CONTROL COORDINATOR Rate

**HEAVY & GENERAL LABORERS - NORTH** **Rates Expiration Date :**

**Effective Dates:**

| 11/12/2024 | | | 03/01/2025 | 03/01/2026 |
|---|---|---|---|---|
| Rate | Fringe | Total | Total | Total |
| 54.05 | 37.33 | 91.38 | 95.83 | 100.08 |

**CLASSIFICATIONS:**

" CERTIFIED FOREMAN Rate" :

**Effective Dates:**

| 11/12/2024 | | | 03/01/2025 | 03/01/2026 |
|---|---|---|---|---|
| Rate | Fringe | Total | Total | Total |
| 55.05 | 37.33 | 92.38 | 96.83 | 101.08 |

**CLASSIFICATIONS:**

" CERTIFIED GENERAL FOREMAN Rate" :

**HEAVY & GENERAL LABORERS - SOUTH** **Rates Expiration Date :**

THESE RATES APPLY IN THE FOLLOWING COUNTIES ONLY:
Atlantic, Burlington, Camden, Cape May, Cumberland, Gloucester, Mercer, Ocean, Salem

{For apprentice rates refer to "Laborer - Heavy & General" apprentice rates in any county rate package}

The regular workday consists of 8 hours, starting at 7:00 AM or 8:00 AM.

SHIFT DIFFERENTIALS:
- Shifts must start at 3:00 PM, 4:00 PM, 12:00 AM, or 1:00 AM, to be considered shift work, except when the project owner mandates special hours of work in the job specifications, in which case those hours may be considered shift work.
- When such hours are mandated by the project owner, a shift that begins before midnight on Friday and ends on Saturday morning, or that begins at or after 8:00 PM on Sunday and ends on Monday morning may be paid at the shift differential rate.
- Shifts shall receive an additional $3.00 per hour.

FOR TIDE WORK (pertains to tidal water): A contractor can start their job according to tide schedules (tide schedules are the various high and low tides related to this work) providing the eight (8) hour shift is completed between the hours of 5:00 AM and 6:30 PM.

OVERTIME:
- Hours in excess of 8 per day, Monday through Friday, or outside of the regular workday that are not shift work, and all hours on Saturdays, shall be paid at time and one-half the hourly rate. All hours on Sundays and holidays shall be paid at double the hourly rate.
- Four 10-hour days may be worked, Monday through Thursday, at straight time, with Friday used as a make-up day for a day lost to inclement weather. If Friday is not a make-up day, all hours on Friday shall be paid at time and one-half the hourly rate.

RECOGNIZED HOLIDAYS: New Year's Day, Presidents' Day, Memorial Day, July 4th, Labor Day, Presidential Election Day, Veterans' Day, Thanksgiving Day, Christmas Day. Sunday holidays observed the following Monday. Veterans Day may be substituted for the day after Thanksgiving. However, in the trading of Veterans Day for the day after Thanksgiving, if overtime is worked on Veterans Day, it shall be paid at double the hourly rate.

Hazardous Waste Work:
-where Level A, B, or C protection is required: + $5.00/hr
-other Hazardous Waste site: + $1.00/hr

**Effective Dates:**

| | **12/31/2024** | | **03/01/2025** | **03/01/2026** |
|---|---|---|---|---|
| Rate | Fringe | Total | Total | Total |
| 49.30 | 37.33 | 86.63 | 90.08 | 93.33 |

**CLASSIFICATIONS:**

"D" Rate:
basic, landscape, asphalt, slurry seal, or railroad track laborer; utility meter installer; flagman; salamander tender; pitman; dumpman; rakers or tampers on cold patch work; wrappers or coaters of pipe; waterproofer; timberman; wagon drill or drill master helper; powder carrier; magazine tender; signal man; power buggy operator; tree cutter; operator of basic power tools

**Effective Dates:**

| | **12/31/2024** | | **03/01/2025** | **03/01/2026** |
|---|---|---|---|---|
| Rate | Fringe | Total | Total | Total |
| 50.00 | 37.33 | 87.33 | 90.78 | 94.03 |

**CLASSIFICATIONS:**

"C" Rate:
pipe layer; laser man; conduit or duct line layer; operator of jack hammer, chipping hammer, pavement breaker, concrete cutter, asphalt cutter, sheet hammer, or walk-behind saw cutter; sandblaster; acetylene cutting or burning; wagon drill, directional drill, or hydraulic drill operator; drill master; core driller; asphalt raker or lute man

**HEAVY & GENERAL LABORERS - SOUTH** **Rates Expiration Date :**

**Effective Dates:**

| 12/31/2024 | | | 03/01/2025 | 03/01/2026 |
|---|---|---|---|---|
| Rate | Fringe | Total | Total | Total |
| 53.80 | 37.33 | 91.13 | 94.58 | 97.83 |

**CLASSIFICATIONS:**

"A" Rate:
blaster

**Effective Dates:**

| 12/31/2024 | | | 03/01/2025 | 03/01/2026 |
|---|---|---|---|---|
| Rate | Fringe | Total | Total | Total |
| 53.55 | 37.33 | 90.88 | 94.33 | 97.58 |

**CLASSIFICATIONS:**

"FOREMAN" Rate:
labor foreman, asphalt foreman, drill foreman, pipe foreman, grade foreman, finisher foreman, concrete foreman

**Effective Dates:**

| 12/31/2024 | | | 03/01/2025 | 03/01/2026 |
|---|---|---|---|---|
| Rate | Fringe | Total | Total | Total |
| 54.55 | 37.33 | 91.88 | 95.33 | 98.58 |

**CLASSIFICATIONS:**

"GENERAL FOREMAN" Rate

**Effective Dates:**

| 12/31/2024 | | | 03/01/2025 | 03/01/2026 |
|---|---|---|---|---|
| Rate | Fringe | Total | Total | Total |
| 50.75 | 37.33 | 88.08 | 91.53 | 94.78 |

**CLASSIFICATIONS:**

TRAFFIC CONTROL COORDINATOR Rate

**Effective Dates:**

| 12/31/2024 | | | 03/01/2025 | 03/01/2026 |
|---|---|---|---|---|
| Rate | Fringe | Total | Total | Total |
| 55.05 | 37.33 | 92.38 | 96.83 | 101.08 |

**CLASSIFICATIONS:**

" CERTIFIED GENERAL FOREMAN Rate" :

**HEAVY & GENERAL LABORERS - SOUTH** **Rates Expiration Date :**

**Effective Dates:**

| 12/31/2024 | | | 03/01/2025 | 03/03/2026 |
|---|---|---|---|---|
| Rate | Fringe | Total | Total | Total |
| 54.05 | 37.33 | 91.38 | 95.83 | 100.08 |

**CLASSIFICATIONS:**

" CERTIFIED FOREMAN Rate" :

**Effective Dates:**

| 12/31/2024 | | | 03/01/2025 | 03/01/2026 |
|---|---|---|---|---|
| Rate | Fringe | Total | Total | Total |
| 50.25 | 37.33 | 87.58 | 91.03 | 94.28 |

**CLASSIFICATIONS:**

"B" Rate:
concrete finisher; setter of brick or stone pavers; stone cutter; form setter; manhole, catch basin, or inlet builder; asphalt screedman; rammer; hardscaping; gunite nozzle man

**PIPELINE - MAINLINE TRANSMISSION** **Rates Expiration Date :**

These rates apply to the following: welding on Transportation Mainline pipe lines (cross-country pipe lines, or any segments thereof, transporting coal, gas, oil, water or other transportable materials, vapors or liquids, including portions of such pipe lines within private property boundaries up to the final metering station or connection - the point where a valve, consumer connection, or town border station divides mainline transmission lines or higher pressure lateral and branch lines from lower pressure distribution systems).

PER DIEM PAYMENT:
In addition to the total wage rate paid for each craft, the following per diem (per day) amounts must also be paid - Pipeline Journeyman: $80.50; Pipeline Journeyman Welder: $140.50; and Pipeline Helper: $64.50. Note: in order to receive the per diem payment an employee must work a minimum of 8 hours in a 24 hour period.

NOTES:
- Journeymen employed as "stringer bead" welders and journeymen who are regularly employed as "hot-pass" welders shall receive $1.00 per hour more than other journeymen.
- Welders running "stringer bead" or "hot-pass" on "cutouts" or "tie-ins" on a production basis shall be paid $1.00 per hour above the journeymen rate.
- Whenever a welder helper is employed using a power buffer or power grinder immediately behind the stringer bead and/or hot-pass welders, and the pipe gang is set on a production basis, the helper shall be paid $2.00 per hour above the helper rate.
- If back welding is performed inside a pipe under either or both of the following conditions, the welder engaged in the welding will receive $3.00 per hour above the regular rate for the job only for the days on which such back welding is performed:
  - The employer elects, as a regular procedure, to back weld each line-up. This condition is not intended to apply to occasional back welding performed by the pipe gang to repair a bead, to rectify a "high-lo" condition or wall thickness, etc.
  - A welder is required to back weld a completed weld behind the firing line.
- If the welder helper is required to go inside the pipe for the purpose of brushing, buffing and grinding the weld, they shall receive a wage rate $1.00 per hour above the regular
helper rate for the days involved.
- Welders working on "hot work" shall be paid $2.00 per hour above the regular rate for each day engaged in such work. "Hot work' is defined as work on lines in service where there is the danger of fire or explosion.

The regular workday shall be 8 hours, between 8:00 AM and 4:30 PM.

OVERTIME:
Hours in excess of 8 per day, and all hours on Sundays shall be paid at time and one-half the regular rate, inclusive of benefits. All hours on holidays shall be paid at double the regular rate, inclusive of benefits.

RECOGNIZED HOLIDAYS: New Year's Day, July 4th, Labor Day, Thanksgiving Day, and Christmas Day. Sunday holidays observed the following Monday.

**Effective Dates:**

**06/13/2024**

| Rate | Fringe | Total |
|---|---|---|
| 57.34 | 35.90 | 93.24 |

**CLASSIFICATIONS:**

Pipeline Journeyman Welder

**PIPELINE - MAINLINE TRANSMISSION** **Rates Expiration Date :**

**Effective Dates:**

**06/13/2024**

| Rate | Fringe | Total |
|---|---|---|
| 57.34 | 35.90 | 93.24 |

**CLASSIFICATIONS:**

Pipeline Journeyman

**Effective Dates:**

**06/13/2024**

| Rate | Fringe | Total |
|---|---|---|
| 33.84 | 25.02 | 58.86 |

**CLASSIFICATIONS:**

Pipeline Helper

**PIPELINE - GAS DISTRIBUTION** **Rates Expiration Date :**

These rates apply to the following: welding on gas line distribution systems (that portion of the gas distribution system placed in streets, roads, subways, tunnels, viaducts, highways and easements which serves the users of gas).

SHIFT DIFFERENTIALS:
An "irregular" shift may start any time from 5:00 PM to 12:00 AM, Monday through Friday, and shall receive an additional 15% of the regular rate per hour, inclusive of benefits.

OVERTIME:
Hours in excess of forty per week, and all hours on Saturdays shall be paid at time and one-half the regular rate, inclusive of benefits. All hours on Sundays and holidays shall be paid at double the regular rate, inclusive of benefits.

RECOGNIZED HOLIDAYS: New Year's Day, Memorial Day, July 4th, Labor Day, Thanksgiving Day, and Christmas Day. Sunday holidays observed the following Monday.

**Effective Dates:**

**11/04/2024**

| Rate | Fringe | Total |
|---|---|---|
| 64.70 | 34.74 | 99.44 |

**CLASSIFICATIONS:**

Pipeline Journeyman Welder

**Effective Dates:**

**11/04/2024**

| Rate | Fringe | Total |
|---|---|---|
| 64.70 | 34.74 | 99.44 |

**CLASSIFICATIONS:**

Pipeline Journeyman

**Effective Dates:**

**11/04/2024**

| Rate | Fringe | Total |
|---|---|---|
| 41.73 | 24.77 | 66.50 |

**CLASSIFICATIONS:**

Pipeline Helper

**ASPHALT LABORERS- NORTH** **Rates Expiration Date :**

THESE RATES APPLY IN THE FOLLOWING COUNTIES ONLY:
Bergen, Essex, Hudson, Hunterdon, Middlesex, Monmouth, Morris, Passaic, Somerset, Sussex, Union, Warren
{For apprentice rates refer to "Laborer - Heavy & General" apprentice rates in any county rate package}
The regular workday consists of 8 hours, starting at 7:00 AM or 8:00 AM.
SHIFT DIFFERENTIALS:
- Shifts must start at 3:00 PM, 4:00 PM, 12:00 AM, or 1:00 AM, to be considered shift work, except when the project owner mandates special hours of work in the job specifications, in which case those hours may be considered shift work.
- When such hours are mandated by the project owner, a shift that begins before midnight on Friday and ends on Saturday morning, or that begins at or after 8:00 PM on Sunday and ends on Monday morning may be paid at the shift differential rate.
- Shifts shall receive an additional $3.00 per hour.
OVERTIME:
- Hours in excess of 8 per day, Monday through Friday, or outside of the regular workday that are not shift work, and all hours on Saturdays, shall be paid at time and one-half the hourly rate. All hours on Sundays and holidays shall be paid at double the hourly rate.
- Four 10-hour days may be worked, Monday through Thursday, at straight time, with Friday used as a make-up day for a day lost to inclement weather. If Friday is not a make-up day, all hours on Friday shall be paid at time and one-half the hourly rate.
RECOGNIZED HOLIDAYS: New Year's Day, Presidents' Day, Memorial Day, July 4th, Labor Day, Presidential Election Day, Veterans' Day, Thanksgiving Day, Christmas Day. Sunday holidays observed the following Monday. Veterans Day may be substituted for the day after Thanksgiving. However, in the trading of Veterans Day for the day after Thanksgiving, if overtime is worked on Veterans Day, it shall be paid at double the hourly rate.
Hazardous Waste Work:
-where Level A, B, or C protection is required: + $5.00/hr
-other Hazardous Waste site: + $1.00/hr
FOR TIDE WORK (pertains to tidal water): A contractor can start their job according to tide schedules (tide schedules are the various high and low tides related to this work) providing the eight (8) hour shift is completed between the hours of 5:00 AM and 6:30 PM.

**Effective Dates:**

| 11/20/2024 | | | 03/01/2025 | 03/01/2026 |
|---|---|---|---|---|
| Rate | Fringe | Total | Total | Total |
| 53.55 | 37.33 | 90.88 | 94.33 | 97.58 |

**CLASSIFICATIONS:**

Asphalt Foreman

**Effective Dates:**

| 11/20/2024 | | | 03/01/2025 | 03/01/2026 |
|---|---|---|---|---|
| Rate | Fringe | Total | Total | Total |
| 50.25 | 37.33 | 87.58 | 91.03 | 94.28 |

**CLASSIFICATIONS:**

Asphalt Screedman

**Effective Dates:**

| 11/20/2024 | | | 03/01/2025 | 03/01/2026 |
|---|---|---|---|---|
| Rate | Fringe | Total | Total | Total |
| 50.00 | 37.33 | 87.33 | 90.78 | 94.03 |

**CLASSIFICATIONS:**

Asphalt Raker or Lute Man

**ASPHALT LABORERS- NORTH** **Rates Expiration Date :**

**Effective Dates:**

| | 11/20/2024 | | 03/01/2025 | 03/01/2026 |
|---|---|---|---|---|
| Rate | Fringe | Total | Total | Total |
| 49.30 | 37.33 | 86.63 | 90.08 | 93.33 |

**CLASSIFICATIONS:**

Asphalt Laborer

**Effective Dates:**

| | 11/20/2024 | | 03/01/2025 | 03/01/2026 |
|---|---|---|---|---|
| Rate | Fringe | Total | Total | Total |
| 54.05 | 37.33 | 91.38 | 95.83 | 100.08 |

**CLASSIFICATIONS:**

Certified Asphalt Foreman

**ELECTRICIAN- UTILITY WORK (NORTH)** **Rates Expiration Date :**

Electrician-Utility Work (North)
(For apprentice rates refer to Electrician-Utility Work (North) in any county rate package).
These rates apply to work contracted for by the following utility companies:
Public Service Electric & Gas Co. of NJ, GPU Energy, Borough of Madison Electric Department, Sussex Rural Electric Cooperative, Rockland Utilities, and Butler Municipal Electric Co.
These rates do not apply to work on substations or switching stations.
For Utility work contracted for by a utility company other than those listed above or those listed under "Electrician-Utility Work (South), see the "Outside Commercial Rates" for the county in which the jobsite is located.

* FOR OUTSIDE COMMERCIAL RATES PLEASE SEE COUNTY RATES

The regular workday is 8 hours, between 6:00 AM and 6:00 PM.
FOR EMERGENCY WORK ONLY: (emergency work is defined as work caused by storm, catastrophe, act of god, and circumstances beyond the control of the employer)-all hours of work shall be paid at double the hourly rate.
SHIFT DIFFERENTIALS:
Shift work must run for a minimum of 5 consecutive workdays.
2nd shift (between the hours of 4:30 PM and 1:00 AM): 8 hours of work + 17.3% of the regular rate, inclusive of benefits.
3rd shift (between the hours of 12:30 AM and 9:00 AM): 8 hours of work + 31.4% of the regular rate per hour, inclusive of benefits.

OVERTIME:
Hours in excess of 8 per day, or before or after the regular wokday Monday through Friday, that is not shift work, and all hours on Saturday shall be paid at time and one-half the regular rate, inclusive of benefits. All hours on Sundays and holidays shall be paid at double the hourly rate, inclusive of benefits.
Four 10-hour days may worked, at straight time, between 6:00 AM and 6:00 PM, Monday through Thursday.

RECOGNIZED HOLIDAYS:
New Year's Day, Presidents' Day, Memorial Day, July 4th, Labor Day, Presidential Election Day, Veterans' Day, Thanksgiving Day and Christmas Day, or day on which they are legally observed.

**Effective Dates:**

**12/01/2024**

| Rate | Fringe | Total |
|---|---|---|
| 64.83 | 44.73 | 109.56 |

**CLASSIFICATIONS:**

Chief Lineman

**Effective Dates:**

**12/01/2024**

| Rate | Fringe | Total |
|---|---|---|
| 61.16 | 42.20 | 103.36 |

**CLASSIFICATIONS:**

Journeyman Lineman

**ELECTRICIAN- UTILITY WORK (NORTH)** **Rates Expiration Date :**

**Effective Dates:**

**12/01/2024**

| Rate | Fringe | Total |
|---|---|---|
| 61.16 | 42.20 | 103.36 |

**CLASSIFICATIONS:**

Special License Operator

**Effective Dates:**

**12/01/2024**

| Rate | Fringe | Total |
|---|---|---|
| 60.55 | 41.77 | 102.32 |

**CLASSIFICATIONS:**

Transit Man

**Effective Dates:**

**12/01/2024**

| Rate | Fringe | Total |
|---|---|---|
| 58.71 | 40.50 | 99.21 |

**CLASSIFICATIONS:**

Line Equipment Operator

**Effective Dates:**

**12/01/2024**

| Rate | Fringe | Total |
|---|---|---|
| 51.37 | 35.44 | 86.81 |

**CLASSIFICATIONS:**

Dynamite Man

**Effective Dates:**

**12/01/2024**

| Rate | Fringe | Total |
|---|---|---|
| 76.45 | 52.75 | 129.20 |

**CLASSIFICATIONS:**

General Foreman

**Effective Dates:**

**12/01/2024**

| Rate | Fringe | Total |
|---|---|---|
| 70.33 | 48.52 | 118.85 |

**CLASSIFICATIONS:**

Assistant General Foreman

**ELECTRICIAN- UTILITY WORK (NORTH)** **Rates Expiration Date :**

**Effective Dates:**

**12/01/2024**

| Rate | Fringe | Total |
|---|---|---|
| 68.50 | 47.26 | 115.76 |

**CLASSIFICATIONS:**

Line Foreman

**Effective Dates:**

**12/01/2024**

| Rate | Fringe | Total |
|---|---|---|
| 49.54 | 34.18 | 83.72 |

**CLASSIFICATIONS:**

Street Light Mechanical Leader

**Effective Dates:**

**12/01/2024**

| Rate | Fringe | Total |
|---|---|---|
| 47.09 | 32.49 | 79.58 |

**CLASSIFICATIONS:**

Groundman Winch Operator

**Effective Dates:**

**12/01/2024**

| Rate | Fringe | Total |
|---|---|---|
| 47.09 | 32.49 | 79.58 |

**CLASSIFICATIONS:**

Groundman Truck Operator

**Effective Dates:**

**12/01/2024**

| Rate | Fringe | Total |
|---|---|---|
| 46.48 | 32.07 | 78.55 |

**CLASSIFICATIONS:**

Street Light Mechanic

**Effective Dates:**

**12/01/2024**

| Rate | Fringe | Total |
|---|---|---|
| 46.48 | 32.07 | 78.55 |

**CLASSIFICATIONS:**

Line Equipment Mechanic

**ELECTRICIAN- UTILITY WORK (NORTH)** **Rates Expiration Date :**

**Effective Dates:**

**12/01/2024**

| Rate | Fringe | Total |
|---|---|---|
| 39.75 | 27.42 | 67.17 |

**CLASSIFICATIONS:**

Groundman 2nd Year

**Effective Dates:**

**12/01/2024**

| Rate | Fringe | Total |
|---|---|---|
| 36.70 | 25.32 | 62.02 |

**CLASSIFICATIONS:**

Groundman 1st Year

**Effective Dates:**

**12/01/2024**

| Rate | Fringe | Total |
|---|---|---|
| 60.55 | 41.77 | 102.32 |

**CLASSIFICATIONS:**

Line Equipment Foreman

**ELECTRICIAN- UTILITY WORK (SOUTH)** **Rates Expiration Date :**

Electrician-Utility Work (South)
(For apprentice rates refer to Electrician-Utility Work (South) in any county rate package).
These rates apply to work contracted for by the following utility company:
Atlantic City Electric.
These rates do not apply to work on substations or switching stations.
For utility work contracted for by a utility company other than the one listed above or those listed under "Electrician-Utility Work (North), see the "Outside Commercial Rates" for the county in which the jobsite is located.

* FOR OUTSIDE COMMERCIAL RATES PLEASE SEE COUNTY RATES

The regular workday is 8 hours, between 7:00 AM and 4:30 PM.
FOR EMERGENCY WORK ONLY: (emergency work is defined as work caused by storm, catastrophe, act of god, and circumstances beyond the control of the employer)- all hours of work shall be paid at double the hourly rate.
SHIFT DIFFERENTIALS:
Shift work must run for a minimum of 5 consecutive workdays.
When two (2) or three (3) shifts are worked the following shall apply:
1st shift (between the hours of 8:00 AM and 4:30 PM)
2nd shift (between the hours of 4:30 PM and 12:30 AM): 8 hours of work + 10% of the regular rate of pay for 7.5 hours worked.

3rd shift (between the hours of 12:30 AM and 8:00 AM): 8 hours of work + 15% of the regular rate of pay for 7 hours worked.

OVERTIME:
Hours in excess of 8 per day, or before or after the regular wokday Monday through Friday, that is not shift work, and all hours on Saturday shall be paid at time and one-half the regular rate. All hours on Sundays and Holidays shall be paid double the hourly rate.

Four 10-hour days may be worked, at straight time, between 6:00 AM and 6:00 PM, Monday through Thursday with Friday used as a make-up day.

RECOGNIZED HOLIDAYS:
New Year's Day, Memorial Day, July 4th, Labor Day, Veterans' Day, Thanksgiving Day and Christmas Day or on days celebrated.

WORKING RULES:
There shall be a Foreman in charge of each work crew. No crews are to exceed twelve (12) men, including Foremen.

There shall be a General Foreman designated for transmission work when three (3) or more crews are on the same job and for distribution work where there are are more than twenty (20) employees on site.
A small job crew shall consist of five (5) or less employees, one (1) of the Journeyman Linemen in the crew shall be designated as a Small Job Foreman.
Work performed from ladders and/or mechanical lift equipment shall be the work of Linemen and/or Apprentices.
On new construction, fitting and framing poles, towers or structures may be done by Journeymen and/ or Apprentices. Groundmen may assist, but may not perform any work which would be performed by Linemen if assembled in the air.
There shall be a Journeyman Lineman in each pole setting, erection, grounding, wire and cable-pulling crew of more than three (3) men.

**Effective Dates:**

**12/01/2024**

| Rate | Fringe | Total |
|---|---|---|
| 71.87 | 59.12 | 130.99 |

**CLASSIFICATIONS:**

General Foreman

**ELECTRICIAN- UTILITY WORK (SOUTH)** **Rates Expiration Date :**

**Effective Dates:**

**12/01/2024**

| Rate | Fringe | Total |
|---|---|---|
| 64.01 | 54.22 | 118.23 |

**CLASSIFICATIONS:**

Foreman

**Effective Dates:**

**12/01/2024**

| Rate | Fringe | Total |
|---|---|---|
| 60.64 | 52.12 | 112.76 |

**CLASSIFICATIONS:**

Small Job Foreman

**Effective Dates:**

**12/01/2024**

| Rate | Fringe | Total |
|---|---|---|
| 56.15 | 49.33 | 105.48 |

**CLASSIFICATIONS:**

Heavy Equipment Operator

**Effective Dates:**

**12/01/2024**

| Rate | Fringe | Total |
|---|---|---|
| 56.15 | 49.33 | 105.48 |

**CLASSIFICATIONS:**

Cable Splicer

**Effective Dates:**

**12/01/2024**

| Rate | Fringe | Total |
|---|---|---|
| 56.15 | 49.33 | 105.48 |

**CLASSIFICATIONS:**

Journeyman Lineman

**Effective Dates:**

**12/01/2024**

| Rate | Fringe | Total |
|---|---|---|
| 56.15 | 49.33 | 105.48 |

**CLASSIFICATIONS:**

Journeyman Welder

**ELECTRICIAN- UTILITY WORK (SOUTH)** **Rates Expiration Date :**

**Effective Dates:**

**12/01/2024**

| Rate | Fringe | Total |
|---|---|---|
| 56.15 | 49.33 | 105.48 |

**CLASSIFICATIONS:**

Journeyman Painter

**Effective Dates:**

**12/01/2024**

| Rate | Fringe | Total |
|---|---|---|
| 44.92 | 42.36 | 87.28 |

**CLASSIFICATIONS:**

Light Equipment Operator

**Effective Dates:**

**12/01/2024**

| Rate | Fringe | Total |
|---|---|---|
| 39.31 | 38.86 | 78.17 |

**CLASSIFICATIONS:**

Groundman Truck Driver

**Effective Dates:**

**12/01/2024**

| Rate | Fringe | Total |
|---|---|---|
| 36.50 | 37.12 | 73.62 |

**CLASSIFICATIONS:**

Groundman 3rd Year

**Effective Dates:**

**12/01/2024**

| Rate | Fringe | Total |
|---|---|---|
| 33.69 | 35.37 | 69.06 |

**CLASSIFICATIONS:**

Groundman 2nd Year

**Effective Dates:**

**12/01/2024**

| Rate | Fringe | Total |
|---|---|---|
| 30.88 | 33.62 | 64.50 |

**CLASSIFICATIONS:**

Groundman 1st Year

NEW JERSEY DEPARTMENT OF LABOR AND WORKFORCE DEVELOPMENT
PREVAILING WAGE RATE DETERMINATION

**ELECTRICIAN- UTILITY WORK (SOUTH)** **Rates Expiration Date :**

**Effective Dates:**

| | 12/01/2024 | |
|---|---|---|
| Rate | Fringe | Total |
| 24.71 | 29.80 | 54.51 |

**CLASSIFICATIONS:**

Flagman

**HEAVY & GENERAL LABORERS- NEW TRANS HUDSON TUNNELS** **Rates Expiration Date :**

**THESE RATES APPLY TO CONSTRUCTION ON NEW TRANS HUDSON TUNNELS ONLY**

{For apprentice rates refer to "Laborer - Heavy & General" apprentice rates in any county rate package}

The regular workday consists of 8 hours, starting at 7:00 AM or 8:00 AM.

SHIFT DIFFERENTIALS:
- Shifts must start at 3:00 PM, 4:00 PM, 12:00 AM, or 1:00 AM, to be considered shift work, except when the project owner mandates special hours of work in the job specifications, in which case those hours may be considered shift work.
- When such hours are mandated by the project owner, a shift that begins before midnight on Friday and ends on Saturday morning, or that begins at or after 8:00 PM on Sunday and ends on Monday morning may be paid at the shift differential rate.
- Shifts shall receive an additional $3.00 per hour.

OVERTIME:
- Hours in excess of 8 per day, Monday through Friday, or outside of the regular workday that are not shift work, and all hours on Saturdays, shall be paid at time and one-half the hourly rate. All hours on Sundays and holidays shall be paid at double the hourly rate.
- Four 10-hour days may be worked, Monday through Thursday, at straight time, with Friday used as a make-up day for a day lost to inclement weather. If Friday is not a make-up day, all hours on Friday shall be paid at time and one-half the hourly rate.

RECOGNIZED HOLIDAYS: New Year's Day, Presidents' Day, Memorial Day, July 4th, Labor Day, Presidential Election Day, Veterans' Day, Thanksgiving Day, Christmas Day. Sunday holidays observed the following Monday. Veterans Day may be substituted for the day after Thanksgiving. However, in the trading of Veterans Day for the day after Thanksgiving, if overtime is worked on Veterans Day, it shall be paid at double the hourly rate.

Hazardous Waste Work:
-where Level A, B, or C protection is required: + $5.00/hr
-other Hazardous Waste site: + $1.00/hr

Traffic Control Coordinator: When either of the work classifications found below are working as a Traffic Control Coordinator they are to receive $.75 above their current rate of pay.

**Effective Dates:**

| 04/17/2024 | | | 03/01/2025 | 03/01/2026 |
|---|---|---|---|---|
| Rate | Fringe | Total | Total | Total |
| 78.08 | 37.33 | 115.41 | 119.68 | 123.81 |

**CLASSIFICATIONS:**

Walking Boss & Superintendent

**Effective Dates:**

| 04/17/2024 | | | 03/01/2025 | 03/01/2026 |
|---|---|---|---|---|
| Rate | Fringe | Total | Total | Total |
| 77.63 | 37.33 | 114.96 | 119.23 | 123.36 |

**CLASSIFICATIONS:**

Heading Foreman, Shaft Foreman, Rod Foreman, Electrical Foreman, Rigging Foreman

**HEAVY & GENERAL LABORERS- NEW TRANS HUDSON TUNNELS** **Rates Expiration Date :**

**Effective Dates:**

| | 04/17/2024 | | 03/01/2025 | 03/01/2026 |
|---|---|---|---|---|
| Rate | Fringe | Total | Total | Total |
| 76.88 | 37.33 | 114.21 | 118.48 | 122.61 |

**CLASSIFICATIONS:**

Iron Foreman, Caulking Foreman, Form Foreman, Cement Finishing Foreman, Concrete Foreman, Track Foreman, Clean-up Foreman, Grout Foreman

**Effective Dates:**

| | 04/17/2024 | | 03/01/2025 | 03/01/2026 |
|---|---|---|---|---|
| Rate | Fringe | Total | Total | Total |
| 80.63 | 37.33 | 117.96 | 122.23 | 126.36 |

**CLASSIFICATIONS:**

Blaster

**Effective Dates:**

| | 04/17/2024 | | 03/01/2025 | 03/01/2026 |
|---|---|---|---|---|
| Rate | Fringe | Total | Total | Total |
| 76.05 | 37.33 | 113.38 | 117.66 | 121.78 |

**CLASSIFICATIONS:**

Top Labor Foreman

**Effective Dates:**

| | 04/17/2024 | | 03/01/2025 | 03/01/2026 |
|---|---|---|---|---|
| Rate | Fringe | Total | Total | Total |
| 75.53 | 37.33 | 112.86 | 117.13 | 121.26 |

**CLASSIFICATIONS:**

Skilled Men (including Caulker, Powder Carrier, all other skilled men)
Skilled Men (including Miner, Drill Runner, Iron Man, Conveyor Man, Maintenance Man, Safety Miner, Rigger, Block Layer, Cement Finisher, Rod Man)

**Effective Dates:**

| | 04/17/2024 | | 03/01/2025 | 03/01/2026 |
|---|---|---|---|---|
| Rate | Fringe | Total | Total | Total |
| 75.30 | 37.33 | 112.63 | 116.91 | 121.03 |

**CLASSIFICATIONS:**

Semi-Skilled Men (including Bell or Signal Man top or bottom, Form Worker & Mover, Concrete Worker, Shaft Man, Tunnel Laborer, Caulker's Helper, all other semi-skilled)
Semi-Skilled Men (including Miner's Helper, Chuck Tender, Track Man, Nipper, Brake Man, Derail Man, Cable Man, Hose Man, Gravel Man, Form Man)

**TERRITORY**

**ENTIRE STATE**

**NEW JERSEY DEPARTMENT OF LABOR AND WORKFORCE DEVELOPMENT**

**PREVAILING WAGE RATE DETERMINATION**

**HEAVY & GENERAL LABORERS- NEW TRANS HUDSON TUNNELS** **Rates Expiration Date :**

**Effective Dates:**

| | **04/17/2024** | | **03/01/2025** | **03/01/2026** |
|---|---|---|---|---|
| Rate | Fringe | Total | Total | Total |
| 74.70 | 37.33 | 112.03 | 116.31 | 120.43 |

**CLASSIFICATIONS:**

All others (including Powder Watchman, Change House Attendant, Top Laborer, Job Steward)

## SECTION 00 31 00 - AVAILABLE PROJECT INFORMATION

### PART 1 GENERAL

1.1 EXISTING CONDITIONS

A. Certain information relating to existing surface and subsurface conditions and structures is available to bidders but will not be part of Contract Documents, as follows:

B. Hazardous Material Survey: International Asbestos Testing Laboratories Chain of Custody and Sample Log dated November 12, 2024 .

### PART 2 PRODUCTS (NOT USED)

### PART 3 EXECUTION (NOT USED)

**END OF SECTION**


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iATL INTERNATIONAL
Asbestos Testing Laboratories

9000 Commerce Parkway, Suite B • Mount Laurel, NJ 08054
Phone: 877-428-4285/856-231-9449 • Fax: 856-231-9818

003849691

# Chain of Custody

–Bulk Asbestos –

## Contact Information

Client Company: UBS Architects
Office Address: 80 W. Dunellen Rd
City, State, Zip: Somerville, N.J.
Fax Number:
Email Address: A.Moskowitz@UBSARCHITECTS.com

Project Number:
Project Name: 921 Stimpson Ave
Primary Contact: Bidwell Abrahamson
Office Phone: 908 722-2300
Cell Phone: 908 963 6142

## PLM Instructions:

- [x] PLM: Bulk Asbestos Building Materials EPA 600 R-93/116, 1993
- [ ] PLM: Bulk Asbestos Building Materials EPA 600 M-4/82-020, 1982
- [ ] PLM: Bulk Asbestos Building Materials NIOSH 9002, 1985
- [ ] PLM: Bulk Asbestos Building Materials NYSDOH-ELAP 198.1, 2002
- [ ] PLM: Bulk Asbestos Building Materials NYSDOH-ELAP 198.6, 2010
- [ ] TEM: Bulk Asbestos Building Materials NYSDOH-ELAP 198.4, 2009

- [ ] PLM: Point Counting
  - [ ] PC: via ELAP 198.1
  - [ ] PC: 400 Points
  - [ ] PC: 800 Points *
  - [ ] PC: 1600 Points *
- [ ] PLM: Instructions for Multi-Layered Samples
  - [ ] Analyze and Report All Separable Layers per EPA 600
  - [ ] Report Composite for Drywall Systems per NESHAP
  - [ ] Report All Layers and Composite Where Applicable
  - [ ] Only Analyze and Report Specifically Noted Layer
- [ ] PLM: Analyze Until Positive (Positive Stop)
  - [ ] AUP: by Homogenous Area as Noted
  - [ ] AUP: by Material Type as Noted
- [ ] PLM: NOB via 198.6
  - [ ] PLM: Friable via EPA 600 2.3
  - [x] If <1% by PLM, to TEM via 198.4 *
  - [ ] If <1% by PLM, Hold for Instructions
- [ ] PLM: Non-Building Material*,** (Dust, Wipe, Tape)
  - [ ] Soil or Vermiculite Analysis*
  - [ ] CARB 435

Special Instructions:

** Additional charge and turnaround may be required* *** Alternative Method (ex: EPA 600/R-04/004) may be recommended by Laboratory*

## Turnaround Time

Preliminary Results Requested Date: _____ Specific date / time

[x] Verbal [x] Email [ ] Fax

[ ] 10 Day [x] 5 Day [ ] 3 Day [ ] 2 Day [ ] 1 Day* [ ] 12 Hour** [ ] 6 Hour** [ ] RUSH**

* End of next business day unless otherwise specified. ** Matrix Dependent. ***Please notify the lab before shipping***

## Chain of Custody

| | | | |
|---|---|---|---|
| Relinquished (Name/Organization): | | Date: 11-12-24 | Time: 4:18 pm |
| Received (Name / iATL): | | Date: | Time: |
| Sample Login (Name / iATL): | | Date: | Time: |
| Analysis(Name(s) / iATL): | | Date: 11/12/24 | Time: |
| QA/QC Review (Name / iATL): | | Date: | Time: |
| Archived / Released: | QA/QC InterLAB Use: | Date: | Time: |

RECEIVED
NOV 12 2024



MR-11/19/24
iATL - By

iATL INTERNATIONAL
ASBESTOS TESTING LABORATORIES

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003849691

# Sample Log

## –Bulk Asbestos –

Client: USA [illegible] Project: 921 [illegible]

Sampling Date/Time: 11-12-24 – 2:00 PM

| Bulk Asbestos Sample Log | | | |
|---|---|---|---|
| Client Sample # | iATL # | Location/Description | Notes |
| 1 | 7803087 | Roof - Field Core | |
| | | | |
| | | | |
| | | | |
| | iATL 7803087 | | |
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9000 Commerce Parkway Suite B
Mt. Laurel, New Jersey 08054
Telephone: 856-231-9449
Email: customerservice@iatl.com

CERTIFICATE OF ANALYSIS

| | | | |
|---|---|---|---|
| Client: | USA Architects | Report Date: | 11/20/2024 |
| | 20 North Doughty Ave. | Report No.: | 706872 - TEM NOB |
| | Somerville NJ 08876 | Project: | 921 Elizabeth Ave |
| Client: | USA457 | Project No.: | 3849691 |

# TEM BULK SAMPLE ANALYSIS SUMMARY

**Lab No.:** 7803087
**Client No.:** 1
**Description:** Black Roofing Core Material

**Facility:**
**Location:** Roof - Field Core

**Organic Fraction:** 87.7 %
**Gravimetrically Reduced Subsample:** 12.3%

| % Asbestos Detected: | % Non-Asbestos Fibrous Material: | % Non-Fibrous Material: |
|---|---|---|
| *None Detected* | None Detected | 12.3 Other |

Please refer to the Preface of this report for further information regarding your analysis.

Date Received: 11/12/2024
Date Analyzed: 11/20/2024
Signature:
Analyst: Patrick Carr

Approved By:
Frank E. Ehrenfeld, III
Laboratory Director

Dated : 11/20/2024 12:56:46

9000 Commerce Parkway Suite B
Mt. Laurel, New Jersey 08054
Telephone: 856-231-9449
Email: customerservice@iatl.com

CERTIFICATE OF ANALYSIS

| | | | |
|---|---|---|---|
| Client: | USA Architects | Report Date: | 11/20/2024 |
| | 20 North Doughty Ave. | Report No.: | 706872 - TEM NOB |
| | Somerville NJ 08876 | Project: | 921 Elizabeth Ave |
| | | Project No.: | 3849691 |
| Client: | USA457 | | |

# Appendix to Analytical Report:

**Customer Contact:**
**Analysis:** ELAP Section 198.4

This appendix seeks to promote greater understanding of any observations, exceptions, special instructions, or circumstances that the laboratory needs to communicate to the client concerning the above samples. The information below is used to help promote your ability to make the most informed decisions for you and your customers. Please note the following points of contact for any questions you may have.

**iATL Customer Service:** customerservice@iatl.com
**iATL Office Manager:**wchampion@iatl.com
**iATL Account Representative:** Shirley Clark
**Sample Login Notes:** See Batch Sheet Attached
**Sample Matrix:** Bulk material, Non-Friable Organically Bound material such as VSF, FT, M, RM, Tar, CB, Shingle, Tar Paper, Caulk, Glazing
**Exceptions Noted:** See Following Pages

## General Terms, Warrants, Limits, Qualifiers:

General information about iATL capabilities and client/laboratory relationships and responsibilities are spelled out in iATL policies that are listed at www.iATL.com and ir our Quality Assurance Manual per ISO 17025 standard requirements. The information therein is a representation of iATL definitions and policies for turnaround times, sample submittal, collection media, blank definitions, quantification issues and limit of detection, analytical methods and procedures, sub-contracting policies, results reporting options, fees, terms, and discounts, confidentiality, sample archival and disposal, and data interpretation.

iATL warrants the test results to be of a precision normal for the type and methodology employed for each sample submitted. iATL disclaims any other warrants, expressed or implied, including warranty of fitness for a particular purpose and warranty of merchantability. iATL accepts no legal responsibility for the purpose for which the client uses test results. Any analytical work performed must be governed by our Standard Terms and Conditions. Prices, methods and detection limits may be changed without notification. Please contact your Customer Service Representative for the most current information.

This confidential report relates only to those item(s) tested and does not represent an endorsement by NIST-NVLAP, AIHA LAP LLC, or any agency of local, state or province governments nor of any agency of the U.S. government.

This report shall not be reproduced except in full, without written approval of the laboratory.

## Information Pertinent to this Report:

Analysis by ELAP Section 198.4

Certifications:

- NIST-NVLAP No. 101165-0
- NYSDOH-ELAP No. 11021
- AIHA-LAP, LLC No. 100188

All results are based on the samples as received at the lab. iATL assumes that appropriate sampling methods have been used and that the data upon which these results are based have been accurately supplied by the client.

The "Gravimetrically Reduced Subsample" is the portion of the submitted sample remaining following the ashing and acid treatment processes. TEM analysis occurs on this portion of the sample.

Final results are calculated to represent the sample as submitted. Results are verifiable for only those operations and analyses performed in the laboratory.

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Telephone: 856-231-9449
Email: customerservice@iatl.com

CERTIFICATE OF ANALYSIS

| | | | |
|---|---|---|---|
| Client: | USA Architects | Report Date: | 11/20/2024 |
| | 20 North Doughty Ave. | Report No.: | 706872 - TEM NOB |
| | Somerville NJ 08876 | Project: | 921 Elizabeth Ave |
| | | Project No.: | 3849691 |
| Client: | USA457 | | |

## Disclaimers / Qualifiers:

There may be some samples in this project that have a "NOTE:" associated with a sample result. We use added disclaimers or qualifiers to inform the client about something that requires further explanation. Here is a complete list with highlighted disclaimers pertinent to this project. For a full explanation of these and other disclaimers, please inquire at **customerservice@iatl.com.**

(1)Note: Sample not analyzed.
(2)Note: Sample not analyzed at request of client.
(3)Note: Sample analysis terminated. Clearance criteria exceeded (average >70.0 s/mm²). Set fails by AHERA 40 CFR 763.
(4)Note: Heavy loading (>0.1 s/cc) of non-asbestos particulate that might prohibit the required morphological, diffraction and elemental identification of asbestos. The absence of asbestos on the sample can not be concluded. Analysis for informational purposes only.
(5)Note: Heavy loading (>10% per grid opening) non-fibrous particulate. Sample analysis terminated. Clearance criteria exceeded (>10%). Sample voided by AHERA 40 CFR 763.
(5A)Note: Heavy loading (>25% per grid opening) non-fibrous particulate. Sample analysis terminated. Clearance criteria exceeded (>25%). Sample voided by NIOSH 7402.
(6)Note: Sample turbidity >1.0 NTU. Therefore MDL >> 0.1 MFL. Does not meet National Primary Drinking Water Standards.
(7)Note: Sample integrity compromised. Received sample cassette with top open (40 CFR 763 c-e).
(8)Note: Received sample cassettes with portion of filter missing. "PCM re-prep"
(9)Note: Void - overloaded, unable to prep.
(10)Note: Void - filter damaged.
(11)Note: No volume supplied.
(12)Note: Heavy loading (>0.1 s/cc) of non-asbestos / non-fibrous particulate.
(13)Note: Method analytical sensitivity of <0.003 s/cc not attained due to volume of air sampled. NIOSH requires a minimum of 400L.
(13A)Note: Volume does not meet AHERA requirements.(<1188 L)
(14)Note: Geometric Mean = 0.xxxx Structures/cc
(15)Note: Samples received on 0.8 micron PCM filters. Samples must be submitted on 0.45 micron filter cassettes per AHERA guidelines
(18)Note: *Results are for informational purposes only. Samples received on 0.8um PCM cassettes. Per AHERA 40 CFR 763 guidelines samples must be obtained on a 0.45um cassette.
(TEM NOB 1) Note: The above result represents only the analysis of NOB-residue submitted from the client.
(TEM NOB 2) Note: Insufficient material (<100mg) to verify results.

JOHN H. ALLGAIR, PE, PP, LS (1983-2001)
DAVID J. SAMUEL, PE, PP, CME
JOHN J. STEFANI, PE, LS, PP, CME
JAY B. CORNELL, PE, PP, CME
MICHAEL J. McCLELLAND, PE, PP, CME
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TIM W. GILLEN, PE, PP, CME (1991-2019)
BRUCE M. KOCH, PE, PP, CME
LOUIS J. PLOSKONKA, PE, CME
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BEHRAM TURAN, PE, LSRP
LAURA J. NEUMANN, PE, PP
DOUGLAS ROHMEYER, PE, CFM, CME
ROBERT J. RUSSO, PE, PP, CME
JOHN J. HESS, PE, PP, CME

February 29, 2024

Ricardo Matias, PE, CME, CFM, County Engineer
Union County Division of Engineering
2325 South Avenue
Scotch Plains NJ 07076

***Re: 2024 On-Call Environmental Engineering (Task 78004) - Final Report for the Mold and Moisture Impact Assessment at 921 Elizabeth Ave, Elizabeth, NJ***

Dear Mr. Matias:

CME Associates is pleased to provide for the County's review the enclosed Final Report for the Mold and Moisture Impact Assessment performed at 921 Elizabeth Ave, Elizabeth, NJ, as prepared Environmental Connection, Inc (ECI). Please do not hesitate to contact us with any questions in this regard.

Very truly yours,
**CME Associates**

Behram Turan, P.E., LSRP
*Senior Vice President*

Enclosure

Cc: Ron Zuber, Union County Facilities

**IUN00311.11/78004**

ENVIRONMENTAL CONNECTION INC
A Vertical Technologies Corporation

February 26, 2024

Jacquelyn Fagan
Environmental Scientist
CME Associates
3759 US Hwy 1 South - Suite 100
Monmouth Junction, NJ 08852

Re: Indoor Air Quality Assessment

Facility: Union County Career Center
921 Elizabeth Avenue
Elizabeth, New Jersey 07201

EC Project #: 24076-01

## Section 1.0 Executive Summary

Environmental Connection, Inc. (EC) was contracted by CME Associates to perform an Indoor Air Quality Assessment of the building located at 921 Elizabeth Avenue in Elizabeth, New Jersey. The assessment was performed in response to concerns regarding indoor air quality related to ongoing water intrusion issues and the purported discovery of suspect mold growth in the building. The assessment consisted of a visual inspection, the collection of occupant comfort parameter measurements (carbon dioxide, carbon monoxide, relative humidity, and temperature), the collection of microbial surface swab samples, and air samples to be analyzed for airborne mold/fungal spores.

Evidence of water intrusion was observed throughout the building, primarily along the wall shared with the apartment building to the east of the subject property, around windows in the rear section of the building, and on ceilings throughout the fifth floor. Suspect mold growth was observed throughout the building on materials exhibiting evidence of damage due to water intrusion. Laboratory analysis of swab samples collected from impacted materials confirmed that the suspect growths are mold. Laboratory analysis of mold/fungal spore air samples collected from representative locations throughout the building generally revealed lower total spore counts indoors relative to the outdoor sample with the exception of the sample collected in the First Floor Cubicle Area. Occupant comfort parameter measurements collected during the assessment were all within recommended criteria.

Based on the assessment findings, EC recommends that a qualified Microbial Remediation Contractor be engaged to remove and dispose of identified mold and moisture impacted materials. Following remediation activities, the Contractor should be directed to perform a general custodial cleaning of remaining surfaces and materials in each impacted area. All remediation activities should be performed in accordance with United States Environmental Protection Agency (USEPA) procedures for mold remediation in commercial buildings. EC also recommends engaging a qualified General Contractor to assess the windows in the rear section of the building for water intrusion and repair as necessary. The General Contractor should also be directed to investigate the various potential water intrusion sources identified in this report, inclusive of the wall cavities exposed by remediation activities, and where

appropriate provide mitigation/abatement recommendations. Finally, EC recommends engaging a qualified roofing contractor to assess and where appropriate repair the built-up roof.

The following sections detail the findings of our assessment.

**Section 2.0 Visual Inspection**

The Union County Career Center, located at 921 Elizabeth Avenue, in Elizabeth, New Jersey, is a five-story masonry building with a basement. It is abutted by two (2) mixed-use commercial/residential properties on each side. The "store front" first floor of the multi-story building to the East of the Career Center is an underpass to the courtyard at the center of the adjacent property.

An inspection of the first floor of the Career Center revealed evidence of water intrusion along the shared wall with the underpass and courtyard. An inspection of the underpass and courtyard revealed the presence of semi-pervious ground cover, cobblestone and brick. EC also noted that the roofing systems of two of the buildings located on the adjacent property collect and divert rainwater to the street-level municipal storm drain system via the courtyard and underpass. In total, EC estimates that approximately 8,000 square feet of surface area drain through the underpass. EC observed staining indicative of pooling and splashing water at the base of the courtyard wall adjacent to the underpass. Poured concrete, evidence previous remedial efforts, was also observed at the base of the courtyard and underpass walls.

Inspection of the second floor revealed additional evidence of water intrusion along the shared wall with the apartment building to the East of the Career Center. Water impacted sheetrock and carpet were observed in several rooms on the second floor. An inspection of the exterior of the building adjacent to impacted materials on the second floor revealed a small alley-like flat roof that bridges the approximately three (3) foot divide between the rear of the apartment building and the Career Center. An inspection of the underside of the flat roof revealed water damaged wood, potential evidence of past water intrusion from the roof. The roof is pitched towards the Career Center and the courtyard. Debris, garbage, and evidence of pooling water were observed on the flat roof at the time of inspection. Based on proximity to observed water intrusion in the Career Center, the flat roof and associated flashing are also potential sources of water intrusion.

An exterior inspection of the Career Center revealed evidence of multiple construction histories. The rear of the building appears to be an addition with unique construction history and materials relative to the main structure; henceforth referred to as the original building. EC noted that the junction between the original building and the addition is also located in the courtyard. The junction between the foundations of the buildings may serve as a route of water intrusion. The windows in the addition of the building were identified as a source of water infiltration. An exterior inspection of the building revealed evidence of spalling and efflorescence on the masonry of the rear addition. The inspectors also observed rust on the lintels of windows throughout the addition.

An inspection of the roof of the Career Center revealed further evidence of the varied construction history. The flat roof and edge flashing of the addition differed from that of the original building. EC noted that the original roof appeared to be older than the roof of the addition. The inspectors observed holes in the membrane of the original roof. The underlying insulation was saturated at the time of inspection. The inspectors noted that there are only three (3) drains on the roof. The three (3) drains are located in a line perpendicular to the building on the addition side of the roof. The original roof is pitched

rearwards towards the roof drains. The roof drains were observed to be in good condition and operational though the inspectors noted that one of the drains was missing a debris screen at the time of inspection. Roof mounted telecommunications and Heating, Ventilation, and Air Conditioning (HVAC) equipment were observed on the roof the of building, though primarily on the original building. The inspectors noted that the equipment pads/supports associated with the various pieces of equipment created obstructions to water flowing towards the roof drains. EC traced the roof drains to their discharge point, via PVC pipes at the rear of the property. No deficiencies or evidence of leaks associated with the roof drains were observed. An inspection of the rear of the building revealed a small sidewalk. EC noted that the sidewalk is below grade relative to surrounding properties. No drainage was observed along the sidewalk. An interior inspection of the wall opposite the sidewalk, which revealed mold impacted sheetrock, indicates the rear sidewalk as a potential source of water intrusion into the building.

*Fifth Floor*
Inspection of the fifth-floor revealed mold and water impacted building materials throughout the floor. Mold growth was observed on drywall behind cove baseboard within the two (2) rear offices, kitchen adjacent to the offices, the cubicle area adjacent to the kitchen, janitor's closet, and server room. Water stained drywall was observed within the hallway adjacent to the janitor's closet, the open office cubicle area, and within the two (2) rear management offices along the windows. Multiple water stained ceiling tiles were observed throughout the floor. Efflorescence was observed above the drop ceiling on cinderblock walls along east wall of the building.

*Fourth Floor*
Inspection of the fourth floor revealed mold staining behind cove baseboard and above the exterior windows within the rear conference room. Mold staining was also observed on drywall above the drop ceiling within the open office cubicle area adjacent to the Director's office. Water stained carpeting and drywall was observed within the open office cubicle area and Director's office. Efflorescence was observed above the drop ceiling on cinderblock walls along the shared wall with the adjacent apartment building.

*Third Floor*
Inspection of the third floor revealed mold staining/water damaged drywall along the exterior windows within the rear office of the building, and within the DVR interview room. Efflorescence was noted above the drop ceiling on cinderblock walls along the shared wall with the adjacent apartment building.

*Second Floor*
Water damaged/mold impacted drywall was observed within the two (2) second floor conference rooms in the rear of the building, mechanical room adjacent to the conference rooms, and above the drop ceiling within the break room adjacent to the conference rooms. Water stained carpeting was observed within the business resource center office, and the CO conference room. Efflorescence was noted above the drop ceiling on cinderblock walls along the shared wall with the adjacent apartment building.

*First Floor*
A strong musty odor was present throughout the first floor. Water damaged drywall and mold growth was observed in the rear managers office, cubicle area adjacent to the managers office, conference room, the open office cubicle area, mechanical room adjacent to the men's restroom, and in the main entrance lobby. Water stained carpeting, floor tile, and furnishings were observed within the open office cubicle

area. Efflorescence was noted above the drop ceiling on cinderblock walls along the shared wall with the adjacent apartment building.

*Basement*
Inspection of the basement revealed water intrusion along the exterior wall shared with the apartment building. The inspectors noted that the walls of the basement were treated with a waterproof coating. Water stains and efflorescence were observed at cracks in the parge/waterproof coating. Mold growth was identified on drywall, carpeting, and wooden pallets within the basement storage area. A centrally located sump pump in the center of the basement ran periodically during the inspection, evidence of a water infiltration into the basement.

## Section 3.0 Surface Sampling

### 3.1 Sampling and Analytical Methods

EC collected two (2) surface swab samples from suspect mold growths observed on drywall in the first floor front desk area and fifth floor private office. The swab samples were collected utilizing a "Precision" sterile swab or Culture Collection and Transport (CAT) system. The CAT system consists of a single plastic tube containing a small quantity of PDC-100 transport medium and a sterile swab. The sample was collected by opening the tube, removing the swab from the package, coating the cotton head of the swab with medium from the base of the tube, and wiping an approximately two (2) square inch area. The swab is then placed back into the transport/culture media vessel at the base of the tube and preserved until laboratory arrival.

### 3.2 Results

Swab sampling analytical results are reported in Counts/Area Analyzed. The results are then categorized based on concentration. The categories are as follows:

| Category | Counts/Area Analyzed |
|---|---|
| Rare | 1-10 |
| Low | 11-100 |
| Medium | 101-1000 |
| High | >1000 |

The swab sampling analytical results are summarized in Table 1 below.

**Table 1 – Swab Sampling Laboratory Analytical Results Summary**
**921 Elizabeth Avenue**
**Elizabeth New Jersey 07201**

| Location | Species Identified | Counts/Area Analyzed |
|---|---|---|
| First Floor Information Desk at Windows (Sheetrock) | *Aspergillus/Penicillium* | "Low" |
| | *Basidiospores* | "Low" |
| | *Chaetomium* | "Rare" |
| | *Cladosporium* | "Rare" |
| | *Stachybotrys/Memnoniella* | "Medium" |

| Table 1 – Swab Sampling Laboratory Analytical Results Summary<br>921 Elizabeth Avenue<br>Elizabeth New Jersey 07201 | | |
|---|---|---|
| **Location** | **Species Identified** | **Counts/Area Analyzed** |
| | *Ascoctricha* | "Medium" |
| | *Nigrospora* | "Rare" |
| | | |
| Fifth Floor Private Office (Sheetrock) | *Alternaria (Ulocladium)* | "Rare" |
| | *Aspergillus/Penicillium* | "Rare" |
| | *Stachybotrys/Memnoniella* | "Medium" |
| | *Ascoctricha* | "High" |
| | | |

Laboratory analysis of surface swab samples collected during the assessment confirmed that the observed growths are mold. See Appendix I for the Chain of Custody and Certificate of Analysis for Surface Swab Sampling

## Section 4.0 Fungal Spore Trap Air Sampling and Analysis

### 4.1 Sampling and Analytical Methods

EC utilized the Air-O-Cell cassette air sampling technique for the collection and analysis of a wide range of airborne particles, including fungal spores, pollen, insect parts, etc. The sampling apparatus consists of a sampling cassette attached to a high-volume pump. The sampling cassette is a plastic housing with an adhesive coated glass slide in the center commonly referred to as the sample media. Ambient air is drawn through the cassette via suction provided by the pump. The pump collects air at a flow rate of 15 Liters per minute (L/min.) for 10 minutes to achieve 150 liters of air. Airborne particulate matter impacts and adheres to the sample media. Once sampling is complete, samples are packaged and transported to EMSL Analytical, Inc., in Piscataway, New Jersey, an American Industrial Hygiene Association (AIHA) accredited laboratory and participant in the Environmental Microbiology Laboratory Accreditation Program (EMLAP), for analysis via direct microscopic identification. Each particle on the slide is identified and quantified by the analyst regardless of viability. The analytical process is intended to differentiate between the various spore types observed. Spore types that are not able to be differentiated are categorized into broader groups such as *Basidiospores.*

### 4.2 Interpretation of the Data

The analytical results report the species type and quantity of spores found on the sample media. Quantities are reported in counts/$m^3$ and are representative of the air space where the sample was collected. The accepted standard for diagnosing the presence of an interior mold issue is to compare an interior sample to an exterior sample, commonly referred to as the background concentration. Species of mold found on the interior sample should be similar to those found on the exterior sample. The interior sample should also contain lower total spore counts in comparison to the outside sample.

The National Allergy Bureau Guideline for Relative Exposures to Outdoor Air Pollen and Spores (NABG), identifies the following fungal spore concentration descriptors, in counts per cubic meter of air (counts/m$^3$).

| Allergen | Very Low | Low | Medium | High | Very High |
|---|---|---|---|---|---|
| Molds | <500 | 500-1,000 | 1,000 – 5,000 | 5,000-10,000 | >20,000 |
| Pollen | 1-50 | 50-100 | 100-500 | 500-1,000 | >1,000 |

Indoor fungal spore concentrations should be viewed in context of the outdoor concentration, and other factors, including but not limited to; season, precipitation, building ventilation system(s), and other site-specific conditions.

### 4.3 Results

Air samples were collected in representative locations throughout the building, and outside for comparison. In addition, a Quality Control (QC) blank was analyzed. The table below lists the total counts detected at each location.

**Table 2 – Airborne Laboratory Analytical Results**
**921 Elizabeth Avenue**
**Elizabeth New Jersey 07201**

| Location | Counts/m$^3$ | Exterior Counts/m$^3$ |
|---|---|---|
| First Floor Training Room | 170 | 357 |
| First Floor Center Cubicle Area | 19,510 | |
| First Floor Info Desk | 180 | |
| Second Floor Training Room #1 | 20 | |
| Second Floor Work Force Learning Unit | 240 | |
| Second Floor Hall at Security Desk/Elevator | 20 | |
| Third Floor Interview Room #4 | 100 | |
| Third Floor Office 3A Reception | 110 | |
| Third Floor Cubicle Area | 240 | |
| Fifth Floor Cubicle Area (South Side of Building) | 40 | |
| Fifth Floor Cubicle Area (North Side of Building) | 90 | |
| Fifth Floor Office in Cubicle Area (North Side of Building) | 47 | |
| Fourth Floor Cubicle Area/Office Space | 150 | |
| Fourth Floor Employee Lunch Room | 40 | |
| Fourth Floor Conference Room | 20 | |
| Blank | 0 | |

Laboratory analysis of mold/fungal spore air samples collected from representative locations throughout the building revealed lower total spore counts indoors than outdoors with the exception of the sample collected from the First Floor Cubicle Area. Further review of individual spore types present on the First Floor Cubicle Area sample revealed that the primary contributor to the total counts detected was *Aspergillus/Penicillium*. *Aspergillus/Penicillium* spore types are nearly ubiquitous and are typically found

in soil. In the built environment *Aspergillus/Penicillium* are commonly associated with water impacted building materials. The Airborne Spore Sampling Chain of Custody and Laboratory Analytical Certificate are included in Appendix II.

## Section 5.0 Direct Reading Instrumentation

General occupant comfort parameter measurements (Temperature, Relative Humidity, Carbon Dioxide, Carbon Monoxide), collected during the investigation utilizing a TSI Incorporated Q-Trak™ Indoor Air Quality Monitor Model 7575 (Q-Trak). The Q-Trak is equipped with thermocouple sensors for temperature (measured in degrees Fahrenheit) and relative humidity (%RH), and an infrared sensor to measure Carbon Dioxide ($CO_2$) levels. An electrochemical sensor in the device measures Carbon Monoxide (CO) levels. Indoor air quality measurements are summarized in the following table.

**Table 3 –Indoor Air Quality Measurements**
**921 Elizabeth Avenue**
**Elizabeth New Jersey 07201**

| Location | CO (ppm) | $CO_2$ (ppm) | Temperature (°F) | Relative Humidity (%) |
|---|---|---|---|---|
| First Floor Training Room | 0.0 | 654 | 72.0 | 32.5 |
| First Floor at Entry to Building | 0.0 | 650 | 73.5 | 29.7 |
| Second Floor Training Room | 0.0 | 555 | 73.5 | 33.4 |
| Second Floor Learning Link | 0.0 | 565 | 73.6 | 33.3 |
| Second Floor Hall at Security Desk/Elevator | 0.0 | 560 | 71.9 | 31.9 |
| Third Floor Interview Room #4 | 0.0 | 717 | 74.3 | 34.0 |
| Third Floor Office 3A Reception | 0.0 | 821 | 73.4 | 34.4 |
| Fifth Floor Small Cubicle Area | 0.0 | 585 | 70.1 | 39.2 |
| Fifth Floor Large Cubicle Area/Open Office | 0.0 | 570 | 73.1 | 34.0 |
| Fourth Floor Conference Room | 0.0 | 602 | 70.2 | 36.7 |
| Fourth Floor Break Room | 0.0 | 576 | 71.4 | 36.6 |
| Fourth Floor Cubicle Area/Open Office | 0.0 | 561 | 73.5 | 34.7 |
| Exterior | 0.0 | 495 | 57.3 | 13.4 |

### 5.1 Discussion and Data Interpretation

#### 5.1.1 Carbon Monoxide

Carbon Monoxide (CO) is a colorless, odorless gas emitted from combustion processes. Nationally, and particularly in urban areas, the majority of CO emissions to ambient air come from mobile sources. CO can cause harmful health effects by reducing oxygen delivery to the body's organs (such as the heart and brain) and tissue. At extremely high levels, CO can cause death. The OSHA Permissible Exposure Limit (PEL) for an 8-hour Time Weighted Average (TWA) is not to exceed 35 ppm. In general, CO levels above the ambient concentration of 1 ppm suggests that exhaust fumes from a combustion source have

migrated to occupied spaces. CO levels detected during the assessment were below the limit of detection (0.1 ppm) for the measurement device.

### 5.1.2 Carbon Dioxide

The American Society of Heating, Refrigeration and Air-Conditioning Engineers, Inc., (ASHRAE) Standard 62.1-2016, Ventilation for Acceptable Indoor Air Quality, indicates that, in an office building, Carbon Dioxide concentrations of approximately 700 ppm above the outdoor level reflect that the appropriate fresh air exchange is being provided by the HVAC system. All measurements were within the referenced range.

### 5.1.3 Temperature and Relative Humidity

The ASHRAE 55-2020 Standard recommends temperatures of 67 to 79°F for people wearing typical seasonable clothing during light sedentary activity. ASHRAE also recommends that spaces served by HVAC systems be provided with dehumidification components and controls to limit indoor humidity to a maximum dewpoint of 60°F and to maintain relative humidity below 65%. All relative humidity and temperature measurements were within the recommended criteria.

## Section 6.0 Recommendations

Based on the assessment findings, EC recommends that a qualified Microbial Remediation Contractor be engaged to remove and dispose of identified mold and moisture impacted materials. Following remediation activities, the Contractor should be directed to perform a general custodial cleaning of remaining surfaces and materials in each impacted area. All remediation activities should be performed in accordance with United States Environmental Protection Agency (USEPA) procedures for mold remediation in commercial buildings. EC also recommends engaging a qualified General Contractor to assess the windows in the rear section of the building for water intrusion and repair as necessary. The General Contractor should also be directed to investigate the various potential water intrusion sources identified in this report, inclusive of the wall cavities exposed by remediation activities, and where appropriate provide mitigation/abatement recommendations. Finally, EC recommends engaging a qualified roofing contractor to assess and where appropriate repair the built-up roof.

Should you have any questions or require additional information, please contact the undersigned at your convenience.

Respectfully Submitted:
ENVIRONMENTAL CONNECTION, INC.

Mike Moore
Project Manager

Appendix I – Chain of Custody and Certificates of Analysis for Airborne Fungal Spore Sampling
Appendix II – Chain of Custody and Certificates of Analysis for Surface Swab Sampling
Appendix III – Photograph Log

**Appendix I**

Chain of Custody and Certificates of Analysis for Airborne Fungal Spore Sampling

# EMSL Analytical, Inc.

1056 Stelton Road Piscataway, NJ 08854
Tel/Fax: (732) 981-0550 / (732) 981-0551
http://www.EMSL.com / piscatawaylab@emsl.com

**EMSL Order:** 052400515
**Customer ID:** ENVI65
**Customer PO:**
**Project ID:**

**Attention:** Dominick Dercole
Environmental Connection, Inc.
120 North Warren Street
Trenton, NJ 08608

**Phone:** (609) 392-4200
**Fax:**
**Collected Date:** 02/06/2024
**Received Date:** 02/08/2024
**Analyzed Date:** 02/08/2024

**Project:** 24076-01 / CME Associates, IAQ Assessment, 921 Elizabeth Avenue

**Test Report: Air-O-Cell(™) Analysis of Fungal Spores & Particulates by Optical Microscopy (Methods MICRO-SOP-201, ASTM D7391)**

**Lab Sample Number**: 052400515-0001
**Client Sample ID**: 37163908
**Location**: FL-1 Training Room
**Sample Volume (L)**: 150
**Sample Type**: Inside
**Comments**

| Particle Identification | Sample Concentration (counts/m³) | Background Concentration (counts/m³) | Background Corrected (counts/m³) |
|---|---|---|---|
| Alternaria (Ulocladium) | None Detected | 7* | Less than Background |
| Ascospores | None Detected | None Detected | Equal To Background |
| Aspergillus/Penicillium++ | 100 | 40 | 60 |
| Basidiospores | 70 | 200 | Less than Background |
| Bipolaris++ | None Detected | None Detected | Equal To Background |
| Chaetomium++ | None Detected | None Detected | Equal To Background |
| Cladosporium | None Detected | 100 | Less than Background |
| Curvularia | None Detected | None Detected | Equal To Background |
| Epicoccum | None Detected | 10* | Less than Background |
| Fusarium++ | None Detected | None Detected | Equal To Background |
| Ganoderma | None Detected | None Detected | Equal To Background |
| Myxomycetes++ | None Detected | None Detected | Equal To Background |
| Pithomyces++ | None Detected | None Detected | Equal To Background |
| Rust | None Detected | None Detected | Equal To Background |
| Scopulariopsis/Microascus | None Detected | None Detected | Equal To Background |
| Stachybotrys/Memnoniella | None Detected | None Detected | Equal To Background |
| Unidentifiable Spores | None Detected | None Detected | Equal To Background |
| Zygomycetes | None Detected | None Detected | Equal To Background |
| **Total Fungi** | **170** | **357** | **Less than Background** |
| Other | | | |
| Hyphal Fragment | None Detected | None Detected | Equal To Background |
| Insect Fragment | None Detected | None Detected | Equal To Background |
| Pollen | None Detected | None Detected | Equal To Background |
| Fibrous Particulate (1-4) | 1 | 1 | Equal To Background |

| | | |
|---|---|---|
| Analytical Sensitivity 300x: | 22 | counts/cubic meter |
| Analytical Sensitivity 600x: | 7* | counts/cubic meter |
| Skin Fragments: | 1 | 1 to 4 (low to high) |
| Fibrous Particulate: | 1 | 1 to 4 (low to high) |
| Background: | 1 | 1 to 4 (low to high); 5 (overloaded) |

++ Includes other spores with similar morphology; see EMSL's fungal glossary for each specific category.

Nicholas Maslowski, Microbiology Lab Manager
or other Approved Signatory

EMSL Analytical, Inc. maintains liability limited to cost of analysis. Interpretation and use of test results are the responsibility of the client. This report relates only to the samples reported above, and may not be reproduced, except in full, without written approval by EMSL Analytical, Inc. EMSL Analytical, Inc. bears no responsibility for sample collection activities or analytical method limitations. The report reflects the samples as received. Results are generated from the field sampling data (sampling volumes and areas, locations, etc.) provided by the client on the Chain of Custody. Samples are within quality control criteria and met method specifications unless otherwise noted. Skin Fragment and Fibrous Particulate ratings are based on the percent of non-fungal material they represent: 1 (1-25%), 2 (26-50%), 3 (51-75%), or 4 (76-100%). Background ratings are based on the total area covered by non-fungal particles: 1 (1-25%), 2 (26-50%), 3 (51-75%), 4 (76-99%), or 5 (100%; overloaded). High levels of background particulate can obscure spores and other particulates, leading to underestimation. Background levels of 5 indicate an overloading of background particulates, prohibiting accurate detection and quantification. Present = Spores detected on overloaded samples. Results are not blank corrected unless otherwise noted. The detection limit is equal to one fungal spore, structure, pollen, fiber particle or insect fragment. "*" Denotes particles found at 300X. "-" Denotes not detected. Due to method stopping rules, raw counts >= 100 are extrapolated based on the percentage analyzed.

Samples analyzed by EMSL Analytical, Inc. Piscataway, NJ AIHA LAP, LLC-EMLAP Accredited #167035

Initial report from: 02/09/2024 12:03 PM

For information on the fungi listed in this report, please visit the Resources section at www.emsl.com

# EMSL Analytical, Inc.

1056 Stelton Road Piscataway, NJ 08854
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**Project:** 24076-01 / CME Associates, IAQ Assessment, 921 Elizabeth Avenue

**Test Report: Air-O-Cell(™) Analysis of Fungal Spores & Particulates by Optical Microscopy (Methods MICRO-SOP-201, ASTM D7391)**

**Lab Sample Number**: 052400515-0002
**Client Sample ID**: 37163807
**Location**: FL-1 Center Cubicles
**Sample Volume (L)**: 150
**Sample Type**: Inside
**Comments**

| Particle Identification | Sample Concentration (counts/m³) | Background Concentration (counts/m³) | Background Corrected (counts/m³) |
|---|---|---|---|
| Alternaria (Ulocladium) | None Detected | 7* | Less than Background |
| Ascospores | None Detected | None Detected | Equal To Background |
| Aspergillus/Penicillium++ | 19400 | 40 | 19400 |
| Basidiospores | 40 | 200 | Less than Background |
| Bipolaris++ | None Detected | None Detected | Equal To Background |
| Chaetomium++ | None Detected | None Detected | Equal To Background |
| Cladosporium | 70 | 100 | Less than Background |
| Curvularia | None Detected | None Detected | Equal To Background |
| Epicoccum | None Detected | 10* | Less than Background |
| Fusarium++ | None Detected | None Detected | Equal To Background |
| Ganoderma | None Detected | None Detected | Equal To Background |
| Myxomycetes++ | None Detected | None Detected | Equal To Background |
| Pithomyces++ | None Detected | None Detected | Equal To Background |
| Rust | None Detected | None Detected | Equal To Background |
| Scopulariopsis/Microascus | None Detected | None Detected | Equal To Background |
| Stachybotrys/Memnoniella | None Detected | None Detected | Equal To Background |
| Unidentifiable Spores | None Detected | None Detected | Equal To Background |
| Zygomycetes | None Detected | None Detected | Equal To Background |
| **Total Fungi** | **19510** | **357** | **19200** |
| Other | | | |
| Hyphal Fragment | None Detected | None Detected | Equal To Background |
| Insect Fragment | None Detected | None Detected | Equal To Background |
| Pollen | None Detected | None Detected | Equal To Background |
| Fibrous Particulate (1-4) | 1 | 1 | Equal To Background |

| | | |
|---|---|---|
| Analytical Sensitivity 300x: | 22 | counts/cubic meter |
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| Skin Fragments: | 2 | 1 to 4 (low to high) |
| Fibrous Particulate: | 1 | 1 to 4 (low to high) |
| Background: | 2 | 1 to 4 (low to high); 5 (overloaded) |

++ Includes other spores with similar morphology; see EMSL's fungal glossary for each specific category.

Nicholas Maslowski, Microbiology Lab Manager
or other Approved Signatory


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Samples analyzed by EMSL Analytical, Inc. Piscataway, NJ AIHA LAP, LLC-EMLAP Accredited #167035

Initial report from: 02/09/2024 12:03 PM

For information on the fungi listed in this report, please visit the Resources section at www.emsl.com

# EMSL Analytical, Inc.

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**EMSL Order:** 052400515
**Customer ID:** ENVI65
**Customer PO:**
**Project ID:**

**Attention:** Dominick Dercole
Environmental Connection, Inc.
120 North Warren Street
Trenton, NJ 08608

**Phone:** (609) 392-4200
**Fax:**
**Collected Date:** 02/06/2024
**Received Date:** 02/08/2024
**Analyzed Date:** 02/08/2024

**Project:** 24076-01 / CME Associates, IAQ Assessment, 921 Elizabeth Avenue

**Test Report: Air-O-Cell(™) Analysis of Fungal Spores & Particulates by Optical Microscopy (Methods MICRO-SOP-201, ASTM D7391)**

**Lab Sample Number**
052400515-0003

**Client Sample ID**
37163812

**Location**
FL-1 Info Desk

**Sample Volume (L)**
150

**Sample Type**
Inside

**Comments**

| Particle Identification | Sample Concentration (counts/m³) | Background Concentration (counts/m³) | Background Corrected (counts/m³) |
|---|---|---|---|
| Alternaria (Ulocladium) | None Detected | 7* | Less than Background |
| Ascospores | None Detected | None Detected | Equal To Background |
| Aspergillus/Penicillium++ | 100 | 40 | 60 |
| Basidiospores | 40 | 200 | Less than Background |
| Bipolaris++ | None Detected | None Detected | Equal To Background |
| Chaetomium++ | None Detected | None Detected | Equal To Background |
| Cladosporium | 40 | 100 | Less than Background |
| Curvularia | None Detected | None Detected | Equal To Background |
| Epicoccum | None Detected | 10* | Less than Background |
| Fusarium++ | None Detected | None Detected | Equal To Background |
| Ganoderma | None Detected | None Detected | Equal To Background |
| Myxomycetes++ | None Detected | None Detected | Equal To Background |
| Pithomyces++ | None Detected | None Detected | Equal To Background |
| Rust | None Detected | None Detected | Equal To Background |
| Scopulariopsis/Microascus | None Detected | None Detected | Equal To Background |
| Stachybotrys/Memnoniella | None Detected | None Detected | Equal To Background |
| Unidentifiable Spores | None Detected | None Detected | Equal To Background |
| Zygomycetes | None Detected | None Detected | Equal To Background |
| **Total Fungi** | **180** | **357** | **Less than Background** |
| Other | | | |
| Hyphal Fragment | None Detected | None Detected | Equal To Background |
| Insect Fragment | None Detected | None Detected | Equal To Background |
| Pollen | None Detected | None Detected | Equal To Background |
| Fibrous Particulate (1-4) | 1 | 1 | Equal To Background |

| | | |
|---|---|---|
| Analytical Sensitivity 300x: | 22 | counts/cubic meter |
| Analytical Sensitivity 600x: | 7* | counts/cubic meter |
| Skin Fragments: | 2 | 1 to 4 (low to high) |
| Fibrous Particulate: | 1 | 1 to 4 (low to high) |
| Background: | 1 | 1 to 4 (low to high); 5 (overloaded) |

++ Includes other spores with similar morphology; see EMSL's fungal glossary for each specific category.

Nicholas Maslowski, Microbiology Lab Manager
or other Approved Signatory


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Samples analyzed by EMSL Analytical, Inc. Piscataway, NJ AIHA LAP, LLC-EMLAP Accredited #167035

Initial report from: 02/09/2024 12:03 PM


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**EMSL Order:** 052400515
**Customer ID:** ENVI65
**Customer PO:**
**Project ID:**

**Attention:** Dominick Dercole
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120 North Warren Street
Trenton, NJ 08608

**Phone:** (609) 392-4200
**Fax:**
**Collected Date:** 02/06/2024
**Received Date:** 02/08/2024
**Analyzed Date:** 02/08/2024

**Project:** 24076-01 / CME Associates, IAQ Assessment, 921 Elizabeth Avenue

**Test Report: Air-O-Cell(™) Analysis of Fungal Spores & Particulates by Optical Microscopy (Methods MICRO-SOP-201, ASTM D7391)**

**Lab Sample Number**: 052400515-0004
**Client Sample ID**: 37168254
**Location**: FL-2 Training Room #1
**Sample Volume (L)**: 150
**Sample Type**: Inside
**Comments**

| Particle Identification | Sample Concentration (counts/m³) | Background Concentration (counts/m³) | Background Corrected (counts/m³) |
|---|---|---|---|
| Alternaria (Ulocladium) | None Detected | 7* | Less than Background |
| Ascospores | None Detected | None Detected | Equal To Background |
| Aspergillus/Penicillium++ | None Detected | 40 | Less than Background |
| Basidiospores | None Detected | 200 | Less than Background |
| Bipolaris++ | None Detected | None Detected | Equal To Background |
| Chaetomium++ | None Detected | None Detected | Equal To Background |
| Cladosporium | 20 | 100 | Less than Background |
| Curvularia | None Detected | None Detected | Equal To Background |
| Epicoccum | None Detected | 10* | Less than Background |
| Fusarium++ | None Detected | None Detected | Equal To Background |
| Ganoderma | None Detected | None Detected | Equal To Background |
| Myxomycetes++ | None Detected | None Detected | Equal To Background |
| Pithomyces++ | None Detected | None Detected | Equal To Background |
| Rust | None Detected | None Detected | Equal To Background |
| Scopulariopsis/Microascus | None Detected | None Detected | Equal To Background |
| Stachybotrys/Memnoniella | None Detected | None Detected | Equal To Background |
| Unidentifiable Spores | None Detected | None Detected | Equal To Background |
| Zygomycetes | None Detected | None Detected | Equal To Background |
| **Total Fungi** | **20** | **357** | **Less than Background** |
| Other | | | |
| Hyphal Fragment | None Detected | None Detected | Equal To Background |
| Insect Fragment | None Detected | None Detected | Equal To Background |
| Pollen | 7* | None Detected | 7 |
| Fibrous Particulate (1-4) | 1 | 1 | Equal To Background |

| | | |
|---|---|---|
| Analytical Sensitivity 300x: | 22 | counts/cubic meter |
| Analytical Sensitivity 600x: | 7* | counts/cubic meter |
| Skin Fragments: | 1 | 1 to 4 (low to high) |
| Fibrous Particulate: | 1 | 1 to 4 (low to high) |
| Background: | 1 | 1 to 4 (low to high); 5 (overloaded) |

++ Includes other spores with similar morphology; see EMSL's fungal glossary for each specific category.

Nicholas Maslowski, Microbiology Lab Manager
or other Approved Signatory


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Samples analyzed by EMSL Analytical, Inc. Piscataway, NJ AIHA LAP, LLC-EMLAP Accredited #167035

Initial report from: 02/09/2024 12:03 PM

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**EMSL Order:** 052400515
**Customer ID:** ENVI65
**Customer PO:**
**Project ID:**

**Attention:** Dominick Dercole
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120 North Warren Street
Trenton, NJ 08608

**Phone:** (609) 392-4200
**Fax:**
**Collected Date:** 02/06/2024
**Received Date:** 02/08/2024
**Analyzed Date:** 02/08/2024

**Project:** 24076-01 / CME Associates, IAQ Assessment, 921 Elizabeth Avenue

**Test Report: Air-O-Cell(™) Analysis of Fungal Spores & Particulates by Optical Microscopy (Methods MICRO-SOP-201, ASTM D7391)**

**Lab Sample Number**
052400515-0005

**Client Sample ID**
37163911

**Location**
FL-2 Work Force Learning Link

**Sample Volume (L)**
150

**Sample Type**
Inside

**Comments**

| Particle Identification | Sample Concentration (counts/m³) | Background Concentration (counts/m³) | Background Corrected (counts/m³) |
|---|---|---|---|
| Alternaria (Ulocladium) | None Detected | 7* | Less than Background |
| Ascospores | None Detected | None Detected | Equal To Background |
| Aspergillus/Penicillium++ | 200 | 40 | 160 |
| Basidiospores | 20 | 200 | Less than Background |
| Bipolaris++ | None Detected | None Detected | Equal To Background |
| Chaetomium++ | None Detected | None Detected | Equal To Background |
| Cladosporium | 20 | 100 | Less than Background |
| Curvularia | None Detected | None Detected | Equal To Background |
| Epicoccum | None Detected | 10* | Less than Background |
| Fusarium++ | None Detected | None Detected | Equal To Background |
| Ganoderma | None Detected | None Detected | Equal To Background |
| Myxomycetes++ | None Detected | None Detected | Equal To Background |
| Pithomyces++ | None Detected | None Detected | Equal To Background |
| Rust | None Detected | None Detected | Equal To Background |
| Scopulariopsis/Microascus | None Detected | None Detected | Equal To Background |
| Stachybotrys/Memnoniella | None Detected | None Detected | Equal To Background |
| Unidentifiable Spores | None Detected | None Detected | Equal To Background |
| Zygomycetes | None Detected | None Detected | Equal To Background |
| **Total Fungi** | **240** | **357** | **Less than Background** |
| Other | | | |
| Hyphal Fragment | None Detected | None Detected | Equal To Background |
| Insect Fragment | None Detected | None Detected | Equal To Background |
| Pollen | None Detected | None Detected | Equal To Background |
| Fibrous Particulate (1-4) | 1 | 1 | Equal To Background |

| | | |
|---|---|---|
| Analytical Sensitivity 300x: | 22 | counts/cubic meter |
| Analytical Sensitivity 600x: | 7* | counts/cubic meter |
| Skin Fragments: | 1 | 1 to 4 (low to high) |
| Fibrous Particulate: | 1 | 1 to 4 (low to high) |
| Background: | 1 | 1 to 4 (low to high); 5 (overloaded) |

++ Includes other spores with similar morphology; see EMSL's fungal glossary for each specific category.

Nicholas Maslowski, Microbiology Lab Manager
or other Approved Signatory


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Samples analyzed by EMSL Analytical, Inc. Piscataway, NJ AIHA LAP, LLC-EMLAP Accredited #167035

Initial report from: 02/09/2024 12:03 PM

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**EMSL Order:** 052400515
**Customer ID:** ENVI65
**Customer PO:**
**Project ID:**

**Attention:** Dominick Dercole
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120 North Warren Street
Trenton, NJ 08608

**Phone:** (609) 392-4200
**Fax:**
**Collected Date:** 02/06/2024
**Received Date:** 02/08/2024
**Analyzed Date:** 02/08/2024

**Project:** 24076-01 / CME Associates, IAQ Assessment, 921 Elizabeth Avenue

**Test Report: Air-O-Cell(™) Analysis of Fungal Spores & Particulates by Optical Microscopy (Methods MICRO-SOP-201, ASTM D7391)**

**Lab Sample Number**
052400515-0006

**Client Sample ID**
37163956

**Location**
FL-2 Hall At Security Desk / Elevator

**Sample Volume (L)**
150

**Sample Type**
Inside

**Comments**

| Particle Identification | Sample Concentration (counts/m³) | Background Concentration (counts/m³) | Background Corrected (counts/m³) |
|---|---|---|---|
| Alternaria (Ulocladium) | None Detected | 7* | Less than Background |
| Ascospores | None Detected | None Detected | Equal To Background |
| Aspergillus/Penicillium++ | 20 | 40 | Less than Background |
| Basidiospores | None Detected | 200 | Less than Background |
| Bipolaris++ | None Detected | None Detected | Equal To Background |
| Chaetomium++ | None Detected | None Detected | Equal To Background |
| Cladosporium | None Detected | 100 | Less than Background |
| Curvularia | None Detected | None Detected | Equal To Background |
| Epicoccum | None Detected | 10* | Less than Background |
| Fusarium++ | None Detected | None Detected | Equal To Background |
| Ganoderma | None Detected | None Detected | Equal To Background |
| Myxomycetes++ | None Detected | None Detected | Equal To Background |
| Pithomyces++ | None Detected | None Detected | Equal To Background |
| Rust | None Detected | None Detected | Equal To Background |
| Scopulariopsis/Microascus | None Detected | None Detected | Equal To Background |
| Stachybotrys/Memnoniella | None Detected | None Detected | Equal To Background |
| Unidentifiable Spores | None Detected | None Detected | Equal To Background |
| Zygomycetes | None Detected | None Detected | Equal To Background |
| **Total Fungi** | **20** | **357** | **Less than Background** |
| Other | | | |
| Hyphal Fragment | None Detected | None Detected | Equal To Background |
| Insect Fragment | None Detected | None Detected | Equal To Background |
| Pollen | None Detected | None Detected | Equal To Background |
| Fibrous Particulate (1-4) | 1 | 1 | Equal To Background |

| | | |
|---|---|---|
| Analytical Sensitivity 300x: | 22 | counts/cubic meter |
| Analytical Sensitivity 600x: | 7* | counts/cubic meter |
| Skin Fragments: | 1 | 1 to 4 (low to high) |
| Fibrous Particulate: | 1 | 1 to 4 (low to high) |
| Background: | 1 | 1 to 4 (low to high); 5 (overloaded) |

++ Includes other spores with similar morphology; see EMSL's fungal glossary for each specific category.

Nicholas Maslowski, Microbiology Lab Manager
or other Approved Signatory


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Samples analyzed by EMSL Analytical, Inc. Piscataway, NJ AIHA LAP, LLC-EMLAP Accredited #167035

Initial report from: 02/09/2024 12:03 PM

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**EMSL Order:** 052400515
**Customer ID:** ENVI65
**Customer PO:**
**Project ID:**

**Attention:** Dominick Dercole
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120 North Warren Street
Trenton, NJ 08608

**Phone:** (609) 392-4200
**Fax:**
**Collected Date:** 02/06/2024
**Received Date:** 02/08/2024
**Analyzed Date:** 02/08/2024

**Project:** 24076-01 / CME Associates, IAQ Assessment, 921 Elizabeth Avenue

**Test Report: Air-O-Cell(™) Analysis of Fungal Spores & Particulates by Optical Microscopy (Methods MICRO-SOP-201, ASTM D7391)**

**Lab Sample Number**
052400515-0007

**Client Sample ID**
37163764

**Location**
FL-3 Interview Room #4

**Sample Volume (L)**
150

**Sample Type**
Inside

**Comments**

| Particle Identification | Sample Concentration (counts/m³) | Background Concentration (counts/m³) | Background Corrected (counts/m³) |
|---|---|---|---|
| Alternaria (Ulocladium) | None Detected | 7* | Less than Background |
| Ascospores | None Detected | None Detected | Equal To Background |
| Aspergillus/Penicillium++ | 40 | 40 | Equal To Background |
| Basidiospores | None Detected | 200 | Less than Background |
| Bipolaris++ | None Detected | None Detected | Equal To Background |
| Chaetomium++ | None Detected | None Detected | Equal To Background |
| Cladosporium | 20 | 100 | Less than Background |
| Curvularia | None Detected | None Detected | Equal To Background |
| Epicoccum | None Detected | 10* | Less than Background |
| Fusarium++ | None Detected | None Detected | Equal To Background |
| Ganoderma | None Detected | None Detected | Equal To Background |
| Myxomycetes++ | None Detected | None Detected | Equal To Background |
| Pithomyces++ | None Detected | None Detected | Equal To Background |
| Rust | 20 | None Detected | 20 |
| Scopulariopsis/Microascus | None Detected | None Detected | Equal To Background |
| Stachybotrys/Memnoniella | 20 | None Detected | 20 |
| Unidentifiable Spores | None Detected | None Detected | Equal To Background |
| Zygomycetes | None Detected | None Detected | Equal To Background |
| **Total Fungi** | **100** | **357** | **Less than Background** |
| Other | | | |
| Hyphal Fragment | None Detected | None Detected | Equal To Background |
| Insect Fragment | None Detected | None Detected | Equal To Background |
| Pollen | None Detected | None Detected | Equal To Background |
| Fibrous Particulate (1-4) | 1 | 1 | Equal To Background |

| | | |
|---|---|---|
| Analytical Sensitivity 300x: | 22 | counts/cubic meter |
| Analytical Sensitivity 600x: | 7* | counts/cubic meter |
| Skin Fragments: | 1 | 1 to 4 (low to high) |
| Fibrous Particulate: | 1 | 1 to 4 (low to high) |
| Background: | 1 | 1 to 4 (low to high); 5 (overloaded) |

++ Includes other spores with similar morphology; see EMSL's fungal glossary for each specific category.

Nicholas Maslowski, Microbiology Lab Manager
or other Approved Signatory

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Samples analyzed by EMSL Analytical, Inc. Piscataway, NJ AIHA LAP, LLC-EMLAP Accredited #167035

Initial report from: 02/09/2024 12:03 PM

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120 North Warren Street
Trenton, NJ 08608

**Phone:** (609) 392-4200
**Fax:**
**Collected Date:** 02/06/2024
**Received Date:** 02/08/2024
**Analyzed Date:** 02/08/2024

**Project:** 24076-01 / CME Associates, IAQ Assessment, 921 Elizabeth Avenue

**Test Report: Air-O-Cell(™) Analysis of Fungal Spores & Particulates by Optical Microscopy (Methods MICRO-SOP-201, ASTM D7391)**

**Lab Sample Number**
052400515-0008

**Client Sample ID**
37163756

**Location**
FL-3 Office 3A Reception

**Sample Volume (L)**
150

**Sample Type**
Inside

**Comments**

| Particle Identification | Sample Concentration (counts/m³) | Background Concentration (counts/m³) | Background Corrected (counts/m³) |
|---|---|---|---|
| Alternaria (Ulocladium) | None Detected | 7* | Less than Background |
| Ascospores | None Detected | None Detected | Equal To Background |
| Aspergillus/Penicillium++ | 70 | 40 | 30 |
| Basidiospores | 40 | 200 | Less than Background |
| Bipolaris++ | None Detected | None Detected | Equal To Background |
| Chaetomium++ | None Detected | None Detected | Equal To Background |
| Cladosporium | None Detected | 100 | Less than Background |
| Curvularia | None Detected | None Detected | Equal To Background |
| Epicoccum | None Detected | 10* | Less than Background |
| Fusarium++ | None Detected | None Detected | Equal To Background |
| Ganoderma | None Detected | None Detected | Equal To Background |
| Myxomycetes++ | None Detected | None Detected | Equal To Background |
| Pithomyces++ | None Detected | None Detected | Equal To Background |
| Rust | None Detected | None Detected | Equal To Background |
| Scopulariopsis/Microascus | None Detected | None Detected | Equal To Background |
| Stachybotrys/Memnoniella | None Detected | None Detected | Equal To Background |
| Unidentifiable Spores | None Detected | None Detected | Equal To Background |
| Zygomycetes | None Detected | None Detected | Equal To Background |
| **Total Fungi** | **110** | **357** | **Less than Background** |
| Other | | | |
| Hyphal Fragment | None Detected | None Detected | Equal To Background |
| Insect Fragment | None Detected | None Detected | Equal To Background |
| Pollen | None Detected | None Detected | Equal To Background |
| Fibrous Particulate (1-4) | 1 | 1 | Equal To Background |

| | | |
|---|---|---|
| Analytical Sensitivity 300x: | 22 | counts/cubic meter |
| Analytical Sensitivity 600x: | 7* | counts/cubic meter |
| Skin Fragments: | 1 | 1 to 4 (low to high) |
| Fibrous Particulate: | 1 | 1 to 4 (low to high) |
| Background: | 1 | 1 to 4 (low to high); 5 (overloaded) |

++ Includes other spores with similar morphology; see EMSL's fungal glossary for each specific category.

Nicholas Maslowski, Microbiology Lab Manager
or other Approved Signatory


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Samples analyzed by EMSL Analytical, Inc. Piscataway, NJ AIHA LAP, LLC-EMLAP Accredited #167035

Initial report from: 02/09/2024 12:03 PM

For information on the fungi listed in this report, please visit the Resources section at www.emsl.com

# EMSL Analytical, Inc.

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http://www.EMSL.com / piscatawaylab@emsl.com


**EMSL Order:** 052400515
**Customer ID:** ENVI65
**Customer PO:**
**Project ID:**

**Attention:** Dominick Dercole
Environmental Connection, Inc.
120 North Warren Street
Trenton, NJ 08608

**Phone:** (609) 392-4200
**Fax:**
**Collected Date:** 02/06/2024
**Received Date:** 02/08/2024
**Analyzed Date:** 02/08/2024

**Project:** 24076-01 / CME Associates, IAQ Assessment, 921 Elizabeth Avenue

**Test Report: Air-O-Cell(™) Analysis of Fungal Spores & Particulates by Optical Microscopy (Methods MICRO-SOP-201, ASTM D7391)**

**Lab Sample Number**
052400515-0009

**Client Sample ID**
37163830

**Location**
FL-3 Cubicle Area / Office

**Sample Volume (L)**
150

**Sample Type**
Inside

**Comments**

| Particle Identification | Sample Concentration (counts/m³) | Background Concentration (counts/m³) | Background Corrected (counts/m³) |
|---|---|---|---|
| Alternaria (Ulocladium) | None Detected | 7* | Less than Background |
| Ascospores | None Detected | None Detected | Equal To Background |
| Aspergillus/Penicillium++ | None Detected | 40 | Less than Background |
| Basidiospores | None Detected | 200 | Less than Background |
| Bipolaris++ | None Detected | None Detected | Equal To Background |
| Chaetomium++ | None Detected | None Detected | Equal To Background |
| Cladosporium | 240 | 100 | 140 |
| Curvularia | None Detected | None Detected | Equal To Background |
| Epicoccum | None Detected | 10* | Less than Background |
| Fusarium++ | None Detected | None Detected | Equal To Background |
| Ganoderma | None Detected | None Detected | Equal To Background |
| Myxomycetes++ | None Detected | None Detected | Equal To Background |
| Pithomyces++ | None Detected | None Detected | Equal To Background |
| Rust | None Detected | None Detected | Equal To Background |
| Scopulariopsis/Microascus | None Detected | None Detected | Equal To Background |
| Stachybotrys/Memnoniella | None Detected | None Detected | Equal To Background |
| Unidentifiable Spores | None Detected | None Detected | Equal To Background |
| Zygomycetes | None Detected | None Detected | Equal To Background |
| **Total Fungi** | **240** | **357** | **Less than Background** |
| Other | | | |
| Hyphal Fragment | None Detected | None Detected | Equal To Background |
| Insect Fragment | None Detected | None Detected | Equal To Background |
| Pollen | None Detected | None Detected | Equal To Background |
| Fibrous Particulate (1-4) | 1 | 1 | Equal To Background |

| | | |
|---|---|---|
| Analytical Sensitivity 300x: | 22 | counts/cubic meter |
| Analytical Sensitivity 600x: | 7* | counts/cubic meter |
| Skin Fragments: | 2 | 1 to 4 (low to high) |
| Fibrous Particulate: | 1 | 1 to 4 (low to high) |
| Background: | 2 | 1 to 4 (low to high); 5 (overloaded) |

++ Includes other spores with similar morphology; see EMSL's fungal glossary for each specific category.

Nicholas Maslowski, Microbiology Lab Manager
or other Approved Signatory


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Samples analyzed by EMSL Analytical, Inc. Piscataway, NJ AIHA LAP, LLC-EMLAP Accredited #167035

Initial report from: 02/09/2024 12:03 PM

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**EMSL Order:** 052400515
**Customer ID:** ENVI65
**Customer PO:**
**Project ID:**

**Attention:** Dominick Dercole
Environmental Connection, Inc.
120 North Warren Street
Trenton, NJ 08608

**Phone:** (609) 392-4200
**Fax:**
**Collected Date:** 02/06/2024
**Received Date:** 02/08/2024
**Analyzed Date:** 02/08/2024

**Project:** 24076-01 / CME Associates, IAQ Assessment, 921 Elizabeth Avenue

**Test Report: Air-O-Cell(™) Analysis of Fungal Spores & Particulates by Optical Microscopy (Methods MICRO-SOP-201, ASTM D7391)**

**Lab Sample Number**: 052400515-0010
**Client Sample ID**: 37163893
**Location**: Open Cubicle (5th) (S)
**Sample Volume (L)**: 150
**Sample Type**: Inside
**Comments**

| Particle Identification | Sample Concentration (counts/m³) | Background Concentration (counts/m³) | Background Corrected (counts/m³) |
|---|---|---|---|
| Alternaria (Ulocladium) | None Detected | 7* | Less than Background |
| Ascospores | None Detected | None Detected | Equal To Background |
| Aspergillus/Penicillium++ | 20 | 40 | Less than Background |
| Basidiospores | 20 | 200 | Less than Background |
| Bipolaris++ | None Detected | None Detected | Equal To Background |
| Chaetomium++ | None Detected | None Detected | Equal To Background |
| Cladosporium | None Detected | 100 | Less than Background |
| Curvularia | None Detected | None Detected | Equal To Background |
| Epicoccum | None Detected | 10* | Less than Background |
| Fusarium++ | None Detected | None Detected | Equal To Background |
| Ganoderma | None Detected | None Detected | Equal To Background |
| Myxomycetes++ | None Detected | None Detected | Equal To Background |
| Pithomyces++ | None Detected | None Detected | Equal To Background |
| Rust | None Detected | None Detected | Equal To Background |
| Scopulariopsis/Microascus | None Detected | None Detected | Equal To Background |
| Stachybotrys/Memnoniella | None Detected | None Detected | Equal To Background |
| Unidentifiable Spores | None Detected | None Detected | Equal To Background |
| Zygomycetes | None Detected | None Detected | Equal To Background |
| **Total Fungi** | **40** | **357** | **Less than Background** |
| Other | | | |
| Hyphal Fragment | None Detected | None Detected | Equal To Background |
| Insect Fragment | None Detected | None Detected | Equal To Background |
| Pollen | None Detected | None Detected | Equal To Background |
| Fibrous Particulate (1-4) | 1 | 1 | Equal To Background |

| | | |
|---|---|---|
| Analytical Sensitivity 300x: | 22 | counts/cubic meter |
| Analytical Sensitivity 600x: | 7* | counts/cubic meter |
| Skin Fragments: | 1 | 1 to 4 (low to high) |
| Fibrous Particulate: | 1 | 1 to 4 (low to high) |
| Background: | 1 | 1 to 4 (low to high); 5 (overloaded) |

++ Includes other spores with similar morphology; see EMSL's fungal glossary for each specific category.

Nicholas Maslowski, Microbiology Lab Manager
or other Approved Signatory


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Samples analyzed by EMSL Analytical, Inc. Piscataway, NJ AIHA LAP, LLC-EMLAP Accredited #167035

Initial report from: 02/09/2024 12:03 PM

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**EMSL Order:** 052400515
**Customer ID:** ENVI65
**Customer PO:**
**Project ID:**

**Attention:** Dominick Dercole
Environmental Connection, Inc.
120 North Warren Street
Trenton, NJ 08608

**Phone:** (609) 392-4200
**Fax:**
**Collected Date:** 02/06/2024
**Received Date:** 02/08/2024
**Analyzed Date:** 02/08/2024

**Project:** 24076-01 / CME Associates, IAQ Assessment, 921 Elizabeth Avenue

**Test Report: Air-O-Cell(™) Analysis of Fungal Spores & Particulates by Optical Microscopy (Methods MICRO-SOP-201, ASTM D7391)**

**Lab Sample Number**
052400515-0011

**Client Sample ID**
37163808

**Location**
Cubicle Area (5th) (N)

**Sample Volume (L)**
150

**Sample Type**
Inside

**Comments**

| Particle Identification | Sample Concentration (counts/m³) | Background Concentration (counts/m³) | Background Corrected (counts/m³) |
|---|---|---|---|
| Alternaria (Ulocladium) | None Detected | 7* | Less than Background |
| Ascospores | None Detected | None Detected | Equal To Background |
| Aspergillus/Penicillium++ | 20 | 40 | Less than Background |
| Basidiospores | 70 | 200 | Less than Background |
| Bipolaris++ | None Detected | None Detected | Equal To Background |
| Chaetomium++ | None Detected | None Detected | Equal To Background |
| Cladosporium | None Detected | 100 | Less than Background |
| Curvularia | None Detected | None Detected | Equal To Background |
| Epicoccum | None Detected | 10* | Less than Background |
| Fusarium++ | None Detected | None Detected | Equal To Background |
| Ganoderma | None Detected | None Detected | Equal To Background |
| Myxomycetes++ | None Detected | None Detected | Equal To Background |
| Pithomyces++ | None Detected | None Detected | Equal To Background |
| Rust | None Detected | None Detected | Equal To Background |
| Scopulariopsis/Microascus | None Detected | None Detected | Equal To Background |
| Stachybotrys/Memnoniella | None Detected | None Detected | Equal To Background |
| Unidentifiable Spores | None Detected | None Detected | Equal To Background |
| Zygomycetes | None Detected | None Detected | Equal To Background |
| **Total Fungi** | **90** | **357** | **Less than Background** |
| Other | | | |
| Hyphal Fragment | None Detected | None Detected | Equal To Background |
| Insect Fragment | None Detected | None Detected | Equal To Background |
| Pollen | None Detected | None Detected | Equal To Background |
| Fibrous Particulate (1-4) | 1 | 1 | Equal To Background |

| | | |
|---|---|---|
| Analytical Sensitivity 300x: | 22 | counts/cubic meter |
| Analytical Sensitivity 600x: | 7* | counts/cubic meter |
| Skin Fragments: | 1 | 1 to 4 (low to high) |
| Fibrous Particulate: | 1 | 1 to 4 (low to high) |
| Background: | 2 | 1 to 4 (low to high); 5 (overloaded) |

++ Includes other spores with similar morphology; see EMSL's fungal glossary for each specific category.

Nicholas Maslowski, Microbiology Lab Manager
or other Approved Signatory


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Samples analyzed by EMSL Analytical, Inc. Piscataway, NJ AIHA LAP, LLC-EMLAP Accredited #167035

Initial report from: 02/09/2024 12:03 PM


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**EMSL Order:** 052400515
**Customer ID:** ENVI65
**Customer PO:**
**Project ID:**

**Attention:** Dominick Dercole
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120 North Warren Street
Trenton, NJ 08608

**Phone:** (609) 392-4200
**Fax:**
**Collected Date:** 02/06/2024
**Received Date:** 02/08/2024
**Analyzed Date:** 02/08/2024

**Project:** 24076-01 / CME Associates, IAQ Assessment, 921 Elizabeth Avenue

**Test Report: Air-O-Cell(™) Analysis of Fungal Spores & Particulates by Optical Microscopy (Methods MICRO-SOP-201, ASTM D7391)**

**Lab Sample Number**
052400515-0012

**Client Sample ID**
37163889

**Location**
Office In Cubicle Area (5th) (N)

**Sample Volume (L)**
150

**Sample Type**
Inside

**Comments**

| Particle Identification | Sample Concentration (counts/m³) | Background Concentration (counts/m³) | Background Corrected (counts/m³) |
|---|---|---|---|
| Alternaria (Ulocladium) | 7* | 7* | Equal To Background |
| Ascospores | None Detected | None Detected | Equal To Background |
| Aspergillus/Penicillium++ | None Detected | 40 | Less than Background |
| Basidiospores | 40 | 200 | Less than Background |
| Bipolaris++ | None Detected | None Detected | Equal To Background |
| Chaetomium++ | None Detected | None Detected | Equal To Background |
| Cladosporium | None Detected | 100 | Less than Background |
| Curvularia | None Detected | None Detected | Equal To Background |
| Epicoccum | None Detected | 10* | Less than Background |
| Fusarium++ | None Detected | None Detected | Equal To Background |
| Ganoderma | None Detected | None Detected | Equal To Background |
| Myxomycetes++ | None Detected | None Detected | Equal To Background |
| Pithomyces++ | None Detected | None Detected | Equal To Background |
| Rust | None Detected | None Detected | Equal To Background |
| Scopulariopsis/Microascus | None Detected | None Detected | Equal To Background |
| Stachybotrys/Memnoniella | None Detected | None Detected | Equal To Background |
| Unidentifiable Spores | None Detected | None Detected | Equal To Background |
| Zygomycetes | None Detected | None Detected | Equal To Background |
| **Total Fungi** | **47** | **357** | **Less than Background** |
| Other | | | |
| Hyphal Fragment | None Detected | None Detected | Equal To Background |
| Insect Fragment | None Detected | None Detected | Equal To Background |
| Pollen | None Detected | None Detected | Equal To Background |
| Fibrous Particulate (1-4) | 1 | 1 | Equal To Background |

| | | |
|---|---|---|
| Analytical Sensitivity 300x: | 22 | counts/cubic meter |
| Analytical Sensitivity 600x: | 7* | counts/cubic meter |
| Skin Fragments: | 1 | 1 to 4 (low to high) |
| Fibrous Particulate: | 1 | 1 to 4 (low to high) |
| Background: | 1 | 1 to 4 (low to high); 5 (overloaded) |

++ Includes other spores with similar morphology; see EMSL's fungal glossary for each specific category.

Nicholas Maslowski, Microbiology Lab Manager
or other Approved Signatory


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Samples analyzed by EMSL Analytical, Inc. Piscataway, NJ AIHA LAP, LLC-EMLAP Accredited #167035

Initial report from: 02/09/2024 12:03 PM


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**EMSL Order:** 052400515
**Customer ID:** ENVI65
**Customer PO:**
**Project ID:**

**Attention:** Dominick Dercole
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120 North Warren Street
Trenton, NJ 08608

**Phone:** (609) 392-4200
**Fax:**
**Collected Date:** 02/06/2024
**Received Date:** 02/08/2024
**Analyzed Date:** 02/08/2024

**Project:** 24076-01 / CME Associates, IAQ Assessment, 921 Elizabeth Avenue

**Test Report: Air-O-Cell(™) Analysis of Fungal Spores & Particulates by Optical Microscopy (Methods MICRO-SOP-201, ASTM D7391)**

**Lab Sample Number**
052400515-0013

**Client Sample ID**
37163814

**Location**
Cubicle Area / Office Space (4th)

**Sample Volume (L)**
150

**Sample Type**
Inside

**Comments**

| Particle Identification | Sample Concentration (counts/m³) | Background Concentration (counts/m³) | Background Corrected (counts/m³) |
|---|---|---|---|
| Alternaria (Ulocladium) | None Detected | 7* | Less than Background |
| Ascospores | None Detected | None Detected | Equal To Background |
| Aspergillus/Penicillium++ | 70 | 40 | 30 |
| Basidiospores | 40 | 200 | Less than Background |
| Bipolaris++ | None Detected | None Detected | Equal To Background |
| Chaetomium++ | None Detected | None Detected | Equal To Background |
| Cladosporium | 40 | 100 | Less than Background |
| Curvularia | None Detected | None Detected | Equal To Background |
| Epicoccum | None Detected | 10* | Less than Background |
| Fusarium++ | None Detected | None Detected | Equal To Background |
| Ganoderma | None Detected | None Detected | Equal To Background |
| Myxomycetes++ | None Detected | None Detected | Equal To Background |
| Pithomyces++ | None Detected | None Detected | Equal To Background |
| Rust | None Detected | None Detected | Equal To Background |
| Scopulariopsis/Microascus | None Detected | None Detected | Equal To Background |
| Stachybotrys/Memnoniella | None Detected | None Detected | Equal To Background |
| Unidentifiable Spores | None Detected | None Detected | Equal To Background |
| Zygomycetes | None Detected | None Detected | Equal To Background |
| **Total Fungi** | **150** | **357** | **Less than Background** |
| Other | | | |
| Hyphal Fragment | None Detected | None Detected | Equal To Background |
| Insect Fragment | None Detected | None Detected | Equal To Background |
| Pollen | None Detected | None Detected | Equal To Background |
| Fibrous Particulate (1-4) | 1 | 1 | Equal To Background |

| | | |
|---|---|---|
| Analytical Sensitivity 300x: | 22 | counts/cubic meter |
| Analytical Sensitivity 600x: | 7* | counts/cubic meter |
| Skin Fragments: | 1 | 1 to 4 (low to high) |
| Fibrous Particulate: | 1 | 1 to 4 (low to high) |
| Background: | 2 | 1 to 4 (low to high); 5 (overloaded) |

++ Includes other spores with similar morphology; see EMSL's fungal glossary for each specific category.

Nicholas Maslowski, Microbiology Lab Manager
or other Approved Signatory


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Samples analyzed by EMSL Analytical, Inc. Piscataway, NJ AIHA LAP, LLC-EMLAP Accredited #167035

Initial report from: 02/09/2024 12:03 PM


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**Collected Date:** 02/06/2024
**Received Date:** 02/08/2024
**Analyzed Date:** 02/08/2024

**Project:** 24076-01 / CME Associates, IAQ Assessment, 921 Elizabeth Avenue

**Test Report: Air-O-Cell(™) Analysis of Fungal Spores & Particulates by Optical Microscopy (Methods MICRO-SOP-201, ASTM D7391)**

**Lab Sample Number**
052400515-0014

**Client Sample ID**
37163915

**Location**
Employee Lunch Room (4th)

**Sample Volume (L)**
150

**Sample Type**
Inside

**Comments**

| Particle Identification | Sample Concentration (counts/m³) | Background Concentration (counts/m³) | Background Corrected (counts/m³) |
|---|---|---|---|
| Alternaria (Ulocladium) | None Detected | 7* | Less than Background |
| Ascospores | None Detected | None Detected | Equal To Background |
| Aspergillus/Penicillium++ | None Detected | 40 | Less than Background |
| Basidiospores | 40 | 200 | Less than Background |
| Bipolaris++ | None Detected | None Detected | Equal To Background |
| Chaetomium++ | None Detected | None Detected | Equal To Background |
| Cladosporium | None Detected | 100 | Less than Background |
| Curvularia | None Detected | None Detected | Equal To Background |
| Epicoccum | None Detected | 10* | Less than Background |
| Fusarium++ | None Detected | None Detected | Equal To Background |
| Ganoderma | None Detected | None Detected | Equal To Background |
| Myxomycetes++ | None Detected | None Detected | Equal To Background |
| Pithomyces++ | None Detected | None Detected | Equal To Background |
| Rust | None Detected | None Detected | Equal To Background |
| Scopulariopsis/Microascus | None Detected | None Detected | Equal To Background |
| Stachybotrys/Memnoniella | None Detected | None Detected | Equal To Background |
| Unidentifiable Spores | None Detected | None Detected | Equal To Background |
| Zygomycetes | None Detected | None Detected | Equal To Background |
| **Total Fungi** | **40** | **357** | **Less than Background** |
| Other | | | |
| Hyphal Fragment | None Detected | None Detected | Equal To Background |
| Insect Fragment | None Detected | None Detected | Equal To Background |
| Pollen | None Detected | None Detected | Equal To Background |
| Fibrous Particulate (1-4) | 1 | 1 | Equal To Background |

| | | |
|---|---|---|
| Analytical Sensitivity 300x: | 22 | counts/cubic meter |
| Analytical Sensitivity 600x: | 7* | counts/cubic meter |
| Skin Fragments: | 1 | 1 to 4 (low to high) |
| Fibrous Particulate: | 1 | 1 to 4 (low to high) |
| Background: | 1 | 1 to 4 (low to high); 5 (overloaded) |

++ Includes other spores with similar morphology; see EMSL's fungal glossary for each specific category.

Nicholas Maslowski, Microbiology Lab Manager
or other Approved Signatory


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Samples analyzed by EMSL Analytical, Inc. Piscataway, NJ AIHA LAP, LLC-EMLAP Accredited #167035

Initial report from: 02/09/2024 12:03 PM

For information on the fungi listed in this report, please visit the Resources section at www.emsl.com

# EMSL Analytical, Inc.

1056 Stelton Road Piscataway, NJ 08854
Tel/Fax: (732) 981-0550 / (732) 981-0551
http://www.EMSL.com / piscatawaylab@emsl.com

**EMSL Order:** 052400515
**Customer ID:** ENVI65
**Customer PO:**
**Project ID:**

**Attention:** Dominick Dercole
Environmental Connection, Inc.
120 North Warren Street
Trenton, NJ 08608

**Phone:** (609) 392-4200
**Fax:**
**Collected Date:** 02/06/2024
**Received Date:** 02/08/2024
**Analyzed Date:** 02/08/2024

**Project:** 24076-01 / CME Associates, IAQ Assessment, 921 Elizabeth Avenue

**Test Report: Air-O-Cell(™) Analysis of Fungal Spores & Particulates by Optical Microscopy (Methods MICRO-SOP-201, ASTM D7391)**

**Lab Sample Number**
052400515-0015

**Client Sample ID**
37163820

**Location**
Conference Room (4th)

**Sample Volume (L)**
150

**Sample Type**
Inside

**Comments**

| Particle Identification | Sample Concentration (counts/m³) | Background Concentration (counts/m³) | Background Corrected (counts/m³) |
|---|---|---|---|
| Alternaria (Ulocladium) | None Detected | 7* | Less than Background |
| Ascospores | None Detected | None Detected | Equal To Background |
| Aspergillus/Penicillium++ | None Detected | 40 | Less than Background |
| Basidiospores | 20 | 200 | Less than Background |
| Bipolaris++ | None Detected | None Detected | Equal To Background |
| Chaetomium++ | None Detected | None Detected | Equal To Background |
| Cladosporium | None Detected | 100 | Less than Background |
| Curvularia | None Detected | None Detected | Equal To Background |
| Epicoccum | None Detected | 10* | Less than Background |
| Fusarium++ | None Detected | None Detected | Equal To Background |
| Ganoderma | None Detected | None Detected | Equal To Background |
| Myxomycetes++ | None Detected | None Detected | Equal To Background |
| Pithomyces++ | None Detected | None Detected | Equal To Background |
| Rust | None Detected | None Detected | Equal To Background |
| Scopulariopsis/Microascus | None Detected | None Detected | Equal To Background |
| Stachybotrys/Memnoniella | None Detected | None Detected | Equal To Background |
| Unidentifiable Spores | None Detected | None Detected | Equal To Background |
| Zygomycetes | None Detected | None Detected | Equal To Background |
| **Total Fungi** | **20** | **357** | **Less than Background** |
| Other | | | |
| Hyphal Fragment | None Detected | None Detected | Equal To Background |
| Insect Fragment | None Detected | None Detected | Equal To Background |
| Pollen | None Detected | None Detected | Equal To Background |
| Fibrous Particulate (1-4) | 1 | 1 | Equal To Background |

| | | |
|---|---|---|
| Analytical Sensitivity 300x: | 22 | counts/cubic meter |
| Analytical Sensitivity 600x: | 7* | counts/cubic meter |
| Skin Fragments: | 1 | 1 to 4 (low to high) |
| Fibrous Particulate: | 1 | 1 to 4 (low to high) |
| Background: | 1 | 1 to 4 (low to high); 5 (overloaded) |

++ Includes other spores with similar morphology; see EMSL's fungal glossary for each specific category.

Nicholas Maslowski, Microbiology Lab Manager
or other Approved Signatory

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Samples analyzed by EMSL Analytical, Inc. Piscataway, NJ AIHA LAP, LLC-EMLAP Accredited #167035

Initial report from: 02/09/2024 12:03 PM

For information on the fungi listed in this report, please visit the Resources section at www.emsl.com

# EMSL Analytical, Inc.

1056 Stelton Road Piscataway, NJ 08854
Tel/Fax: (732) 981-0550 / (732) 981-0551
http://www.EMSL.com / piscatawaylab@emsl.com


**EMSL Order:** 052400515
**Customer ID:** ENVI65
**Customer PO:**
**Project ID:**

**Attention:** Dominick Dercole
Environmental Connection, Inc.
120 North Warren Street
Trenton, NJ 08608

**Phone:** (609) 392-4200
**Fax:**
**Collected Date:** 02/06/2024
**Received Date:** 02/08/2024
**Analyzed Date:** 02/08/2024

**Project:** 24076-01 / CME Associates, IAQ Assessment, 921 Elizabeth Avenue

**Test Report: Air-O-Cell(™) Analysis of Fungal Spores & Particulates by Optical Microscopy (Methods MICRO-SOP-201, ASTM D7391)**

**Lab Sample Number**
052400515-0016

**Client Sample ID**
36681619

**Location**
Exterior

**Sample Volume (L)**
150

**Sample Type**
Background

**Comments**

| Particle Identification | Sample Concentration (counts/m³) | Background Concentration (counts/m³) | Background Corrected (counts/m³) |
|---|---|---|---|
| Alternaria (Ulocladium) | 7* | N/A | N/A |
| Ascospores | None Detected | N/A | N/A |
| Aspergillus/Penicillium++ | 40 | N/A | N/A |
| Basidiospores | 200 | N/A | N/A |
| Bipolaris++ | None Detected | N/A | N/A |
| Chaetomium++ | None Detected | N/A | N/A |
| Cladosporium | 100 | N/A | N/A |
| Curvularia | None Detected | N/A | N/A |
| Epicoccum | 10* | N/A | N/A |
| Fusarium++ | None Detected | N/A | N/A |
| Ganoderma | None Detected | N/A | N/A |
| Myxomycetes++ | None Detected | N/A | N/A |
| Pithomyces++ | None Detected | N/A | N/A |
| Rust | None Detected | N/A | N/A |
| Scopulariopsis/Microascus | None Detected | N/A | N/A |
| Stachybotrys/Memnoniella | None Detected | N/A | N/A |
| Unidentifiable Spores | None Detected | N/A | N/A |
| Zygomycetes | None Detected | N/A | N/A |
| **Total Fungi** | **357** | **N/A** | **N/A** |
| Other | | | |
| Hyphal Fragment | None Detected | N/A | N/A |
| Insect Fragment | None Detected | N/A | N/A |
| Pollen | None Detected | N/A | N/A |
| Fibrous Particulate (1-4) | 1 | N/A | N/A |

| | | |
|---|---|---|
| Analytical Sensitivity 300x: | 22 | counts/cubic meter |
| Analytical Sensitivity 600x: | 7* | counts/cubic meter |
| Skin Fragments: | 1 | 1 to 4 (low to high) |
| Fibrous Particulate: | 1 | 1 to 4 (low to high) |
| Background: | 2 | 1 to 4 (low to high); 5 (overloaded) |

++ Includes other spores with similar morphology; see EMSL's fungal glossary for each specific category.

Nicholas Maslowski, Microbiology Lab Manager
or other Approved Signatory


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Samples analyzed by EMSL Analytical, Inc. Piscataway, NJ AIHA LAP, LLC-EMLAP Accredited #167035

Initial report from: 02/09/2024 12:03 PM


For information on the fungi listed in this report, please visit the Resources section at www.emsl.com

# EMSL Analytical, Inc.

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http://www.EMSL.com / piscatawaylab@emsl.com

**EMSL Order:** 052400515
**Customer ID:** ENVI65
**Customer PO:**
**Project ID:**

**Attention:** Dominick Dercole
Environmental Connection, Inc.
120 North Warren Street
Trenton, NJ 08608

**Phone:** (609) 392-4200
**Fax:**
**Collected Date:** 02/06/2024
**Received Date:** 02/08/2024
**Analyzed Date:** 02/08/2024

**Project:** 24076-01 / CME Associates, IAQ Assessment, 921 Elizabeth Avenue

**Test Report: Air-O-Cell(™) Analysis of Fungal Spores & Particulates by Optical Microscopy (Methods MICRO-SOP-201, ASTM D7391)**

**Lab Sample Number**
052400515-0017

**Client Sample ID**
37163912

**Location**
Blank

**Sample Volume (L)**
-

**Sample Type**
Blank

**Comments**

| Particle Identification | Sample Concentration (counts/m³) | Background Concentration (counts/m³) | Background Corrected (counts/m³) |
|---|---|---|---|
| Alternaria (Ulocladium) | - | 7* | |
| Ascospores | - | - | |
| Aspergillus/Penicillium++ | - | 40 | |
| Basidiospores | - | 200 | |
| Bipolaris++ | - | - | |
| Chaetomium++ | - | - | |
| Cladosporium | - | 100 | |
| Curvularia | - | - | |
| Epicoccum | - | 10* | |
| Fusarium++ | - | - | |
| Ganoderma | - | - | |
| Myxomycetes++ | - | - | |
| Pithomyces++ | - | - | |
| Rust | - | - | |
| Scopulariopsis/Microascus | - | - | |
| Stachybotrys/Memnoniella | - | - | |
| Unidentifiable Spores | - | - | |
| Zygomycetes | - | - | |
| **Total Fungi** | **No Trace** | **357** | |
| Other | | | |
| Hyphal Fragment | - | - | |
| Insect Fragment | - | - | |
| Pollen | - | - | |
| Fibrous Particulate (1-4) | - | 1 | |

| | | |
|---|---|---|
| Analytical Sensitivity 300x: | 0 | counts/cubic meter |
| Analytical Sensitivity 600x: | 0* | counts/cubic meter |
| Skin Fragments: | | 1 to 4 (low to high) |
| Fibrous Particulate: | | 1 to 4 (low to high) |
| Background: | | 1 to 4 (low to high); 5 (overloaded) |

++ Includes other spores with similar morphology; see EMSL's fungal glossary for each specific category.

Nicholas Maslowski, Microbiology Lab Manager
or other Approved Signatory

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Samples analyzed by EMSL Analytical, Inc. Piscataway, NJ AIHA LAP, LLC-EMLAP Accredited #167035

Initial report from: 02/09/2024 12:03 PM

For information on the fungi listed in this report, please visit the Resources section at www.emsl.com

OrderID: 052400515

05 240515

# ENVIRONMENTAL CONNECTION INC

A Vertical Technologies Corporation

Client: CME Associates
Project: IAQ Assessment
Building: 921 Elizabeth Avenue

Date: 2/6/24
Technician: D. DeRCole / M. MOORE
Project #: 24076-01

**SPORE TRAP AIR SAMPLE DATA COLLECTION AND ANALYSIS/ METHOD: Air-O-Cell – M001**

| SAMPLE IDENTIFICATION | CASSETTE ID #/PUMP ID # SAMPLE LOCATION | TIME (min.) | | | FLOW RATE (L/min.) | | | TOTAL VOLUME (L) | LAB # |
|---|---|---|---|---|---|---|---|---|---|
| | | START | END | TOTAL | START | END | AVERAGE | | Units: CTS/m³ |
| 3716 3908 | FL-1 TRAINING ROOM | 1220 | 1230 | 10 | 15 | 15 | 15 | 150L | |
| 3716 3807 | FL-1 CENTER CUBICLES | 1235 | 1245 | 10 | 15 | 15 | 15 | 150L | |
| 3716 3812 | FL-1 INFO DESK | 1255 | 1305 | 10 | 15 | 15 | 15 | 150L | |
| 3716 8254 | FL-2 TRAINING ROOM #1 | 1310 | 1320 | 10 | 15 | 15 | 15 | 150L | |
| 3716 3911 | FL-2 WORK FORCE LEARNING LINK | 1330 | 1340 | 10 | 15 | 15 | 15 | 150L | |
| 3716 3956 | FL-2 HALL AT SECURITY DESK / ELEVATOR | 1350 | 1400 | 10 | 15 | 15 | 15 | 150L | |
| 3716 3764 | FL-3 INTERVIEW ROOM #4 | 1415 | 1425 | 10 | 15 | 15 | 15 | 150L | |
| 37163756 | FL-3 OFFICE 3A RECEPTION | 1430 | 1440 | 10 | 15 | 15 | 15 | 150L | |
| 37163830 | FL-3 CUBICLE AREA OFFICE | 1433 | 1443 | 10 | 15 | 15 | 15 | 150L | |

**TURN AROUND TIME**

☐ 3 hr. TAT ☒ 24 hr. TAT ☐ 24 hr. TAT ☐ 3 Day TAT

**CHAIN OF CUSTODY RECORD (CCR)**

| RELINQUISHED BY | DATE | TIME | RECEIVED BY | DATE | TIME | REASON FOR CCR |
|---|---|---|---|---|---|---|
| | 2/6/24 | | | | | |

COMMENTS:

RECEIVED
FEB 08 2024 1:38 PM
By

120 North Warren Street • Trenton, New Jersey 08608 • tel: 609-392-4200 • fax: 609-392-1216

OrderID: 052400515

-052400515

# ENVIRONMENTAL CONNECTION INC

A Vertical Technologies Corporation

Client: CME Associates
Project: IAQ Assessment
Building: 921 Elizabeth Avenue

Date: 2/6/24
Technician: D. DeRacole / M. Moore
Project #: 24076-01

**SPORE TRAP AIR SAMPLE DATA COLLECTION AND ANALYSIS/ METHOD: Air-O-Cell – M001**

| SAMPLE IDENTIFICATION | CASSETTE ID #/PUMP ID # SAMPLE LOCATION | TIME (min.) | | | FLOW RATE (L/min.) | | | TOTAL VOLUME (L) | LAB # |
|---|---|---|---|---|---|---|---|---|---|
| | | START | END | TOTAL | START | END | AVERAGE | | Units: CTS/m³ |
| 3716 3893 | Open Cubicle Area (5th) (B) (S) | 12:21 | 12:31 | 10 | 15 | 15 | 15 | 150 | |
| 3716 3808 | Cubicle Area (5th) (N) | 12:36 | 12:46 | 10 | 15 | 15 | 15 | 150 | |
| 3716 3889 | Office in Cubicle Area (5th) (N) | 12:49 | 12:59 | 10 | 15 | 15 | 15 | 150 | |
| 3716 3814 | Cubicle Area / Office Space (4th) | 13:24 | 13:34 | 10 | 15 | 15 | 15 | 150 | |
| 3716 3915 | Employee Lunch Room (4th) | 13:36 | 13:46 | 10 | 15 | 15 | 15 | 150 | |
| 3716 3820 | Conference Room (4th) | 13:58 | 14:08 | 10 | 15 | 15 | 15 | 150 | |
| 31008 1019 | Exterior | 15:25 | 15:35 | 10 | 15 | 15 | 15 | 150 | |
| 3716 3912 | Blank | / | / | / | / | / | / | / | |

**TURN AROUND TIME**

☐ 3 hr. TAT ☒ 24 hr. TAT ☐ 24 hr. TAT ☐ 3 Day TAT

**CHAIN OF CUSTODY RECORD (CCR)**

| RELINQUISHED BY | DATE | TIME | RECEIVED BY | DATE | TIME | REASON FOR CCR |
|---|---|---|---|---|---|---|
| | | | | | | |

**COMMENTS:**

RECEIVED
FEB 08 2024
By SCATAWAY

120 North Warren Street • Trenton, New Jersey 08608 • tel: 609-392-4200 • fax: 609-392-1216

**Appendix II**

Chain of Custody and Certificates of Analysis for Surface Swab Sampling

# EMSL Analytical, Inc.

1056 Stelton Road Piscataway, NJ 08854
Tel/Fax: (732) 981-0550 / (732) 981-0551
http://www.EMSL.com / piscataywaylab@emsl.com


**EMSL Order:** 052400512
**Customer ID:** ENVI65
**Customer PO:**
**Project ID:**

**Attention:** Dominick Dercole
Environmental Connection, Inc.
120 North Warren Street
Trenton, NJ 08608

**Phone:** (609) 392-4200
**Fax:**
**Collected Date:** 02/06/2024
**Received Date:** 02/08/2024
**Analyzed Date:** 02/08/2024

**Project:** 24076-01 / CME Associates, IAQ Assessment, 921 Elizabath Avenue

## Test Report: Microscopic Examination of Fungal Spores, Fungal Structures, Hyphae, and Other Particulates from Swab Samples (EMSL Method MICRO-SOP-200)

| Lab Sample Number: | 052400512-0001 | 052400512-0002 | | | |
|---|---|---|---|---|---|
| Client Sample ID: | SW1DD020624 | SW2DD020624 | | | |
| Sample Location: | FL-1 Front Info Desk At Windows - Sheetrock | FL-5 Private Office - Sheetrock | | | |
| **Spore Types** | Category | Category | | | |
| Alternaria (Ulocladium) | - | Rare | | | |
| Ascospores | - | - | | | |
| Aspergillus/Penicillium++ | Low | Rare | | | |
| Basidiospores | Low | - | | | |
| Bipolaris++ | - | - | | | |
| Chaetomium++ | Rare | - | | | |
| Cladosporium | Rare | - | | | |
| Curvularia | - | - | | | |
| Epicoccum | - | - | | | |
| Fusarium++ | - | - | | | |
| Ganoderma | - | - | | | |
| Myxomycetes++ | - | - | | | |
| Pithomyces++ | - | - | | | |
| Rust | - | - | | | |
| Scopulariopsis/Microascus | - | - | | | |
| Stachybotrys/Memnoniella | *Medium* | *Medium* | | | |
| Unidentifiable Spores | - | - | | | |
| Zygomycetes | - | - | | | |
| Ascotricha | *Medium* | *High* | | | |
| Nigrospora | Rare | - | | | |
| Hyphal Fragment | - | - | | | |
| Insect Fragment | Low | - | | | |
| Pollen | - | - | | | |
| Fibrous Particulate | - | - | | | |

Category: Count/per area analyzed - Rare: 1 to 10 Low: 11 to 100 Medium: 101 to 1000 High: >1000

- Denotes Not Detected.
++ Includes other spores with similar morphology; see EMSL's fungal glossary for each specific category.
* = Sample contains fruiting structures and/or hyphae associated with the spores.

Nicholas Maslowski, Microbiology Lab Manager
or other Approved Signatory

No discernable field blank was submitted with this group of samples.


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Samples analyzed by EMSL Analytical, Inc. Piscataway, NJ AIHA LAP, LLC-EMLAP Accredited #167035

Initial report from: 02/09/2024 11:38 AM

For information on the fungi listed in this report, please visit the Resources section at www.emsl.com

OrderID: 052400512

052400512

# ENVIRONMENTAL CONNECTION INC

A Vertical Technologies Corporation

| | | | |
|---|---|---|---|
| Client | : CME Associates | Date | : 2/6/24 |
| Project | : IAQ Assessment | Technician | : D. DeRosie / Mimmie |
| Building | : 921 Elizabeth Avenue | Project # | : 24076-01 |

## SURFACE SWAB SAMPLE DATA COLLECTION FORM - FUNGI

| SAMPLE # LAB # | LOCATION | SURFACE TYPE | AREA | |
|---|---|---|---|---|
| SW1DD020624 | FL-1 Front Info Desk @ windows | Sheetrock | 2 m² | |
| SW2DD020624 | FL-5 Private Office | Sheetrock | 2 m² | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |

JT

## CHECK EACH BOX THAT APPLIES

- ☒ Fungi Direct ID M041
- ☐ Bacteria Count and ID - TSA
- ☒ ~~48~~ 24 hr TAT
- ☐ 10 Day TAT
- ☐ 13 Day TAT
- ☐ Other :24 Hr. TAT

## CHAIN OF CUSTODY RECORD (CCR)

| RELINQUISHED BY | DATE | TIME | RECEIVED BY | DATE | TIME | REASON FOR CCR |
|---|---|---|---|---|---|---|
| | 2/6/24 | | | | | |

RECEIVED
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By JT
EMSL PISCATAWAY NJ

COMMENTS:

120 North Warren Street • Trenton, New Jersey 08608 • tel: 609-392-4200 • fax: 609-392-1216

**Appendix III**

Photograph Log

Photograph 1 – Water damaged drywall in 5th floor office

Photograph 2 – Mold growth behind cove baseboard in 5th floor office

| | Site Photographs | |
|---|---|---|
| ENVIRONMENTAL CONNECTION INC | Date Taken | February 6, 2024 |
| | Client | CME Associates |
| | Location | 921 Elizabeth Avenue |
| EC Project # 24076-01 | Address | 921 Elizabeth Avenue, Elizabeth NJ |

Photographs 3 – Water damaged drywall in 5th floor office

Photograph 4 – Mold growth behind cove baseboard in 5th floor office

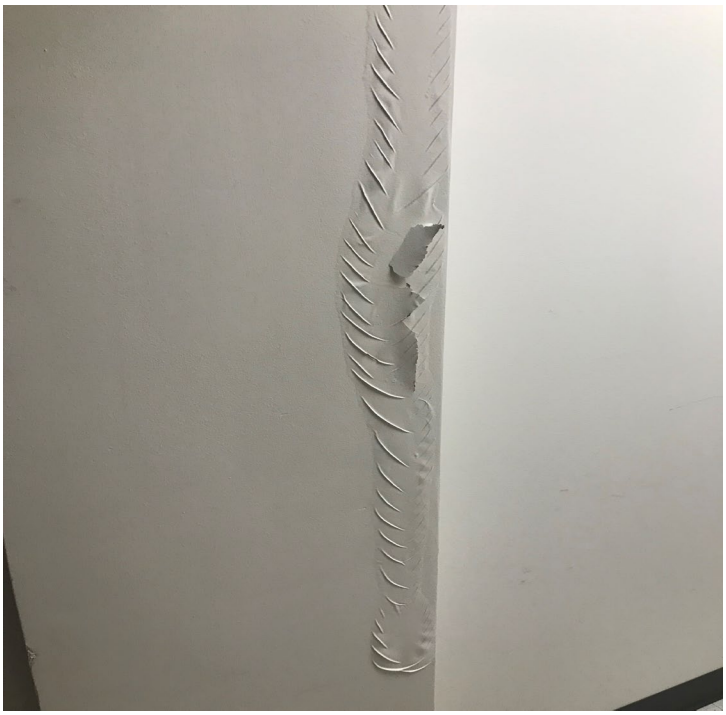
| | Site Photographs | |
|---|---|---|
| ENVIRONMENTAL CONNECTION INC | Date Taken | February 6, 2024 |
| | Client | CME Associates |
| | Location | 921 Elizabeth Avenue |
| EC Project # 24076-01 | Address | 921 Elizabeth Avenue, Elizabeth NJ |

Photograph 5 – Mold growth behind cove baseboard within the 5th floor rear cubicle area adjacent to the kitchen

Photograph 6 – Mold growth behind cove baseboard within the 5th floor rear cubicle area adjacent to the kitchen

| | Site Photographs | |
|---|---|---|
| ENVIRONMENTAL CONNECTION INC | Date Taken | February 6, 2024 |
| | Client | CME Associates |
| | Location | 921 Elizabeth Avenue |
| EC Project # 24076-01 | Address | 921 Elizabeth Avenue, Elizabeth NJ |

Photograph 7 – Mold growth behind cove baseboard in 5th janitors closet adjacent to offices



Photograph 8 – Water damaged drywall in 5th floor hall adjacent to janitors closet

| | Site Photographs | |
|---|---|---|
| ENVIRONMENTAL CONNECTION INC | Date Taken | February 6, 2024 |
| | Client | CME Associates |
| | Location | 921 Elizabeth Avenue |
| EC Project # 24076-01 | Address | 921 Elizabeth Avenue, Elizabeth NJ |

Photograph 9 – Water damaged ceiling tiles within the 5th floor server room

Photograph 10 – Mold growth behind cove baseboard in 5th floor server room

| | Site Photographs | |
|---|---|---|
| ENVIRONMENTAL CONNECTION INC | Date Taken | February 6, 2024 |
| | Client | CME Associates |
| | Location | 921 Elizabeth Avenue |
| EC Project # 24076-01 | Address | 921 Elizabeth Avenue, Elizabeth NJ |

Photograph 11 – Water damaged ceiling tile within the 5th floor server room

Photograph 12 – Efflorescence above drop ceiling along shared wall with adjacent apartment (5th Floor)

| | Site Photographs | |
|---|---|---|
| ENVIRONMENTAL CONNECTION INC | Date Taken | February 6, 2024 |
| | Client | CME Associates |
| | Location | 921 Elizabeth Avenue |
| EC Project # 24076-01 | Address | 921 Elizabeth Avenue, Elizabeth NJ |

Photograph 13 – Mold growth on drywall within 4th floor conference room

Photograph 14 – Mold growth on drywall within 4th floor conference room

| | Site Photographs | |
|---|---|---|
| ENVIRONMENTAL CONNECTION INC | Date Taken | February 6, 2024 |
| | Client | CME Associates |
| | Location | 921 Elizabeth Avenue |
| EC Project # 24076-01 | Address | 921 Elizabeth Avenue, Elizabeth NJ |

Photograph 15 – Water stained carpet within 4th floor open office cubicle area

Photograph 16 – Mold growth/water impacted drywall above drop ceiling in 4th floor open office cubicle area (adjacent to director's office)

| | Site Photographs | |
|---|---|---|
| ENVIRONMENTAL CONNECTION INC | Date Taken | February 6, 2024 |
| | Client | CME Associates |
| | Location | 921 Elizabeth Avenue |
| EC Project # 24076-01 | Address | 921 Elizabeth Avenue, Elizabeth NJ |

Photograph 17 – Moisture impacted drywall soffit within 4th floor director's office

Photograph 18 – Efflorescence above drop ceiling along shared wall with adjacent apartment (4th Floor)

| | Site Photographs | |
|---|---|---|
| ENVIRONMENTAL CONNECTION INC | Date Taken | February 6, 2024 |
| | Client | CME Associates |
| | Location | 921 Elizabeth Avenue |
| EC Project # 24076-01 | Address | 921 Elizabeth Avenue, Elizabeth NJ |

Photograph 19 – Mold staining above drop ceiling in 3rd floor rear office space

Photograph 20 – Water impacted drywall/mold staining in 3rd floor rear office space

| | Site Photographs | |
|---|---|---|
| ENVIRONMENTAL CONNECTION INC | Date Taken | February 6, 2024 |
| | Client | CME Associates |
| | Location | 921 Elizabeth Avenue |
| EC Project # 24076-01 | Address | 921 Elizabeth Avenue, Elizabeth NJ |

Photograph 21 – Mold growth on window sill within 3rd floor DVR interview room

Photograph 22 – Efflorescence above drop ceiling along shared wall with adjacent apartment (3rd Floor)

| | Site Photographs | |
|---|---|---|
| ENVIRONMENTAL CONNECTION INC | Date Taken | February 6, 2024 |
| | Client | CME Associates |
| | Location | 921 Elizabeth Avenue |
| EC Project # 24076-01 | Address | 921 Elizabeth Avenue, Elizabeth NJ |

Photograph 23 – Water damaged drywall in 2nd floor conference room

Photograph 24 – Mold growth behind cove baseboard in 2nd floor conference room

| | Site Photographs | |
|---|---|---|
| ENVIRONMENTAL CONNECTION INC | Date Taken | February 6, 2024 |
| | Client | CME Associates |
| | Location | 921 Elizabeth Avenue |
| EC Project # 24076-01 | Address | 921 Elizabeth Avenue, Elizabeth NJ |

Photograph 25 – Water damaged drywall in 2nd floor conference room

Photograph 26 – Mold growth on window sill in 2nd floor conference room

| | Site Photographs | |
|---|---|---|
| ENVIRONMENTAL CONNECTION INC | Date Taken | February 6, 2024 |
| | Client | CME Associates |
| | Location | 921 Elizabeth Avenue |
| EC Project # 24076-01 | Address | 921 Elizabeth Avenue, Elizabeth NJ |

Photograph 27 – Water damaged drywall in 2nd floor break room

Photograph 28 – Mold growth above water damaged drywall in 2nd break room (above drop ceiling)

| | Site Photographs | |
|---|---|---|
| ENVIRONMENTAL CONNECTION INC | Date Taken | February 6, 2024 |
| | Client | CME Associates |
| | Location | 921 Elizabeth Avenue |
| EC Project # 24076-01 | Address | 921 Elizabeth Avenue, Elizabeth NJ |

Photograph 29 – Water stained carpet in 2nd floor business resource center room

Photograph 30 – Water stained carpet in 2nd floor conference room #1

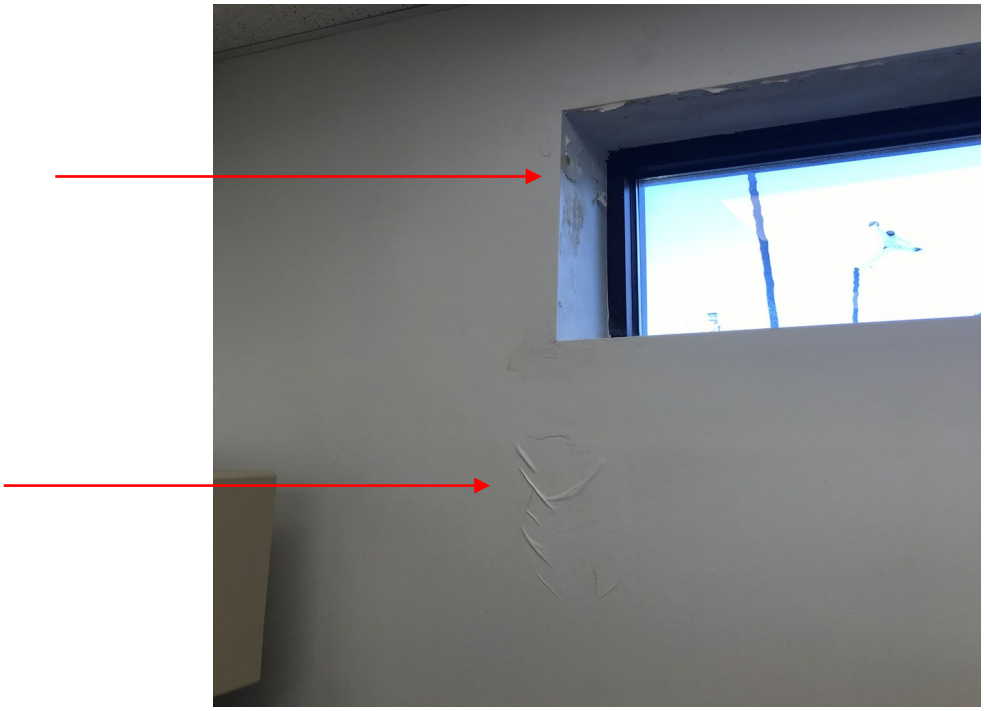
| | Site Photographs | |
|---|---|---|
| ENVIRONMENTAL CONNECTION INC | Date Taken | February 6, 2024 |
| | Client | CME Associates |
| | Location | 921 Elizabeth Avenue |
| EC Project # 24076-01 | Address | 921 Elizabeth Avenue, Elizabeth NJ |

Photograph 31 – Mold growth on drywall in 2nd floor mechanical room

Photograph 32 – Efflorescence above drop ceiling along shared wall with adjacent apartment (2nd Floor)

| | | |
|---|---|---|
| ENVIRONMENTAL CONNECTION INC | **Site Photographs** | |
| | Date Taken | February 6, 2024 |
| | Client | CME Associates |
| | Location | 921 Elizabeth Avenue |
| EC Project # 24076-01 | Address | 921 Elizabeth Avenue, Elizabeth NJ |

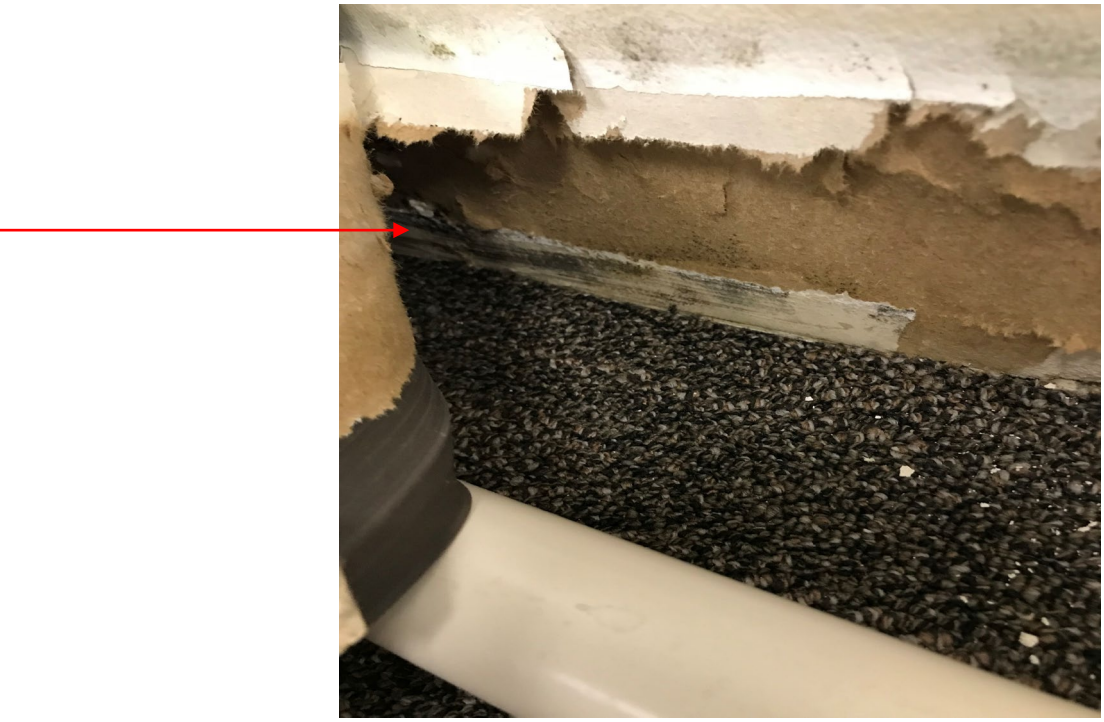
Photograph 33 – Mold growth/water damaged drywall in 1st floor manager's office



Photograph 34 – Water damaged drywall in 1st cubicle area adjacent to manager's office

| | Site Photographs | |
|---|---|---|
| ENVIRONMENTAL CONNECTION INC | Date Taken | February 6, 2024 |
| | Client | CME Associates |
| | Location | 921 Elizabeth Avenue |
| EC Project # 24076-01 | Address | 921 Elizabeth Avenue, Elizabeth NJ |

Photograph 35 – Water damaged drywall in 1st floor conference room



Photograph 36 – Mold growth behind cove baseboard in 1st floor conference room

| | Site Photographs | |
|---|---|---|
| ENVIRONMENTAL CONNECTION INC | Date Taken | February 6, 2024 |
| | Client | CME Associates |
| | Location | 921 Elizabeth Avenue |
| EC Project # 24076-01 | Address | 921 Elizabeth Avenue, Elizabeth NJ |

Photograph 37 – Water stained carpet in 1st floor open office/cubicle area

Photograph 38 – Mold growth behind cove baseboard in 1st floor open office/cubicle area

| | Site Photographs | |
|---|---|---|
| ENVIRONMENTAL CONNECTION INC | Date Taken | February 6, 2024 |
| | Client | CME Associates |
| | Location | 921 Elizabeth Avenue |
| EC Project # 24076-01 | Address | 921 Elizabeth Avenue, Elizabeth NJ |

Photograph 39 – Water stained furnishings/carpet in 1st floor open office/cubicle area

Photograph 40 – Water staining on floor tile in 1st floor open office/cubicle area

| | Site Photographs | |
|---|---|---|
| ENVIRONMENTAL CONNECTION INC | Date Taken | February 6, 2024 |
| | Client | CME Associates |
| | Location | 921 Elizabeth Avenue |
| EC Project # 24076-01 | Address | 921 Elizabeth Avenue, Elizabeth NJ |

Photograph 41 – Water staining on floor tile in 1st floor open office/cubicle area

Photograph 42 – Mold growth on drywall behind computer desk in 1st floor open office/cubicle area

| | Site Photographs | |
|---|---|---|
| ENVIRONMENTAL CONNECTION INC | Date Taken | February 6, 2024 |
| | Client | CME Associates |
| | Location | 921 Elizabeth Avenue |
| EC Project # 24076-01 | Address | 921 Elizabeth Avenue, Elizabeth NJ |

Photograph 43 – Mold growth on drywall behind customer desk in 1st floor open office/cubicle area

Photograph 44 – Mold growth on drywall in 1st floor mechanical room

| | Site Photographs | |
|---|---|---|
| ENVIRONMENTAL CONNECTION INC | Date Taken | February 6, 2024 |
| | Client | CME Associates |
| | Location | 921 Elizabeth Avenue |
| EC Project # 24076-01 | Address | 921 Elizabeth Avenue, Elizabeth NJ |

Photograph 45 – Efflorescence on exterior wall in basement

Photograph 46 – Standing water in basement sump pump

| | Site Photographs | |
|---|---|---|
| ENVIRONMENTAL CONNECTION INC | Date Taken | February 6, 2024 |
| | Client | CME Associates |
| | Location | 921 Elizabeth Avenue |
| EC Project # 24076-01 | Address | 921 Elizabeth Avenue, Elizabeth NJ |

Photograph 47 – Mold growth on carpeting/wooden pallets in basement

Photograph 48 – Mold growth on drywall in basement

| | Site Photographs | |
|---|---|---|
| ENVIRONMENTAL CONNECTION INC | Date Taken | February 6, 2024 |
| | Client | CME Associates |
| | Location | 921 Elizabeth Avenue |
| EC Project # 24076-01 | Address | 921 Elizabeth Avenue, Elizabeth NJ |

Photograph 49 – Wide shot view of building, efflorescence on front side of building adjacent to the apartment building

| | Site Photographs | |
|---|---|---|
| ENVIRONMENTAL CONNECTION INC | Date Taken | February 6, 2024 |
| | Client | CME Associates |
| | Location | 921 Elizabeth Avenue |
| EC Project # 24076-01 | Address | 921 Elizabeth Avenue, Elizabeth NJ |

Photograph 50 – Wide shot view of shared wall between 921 Elizabeth Ave and adjacent apartment building

Photograph 51 – Flashing between 921 Elizabeth Ave and adjacent apartment building

| | Site Photographs | |
|---|---|---|
| ENVIRONMENTAL CONNECTION INC | Date Taken | February 6, 2024 |
| | Client | CME Associates |
| | Location | 921 Elizabeth Avenue |
| EC Project # 24076-01 | Address | 921 Elizabeth Avenue, Elizabeth NJ |

Photograph 53 – Shared alley between 921 Elizabeth Ave and adjacent apartment building

Photograph 54 – Downspouts associated with gutters that discharge into shared alley

| | Site Photographs | |
|---|---|---|
| ENVIRONMENTAL CONNECTION INC | Date Taken | February 6, 2024 |
| | Client | CME Associates |
| | Location | 921 Elizabeth Avenue |
| EC Project # 24076-01 | Address | 921 Elizabeth Avenue, Elizabeth NJ |

Photograph 55 – Penetrations in roof membrane

# SECTION 01 10 00 - SUMMARY

## PART 1 GENERAL

1.1 PROJECT

A. Project Name: Exterior and Interior Restoration at 921 Elizabeth Avenue for the County of Union

B. Owner's Name: County of Union.

C. Architect's Name: USA Architects Planners and Interior Designers, Ltd.

D. The Project consists of exterior and interior restoration at 921 Elizabeth Avenue for the County of Union.

1.2 CONTRACT DESCRIPTION

A. Contract Type: A single prime contract based on a Stipulated Price.

1.3 OWNER OCCUPANCY

A. Owner intends to continue to occupy adjacent portions of the existing building during the entire construction period.

B. Cooperate with Owner to minimize conflict and to facilitate Owner's operations.

C. Schedule the Work to accommodate Owner occupancy.

1.4 CONTRACTOR USE OF SITE AND PREMISES

A. Construction Operations: Limited to areas noted on Drawings.
   1. Locate and conduct construction activities in ways that will limit disturbance to site.

B. Arrange use of site and premises to allow:
   1. Owner occupancy.
   2. Work by Others.
   3. Work by Owner.
   4. Use of site and premises by the public.

C. Provide access to and from site as required by law and by Owner:
   1. Emergency Building Exits During Construction: Keep all exits required by code open during construction period; provide temporary exit signs if exit routes are temporarily altered.
   2. Do not obstruct roadways, sidewalks, or other public ways without permit.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D. Existing building spaces may not be used for storage.

E. Smoking is prohibited within the building and within 25 feet of entries, outdoor air intakes, and operable windows.

## PART 2 PRODUCTS - NOT USED

## PART 3 EXECUTION - NOT USED

END OF SECTION



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# SECTION 01 20 00 - PRICE AND PAYMENT PROCEDURES

## PART 1 GENERAL

1.1 SECTION INCLUDES

A. Procedures for preparation and submittal of applications for progress payments.

1.2 RELATED REQUIREMENTS

A. Section 01 21 00 - Allowances: Payment procedures relating to allowances.

B. Section 01 78 00 - Closeout Submittals: Project record documents.

1.3 SCHEDULE OF VALUES

A. Use Schedule of Values Form: AIA G703, current edition.

B. Electronic media printout including equivalent information will be considered in lieu of standard form specified; submit draft to Architect for approval.

C. Forms filled out by hand will not be accepted.

D. Submit Schedule of Values in duplicate within 15 days after date of Commencement of the Work.

E. Format: Utilize the Table of Contents of this Project Manual. Identify each line item with number and title of the specification section. Identify site mobilization, bonds and insurance, and phased work.

F. Provide sufficient detail so that no line item exceeds five percent of the Contract Sum.

G. Include in each line item, the amount of Allowances specified in this section. For unit cost Allowances, identify quantities taken from Contract Documents multiplied by the unit cost to achieve the total for the item.

H. Include within each line item, a direct proportional amount of Contractor's overhead and profit.

I. Revise schedule to list approved Change Orders, with each Application For Payment.

1.4 TAXES

A. The owner is exempt from any local, state or federal sales, use or excise tax. The owner will not pay for state sales and use tax that are included in any invoices.


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1.5 APPLICATIONS FOR PROGRESS PAYMENTS

A. Payment Period: Submit at intervals stipulated in the Agreement.

B. Use Form AIA G702 and Form AIA G703, current edition.

C. Electronic media printout including equivalent information will be considered in lieu of standard form specified; submit sample to Architect for approval.

D. Forms filled out by hand will not be accepted.

E. Execute certification by signature of authorized officer.

F. Use data from approved Schedule of Values. Provide dollar value in each column for each line item for portion of work performed and for stored products.

G. List each authorized Change Order as a separate line item, listing Change Order number and dollar amount as for an original item of work.

H. Submit one electronic and three hard-copies of each Application for Payment.

I. Include the following with the application:
   1. Transmittal letter as specified for submittals in Section 01 30 00.
   2. Construction progress schedule, revised and current as specified in Section 01 32 16.
   3. Partial release of liens from major subcontractors and vendors.
   4. Certified payrolls.
   5. Affidavits attesting to off-site stored products.

J. Submit the following prior to the first Application for Payment. No payment will be approved until these have been submitted.
   1. Evidence of Affirmative Action Compliance.
   2. Proof of Business Registration.
   3. Copy of the building permit.
   4. Submittal schedule.
   5. Schedule of values.
   6. Insurance certificates naming the Owner, Architect, and Architect's consultants as additional insureds under the Contractor's commercial general liability policy.

K. When Architect requires substantiating information, submit data justifying dollar amounts in question. Provide one copy of data with cover letter for each copy of submittal. Show application number and date, and line item by number and description.

1.6 MODIFICATION PROCEDURES

A. For minor changes not involving an adjustment to the Contract Sum or Contract Time, Architect will issue instructions directly to Contractor.


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B. For other required changes, Architect will issue a document signed by Owner instructing Contractor to proceed with the change, for subsequent inclusion in a Change Order.
   1. The document will describe the required changes and will designate method of determining any change in Contract Sum or Contract Time.
   2. Promptly execute the change.

C. For changes for which advance pricing is desired, Architect will issue a document that 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 requested price will be considered valid. Contractor shall prepare and submit a fixed price quotation within 14 days.

D. Contractor may propose a change by submitting a request for change to Architect, describing the proposed change and its full effect on the work, with a statement describing the reason for the change, and the effect on the Contract Sum and Contract Time with full documentation. Document any requested substitutions in accordance with Section 01 25 00.

E. Computation of Change in Contract Amount:
   1. For all extra work performed by the Contractor, the gross cost to the Owner shall include the net cost of the work to the Contractor plus an allowance for overhead and profit not to exceed 10% of the net cost.
   2. For all extra work performed by a Subcontractor, the gross cost to the Owner shall include the net cost of the work to the Subcontractor plus an allowance for overhead and profit not to exceed 10% of the net cost, plus the Contractor's overhead and profit not to exceed 5% of the Subcontractor's net cost. In no case shall the total allowance for overhead and profit exceed 15% of the net cost of the work.
   3. Net cost of extra work shall be the actual or prorated cost of:
      a. Labor, including foreman, at the prevailing rate of wages, contributions and taxes,
      b. Materials entering permanently into the work, including delivery to the site.
      c. The ownership or rental cost of construction equipment and expandable tools, prorated for the time necessary for the work.
      d. Power and consumable supplies for the operation of power equipment, prorated for the time necessary for the work.
      e. Insurance and bonds.
   4. Gross costs shall be net costs plus the allowances described above, such allowances being including of all cost of superintendence, supervision, engineering, overhead, profit, administrative and site office expenses and all other general expenses.

F. Substantiation of Costs: Provide full information required for evaluation.
   1. Provide the following data:
      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 documented.
   2. Support each claim for additional costs with additional information:


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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.

3. For Time and Material work, submit itemized account and supporting data after completion of change, within time limits indicated in the Conditions of the Contract.

G. After execution of Change Order, promptly revise Schedule of Values and Application for Payment forms to record each authorized Change Order as a separate line item and adjust the Contract Sum.

H. Promptly revise progress schedules to reflect any change in Contract Time, revise sub-schedules to adjust times for other items of work affected by the change, and resubmit.

I. Promptly enter changes in Project Record Documents.

1.7 APPLICATION FOR FINAL PAYMENT

A. Forms:
1. Contractor's Affidavit of Payment: AIA G706, with supporting documents.

B. Prepare Application for Final Payment as specified for progress payments, identifying total adjusted Contract Sum, previous payments, and sum remaining due.

C. Application for Final Payment will not be considered until the following have been accomplished:
1. All closeout procedures specified in Section 01 70 00.
2. Contractor submits to the Architect releases and waivers of liens, and data establishing payment or satisfaction of obligations, such as receipts, claims, security interests, or encumbrances arising out of the Contract.
3. Pursuant to N.J.S.A. 52:32-44, submit a complete and accurate list of all subcontractors used and their addresses.

## PART 2 PRODUCTS - NOT USED

## PART 3 EXECUTION

3.1 PROGRESS PAYMENTS PROCEDURE

A. Submit applications for payment at least ten days before the date established for each progress payment unless stipulated otherwise in the Agreement.

B. The Architect will review and respond to the application within seven days of receipt of application unless stipulated otherwise in the Agreement.


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C. The Owner will make payment within 30 days of the date established for the progress payment.

D. In accordance with N.J.S.A. 2A:30A-2, the billing shall be deemed approved and certified 20 days after the owner receives it unless the owner provides, before the end of the 20-day period, a written statement of the amount withheld and the reason for withholding payment, except that in the case of a public or governmental entity that requires the entity's governing body to vote on authorizations for each periodic payment, final payment or retainage monies, the amount due may be approved and certified at the next scheduled public meeting of the entity's governing body, and paid during the entity's subsequent payment cycle, provided this exception has been defined in the bid specifications and contract documents.

E. The Contractor shall pay each Subcontractor, no later than ten days after receipt of payment from the Owner.

END OF SECTION



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# SECTION 01 21 00 - ALLOWANCES

## PART 1 GENERAL

1.1 SECTION INCLUDES

A. Contingency allowance.

1.2 CONTINGENCY ALLOWANCE

A. Contractor's costs for products, delivery, installation, labor, insurance, payroll, taxes, bonding, equipment rental, overhead and profit will be included in Change Orders authorizing expenditure of funds from this Contingency Allowance.

B. Funds will be drawn from the Contingency Allowance only by Change Order.

C. At closeout of Contract, funds remaining in Contingency Allowance will be credited to Owner by Change Order.

1.3 ALLOWANCES SCHEDULE

A. Contingency Allowance: Include the stipulated sum/price of $300,000.00 for use upon Owner's instructions.

## PART 2 PRODUCTS - NOT USED

## PART 3 EXECUTION - NOT USED

END OF SECTION



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# SECTION 01 25 00 - SUBSTITUTION PROCEDURES

## PART 1 GENERAL

### 1.1 SECTION INCLUDES

A. Procedural requirements for proposed substitutions.

### 1.2 DEFINITIONS

A. Substitutions: Changes from Contract Documents requirements proposed by Contractor to materials, products, assemblies, and equipment.
   1. Substitutions for Cause: Proposed due to changed Project circumstances beyond Contractor's control.
      a. Unavailability.
      b. Regulatory changes.
   2. Substitutions for Convenience: Proposed due to possibility of offering substantial advantage to the Project.
      a. Substitution requests offering advantages solely to the Contractor will not be considered.

### 1.3 REFERENCE STANDARDS

A. CSI/CSC Form 13.1A - Substitution Request (After the Bidding/Negotiating Phase); Current Edition.

## PART 2 PRODUCTS - NOT USED

## PART 3 EXECUTION

### 3.1 GENERAL REQUIREMENTS

A. A Substitution Request for products, assemblies, materials, and equipment constitutes a representation that the submitter:
   1. Has investigated proposed product and determined that it meets or exceeds the quality level of the specified product, equipment, assembly, or system.
   2. Agrees to provide the same warranty for the substitution as for the specified product.
   3. Agrees to provide same or equivalent maintenance service and source of replacement parts, as applicable.
   4. Agrees to coordinate installation and make changes to other work that may be required for the work to be complete, with no additional cost to Owner.
   5. Waives claims for additional costs or time extension that may subsequently become apparent.


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a. Waiver includes claims related to providing custom aesthetic effects, colors, or finishes to meet the intent expressed in the Contract Documents.

6. Agrees to reimburse Owner and Architect for review or redesign services associated with re-approval by authorities.

B. Document each request with complete data substantiating compliance of proposed substitution with Contract Documents. Burden of proof is on proposer.

1. Note explicitly any non-compliant characteristics.

C. Content: Include information necessary for tracking the status of each Substitution Request, and information necessary to provide an actionable response.

1. Contractor's Substitution Request documentation must include the following:

a. Project Information:

1) Official project name and number.

2) Owner's, Architect's, and Contractor's names.

b. Substitution Request Information:

1) Discrete and consecutive Substitution Request number, and descriptive subject/title.

2) Indication of whether the substitution is for cause or convenience.

3) Issue date.

4) Reference to particular Contract Document(s) specification section number, title, and article/paragraph(s).

5) Description of Substitution.

6) Reason why the specified item cannot be provided.

7) Differences between proposed substitution and specified item.

8) Description of how proposed substitution affects other parts of work.

c. Attached Comparative Data: Provide point-by-point, side-by-side comparison addressing essential attributes specified, as appropriate and relevant for the item:

1) Physical characteristics.

2) In-service performance.

3) Expected durability.

4) Visual effect.

5) Sustainable design features.

6) Warranties.

7) Other salient features and requirements.

8) Include, as appropriate or requested, the following types of documentation:

(a) Product Data:

(b) Samples.

(c) Certificates, test, reports or similar qualification data.

(d) Drawings, when required to show impact on adjacent construction elements.

d. Impact of Substitution:

1) Savings to Owner for accepting substitution.

2) Change to Contract Time due to accepting substitution.


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D. Limit each request to a single proposed substitution item.
   1. Submit an electronic document, combining the request form with supporting data into single document.

3.2 SUBSTITUTION PROCEDURES DURING CONSTRUCTION

A. Submittal Form (after award of contract):
   1. Submit substitution requests by completing CSI/CSC Form 13.1A - Substitution Request. See this form for additional information and instructions.
   2. Electronic media printout including equivalent information will be considered in lieu of standard form specified; submit sample to Architect for approval.

B. Submit request for Substitution for Cause within 14 days of discovery of need for substitution, but not later than 14 days prior to time required for review and approval by Architect, in order to stay on approved project schedule.

C. Submit request for Substitution for Convenience within 14 days of discovery of its potential advantage to the project or the date of Commencement of the Work, whichever is later, but not later than 14 days prior to time required for review and approval by Architect, in order to stay on approved project schedule.
   1. In addition to meeting general documentation requirements, document how the requested substitution benefits the Owner through cost savings, time savings, greater energy conservation, or in other specific ways.
   2. Document means of coordinating of substitution item with other portions of the work, including work by affected subcontractors.
   3. Bear the costs engendered by proposed substitution of:
      a. Owner's compensation to the Architect for any required redesign, time spent processing and evaluating the request.
      b. Other construction by Owner.
      c. Other unanticipated project considerations.

D. Substitutions will not be considered under one or more of the following circumstances:
   1. When they are indicated or implied on shop drawing or product data submittals, without having received prior approval.
   2. Without a separate written request.
   3. When acceptance will require revisions to Contract Documents.

3.3 RESOLUTION

A. Architect may request additional information and documentation prior to rendering a decision. Provide this data in an expeditious manner.

B. Architect will notify Contractor in writing of decision to accept or reject request.
   1. Architect's decision following review of proposed substitution will be noted on the submitted form.


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3.4 ACCEPTANCE

A. Accepted substitutions change the work of the Project. They will be documented and incorporated into work of the project by Change Order, Construction Change Directive, Architectural Supplementary Instructions, or similar instruments provided for in the Conditions of the Contract.

3.5 CLOSEOUT ACTIVITIES

A. Include completed Substitution Request Forms as part of the Project record.

END OF SECTION



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# SECTION 01 30 00 - ADMINISTRATIVE REQUIREMENTS

## PART 1 GENERAL

1.1 SECTION INCLUDES

A. General administrative requirements.

B. Preconstruction meeting.

C. Site mobilization meeting.

D. Progress meetings.

E. Number of copies of submittals.

F. Requests for Information (RFI) procedures.

G. Submittal procedures.

1.2 RELATED REQUIREMENTS

A. Section 01 60 00 - Product Requirements: General product requirements.

B. Section 01 70 00 - Execution and Closeout Requirements: Additional coordination requirements.

1.3 GENERAL ADMINISTRATIVE REQUIREMENTS

A. Comply with requirements of Section 01 70 00 - Execution and Closeout Requirements for coordination of execution of administrative tasks with timing of construction activities.

B. Make the following types of submittals to Architect:
1. Requests for Information (RFI).
2. Requests for substitution.
3. Shop drawings, product data, and samples.
4. Test and inspection reports.
5. Design data.
6. Manufacturer's instructions and field reports.
7. Applications for payment and change order requests.
8. Progress schedules.
9. Coordination drawings.
10. Correction Punch List and Final Correction Punch List for Substantial Completion.
11. Closeout submittals.


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## PART 2 PRODUCTS - NOT USED

## PART 3 EXECUTION

### 3.1 PRECONSTRUCTION MEETING

A. Attendance Required:
   1. Owner.
   2. Architect.
   3. Contractor.

B. Agenda:
   1. Execution of Owner-Contractor Agreement.
   2. Submission of executed bonds and insurance certificates.
   3. Distribution of Contract Documents.
   4. Submission of schedule of values, and progress schedule.
   5. Designation of personnel representing the parties to Contract and <1|A/E|>.
   6. Procedures and processing of field decisions, submittals, substitutions, applications for payments, proposal request, Change Orders, and Contract closeout procedures.
   7. Scheduling.

C. Record minutes and distribute copies within two days after meeting to participants, with two copies to Architect, Owner, participants, and those affected by decisions made.

### 3.2 SITE MOBILIZATION MEETING

A. Architect will schedule meeting at the Project site prior to Contractor occupancy.

B. Meeting may be conducted as part of the Preconstruction Meeting.

C. Attendance Required:
   1. Contractor.
   2. Owner.
   3. Architect.
   4. Contractor's superintendent.
   5. Major subcontractors.

D. Agenda:
   1. Use of premises by Owner and Contractor.
   2. Owner's requirements.
   3. Construction facilities and controls provided by Owner.
   4. Temporary utilities provided by Owner.
   5. Survey and building layout.
   6. Security and housekeeping procedures.
   7. Schedules.


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8. Application for payment procedures.
9. Procedures for testing.
10. Procedures for maintaining record documents.
11. Requirements for start-up of equipment.
12. Inspection and acceptance of equipment put into service during construction period.

E. Record minutes and distribute copies within two days after meeting to participants, with two copies to Architect, Owner, participants, and those affected by decisions made.

3.3 PROGRESS MEETINGS

A. Attendance Required:
1. Contractor.
2. Owner.
3. Architect.
4. Contractor's superintendent.
5. Major subcontractors.

B. Agenda:
1. Review minutes of previous meetings.
2. Review of work progress.
3. Field observations, problems, and decisions.
4. Identification of problems that impede, or will impede, planned progress.
5. Review of submittals schedule and status of submittals.
6. Review of RFIs log and status of responses.
7. Review of off-site fabrication and delivery schedules.
8. Maintenance of progress schedule.
9. Corrective measures to regain projected schedules.
10. Planned progress during succeeding work period.
11. Coordination of projected progress.
12. Maintenance of quality and work standards.
13. Effect of proposed changes on progress schedule and coordination.
14. Other business relating to work.

C. Record minutes and distribute copies within two days after meeting to participants, with two copies to Architect, Owner, participants, and those affected by decisions made.

3.4 PREINSTALLATION MEETINGS - SEE SECTION 01 70 00.

3.5 REQUESTS FOR INFORMATION (RFI)

A. Definition: A request seeking one of the following:


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1. An interpretation, amplification, or clarification of some requirement of Contract Documents arising from inability to determine from them the exact material, process, or system to be installed; or when the elements of construction are required to occupy the same space (interference); or when an item of work is described differently at more than one place in Contract Documents.
2. A resolution to an issue which has arisen due to field conditions and affects design intent.

B. Whenever possible, request clarifications at the next appropriate project progress meeting, with response entered into meeting minutes, rendering unnecessary the issuance of a formal RFI.

C. Preparation: Prepare an RFI immediately upon discovery of a need for interpretation of Contract Documents. Failure to submit a RFI in a timely manner is not a legitimate cause for claiming additional costs or delays in execution of the work.
1. Prepare a separate RFI for each specific item.
   a. Review, coordinate, and comment on requests originating with subcontractors and/or materials suppliers.
   b. Do not forward requests which solely require internal coordination between subcontractors.
2. Prepare in a format and with content acceptable to Owner.
3. Combine RFI and its attachments into a single electronic file. PDF format is preferred.

D. Reason for the RFI: Prior to initiation of an RFI, carefully study all Contract Documents to confirm that information sufficient for their interpretation is definitely not included.
1. Include in each request Contractor's signature attesting to good faith effort to determine from Contract Documents information requiring interpretation.
2. Unacceptable Uses for RFIs: Do not use RFIs to request the following::
   a. Approval of submittals (use procedures specified elsewhere in this section).
   b. Approval of substitutions (see Section - 01 60 00 - Product Requirements)
   c. Changes that entail change in Contract Time and Contract Sum (comply with provisions of the Conditions of the Contract).
   d. Different methods of performing work than those indicated in the Contract Drawings and Specifications (comply with provisions of the Conditions of the Contract).
3. Improper RFIs: Requests not prepared in compliance with requirements of this section, and/or missing key information required to render an actionable response. They will be returned without a response, with an explanatory notation.
4. Frivolous RFIs: Requests regarding information that is clearly indicated on, or reasonably inferable from, Contract Documents, with no additional input required to clarify the question. They will be returned without a response, with an explanatory notation.

E. Content: Include identifiers necessary for tracking the status of each RFI, and information necessary to provide an actionable response.
1. Official Project name and number, and any additional required identifiers established in Contract Documents.
2. Owner's, Architect's, and Contractor's names.


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3. Discrete and consecutive RFI number, and descriptive subject/title.
4. Issue date, and requested reply date.
5. Reference to particular Contract Document(s) requiring additional information/interpretation. Identify pertinent drawing and detail number and/or specification section number, title, and paragraph(s).
6. Annotations: Field dimensions and/or description of conditions which have engendered the request.
7. Contractor's suggested resolution: A written and/or a graphic solution, to scale, is required in cases where clarification of coordination issues is involved, for example; routing, clearances, and/or specific locations of work shown diagrammatically in Contract Documents. If applicable, state the likely impact of the suggested resolution on Contract Time or the Contract Sum.

F. Attachments: Include sketches, coordination drawings, descriptions, photos, submittals, and other information necessary to substantiate the reason for the request.

3.6 SUBMITTAL SCHEDULE

A. Submit to Architect for review a schedule for submittals in tabular format.
1. Submit within 10 days of Notice to Proceed.
2. Coordinate with Contractor's construction schedule and schedule of values.
3. Format schedule to allow tracking of status of submittals throughout duration of construction.
4. Arrange information to include scheduled date for initial submittal, specification number and title, submittal category (for review or for information), description of item of work covered, and role and name of subcontractor.
5. Account for time required for preparation, review, manufacturing, fabrication and delivery when establishing submittal delivery and review deadline dates.
   a. For assemblies, equipment, systems comprised of multiple components and/or requiring detailed coordination with other work, allow for additional time to make corrections or revisions to initial submittals, and time for their review.

3.7 NUMBER OF COPIES OF SUBMITTALS

A. Electronic Documents: Submit one electronic copy in PDF format; an electronically-marked up file will be returned. Create PDFs at native size and right-side up; illegible files will be rejected.

3.8 SUBMITTAL REVIEW

A. All Submittals are due within 30 days on Notice to Proceed.

B. Submittals for Review: Architect will review each submittal, and approve, or take other appropriate action.

C. Submittals for Information: Architect will acknowledge receipt and review. See below for actions to be taken.


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D. Architect's actions will be reflected by marking each returned submittal using virtual stamp on electronic submittals.
   1. Notations may be made directly on submitted items and/or listed on appended Submittal Review cover sheet.

E. Architect's and consultants' actions on items submitted for review:
   1. Authorizing purchasing, fabrication, delivery, and installation:
      a. "Approved", or language with same legal meaning.
      b. "Approved as Noted, Resubmission not required", or language with same legal meaning.
         1) At Contractor's option, submit corrected item, with review notations acknowledged and incorporated.
      c. "Approved as Noted, Resubmit for Record", or language with same legal meaning.
         1) Resubmit corrected item, with review notations acknowledged and incorporated. Resubmit separately, or as part of project record documents.
         2) Non-responsive resubmittals may be rejected.
   2. Not Authorizing fabrication, delivery, and installation:
      a. "Revise and Resubmit".
         1) Resubmit revised item, with review notations acknowledged and incorporated.
         2) Non-responsive resubmittals may be rejected.
      b. "Rejected".
         1) Submit item complying with requirements of Contract Documents.

F. Architect's and consultants' actions on items submitted for information:
   1. Items for which no action was taken:
      a. "Received" - to notify the Contractor that the submittal has been received for record only.
   2. Items for which action was taken:
      a. "Reviewed" - no further action is required from Contractor.

END OF SECTION


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# SECTION 01 32 16 - CONSTRUCTION PROGRESS SCHEDULE

## PART 1 GENERAL

1.1 SECTION INCLUDES

A. Preliminary schedule.

B. Construction progress schedule, with network analysis diagrams and reports.

1.2 SUBMITTALS

A. Within 5 days after date of Commencement of the Work, submit preliminary schedule defining planned operations for the first 60 days of Work, with a general outline for remainder of Work.

B. If preliminary schedule requires revision after review, submit revised schedule within 10 days.

C. Within 10 days after review of preliminary schedule, submit draft of proposed complete schedule for review.
   1. Include written certification that major contractors have reviewed and accepted proposed schedule.

D. Within 5 days after joint review, submit complete schedule.

E. Submit updated schedule with each Application for Payment.

1.3 SCHEDULE FORMAT

A. Listings: In chronological order according to the start date for each activity. Identify each activity with the applicable specification section number.

## PART 2 PRODUCTS - NOT USED

## PART 3 EXECUTION

3.1 PRELIMINARY SCHEDULE

A. Prepare preliminary schedule in the form of a horizontal bar chart.

3.2 CONTENT

A. Show complete sequence of construction by activity, with dates for beginning and completion of each element of construction.


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B. Identify each item by specification section number.

C. Provide sufficient detail so that no activity exceeds five percent of the Contract Sum.

D. Identify work of separate stages and other logically grouped activities.

E. Show accumulated percentage of completion of each item, and total percentage of Work completed, as of the first day of each month.

F. Coordinate content with schedule of values specified in Section 01 20 00 - Price and Payment Procedures.

G. Provide legend for symbols and abbreviations used.

3.3 NETWORK ANALYSIS

A. Prepare network analysis diagrams and supporting mathematical analyses using the Critical Path Method.

B. Illustrate order and interdependence of activities and sequence of work; how start of a given activity depends on completion of preceding activities, and how completion of the activity may restrain start of subsequent activities.

C. Mathematical Analysis: Tabulate each activity of detailed network diagrams, using calendar dates, and identify for each activity:
   1. Preceding and following event numbers.
   2. Activity description.
   3. Estimated duration of activity, in maximum 15 day intervals.
   4. Earliest start date.
   5. Earliest finish date.
   6. Actual start date.
   7. Actual finish date.
   8. Latest start date.
   9. Latest finish date.
   10. Total and free float; float time shall accrue to Owner and to Owner's benefit.
   11. Monetary value of activity, keyed to Schedule of Values.
   12. Percentage of activity completed.
   13. Responsibility.

D. Analysis Program: Capable of compiling monetary value of completed and partially completed activities, accepting revised completion dates, and recomputation of all dates and float.

E. Required Reports: List activities in sorts or groups:
   1. By preceding work item or event number from lowest to highest.
   2. By amount of float, then in order of early start.


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3.4 REVIEW AND EVALUATION OF SCHEDULE

A. Participate in joint review and evaluation of schedule with Architect at each submittal.

B. Evaluate project status to determine work behind schedule and work ahead of schedule.

C. After review, revise as necessary as result of review, and resubmit within 5 days.

3.5 UPDATING SCHEDULE

A. Save baseline schedule for comparison to future schedules.

B. Maintain schedules to record actual start and finish dates of completed activities.

C. Indicate progress of each activity to date of revision, with projected completion date of each activity.

D. Annotate diagrams to graphically depict current status of Work.

E. Identify activities modified since previous submittal, major changes in Work, and other identifiable changes.

F. Indicate changes required to maintain Date of Substantial Completion.

G. Submit reports required to support recommended changes.

H. Provide narrative report to define problem areas, anticipated delays, and impact on the schedule. Report corrective action taken or proposed and its effect.

3.6 DISTRIBUTION OF SCHEDULE

A. Distribute copies of updated schedules to Contractor's project site file, to subcontractors, suppliers, Architect, Owner, and other concerned parties.

B. Instruct recipients to promptly report, in writing, problems anticipated by projections indicated in schedules.

END OF SECTION


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# SECTION 01 40 00 - QUALITY REQUIREMENTS

## PART 1 GENERAL

1.1 SECTION INCLUDES

A. Submittals.

B. Quality assurance.

C. References and standards.

D. Testing and inspection agencies and services.

E. Control of installation.

F. Mock-ups.

G. Tolerances.

H. Manufacturers' field services.

I. Defect Assessment.

1.2 RELATED REQUIREMENTS

A. Section 01 30 00 - Administrative Requirements: Submittal procedures.

B. Section 01 42 16 - Definitions.

C. Section 01 60 00 - Product Requirements: Requirements for material and product quality.

1.3 REFERENCE STANDARDS

A. IAS AC89 - Accreditation Criteria for Testing Laboratories; 2021.

1.4 DEFINITIONS

A. Contractor's Professional Design Services: Design of some aspect or portion of the project by party other than the design professional of record. Provide these services as part of the Contract for Construction.
   1. Design Services Types Required:
      a. Construction-Related: Services Contractor needs to provide in order to carry out the Contractor’s sole responsibilities for construction means, methods, techniques, sequences, and procedures.


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b. Design-Related: Design services explicitly required to be performed by another design professional due to highly-technical and/or specialized nature of a portion of the project. Services primarily involve engineering analysis, calculations, and design, and are not intended to alter the aesthetic aspects of the design.

B. Design Data: Design-related, signed and sealed drawings, calculations, specifications, certifications, shop drawings and other submittals provided by Contractor, and prepared directly by, or under direct supervision of, appropriately licensed design professional.

1.5 SUBMITTALS

A. See Section 01 30 00 - Administrative Requirements, for submittal procedures.

B. Test Reports: After each test/inspection, promptly submit two copies of report to Architect and to Contractor.
1. Include:
a. Date issued.
b. Project title and number.
c. Name of inspector.
d. Date and time of sampling or inspection.
e. Identification of product and specifications section.
f. Location in the Project.
g. Type of test/inspection.
h. Date of test/inspection.
i. Results of test/inspection.
j. Compliance with Contract Documents.
k. When requested by Architect, provide interpretation of results.
2. Test report submittals are for Architect's knowledge as contract administrator for the limited purpose of assessing compliance with information given and the design concept expressed in the Contract Documents, or for Owner's information.

C. Certificates: When specified in individual specification sections, submit certification by the manufacturer and Contractor or installation/application subcontractor to Architect, in quantities specified for Product Data.
1. Indicate material or product complies with or exceeds specified requirements. Submit supporting reference data, affidavits, and certifications as appropriate.
2. Certificates may be recent or previous test results on material or product, but must be acceptable to Architect.

D. Manufacturer's Instructions: When specified in individual specification sections, submit printed instructions for delivery, storage, assembly, installation, start-up, adjusting, and finishing, for the Owner's information. Indicate special procedures, perimeter conditions requiring special attention, and special environmental criteria required for application or installation.

E. Manufacturer's Field Reports: Submit reports for Architect's benefit as contract administrator or for Owner.


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1. Submit report within 30 days of observation to Architect for information.
2. Submit for information for the limited purpose of assessing compliance with information given and the design concept expressed in the Contract Documents.

F. Erection Drawings: Submit drawings for Architect's benefit as contract administrator or for Owner.
1. Submit for information for the limited purpose of assessing compliance with information given and the design concept expressed in the Contract Documents.
2. Data indicating inappropriate or unacceptable Work may be subject to action by Architect or Owner.

1.6 QUALITY ASSURANCE

A. Testing Agency Qualifications:
1. Prior to start of work, submit agency name, address, and telephone number, and names of full time registered Engineer and responsible officer.
2. Submit copy of report of laboratory facilities inspection made by NIST Construction Materials Reference Laboratory during most recent inspection, with memorandum of remedies of any deficiencies reported by the inspection.
3. Qualification Statement: Provide documentation showing testing laboratory is accredited under IAS AC89.

B. Quality-Control Personnel Qualifications. Engage a person with requisite training and experience to implement and manage quality assurance (QA) and quality control (QC) for the project.

1.7 REFERENCES AND STANDARDS

A. For products and workmanship specified by reference to a document or documents not included in the Project Manual, also referred to as reference standards, comply with requirements of the standard, except when more rigid requirements are specified or are required by applicable codes.

B. Comply with reference standard of date of issue current on date of Contract Documents, except where a specific date is established by applicable code.

C. Obtain copies of standards where required by product specification sections.

D. Maintain copy at project site during submittals, planning, and progress of the specific work, until Substantial Completion.

E. Should specified reference standards conflict with Contract Documents, request clarification from Architect before proceeding.


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F. Neither the contractual relationships, duties, or responsibilities of the parties in Contract nor those of Architect shall be altered from Contract Documents by mention or inference otherwise in any reference document.

## PART 2 PRODUCTS - NOT USED

## PART 3 EXECUTION

### 3.1 CONTROL OF INSTALLATION

A. Monitor quality control over suppliers, manufacturers, products, services, site conditions, and workmanship, to produce work of specified quality.

B. Comply with manufacturers' instructions, including each step in sequence.

C. Should manufacturers' instructions conflict with Contract Documents, request clarification from Architect before proceeding.

D. Comply with specified standards as minimum quality for the work except where more stringent tolerances, codes, or specified requirements indicate higher standards or more precise workmanship.

E. Have work performed by persons qualified to produce required and specified quality.

F. Verify that field measurements are as indicated on shop drawings or as instructed by the manufacturer.

G. Secure products in place with positive anchorage devices designed and sized to withstand stresses, vibration, physical distortion, and disfigurement.

### 3.2 MOCK-UPS

A. Before installing portions of the Work where mock-ups are required, construct mock-ups in location and size indicated for each form of construction and finish required to comply with the following requirements, using materials indicated for the completed Work. The purpose of mock-up is to demonstrate the proposed range of aesthetic effects and workmanship.

B. Accepted mock-ups shall be a comparison standard for the remaining Work.

C. Where mock-up has been accepted by Architect and is specified in product specification sections to be removed, protect mock-up throughout construction, remove mock-up and clear area when directed to do so by Architect.


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3.3 TOLERANCES

A. Monitor fabrication and installation tolerance control of products to produce acceptable Work. Do not permit tolerances to accumulate.

B. Comply with manufacturers' tolerances. Should manufacturers' tolerances conflict with Contract Documents, request clarification from Architect before proceeding.

C. Adjust products to appropriate dimensions; position before securing products in place.

3.4 MANUFACTURERS' FIELD SERVICES

A. When specified in individual specification sections, require material or product suppliers or manufacturers to provide qualified staff personnel to observe site conditions, conditions of surfaces and installation, quality of workmanship, start-up of equipment, test, adjust, and balance equipment as applicable, and to initiate instructions when necessary.

B. Submit qualifications of observer to Architect 30 days in advance of required observations.
   1. Observer subject to approval of Architect.
   2. Observer subject to approval of Owner.

C. Report observations and site decisions or instructions given to applicators or installers that are supplemental or contrary to manufacturers' written instructions.

3.5 DEFECT ASSESSMENT

A. Replace Work or portions of the Work not complying with specified requirements.

B. If, in the opinion of Owner, it is not practical to remove and replace the work, Owner will direct an appropriate remedy or adjust payment.

END OF SECTION



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# SECTION 01 42 16 - DEFINITIONS

## PART 1 GENERAL

1.1 SUMMARY

A. Other definitions are included in individual specification sections.

1.2 DEFINITIONS

1. Architect.
2. Change Order.
3. Claim.
4. Construction Change Directive.
5. Contract.
6. Contract Document.
7. Contract Sum.
8. Contract Time.
9. Contractor.
10. Date of Commencement of the Work.
11. day.
12. defective.
13. Drawings.
14. Instruments of Service.
15. Modification.
16. Owner.
17. Product Data.
18. Project.
19. Samples.
20. Separate Contractor.
21. Shop Drawings.
22. Specifications.
23. Subcontractor.
24. (Date of) Substantial Completion.
25. Sub-subcontractor.
26. Work.

B. Furnish: When referring to products, means to purchase and deliver.

C. Install: When used in connection with "furnish," includes unloading (if not provided by delivery carrier), inspecting for damage, uncrating, and other handling at the site.


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D. Product: Material, machinery, components, equipment, fixtures, and systems forming the work result. Not materials or equipment used for preparation, fabrication, conveying, or erection and not incorporated into the work result. Products may be new, never before used, or re-used materials or equipment.

E. Provide: When referring to products, means to furnish and install.

F. Shall: Must; be obliged to (expressing imperative mood, not future tense).

G. Supply: To furnish and install.

## PART 2 PRODUCTS - NOT USED

## PART 3 EXECUTION - NOT USED

END OF SECTION


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# SECTION 01 50 00 - TEMPORARY FACILITIES AND CONTROLS

## PART 1 GENERAL

1.1 SECTION INCLUDES

A. Temporary Controls: Barriers and enclosures.

B. Security requirements.

C. Waste removal facilities and services.

1.2 TEMPORARY UTILITIES - SEE SECTION 01 51 00

A. Owner will provide the following:
1. Electrical power and metering, consisting of connection to existing facilities.
2. Water supply, consisting of connection to existing facilities.
3. Contractor may use on-site restrooms.

1.3 BARRIERS

A. Provide barriers to prevent unauthorized entry to construction areas, to prevent access to areas that could be hazardous to workers or the public, to allow for owner's use of site and to protect existing facilities and adjacent properties from damage from construction operations and demolition.

1.4 WASTE REMOVAL

A. Provide waste removal facilities and services as required to maintain the site in clean and orderly condition.

B. Provide containers with lids. Remove trash from site periodically.

C. If materials to be recycled or re-used on the project must be stored on-site, provide suitable non-combustible containers; locate containers holding flammable material outside the structure unless otherwise approved by the authorities having jurisdiction.

D. Open free-fall chutes are not permitted. Terminate closed chutes into appropriate containers with lids.


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PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION - NOT USED

END OF SECTION



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# SECTION 01 51 00 - TEMPORARY UTILITIES

## PART 1 GENERAL

1.1 SECTION INCLUDES

A. Temporary Utilities: Provision of electricity.

1.2 REFERENCE STANDARDS

A. 29 CFR 1926 - Safety and Health Regulations for Construction; Current Edition.

1.3 TEMPORARY ELECTRICITY

A. Cost: By Owner.

B. Connect to Owner's existing power service.
   1. Do not disrupt Owner's need for continuous service.
   2. Exercise measures to conserve energy.

## PART 2 PRODUCTS - NOT USED

## PART 3 EXECUTION - NOT USED

END OF SECTION


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# SECTION 01 60 00 - PRODUCT REQUIREMENTS

## PART 1 GENERAL

1.1 SECTION INCLUDES

A. Re-use of existing products.

B. Transportation, handling, storage and protection.

C. Product option requirements.

D. Substitution limitations.

E. Maintenance materials, including extra materials, spare parts, tools, and software.

1.2 RELATED REQUIREMENTS

A. Section 01 25 00 - Substitution Procedures: Substitutions made during procurement and/or construction phases.

B. Section 01 40 00 - Quality Requirements: Product quality monitoring.

1.3 SUBMITTALS

A. Product Data Submittals: Submit manufacturer's standard published data. Mark each copy to identify applicable products, models, options, and other data. Supplement manufacturers' standard data to provide information specific to this Project.

B. Shop Drawing Submittals: Prepared specifically for this Project; indicate utility and electrical characteristics, utility connection requirements, and location of utility outlets for service for functional equipment and appliances.

C. Sample Submittals: Illustrate functional and aesthetic characteristics of the product, with integral parts and attachment devices. Coordinate sample submittals for interfacing work.
   1. For selection from standard finishes, submit samples of the full range of the manufacturer's standard colors, textures, and patterns.

## PART 2 PRODUCTS

2.1 EXISTING PRODUCTS

A. Do not use materials and equipment removed from existing premises unless specifically required or permitted by Contract Documents.


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B. Unforeseen historic items encountered remain the property of the Owner; notify Owner promptly upon discovery; protect, remove, handle, and store as directed by Owner.

C. Existing materials and equipment indicated to be removed, but not to be re-used, relocated, reinstalled, delivered to the Owner, or otherwise indicated as to remain the property of the Owner, become the property of the Contractor; remove from site.

2.2 NEW PRODUCTS

A. Provide new products unless specifically required or permitted by Contract Documents.

B. VOC: Comply with the most stringent of federal, State, and local requirements, and these specifications.

C. Use of products having any of the following characteristics is not permitted unless specifically indicated otherwise:
1. Made outside the United States, its territories, Canada, or Mexico.
2. Made using or containing CFC's or HCFC's.
3. Made of wood from newly cut old growth timber.
4. Containing lead, cadmium, or asbestos.

2.3 PRODUCT OPTIONS

A. Products Specified by Reference Standards or by Description Only: Use any product meeting those standards or description.

B. Products Specified by Naming One or More Manufacturers: Use a product of one of the manufacturers named and meeting specifications, no options or substitutions allowed.

C. Products Specified by Naming One or More Manufacturers with a Provision for Substitutions: Submit a request for substitution for any manufacturer not named.

2.4 MAINTENANCE MATERIALS

A. Furnish extra materials, spare parts, tools, and software of types and in quantities specified in individual specification sections.

B. Deliver to Project site; obtain receipt prior to final payment.

## PART 3 EXECUTION

3.1 SUBSTITUTION LIMITATIONS

A. See Section 01 25 00 - Substitution Procedures.


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3.2 TRANSPORTATION AND HANDLING

A. Package products for shipment in manner to prevent damage; for equipment, package to avoid loss of factory calibration.

B. If special precautions are required, attach instructions prominently and legibly on outside of packaging.

C. Coordinate schedule of product delivery to designated prepared areas in order to minimize site storage time and potential damage to stored materials.

D. Transport and handle products in accordance with manufacturer's instructions.

E. Transport materials in covered trucks to prevent contamination of product and littering of surrounding areas.

F. Promptly inspect shipments to ensure that products comply with requirements, quantities are correct, and products are undamaged.

G. Provide equipment and personnel to handle products by methods to prevent soiling, disfigurement, or damage, and to minimize handling.

H. Arrange for the return of packing materials, such as wood pallets, where economically feasible.

3.3 STORAGE AND PROTECTION

A. Provide protection of stored materials and products against theft, casualty, or deterioration.

B. Designate receiving/storage areas for incoming products so that they are delivered according to installation schedule and placed convenient to work area in order to minimize waste due to excessive materials handling and misapplication.
   1. Structural Loading Limitations: Handle and store products and materials so as not to exceed static and dynamic load-bearing capacities of project floor and roof areas.

C. Store and protect products in accordance with manufacturers' instructions.

D. Store with seals and labels intact and legible.

E. Arrange storage of materials and products to allow for visual inspection for the purpose of determination of quantities, amounts, and unit counts.

F. Store sensitive products in weathertight, climate-controlled enclosures in an environment favorable to product.

G. For exterior storage of fabricated products, place on sloped supports above ground.

H. Provide off-site storage and protection when site does not permit on-site storage or protection.


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I. Protect products from damage or deterioration due to construction operations, weather, precipitation, humidity, temperature, sunlight and ultraviolet light, dirt, dust, and other contaminants.

J. Comply with manufacturer's warranty conditions, if any.

K. Do not store products directly on the ground.

L. Cover products subject to deterioration with impervious sheet covering. Provide ventilation to prevent condensation and degradation of products.

M. Store loose granular materials on solid flat surfaces in a well-drained area. Prevent mixing with foreign matter.

N. Prevent contact with material that may cause corrosion, discoloration, or staining.

O. Provide equipment and personnel to store products by methods to prevent soiling, disfigurement, or damage.

P. Arrange storage of products to permit access for inspection. Periodically inspect to verify products are undamaged and are maintained in acceptable condition.

END OF SECTION


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# SECTION 01 70 00 - EXECUTION AND CLOSEOUT REQUIREMENTS

## PART 1 GENERAL

1.1 SECTION INCLUDES

A. Examination, preparation, and general installation procedures.

B. Requirements for alterations work, including selective demolition.

C. Pre-installation meetings.

D. Cutting and patching.

E. Cleaning and protection.

F. Closeout procedures, including Contractor's Correction Punch List, except payment procedures.

G. General requirements for maintenance service.

1.2 RELATED REQUIREMENTS

A. Section 01 30 00 - Administrative Requirements: Submittals procedures.

B. Section 01 40 00 - Quality Requirements: Testing and inspection procedures.

C. Section 01 50 00 - Temporary Facilities and Controls: Temporary interior partitions.

D. Section 01 76 10 - Temporary Protective Coverings: Materials for protection of installed work.

E. Section 01 78 00 - Closeout Submittals: Project record documents, operation and maintenance data, warranties.

1.3 SUBMITTALS

A. See Section 01 30 00 - Administrative Requirements, for submittal procedures.

B. Cutting and Patching: Submit written request in advance of cutting or alteration that affects:
   1. Structural integrity of any element of Project.
   2. Integrity of weather exposed or moisture resistant element.
   3. Efficiency, maintenance, or safety of any operational element.
   4. Visual qualities of sight exposed elements.
   5. Work of Owner or separate Contractor.

C. Project Record Documents: Accurately record actual locations of capped and active utilities.


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1.4 PROJECT CONDITIONS

A. Use of explosives is not permitted.

B. Ventilate enclosed areas to assist cure of materials, to dissipate humidity, and to prevent accumulation of dust, fumes, vapors, or gases.

C. Dust Control: Execute work by methods to minimize raising dust from construction operations. Provide positive means to prevent air-borne dust from dispersing into atmosphere and over adjacent property.
   1. Provide dust-proof enclosures to prevent entry of dust generated outdoors.
   2. Provide dust-proof barriers between construction areas and areas continuing to be occupied by Owner.

D. Noise Control: Provide methods, means, and facilities to minimize noise produced by construction operations.
   1. During Owner Occupancy: Excessively noisy tools and operations will not be tolerated inside the building; excessively noisy includes jackhammers.

1.5 COORDINATION

A. Coordinate scheduling, submittals, and work of the various sections of the Project Manual to ensure efficient and orderly sequence of installation of interdependent construction elements, with provisions for accommodating items installed later.

B. Coordinate space requirements, supports, and installation of mechanical and electrical work that are indicated diagrammatically on drawings. Follow routing indicated for pipes, ducts, and conduit, as closely as practicable; place runs parallel with lines of building. Utilize spaces efficiently to maximize accessibility for other installations, for maintenance, and for repairs.

C. In finished areas except as otherwise indicated, conceal pipes, ducts, and wiring within the construction. Coordinate locations of fixtures and outlets with finish elements.

D. Coordinate completion and clean-up of work of separate sections.

E. 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.

## PART 2 PRODUCTS

2.1 PATCHING MATERIALS

A. New Materials: As specified in product sections; match existing products and work for patching and extending work.


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B. Type and Quality of Existing Products: Determine by inspecting and testing products where necessary, referring to existing work as a standard.

C. Product Substitution: For any proposed change in materials, submit request for substitution described in Section 01 60 00 - Product Requirements.

## PART 3 EXECUTION

### 3.1 EXAMINATION

A. Verify that existing site conditions and substrate surfaces are acceptable for subsequent work. Start of work means acceptance of existing conditions.

B. Verify that existing substrate is capable of structural support or attachment of new work being applied or attached.

C. Examine and verify specific conditions described in individual specification sections.

D. Take field measurements before confirming product orders or beginning fabrication, to minimize waste due to over-ordering or misfabrication.

E. Verify that utility services are available, of the correct characteristics, and in the correct locations.

F. Prior to Cutting: Examine existing conditions prior to commencing work, including elements subject to damage or movement during cutting and patching. After uncovering existing work, assess conditions affecting performance of work. Beginning of cutting or patching means acceptance of existing conditions.

### 3.2 PREPARATION

A. Clean substrate surfaces prior to applying next material or substance.

B. Seal cracks or openings of substrate prior to applying next material or substance.

C. Apply manufacturer required or recommended substrate primer, sealer, or conditioner prior to applying any new material or substance in contact or bond.

### 3.3 PREINSTALLATION MEETINGS

A. When required in individual specification sections, convene a preinstallation meeting at the site prior to commencing work of the section.

B. Require attendance of parties directly affecting, or affected by, work of the specific section.

C. Notify Architect four days in advance of meeting date.


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D. Prepare agenda and preside at meeting:
   1. Review conditions of examination, preparation and installation procedures.
   2. Review coordination with related work.

E. Record minutes and distribute copies within two days after meeting to participants, with two copies to Architect, Owner, participants, and those affected by decisions made.

3.4 GENERAL INSTALLATION REQUIREMENTS

A. In addition to compliance with regulatory requirements, conduct construction operations in compliance with NFPA 241, including applicable recommendations in Appendix A.

B. Install products as specified in individual sections, in accordance with manufacturer's instructions and recommendations, and so as to avoid waste due to necessity for replacement.

C. Make vertical elements plumb and horizontal elements level, unless otherwise indicated.

D. Install equipment and fittings plumb and level, neatly aligned with adjacent vertical and horizontal lines, unless otherwise indicated.

E. Make consistent texture on surfaces, with seamless transitions, unless otherwise indicated.

F. Make neat transitions between different surfaces, maintaining texture and appearance.

3.5 RENOVATIONS

A. Drawings showing existing construction and utilities are based on casual field observation and existing record documents only.
   1. Verify that construction and utility arrangements are as indicated.
   2. Report discrepancies to Architect before disturbing existing installation.
   3. Beginning of renovation work constitutes acceptance of existing conditions.

B. Keep areas in which alterations are being conducted separated from other areas that are still occupied.
   1. Provide, erect, and maintain temporary dustproof partitions of construction specified in Section 01 50 00 .

C. Remove existing work as indicated and as required to accomplish new work.
   1. Remove rotted wood, corroded metals, and deteriorated masonry and concrete; replace with new construction specified.
   2. Remove items indicated on drawings.
   3. Relocate items indicated on drawings.
   4. Where new surface finishes are to be applied to existing work, perform removals, patch, and prepare existing surfaces as required to receive new finish; remove existing finish if necessary for successful application of new finish.


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5. Where new surface finishes are not specified or indicated, patch holes and damaged surfaces to match adjacent finished surfaces as closely as possible.

D. Protect existing work to remain.
1. Prevent movement of structure; provide shoring and bracing if necessary.
2. Perform cutting to accomplish removals neatly and as specified for cutting new work.
3. Repair adjacent construction and finishes damaged during removal work.

E. Adapt existing work to fit new work: Make as neat and smooth transition as possible.
1. When existing finished surfaces are cut so that a smooth transition with new work is not possible, terminate existing surface along a straight line at a natural line of division and make recommendation to Architect.
2. Where removal of partitions or walls results in adjacent spaces becoming one, rework floors, walls, and ceilings to a smooth plane without breaks, steps, or bulkheads.
3. Where a change of plane of 1/4 inch or more occurs in existing work, submit recommendation for providing a smooth transition for Architect review and request instructions.
4. Trim existing wood doors as necessary to clear new floor finish. Refinish trim as required.

F. Patching: Where the existing surface is not indicated to be refinished, patch to match the surface finish that existed prior to cutting. Where the surface is indicated to be refinished, patch so that the substrate is ready for the new finish.

G. Refinish existing surfaces as indicated:
1. Where rooms or spaces are indicated to be refinished, refinish all visible existing surfaces to remain to the specified condition for each material, with a neat transition to adjacent finishes.
2. If mechanical or electrical work is exposed accidentally during the work, re-cover and refinish to match.

H. Clean existing systems and equipment.

I. Remove demolition debris and abandoned items from alterations areas and dispose of off-site; do not burn or bury.

J. Do not begin new construction in renovatiion areas before demolition is complete.

K. Comply with all other applicable requirements of this section.

3.6 CUTTING AND PATCHING

A. Whenever possible, execute the work by methods that avoid cutting or patching.

B. See Renovation article above for additional requirements.

C. Perform whatever cutting and patching is necessary to:


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1. Complete the work.
2. Fit products together to integrate with other work.
3. Provide openings for penetration of mechanical, electrical, and other services.
4. Match work that has been cut to adjacent work.
5. Repair areas adjacent to cuts to required condition.
6. Repair new work damaged by subsequent work.
7. Remove samples of installed work for testing when requested.
8. Remove and replace defective and non-complying work.

D. Execute work by methods that avoid damage to other work and that will provide appropriate surfaces to receive patching and finishing. In existing work, minimize damage and restore to original condition.

E. Employ skilled and experienced installer to perform cutting for weather exposed and moisture resistant elements, and sight exposed surfaces.

F. Cut rigid materials using masonry saw or core drill. Pneumatic tools not allowed without prior approval.

G. Restore work with new products in accordance with requirements of Contract Documents.

H. Fit work air tight to pipes, sleeves, ducts, conduit, and other penetrations through surfaces.

I. At penetrations of fire rated walls, partitions, ceiling, or floor construction, completely seal voids with fire rated material in accordance with Section 07 84 00, to full thickness of the penetrated element.

J. Patching:
1. Finish patched surfaces to match finish that existed prior to patching. On continuous surfaces, refinish to nearest intersection or natural break. For an assembly, refinish entire unit.
2. Match color, texture, and appearance.
3. Repair patched surfaces that are damaged, lifted, discolored, or showing other imperfections due to patching work. If defects are due to condition of substrate, repair substrate prior to repairing finish.

## 3.7 PROGRESS CLEANING

A. Maintain areas free of waste materials, debris, and rubbish. Maintain site in a clean and orderly condition.

B. Remove debris and rubbish from pipe chases, plenums, attics, crawl spaces, and other closed or remote spaces, prior to enclosing the space.

C. Broom and vacuum clean interior areas prior to start of surface finishing, and continue cleaning to eliminate dust.


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D. Collect and remove waste materials, debris, and trash/rubbish from site periodically and dispose off-site; do not burn or bury.

3.8 PROTECTION OF INSTALLED WORK

A. See Section 01 76 10 for temporary protective covering materials.

B. Protect installed work from damage by construction operations.

C. Provide special protection where specified in individual specification sections.

D. Provide temporary and removable protection for installed products. Control activity in immediate work area to prevent damage.

E. Provide protective coverings at walls, projections, jambs, sills, and soffits of openings.

F. Protect finished floors, stairs, and other surfaces from traffic, dirt, wear, damage, or movement of heavy objects, by protecting with durable sheet materials.

G. Protect work from spilled liquids. If work is exposed to spilled liquids, immediately remove protective coverings, dry out work, and replace protective coverings.

H. 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.

I. Remove protective coverings when no longer needed; reuse or recycle coverings if possible.

3.9 ADJUSTING

A. Adjust operating products and equipment to ensure smooth and unhindered operation.

3.10 FINAL CLEANING

A. Execute final cleaning after Substantial Completion but before making final application for payment.

B. Use cleaning materials that are nonhazardous.

C. Clean interior and exterior glass, surfaces exposed to view; remove temporary labels, stains and foreign substances, polish transparent and glossy surfaces, vacuum carpeted and soft surfaces.

D. Remove all labels that are not permanent. Do not paint or otherwise cover fire test labels or nameplates on mechanical and electrical equipment.

E. Clean equipment and fixtures to a sanitary condition with cleaning materials appropriate to the surface and material being cleaned.


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F. Clean filters of operating equipment.

G. Clean debris from roofs, gutters, downspouts, scuppers, overflow drains, area drains, and drainage systems.

H. Clean site; sweep paved areas, rake clean landscaped surfaces.

I. Remove waste, surplus materials, trash/rubbish, and construction facilities from the site; dispose of in legal manner; do not burn or bury.

3.11 CLOSEOUT PROCEDURES

A. Make submittals that are required by governing or other authorities.
   1. Provide copies to Architect and Owner.

B. Accompany Project Coordinator on preliminary inspection to determine items to be listed for completion or correction in the Contractor's Correction Punch List for Contractor's Notice of Substantial Completion.

C. Notify Architect when work is considered ready for Architect's Substantial Completion inspection.

D. Submit written certification containing Contractor's Correction Punch List, that Contract Documents have been reviewed, work has been inspected, and that work is complete in accordance with Contract Documents and ready for Architect's Substantial Completion inspection.

E. Owner will occupy all of the building as specified in Section 01 10 00.

F. Conduct Substantial Completion inspection and create Final Correction Punch List containing Architect's and Contractor's comprehensive list of items identified to be completed or corrected and submit to Architect.

G. Correct items of work listed in Final Correction Punch List and comply with requirements for access to Owner-occupied areas.

H. Notify Architect when work is considered finally complete and ready for Architect's Substantial Completion final inspection.

I. Complete items of work determined by Architect listed in executed Certificate of Substantial Completion.

3.12 MAINTENANCE

A. Provide service and maintenance of components indicated in specification sections.


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B. Maintenance Period: As indicated in specification sections or, if not indicated, not less than one year from the Date of Substantial Completion or the length of the specified warranty, whichever is longer.

C. Examine system components at a frequency consistent with reliable operation. Clean, adjust, and lubricate as required.

D. Include systematic examination, adjustment, and lubrication of components. Repair or replace parts whenever required. Use parts produced by the manufacturer of the original component.

E. Maintenance service shall not be assigned or transferred to any agent or subcontractor without prior written consent of the Owner.

END OF SECTION


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# SECTION 01 76 10 - TEMPORARY PROTECTIVE COVERINGS

## PART 1 GENERAL

1.1 SECTION INCLUDES

A. Temporary protective coverings for installed floors, walls, and other surfaces.

1.2 REFERENCE STANDARDS

A. ANSI A135.4 - Basic Hardboard; 2012 (Reaffirmed 2020).

B. ASTM C208 - Standard Specification for Cellulosic Fiber Insulating Board; 2022.

C. ASTM E84 - Standard Test Method for Surface Burning Characteristics of Building Materials; 2023c.

D. NFPA 701 - Standard Methods of Fire Tests for Flame Propagation of Textiles and Films; 2023, with Errata.

1.3 SUBMITTALS

A. See Section 01 30 00 - Administrative Requirements for submittal procedures.

B. Product Data: Provide data on specified products, describing physical and performance characteristics; including sizes available; and installation instructions.

C. Shop Drawings: Indicate existing finished surfaces to be protected.

## PART 2 PRODUCTS

2.1 GENERAL

A. Provide materials that are easily removed without damage to the surfaces covered and with the following characteristics:
1. Water resistant.
2. Vapor permeable.
3. Impact resistant.
4. Slip resistant.
5. Flame retardant.

2.2 MATERIALS

A. Sheet Materials:


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1. Corrugated polypropylene sheet.
2. Recycled paperboard/plastic composite sheet.
3. Recycled paperboard sheet.
4. Wood Hardboard: ANSI A135.4, tempered, 1/4 inch thick nominal.
5. Plywood, 1/2 inch thick nominal.
6. Fiberboard: ASTM C208, 1/2 inch thick nominal.
7. Flame Retardance: Meet requirements of NFPA 701.
8. Surface Burning Characteristics: Maximum flame spread index of 25 and smoke developed index of 450; when system tested in accordance with ASTM E84.

B. Rolled Materials:
1. Self-adhering polyethylene film.
2. Recycled cellulose fiberboard paper.
3. Laminated glass fiber reinforced kraft paper.
4. Rosin coated paper.
5. Flame Retardance: Meet requirements of NFPA 701.
6. Surface Burning Characteristics: Maximum flame spread index of 25 and smoke developed index of 450; when system tested in accordance with ASTM E84.

C. Corner and Door Jamb Protection Materials:
1. Cardboard, shaped specifically for application.
2. PVC plastic.

D. Tape: Type recommended by protective covering material manufacturer.

## PART 3 EXECUTION

### 3.1 PREPARATION

A. Remove dirt and debris from surfaces to be protected.

### 3.2 INSTALLATION

A. Install in accordance with manufacturer's instructions.

B. Trim or overlap sheet materials to fit area to be covered.

C. Roll out and cut rolled materials to fit area to be covered.

D. Tape seams. Avoid taping directly to finished surfaces.

E. Stretch self-adhering film materials to completely cover surface.


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3.3 REMOVAL

A. Remove protective coverings prior to Date of Substantial Completion. Reuse or recycle materials if possible.

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# SECTION 01 78 00 - CLOSEOUT SUBMITTALS

## PART 1 GENERAL

1.1 SECTION INCLUDES

A. Operation and Maintenance Data.

B. Warranties and bonds.

1.2 RELATED REQUIREMENTS

A. Section 01 30 00 - Administrative Requirements: Submittals procedures, shop drawings, product data, and samples.

B. Section 01 70 00 - Execution and Closeout Requirements: Contract closeout procedures.

C. Individual Product Sections: Specific requirements for operation and maintenance data.

D. Individual Product Sections: Warranties required for specific products or Work.

1.3 SUBMITTALS

A. Project Record Documents: Submit documents to Architect with claim for final Application for Payment.

B. A certificate evidencing that insurance required by the Contract Documents to remain in force after final payment is currently in effect.

C. Operation and Maintenance Data:
1. Submit two copies of preliminary draft or proposed formats and outlines of contents before start of Work. Architect will review draft and return one copy with comments.
2. For equipment, or component parts of equipment put into service during construction and operated by Owner, submit completed documents within ten days after acceptance.
3. Submit one copy of completed documents 15 days prior to final inspection. This copy will be reviewed and returned after final inspection, with Architect comments. Revise content of all document sets as required prior to final submission.

D. Warranties and Bonds:
1. For equipment or component parts of equipment put into service during construction with Owner's permission, submit documents within 10 days after acceptance.
2. Make other submittals within 10 days after Date of Substantial Completion, prior to final Application for Payment.


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3. For items of Work for which acceptance is delayed beyond Date of Substantial Completion, submit within 10 days after acceptance, listing the date of acceptance as the beginning of the warranty period.

## PART 2 PRODUCTS - NOT USED

## PART 3 EXECUTION

### 3.1 PROJECT RECORD DOCUMENTS

A. Maintain on site one set of the following record documents; record actual revisions to the Work:
   1. Drawings.
   2. Specifications.
   3. Addenda.
   4. Change Orders and other modifications to the Contract.
   5. Reviewed shop drawings, product data, and samples.
   6. Manufacturer's instruction for assembly, installation, and adjusting.
   7. Cross references from design drawings to shop drawings.

B. Ensure entries are complete and accurate, enabling future reference by Owner.

C. Store record documents separate from documents used for construction.

D. Record information concurrent with construction progress.

E. Specifications: Legibly mark and record at each product section description of actual products installed, including the following:
   1. Manufacturer's name and product model and number.
   2. Product substitutions or alternates utilized.
   3. Changes made by Addenda and modifications.

F. Record Drawingsand Shop Drawings: Legibly mark each item to record actual construction including:
   1. Measured depths of foundations in relation to finish first floor datum.
   2. Measured horizontal and vertical locations of underground utilities and appurtenances, referenced to permanent surface improvements.
   3. Measured locations of internal utilities and appurtenances concealed in construction, referenced to visible and accessible features of the Work.
   4. Field changes of dimension and detail.


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3.2 OPERATION AND MAINTENANCE DATA

A. Source Data: For each product or system, list names, addresses and telephone numbers of Subcontractors and suppliers, including local source of supplies and replacement parts.

B. Product Data: Mark each sheet to clearly identify specific products and component parts, and data applicable to installation. Delete inapplicable information.

C. Drawings: Supplement product data to illustrate relations of component parts of equipment and systems, to show control and flow diagrams. Do not use Project Record Documents as maintenance drawings.

D. Typed Text: As required to supplement product data. Provide logical sequence of instructions for each procedure, incorporating manufacturer's instructions.

3.3 OPERATION AND MAINTENANCE DATA FOR MATERIALS AND FINISHES

A. For Each Product, Applied Material, and Finish:
   1. Product data, with catalog number, size, composition, and color and texture designations.
   2. Information for re-ordering custom manufactured products.

B. Instructions for Care and Maintenance: Manufacturer's recommendations for cleaning agents and methods, precautions against detrimental cleaning agents and methods, and recommended schedule for cleaning and maintenance.

C. Moisture protection and weather-exposed products: Include product data listing applicable reference standards, chemical composition, and details of installation. Provide recommendations for inspections, maintenance, and repair.

D. Additional information as specified in individual product specification sections.

E. Where additional instructions are required, beyond the manufacturer's standard printed instructions, have instructions prepared by personnel experienced in the operation and maintenance of the specific products.

3.4 OPERATION AND MAINTENANCE DATA FOR EQUIPMENT AND SYSTEMS

A. For Each Item of Equipment and Each System:
   1. Description of unit or system, and component parts.
   2. Identify function, normal operating characteristics, and limiting conditions.
   3. Include performance curves, with engineering data and tests.
   4. Complete nomenclature and model number of replaceable parts.


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B. Where additional instructions are required, beyond the manufacturer's standard printed instructions, have instructions prepared by personnel experienced in the operation and maintenance of the specific products.

C. Panelboard Circuit Directories: Provide electrical service characteristics, controls, and communications; typed.

D. Include color coded wiring diagrams as installed.

E. 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.

F. Maintenance Requirements: Include routine procedures and guide for preventative maintenance and trouble shooting; disassembly, repair, and reassembly instructions; and alignment, adjusting, balancing, and checking instructions.
   1. Include HVAC outdoor and exhaust air damper calibration strategy.
      a. Include provisions which ensure that full closure of dampers can be achieved.
   2. Include Carbon Dioxide Monitoring Protocol.
   3. Include Carbon Monoxide Monitoring Protocol.
   4. Include Frost Mitigation Strategy for ventilation heat-recovery system.

G. Provide servicing and lubrication schedule, and list of lubricants required.

H. Include manufacturer's printed operation and maintenance instructions.

I. Include sequence of operation by controls manufacturer.

J. Provide original manufacturer's parts list, illustrations, assembly drawings, and diagrams required for maintenance.

K. Provide control diagrams by controls manufacturer as installed.

L. Provide charts of valve tag numbers, with location and function of each valve, keyed to flow and control diagrams.

M. Provide list of original manufacturer's spare parts, current prices, and recommended quantities to be maintained in storage.

N. Include test and balancing reports.

O. Additional Requirements: As specified in individual product specification sections.

3.5 ASSEMBLY OF OPERATION AND MAINTENANCE MANUALS

A. Assemble operation and maintenance data into durable manuals for Owner's personnel use, with data arranged in the same sequence as, and identified by, the specification sections.


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B. Where systems involve more than one specification section, provide separate tabbed divider for each system.

C. Binders: Commercial quality, 8-1/2 by 11 inch three D side ring binders with durable plastic covers; 2 inch maximum ring size. When multiple binders are used, correlate data into related consistent groupings.

D. Cover: Identify each binder with typed or printed title OPERATION AND MAINTENANCE INSTRUCTIONS; identify title of Project; identify subject matter of contents.

E. Project Directory: Title and address of Project; names, addresses, and telephone numbers of Architect, Consultants, Contractor and subcontractors, with names of responsible parties.

F. Tables of Contents: List every item separated by a divider, using the same identification as on the divider tab; where multiple volumes are required, include all volumes Tables of Contents in each volume, with the current volume clearly identified.

G. Dividers: Provide tabbed dividers for each separate product and system; identify the contents on the divider tab; immediately following the divider tab include a description of product and major component parts of equipment.

H. Text: Manufacturer's printed data, or typewritten data on 20 pound paper.

I. Drawings: Provide with reinforced punched binder tab. Bind in with text; fold larger drawings to size of text pages.

J. Arrangement of Contents: Organize each volume in parts as follows:
   1. Project Directory.
   2. Table of Contents, of all volumes, and of this volume.
   3. Operation and Maintenance Data: Arranged by system, then by product category.
      a. Source data.
      b. Product data, shop drawings, and other submittals.
      c. Operation and maintenance data.
      d. Field quality control data.
      e. Photocopies of warranties and bonds.
   4. Design Data: To allow for addition of design data furnished by Architect or others, provide a tab labeled "Design Data" and provide a binder large enough to allow for insertion of at least 20 pages of typed text.

3.6 WARRANTIES AND BONDS

A. Obtain warranties and bonds, executed in duplicate by responsible Subcontractors, suppliers, and manufacturers, within 10 days after completion of the applicable item of work. Except for items put into use with Owner's permission, leave date of beginning of time of warranty until Date of Substantial completion is determined.


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B. Verify that documents are in proper form, contain full information, and are notarized.

C. Co-execute submittals when required.

D. Retain warranties and bonds until time specified for submittal.

E. Manual: Bind in commercial quality 8-1/2 by 11 inch three D side ring binders with durable plastic covers.

F. Cover: Identify each binder with typed or printed title WARRANTIES AND BONDS, with title of Project; name, address and telephone number of Contractor and equipment supplier; and name of responsible company principal.

G. Table of Contents: Neatly typed, in the sequence of the Table of Contents of the Project Manual, with each item identified with the number and title of the specification section in which specified, and the name of product or work item.

H. Separate each warranty or bond with index tab sheets keyed to the Table of Contents listing. Provide full information, using separate typed sheets as necessary. List Subcontractor, supplier, and manufacturer, with name, address, and telephone number of responsible principal.

END OF SECTION


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# SECTION 02 41 00 - DEMOLITION

## PART 1 GENERAL

1.1 SECTION INCLUDES

A. Selective demolition of built site elements.

B. Selective demolition of building elements for alteration purposes.

C. Abandonment and removal of existing utilities and utility structures.

1.2 RELATED REQUIREMENTS

A. Section 00 31 00 - Available Project Information: Existing building survey conducted by Owner; information about known hazardous materials.

B. Section 01 10 00 - Summary: Limitations on Contractor's use of site and premises.

1.3 REFERENCE STANDARDS

A. 29 CFR 1926 - Safety and Health Regulations for Construction; Current Edition.

B. NFPA 241 - Standard for Safeguarding Construction, Alteration, and Demolition Operations; 2022, with Errata (2021).

1.4 SUBMITTALS

A. See Section 01 30 00 - Administrative Requirements for submittal procedures.

B. Site Plan: Indicate:
   1. Areas for temporary construction and field offices.

C. Demolition Plan: Submit demolition plan as required by OSHA and local AHJs.
   1. Indicate extent of demolition, removal sequencing, bracing and shoring, and location and construction of barricades and fences.
   2. Demolition firm qualifications.

D. Project Record Documents: Accurately record actual locations of capped and active utilities and subsurface construction.

1.5 QUALITY ASSURANCE

A. Demolition Firm Qualifications: Company specializing in the type of work required.


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## PART 2 PRODUCTS -- NOT USED

## PART 3 EXECUTION

### 3.1 GENERAL PROCEDURES AND PROJECT CONDITIONS

A. Comply with applicable codes and regulations for demolition operations and safety of adjacent structures and the public.
   1. Obtain required permits.
   2. Comply with applicable requirements of NFPA 241.
   3. Use of explosives is not permitted.
   4. Take precautions to prevent catastrophic or uncontrolled collapse of structures to be removed; do not allow worker or public access within range of potential collapse of unstable structures.
   5. Provide, erect, and maintain temporary barriers and security devices.
   6. Use physical barriers to prevent access to areas that could be hazardous to workers or the public.
   7. Conduct operations to minimize effects on and interference with adjacent structures and occupants.
   8. Do not close or obstruct roadways or sidewalks without permits from authority having jurisdiction.
   9. Conduct operations to minimize obstruction of public and private entrances and exits. Do not obstruct required exits at any time. Protect persons using entrances and exits from removal operations.
   10. Obtain written permission from owners of adjacent properties when demolition equipment will traverse, infringe upon, or limit access to their property.

B. Do not begin removal until receipt of notification to proceed from Owner.

C. Do not begin removal until built elements to be salvaged or relocated have been removed.

D. Protect existing structures and other elements to remain in place and not removed.
   1. Provide bracing and shoring.
   2. Prevent movement or settlement of adjacent structures.
   3. Stop work immediately if adjacent structures appear to be in danger.

E. Minimize production of dust due to demolition operations. Do not use water if that will result in ice, flooding, sedimentation of public waterways or storm sewers, or other pollution.

F. Hazardous Materials:
   1. If hazardous materials are discovered during removal operations, stop work and notify Architect and Owner; hazardous materials include regulated asbestos containing materials, lead, PCBs, and mercury. This also includes mold.
   2. Hazardous Materials: Comply with 29 CFR 1926 and state and local regulations.


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G. Perform demolition in a manner that maximizes salvage and recycling of materials.
   1. Dismantle existing construction and separate materials.
   2. Set aside reusable, recyclable, and salvageable materials; store and deliver to collection point or point of reuse.

H. Partial Removal of Paving and Curbs: Neatly saw cut at right angle to surface.

3.2 EXISTING UTILITIES

A. Coordinate work with utility companies. Notify utilities before starting work, comply with their requirements, and obtain required permits.

B. Protect existing utilities to remain from damage.

C. Do not disrupt public utilities without permit from authority having jurisdiction.

D. Do not close, shut off, or disrupt existing life safety systems that are in use without at least 7 days prior written notification to Owner.

E. Do not close, shut off, or disrupt existing utility branches or take-offs that are in use without at least 3 days prior written notification to Owner.

F. Locate and mark utilities to remain; mark using highly visible tags or flags, with identification of utility type; protect from damage due to subsequent construction, using substantial barricades if necessary.

G. Remove exposed piping, valves, meters, equipment, supports, and foundations of disconnected and abandoned utilities.

H. Prepare building demolition areas by disconnecting and capping utilities outside the demolition zone. Identify and mark, in same manner as other utilities to remain, utilities to be reconnected.

3.3 SELECTIVE DEMOLITION FOR ALTERATIONS

A. Existing construction and utilities indicated on drawings are based on casual field observation and existing record documents only.
   1. Verify construction and utility arrangements are as indicated.
   2. Report discrepancies to Architect before disturbing existing installation.
   3. Beginning of demolition work constitutes acceptance of existing conditions that would be apparent upon examination prior to starting demolition.

B. Separate areas in which demolition is being conducted from areas that remain occupied.
   1. Provide, erect, and maintain temporary dustproof partitions of construction specified in Section 01 50 00 in locations indicated on drawings.

C. Maintain weatherproof exterior building enclosure, except for interruptions required for replacement or modifications; prevent water and humidity damage.


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D. Remove existing work as indicated and required to accomplish new work.
   1. Remove rotted wood, corroded metals, and deteriorated masonry and concrete; replace with new construction indicated.
   2. Remove items indicated on drawings.

E. Services including, but not limited to, HVAC, Plumbing, Fire Protection, Electrical, and Telecommunications: Remove existing systems and equipment as indicated.
   1. Maintain existing active systems to remain in operation, and maintain access to equipment and operational components.
   2. Where existing active systems serve occupied facilities but are to be replaced with new services, maintain existing systems in service until new systems are complete and ready for service.

F. Protect existing work to remain.
   1. Prevent movement of structure. Provide shoring and bracing as required.
   2. Perform cutting to accomplish removal work neatly and as specified for cutting new work.
   3. Repair adjacent construction and finishes damaged during removal work.
   4. Patch to match new work.

3.4 DEBRIS AND WASTE REMOVAL

A. Remove debris, junk, and trash from site.

B. Leave site in clean condition, ready for subsequent work.

C. Clean up spillage and wind-blown debris from public and private lands.

END OF SECTION


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# SECTION 04 01 01 – MASONRY RESTORATION (REPOINTING)

## PART 1 GENERAL

1.1 SECTION INCLUDES

A. Repointing brick masonry

1.2 ADMINISTRATIVE REQUIREMENTS

A. Pre-installation Meeting: Convene a pre-installation meeting one week before starting work of this section; require attendance by each of the affected installers and the Architect.

1.3 SUBMITTALS

A. Product Data on Glazing Types: Provide structural, physical and environmental characteristics, size limitations, special handling and installation requirements.

1.4 QUALITY ASSURANCE

A. Installer Qualifications: Company employing workers specializing in performing the type of masonry and repointing work specified and with at least five years' experience.

B. Site Conditions:
   1. Do not install pointing when ambient temperature is expected to remain above an 40 degrees F for the next 48 hours. Schedule work so that no precipitation occurs during 48 hour period after place or protect fresh repointing from rain damage.
   2. Prevent mortar used in repair work from staining face of surrounding masonry and other surfaces. Protect sills, ledges, projections and surrounding pavement from mortar droppings. Remove immediately grout and mortar in contact with exposed masonry and other surfaces.

C. Mortar Samples: Prepare samples in the form of 6" long by 1" wide sample strips of mortar set in aluminum or plastic channels (or other sizes approved by the Architect). Let samples cure for 7 days before submitting to the Architect for approval.

D. Field-Constructed Mock-Ups: Prepare sample panels separately showing examples of joint preparation and repointing on the building where directed by the Architect. Obtain Architect's acceptance of visual qualities and physical properties before proceeding with the work. Retain acceptable panels in undisturbed condition, suitably marked, during construction as a standard for reviewing completed work.


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## PART 2 PRODUCTS

### 2.1 MORTAR MATERIALS

A. PORTLAND CEMENT: ASTM C 150, Type I or II, gray or white

B. HYDRATED LIME: ASTM C 207, Type S.

C. MASONRY CEMENT AND MORTAR CEMENT: NOT PERMITTED

D. SAND/AGGREGATE FOR MORTAR – REBUILDING MORTAR: Sands for rebuilding must meet ASTM C144 standard including the requirements for gradation of particle sizes. Section 4.4 of C144 may not be used to permit a non-conforming sand to be used in the mortar.

E. SAND/AGGREGATE FOR MORTAR – REPOINTING MORTAR: Use sands to match color, size, texture and gradation of the sand from original mortars as closely as possible. It may be necessary to mix and /or sieve sands in order to obtain a proper match. Following approval of samples, make provisions to purchase and have delivered to the site sufficient quantities to complete all the work to avoid changes in mortar color and texture from different batches of sand (even when supplied by the same distributor). Sands for rebuilding must meet ASTM C144 standard including the requirements for gradation of particle sizes. Section 4.4 of C144 may not be used to permit a non-conforming sand to be used in the mortar.

F. MASONRY PIGMENTS AND COLORED ADDITIVES:

1. Pigments: Inorganic iron oxides designed for use in mortar. Use only pigments with record of satisfactory performance in masonry mortars. Inorganic mineral oxides meeting the requirements of ASTM C 979, at levels not to exceed 10% on cement weight, except for carbon black, which may not exceed 2% on cement weight. Do not use dyes. Use of color pigments shall be limited to the minimum amount required to adjust mortar color, and use of properly matched aggregates and cement matrix shall be the primary means of achieving color match. Product: Subject to compliance with requirements, provide:
   a. "Bayferrox Pigments," Bayer Company or approved equivalent. These pigments are widely available.

G. FREEZE-THAW RESISTANCE ADMIXTURE: An admixture that imparts freeze-thaw and salt-resistance to mortar by improving bond strength and flexibility while reducing shrinkage. Provided in ready-to-use concentration to be used in place of mixing water to produce workable mixtures. Note that typical mortar mixes will require less admixture than the typical amount of water to produce workable mixtures. Subject to these requirements, provide:

1. ICE Minus 9 (RL-9), Edison Coatings, Inc., Plainville, CT, www.edisoncoatings.com, (800) 341-6621 or approved equivalent product.

### 2.2 MORTAR MIXES

A Sources for mortar:


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2. All mortar shall meet the requirements of ASTM C270, Standard Specification For Mortar For Unit Masonry for mortar mixes determined by the component, not the performance, sections of ASTM C270.
3. Site-Mixed Mortar: Mortar which is prepared and mixed by the Contractor on site. Site-Mixed Mortar is prohibited on this project.
4. Pre-Blended Standard Mortars: Mortars which are manufactured and packaged off-site under carefully monitored procedures for quality and mix control by a company with experience in producing mortars which meet the all the masonry requirements of these Specifications. The color of these mortars can be the standard color provided by the manufacturer. No color or sand matching is required. Subject to these requirements, provide:
   a. Spec-Joint 46 Custom Masonry Mortar, Edison Coatings, Inc., Plainville, CT, www.edisoncoatings.com, (800) 341-6621 or approved equivalent product.

   b. Pre-Blended Standard Mortar to meet Type N or S may be used for this project

B. Mixing Mortar: Add approximately half the required liquid and mix mortar for a minimum of 5 minutes, and then slowly add liquid as needed to reach the desired working consistency. Do not exceed mix time of 10 minutes.

5. Use mortar within 45 minutes of final mixing for Portland cement mortars (reduce to 30 minutes in hot weather).
6. Do not re-temper or use partially-hardened material. Discard mortars which have begun to set.

## PART 3 EXECUTION

A. PROTECTION

1. Protect persons, motor vehicles, surrounding surfaces of building being restored, building site, plants, and surrounding buildings from harm resulting from masonry restoration work.

2. Prevent mortar from staining face of surrounding masonry and other surfaces.

3. Cover sills, ledges, and projections to protect from mortar droppings.

4. Protect wall area below rebuilding and pointing work to prevent mortar from adhering.

5. Immediately remove mortar in contact with exposed masonry and other surfaces.

6. Clean mortar splatters from scaffolding at end of each day.

B. REPOINT JOINTS


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1. Where complete repointing is indicated, repoint all joints in designated areas.

2. Remove mortar from existing joints to be repointed to depths equal to 2 times their widths but not less than 1/2." In areas with damaged and deteriorated mortar, clean out joints to depth required to expose sound, undamaged mortar.

    a. Do not spall edges of masonry units or widen joints. DO NOT cut into the masonry units.
    b. Remove mortar from masonry surfaces within raked-out joints to provide reveals with square backs and to expose masonry for contact with pointing mortar. It is important to have clean edges of the masonry within the joints so that the new mortar can bond directly to the masonry material. Where there is a layer of old mortar on the exposed edges in the joints, the new mortar joints are prone to premature failure.
    c. Power operated right-angle grinders with thin diamond blades and rotary tools with diamond pins will be permitted but only on specific written approval by Architect based on submission by Contractor of a satisfactory quality control program and demonstrated ability of operators to use tools without damage to masonry. Quality control program shall include provisions for supervising performance and preventing damage due to worker fatigue.
    d. At each joint, run the diamond blade through the middle of the joint to the indicated depth. Insert a sharp, flat chisel at the intersection of the brick and mortar and chip the mortar into the previously-cut recess. Use diamond pin in rotary die grinder (or Roto-Zip type tool) to remove any remaining mortar clinging to the masonry units.
3. Rinse masonry joint surfaces with water to remove any dust and mortar particles. Time application of rinsing so that, at time of pointing, excess water has evaporated or run off, and joint surfaces are damp but free of standing water. Be sure to thoroughly saturate the existing construction mortar and masonry material - this will provide a reservoir of moisture which will assist in keeping the joints damp during the initial curing process.

4. For mortar, use the specified Pre-Blended Restoration Mortar with freeze-thaw additive to point the joints to match the profile of the original mortar.

5. When mixing the mortar, only use enough liquid to provide a workable mix. Do not add excess liquid to avoid shrinkage and cracking of the mortar. Do not place the mortar with a mortar gun or grout bags.

6. Pack deep holes in joints with pointing mortar to level of surrounding raked-out mortar. After joints have been filled to a uniform depth, place remaining pointing mortar in 2 layers. Fully compact each layer and provide full contact with the surrounding masonry. Allow mortar to become thumbprint hard before applying next layer.

7. After the mortar has taken an initial set, brush lightly with a soft brush to remove loose particles of mortar. Brush sufficiently to match the weathering of the surrounding, older pointing.


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8. The freeze-thaw additive will help cure the mortar and it is not necessary to repeatedly wet the mortar to cure it.

9. Protect pointing from rain during initial setting period to prevent joints from washing out and to prevent streaking. Or, schedule repointing work for periods when no rain will occur. Any sections damaged by rain shall be re-repointed by the masonry contractor at his own cost.

C. FINAL CLEANING AND PROJECT CLOSE-OUT

1. After pointing mortar has hardened, thoroughly clean exposed masonry surfaces of excess mortar and foreign matter. Use

2. It is expected that rebuilding/repair/repointing work will be done with sufficient skill and care that there are no significant mortar stains on the masonry surfaces.

3. The use of metal scrapers, chisels or wire brushes is prohibited.

4. The use of acidic cleaners for final cleaning will not be permitted. Acids may erode the seals of the new mortar against the brick. It is expected that rebuilding/repair/repointing work will be done with sufficient skill and care that there are no significant mortar stains on the masonry surfaces.

5. Use natural (or plastic bristle) brushes, wooden scrapers, and water to remove minor mortar stains from the surface of bricks and stone. Pressure washing can be used to assist in this process if precautions to prevent damage are taken.

6. After completion of masonry work, remove debris and wash down brick, terra cotta and limestone in the general area of the rebuilding to remove dust and other contaminants.

   a. Wash off all non-masonry surfaces affected by the work. If necessary, use detergent and soft brushes or cloths on non-masonry surfaces to remove all surface dirt and mortar dust/stains.

7. Remove rigging. As rigging is removed, plug any anchor holes in masonry units used for attachment of scaffolding or other lifts with Edison System 45 patching material to match surrounding masonry.

8. Clean up grounds and pavement around work areas. Sweep to removal all debris. Where necessary, pressure wash surfaces to remove dust, dirt and stains.

END OF SECTION


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# SECTION 06 10 00 - ROUGH CARPENTRY

## PART 1 GENERAL

1.1 SECTION INCLUDES

A. Nonstructural dimension lumber framing.

B. Roof-mounted curbs.

C. Preservative treated wood materials.

D. Fire retardant treated wood materials.

E. Communications and electrical room mounting boards.

1.2 RELATED REQUIREMENTS

A. Section 09 21 16 - Gypsum Board Assemblies for metal backing and flexible wood backing.

1.3 REFERENCE STANDARDS

A. ASTM A153/A153M - Standard Specification for Zinc Coating (Hot-Dip) on Iron and Steel Hardware; 2016a.

B. ASTM D2898 - Standard Practice for Accelerated Weathering of Fire-Retardant-Treated Wood for Fire Testing; 2010 (Reapproved 2017).

C. ASTM F593 - Standard Specification for Stainless Steel Bolts, Hex Cap Screws, and Studs; 2022.

D. ASTM E84 - Standard Test Method for Surface Burning Characteristics of Building Materials; 2022.

E. AWC (WFCM) - Wood Frame Construction Manual for One- and Two-Family Dwellings; 2018.

F. AWPA U1 - Use Category System: User Specification for Treated Wood; 2024.

G. FM 1-49 - Perimeter Flashing; 2016.

H. PS 1 - Structural Plywood; 2023.

I. PS 20 - American Softwood Lumber Standard; 2021.

1.4 SUBMITTALS

A. See Section 01 30 00 - Administrative Requirements for submittal procedures.


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B. Product Data: Provide technical data on fire retardant treatment, wood preservative materials, adhesives, and application instructions.

1.5 DELIVERY, STORAGE, AND HANDLING

A. General: Cover wood products to protect against moisture. Support stacked products to prevent deformation and to allow air circulation.

## PART 2 PRODUCTS

2.1 GENERAL REQUIREMENTS

A. Dimension Lumber: Comply with PS 20 and requirements of specified grading agencies.
1. If no species is specified, provide species graded by the agency specified; if no grading agency is specified, provide lumber graded by grading agency meeting the specified requirements.
2. Grading Agency: Grading agency whose rules are approved by the Board of Review, American Lumber Standard Committee at www.alsc.org, and who provides grading service for the species and grade specified; provide lumber stamped with grade mark unless otherwise indicated.

2.2 DIMENSION LUMBER FOR CONCEALED APPLICATIONS

A. Sizes: Nominal sizes as indicated on drawings, S4S.

B. Moisture Content: S-dry or MC19.

C. Stud Framing (2 by 2 through 2 by 6 ):
1. Grade: No. 2.

D. Miscellaneous Framing, Blocking, Nailers, Grounds, and Furring:
1. Lumber: S4S, No. 3 or Utility Grade.
2. Boards: Standard or No. 3.
3. Coordinate with Section 09 21 16 - Gypsum Board Assemblies for metal backing and flexible wood backing.

2.3 CONSTRUCTION PANELS

A. Parapet Sheathing: Plywood, PS 1, Grade C-D, Exposure I.

B. Communications and Electrical Room Mounting Boards: PS 1 A-D plywood, or medium density fiberboard; 3/4 inch thick; flame spread index of 25 or less, smoke developed index of 450 or less, when tested in accordance with ASTM E84.


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2.4 ACCESSORIES

A. Fasteners and Anchors:
   1. Metal and Finish: Hot-dipped galvanized steel complying with ASTM A153/A153M for use with galvanized metals and stainless steel complying with ASTM F593 Group 2 for use with stainless steel metals, for high humidity and preservative-treated wood locations; unfinished steel elsewhere.
   2. Drywall Screws: Bugle head, hardened steel, power driven type, length three times thickness of sheathing.
   3. Anchors: Bolt or ballistic fastener for anchorages to steel.

2.5 FACTORY WOOD TREATMENT

A. Treated Lumber and Plywood: Comply with requirements of AWPA U1 - Use Category System for wood treatments determined by use categories, expected service conditions, and specific applications.
   1. Fire-Retardant Treated Wood: Mark each piece of wood with producer's stamp indicating compliance with specified requirements.
   2. Preservative-Treated Wood: Provide lumber and plywood marked or stamped by an ALSC-accredited testing agency, certifying level and type of treatment in accordance with AWPA standards.

B. Fire Retardant Treatment:
   1. Exterior Type: AWPA U1, Category UCFB, Commodity Specification H, chemically treated and pressure impregnated; capable of providing a maximum flame spread index of 25 when tested in accordance with ASTM E84, with no evidence of significant combustion when test is extended for an additional 20 minutes both before and after accelerated weathering test performed in accordance with ASTM D2898.
      a. Kiln dry wood after treatment to a maximum moisture content of 19 percent for lumber and 15 percent for plywood.
      b. Treat wood in exterior walls and parapets.
      c. Treat wood in contact with roofing, flashing, or waterproofing.
      d. Do not use treated wood in direct contact with the ground.

C. Preservative Treatment:
   1. Preservative Pressure Treatment of Lumber Above Grade: AWPA U1, Use Category UC3B, Commodity Specification A using waterborne preservative.
      a. Kiln dry lumber after treatment to maximum moisture content of 19 percent.
      b. Treat lumber exposed to weather.
      c. Treat lumber in contact with masonry or concrete.


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## PART 3 EXECUTION

### 3.1 PREPARATION

A. Coordinate installation of rough carpentry members specified in other sections.

### 3.2 INSTALLATION - GENERAL

A. Select material sizes to minimize waste.

B. Reuse scrap to the greatest extent possible; clearly separate scrap for use on site as accessory components, including: shims, bracing, and blocking.

C. Where treated wood is used on interior, provide temporary ventilation during and immediately after installation sufficient to remove indoor air contaminants.

### 3.3 FRAMING INSTALLATION

A. Set structural members level, plumb, and true to line. Discard pieces with defects that would lower required strength or result in unacceptable appearance of exposed members.

B. Make provisions for temporary construction loads, and provide temporary bracing sufficient to maintain structure in true alignment and safe condition until completion of erection and installation of permanent bracing.

C. Install structural members full length without splices unless otherwise specifically detailed.

D. Comply with member sizes, spacing, and configurations indicated, and fastener size and spacing indicated, but not less than required by applicable codes and AWC (WFCM) Wood Frame Construction Manual.

E. Construct double joist headers at floor and ceiling openings and under wall stud partitions that are parallel to floor joists; use metal joist hangers unless otherwise detailed.

F. Frame wall openings with two or more studs at each jamb; support headers on cripple studs.

### 3.4 BLOCKING, NAILERS, AND SUPPORTS

A. Provide framing and blocking members as indicated or as required to support finishes, fixtures, specialty items, and trim.

### 3.5 ROOF-RELATED CARPENTRY

A. Coordinate installation of roofing carpentry with deck construction, framing of roof openings, and roofing assembly installation.


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B. Provide wood curb at each roof opening except where specifically indicated otherwise; form corners by alternating lapping side members.

C. Fasten roof-related carpentry to resist wind uplift.
   1. Secure minimum 2 by 6 wood nailers to structural concrete or reinforced concrete masonry unit walls or continuous structural steel or angle using 1/2 inch or 3/8 inch steel headed or plate anchor bolts with bolts and washers spaced 24 inches on center. Embed anchor bolts a minimum of 5 inches and countersink bolt holes a maximum of 3/4 inch. Stagger anchor bolts if the nailer is wider than 6 inches.
   2. For fastening to steel or structural concrete deck, provide two staggered rows of screws with maximum fastener spacing within each row of 24 inches. Fasten into top flange of deck with fasteners of sufficient length to protrude 3/4 inch through the deck or minimum of 1 inch embedment into concrete.
   3. Secure wood members, such as fascias, cant strips, and top nailers, up to 8 inches wide, to lower wood nailers using minimum 10 penny common nails or number 8 screws, minimum length of 3 inches and long enough to penetrate at least 1-1/2 inches into the lower wood nailer. Fasten in two staggered rows. Space fasteners within each row a maximum of 12 inches.

3.6 INSTALLATION OF CONSTRUCTION PANELS

A. Wall and Parapet Sheathing: Secure with long dimension perpendicular to wall studs, with ends over firm bearing and staggered, using nails, screws, or staples.

B. Communications and Electrical Room Mounting Boards: Secure with screws to studs with edges over firm bearing; space fasteners at maximum 24 inches on center on all edges and into studs in field of board.
   1. At fire-rated walls, install board over wall board indicated as part of the fire-rated assembly.
   2. Where boards are indicated as full floor-to-ceiling height, install with long edge of board parallel to studs.
   3. Install adjacent boards without gaps.

3.7 SITE APPLIED WOOD TREATMENT

A. Apply preservative treatment compatible with factory applied treatment at site-sawn cuts, complying with manufacturer's instructions.

B. Allow preservative to dry prior to erecting members.

3.8 CLEANING

A. Waste Disposal:
   1. Comply with applicable regulations.
   2. Do not burn scrap on project site.
   3. Do not burn scraps that have been pressure treated.


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4. Do not send materials treated with pentachlorophenol, CCA, or ACA to co-generation facilities or “waste-to-energy” facilities.

B. Do not leave wood, shavings, sawdust, etc. on the ground or buried in fill.

C. Prevent sawdust and wood shavings from entering the storm drainage system.

END OF SECTION


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# SECTION 07 21 00 - THERMAL INSULATION

## PART 1 GENERAL

1.1 SECTION INCLUDES

A. Exterior and Interior wall insulation.

B. Batt insulation in exterior wall construction.

C. Batt insulation for filling perimeter window and door shim spaces and crevices in exterior wall and roof.

1.2 RELATED REQUIREMENTS

A. Section 07 27 00 - Air Barriers: Separate air barrier materials.

1.3 REFERENCE STANDARDS

A. ASTM C240 - Standard Test Methods for Testing Cellular Glass Insulation Block; 2021.

B. ASTM C518 - Standard Test Method for Steady-State Thermal Transmission Properties by Means of the Heat Flow Meter Apparatus; 2021.

C. ASTM C552 - Standard Specification for Cellular Glass Thermal Insulation; 2022.

D. ASTM C553 - Standard Specification for Mineral Fiber Blanket Thermal Insulation for Commercial and Industrial Applications; 2013 (Reapproved 2019).

E. ASTM C578 - Standard Specification for Rigid, Cellular Polystyrene Thermal Insulation; 2023.

F. ASTM C612 - Standard Specification for Mineral Fiber Block and Board Thermal Insulation; 2014 (Reapproved 2019).

G. ASTM C665 - Standard Specification for Mineral-Fiber Blanket Thermal Insulation for Light Frame Construction and Manufactured Housing; 2017.

H. ASTM D1621 - Standard Test Method for Compressive Properties of Rigid Cellular Plastics; 2016 (Reapproved 2023).

I. ASTM E84 - Standard Test Method for Surface Burning Characteristics of Building Materials; 2022.

J. ASTM E136 - Standard Test Method for Assessing Combustibility of Materials Using a Vertical Tube Furnace at 750 Degrees C; 2024.


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K. NFPA 285 - Standard Fire Test Method for Evaluation of Fire Propagation Characteristics of Exterior Wall Assemblies Containing Combustible Components; 2023.

1.4 SUBMITTALS

A. See Section 01 30 00 - Administrative Requirements for submittal procedures.

B. Product Data: Provide data on product characteristics, performance criteria, product limitations, and NFPA 285 compliance.

C. Manufacturer's Installation Instructions: Include information on special environmental conditions required for installation and installation techniques.

## PART 2 PRODUCTS

2.1 APPLICATIONS

A. Insulation Over Metal Stud Framed Walls, Continuous: Mineral fiber board.

2.2 MINERAL FIBER BLANKET INSULATION MATERIALS

A. Flexible Glass Fiber Blanket Thermal Insulation: Preformed insulation, complying with ASTM C665; friction fit.
   1. Combustibility: Non-combustible, when tested in accordance with ASTM E136, except for facing, if any.
   2. Facing: Unfaced.
   3. Products:
      a. CertainTeed Corporation; CertaPro AcoustaTherm Batts: www.certainteed.com.
      b. Johns Manville; Fiberglass: www.jm.com.
      c. Owens Corning Corporation; EcoTouch PINK FIBERGLAS Insulation : www.ocbuildingspec.com.
      d. Substitutions: See Section 01 60 00 - Product Requirements.

2.3 ACCESSORIES

A. Insulation Fasteners: Impaling clip of galvanized steel with washer retainer and clips, to be mechanically fastened to surface to receive insulation, length to suit insulation thickness and substrate, capable of securely and rigidly fastening insulation in place.
   1. Length as required for thickness of insulation material and penetration of deck substrate.

B. Adhesive: Type recommended by insulation manufacturer for application.


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## PART 3 EXECUTION

### 3.1 EXAMINATION

A. Verify that substrate, adjacent materials, and insulation materials are dry and that substrates are ready to receive insulation.

B. Verify substrate surfaces are flat, free of honeycomb, fins, irregularities, or materials or substances that may impede adhesive bond.

### 3.2 BATT INSTALLATION

A. Install insulation in accordance with manufacturer's instructions.

B. Install in exterior wall and roof spaces without gaps or voids. Do not compress insulation.

C. Trim insulation neatly to fit spaces. Insulate miscellaneous gaps and voids.

D. Fit insulation tightly in cavities and tightly to exterior side of mechanical and electrical services within the plane of the insulation.

E. Coordinate work of this section with construction of air barrier seal, see Section 07 27 00.

### 3.3 PROTECTION

A. Do not permit installed insulation to be damaged prior to its concealment.

## END OF SECTION


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# SECTION 07 21 13 – ROOF AND DECK INSULATION

## PART 1 - GENERAL

### 1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including and Division 01 Specification Sections, apply to this Section.

### 1.2 SUMMARY

A. Section Includes:

1. Roof Insulation

B. This portion of the specification describes materials and workmanship required for installation of insulation over roof decks.

C. All materials described herein shall be furnished and installed by roofing contractor unless specifically noted otherwise.

### 1.3 PERFORMANCE REQUIREMENTS

A. General Performance: Installed insulation materials shall withstand specified uplift pressures, thermally induced movement, and exposure to weather without failure due to defective manufacture, fabrication, installation, or other defects in construction. Membrane roofing and base flashings shall remain watertight.

B. Material Compatibility: Provide insulation materials that are compatible with one another under conditions of service and application required, as demonstrated by membrane roofing manufacturer based on testing and field experience.

C. Roofing System Design: Tested by a qualified testing agency to resist the following uplift pressures:

Zone 1’ 35.4 pounds per square foot
Zone 1 61.6 pounds per square foot
Zone 2 81.3 pounds per square foot
Zone 3 110.8 pounds per square foot

1.4 QUALITY ASSURANCE

A. Manufacturer Qualifications: A qualified manufacturer that has UL listed and FM Approvals approved for membrane roofing system consistent to that used for this Project.

B. Installer Qualifications: A qualified firm that is approved, authorized, or licensed by membrane roofing system manufacturer to install manufacturer's product and that is eligible to receive manufacturer's special warranty.

C. Source Limitations: Obtain components including roof insulation, fasteners, adhesive, and etc. as approved by membrane roofing manufacturer.

D. Preliminary Roofing Conference: Before starting roof deck construction, conduct conference at Project site.

1. Meet with Owner, Architect, Owner's insurer if applicable, testing and inspecting agency representative, roofing Installer, roofing system manufacturer's representative, deck Installer, and installers whose work interfaces with or affects roofing, including installers of roof accessories and roof-mounted equipment.
2. Review methods and procedures related to roofing installation, including manufacturer's written instructions.
3. Review and finalize construction schedule and verify availability of materials, Installer's personnel, equipment, and facilities needed to make progress and avoid delays.
4. Review deck substrate requirements for conditions and finishes, including flatness and fastening.
5. Review structural loading limitations of roof deck during and after roofing.
6. Review base flashings, special roofing details, roof drainage, roof penetrations, equipment curbs, and condition of other construction that will affect roofing system.
7. Review governing regulations and requirements for insurance and certificates if applicable.
8. Review temporary protection requirements for roofing system during and after installation.
9. Review roof observation and repair procedures after roofing installation.
10. Manufacturer shall provide, at no additional expenses to the Owner, on-site inspection, by the roofing manufacturer's representative, at a minimum of everyday of application to ensure that the roofing is installed as specified. Written reports are to be submitted with pictures to the Architect indicating progress of the Work and conformance to the Contract Documents and manufacturer's best recommended practice. Keep architect informed as to the progress and quality of the work. Report to the architect any refusal by the contractor to correct unacceptable work. confirm upon completion to the architect that manufacturer has observed the application of the roof system and no procedures varied from the design of the architect. Notify architect of any proposed changes. Manufacturer shall attend all required progress meetings.

E. Preinstallation Roofing Conference: Conduct conference at Project site.

1. Meet with Owner, Architect, Owner's insurer if applicable, testing and inspecting agency representative, roofing Installer, roofing system manufacturer's representative, deck Installer, and installers whose work interfaces with or affects roofing, including installers of roof accessories and roof-mounted equipment.
2. Review methods and procedures related to roofing installation, including manufacturer's written instructions.
3. Review and finalize construction schedule and verify availability of materials, Installer's personnel, equipment, and facilities needed to make progress and avoid delays.
4. Examine deck substrate conditions and finishes for compliance with requirements, including flatness and fastening.
5. Review structural loading limitations of roof deck during and after roofing.
6. Review base flashings, special roofing details, roof drainage, roof penetrations, equipment curbs, and condition of other construction that will affect roofing system.
7. Review governing regulations and requirements for insurance and certificates if applicable.
8. Review temporary protection requirements for roofing system during and after installation.
9. Review roof observation and repair procedures after roofing installation.

## 1.5 DELIVERY, STORAGE, AND HANDLING

A. Deliver roofing materials to Project site in original containers with seals unbroken and labeled with manufacturer's name, product brand name and type, date of manufacture, approval or listing agency markings, and directions for storing and mixing with other components.

B. Insulation shall be delivered to site in an undamaged and dry condition. Material received that is not dry or is otherwise damaged shall be rejected.

C. Proper storage on or off site shall be roofing contractor responsibility.

D. Protect roof insulation materials from physical damage and from deterioration by sunlight, moisture, soiling, and other sources. Store in a dry location. Comply with insulation manufacturer's written instructions for handling, storing, and protecting during installation.

E. Any unused insulation remaining on roof at end of workday shall be returned to storage.

F. Handle and store roofing materials and place equipment in a manner to avoid permanent deflection of deck.

## 1.6 INSULATION – GENERAL

A. All insulation materials must be approved by warrantor of primary roof membrane materials. Samples should be provided to manufacturer and written approval from warrantor of primary roof membrane materials is required before ordering these materials for project.

B. Insulation boards shall be full size except when cutting is required at roof edges and openings. Boards that are broken, cracked, have been exposed to moisture, or are otherwise damaged shall not be used.

C. Proper installation and fit of wood nailers, blocking, and other rough carpentry in appropriate locations shall be verified prior to installation of roof insulation.

D. Caution shall be exercised with construction traffic to avoid damage to new insulation. Breaking or crushing of insulation is unacceptable and any damaged insulation shall be replaced at roofing contractor's expense.

E. Insulation shall be laid with end joints staggered and all joints tight; however, boards shall not be forced into place.

F. No more insulation shall be installed during any work period than can be covered by all plies of roofing during same work period. At end of work period, temporary edge seals shall be installed to protect roof insulation. Upon resumption of work, they must be removed. Such seals shall consist of strips of roofing felt applied and top-coated with specified adhesive.

G. Insulation surfaces shall be cleared of all debris before roofing is placed.

H. All precautions should be made to prevent bitumen dripping during and after application of insulation and roofing materials.

1.7 PROJECT CONDITIONS

A. Weather Limitations: Proceed with installation only when existing and forecasted weather conditions permit roofing system to be installed according to manufacturer's written instructions and warranty requirements.

## PART 2 - PRODUCTS

2.1 ROOF INSULATION

A. General: Preformed roof insulation boards manufactured or approved membrane roofing manufacturer, selected from manufacturer's standard sizes suitable for application, of thicknesses indicated.

B. Metal Deck: Mechanically Fasten Base Layer of Polyisocyanurate Board Insulation: ASTM C 1289, Type II, Class I, Grade 3, felt or glass-fiber mat facer on both major surfaces, minimum thickness 2”

C. Tectum Deck: Adhere Base Layer of Polyisocyanurate Board Insulation: ASTM C 1289, Type II, Class I, Grade 3, felt or glass-fiber mat facer on both major surfaces, minimum thickness 2” with low rise foam adhesive.

D. Lightweight Concrete Deck Substrate: Mechanically Fasten Vapor Barrier Base Layer of Multi-Ply CL to substrate. Adhere Base Layer of Polyisocyanurate Board Insulation: ASTM C 1289, Type II, Class I, Grade 3, felt or glass-fiber mat facer on both major surfaces, minimum thickness 2” with low rise foam adhesive.

E. Structural Concrete Deck: Adhere Vapor Barrier Base Layer of Multi-Ply CL to substrate with low rise foam adhesive. Adhere Base Layer of Polyisocyanurate Board Insulation: ASTM C 1289, Type II, Class I, Grade 3, felt or glass-fiber mat facer on both major surfaces, minimum thickness 2” with low rise foam adhesive.

F. Polyisocyanurate Board Insulation: ASTM C 1289, Type II, Class I, Grade 3, felt or glass-fiber mat facer on both major surfaces, one layer minimum thickness 2”.

G. Tapered Insulation: Provide factory-tapered insulation boards fabricated to slope of 1/8 inch per 12 inches with 1/2 inch leading edge unless otherwise indicated with low rise foam adhesive.

H. Cover-Board: semi-rigid asphaltic roofing substrate board consisting of asphalt impregnated fiberglass-reinforcing mats and a mineral modified asphaltic core, 1/8” thick with low rise foam adhesive.

1. Products: Subject to compliance with requirements, available products that may be incorporated into the Work include, but are not limited to, the following:

a. PIKA PLY COVER- BOARD

I. Provide preformed saddles, crickets, tapered edge strips, and other insulation shapes where indicated for sloping to drain. Fabricate to slopes indicated.

## 2.2 INSULATION ACCESSORIES

A. General: Furnish roof insulation accessories recommended by insulation manufacturer for intended use and compatibility with membrane roofing.

B. Fasteners:

1. Factory-coated steel fasteners and metal or plastic plates meeting corrosion-resistance provisions in FM Approvals 4470, designed for fastening roof insulation to substrate, and acceptable to roofing system manufacturer.

C. Modified Asphaltic Insulation Adhesive: Insulation manufacturer's recommended modified asphaltic, asbestos-free, cold-applied adhesive formulated to attach roof insulation to substrate or to another insulation layer.

D. Bead-Applied Insulation Adhesive: Insulation manufacturer's recommended bead-applied, low-rise, one-component or multi-component urethane adhesive formulated to attach roof insulation to substrate or to another insulation layer.

E. Full-Spread Applied Insulation Adhesive: Insulation manufacturer's recommended spray-applied, low-rise, two-component urethane adhesive formulated to attach roof insulation to substrate or to another insulation layer.

F. Insulation Cant Strips: ASTM C 728, perlite insulation board.

G. Wood Nailer Strips: Comply with requirements in Section 061053 "Miscellaneous Rough Carpentry."

H. Tapered Edge Strips: ASTM C 728, perlite insulation board.

## PART 3 - EXECUTION

### 3.1 EXAMINATION

A. Examine substrates, areas, and conditions, with Installer present, for compliance with the following requirements and other conditions affecting performance of insulation system:

1. Verify that roof openings and penetrations are in place and curbs are set and braced and that roof drain bodies are securely clamped in place.
2. Verify that wood cants, blocking, curbs, and nailers are securely anchored to roof deck at penetrations and terminations and that nailers match thicknesses of insulation.
3. Contractor must verify deck slopes and determine if insulation stops and/or backnailing is required by warranty supplier based on system being installed.
4. Prior to installing insulation, deck must be inspected and accepted by roofing contractor and roofing system warrantor.

B. Proceed with installation only after unsatisfactory conditions have been corrected.

### 3.2 PREPARATION

A. Clean substrate of dust, debris, moisture, and other substances detrimental to roofing installation according to roofing system manufacturer's written instructions. Remove sharp projections.

B. Prevent materials from entering and clogging roof drains and conductors and from spilling or migrating onto surfaces of other construction. Remove roof-drain plugs when no work is taking place or when rain is forecast.

C. Roofing contractor shall perform all other work of preparing deck. When insulation is applied, deck shall be dry and free of dew, frost, ice, and snow.

3.3 INSULATION INSTALLATION

A. Comply with roofing system manufacturer's written instructions for installing roof insulation.

B. Insulation Cant Strips: Install and secure preformed 45-degree insulation cant strips at junctures of roofing membrane system with vertical surfaces or angle changes more than 45 degrees.

C. All boards installed shall be 18 inches in length or width, minimum.

D. Nailer Strips: If warranty supplier requires backnailing of the plies due to slope, wood insulation stops or nailers shall be provided.

1. Wood nailer thickness shall be equal to insulation thickness with smooth transition.
2. Spacing of the wood nailers shall not exceed the recommendations of the warranty supplier.

E. Install tapered insulation under area of roofing to conform to slopes indicated.

F. Install insulation with long joints of insulation in a continuous straight line with end joints staggered between rows, abutting edges and ends between boards. Fill gaps exceeding 1/4 inch with insulation.

1. Cut and fit insulation within 1/4 inch of nailers, projections, and penetrations.

G. Install insulation under area of roofing to achieve required thickness. Where overall insulation thickness is 2.7 inches (68 mm) or more, install two or more layers with joints of each succeeding layer staggered from joints of previous layer a minimum of 6 inches (150 mm) in each direction.

H. Trim surface of insulation where necessary at roof drains so completed surface is flush and does not restrict flow of water.

I. Install tapered edge strips at perimeter edges of roof that do not terminate at vertical surfaces.

J. Adhered Insulation: Install each layer of insulation and adhere to substrate as follows:

1. Prime surface of concrete deck with asphalt primer at rate of 3/4 gal./100 sq. ft. (0.3 L/sq. m) and allow primer to dry.
2. Set each layer of insulation in a solid mopping of hot roofing asphalt applied within plus or minus 25 deg F (14 deg C) of equiviscous temperature.
3. Set each layer of insulation in ribbons of bead-applied insulation adhesive, firmly pressing and maintaining insulation in place.
4. Set each layer of insulation in a uniform coverage of full-spread insulation adhesive, firmly pressing and maintaining insulation in place.

K. Install cover boards over insulation with long joints in continuous straight lines with end joints staggered between rows. Offset joints a minimum of 6 inches in each direction from joints of

insulation below. Loosely butt cover boards together and Tape joints if required by roofing system manufacturer.

1. Fasten cover boards consistent with requirements in FM Approvals' "RoofNav" for specified Windstorm Resistance Classification.
2. Fasten cover boards to resist uplift pressure at corners, perimeter, and field of roof.
3. Apply hot roofing asphalt to underside, and immediately bond cover board to substrate.

L. Asphalt Heating: Do not raise roofing asphalt temperature above equiviscous temperature range more than one hour before time of application. Do not exceed roofing asphalt manufacturer's recommended temperature limits during roofing asphalt heating. Do not heat roofing asphalt within 25 deg F (14 deg C) of flash point. Discard roofing asphalt maintained at a temperature exceeding finished blowing temperature for more than four hours.

## 3.4 PROTECTING AND CLEANING

A. Protect roofing system from damage and wear during remainder of construction period. When remaining construction will not affect or endanger roofing, inspect roofing for deterioration and damage, describing its nature and extent in a written report, with copies to Architect and Owner.

B. Correct deficiencies in or remove roofing system that does not comply with requirements, repair substrates, and repair or reinstall roofing system to a condition free of damage and deterioration at time of Substantial Completion and according to warranty requirements.

C. Clean overspray and spillage from adjacent construction using cleaning agents and procedures recommended by manufacturer of affected construction.

END OF SECTION 07 21 13

# SECTION 07 21 19 - FOAMED-IN-PLACE INSULATION

## PART 1 GENERAL

1.1 SECTION INCLUDES

A. Foamed-in-place insulation.

B. Protective intumescent coating.

1.2 REFERENCE STANDARDS

A. ASTM C518 - Standard Test Method for Steady-State Thermal Transmission Properties by Means of the Heat Flow Meter Apparatus; 2021.

B. ASTM D2842 - Standard Test Method for Water Absorption of Rigid Cellular Plastics; 2019.

C. ASTM E84 - Standard Test Method for Surface Burning Characteristics of Building Materials; 2022.

D. ASTM E96/E96M - Standard Test Methods for Gravimetric Determination of Water Vapor Transmission Rate of Materials; 2023.

E. ASTM E2178 - Standard Test Method for Determining Air Leakage Rate and Calculation of Air Permeance of Building Materials; 2021a.

F. FM 4880 - Examination Standard for Class 1 Fire Rating of Building Panels or Interior Finish Materials; 2022.

G. NFPA 275 - Standard Method of Fire Tests for the Evaluation of Thermal Barriers; 2022.

H. NFPA 286 - Standard Methods of Fire Tests for Evaluating Contribution of Wall and Ceiling Interior Finish to Room Fire Growth; 2019.

I. UL 1040 - Standard for Safety Fire Test of Insulated Wall Construction; Current Edition, Including All Revisions.

J. UL 1715 - Standard for Safety Fire Test of Interior Finish Material; Current Edition, Including All Revisions.

K. ICC-ES AC377 - Acceptance Criteria for Spray-applied Foam Plastic Insulation; 2016.

L. Preinstallation Meeting: Convene one week prior to commencing work of this section.


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1.3 SUBMITTALS

A. See Section 01 30 00 - Administrative Requirements for submittal procedures.

B. Product Data: Provide product description, insulation properties, overcoat properties, and preparation requirements.

C. Evaluation Report: Current Evaluation Report showing compliance with ICC-ES AC377.

D. ABAA Field Quality Control Submittals: Submit third-party reports of testing and inspection as required by ABAA QAP.

E. Manufacturer's Installation Instructions: Indicate special procedures, and perimeter conditions requiring special attention.

F. ABAA Manufacturer Qualification: Submit documentation of current evaluation of proposed manufacturer and materials.

G. ABAA Installer Qualification: Submit documentation of current contractor accreditation and current installer certification. Keep copies of all contractor accreditation and installer certification on site during and after installation. Present on-site documentation upon request.

1.4 QUALITY ASSURANCE

A. Air Barrier Association of America (ABAA) Quality Assurance Program (QAP); www.airbarrier.org:
   1. Installer Qualification: Use accredited contractor, certified installers, evaluated materials, and third-party field quality control audit.
   2. Manufacturer Qualification: Use evaluated materials from a single manufacturer regularly engaged in air barrier material manufacture. Use secondary materials approved in writing by primary material manufacturer.

1.5 FIELD CONDITIONS

A. Do not apply foam when temperature is below that specified by the manufacturer for ambient air and substrate.

B. Do not apply foam when temperature is within 5 degrees F of dew point.

## PART 2 PRODUCTS

2.1 MATERIALS

A. Foamed-In-Place Insulation: Medium-density, rigid or semi-rigid, open or closed cell polyurethane foam; foamed on-site, using blowing agent of water or non-ozone-depleting gas.


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1. Regulatory Requirements: Comply with applicable code for flame and smoke, concealment, and fire protection requirements.
    a. Fire Protection: Provide 15-minute thermal barrier of 1/2 inch gypsum board or equivalent material complying with NFPA 275 test method, or foamed-in-place insulation either exposed or with covering that complies with FM 4880, NFPA 286, UL 1040, or UL 1715.
2. Thermal Resistance: R-value of 5.0, minimum, per 1 inch thickness at 75 degrees F mean temperature when tested in accordance with ASTM C518.
3. Water Vapor Permeance: Vapor retarder; 2 perms, maximum, when tested at intended thickness in accordance with ASTM E96/E96M, desiccant method.
4. Water Absorption: Less than 2 percent by volume, maximum, when tested in accordance with ASTM D2842.
5. Air Permeance: 0.04 cfm per square foot, maximum, when tested at intended thickness in accordance with ASTM E2178 at 1.57 psf.
6. Closed Cell Content: At least 90 percent.
7. Surface Burning Characteristics: Flame spread/smoke developed index of 25/450, maximum, when tested in accordance with ASTM E84.
8. Manufacturers:
    a. Accella Polyurethane Systems; EcoBay CC
    b. BASF Corporation; WALLTITE US
    c. Demilec LLC; HEATLOK SOY 200 Plus
    d. Henry Company; PERMAX 2.0X.
    e. Johns Manville{CH#385933}
    f. Rhino Linings Corporation; ThermalGuard CC2
    g. Substitutions: See Section 01 60 00 - Product Requirements.

2.2 ACCESSORIES

A. Primer: As required by insulation manufacturer.

B. Protective Coating: Intumescent coating of type recommended by insulation manufacturer and as required to comply with applicable codes.
1. Coating Type: Single component, water-based.
2. Protected Insulation Type: Spray polyurethane foam (SPF).
3. Application: Apply using brush, roller, or airless sprayer.
4. Surface Burning Characteristics: Flame spread/smoke developed index of 25/450, maximum, when tested in accordance with ASTM E84.
5. Color: As indicated on drawings.
6. Products:
    a. International Fireproof Technology Inc; DC315 Intumescent Coating : www.painttoprotect.com.
    b. Substitutions: See Section 01 60 00 - Product Requirements.


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## PART 3 EXECUTION

### 3.1 EXAMINATION

A. Verify work within construction spaces or crevices is complete prior to insulation application.

B. Verify that surfaces are clean, dry, and free of matter that may inhibit insulation or overcoat adhesion.

### 3.2 PREPARATION

A. Mask and protect adjacent surfaces from over spray or dusting.

B. Apply primer in accordance with manufacturer's instructions.

### 3.3 APPLICATION

A. Apply insulation in accordance with manufacturer's instructions.

B. Apply insulation by spray method, to a uniform monolithic density without voids.

C. Apply insulation in maximum 2 inches per pass, allowing it to cure between passes as required by the manufacturer.

D. Apply to a minimum cured thickness of 1-1/2 inch.

E. Apply protective coating monolithically, without voids, to fully cover foam insulation, to achieve fire rating required.

F. Patch damaged areas.

G. Where applied to voids and gaps assure space for expansion to avoid pressure on adjacent materials that may bind operable parts.

### 3.4 PROTECTION

A. Do not permit subsequent construction work to disturb applied insulation.

## END OF SECTION


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# SECTION 07 51 14 – COLD PROCESS BUILT-UP ROOFING

## PART 1 - GENERAL

### 1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including and Division 01 Specification Sections, apply to this Section.

### 1.2 SUMMARY

A. Section Includes:

1. Cold process built-up roofing.

### 1.3 PERFORMANCE REQUIREMENTS

A. General Performance: Installed membrane roofing and base flashings shall withstand specified uplift pressures, thermally induced movement, and exposure to weather without failure due to defective manufacture, fabrication, installation, or other defects in construction. Membrane roofing and base flashings shall remain watertight.

B. Material Compatibility: Provide roofing materials that are compatible with one another under conditions of service and application required, as demonstrated by membrane roofing manufacturer based on testing and field experience.

E. Exterior Fire-Test Exposure: ASTM E 108 or UL 790, Class A for application and roof slopes indicated; testing by a qualified testing agency. Identify products with appropriate markings of applicable testing agency.

F. Fire-Resistance Ratings: Comply with fire-resistance-rated assembly designs indicated. Identify products with appropriate markings of applicable testing agency.

### 1.4 ROOF SYSTEM SUBMITTALS

A. Roof System Test Data: Each manufacture must submit independent third party test reports on a multi-ply roof membrane system. “that meets or exceeds the specified minimum physical properties noted in Section 2.3.A of this specification”. The independent third party test data (ASTM D 2523) must be submitted on lab letterhead.

B. Test data must be submitted on the entire roof membrane system and not for individual roof components such as, base sheets, ply sheets, adhesives, cap sheets, flood coats and etc.

C. Test data must be conducted per test methods listed in this section.

D. Independent test laboratory shall be ISO/IEC 17025 certified.

1.5 QUALITY ASSURANCE

A. Manufacturer Qualifications: A qualified manufacturer that has UL listed and FM Approvals approved for membrane roofing system consistent to that used for this Project.

B. Installer Qualifications: A qualified firm that is approved, authorized, or licensed by membrane roofing system manufacturer to install manufacturer's product and that is eligible to receive manufacturer's special warranty.

C. Source Limitations: Obtain components including roof insulation, fasteners, adhesive, and etc. as approved by membrane roofing manufacturer.

D. Exterior Fire-Test Exposure: ASTM E 108, Class A; for application and roof slopes indicated, as determined by testing membrane roofing materials by a qualified testing agency. Materials shall be identified with appropriate markings of applicable testing agency.

E. Preliminary Roofing Conference: Before starting roof deck construction, conduct conference at Project site.

1. Meet with Owner, Architect, Owner's insurer if applicable, testing and inspecting agency representative, roofing Installer, roofing system manufacturer's representative, deck Installer, and installers whose work interfaces with or affects roofing, including installers of roof accessories and roof-mounted equipment.
2. Review methods and procedures related to roofing installation, including manufacturer's written instructions.
3. Review and finalize construction schedule and verify availability of materials, Installer's personnel, equipment, and facilities needed to make progress and avoid delays.
4. Review deck substrate requirements for conditions and finishes, including flatness and fastening.
5. Review structural loading limitations of roof deck during and after roofing.
6. Review base flashings, special roofing details, roof drainage, roof penetrations, equipment curbs, and condition of other construction that will affect roofing system.
7. Review governing regulations and requirements for insurance and certificates if applicable.
8. Review temporary protection requirements for roofing system during and after installation.
9. Review roof observation and repair procedures after roofing installation.
10. Manufacturer shall provide to the Owner, on-site inspection, by the roofing manufacturer's representative, at a minimum of everyday of application to ensure that the roofing is installed as specified. Written reports are to be submitted with pictures to the Architect indicating progress of the Work and conformance to the Contract Documents and manufacturer's best recommended practice. Keep architect informed as to the progress and quality of the work. Report to the architect any refusal by the

contractor to correct unacceptable work. confirm upon completion to the architect that manufacturer has observed the application of the roof system and no procedures varied from the design of the architect. Notify architect of any proposed changes. Manufacturer shall attend all required progress meetings.

F. Preinstallation Roofing Conference: Conduct conference at Project site.

1. Meet with Owner, Architect, Owner's insurer if applicable, testing and inspecting agency representative, roofing Installer, roofing system manufacturer's representative, deck Installer, and installers whose work interfaces with or affects roofing, including installers of roof accessories and roof-mounted equipment.
2. Review methods and procedures related to roofing installation, including manufacturer's written instructions.
3. Review and finalize construction schedule and verify availability of materials, Installer's personnel, equipment, and facilities needed to make progress and avoid delays.
4. Examine deck substrate conditions and finishes for compliance with requirements, including flatness and fastening.
5. Review structural loading limitations of roof deck during and after roofing.
6. Review base flashings, special roofing details, roof drainage, roof penetrations, equipment curbs, and condition of other construction that will affect roofing system.
7. Review governing regulations and requirements for insurance and certificates if applicable.
8. Review temporary protection requirements for roofing system during and after installation.
9. Review roof observation and repair procedures after roofing installation.

1.6 DELIVERY, STORAGE, AND HANDLING

A. Deliver roofing materials to Project site in original containers with seals unbroken and labeled with manufacturer's name, product brand name and type, date of manufacture, approval or listing agency markings, and directions for storing and mixing with other components.

B. Store liquid materials in their original undamaged containers in a clean, dry, protected location and within the temperature range required by roofing system manufacturer. Protect stored liquid material from direct sunlight.

C. Discard and legally dispose of liquid material that cannot be applied within its stated shelf life.

D. Protect roof insulation materials from physical damage and from deterioration by sunlight, moisture, soiling, and other sources. Store in a dry location. Comply with insulation manufacturer's written instructions for handling, storing, and protecting during installation.

E. Handle and store roofing materials and place equipment in a manner to avoid permanent deflection of deck.

1.7 PROJECT CONDITIONS

A. Weather Limitations: Proceed with installation only when existing and forecasted weather conditions permit roofing system to be installed according to manufacturer's written instructions and warranty requirements.

B. Maintain at least one fully charged 20 lb. (min) ABC-type dry chemical fire extinguisher for each roofing mechanic on the project, and have more available near the application area.

C. A fire watch of sufficient length must be kept during and after all hot work is completed. A fire watch is never shorter than 1 hour after all application has been completed for a given day. A fire watch may need to be longer depending on the size of the roofing project and the design or configuration of the building.

1.8 WARRANTY

A. Quotations will include a price for a **25** year no dollar limit, non prorated warranty to be provided by the material supplier. If the supplier is a subsidiary company, the warranty must be issued by the parent company.

B. The material supplier will issue the warranty to owner upon material supplier acceptance of project completion and full payment of all bills related to project.

C. Warranty supplier shall, as part of the warranty, provide one (1) maintenance visit within the first two (2) years of the warranty period. Each maintenance visit will include Inspections, Housekeeping, Routine Maintenance and Preventive Maintenance as described below.

1. General

a. All repairs will follow the manufacturer’s written repair and maintenance guidelines or NRCA recommended repair procedure.

2. Debris

a. A complete walkover of the existing roof areas to determine the immediate surface conditions of the roof.
b. Removal of all naturally occurring debris (i.e., leaves, branches, paper and similar items) from the roof membrane.
c. Service will include removal of surface debris from the roof drains, gutters, and scuppers, but not clogged piped or plumbing.
d. All debris will be disposed of at the owner’s approved site location.

3. Terminations and Flashing

a. Sealant voids in termination bars, counter flashings and parapet caps will be cleaned and resealed as required.
b. Exposed fasteners will be resealed on perimeter metal details where required.

c. All pitch pans will be refilled and topped off as required.
d. Metal projections (hoods and clamps) will be checked and resealed.
e. Soil stack leads will be inspected for cuts or holed and temporarily resealed when required with appropriate materials until arrangements can be made for permanent repair.
f. Re-secure loose metal coping caps, termination bars, counter flashings and metal edge systems where required with appropriate fasteners.

4. Membrane

a. Tears, splits and breaks in the perimeter and internal membrane flashing systems and flashing strip-ins will be repaired with appropriate repair materials.
b. Visible membrane defects which may allow water into the roofing system will be repaired with appropriate repair materials.
c. Dress-up reflective coatings where mastic repairs have been made.
d. Drains and Gutters.
e. Check and re-secure drain bolts and clamping rings.
f. Check strip-in around drain leads, coat with approved mastics if required.
g. Reattach loose gutter straps, seal open gutter joints, and repair gutter strip-ins where required.
h. Check scupper boxes for open solder or caulking and seal with appropriate materials if required.

5. SPECIAL PROJECT WARRANTY

a. Submit roofing Installer's warranty, on warranty form at end of this Section, signed by Installer, covering the Work of this Section, including all components of built-up roofing such as built-up roofing membrane, base flashing, roof insulation, fasteners, cover boards, substrate boards, vapor retarders, roof pavers, and walkway products, for the following warranty period:
b. ROOFING INSTALLER'S WARRANTY
c. WHEREAS_____of_____ _____, herein called the "Roofing Installer," has performed roofing and associated work ("work") on the following project:

1) Owner: County of Union
2) Address: 921 Elizabeth Avenue Elizabeth, NJ 07201
3) Area of Work: All Roofs
4) Acceptance Date: _____.
5) Warranty Period: 25 Year NDL – Edge to Edge
6) Expiration Date: _____.

d. AND WHEREAS Roofing Installer has contracted (either directly with Owner or indirectly as a subcontractor) to warrant said work against leaks and faulty or defective materials and workmanship for designated Warranty Period,
e. NOW THEREFORE Roofing Installer hereby warrants, subject to terms and conditions herein set forth, that during Warranty Period he will, at his

own cost and expense, make or cause to be made such repairs to or replacements of said work as are necessary to correct faulty and defective work and as are necessary to maintain said work in a watertight condition.

f. This Warranty is made subject to the following terms and conditions:

1) Specifically excluded from this Warranty are damages to work and other parts of the building, and to building contents, caused by:
2) lightning;
3) peak gust wind speed exceeding <**72** mph >;
4) fire;
5) failure of roofing system substrate, including cracking, settlement, excessive deflection, deterioration, and decomposition;
6) faulty construction of parapet walls, copings, chimneys, skylights, vents, equipment supports, and other edge conditions and penetrations of the work;
7) vapor condensation on bottom of roofing; and
8) activity on roofing by others, including construction contractors, maintenance personnel, other persons, and animals, whether authorized or unauthorized by Owner.

g. When work has been damaged by any of foregoing causes, Warranty shall be null and void until such damage has been repaired by Roofing Installer and until cost and expense thereof have been paid by Owner or by another responsible party so designated.

h. Roofing Installer is responsible for damage to work covered by this Warranty but is not liable for consequential damages to building or building contents resulting from leaks or faults or defects of work.

i. During Warranty Period, if Owner allows alteration of work by anyone other than Roofing Installer, including cutting, patching, and maintenance in connection with penetrations, attachment of other work, and positioning of anything on roof, this Warranty shall become null and void on date of said alterations, but only to the extent said alterations affect work covered by this Warranty. If Owner engages Roofing Installer to perform said alterations, Warranty shall not become null and void unless Roofing Installer, before starting said work, shall have notified Owner in writing, showing reasonable cause for claim, that said alterations would likely damage or deteriorate work, thereby reasonably justifying a limitation or termination of this Warranty.

j. During Warranty Period, if original use of roof is changed and it becomes used for, but was not originally specified for, a promenade, work deck, spray-cooled surface, flooded basin, or other use or service more severe than originally specified, this Warranty shall become null and void on date of said change, but only to the extent said change affects work covered by this Warranty.

k. Owner shall promptly notify Roofing Installer of observed, known, or suspected leaks, defects, or deterioration and shall afford reasonable opportunity for Roofing Installer to inspect work and to examine evidence of such leaks, defects, or deterioration.

l. This Warranty is recognized to be the only warranty of Roofing Installer on said work and shall not operate to restrict or cut off Owner from other

remedies and resources lawfully available to Owner in cases of roofing failure. Specifically, this Warranty shall not operate to relieve Roofing Installer of responsibility for performance of original work according to requirements of the Contract Documents, regardless of whether Contract was a contract directly with Owner or a subcontract with Owner's General Contractor.

m. IN WITNESS THEREOF, this instrument has been duly executed this _____ day of _____, _____.

1) Authorized Signature: _____.

2) Name: _____.

3) Title: _____.

## PART 2 - PRODUCTS

### 2.1 BUILT-UP ROOFING MANUFACTURERS

A. Basis of Design: Subject to compliance with requirements, provide products by the following:

1. SR Products – 1380 E. Highland Road, Macedonia, Ohio 44056
2. Or Approved Equal

B. VAPOR BARRIER – One Ply adhered over primed concrete deck.

1. MULTI-PLY GLASS CL

### 2.2 MULTI-PLY ROOFING MATERIALS

### 2.3 PLY-SHEET MATERIALS

A. Base & Ply Sheet: ASTM D 4601, Type II nonperforated, asphalt-impregnated and coated, glass-fiber sheet, dusted with fine mineral surfacing on both sides.

1. MULTI-PLY GLASS CL

| Property | Typical Value | Test Method |
|---|---|---|
| Weight (lb/100 $ft^2$) | 33 | ASTM D 4601 |
| Thickness (mils) | 60 | ASTM D 146 |
| Breaking Strength (lbf/in – width) | 165 MD<br>155 XMD | ASTM D 146 |
| Trapezoid Tear Strength (lbf) | 30 MD<br>17 XMD | ASTM D 5733 |
| Pliability (1/2” Radius) | Pass | ASTM D 146 |
| Mass of Desaturated Glass/Polyesters Mat Reinforcement (lb/100$ft^2$) | 2.5 | ASTM D 4601 |

| | | |
|---|---|---|
| Asphalt (lb/100ft$^2$) | 15 | ASTM D 4601 |
| Surfacing and Stabilizers(lb/100 ft$^2$) | 14 | ASTM D 4601 |
| Moisture (%) | 0 | ASTM D 146 |
| Fire Resistance | Pass, Class A | UL 790 / ASTM E 108 |
| Asbestos Content, % | Zero | EPA 600/R-93/116 |

2.4 SBS-MODIFIED ROOFING MEMBRANE CAP SHEET

A. Granule-Surface Roofing Membrane Cap Sheet – ASTM D 6162, 6163 or 6164 One Ply: Grade G, Type I, II, or III, SBS-modified asphalt sheet; granular surfaced; suitable for application method specified, and as follows:

1. PERFORMANCE PLY MS FR

| Property | Typical Value | Test Method |
|---|---|---|
| Thickness, mil (mm) | 160 (4.0) | ASTM D 5147/6164 |
| Maximum Load, 73.4 ± 3.6ºF (23 ± 2ºC), lbf/in. | 85 MD<br>65 XMD | ASTM D 5147/6164 |
| Elongation at Maximum Load, 73.4 ± 3.6ºF (23 ± 2ºC), % | 55 MD<br>55 XMD | ASTM D 5147/6164 |
| Maximum Load, 0ºF ± 3.6ºF (-18 ± 2ºC), lbf/in. | 117 MD<br>83 XMD | ASTM D 5147/6164 |
| Elongation at Maximum Load, 0ºF ± 3.6ºF (-18 ± 2ºC), % | 35 MD<br>40 XMD | ASTM D 5147/6164 |
| Tear Strength, 73.4 ±3.6ºF (23 ± 2ºC), lbf/in. | 120 MD<br>87 XMD | ASTM D 5147/6164 |
| Low Temperature Flexibility, °F | -15 | ASTM D 5147/6164 |
| Dimensional Stability, % | 0.5 | ASTM D 5147/6164 |
| Compound Stability, °F | 240 | ASTM D 5147/6164 |
| Granule Embedment (Grams Loss) | 1.5 | ASTM D 5147/6164 |
| Net Mass per Unit Area, lb/100 ft$^2$ | 113 | ASTM D 228 |
| Solar Reflectance (Initial) | 0.26 | ASTM C 1549 |
| Emissivity (Initial) | 0.87 | ASTM C 1371 |
| Compatibility of Coating with ASTM D 312 Asphalt | Oliensis Test (No Exudate) | ASTM D 1370 |
| Asbestos Content, % | Zero | EPA 600/R-93/116 |
| Fire Resistance | Pass, Class A | UL 790 / ASTM E 108 |

2.5 BASE FLASHING SHEET MATERIALS

A. Backer Sheet: Polymer modified, fully coated asphalt sheet (reinforced with polyester fabric, or fiberglass/polyester combination reinforcement); smooth surfaced; suitable for application method specified.

1. MULTI-PLY GLASS CL

| Property | Typical Value | Test Method |
|---|---|---|
| Weight (lb/100 $ft^2$) | 33 | ASTM D 4601 |
| Thickness (mils) | 60 | ASTM D 146 |
| Breaking Strength (lbf/in – width) | 165 MD<br>155 XMD | ASTM D 146 |
| Trapezoid Tear Strength (lbf) | 30 MD<br>17 XMD | ASTM D 5733 |
| Pliability (1/2" Radius) | Pass | ASTM D 146 |
| Mass of Desaturated Glass/Polyesters Mat Reinforcement (lb/100$ft^2$) | 2.5 | ASTM D 4601 |
| Asphalt (lb/100$ft^2$) | 15 | ASTM D 4601 |
| Surfacing and Stabilizers(lb/100 $ft^2$) | 14 | ASTM D 4601 |
| Moisture (%) | 0 | ASTM D 146 |
| Fire Resistance | Pass, Class A | UL 790 / ASTM E 108 |
| Asbestos Content, % | Zero | EPA 600/R-93/116 |

A. Granule-Surfaced Flashing Sheet – ASTM D 6162, 6163 or 6164 One Ply: Grade G, Type I, II, or III, SBS-modified asphalt sheet; granular surfaced; suitable for application method specified, and as follows:

1. PERFORMANCE PLY MS FR

| Property | Typical Value | Test Method |
|---|---|---|
| Thickness, mil (mm) | 160 (4.0) | ASTM D 5147/6164 |
| Maximum Load, 73.4 ± 3.6ºF (23 ± 2ºC), lbf/in. | 85 MD<br>65 XMD | ASTM D 5147/6164 |
| Elongation at Maximum Load, 73.4 ± 3.6ºF (23 ± 2ºC), % | 55 MD<br>55 XMD | ASTM D 5147/6164 |
| Maximum Load, 0ºF ± 3.6ºF (-18 ± 2ºC), lbf/in. | 117 MD<br>83 XMD | ASTM D 5147/6164 |
| Elongation at Maximum Load, 0ºF ± 3.6ºF (-18 ± 2ºC), % | 35 MD<br>40 XMD | ASTM D 5147/6164 |
| Tear Strength, 73.4 ±3.6ºF (23 ± 2ºC), lbf/in. | 120 MD<br>87 XMD | ASTM D 5147/6164 |
| Low Temperature Flexibility, °F | -15 | ASTM D 5147/6164 |
| Dimensional Stability, % | 0.5 | ASTM D 5147/6164 |
| Compound Stability, °F | 240 | ASTM D 5147/6164 |
| Granule Embedment (Grams Loss) | 1.5 | ASTM D 5147/6164 |
| Net Mass per Unit Area, lb/100 $ft^2$ | 113 | ASTM D 228 |
| Solar Reflectance (Initial) | 0.26 | ASTM C 1549 |
| Emissivity (Initial) | 0.87 | ASTM C 1371 |
| Compatibility of Coating with ASTM D 312 Asphalt | Oliensis Test (No Exudate) | ASTM D 1370 |
| Asbestos Content, % | Zero | EPA 600/R-93/116 |
| Fire Resistance | Pass, Class A | UL 790 / ASTM E 108 |

2.6 COLD PROCESS MEMBRANE INTERPLY ADHESIVE

A. Single Component compound, as recommended by roofing system manufacturer for application.

1. MULTI-PLY ADHESIVE SF II

| Property | Typical Value | Test Method |
|---|---|---|
| Asbestos Content, % | 0 | EPA 600/R-93/116 |
| Density | 10.3 lbs/gal. | ASTM D 1475 |
| Viscosity | 20,000 – 25,000 cps | ASTM D 2196 |

2.7 AUXILIARY MATERIALS

A. General: Auxiliary materials recommended by roofing manufacturer for intended use and compatible with specified system components.

B. Flashing:

1. SION NR Detail Membrane (non-reinforced) – Manufacturer's standard sheet flashing of same material, type, reinforcement, thickness and color as KEE sheet membrane.
2. SION RM Strip-In Membrane and SION FS Clad metal ends and joints.
3. SION FS Clad Metal – 24-gauge G-90 galvanized steel laminated with a 25-mil thick sheet of non-reinforced Elvaloy® modified thermoplastic membrane.

C. Bonding Adhesive:

1. SION FS Bonding Adhesive LV.

D. Pipe Boot:

1. SION Preformed Pipe Boot.
2. SION Split Pipe Boot.

E. Walk Treds:

1. SION Walk Tred.

F. Asphalt Roofing Cement: ASTM D 4586, asbestos free.

1. RMA ELASTIC

| Property | Typical Value | Test Method |
|---|---|---|
| Percent Solids by Weight | 78% | ASTM D 4586 |
| Percent Solids by Volume | 70% | ASTM D 4586 |
| Weight per Gallon | 9.6 lbs | ASTM D 4586 |
| Flash Point (Seta C. C.) | 105°F | ASTM D 4586 |
| Viscosity @ 77°F | 640,000 cPs | ASTM D 4586 |

| | | |
|---|---|---|
| Long-Term Service Temperature | -60°F to +160°F | ASTM D 4586 |
| Water Resistance, Intermittent Exposure | Excellent | ASTM D 4586 |
| Water Resistance, Ponded | Fair | ASTM D 4586 |
| UV Resistance | Excellent | ASTM D 4586 |

G. Penetration Pocket Sealant: pourable, elastomeric, one-component, coal tar urethane sealant.

1. PITCH PAN SEALER

| Property | Typical Value | Test Method |
|---|---|---|
| Asbestos Content | 0% | EPA 600/R-93/116 |
| Uniformity | Pass | ASTM D 4479 |
| Elongation | 450% | ASTM D 2370 |
| Solids by Weight | 98.5% | ASTM D 4479 |
| Density | 10.6 lbs/gal. | ASTM D 1475 |
| Viscosity | 20,000 – 25,000 cps | ASTM D 2196 |
| Flash Point | 250°F minimum | ASTM D 93 |
| VOC | 25 g/l | ASTM D 6511 |

H. Joint Sealant: Polyurethane; one component moisture cured, quick skin, rapid cure non-hardening, non-sagging complying with ASTM C920, Type S, Grade NS, Class 25, Use NT, A, M, G and O.

1. SR Sealant II

I. BUR System, Asphalt Primer: ASTM D 41 Type II

1. SR Asphalt Low VOC.

J. Glass-Fiber Fabric: SR Glass Mesh - Woven glass-fiber cloth, treated with asphalt, complying with ASTM D 1668, Type I.

K. Fasteners: Factory-coated steel fasteners and metal or plastic plates complying with corrosion-resistance provisions in FM Approvals 4470, designed for fastening roofing membrane components to substrate; tested by manufacturer for required pullout strength, and acceptable to roofing system manufacturer.

L. Miscellaneous Accessories: Provide those recommended by roofing system manufacturer.

## PART 3 - EXECUTION

### 3.1 EXAMINATION

A. Examine substrates, areas, and conditions, with Installer present, for compliance with the following requirements and other conditions affecting performance of roofing system:

1. Verify that roof openings and penetrations are in place and curbs are set and braced and that roof drain bodies are securely clamped in place.
2. Verify that wood cants, blocking, curbs, and nailers are securely anchored to roof deck at penetrations and terminations and that nailers match thicknesses of insulation.

B. Proceed with installation only after unsatisfactory conditions have been corrected.

## 3.2 PREPARATION

A. Clean substrate of dust, debris, moisture, and other substances detrimental to roofing installation according to roofing system manufacturer's written instructions. Remove sharp projections.

B. Prevent materials from entering and clogging roof drains and conductors and from spilling or migrating onto surfaces of other construction. Remove roof-drain plugs when no work is taking place or when rain is forecast.

C. Prime surface of concrete deck with asphalt primer at a rate of 3/4 gal./100 sq. ft. (0.3 L/sq. m), and allow primer to dry.

## 3.3 ROOFING MEMBRANE INSTALLATION, GENERAL

A. Install roofing membrane system according to roofing system manufacturer's written instructions and applicable recommendations in ARMA/NRCA's "Quality Control Guidelines for the Application of Polymer Modified Bitumen Roofing".

B. Start installation of roofing membrane in presence of roofing system manufacturer's technical personnel.

C. Coordinate installation of roofing system so insulation and other components of the roofing membrane system not permanently exposed are not subjected to precipitation or left uncovered at the end of the workday or when rain is forecast.

1. At end of each day's work, provide tie-offs to cover exposed roofing membrane sheets and insulation with a course of coated felt set in roofing mastic or hot roofing asphalt, with joints and edges sealed.
2. Complete terminations and base flashings and provide temporary seals to prevent water from entering completed sections of roofing system.
3. Remove and discard temporary seals before beginning work on adjoining roofing.

D. Substrate-Joint Penetrations: Prevent roofing asphalt and adhesives from penetrating substrate joints, entering building, or damaging roofing system components or adjacent building construction.

E. Membrane installation further requirements:

1. Place ply sheets to ensure water will flow over or parallel to, but never against, exposed edges.
2. Ply should never touch ply even at roof edges, laps, tapered edge strips, and cants.
3. Avoid excessive application of asphalt adhesive over top ply, leave top ply exposed with minimal asphalt at ply lines.
4. Light brooming or squeegeeing may be required to aid adhesion of ply sheets, base sheets, and/or cap sheets.
5. Avoid traffic on all newly installed membrane.
6. Overlap previous day's work 24 inches.
7. Lap ply sheet ends six inches. Stagger end laps twelve inches minimum.
8. Fit plies into roof drain rims, install metal flashing and finishing plies, secure clamping collars, and install domes.
9. Cut out fishmouths/side laps that are not completely sealed. Replace all sheets that are not fully and continuously bonded.
10. Roof is to be inspected and approved by representative from roof system warrantor before application of surfacing.
11. Follow warranty supplier's recommendations for backnailing requirements.

F. Daily Waterstop/Tie-Ins

1. Install "deadman" insulation filler at insulation staggers.
2. Extend roofing plies at least twelve inches onto prepared area of adjacent roofing. Embed plies into Specified Interply Adhesive. Strip edges with twelve-inch wide ply sheet embedded completely in alternate uniform courses of Specified Interply Adhesive.
3. At beginning of next day's work, remove temporary connection by cutting felts evenly along edge of existing roof system. Remove "deadman" insulation fillers.

## 3.4 BASE-SHEET INSTALLATION

A. Install lapped base-sheet course, extending sheet over and terminating beyond cants. Attach base sheet as follows:

1. Torched to substrate.

## 3.5 SBS-MODIFIED BITUMINOUS MEMBRANE INSTALLATION

A. Install modified bituminous roofing membrane sheet and cap sheet according to roofing manufacturer's written instructions, starting at low point of roofing system. Extend roofing membrane sheets over and terminate beyond cants, installing as follows:

1. Adhere to substrate in a full application of specified adhesive at the rate required by product data sheet.
2. Unroll roofing membrane sheets and allow them to relax for minimum time period required by manufacturer.

3. Install specified membrane as starter strips at all edges, perimeters, transitions, around equipment curbs, and penetrations, and drains, a minimum of 18” width from the top of the cant strip or from the edge on to the roof in specified ply adhesive.

B. Laps: Accurately align roofing membrane sheets, without stretching, and maintain uniform side and end laps. Stagger end laps. Completely bond and seal laps, leaving no voids.

1. Repair tears and voids in laps and lapped seams not completely sealed.
2. Apply roofing granules to cover exuded bead at laps while bead is hot.

C. Install roofing membrane sheets so side and end laps shed water.

3.6 FLASHING AND STRIPPING INSTALLATION

A. Install base flashing over cant strips and other sloped and vertical surfaces, at roof edges, and at penetrations through roof; secure to substrates according to roofing system manufacturer's written instructions, and as follows:

1. Prime substrates with asphalt primer if required by roofing system manufacturer.
2. Backer Sheet Application: Adhere backer sheet to substrate in asphalt roofing mastic at rate required by roofing system manufacturer.
3. Flashing Sheet Application: Adhere flashing sheet to substrate in asphalt roofing mastic at rate required by roofing system manufacturer.
4. Liquid Applied: Three Coats, Apply base coat and embed fabric at rate required by roofing system manufacturer, apply top coat at rate required by roofing system manufacturer.

B. Additional instructions for mineral surface flashing cap.

1. Snap a chalk line 6” from the toe of cant out onto roof membrane.
2. Measure the distance from the chalk line up the wall to where flashing will be terminated. On sloped roofs, take two measurements 1 meter (39”) apart.
3. Measure down length of a roll of specified membrane, and cut, in cross machine direction, a section same length. If roof is sloped, start at the bottom, and transfer height measurement to cutting of the flashing cap. Each section is 1 meter (39”) in width.
4. The joints of the membrane covering the deck should be staggered so that the membranes covering the vertical face of the parapet or curb do not coincide with those covering the deck.
5. Starting at the low end of the area being flashed, apply section in specified adhesive using a strapping method, overlapping the exposed smooth selvage with each new section. Bottom of flashing cap must be lined up 6” from toe of cant, on chalk line.
6. The salvage of the last section should be cut flush to the mineral surface prior to the application, ensuring that total flashing surface is mineral surfaced.
7. All areas where excessive adhesive is exposed on side laps may be coated with specified heat reflective coating or granules sprinkled in as flashing sections are installed.

C. Extend base flashing up walls or parapets a minimum of 8 inches (200 mm) above roofing membrane and a maximum of 14 inches above finished roof, and 4 inches (100 mm) onto field of roofing membrane.

D. Mechanically fasten top of base flashing securely at terminations and perimeter of roofing, fasten minimum of 8 inches on center.

1. Seal top termination of base flashing with a strip of glass-fiber fabric set in asphalt roofing mastic.

E. Install specified counter flashing system as per detail drawings.

F. Install roofing membrane cap-sheet stripping where metal flanges and edgings are set on membrane roofing according to roofing system manufacturer's written instructions.

G. Flashing at Single and Multiple Penetrations-Small Pipes and Conduits.

1. Remove existing pitch pans.
2. Install new insulation and roofing membrane system.
3. Apply 1/16 inch uniformly thick layer of asphalt mastic to surface receiving metal flange.
4. Install specified pitch pan(s) around penetration(s).
5. Prime metal flange, projection, and pitch pan interior with asphalt primer. Do not prime pan interior or projection if urethane pitch pocket sealant is used.
6. Seal flange with two strips of polyester roofing ply embedded between alternate spreads of membrane adhesive. Extend first ply two inches beyond flange, second ply two inches beyond first ply.
7. Fill to pitch pan 3/4” from top with non shrink grout, allow to set up.
8. Seal top with specified pitch pan sealant.
9. All penetrations will receive a bonnet or watershed as shown in detail drawings.

H. Flashing at Plumbing Vents.

1. Remove existing stack flashing.
2. Wedge plumbing vent tight against deck.
3. Fabricate and install plumbing vent flashing from specified lead.

a. Flange, six inches wide minimum, extend completely around periphery of vent flashing. Set flange into asphalt mastic. Neatly dress flange with wood block.
b. Pipe outside diameters greater than two inches: Bend lead inside pipe one inch minimum with rubber/plastic mallet. Replace cracked lead.
c. Pipe outside diameters two inches or less: Cut lead at vent top. Fabricate and install integral lead cap.
d. Prime metal flange with asphalt primer and allow to dry.
e. Apply flashing adhesive on metal flange and onto roof.
f. Flash with three targets of flashing base ply felt, four, eight, and twelve inches larger than lead flange.

I. Flashing at Equipment Stands – “I” Beams and Angle Irons.

1. Remove existing flashing. Weld 1/4 inch plate steel (where required) to open portion of beam. Slope to shed water away from I-beam. Fill beam interior below sloped plate to roof deck with batt insulation. Install vertical and horizontal sections of wood blocking around column. Blocking height to be a minimum of 8 inches above final insulation surface. Provide tapered edge strip and cant around stand. Mechanically attach to deck; miter corners.
2. Install new roofing two inches beyond top edge of cant. Adhere base ply(s) of specified flashing membrane. Overlap section four inches. Extend flashing ply four inches beyond toe of cant.
3. Install top ply of specified flashing membrane over the base ply, extend six inches beyond base flashing ply. Mechanically fasten top of flashing to substrate with one inch cap nails eight inches o.c. Adhere flashing tape, to vertical flange of welded plate and around entire column. Surface flashing with specified reflective coating (if specified).
4. Fabricate and install new aluminum counterflashing. Mechanically fasten counterflashing to structural beam with compatible bar/fasteners. Extend counterflashing two inches below top of base flashing. Wipe clean top surface of counterflashing with metal cleaner. Caulk top of counterflashing, provide watershed, and tool neatly. Paint exposed installed steel with specified reflective coating.

J. Flashing at Expansion Joints, Roof Dividers, and Coping.

1. Install new wood blocking at flashing base. Provide tapered edge strip over installed insulation at blocking edge. Firmly butt tapered edge strip to blocking. Edge strip shall be properly adhered or attached to the substrate.
2. Properly adhere or attach cant strip securely to substrate and blocking.
3. Extend new roofing at least two inches beyond top edge of cant.
4. Adhere flashing base ply(s) and top ply to flashing substrate in a continuous application of flashing adhesive. Remove wrinkles and voids. Overlap sections four inches. Extend flashing ply four inches beyond toe of cant, and top ply four inches beyond toe of base ply.
5. Expansion Joints shall receive the following:

    a. Install vinyl water barrier over joint opening. Allow barrier to drape four inches within joint opening. Nail both sides of barrier eight inches o.c.
    b. Insert fiberglass batt insulation into expansion joint opening; fill entire opening.

6. Install flashing as specified.
7. Install joint cover as shown on detail drawing.

K. Flashing at Scuppers.

1. Remove existing scupper liners and membrane to wood blocking.
2. Replace rotted and untreated blocking as needed and approved by owner’s representative with new, treated wood blocking.
3. Install base membrane over wood blocking, into the port and out onto the roof 2 feet in all directions, set in a bed of asphalt mastic.
4. Install pre-manufactured scupper.

5. Install scupper head below outside of port and new downspouts.
6. Prime metal surfaces to receive membrane plies and allow to dry.
7. Solidly adhere roof membrane plies completely to stripping plies, scupper flanges, cant, and port, progressing plies 1-2” further than previous applied ply.
8. Wall flashings shall extend over flanges and roof membrane out 6” past cant.

L. Flashing at Gravel Stops, Drip Edges, and Fascia.

1. Remove existing edge flashing system to wood blocking.
2. Replace rotted blocking as needed and approved by building owner's representative.
3. Provide tapered edge strip along gravel stop, over installed insulation at blocking edge. Firmly butt tapered edge strip to blocking. Fully adhere edge strip to insulation.
4. Solidly adhere roof membrane plies completely to insulation and blocking. Envelope felts. Ensure complete bond and continuity without wrinkles or voids.
5. Install fascia system and stripping plies according to detail drawings.
6. Install new downspouts at spill-out scupper locations. Dimensions to match existing.

M. Flashing at Edge/Gutters.

1. Remove existing edge flashing, gutters and downspouts.
2. Replace rotted blocking as needed and approved by building owner’s representative. Install insulation firmly butting against wood blocking.
3. Solidly adhere roofing membrane plies completely to insulation blocking. Ensure complete bond and continuity without wrinkles or voids. Envelope felts.
4. Fabricate and install new edge/gutter with outlet tubes. Locate outlet tubes in original position. Slope gutter to outlets.
5. Install gutter support system.
6. Provide gutter expansion joints every 30 feet.
7. Fasten and strip-in drip edge flange according to detail drawing.
8. Install new downspouts. Dimensions to match existing.

N. Roof Drains: Set 30-by-30-inch- (760-by-760-mm-) square metal flashing in bed of asphalt roofing mastic on completed roofing membrane. Cover metal flashing with roofing membrane cap-sheet stripping and extend a minimum of 6 inches (150 mm) beyond edge of metal flashing onto field of roofing membrane. Clamp roofing membrane, metal flashing, and stripping into roof-drain clamping ring. Refer to Section 22146 – Roof Drains for further information.

## 3.7 COAL TAR FLOOD COAT AND AGGREGATE SURFACING

A. Promptly after installing and testing roofing membrane, base flashing, and stripping, flood-coat roof surface with 60 lb/100 sq. ft. (3 kg/sq. m) of hot roofing coal tar. While flood coat is hot and fluid, cast the following average weight of aggregate in a uniform course: BUR Plus 505 - WHITE CRYSTAL SPAR MARBLE CHIPS AGGREGATE

1. Aggregate Weight: 400 lb/100 sq. ft. (20 kg/sq. m).

3.8 FIELD QUALITY CONTROL

A. Testing Agency: Owner will engage a qualified testing agency to perform tests and inspections and to prepare test reports.

B. Test Cuts: Test specimens will be removed to evaluate problems observed during quality-assurance inspections of roofing membrane as follows:

1. Approximate quantities of components within roofing membrane will be determined according to ASTM D 3617.
2. Test specimens will be examined for interply voids according to ASTM D 3617 and to comply with criteria established in Appendix 3 in ARMA/NRCA's "Quality Control Guidelines for the Application of Polymer Modified Bitumen Roofing."
3. Repair areas where test cuts were made according to roofing system manufacturer's written instructions.

C. Final Roof Inspection: Arrange for roofing system manufacturer's technical personnel to inspect roofing installation on completion.

1. Notify Architect and Owner 48 hours in advance of date and time of inspection.

D. Roofing system will be considered defective if it does not pass tests and inspections.

1. Additional testing and inspecting, at Contractor's expense, will be performed to determine if replaced or additional work complies with specified requirements.

3.9 PROTECTING AND CLEANING

A. Protect roofing system from damage and wear during remainder of construction period. When remaining construction will not affect or endanger roofing, inspect roofing for deterioration and damage, describing its nature and extent in a written report, with copies to Architect and Owner.

B. Correct deficiencies in or remove roofing system that does not comply with requirements, repair substrates, and repair or reinstall roofing system to a condition free of damage and deterioration at time of Substantial Completion and according to warranty requirements.

C. Clean overspray and spillage from adjacent construction using cleaning agents and procedures recommended by manufacturer of affected construction.

END OF SECTION

# SECTION 07 71 13 – MANUFACTURED COPINGS

## PART 1 - GENERAL

### 1.1 RELATED DOCUMENTS

A. Documents affecting work of this Section include, but are not necessarily limited to, General Requirements, bidding documents and drawings.

### 1.2 SUMMARY

A. Work included: Furnishing and installing factory fabricated coping systems.

### 1.3 REFERENCES

A. Coping system shall be tested by an independent third party per ANSI/SPRI ES-1 design test requirements.

B. Coping system shall be tested in accordance with Factory Mutual Global "Approval Standard for Roof Perimeter Flashing Class Number 4435".

C. Attachment of the perimeter wood blocking shall be installed in accordance with Factory Mutual Global "Property Loss Data Sheets 1-49".

### 1.4 SUBMITTALS

A. Design Pressures: Provide documentation that the product shall be designed and installed for wind loads in accordance with Chapter 16, Figure 1609 of the International Building Code and tested for resistance in accordance with ANSI/ SPRI ES-1.

B. Product Data: Provide specified product and installation data for all materials.

C. Shop drawings: Show profiles, joining method, location of accessory items, anchorage and flashing details, adjacent construction interface, and dimensions.

D. Samples: Available on request; sized to adequately represent material.

E. Submit: Warranty and manufacturer/supplier's performance certificates.

F. Submit: Provide specified product and installation data for all materials.

G. Submit: LEED Recycled Content Documents -MR Credit 4 – use materials with recycled content such that the sum of postconsumer recycle content plus ½ of the pre-consumer content

constitutes at least 10% (1-point) or 20% (2-points), based on cost, of the total value of the materials in the project.

1.5 QUALITY ASSURANCE

A. Certificates: Warrantor's certificate ANSI requirements.

1.6 PRODUCT HANDLING

A. All materials shall arrive in the manufacturer/supplier's original sealed, labeled containers.

B. Store the coping materials in a dry, protected and well-vented area. Report damaged material immediately to delivering carrier and manufacturer/supplier.

C. Remove protective plastic surface film after immediately after installation.

1.7 SUBMITTAL PROCEDURES

A. Related Section: SECTION 01 33 00 – SUBMITTAL PROCEDURES

1.8 JOB CONDITIONS

A. Verify that other trades are complete before mounting coping covers.

B. Coping mounting surfaces shall be straight, level and secure; substrates shall be proper width.

C. Refer to construction documents, shop drawings and Coping installation instructions.

D. Coordinate installation with roof membrane warrantor's instructions before starting.

E. Installation contractor is responsible for actual field measurements.

## PART 2 - PRODUCTS

2.1 MANUFACTURED COPING SYSTEM

A. Manufactured Coping System: Storm Defender Coping 100 by SR Products a three-part coping assembly designed to fit most parapet wall conditions. The coping system consists of galvanized steel cleats, concealed splice plates, exterior coping cover and concealed corrosion resistant fasteners.

B. Performance characteristics:

1. Coping sections shall expand and contract freely while mechanically locked in place.
2. Coping sections shall lock by pressure from the anchor cleats

C. Formed metal coping cover:

1. Cover Metal Type: Kynar Coated Aluminum.
2. Cover Metal Thickness: .050”, .063” aluminum and 24 gauge galvanized steel.

D. Cover Size:

1. Vertical leg height: Sufficient to extend 1” below bottom of wood blocking.
2. Horizontal cover width: Sufficient to extend 3/8” beyond the wall at its widest point.
3. Coping Length: Standard 12'-0" lengths with matching concealed joint splice plates.
4. Splice plate: Metal splice plate; 6" wide spaced @ 12'-0".

E. Coping Cleat: Galvanized steel cleat; normally 12" wide @ 4'-0" o. c. or (as required for wind uplift rating) to be mechanically fastened.

1. Fasteners: Supplied by the manufacturer/supplier per substrate application and be corrosion resistant. No exposed fasteners permitted.

2.2 ACCESSORIES

A. Corners, end caps, pier caps, wall terminations, or other special fabrications shall be fabricated by the coping manufacturer/supplier.

B. Welding the accessory assembly shall be used to maintain watertight integrity.

## PART 3 - EXECUTION

3.1 INSPECTION

A. Edging installation shall not disrupt other trades.

B. Contractor to verify that wood substrate is level (+ or – 1/8”) dry, clean and free of foreign matter.

C. Correct defects before proceeding.

3.2 INSTALLATION

A. Contractor shall install a moisture proof membrane supplied contractor by to isolate treated wood blocking from galvanized cleats.

B. Follow warrantor’s installation instructions to insure proper design and installation.

C. Submit design drawings to Architect or Specifier for approval before fabrication.

D. Installer shall check as-built condition and approve specified details before fabrication.

END OF SECTION

# SECTION 07 71 19 – MANUFACTURED GRAVEL STOP FASCIA SYSTEM

## PART 1 - GENERAL

### 1.1 RELATED DOCUMENTS

A. Documents affecting work of this Section include, but are not necessarily limited to, General Requirements, bidding documents and drawings.

### 1.2 SUMMARY

A. Work included: Furnishing and installing factory fabricated and finished gravel stop systems.

### 1.3 REFERENCES

A. Fascia system shall be tested by an independent third party per ANSI/SPRI ES-1 design test requirements.

B. Attachment of the perimeter wood blocking shall be installed in accordance with Factory Mutual Global “Property Loss Data Sheets 1-49”.

### 1.4 SUBMITTALS

A. Design Pressures: Provide documentation that the product shall be designed and installed for wind loads in accordance with Chapter 16, Figure 1609 of the International Building Code and tested for resistance in accordance with ANSI/ SPRI ES-1.

B. Product Data: Provide specified product and installation data for all materials.

C. Shop drawings: Show profiles, joining method, location of accessory items, anchorage and flashing details, adjacent construction interface, and dimensions.

D. Samples: Available on request; sized to adequately represent material.

E. Submit: Warranty and manufacturer/supplier’s performance certificates.

F. Submit: Product Approval Sheets to adequately represent field dimensions and conditions.

G. Submit: LEED Recycled Content Documents - MR Credit 4 – use materials with recycled content such that the sum of postconsumer recycle content plus ½ of the pre-consumer content constitutes at least 10% (1-point) or 20% (2-points), based on cost, of the total value of the materials in the project.

1.5 QUALITY ASSURANCE

A. Certificates: Warrantor's certificate ANSI requirements.

1.6 PRODUCT HANDLING

A. All materials shall arrive in the manufacturer/supplier's original sealed, labeled containers.

B. Store the fascia materials in a dry, protected and well-vented area. Report damaged material immediately to delivering carrier and manufacturer/supplier.

C. Remove protective plastic surface film after immediately after installation.

1.7 SUBMITTAL PROCEDURES

A. Related Section: SECTION 013300 – SUBMITTAL PROCEDURES

1.8 JOB CONDITIONS

A. Verify that other trades are complete before mounting coping covers.

B. Fascia mounting surfaces shall be straight, level and secure; substrates shall be proper width.

C. Refer to construction documents, shop drawings and fascia installation instructions.

D. Coordinate installation with roof membrane warrantor's instructions before starting.

E. Installation contractor is responsible for actual field measurements.

PART 2 - PRODUCTS

2.1 MANUFACTURED GRAVEL STOP FASCIA SYSTEM

A. Manufactured Gravel Stop Fascia System: Storm Defender 5000 by SR Products or approved equal, a three-part fascia assembly designed for built-up and modified bitumen roofs. The

fascia system consists of a continuous galvanized steel water dam, spring clip, exterior fascia cover, concealed joint cover, and corrosion resistant fasteners.

B. Formed metal fascia:

1. Cover Metal Type: Kynar Coated Aluminum.
2. Cover Metal thickness: 0.50” aluminum, 24 gauge steel.
3. Metal Size: Sufficient to extend 1” below bottom of wood blocking.

C. Fascia: Standard 12'-0" lengths with matching concealed joint splice plates.

D. Water dam/cant: Std. 12'-0" length of commercial type galvanized steel.

E. Fasteners: Supplied by the manufacturer/supplier per substrate application and be corrosion resistant.

## 2.2 ACCESSORIES

A. Corners, fascia sumps, spill outs, ledge caps, downspouts, or other special fabrications shall be fabricated by the fascia manufacturer/supplier.

B. Welding the accessory assembly shall be used to maintain watertight integrity.

# PART 3 - EXECUTION

## 3.1 INSPECTION

A. Edging installation shall not disrupt other trades.

B. Contractor to verify that wood substrate is level (+ or – 1/8”) dry, clean and free of foreign matter.

C. Correct defects before proceeding.

## 3.2 INSTALLATION

A. Follow warrantor’s installation instructions to insure proper design and installation.

B. Submit design drawings to Architect or Specifier for approval before fabrication.

C. Installer shall check as-built condition and approve specified details before fabrication.

D. Installer shall install mechanical fasteners into water dam cant or continuous rail concealed and splice plate; fascia cover shall be snapped into place consistent with warrantor’s instructions; suitable to substrates.

END OF SECTION

# SECTION 07 84 00 - FIRESTOPPING

## PART 1 GENERAL

1.1 SECTION INCLUDES

A. Firestopping systems.

B. Firestopping of all joints and penetrations in fire resistance rated and smoke resistant assemblies, whether indicated on drawings or not, and other openings indicated.

1.2 REFERENCE STANDARDS

A. ASTM E119 - Standard Test Methods for Fire Tests of Building Construction and Materials; 2020.

B. ASTM E814 - Standard Test Method for Fire Tests of Penetration Firestop Systems; 2013a (Reapproved 2017).

C. ASTM E1966 - Standard Test Method for Fire-Resistive Joint Systems; 2015 (Reapproved 2019).

D. ASTM E2174 - Standard Practice for On-Site Inspection of Installed Firestop Systems; 2020a.

E. ASTM E2393 - Standard Practice for On-Site Inspection of Installed Fire Resistive Joint Systems and Perimeter Fire Barriers; 2020a.

F. ASTM E2307 - Standard Test Method for Determining Fire Resistance of Perimeter Fire Barriers Using Intermediate-Scale, Multi-story Test Apparatus; 2023b.

G. ASTM E2837 - Standard Test Method for Determining the Fire Resistance of Continuity Head-of-Wall Joint Systems Installed between Rated Wall Assemblies and Nonrated Horizontal Assemblies; 2023a.

H. ITS (DIR) - Directory of Listed Products; Current Edition.

I. FM 4991 - Approval Standard of Firestop Contractors; 2013.

J. FM (AG) - FM Approval Guide; Current Edition.

K. UL 1479 - Standard for Fire Tests of Penetration Firestops; Current Edition, Including All Revisions.

L. UL 2079 - Standard for Tests for Fire Resistance of Building Joint Systems; Current Edition, Including All Revisions.

M. UL (FRD) - Fire Resistance Directory; Current Edition.


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1.3 SUBMITTALS

A. See Section 01 30 00 - Administrative Requirements for submittal procedures.

B. Schedule of Firestopping: List each type of penetration, fire rating of the penetrated assembly, and firestopping test or design number.

C. Product Data: Provide data on product characteristics, performance ratings, and limitations.

D. Manufacturer's Installation Instructions: Indicate preparation and installation instructions.

E. Manufacturer's qualification statement.

F. Installer's qualification statement.

1.4 QUALITY ASSURANCE

A. Fire Testing: Provide firestopping assemblies of designs that provide the scheduled fire ratings when tested in accordance with methods indicated.
   1. Listing in UL (FRD), FM (AG), or ITS (DIR) will be considered as constituting an acceptable test report.
   2. Valid evaluation report published by ICC Evaluation Service, Inc. (ICC-ES) at www.icc-es.org will be considered as constituting an acceptable test report.
   3. Submission of actual test reports is required for assemblies for which none of the above substantiation exists.

B. Manufacturer Qualifications: Company specializing in manufacturing the products specified in this section with minimum three years documented experience.

C. Installer Qualifications: Company specializing in performing the work of this section and:
   1. Trained by manufacturer.
   2. Approved by Factory Mutual Research Corporation under FM 4991, or meeting any two of the following requirements:
   3. Verification of minimum three years documented experience installing work of this type.
   4. Verification of at least five satisfactorily completed projects of comparable size and type.
   5. Licensed by local authorities having jurisdiction (AHJ).

1.5 FIELD CONDITIONS

A. Comply with firestopping manufacturer's recommendations for temperature and conditions during and after installation; maintain minimum temperature before, during, and for three days after installation of materials.

B. Provide ventilation in areas where solvent-cured materials are being installed.


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## PART 2 PRODUCTS

### 2.1 MATERIALS

A. Firestopping Materials: Any materials meeting requirements.

B. Primers, Sleeves, Forms, Insulation, Packing, Stuffing, and Accessories: Provide type of materials as required for tested firestopping assembly.

C. Fire Ratings: Refer to drawings for required systems and ratings.

### 2.2 FIRESTOPPING ASSEMBLY REQUIREMENTS

A. Perimeter Fire Containment Firestopping: Use system that has been tested according to ASTM E2307 to have fire resistance F Rating equal to required fire rating of floor assembly.

B. Head-of-Wall (HW) Joint System Firestopping at Joints Between Fire-Rated Wall Assemblies and Non-Rated Horizontal Assemblies: Use system that has been tested according to ASTM E2837 to have fire resistance F Rating equal to required fire rating of wall assembly.

C. Floor-to-Floor (FF), Floor-to-Wall (FW), Head-of-Wall (HW), and Wall-to-Wall (WW) Joints, Except Perimeter, Where Both Are Fire-Rated: Use system that has been tested according to ASTM E1966 or UL 2079 to have fire resistance F Rating equal to required fire rating of the assembly in which the joint occurs.

D. Through Penetration Firestopping: Use system that has been tested according to ASTM E814 to have fire resistance F Rating equal to required fire rating of penetrated assembly.

### 2.3 FIRESTOPPING SYSTEMS

A. Firestopping: Any material meeting requirements.
   1. Fire Ratings: Use system that is listed by FM (AG), ITS (DIR), or UL (FRD) and tested in accordance with ASTM E814, ASTM E119, or UL 1479 with F Rating equal to fire rating of penetrated assembly and minimum T Rating Equal to F Rating and in compliance with other specified requirements.

## PART 3 EXECUTION

### 3.1 EXAMINATION

A. Verify openings are ready to receive the work of this section.

### 3.2 PREPARATION

A. Clean substrate surfaces of dirt, dust, grease, oil, loose material, or other materials that could adversely affect bond of firestopping material.


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B. Remove incompatible materials that could adversely affect bond.

C. Install backing materials to prevent liquid material from leakage.

3.3 INSTALLATION

A. Install materials in manner described in fire test report and in accordance with manufacturer's instructions, completely closing openings.

B. Do not cover installed firestopping until inspected by authorities having jurisdiction.

C. Install labeling required by code.

3.4 FIELD QUALITY CONTROL

A. Independent Testing Agency: Inspection agency employed and paid by Owner, will examine penetration firestopping in accordance with ASTM E2174 and ASTM E2393.

B. Repair or replace penetration firestopping and joints at locations where inspection results indicate firestopping or joints do not meet specified requirements.

3.5 CLEANING

A. Clean adjacent surfaces of firestopping materials.

3.6 PROTECTION

A. Protect adjacent surfaces from damage by material installation.

END OF SECTION


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# SECTION 07 92 00 - JOINT SEALANTS

## PART 1 GENERAL

1.1 SECTION INCLUDES

A. Nonsag gunnable joint sealants.

B. Self-leveling pourable joint sealants.

C. Joint backings and accessories.

1.2 REFERENCE STANDARDS

A. ASTM C794 - Standard Test Method for Adhesion-in-Peel of Elastomeric Joint Sealants; 2018 (Reapproved 2022).

B. ASTM C919 - Standard Practice for Use of Sealants in Acoustical Applications; 2022.

C. ASTM C920 - Standard Specification for Elastomeric Joint Sealants; 2018.

D. ASTM C1087 - Standard Test Method for Determining Compatibility of Liquid-Applied Sealants with Accessories Used in Structural Glazing Systems; 2023.

E. ASTM C1193 - Standard Guide for Use of Joint Sealants; 2016 (Reapproved 2023).

F. ASTM C1248 - Standard Test Method for Staining of Porous Substrate by Joint Sealants; 2022.

G. ASTM C1311 - Standard Specification for Solvent Release Sealants; 2022.

H. ASTM C1330 - Standard Specification for Cylindrical Sealant Backing for Use with Cold Liquid-Applied Sealants; 2023.

I. ASTM C1521 - Standard Practice for Evaluating Adhesion of Installed Weatherproofing Sealant Joints; 2019 (Reapproved 2020).

J. SCAQMD 1168 - Adhesive and Sealant Applications; 1989, with Amendment (2022).

K. SWRI (VAL) - SWR Institute Validated Products Directory; Current Edition.

1.3 SUBMITTALS

A. See Section 01 30 00 - Administrative Requirements for submittal procedures.


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B. Product Data: Submit manufacturer's technical datasheets for each product to be used; include the following:
   1. Physical characteristics, including movement capability, VOC content, hardness, cure time, and color availability.
   2. List of backing materials approved for use with the specific product.
   3. Substrates that product is known to satisfactorily adhere to and with which it is compatible.
   4. Substrates the product should not be used on.
   5. Substrates for which use of primer is required.
   6. Substrates for which laboratory adhesion and/or compatibility testing is required.
   7. Installation instructions, including precautions, limitations, and recommended backing materials and tools.
   8. Sample product warranty.
   9. Certification by manufacturer indicating that product complies with specification requirements.
   10. SWRI Validation: Provide currently available sealant product validations as listed by SWRI (VAL) for specified sealants.

C. Product Data for Accessory Products: Submit manufacturer's technical data sheet for each product to be used, including physical characteristics, installation instructions, and recommended tools.

D. Color Cards for Selection: Where sealant color is not specified, submit manufacturer's color cards showing standard colors available for selection.

E. Samples for Verification: Where custom sealant color is specified, obtain directions from Architect and submit at least two physical samples for verification of color of each required sealant.

F. Preconstruction Laboratory Test Reports: Submit at least four weeks prior to start of installation.

G. For exterior sealants: Installation Plan: Submit at least four weeks prior to start of installation.

H. Preinstallation Field Adhesion Test Plan: Submit at least two weeks prior to start of installation.

I. Field Quality Control Plan: Submit at least two weeks prior to start of installation.

J. Preinstallation Field Adhesion Test Reports: Submit filled out Preinstallation Field Adhesion Test Reports log within 10 days after completion of tests; include bagged test samples and photographic records.

K. Field Quality Control Log: Submit filled-out log for each length or instance of sealant installed, within 10 days after completion of inspections/tests; include bagged test samples and photographic records, if any.


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## 1.4 QUALITY ASSURANCE

A. Manufacturer Qualifications: Company specializing in manufacturing the products specified in this section with minimum three years documented experience.

B. Installer Qualifications: Company specializing in performing the work of this section and with at least three years of documented experience.

C. Testing Agency Qualifications: Independent firm specializing in performing testing and inspections of the type specified in this section.

D. Preconstruction Laboratory Testing: Arrange for sealant manufacturer(s) to test each combination of sealant, substrate, backing, and accessories.
   1. Adhesion Testing: In accordance with ASTM C794.
   2. Compatibility Testing: In accordance with ASTM C1087.
   3. Stain Testing: In accordance with ASTM C1248; required only for stone substrates.
   4. Allow sufficient time for testing to avoid delaying the work.
   5. Deliver sufficient samples to manufacturer for testing.
   6. Report manufacturer's recommended corrective measures, if any, including primers or techniques not indicated in product data submittals.

E. Preinstallation Field Adhesion Test Plan: Include destructive field adhesion testing of one sample of each combination of sealant type and substrate, except interior acrylic latex sealants, and include the following for each tested sample.
   1. Identification of testing agency.
   2. Name(s) of sealant manufacturer's field representatives who will be observing.
   3. Preinstallation Field Adhesion Test Log Form: Include the following data fields, with known information filled out.
      a. Test date.
      b. Copy of test method documents.
      c. Age of sealant upon date of testing.
      d. Test results, modeled after the sample form in the test method document.
      e. Indicate use of photographic record of test.

F. Field Quality Control Plan:
   1. Visual inspection of entire length of sealant joints.
   2. Nondestructive field adhesion testing of sealant joints, except interior acrylic latex sealants.
      a. Test the entire length of every sealant joint.
   3. Destructive field adhesion testing of sealant joints, except interior sealant joints.
      a. For each different sealant and substrate combination, allow for one test every 100 feet in the first 1,000 linear feet, and one test per 1,000 linear feet thereafter, or once per floor on each elevation.
      b. If any failures occur in the first 1,000 linear feet, continue testing at frequency of one test per 500 linear feet at no extra cost to Owner.
   4. Field testing agency's qualifications.


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5. Field Quality Control Log Form: Show same data fields as on Preinstallation Field Adhesion Test Log, with known information filled out and lines for multiple tests per sealant/substrate combinations; include visual inspection and specified field testing; allow for possibility that more tests than minimum specified may be necessary.

G. Field Adhesion Test Procedures:
1. Allow sealants to fully cure as recommended by manufacturer before testing.
2. Have a copy of the test method document available during tests.
3. Record the type of failure that occurred, other information required by test method, and the information required on the Field Quality Control Log.
4. When performing destructive tests, also inspect the opened joint for proper installation characteristics recommended by manufacturer, and report any deficiencies.
5. Deliver the samples removed during destructive tests in separate sealed plastic bags, identified with project, location, test date, and test results, to Owner.
6. If any combination of sealant type and substrate does not show evidence of minimum adhesion or shows cohesion failure before minimum adhesion, report results to Architect.

H. Nondestructive Field Adhesion Test: Test for adhesion in accordance with ASTM C1521, using Nondestructive Continuous Method.

I. Destructive Field Adhesion Test: Test for adhesion in accordance with ASTM C1521, using Destructive Tail Procedure.
1. Sample: At least 18 inches long.
2. Minimum Elongation Without Adhesive Failure: Consider the tail at rest, not under any elongation stress; multiply the stated movement capability of the sealant in percent by two; then multiply 1 inch by that percentage; if adhesion failure occurs before the 1-inch mark is that distance from the substrate, the test has failed.
3. If either adhesive or cohesive failure occurs before minimum elongation, take necessary measures to correct conditions and retest; record each modification to products or installation procedures.

## PART 2 PRODUCTS

### 2.1 JOINT SEALANT APPLICATIONS

A. Scope:
1. Exterior Joints: Seal open joints, whether or not the joint is indicated on drawings, unless specifically indicated not to be sealed. Exterior joints to be sealed include, but are not limited to:
a. Wall expansion and control joints.
b. Joints between door, window, and other frames and adjacent construction.
c. Joints between different exposed materials.
d. Openings below ledge angles in masonry.
e. Other joints indicated below.


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2. Interior Joints: Do not seal interior joints unless specifically indicated to be sealed. Interior joints to be sealed include, but are not limited to, the following items.
   a. Joints between door, window, and other frames and adjacent construction.
   b. In sound-rated wall and ceiling assemblies, gaps at electrical outlets, wiring devices, piping, and other openings; between wall/ceiling and other construction; and other flanking sound paths.
      1) Exception: Such gaps and openings in gypsum board and plaster finished stud walls and suspended ceilings.
      2) Exception: Through-penetrations in sound-rated assemblies that are also fire-rated.
   c. Other joints indicated below.
3. Do not seal the following types of joints:
   a. Intentional weep holes in masonry.
   b. Joints indicated to be treated with manufactured expansion joint cover, or some other type of sealing device.
   c. Joints where sealant is specified to be provided by manufacturer of product to be sealed.
   d. Joints where installation of sealant is specified in another section.
   e. Joints between suspended panel ceilings/grid and walls.

B. Exterior Joints: Use nonsag nonstaining silicone sealant, unless otherwise indicated.
   1. Lap Joints in Sheet Metal Fabrications: Butyl rubber, noncuring.
   2. Lap Joints between Manufactured Metal Panels: Butyl rubber, noncuring.
   3. Control and Expansion Joints in Concrete Paving: Self-leveling polyurethane traffic-grade sealant.

C. Interior Joints: Use nonsag polyurethane sealant, unless otherwise indicated.

D. Sound-Rated Assemblies: Walls and ceilings identified as STC-rated, sound-rated, or acoustical.

## 2.2 JOINT SEALANTS - GENERAL

A. Sealants and Primers: Provide products having lower volatile organic compound (VOC) content than indicated in SCAQMD 1168.

## 2.3 NONSAG JOINT SEALANTS

A. Nonstaining Silicone Sealant: ASTM C920, Grade NS, Uses M and A; not expected to withstand continuous water immersion or traffic.
   1. FDA suitable for indirect food additives, NSF recognized for direct food contact, or USDA accepted for use in meat and poultry processing plants.
   2. Products:
      a. Pecora Corporation; Pecora 898 NST (Non-Staining Technology)
         : www.pecora.com.
      b. Polymeric Systems; 601 FG: www.polymericsystems.com.
      c. Sika Corporation; Sikasil GP: www.usa-sika.com.


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d. Substitutions: See Section 01 60 00 - Product Requirements.

B. Polyurethane Sealant: ASTM C920, Grade NS, Uses M and A; single or multi-component; not expected to withstand continuous water immersion or traffic.

C. Noncuring Butyl Sealant: Solvent-based, single component, nonsag, nonskinning, nonhardening, nonbleeding; non-vapor permeable; intended for fully concealed applications.

2.4 SELF-LEVELING JOINT SEALANTS

A. Self-Leveling Polyurethane Sealant: ASTM C920, Grade P, Uses M and A; single or multicomponent; explicitly approved by manufacturer for traffic exposure; not expected to withstand continuous water immersion .
1. Movement Capability: Plus and minus 25 percent, minimum.
2. Color: To be selected by Architect from manufacturer's full range.
3. Products:
a. Pecora
b. Sherwin-Williams Company; Stampede 1SL Polyurethane Sealant: www.sherwin-williams.com.
c. Sika Corporation; Sikaflex-1c SL: www.usa-sika.com.
d. Substitutions: See Section 01 60 00 - Product Requirements.

2.5 ACCESSORIES

A. Backer Rod: Cylindrical cellular foam rod with surface that sealant will not adhere to, compatible with specific sealant used, and recommended by backing and sealant manufacturers for specific application.
1. Type for Joints Not Subject to Pedestrian or Vehicular Traffic: ASTM C1330; Type O - Open Cell Polyurethane.
2. Type for Joints Subject to Pedestrian or Vehicular Traffic: ASTM C1330; Type B - Bi-Cellular Polyethylene.
3. Open Cell: 40 to 50 percent larger in diameter than joint width.
4. Closed Cell and Bi-Cellular: 25 to 33 percent larger in diameter than joint width.

B. Backing Tape: Self-adhesive polyethylene tape with surface that sealant will not adhere to and recommended by tape and sealant manufacturers for specific application.

C. Masking Tape: Self-adhesive, nonabsorbent, nonstaining, removable without adhesive residue, and compatible with surfaces adjacent to joints and sealants.

D. Joint Cleaner: Noncorrosive and nonstaining type, type recommended by sealant manufacturer; compatible with joint forming materials.

E. Primers: Type recommended by sealant manufacturer to suit application; nonstaining.


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## PART 3 EXECUTION

### 3.1 EXAMINATION

A. Verify that joints are ready to receive work.

B. Verify that backing materials are compatible with sealants.

C. Verify that backer rods are of the correct size.

D. Preinstallation Adhesion Testing: Install a sample for each test location indicated in the test plan.
   1. Test each sample as specified in PART 1 under QUALITY ASSURANCE article.
   2. Notify Architect of date and time that tests will be performed, at least seven days in advance.
   3. Arrange for sealant manufacturer's technical representative to be present during tests.
   4. Record each test on Preinstallation Adhesion Test Log as indicated.
   5. If any sample fails, review products and installation procedures, consult manufacturer, or take other measures that are necessary to ensure adhesion; retest in a different location; if unable to obtain satisfactory adhesion, report to Architect.
   6. After completion of tests, remove remaining sample material and prepare joints for new sealant installation.

### 3.2 PREPARATION

A. Remove loose materials and foreign matter that could impair adhesion of sealant.

B. Clean joints, and prime as necessary, in accordance with manufacturer's instructions.

C. Perform preparation in accordance with manufacturer's instructions and ASTM C1193.

D. Mask elements and surfaces adjacent to joints from damage and disfigurement due to sealant work; be aware that sealant drips and smears may not be completely removable.

### 3.3 INSTALLATION

A. Install this work in accordance with sealant manufacturer's requirements for preparation of surfaces and material installation instructions.

B. Provide joint sealant installations complying with ASTM C1193.

C. Install acoustical sealant application work in accordance with ASTM C919.

D. Measure joint dimensions and size joint backers to achieve width-to-depth ratio, neck dimension, and surface bond area as recommended by manufacturer, except where specific dimensions are indicated.


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E. Install bond breaker backing tape where backer rod cannot be used.

F. Install sealant free of air pockets, foreign embedded matter, ridges, and sags, and without getting sealant on adjacent surfaces.

G. Do not install sealant when ambient temperature is outside manufacturer's recommended temperature range, or will be outside that range during the entire curing period, unless manufacturer's approval is obtained and instructions are followed.

H. Nonsag Sealants: Tool surface concave, unless otherwise indicated; remove masking tape immediately after tooling sealant surface.

3.4 FIELD QUALITY CONTROL

A. See Section 01 40 00 - Quality Requirements for additional requirements.

B. Perform field quality control inspection/testing as specified in PART 1 under QUALITY ASSURANCE article.

C. Non-Destructive Adhesion Testing: If there are any failures in first 100 linear feet, notify Architect immediately.

D. Destructive Adhesion Testing: If there are any failures in first 1,000 linear feet, notify Architect immediately.

E. Remove and replace failed portions of sealants using same materials and procedures as indicated for original installation.

F. Repair destructive test location damage immediately after evaluation and recording of results.

3.5 POST-OCCUPANCY

A. Post-Occupancy Inspection: Perform visual inspection of entire length of project sealant joints at a time that joints have opened to their greatest width, i.e., at low temperature in thermal cycle. Report failures immediately and repair them.

END OF SECTION


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# SECTION 08 12 13 - HOLLOW METAL FRAMES

## PART 1 GENERAL

1.1 SECTION INCLUDES

A. Non-fire-rated hollow metal frames for non-hollow metal doors.

B. Fire-rated hollow metal frames for non-hollow metal doors.

1.2 RELATED REQUIREMENTS

A. Section 08 71 00 - Door Hardware: Hardware, silencers, and weatherstripping.

1.3 REFERENCE STANDARDS

A. ADA Standards - 2010 ADA Standards for Accessible Design; 2010.

B. ANSI/SDI A250.4 - Test Procedure and Acceptance Criteria for Physical Endurance for Steel Doors, Frames and Frame Anchors; 2024.

C. ANSI/SDI A250.6 - Recommended Practice for Hardware Reinforcing on Standard Steel Doors and Frames; 2024.

D. ANSI/SDI A250.8 - Specifications for Standard Steel Doors and Frames (SDI-100); 2023.

E. ANSI/SDI A250.10 - Test Procedure and Acceptance Criteria for Prime Painted Steel Surfaces for Steel Doors and Frames; 2020.

F. ASTM A653/A653M - Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process; 2020.

G. 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; 2021a.

H. 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; 2023.

I. ASTM C143/C143M - Standard Test Method for Slump of Hydraulic-Cement Concrete; 2020.

J. ASTM C476 - Standard Specification for Grout for Masonry; 2023.

K. BHMA A156.115 - Hardware Preparation in Steel Doors and Frames; 2016.


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L. ICC A117.1 - Accessible and Usable Buildings and Facilities; 2017.

M. ITS (DIR) - Directory of Listed Products; Current Edition.

N. NAAMM HMMA 830 - Hardware Selection for Hollow Metal Doors and Frames; 2002.

O. NAAMM HMMA 831 - Hardware Locations for Hollow Metal Doors and Frames; 2011.

P. NAAMM HMMA 840 - Guide Specifications for Receipt, Storage and Installation of Hollow Metal Doors and Frames; 2024.

Q. NAAMM HMMA 861 - Guide Specifications for Commercial Hollow Metal Doors and Frames; 2014.

R. NFPA 80 - Standard for Fire Doors and Other Opening Protectives; 2022.

S. SDI 117 - Manufacturing Tolerances for Standard Steel Doors and Frames; 2023.

T. UL (DIR) - Online Certifications Directory; Current Edition.

U. UL 10C - Standard for Positive Pressure Fire Tests of Door Assemblies; Current Edition, Including All Revisions.

1.4 SUBMITTALS

A. See Section 01 30 00 - Administrative Requirements for submittal procedures.

B. Product Data: Materials and details of design and construction, hardware locations, reinforcement type and locations, anchorage and fastening methods, and finishes; and one copy of referenced grade standard.

C. Shop Drawings: Details of each opening, showing elevations, glazing, frame profiles, and identifying location of different finishes, if any.

D. Installation Instructions: Manufacturer's published instructions, including any special installation instructions relating to this project.

E. Manufacturer's qualification statement.

1.5 QUALITY ASSURANCE

A. Manufacturer Qualifications: Provide hollow metal frames from SDI Certified manufacturer: https://steeldoor.org/sdi-certified.

B. Installer Qualifications: Company specializing in performing work of the type specified and with at least three years of experience.


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C. Maintain at project site copies of reference standards relating to installation of products specified.

1.6 DELIVERY, STORAGE, AND HANDLING

A. Store in accordance with applicable requirements and in compliance with standards and/or custom guidelines as indicated.

B. Protect with resilient packaging; avoid humidity build-up under coverings; prevent corrosion.

## PART 2 PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

A. Door Frame Type: Provide hollow metal door frames with integral casings.

B. Steel Sheet: Comply with one or more of the following requirements; galvannealed steel complying with ASTM A653/A653M, cold-rolled steel complying with ASTM A1008/A1008M, or hot-rolled pickled and oiled (HRPO) steel complying with ASTM A1011/A1011M, commercial steel (CS) Type B, for each.

C. Accessibility: Comply with ICC A117.1 and ADA Standards.

D. Combined Requirements: If a particular door and frame unit is indicated to comply with more than one type of requirement, comply with the specified requirements for each type; for instance, an exterior frame that is also indicated as being sound-rated must comply with the requirements specified for exterior frames and for sound-rated frames; where two requirements conflict, comply with the most stringent.

E. Hardware Preparations, Selections and Locations: Comply with BHMA A156.115, NAAMM HMMA 830, NAAMM HMMA 831 or ANSI/SDI A250.8 (SDI-100) in accordance with specified requirements.

F. Zinc Coating for Units Subject to Corrosive Conditions: Components zinc-coated (galvanized) and/or zinc-iron alloy-coated (galvannealed) by the hot-dip process in accordance with ASTM A653/A653M, with manufacturer's standard coating thickness, unless noted otherwise.

G. Provide mortar guard boxes for hardware cut-outs in frames to be installed in masonry or to be grouted.

H. Frames in Masonry Walls: Size to suit masonry coursing with head member 4 inches high to fill opening without cutting masonry units.

I. Frames Wider than 48 Inches: Reinforce with steel channel fitted tightly into head of frame, and flush with top.


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2.2 HOLLOW METAL DOOR FRAMES WITH INTEGRAL CASINGS

A. Frame Finish: Factory primed and field finished.

B. Interior Door Frames, Non-Fire Rated: Full profile/continuously welded type.
1. Based on SDI Standards: ANSI/SDI A250.8 (SDI-100).
a. Level 2 - Heavy-duty.
b. Physical Performance Level B 500 000 cycles; in accordance with ANSI/SDI A250.4.
c. Frame Metal Thickness: 16 gauge, 0.053 inch, minimum.

C. Fire-Rated Door Frames: Full profile/continuously welded type.
1. Based on SDI Standards: ANSI/SDI A250.8 (SDI-100).
a. Level 2 - Heavy-duty.
b. Physical Performance Level B 500 000 cycles; in accordance with ANSI/SDI A250.4.
c. Frame Metal Thickness: 16 gauge, 0.053 inch, minimum.
2. Fire Rating: As indicated on Door and Frame Schedule, tested in accordance with UL 10C or NFPA 252 ("positive pressure fire tests").
3. Provide units listed and labeled by ITS (DIR) or UL (DIR).
a. Attach fire rating label to each fire rated unit.

2.3 FINISHES

A. Primer: Rust-inhibiting, complying with ANSI/SDI A250.10, door manufacturer's standard.

B. Bituminous Coating: Cold-applied asphalt mastic, compounded for 15 mil, 0.015 inch dry film thickness (DFT) per coat; provide inert-type noncorrosive compound free of asbestos fibers, sulfur components, and other deleterious impurities.

2.4 ACCESSORIES

A. Silencers: Resilient rubber, fitted into drilled hole; provide three on strike side of single door, three on center mullion of pairs, and two on head of pairs without center mullions.

B. Grout for Frames: Mortar grout complying with ASTM C476 with maximum slump of 4 inches as measured in accordance with ASTM C143/C143M for hand troweling in place; plaster grout and thinner pumpable grout are prohibited.

## PART 3 EXECUTION

3.1 EXAMINATION

A. Verify existing conditions before starting work.

B. Verify that opening sizes and tolerances are acceptable.

C. Verify that finished walls are in plane to ensure proper door alignment.


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3.2 PREPARATION

A. Coat inside of frames to be installed in masonry or to be grouted, with bituminous coating, prior to installation.

3.3 INSTALLATION

A. Install frames in accordance with manufacturer's instructions and related requirements of specified frame standards or custom guidelines indicated.

B. Install fire rated units in accordance with NFPA 80.

C. Coordinate frame anchor placement with wall construction.

D. Grout frames in masonry construction, using hand trowel methods; brace frames so that pressure of grout before setting will not deform frames.

E. Install door hardware as specified in Section 08 71 00.
   1. Comply with recommended practice for hardware placement of doors and frames in accordance with ANSI/SDI A250.6 or NAAMM HMMA 861.

F. Coordinate installation of electrical connections to electrical hardware items.

3.4 TOLERANCES

A. Clearances Between Door and Frame: Comply with related requirements of specified frame standards or custom guidelines indicated in accordance with SDI 117 or NAAMM HMMA 861.

B. Maximum Diagonal Distortion: 1/16 inch measured with straight edges, crossed corner to corner.

END OF SECTION


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# SECTION 08 14 16 - FLUSH WOOD DOORS

## PART 1 GENERAL

1.1 SECTION INCLUDES

A. Flush wood doors; flush configuration; fire-rated and non-rated.

1.2 RELATED REQUIREMENTS

A. Section 08 71 00 - Door Hardware.

B. Section 08 80 00 - Glazing.

1.3 REFERENCE STANDARDS

A. ANSI A135.4 - Basic Hardboard; 2012 (Reaffirmed 2020).

B. AWI/AWMAC/WI (AWS) - Architectural Woodwork Standards, 2nd Edition; 2014, with Errata (2016).

C. AWMAC/WI (NAAWS) - North American Architectural Woodwork Standards; 2021, with Errata.

D. WDMA I.S. 1A - Interior Architectural Wood Flush Doors; 2021, with Errata (2022).

1.4 SUBMITTALS

A. See Section 01 30 00 - Administrative Requirements for submittal procedures.

B. Product Data: Indicate door core materials and construction; veneer species, type and characteristics.

C. Shop Drawings: Show doors and frames, elevations, sizes, types, swings, undercuts, beveling, blocking for hardware, factory machining, factory finishing, cutouts for glazing and other details.
   1. Provide information as required by AWI/AWMAC/WI (AWS) or AWMAC/WI (NAAWS).

D. Samples: Submit two samples of door veneer, 4 by 4 inches in size illustrating wood grain, stain color, and sheen.

E. Manufacturer's Installation Instructions: Indicate special installation instructions.

1.5 DELIVERY, STORAGE, AND HANDLING

A. Package, deliver and store doors in accordance with specified quality standard.


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B. Accept doors on site in manufacturer's packaging, and inspect for damage.

C. Protect doors with resilient packaging sealed with heat shrunk plastic; do not store in damp or wet areas or areas where sunlight might bleach veneer; seal top and bottom edges with tinted sealer if stored more than one week, and break seal on site to permit ventilation.

## PART 2 PRODUCTS

### 2.1 DOORS AND PANELS

A. Doors: See drawings for locations and additional requirements.
   1. Quality Standard: Custom Grade, Heavy Duty performance, in accordance with AWI/AWMAC/WI (AWS), AWMAC/WI (NAAWS) or WDMA I.S. 1A.

B. Interior Doors: 1-3/4 inches thick unless otherwise indicated; flush construction.
   1. Provide solid core doors at each location.

### 2.2 DOOR AND PANEL CORES

### 2.3 DOOR FACINGS

A. Veneer Facing for Transparent Finish: Red oak, veneer grade in accordance with quality standard indicated, plain sliced (flat cut), with book match between leaves of veneer, running match of spliced veneer leaves assembled on door or panel face.

B. Hardboard Facing for Opaque Finish: ANSI A135.4, Class 1 - Tempered, S2S (smooth two sides) hardboard, 1/8 inch thick.

### 2.4 DOOR CONSTRUCTION

A. Fabricate doors in accordance with door quality standard specified.

B. Where supplementary protective edge trim is required, install trim after veneer facing has been applied full-width.

C. Glazed Openings: Non-removable stops on non-secure side; sizes and configurations as indicated on drawings.

D. Factory machine doors for hardware other than surface-mounted hardware, in accordance with hardware requirements and dimensions.

E. Factory fit doors for frame opening dimensions identified on shop drawings, with edge clearances in accordance with specified quality standard.
   1. Exception: Doors to be field finished.

F. Provide edge clearances in accordance with the quality standard specified.


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2.5 FINISHES - WOOD VENEER DOORS

A. Finish work in accordance with WDMA I.S. 1A for grade specified and as follows:
   1. Transparent:
      a. System - TR-6, Catalyzed Polyurethane.
      b. Sheen: Semigloss.
   2. Opaque:
      a. System - OP-6, Catalyzed Polyurethane.
      b. Color: As selected by Architect.
      c. Sheen: Semigloss.

B. Seal door top edge with color sealer to match door facing.

2.6 ACCESSORIES

A. Hollow Metal Door Frames: See Section 08 12 13.

B. Glazing: See Section 08 80 00.

C. Glazing Stops: Wood, of same species as door facing, butted corners; prepared for countersink style tamper proof screws.

D. Door Hardware: See Section 08 71 00.

## PART 3 EXECUTION

3.1 EXAMINATION

A. Verify existing conditions before starting work.

B. Verify that opening sizes and tolerances are acceptable.

C. Do not install doors in frame openings that are not plumb or are out-of-tolerance for size or alignment.

3.2 INSTALLATION

A. Install doors in accordance with manufacturer's instructions and specified quality standard.

B. Factory-Finished Doors: Do not field cut or trim; if fit or clearance is not correct, replace door.

C. Use machine tools to cut or drill for hardware.

D. Coordinate installation of doors with installation of frames and hardware.

E. Coordinate installation of glazing.


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3.3 TOLERANCES

A. Comply with specified quality standard for fit and clearance tolerances.

B. Comply with specified quality standard for telegraphing, warp, and squareness.

3.4 ADJUSTING

A. Adjust doors for smooth and balanced door movement.

B. Adjust closers for full closure.

END OF SECTION


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# SECTION 08 43 13 - ALUMINUM-FRAMED STOREFRONTS

## PART 1 GENERAL

1.1 SECTION INCLUDES

A. Aluminum-framed storefront, with vision glass.

B. Aluminum doors and frames.

C. Weatherstripping.

D. Door hardware.

1.2 RELATED REQUIREMENTS

A. Section 08 71 00 - Door Hardware: Hardware items other than specified in this section.

B. Section 08 80 00 - Glazing: Glass and glazing accessories.

1.3 REFERENCE STANDARDS

A. AAMA CW-10 - Care and Handling of Architectural Aluminum from Shop to Site; 2015.

B. AAMA 501.2 - Quality Assurance and Diagnostic Water Leakage Field Check of Installed Storefronts, Curtain Walls, and Sloped Glazing Systems; 2015.

C. AAMA 503 - Voluntary Specification for Field Testing of Newly Installed Storefronts, Curtain Walls and Sloped Glazing Systems; 2014.

D. AAMA 609 & 610 - Cleaning and Maintenance Guide for Architecturally Finished Aluminum (Combined Document); 2015.

E. AAMA 611 - Specification for Anodized Architectural Aluminum; 2024.

F. AAMA 1503 - Voluntary Test Method for Thermal Transmittance and Condensation Resistance of Windows, Doors and Glazed Wall Sections; 2009.

G. ASCE 7 - Minimum Design Loads and Associated Criteria for Buildings and Other Structures; Most Recent Edition Cited by Referring Code or Reference Standard.

H. ASTM B209/B209M - Standard Specification for Aluminum and Aluminum-Alloy Sheet and Plate; 2021a.


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I. ASTM B221 - Standard Specification for Aluminum and Aluminum-Alloy Extruded Bars, Rods, Wire, Profiles, and Tubes; 2021.

J. ASTM B221M - Standard Specification for Aluminum and Aluminum-Alloy Extruded Bars, Rods, Wire, Profiles, and Tubes (Metric); 2021.

K. ASTM E283/E283M - Standard Test Method for Determining Rate of Air Leakage Through Exterior Windows, Skylights, Curtain Walls, and Doors Under Specified Pressure Differences Across the Specimen; 2019.

L. ASTM E330/E330M - Standard Test Method for Structural Performance of Exterior Windows, Doors, Skylights and Curtain Walls by Uniform Static Air Pressure Difference; 2014 (Reapproved 2021).

M. ASTM E783 - Standard Test Method for Field Measurement of Air Leakage Through Installed Exterior Windows and Doors; 2002 (Reapproved 2018).

N. ASTM E1105 - Standard Test Method for Field Determination of Water Penetration of Installed Exterior Windows, Skylights, Doors, and Curtain Walls, by Uniform or Cyclic Static Air Pressure Difference; 2015 (Reapproved 2023).

O. SSPC-Paint 20 - Zinc-Rich Coating (Type I - Inorganic, and Type II - Organic); 2019.

1.4 ADMINISTRATIVE REQUIREMENTS

A. Coordinate with installation of other components that comprise the exterior enclosure.

B. Preinstallation Meeting: Conduct a preinstallation meeting one week before starting work of this section; require attendance by all affected installers.

1.5 SUBMITTALS

A. See Section 01 30 00 - Administrative Requirements for submittal procedures.

B. Product Data: Provide component dimensions, describe components within assembly, anchorage and fasteners, glass and infill, internal drainage details.

C. Shop Drawings: Indicate system dimensions, framed opening requirements and tolerances, affected related work, expansion and contraction joint location and details, and field welding required.
   1. Include design engineer's stamp or seal on shop drawings for attachments and anchors.

D. Samples: Submit two samples 12 by 12 inches in size illustrating finished aluminum surface, glass, infill panels, glazing materials.

E. Manufacturer's Certificate: Certify that the products supplied meet or exceed the specified requirements.


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F. Design Data: Provide framing member structural and physical characteristics, engineering calculations, and dimensional limitations.

G. Hardware Schedule: Complete itemization of each item of hardware to be provided for each door, cross-referenced to door identification numbers in Contract Documents.

H. Field Quality Control Submittals: Report of field testing for water penetration and air leakage.

I. Designer's qualification statement.

J. Manufacturer's qualification statement.

K. Installer's qualification statement.

1.6 QUALITY ASSURANCE

A. Designer Qualifications: Design structural support framing components under direct supervision of a Professional Structural Engineer experienced in design of this Work and licensed in the State in which the Project is located.

B. Manufacturer Qualifications: Company specializing in performing work of type specified and with at least ten years of documented experience.

C. Installer Qualifications: Company specializing in performing work of type specified and with at least ten years of documented experience and approved by manufacturer.

1.7 MOCK-UPS

A. See Section 01 40 00 - Quality Requirements for additional requirements.

B. Provide components and installation for integrated exterior mock-up as indicated on drawings; including wall panel system components, attachments to building frame or supporting substrate, associated air/vapor barrier material on sheathing or substrate, weep drainage system, sealants and seals, and board insulation within mock-up assembly.

C. Do not proceed with work until mock-up has been approved.

1.8 DELIVERY, STORAGE, AND HANDLING

A. Handle products of this section in accordance with AAMA CW-10.

B. Protect finished aluminum surfaces with wrapping. Do not use adhesive papers or sprayed coatings that bond to aluminum when exposed to sunlight or weather.


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1.9 FIELD CONDITIONS

A. Do not install sealants when ambient temperature is less than 40 degrees F. Maintain this minimum temperature during and 48 hours after installation.

1.10 WARRANTY

A. See Section 01 78 00 - Closeout Submittals for additional warranty requirements.

B. Correct defective Work within a five year period after Date of Substantial Completion.

C. Provide 10 year manufacturer warranty against failure of glass seal on insulating glass units, including interpane dusting or misting. Include provision for replacement of failed units.

D. Provide five year manufacturer warranty against excessive degradation of exterior finish. Include provision for replacement of units with excessive fading, chalking, or flaking.

## PART 2 PRODUCTS

2.1 MANUFACTURERS

A. Aluminum-Framed Storefronts:
   1. YKK AP America, Inc; YES 45 FS: www.ykkap.com/commercial. Basis of Design.

2.2 ALUMINUM-FRAMED STOREFRONT

A. Aluminum-Framed Storefront: Factory fabricated, factory finished aluminum framing members with infill, and related flashings, anchorage and attachment devices.
   1. Glazing Rabbet: For 1 inch insulating glazing.
   2. Glazing Position: Centered (front to back).
   3. Vertical Mullion Dimensions: 1-3/4” inches wide by 4-1/2 inches deep.
   4. Finish: Class I natural anodized.
      a. Factory finish all surfaces that will be exposed in completed assemblies.
   5. Fabrication: Joints and corners flush, hairline, and weatherproof, accurately fitted and secured; prepared to receive anchors and hardware; fasteners and attachments concealed from view; reinforced as required for imposed loads.
   6. Construction: Eliminate noises caused by wind and thermal movement, prevent vibration harmonics, and prevent "stack effect" in internal spaces.
   7. Expansion/Contraction: Provide for expansion and contraction within system components caused by cycling temperature range of 170 degrees F over a 12 hour period without causing detrimental effect to system components, anchorages, and other building elements.
   8. Movement: Allow for movement between storefront and adjacent construction, without damage to components or deterioration of seals.


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9. Perimeter Clearance: Minimize space between framing members and adjacent construction while allowing expected movement.
10. Maintain continuous air barrier and/or vapor retarder seal throughout assembly, primarily in line with inside pane of glazing and inner sheet of infill panel, and heel bead of glazing compound.

B. Performance Requirements
1. Wind Loads: Design and size components to withstand the specified load requirements without damage or permanent set, when tested in accordance with ASTM E330/E330M, using loads 1.5 times the design wind loads and 10 second duration of maximum load.
   a. Design Wind Loads: Comply with requirements of ASCE 7.
   b. Member Deflection: Limit member deflection to flexure limit of glass in any direction, with full recovery of glazing materials.
2. Air Leakage: 0.06 cfm/sq ft maximum leakage of storefront wall area when tested in accordance with ASTM E283/E283M at 1.57 psf pressure difference.
3. Condensation Resistance Factor of Framing: 45, minimum, measured in accordance with AAMA 1503.
4. Overall U-value Including Glazing: 0.38 Btu/(hr sq ft deg F), maximum.

2.3 COMPONENTS

A. Aluminum Framing Members: Tubular aluminum sections, thermally broken with interior section insulated from exterior, drainage holes and internal weep drainage system.
1. Framing members for interior applications need not be thermally broken.
2. Glazing Stops: Flush.

B. Glazing: See Section 08 80 00.

C. Infill Panels: Insulated, aluminum, with edges formed to fit glazing channel and sealed.
1. Total Nominal Thickness: ¼” inch.
2. Face Sheet: 0.028 inch thick.
3. Stabilizers: Cement board.
4. Core: Rigid expanded polystyrene insulation core with R-value of 5.6.
5. Back Sheet: 0.028 inch thick.
6. Finish: Same as storefront.

D. Swing Doors: Glazed aluminum.
1. Top Rail: 6 inches wide, nominal, including glazing stop.
2. Vertical Stiles: 6 inches wide, nominal, including glazing stop.
3. Bottom Rail: 10 inches wide, minimum.
4. Glazing Stops: Square.
5. Finish: Class I natural anodized.
   a. Factory finish all surfaces that will be exposed in completed assemblies.
6. Air Leakage Laboratory Test: Maximum of 1.0 cu ft/min sq ft per pair of doors, when tested in accordance with ASTM E283 at 6.27 psf pressure differential across assembly.
7. Overall U-value Including Glazing: 0.68 Btu/(hr sq ft deg F), maximum.


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8. Manufacturers:
   a. YKK AP America Inc; 50FS: www.ykkap.com.

2.4 MATERIALS

A. Extruded Aluminum: ASTM B221 (ASTM B221M).

B. Sheet Aluminum: ASTM B209/B209M.

C. Fasteners: Stainless steel.

D. Exposed Flashings: Aluminum sheet, 20 gauge, 0.032 inch minimum thickness; finish to match framing members.
   1. Form joints with concealed backer plate seams with double bead of sealant on each side of joint, except where otherwise indicated.
   2. Fabricate corners from one piece with minimum 18 inches long legs; seam for rigidity, seal with sealant.

E. Concealed Flashings: Stainless steel, 26 gauge, 0.0187 inch minimum thickness.

F. Sill Flashing Sealant: Elastomeric, silicone or polyurethane, compatible with flashing material.

G. Sealant for Setting Thresholds: Non-curing butyl type.

H. Glazing Gaskets: Type to suit application to achieve weather, moisture, and air infiltration requirements.

I. Glazing Accessories: See Section 08 80 00.

J. Shop and Touch-Up Primer for Steel Components: Zinc oxide, alkyd, linseed oil primer appropriate for use over hand cleaned steel.

K. Touch-Up Primer for Galvanized Steel Surfaces: SSPC-Paint 20, zinc rich.

2.5 FINISHES

A. Class I Natural Anodized Finish: AAMA 611 AA-M12C22A41 Clear anodic coating not less than 0.7 mils thick.

B. Touch-Up Materials: As recommended by coating manufacturer for field application.

2.6 HARDWARE

A. For each door, include weatherstripping, sill sweep strip, and threshold.

B. Weatherstripping: Wool pile, continuous and replaceable; provide on all doors.


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C. Sill Sweep Strips: Resilient seal type, retracting, of neoprene; provide on all doors.

D. Threshold: Extruded aluminum, one piece per door opening, ribbed surface; provide on all doors.

## PART 3 EXECUTION

### 3.1 EXAMINATION

A. Verify dimensions, tolerances, and method of attachment with other work.

B. Verify that storefront wall openings and adjoining water-resistive and/or air barrier seal materials are ready to receive work of this section.

### 3.2 INSTALLATION

A. Install wall system in accordance with manufacturer's instructions.

B. Attach to structure to permit sufficient adjustment to accommodate construction tolerances and other irregularities.

C. Provide alignment attachments and shims to permanently fasten system to building structure.

D. Align assembly plumb and level, free of warp or twist. Maintain assembly dimensional tolerances, aligning with adjacent work.

E. Provide thermal isolation where components penetrate or disrupt building insulation.

F. Install sill flashings. Turn up ends and edges; seal to adjacent work to form water tight dam.

G. Set sill members and sill flashing in continuous bead of sealant.

H. Where fasteners penetrate sill flashings, make watertight by seating and sealing fastener heads to sill flashing.

I. Pack fibrous insulation in shim spaces at perimeter of assembly to maintain continuity of thermal barrier.

J. Set thresholds in bed of sealant and secure.

K. Install hardware using templates provided.

L. Install glass and infill panels using glazing method required to achieve performance criteria; see Section 08 80 00.


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M. Touch-up minor damage to factory applied finish; replace components that cannot be satisfactorily repaired.

3.3 TOLERANCES

A. Maximum Variation from Plumb: 0.06 inch per 3 feet non-cumulative or 0.06 inch per 10 feet, whichever is less.

B. Maximum Misalignment of Two Adjoining Members Abutting in Plane: 1/32 inch.

3.4 FIELD QUALITY CONTROL

A. Provide services of storefront manufacturer's field representative to observe for proper installation of system and submit report.

B. Provide field testing of installed storefront system by AAMA accredited independent laboratory in accordance with AAMA 503 during construction process and before installation of interior finishes.
   1. Perform a minimum of one tests in each designated area as directed by Architect.
   2. Conduct tests in each area prior to 5 percent completion of this work.
   3. Field test for water penetration in accordance with ASTM E1105 with uniform static air pressure difference (Procedure A) not less than 4.18 psf.
      a. Maximum allowable rate of water penetration in 15-minute test is 0.5 ounce that is not contained in an area with provisions to drain to exterior, or collected on surface of interior horizontal framing member.
   4. Field test for air leakage in accordance with ASTM E783 with uniform static air pressure difference of 1.57 psf.

3.5 ADJUSTING

A. Adjust operating hardware and sash for smooth operation.

3.6 CLEANING

A. Remove protective material from pre-finished aluminum surfaces.

B. Wash down surfaces with a solution of mild detergent in warm water, applied with soft, clean wiping cloths, and take care to remove dirt from corners and to wipe surfaces clean.

C. Upon completion of installation, thoroughly clean aluminum surfaces in accordance with AAMA 609 & 610.

3.7 PROTECTION

A. Protect installed products from damage until Date of Substantial Completion.

END OF SECTION


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# SECTION 08 71 00- DOOR HARDWARE

## PART 1 - GENERAL

### 1.01 SUMMARY

A. Section includes:

1. Mechanical and electrified door hardware
2. Electronic access control system components

B. Section excludes:

1. Windows
2. Cabinets (casework), including locks in cabinets
3. Signage
4. Toilet accessories
5. Overhead doors

C. Related Sections:

1. Division 01 "General Requirements" sections for Allowances, Alternates, Owner Furnished Contractor Installed, Project Management and Coordination.
2. Division 06 Section ''Rough Carpentry''
3. Division 06 Section ''Finish Carpentry''
4. Division 07 Section ''Joint Sealants'' for sealant requirements applicable to threshold installation specified in this section.
5. Division 08 Sections:
   a. ''Metal Doors and Frames''
   b. ''Flush Wood Doors''
   c. ''Stile and Rail Wood Doors''
   d. ''Interior Aluminum Doors and Frames''
   e. ''Aluminum-Framed Entrances and Storefronts''
   f. ''Special Function Doors''
6. Division 26 ''Electrical'' sections for connections to electrical power system and for low-voltage wiring.
7. Division 28 ''Electronic Safety and Security'' sections for coordination with other components of electronic access control system and fire alarm system.

### 1.02 REFERENCES

A. UL LLC

1. UL 10B- Fire Test of Door Assemblies
2. UL 10C- Positive Pressure Test of Fire Door Assemblies

3. UL 1784- Air Leakage Tests of Door Assemblies
4. UL 305- Panic Hardware

B. DHI- Door and Hardware Institute

1. Sequence and Format for the Hardware Schedule
2. Recommended Locations for Builders Hardware
3. Keying Systems and Nomenclature
4. Installation Guide for Doors and Hardware

C. NFPA – National Fire Protection Association

1. NFPA 70 – National Electric Code
2. NFPA 80 – 2016 Edition – Standard for Fire Doors and Other Opening Protectives
3. NFPA 101 – Life Safety Code
4. NFPA 105 – Smoke and Draft Control Door Assemblies
5. NFPA 252 – Fire Tests of Door Assemblies

D. ANSI- American National Standards Institute

1. ANSI A117.1 – 2017 Edition – Accessible and Usable Buildings and Facilities
2. ANSI/BHMA A156.1- A156.29, and ANSI/BHMA A156.31- Standards for Hardware and Specialties
3. ANSI/BHMA A156.28- Recommended Practices for Keying Systems
4. ANSI/WDMA I.S. 1A- Interior Architectural Wood Flush Doors
5. ANSI/SDI A250.8- Standard Steel Doors and Frames

## 1.03 SUBMITTALS

A. General:

1. Submit in accordance with Conditions of Contract and Division 01 Submittal Procedures.
2. Prior to forwarding submittal:
   a. Review drawings and Sections from related trades to verify compatibility with specified hardware.
   b. Highlight, encircle, or otherwise specifically identify on submittals: deviations from Contract Documents, issues of incompatibility or other issues which may detrimentally affect the Work.

B. Action Submittals:

1. Product Data: Submit technical product data for each item of door hardware, installation instructions, maintenance of operating parts and finish, and other information necessary to show compliance with requirements.
2. Riser and Wiring Diagrams: After final approval of hardware schedule, submit details of electrified door hardware, indicating:
   a. Wiring Diagrams: For power, signal, and control wiring and including:

1) Details of interface of electrified door hardware and building safety and security systems.
2) Schematic diagram of systems that interface with electrified door hardware.
3) Point-to-point wiring.
4) Risers.

3. Samples for Verification: If requested by Architect, submit production sample of requested door hardware unit in finish indicated and tagged with full description for coordination with schedule.
   a. Samples will be returned to supplier. Units that are acceptable to Architect may, after final check of operations, be incorporated into Work, within limitations of key coordination requirements.

4. Door Hardware Schedule:
   a. Submit concurrent with submissions of Product Data, Samples, and Shop Drawings. Coordinate submission of door hardware schedule with scheduling requirements of other work to facilitate fabrication of other work critical in Project construction schedule.
   b. Submit under direct supervision of a Door Hardware Institute (DHI) certified Architectural Hardware Consultant (AHC) or Door Hardware Consultant (DHC) with hardware sets in vertical format as illustrated by Sequence of Format for the Hardware Schedule published by DHI.
   c. Indicate complete designations of each item required for each opening, include:
      1) Door Index: door number, heading number, and Architect's hardware set number.
      2) Quantity, type, style, function, size, and finish of each hardware item.
      3) Name and manufacturer of each item.
      4) Fastenings and other pertinent information.
      5) Location of each hardware set cross-referenced to indications on Drawings.
      6) Explanation of all abbreviations, symbols, and codes contained in schedule.
      7) Mounting locations for hardware.
      8) Door and frame sizes and materials.
      9) Degree of door swing and handing.
      10) Operational Description of openings with electrified hardware covering egress, ingress (access), and fire/smoke alarm connections.

5. Key Schedule:
   a. After Keying Conference, provide keying schedule that includes levels of keying, explanations of key system's function, key symbols used, and door numbers controlled.
   b. Use ANSI/BHMA A156.28 ''Recommended Practices for Keying Systems'' as guideline for nomenclature, definitions, and approach for selecting optimal keying system.
   c. Provide 3 copies of keying schedule for review prepared and detailed in accordance with referenced DHI publication. Include schematic keying diagram and index each key to unique door designations.
   d. Index keying schedule by door number, keyset, hardware heading number, cross keying instructions, and special key stamping instructions.

e. Provide one complete bitting list of key cuts and one key system schematic illustrating system usage and expansion. Forward bitting list, key cuts and key system schematic directly to Owner, by means as directed by Owner.
f. Prepare key schedule by or under supervision of supplier, detailing Owner's final keying instructions for locks.

C. Informational Submittals:

1. Provide Qualification Data for Supplier, Installer and Architectural Hardware Consultant.
2. Provide Product Data:
   a. Certify that door hardware approved for use on types and sizes of labeled fire-rated doors complies with listed fire-rated door assemblies.
   b. Include warranties for specified door hardware.

D. Closeout Submittals:

1. Operations and Maintenance Data: Provide in accordance with Division 01 and include:
   a. Complete information on care, maintenance, and adjustment; data on repair and replacement parts, and information on preservation of finishes.
   b. Catalog pages for each product.
   c. Final approved hardware schedule edited to reflect conditions as installed.
   d. Final keying schedule
   e. Copy of warranties including appropriate reference numbers for manufacturers to identify project.
   f. As-installed wiring diagrams for each opening connected to power, both low voltage and 110 volts.

E. Inspection and Testing:

1. Submit written reports to the Owner and Authority Having Jurisdiction (AHJ) of the results of functional testing and inspection for:
   a. Fire door assemblies, in compliance with NFPA 80.
   b. Required egress door assemblies, in compliance with NFPA 101.

## 1.04 QUALITY ASSURANCE

A. Qualifications and Responsibilities:

1. Supplier: Recognized architectural hardware supplier with a minimum of 5 years documented experience supplying both mechanical and electromechanical door hardware similar in quantity, type, and quality to that indicated for this Project. Supplier to be recognized as a factory direct distributor by the manufacturer of the primary materials with a warehousing facility in the Project's vicinity. Supplier to have on staff, a certified Architectural Hardware Consultant (AHC) or Door Hardware Consultant (DHC) available to Owner, Architect, and Contractor, at reasonable times during the Work for consultation.

2. Installer: Qualified tradesperson skilled in the application of commercial grade hardware with experience installing door hardware similar in quantity, type, and quality as indicated for this Project.
3. Architectural Hardware Consultant: Person who is experienced in providing consulting services for door hardware installations that are comparable in material, design, and extent to that indicated for this Project and meets these requirements:
   a. For door hardware: DHI certified AHC or DHC.
   b. Can provide installation and technical data to Architect and other related subcontractors.
   c. Can inspect and verify components are in working order upon completion of installation.
   d. Capable of producing wiring diagram and coordinating installation of electrified hardware with Architect and electrical engineers.

4. Single Source Responsibility: Obtain each type of door hardware from single manufacturer.

B. Certifications:

1. Fire-Rated Door Openings:
   a. Provide door hardware for fire-rated openings that complies with NFPA 80 and requirements of authorities having jurisdiction.
   b. Provide only items of door hardware that are listed products tested by UL LLC, Intertek Testing Services, or other testing and inspecting organizations acceptable to authorities having jurisdiction for use on types and sizes of doors indicated, based on testing at positive pressure and according to NFPA 252 or UL 10C and in compliance with requirements of fire-rated door and door frame labels.

2. Smoke and Draft Control Door Assemblies:
   a. Provide door hardware that meets requirements of assemblies tested according to UL 1784 and installed in compliance with NFPA 105
   b. Comply with the maximum air leakage of 0.3 cfm/sq. ft. (3 cu. m per minute/sq. m) at tested pressure differential of 0.3-inch wg (75 Pa) of water.

3. Electrified Door Hardware
   a. Listed and labeled as defined in NFPA 70, Article 100, by testing agency acceptable to authorities having jurisdiction.

4. Accessibility Requirements:
   a. Comply with governing accessibility regulations cited in ''REFERENCES'' article 087100, 1.02.D3 herein for door hardware on doors in an accessible route. This project must comply with all Federal Americans with Disability Act regulations and all Local Accessibility Regulations.

C. Pre-Installation Meetings

1. Keying Conference

a. Incorporate keying conference decisions into final keying schedule after reviewing door hardware keying system including:
   1) Function of building, flow of traffic, purpose of each area, degree of security required, and plans for future expansion.
   2) Preliminary key system schematic diagram.
   3) Requirements for key control system.
   4) Requirements for access control.
   5) Address for delivery of keys.

2. Pre-installation Conference
   a. Review and finalize construction schedule and verify availability of materials, Installer's personnel, equipment, and facilities needed to make progress and avoid delays.
   b. Inspect and discuss preparatory work performed by other trades.
   c. Inspect and discuss electrical roughing-in for electrified door hardware.
   d. Review sequence of operation for each type of electrified door hardware.
   e. Review required testing, inspecting, and certifying procedures.
   f. Review questions or concerns related to proper installation and adjustment of door hardware.

3. Electrified Hardware Coordination Conference:
   a. Prior to ordering electrified hardware, schedule and hold meeting to coordinate door hardware with security, electrical, doors and frames, and other related suppliers.

## 1.05 DELIVERY, STORAGE, AND HANDLING

A. Inventory door hardware on receipt and provide secure lock-up for hardware delivered to Project site. Promptly replace products damaged during shipping.

B. Tag each item or package separately with identification coordinated with final door hardware schedule, and include installation instructions, templates, and necessary fasteners with each item or package. Deliver each article of hardware in manufacturer's original packaging.

C. Maintain manufacturer-recommended environmental conditions throughout storage and installation periods.

D. Provide secure lock-up for door hardware delivered to Project. Control handling and installation of hardware items so that completion of Work will not be delayed by hardware losses both before and after installation.

E. Handle hardware in manner to avoid damage, marring, or scratching. Correct, replace or repair products damaged during Work. Protect products against malfunction due to paint, solvent, cleanser, or any chemical agent.

F. Deliver keys to manufacturer of key control system for subsequent delivery to Owner.

1.06 COORDINATION

A. Coordinate layout and installation of floor-recessed door hardware with floor construction. Cast anchoring inserts into concrete.

B. Installation Templates: Distribute for doors, frames, and other work specified to be factory or shop prepared. Check Shop Drawings of other work to confirm that adequate provisions are made for locating and installing door hardware to comply with indicated requirements.

C. Security: Coordinate installation of door hardware, keying, and access control with Owner's security consultant.

D. Electrical System Roughing-In: Coordinate layout and installation of electrified door hardware with connections to power supplies and building safety and security systems.

1.07 WARRANTY

A. Manufacturer's standard form in which manufacturer agrees to repair or replace components of door hardware that fail in materials or workmanship within published warranty period.

1. Warranty does not cover damage or faulty operation due to improper installation, improper use or abuse.
2. Warranty Period: Beginning from date of Substantial Completion, for durations indicated in manufacturer's published listings.

1.08 MAINTENANCE

A. Furnish complete set of special tools required for maintenance and adjustment of hardware, including changing of cylinders.

B. Turn over unused materials to Owner for maintenance purposes.

## PART 2 - PRODUCTS

2.01 MANUFACTURERS

A. Approval of alternate manufacturers and/or products other than those listed as ''Scheduled Manufacturer'' or ''Acceptable Manufacturers'' in the individual article for the product category are only to be considered by official substitution request in accordance with section 01 25 00.

B. Approval of products from manufacturers indicated in ''Acceptable Manufacturers'' is contingent upon those products providing all functions and features and meeting all requirements of scheduled manufacturer's product.

C. Where specified hardware is not adaptable to finished shape or size of members requiring hardware, furnish suitable types having same operation and quality as type specified, subject to Architect's approval.

## 2.02 MATERIALS

A. Fabrication

1. Provide door hardware manufactured to comply with published templates generally prepared for machine, wood, and sheet metal screws. provide screws according to manufacturer's recognized installation standards for application intended.
2. Finish exposed screws to match hardware finish, or, if exposed in surfaces of other work, to match finish of this other work including prepared for paint surfaces to receive painted finish.
3. Provide concealed fasteners wherever possible for hardware units exposed when door is closed. Coordinate with "Metal Doors and Frames", "Flush Wood Doors", "Stile and Rail Wood Doors" to ensure proper reinforcements. Advise the Architect where visible fasteners, such as thru bolts, are required.

B. Provide screws, bolts, expansion shields, drop plates and other devices necessary for hardware installation.

1. Where fasteners are exposed to view: Finish to match adjacent door hardware material.

C. Cable and Connectors:

1. Where scheduled in the hardware sets, provide each item of electrified hardware and wire harnesses with number and gage of wires enough to accommodate electric function of specified hardware.
2. Provide Molex connectors that plug directly into connectors from harnesses, electric locking and power transfer devices.
3. Provide through-door wire harness for each electrified locking device installed in a door and wire harness for each electrified hinge, electrified continuous hinge, electrified pivot, and electric power transfer for connection to power supplies.

## 2.03 HINGES

A. Manufacturers and Products:

1. Scheduled Manufacturer and Product:
   a. Ives 5BB series

B. Requirements:

1. Provide hinges conforming to ANSI/BHMA A156.1.
2. Provide five knuckle, ball bearing hinges.
3. 1-3/4 inch (44 mm) thick doors, up to and including 36 inches (914 mm) wide:

a. Exterior: Standard weight, bronze or stainless steel, 4-1/2 inches (114 mm) high
b. Interior: Standard weight, steel, 4-1/2 inches (114 mm) high

4. 1-3/4 inch (44 mm) thick doors over 36 inches (914 mm) wide:
   a. Exterior: Heavy weight, bronze/stainless steel, 5 inches (127 mm) high
   b. Interior: Heavy weight, steel, 5 inches (127 mm) high

5. 2 inches or thicker doors:
   a. Exterior: Heavy weight, bronze or stainless steel, 5 inches (127 mm) high
   b. Interior: Heavy weight, steel, 5 inches (127 mm) high

6. Adjust hinge width for door, frame, and wall conditions to allow proper degree of opening.
7. Provide three hinges per door leaf for doors 90 inches (2286 mm) or less in height, and one additional hinge for each 30 inches (762 mm) of additional door height.
8. Hinge Pins: Except as otherwise indicated, provide hinge pins as follows:
   a. Steel Hinges: Steel pins
   b. Non-Ferrous Hinges: Stainless steel pins
   c. Out-Swinging Exterior Doors: Non-removable pins
   d. Out-Swinging Interior Lockable Doors: Non-removable pins
   e. Interior Non-lockable Doors: Non-rising pins

9. Provide hinges with electrified options as scheduled in the hardware sets. Provide with number and gage of wires enough to accommodate electric function of specified hardware. Locate electric hinge at second hinge from bottom or nearest to electrified locking component. Provide mortar guard for each electrified hinge specified.

## 2.04 CONTINUOUS HINGES

A. Manufacturers:

1. Scheduled Manufacturer:
   a. Ives

B. Requirements:

1. Provide aluminum geared continuous hinges conforming to ANSI/BHMA A156.26, Grade 1.
2. Provide aluminum geared continuous hinges, where specified in the hardware sets, fabricated from 6063-T6 aluminum.
3. Provide split nylon bearings at each hinge knuckle for quiet, smooth, self-lubricating operation.
4. Provide hinges capable of supporting door weights up to 450 pounds, and successfully tested for 1,500,000 cycles.
5. On fire-rated doors, provide aluminum geared continuous hinges classified for use on rated doors by testing agency acceptable to authority having jurisdiction.

6. Provide aluminum geared continuous hinges with electrified option scheduled in the hardware sets. Provide with number and gage of wires enough to accommodate electric function of specified hardware.
7. Provide hinges 1 inch (25 mm) shorter in length than nominal height of door, unless otherwise noted or door details require shorter length and with symmetrical hole pattern.

## 2.05 MORTISE LOCKS

A. Manufacturers and Products:

1. Scheduled Manufacturer and Product:
   a. Schlage L9000 series

B. Requirements:

1. Provide mortise locks conforming to ANSI/BHMA A156.13 Series 1000, Grade 1, and UL Listed for 3-hour fire doors.
2. Indicators: Where specified, provide indicator window measuring a minimum 2-3/5-inch x 3/5 inch with 180-degree visibility. Provide messages color-coded using ANSI Z535 Safety Red with full text and/or symbols, as scheduled, for easy visibility. When applicable allows for lock status indication on both sides of the door.
3. Provide locks manufactured from heavy gauge steel, containing components of steel with a zinc dichromate plating for corrosion resistance.
4. Provide lock case that is multi-function and field reversible for handing without opening case. Cylinders: Refer to ''KEYING'' article, herein.
5. Provide locks with standard 2-3/4 inches (70 mm) backset with full 3/4 inch (19 mm) throw stainless steel mechanical anti-friction latchbolt. Provide deadbolt with full 1-inch (25 mm) throw, constructed of stainless steel.
6. Provide standard ASA strikes unless extended lip strikes are necessary to protect trim. Provide electrified options as scheduled in the hardware sets. Where scheduled, provide switches and sensors integrated into the locks and latches.
7. Provide motor based electrified locksets that comply with the following requirements:
   a. Universal input voltage – single chassis accepts 12 or 24VDC to allow for changes in the field without changing lock chassis.
   b. Fail Safe/Fail Secure – changing mode between electrically locked (fail safe) and electrically unlocked (fail secure) is field selectable without opening the lock case.
   c. Low maximum current draw – maximum 0.4 amps to allow for multiple locks on a single power supply.
   d. Low holding current – maximum 0.01 amps to produce minimal heat, eliminate “hot levers” in electrically locked applications, and to provide reliable operation in wood doors that provide minimal ventilation and air flow.
   e. Connections – provide quick-connect Molex system standard.

8. (KEY OVERRIDE OPTION WHEN XL13-439 IS SPECIFIED IN HARDWARE SETS) Provide locks with a key override feature built into the chassis that allows the outside key to retract the deadbolt and/or latchbolt, overriding the inside thumbturn when it is being held in the locked position.

9. Lever Trim: Solid brass, bronze, or stainless steel, cast or forged in design specified, with wrought roses and external lever spring cages. Provide thru-bolted levers with 2-piece spindles.
    a. Vandlgard: Provide levers with vandal resistant technology for use at heavy traffic or abusive applications.

2.06 CYLINDERS

A. Manufacturers and Products:

1. Scheduled Manufacturer and Product:
    a. Schlage Everest 29 Primus XP

B. Requirements:

1. Provide cylinders/cores, compliant with ANSI/BHMA A156.5; latest revision; cylinder face finished to match lockset, manufacturer's series as indicated. Refer to "KEYING" article, herein.
2. Provide cylinders in the below-listed configuration(s), distributed throughout the Project as indicated.
    a. High Security: dual-locking cylinder with permanent core requiring restricted, patented keyway. Dual-locking mechanism with interlocking finger pin(s) to check for patented features on keys.
3. Patent Protection: Cylinders/cores requiring use of restricted, patented keys, patent protected.
4. Nickel silver bottom pins.

2.07 CYLINDERS

A. Manufacturers and Products:

1. Scheduled Manufacturer and Product:
    a. Schlage OBV Primus RP

B. Requirements:

1. Provide cylinders/cores, compliant with ANSI/BHMA A156.5; latest revision; cylinder face finished to match lockset, manufacturer's series as indicated. Refer to "KEYING" article, herein.
2. Provide high security dual-locking cylinder with permanent core and nickel silver bottom pins.

2.08 CYLINDERS

A. Manufacturers and Products:

1. Scheduled Manufacturer and Product:
   a. Schlage Everest 29 SL

B. Requirements:

1. Provide cylinders/cores compliant with ANSI/BHMA A156.5; latest revision; cylinder face finished to match lockset; manufacturer's series as indicated. Refer to "KEYING" article, herein.
2. Provide cylinders in the below-listed configuration(s), distributed throughout the Project as indicated.
   a. Patented Restricted 7-Pin: cylinder with permanent 7-pin core with keys capable of working in full size key-in-lever/knob, and small format interchangeable core.
3. Patent Protection: Cylinders/cores requiring use of restricted, patented keys, patent protected.
4. Nickel silver bottom pins.

2.09 CYLINDERS

A. Manufacturers and Products:

1. Scheduled Manufacturer and Product:
   a. Schlage Everest 29 T

B. Requirements:

1. Provide cylinders/cores compliant with ANSI/BHMA A156.5; latest revision; cylinder face finished to match lockset; manufacturer's series as indicated. Refer to "KEYING" article, herein.
2. Provide cylinders in the below-listed configuration(s), distributed throughout the Project as indicated.
   a. Patented Restricted: cylinder with interchangeable core with patented, restricted keyway.
3. Patent Protection: Cylinders/cores requiring use of restricted, patented keys, patent protected.
4. Nickel silver bottom pins.

2.10 CYLINDERS

A. Manufacturers and Products:

1. Scheduled Manufacturer and Product:
   a. Schlage Everest 29 S

B. Requirements:

1. Provide cylinders/cores compliant with ANSI/BHMA A156.5; latest revision; cylinder face finished to match lockset; manufacturer's series as indicated. Refer to "KEYING" article, herein.
2. Provide cylinders in the below-listed configuration(s), distributed throughout the Project as indicated.
   a. Patented Open: cylinder with interchangeable core with open keyway.
3. Patent Protection: Cylinders/cores requiring use of restricted, patented keys, patent protected.
4. Nickel silver bottom pins.

2.11 CYLINDERS

A. Manufacturers and Products:

1. Scheduled Manufacturer and Product:
   a. Schlage Everest 29 R

B. Requirements:

1. Provide cylinders/cores compliant with ANSI/BHMA A156.5; latest revision; cylinder face finished to match lockset; manufacturer's series as indicated. Refer to "KEYING" article, herein.
2. Provide cylinders in the below-listed configuration(s), distributed throughout the Project as indicated.
   a. Patented Restricted Small Format: cylinder with small format interchangeable cores (SFIC) with restricted, patented keyway.
3. Patent Protection: Cylinders/cores requiring use of restricted, patented keys, patent protected.
4. Nickel silver bottom pins.

2.12 CYLINDERS

A. Manufacturers and Products:

1. Scheduled Manufacturer:
   a. Falcon

B. Requirements:

1. Provide cylinders/cores compliant with ANSI/BHMA A156.5; latest revision; cylinder face finished to match lockset; manufacturer's series as indicated. Refer to "KEYING" article, herein.
2. Provide cylinders in the below-listed configuration(s), distributed throughout the Project as indicated.
   a. Open: cylinder with small format interchangeable core (SFIC) core with open keyway

2.13 CYLINDERS

A. Manufacturers:

1. Scheduled Manufacturer and Product:
   a. <INSERT EXISTING KEY SYSTEM>

2. Acceptable Manufacturers and Products:
   a. No Substitute

B. Requirements:

1. Provide cylinders/cores to match Owner's existing key system, compliant with ANSI/BHMA A156.5; latest revision; cylinder face finished to match lockset, manufacturer's series as indicated. Refer to "KEYING" article, herein.

2.14 KEYING

A. Scheduled System:

1. New factory registered system:
   a. Provide a factory registered keying system, complying with guidelines in ANSI/BHMA A156.28, incorporating decisions made at keying conference.

2. Existing factory registered system:
   a. Provide cylinders/cores keyed into Owner's existing factory registered keying system. Comply with guidelines in ANSI/BHMA A156.28, incorporating decisions made at keying conference.

3. Existing non-factory registered system:
   a. Provide cylinders/cores keyed into Owner's existing keying system managed by Owner's locksmith, complying with guidelines in ANSI/BHMA A156.28, incorporating decisions made at keying conference. Contact:
      1) Firm Name:
      2) Contact Person:
      3) Telephone:

B. Requirements:

1. Permanent Keying:
   a. Provide permanent cylinders/cores keyed by the manufacturer according to the following key system.
      1) Master Keying system as directed by the Owner.
   b. Forward bitting list and keys separately from cylinders, by means as directed by Owner. Failure to comply with forwarding requirements will be cause for replacement of cylinders/cores involved at no additional cost to Owner.
   c. Provide keys with the following features:
      1) Material: Nickel silver; minimum thickness of .107-inch (2.3mm)

2) Patent Protection: Keys and blanks protected by one or more utility patent(s).

d. Identification:
   1) Mark permanent cylinders/cores and keys with applicable blind code for identification. Do not provide blind code marks with actual key cuts.
   2) Identification stamping provisions must be approved by the Architect and Owner.
   3) Stamp cylinders/cores and keys with Owner's unique key system facility code as established by the manufacturer; key symbol and embossed or stamped with "DO NOT DUPLICATE" along with the "PATENTED" or patent number to enforce the patent protection.
   4) Failure to comply with stamping requirements will be cause for replacement of keys involved at no additional cost to Owner.
   5) Forward permanent cylinders/cores to Owner, separately from keys, by means as directed by Owner.

e. Quantity: Furnish in the following quantities.
   1) Permanent Control Keys: 3.
   2) Master Keys: 6.
   3) Change (Day) Keys: 3 per cylinder/core that is keyed differently
   4) Key Blanks: Quantity as determined in the keying meeting.

## 2.15 KEY CONTROL SYSTEM

A. Manufacturers:

1. Scheduled Manufacturer:
   a. Telkee

B. Requirements:

1. Provide key control system, including envelopes, labels, tags with self-locking key clips, receipt forms, 3-way visible card index, temporary markers, permanent markers, and standard metal cabinet, all as recommended by system manufacturer, with capacity for 150% of number of locks required for Project.
   a. Provide complete cross index system set up by hardware supplier, and place keys on markers and hooks in cabinet as determined by final key schedule.
   b. Provide hinged-panel type cabinet for wall mounting.

## 2.16 DOOR CLOSERS

A. Manufacturers and Products:

1. Scheduled Manufacturer and Product:
   a. LCN 4040XP series

B. Requirements:

1. Provide door closers conforming to ANSI/BHMA A156.4 Grade 1 requirements by BHMA certified independent testing laboratory. ISO 9000 certify closers. Stamp units with date of manufacture code.
2. Provide door closers with fully hydraulic, full rack and pinion action with high strength cast iron cylinder, and full complement bearings at shaft.
3. Cylinder Body: 1-1/2-inch (38 mm) diameter piston with 5/8-inch (16 mm) diameter double heat-treated pinion journal. QR code with a direct link to maintenance instructions.
4. Hydraulic Fluid: Fireproof, passing requirements of UL10C, and requiring no seasonal closer adjustment for temperatures ranging from 120 degrees F to-30 degrees F.
5. Spring Power: Continuously adjustable over full range of closer sizes, and providing reduced opening force as required by accessibility codes and standards. Provide snap-on cover clip, with plastic covers, that secures cover to spring tube.
6. Hydraulic Regulation: By tamper-proof, non-critical valves, with separate adjustment for latch speed, general speed, and backcheck. Provide graphically labelled instructions on the closer body adjacent to each adjustment valve. Provide positive stop on reg valve that prevents reg screw from being backed out.
7. Provide closers with solid forged steel main arms and factory assembled heavy-duty forged forearms for parallel arm closers.
8. Pressure Relief Valve (PRV) Technology: Not permitted.
9. Finish for Closer Cylinders, Arms, Adapter Plates, and Metal Covers: Powder coating finish which has been certified to exceed 100 hours salt spray testing as described in ANSI Standard A156.4 and ASTM B117, or has special rust inhibitor (SRI).
10. Provide special templates, drop plates, mounting brackets, or adapters for arms as required for details, overhead stops, and other door hardware items interfering with closer mounting.
11. Closers shall be capable of being upgraded by adding modular mechanical or electronic components in the field.

## 2.17 DOOR TRIM

A. Manufacturers:

1. Scheduled Manufacturer:
   a. Ives

B. Requirements:

1. Provide push plates, push bars, pull plates, pulls, and hands-free reversible door pulls with diameter and length as scheduled.

## 2.18 PROTECTION PLATES

A. Manufacturers:

1. Scheduled Manufacturer:

a. Ives

B. Requirements:

1. Provide protection plates with a minimum of 0.050 inch (1 mm) thick, beveled four edges as scheduled. Furnish with sheet metal or wood screws, finished to match plates.
2. Sizes plates 2 inches (51 mm) less width of door on single doors, pairs of doors with a mullion, and doors with edge guards. Size plates 1 inch (25 mm) less width of door on pairs without a mullion or edge guards.
3. At fire rated doors, provide protection plates over 16 inches high with UL label.

## 2.19 OVERHEAD STOPS AND OVERHEAD STOP/HOLDERS

A. Manufacturers:

1. Scheduled Manufacturers:
   a. Glynn-Johnson

B. Requirements:

1. Provide overhead stop at any door where conditions do not allow for a wall stop or floor stop presents tripping hazard.

## 2.20 DOOR STOPS AND HOLDERS

A. Manufacturers:

1. Scheduled Manufacturer:
   a. Ives

B. Provide door stops at each door leaf:

1. Provide wall stops wherever possible. Provide concave type where lockset has a push button of thumbturn.
2. Where a wall stop cannot be used, provide universal floor stops.
3. Where wall or floor stop cannot be used, provide overhead stop.
4. Provide roller bumper where doors open into each other and overhead stop cannot be used.

## 2.21 THRESHOLDS, SEALS, DOOR SWEEPS, AUTOMATIC DOOR BOTTOMS, AND GASKETING

A. Manufacturers:

1. Scheduled Manufacturer:
   a. Zero International

B. Requirements:

1. Provide thresholds, weather-stripping, and gasketing systems as specified and per architectural details. Match finish of other items.
2. Smoke- and Draft-Control Door Assemblies: Where smoke- and draft-control door assemblies are required, provide door hardware that meets requirements of assemblies tested according to UL 1784 and installed in compliance with NFPA 105.
3. Provide door sweeps, seals, astragals, and auto door bottoms only of type where resilient or flexible seal strip is easily replaceable and readily available.
4. Size thresholds 1/2 inch (13 mm) high by 5 inches (127 mm) wide by door width unless otherwise specified in the hardware sets or detailed in the drawings.

2.22 SILENCERS

A. Manufacturers:

1. Scheduled Manufacturer:
   a. Ives

B. Requirements:

1. Provide ''push-in'' type silencers for hollow metal or wood frames.
2. Provide one silencer per 30 inches (762 mm) of height on each single frame, and two for each pair frame.
3. Omit where gasketing is specified.

## PART 3 - EXECUTION

3.01 EXAMINATION

A. Prior to installation of hardware, examine doors and frames, with Installer present, for compliance with requirements for installation tolerances, labeled fire-rated door assembly construction, wall and floor construction, and other conditions affecting performance. Verify doors, frames, and walls have been properly reinforced for hardware installation.

B. Examine roughing-in for electrical power systems to verify actual locations of wiring connections before electrified door hardware installation.

C. Submit a list of deficiencies in writing and proceed with installation only after unsatisfactory conditions have been corrected.

3.02 INSTALLATION

A. Mount door hardware units at heights to comply with the following, unless otherwise indicated or required to comply with governing regulations.

1. Standard Steel Doors and Frames: ANSI/SDI A250.8.
2. Custom Steel Doors and Frames: HMMA 831.
3. Interior Architectural Wood Flush Doors: ANSI/WDMA I.S. 1A
4. Installation Guide for Doors and Hardware: DHI TDH-007-20

B. Install door hardware in accordance with NFPA 80, NFPA 101 and provide post-install inspection, testing as specified in section 1.03.E unless otherwise required to comply with governing regulations.

C. Install each hardware item in compliance with manufacturer's instructions and recommendations, using only fasteners provided by manufacturer.

D. Do not install surface mounted items until finishes have been completed on substrate. Protect all installed hardware during painting.

E. Set units level, plumb and true to line and location. Adjust and reinforce attachment substrate as necessary for proper installation and operation.

F. Drill and countersink units that are not factory prepared for anchorage fasteners. Space fasteners and anchors according to industry standards.

G. Install operating parts so they move freely and smoothly without binding, sticking, or excessive clearance.

H. Hinges: Install types and in quantities indicated in door hardware schedule but not fewer than quantity recommended by manufacturer for application indicated.

I. Lock Cylinders:

1. Install construction cores to secure building and areas during construction period.
2. Replace construction cores with permanent cores as indicated in keying section.
3. Furnish permanent cores to Owner for installation.

J. Wiring: Coordinate with Division 26, ELECTRICAL and Division 28 ELECTRONIC SAFETY AND SECURITY sections for:

1. Conduit, junction boxes and wire pulls.
2. Connections to and from power supplies to electrified hardware.
3. Connections to fire/smoke alarm system and smoke evacuation system.
4. Connection of wire to door position switches and wire runs to central room or area, as directed by Architect.
5. Connections to panel interface modules, controllers, and gateways.
6. Testing and labeling wires with Architect's opening number.

K. Key Control System: Tag keys and place them on markers and hooks in key control system cabinet, as determined by final keying schedule.

L. Continuous Hinges: Re-locate the door and frame fire rating labels where they will remain visible so that the hinge does not cover the label once installed.

M. Door Closers & Auto Operators: Mount closers/operators on room side of corridor doors, inside of exterior doors, and stair side of stairway doors from corridors. Mount closers/operators so they are not visible in corridors, lobbies and other public spaces unless approved by Architect.

N. Overhead Stops/Holders: Mount overhead stops/holders on room side of corridor doors, inside of exterior doors, and stair side of stairway doors.

O. Power Supplies: Locate power supplies as indicated or, if not indicated, above accessible ceilings or in equipment room, or alternate location as directed by Architect.

P. Thresholds: Set thresholds in full bed of sealant complying with requirements specified in Division 07 Section ''Joint Sealants.''

Q. Stops: Provide floor stops for doors unless wall or other type stops are indicated in door hardware schedule. Do not mount floor stops where they may impede traffic or present tripping hazard.

R. Perimeter Gasketing: Apply to head and jamb, forming seal between door and frame.

S. Meeting Stile Gasketing: Fasten to meeting stiles, forming seal when doors are closed.

T. Door Bottoms and Sweeps: Apply to bottom of door, forming seal with threshold when door is closed.

## 3.03 ADJUSTING

A. Initial Adjustment: Adjust and check each operating item of door hardware and each door to ensure proper operation or function of every unit. Replace units that cannot be adjusted to operate as intended. Adjust door control devices to compensate for final operation of heating and ventilating equipment and to comply with referenced accessibility requirements.

1. Spring Hinges: Adjust to achieve positive latching when door can close freely from an open position of 30 degrees.
2. Electric Strikes: Adjust horizontal and vertical alignment of keeper to properly engage lock bolt.
3. Door Closers: Adjust sweep period to comply with accessibility requirements and requirements of authorities having jurisdiction.

B. Occupancy Adjustment: Approximately three to six months after date of Substantial Completion, examine and readjust each item of door hardware, including adjusting operating forces, as necessary to ensure function of doors and door hardware.

## 3.04 CLEANING AND PROTECTION

A. Clean adjacent surfaces soiled by door hardware installation.

B. Clean operating items per manufacturer's instructions to restore proper function and finish.

C. Provide final protection and maintain conditions that ensure door hardware is without damage or deterioration at time of Substantial Completion.

## 3.05 DOOR HARDWARE SCHEDULE

A. The intent of the hardware specification is to specify the hardware for interior and exterior doors, and to establish a type, continuity, and standard of quality. However, it is the door hardware supplier's responsibility to thoroughly review existing conditions, schedules, specifications, drawings, and other Contract Documents to verify the suitability of the hardware specified.

B. Discrepancies, conflicting hardware, and missing items are to be brought to the attention of the architect with corrections made prior to the bidding process. Omitted items not included in a hardware set should be scheduled with the appropriate additional hardware required for proper application.

C. Hardware items are referenced in the following hardware schedule. Refer to the above specifications for special features, options, cylinders/keying, and other requirements.

D. Hardware Sets:

| Abbreviation | Name |
|---|---|
| ADA | Adams Rite Manufacturing Co |
| GLY | Glynn-Johnson Corp |
| IVE | H.B. Ives |
| LCN | LCN Commercial Division |
| SCH | Schlage Lock Company |

123596 OPT0398842 Version 1

Hardware Group No. 01

Provide each SGL door(s) with the following:

| QTY | | DESCRIPTION | CATALOG NUMBER | | FINISH | MFR |
|---|---|---|---|---|---|---|
| 3 | EA | HINGE | 5BB1 4.5 X 4.5 | | 652 | IVE |
| 1 | EA | STOREROOM LOCK | L9080BDC 07A | | 626 | SCH |
| 1 | EA | SFIC EVEREST CORE | 80-037 | | 626 | SCH |
| 1 | EA | SURFACE CLOSER | 4040XP RW/PA | | 689 | LCN |
| 1 | EA | KICK PLATE | 8400 10" X 2" LDW B-CS | | 630 | IVE |
| 1 | EA | WALL STOP | WS406/407CCV | | 630 | IVE |
| 3 | EA | SILENCER | SR64 | | GRY | IVE |

Hardware Group No. 02

Provide each SGL door(s) with the following:

| QTY | | DESCRIPTION | CATALOG NUMBER | | FINISH | MFR |
|---|---|---|---|---|---|---|
| 3 | EA | HINGE | 5BB1 4.5 X 4.5 | | 652 | IVE |
| 1 | EA | OFFICE/ENTRY LOCK | L9050BDC 07A 09-544 | | 626 | SCH |
| 1 | EA | SFIC EVEREST CORE | 80-037 | | 626 | SCH |
| 1 | EA | OH STOP | 90S | | 689 | GLY |
| 1 | EA | SURFACE CLOSER | 4040XP RW/PA | | 689 | LCN |
| 1 | EA | KICK PLATE | 8400 10" X 2" LDW B-CS | | 630 | IVE |
| 3 | EA | SILENCER | SR64 | | GRY | IVE |

Hardware Group No. 02A

Provide each SGL door(s) with the following:

| QTY | | DESCRIPTION | CATALOG NUMBER | | FINISH | MFR |
|---|---|---|---|---|---|---|
| 3 | EA | HINGE | 5BB1 4.5 X 4.5 | | 652 | IVE |
| 1 | EA | OFFICE/ENTRY LOCK | L9050BDC 07A 09-544 | | 626 | SCH |
| 1 | EA | SFIC EVEREST CORE | 80-037 | | 626 | SCH |
| 1 | EA | SURFACE CLOSER | 4040XP RW/PA | | 689 | LCN |
| 1 | EA | KICK PLATE | 8400 10" X 2" LDW B-CS | | 630 | IVE |
| 1 | EA | WALL STOP | WS406/407CCV | | 630 | IVE |
| 3 | EA | SILENCER | SR64 | | GRY | IVE |

Hardware Group No. 02B

Provide each SGL door(s) with the following:

| QTY | | DESCRIPTION | CATALOG NUMBER | | FINISH | MFR |
|---|---|---|---|---|---|---|
| 3 | EA | HINGE | 5BB1 4.5 X 4.5 | | 652 | IVE |
| 1 | EA | OFFICE/ENTRY LOCK | L9050BDC 07A 09-544 | | 626 | SCH |
| 1 | EA | SFIC EVEREST CORE | 80-037 | | 626 | SCH |
| 1 | EA | SURFACE CLOSER | 4040XP EDA | | 689 | LCN |
| 1 | EA | KICK PLATE | 8400 10" X 2" LDW B-CS | | 630 | IVE |
| 1 | EA | WALL STOP | WS406/407CCV | | 630 | IVE |
| 3 | EA | SILENCER | SR64 | | GRY | IVE |

Hardware Group No. 03

Provide each SGL door(s) with the following:

| QTY | | DESCRIPTION | CATALOG NUMBER | | FINISH | MFR |
|---|---|---|---|---|---|---|
| 3 | EA | HINGE | 5BB1 4.5 X 4.5 NRP | | 652 | IVE |
| 1 | EA | PASSAGE SET | L9010 07A | | 626 | SCH |
| 1 | EA | SURFACE CLOSER | 4040XP RW/PA | | 689 | LCN |
| 1 | EA | KICK PLATE | 8400 10" X 2" LDW B-CS | | 630 | IVE |
| 1 | EA | WALL STOP | WS406/407CCV | | 630 | IVE |
| 3 | EA | SILENCER | SR64 | | GRY | IVE |

Hardware Group No. 03A

Provide each SGL door(s) with the following:

| QTY | | DESCRIPTION | CATALOG NUMBER | | FINISH | MFR |
|---|---|---|---|---|---|---|
| 3 | EA | HINGE | 5BB1 4.5 X 4.5 | | 652 | IVE |
| 1 | EA | PASSAGE SET | L9010 07A | | 626 | SCH |
| 1 | EA | SFIC EVEREST CORE | 80-037 | | 626 | SCH |
| 1 | EA | WALL STOP | WS406/407CCV | | 630 | IVE |
| 3 | EA | SILENCER | SR64 | | GRY | IVE |

Hardware Group No. 04

Provide each SGL door(s) with the following:

| QTY | | DESCRIPTION | CATALOG NUMBER | | FINISH | MFR |
|---|---|---|---|---|---|---|
| 1 | EA | CONT. HINGE | 112XY | | 628 | IVE |
| 1 | EA | DEADBOLT | MS1850S | | 628 | ADA |
| 1 | EA | SFIC RIM CYLINDER | 80-116 | | 626 | SCH |
| 1 | EA | SFIC EVEREST CORE | 80-037 | | 626 | SCH |
| 1 | EA | PUSH/PULL BAR | 9190EZHD-12"-NO | | 630 | IVE |
| 1 | EA | SURFACE CLOSER | 4040XP EDA | | 689 | LCN |
| 1 | EA | FLOOR STOP | FS410 | | 626 | IVE |
| 1 | EA | SEAL SET | By aLUMINUM DOOR MANUFACTURER | | | |

Hardware Group No. 04A- Not Used

Provide each SGL door(s) with the following:

| QTY | | DESCRIPTION | CATALOG NUMBER | | FINISH | MFR |
|---|---|---|---|---|---|---|
| 1 | EA | CONT. HINGE | 112XY | | 628 | IVE |
| 1 | EA | DEADBOLT | MS1850S | | 628 | ADA |
| 1 | EA | SFIC RIM CYLINDER | 80-116 | | 626 | SCH |
| 1 | EA | SFIC EVEREST CORE | 80-037 | | 626 | SCH |
| 1 | EA | PUSH/PULL BAR | 9190EZHD-12"-NO | | 630 | IVE |
| 1 | EA | SURFACE CLOSER | 4040XP RW/PA | | 689 | LCN |
| 1 | EA | FLOOR STOP | FS410 | | 626 | IVE |
| 1 | EA | SEAL SET | By aLUMINUM DOOR MANUFACTURER | | | |

Hardware Group No. 05

Provide each SGL door(s) with the following:

| QTY | | DESCRIPTION | CATALOG NUMBER | | FINISH | MFR |
|---|---|---|---|---|---|---|
| 3 | EA | HINGE | 5BB1 4.5 X 4.5 | | 652 | IVE |
| 1 | EA | CLASSROOM LOCK | L9070BDC 07A | | 626 | SCH |
| 1 | EA | SFIC EVEREST CORE | 80-037 | | 626 | SCH |
| 1 | EA | SURFACE CLOSER | 4040XP RW/PA | | 689 | LCN |
| 1 | EA | KICK PLATE | 8400 10" X 2" LDW B-CS | | 630 | IVE |
| 1 | EA | WALL STOP | WS406/407CCV | | 630 | IVE |
| 3 | EA | SILENCER | SR64 | | GRY | IVE |

END OF SECTION

# SECTION 08 80 00 - GLAZING

## PART 1 GENERAL

1.1 SECTION INCLUDES

A. Glazing units.

B. Glazing compounds.

1.2 REFERENCE STANDARDS

A. 16 CFR 1201 - Safety Standard for Architectural Glazing Materials; Current Edition.

B. ANSI Z97.1 - American National Standard for Safety Glazing Materials Used in Buildings - Safety Performance Specifications and Methods of Test; 2015 (Reaffirmed 2020).

C. ASCE 7 - Minimum Design Loads and Associated Criteria for Buildings and Other Structures; Most Recent Edition Cited by Referring Code or Reference Standard.

D. ASTM C864 - Standard Specification for Dense Elastomeric Compression Seal Gaskets, Setting Blocks, and Spacers; 2005 (Reapproved 2019).

E. ASTM C920 - Standard Specification for Elastomeric Joint Sealants; 2018.

F. ASTM C1036 - Standard Specification for Flat Glass; 2021.

G. ASTM C1048 - Standard Specification for Heat-Strengthened and Fully Tempered Flat Glass; 2018.

H. ASTM C1172 - Standard Specification for Laminated Architectural Flat Glass; 2019.

I. ASTM C1193 - Standard Guide for Use of Joint Sealants; 2016 (Reapproved 2023).

J. ASTM C1376 - Standard Specification for Pyrolytic and Vacuum Deposition Coatings on Flat Glass; 2021a.

K. ASTM E1300 - Standard Practice for Determining Load Resistance of Glass in Buildings; 2016.

L. ASTM E2190 - Standard Specification for Insulating Glass Unit Performance and Evaluation; 2019.

M. ASTM F1233 - Standard Test Method for Security Glazing Materials And Systems; 2021.


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N. ASTM F1642/F1642M - Standard Test Method for Glazing and Glazing Systems Subject to Airblast Loadings; 2017.

O. ASTM F1915 - Standard Test Methods for Glazing for Detention Facilities; 2005 (Reapproved 2019).

P. ASTM F2248 - Standard Practice for Specifying an Equivalent 3-Second Duration Design Loading for Blast Resistant Glazing Fabricated with Laminated Glass; 2019.

Q. GANA (SM) - GANA Sealant Manual; 2008.

R. NFRC 100 - Procedure for Determining Fenestration Product U-factors; 2023.

S. NFRC 200 - Procedure for Determining Fenestration Product Solar Heat Gain Coefficient and Visible Transmittance at Normal Incidence; 2023.

T. NFRC 300 - Test Method for Determining the Solar Optical Properties of Glazing Materials and Systems; 2023.

U. UFC 4-010-01 - DoD Minimum Antiterrorism Standards for Buildings; 2018, with Editorial Revision (2024).

V. UL 752 - Standard for Bullet-Resisting Equipment; Current Edition, Including All Revisions.

W. UL 972 - Standard for Burglary Resisting Glazing Material; Current Edition, Including All Revisions.

1.3 ADMINISTRATIVE REQUIREMENTS

A. Preinstallation Meeting: Convene a preinstallation meeting one week before starting work of this section; require attendance by each of the affected installers and the Architect.
   1. Verify glass types and locations are functionally correct for the project requirements.

1.4 SUBMITTALS

A. Product Data on Glazing Types: Provide structural, physical and environmental characteristics, size limitations, special handling and installation requirements.

B. Product Data on Glazing Compounds and Accessories: Provide chemical, functional, and environmental characteristics, limitations, special application requirements, and identify available colors.

C. Samples: Submit two samples 12 by 12 inch in size of glass units.

D. Samples: Submit 6 inch long bead of glazing sealant, color as selected.

E. Certificate: Certify that products of this section meet or exceed specified requirements.


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F. Manufacturer's Qualification Statement.

G. Installer's Qualification Statement

H. Warranty Documentation: Submit manufacturer warranty and ensure that forms have been completed in Owner's name and registered with manufacturer.

1.5 QUALITY ASSURANCE

A. Manufacturer Qualifications: Company specializing in manufacturing the products specified in this section with a minimum of ten years' experience.

B. Installer Qualifications: Company specializing in performing work of the type specified and with at least ten years' experience.

1.6 FIELD CONDITIONS

A. Do not install glazing when ambient temperature is less than 40 degrees F.

B. Maintain ambient temperature before, during, and 24 hours after installation of glazing compounds.

## PART 2 PRODUCTS

2.1 GLASS MATERIALS

A. Float Glass: Provide float glass based glazing unless otherwise indicated.
   1. Annealed Type: ASTM C1036, Type I - Transparent Flat, Class 1 - Clear, Quality - Q3.
   2. Kind HS - Heat-Strengthened Type: Complies with ASTM C1048.
   3. Kind FT - Fully Tempered Type: Complies with ASTM C1048.
   4. Fully Tempered Safety Glass: Complies with ANSI Z97.1 or 16 CFR 1201 criteria for safety glazing used in hazardous locations.
   5. Thicknesses: As indicated; provide greater thickness as required for exterior glazing wind load design.

B. Laminated Glass: Float glass laminated in accordance with ASTM C1172.
   1. Laminated Safety Glass: Complies with ANSI Z97.1 - Class B or 16 CFR 1201 - Category I impact test requirements.
   2. Polyvinyl Butyral (PVB) Interlayer: 0.030 inch thick, minimum.
   3. Ionoplast Interlayer: 0.035 inch thick, minimum.

2.2 GLAZING UNITS

A. Type M-1: Transparent One-Way Mirror: Mirror quality float glass with pyrolytic (hard coat) type coating located on high light level surface of glass: ASTM C1376.
   1. Applications: Locations as indicated on drawings


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2. Thickness: ¼ inch
3. Glass Tint: Grey
4. Glass Type: Annealed
5. Lighting Ratio: Maintain at least 8:1 lighting level ratio between coated side (bright-observed side) and uncoated side (dim-observer side).
6. Glazing Method: Gasket glazing
7. Manufacturers:
   a. Pilkington North America Inc.: Pilkington Mirropane Transparent Mirror
   b. Approved Equal

B. Type G-5 Monolithic Safety Glazing: Non-fire-rated
1. Applications:
   a. Glazed lites in doors, except fire doors.
   b. Glazed sidelights to doors, except in fire-rated walls and partitions
   c. Other locations required by applicable federal, state and local codes and regulations.
   d. Other locations indicated oln drawings.
2. Glass Type: Fully tempered float glass
3. Tint: Clear
4. Thickness: 1/4 inch, nominal
5. Glazing Method: Dry glazing method, gasket glazing

## 2.3 GLAZING COMPOUNDS

A. Type GC-5 - Silicone Sealant: Single component; neutral curing; capable of water immersion without loss of properties; non-bleeding, non-staining; ASTM C920 Type S, Grade NS, Class 25, Uses M, A, and G; with cured Shore A hardness range of 25 to 35; black color.

B. Manufacturers:
1. Dow Corning Corporation; 795: www.dowcorning.com/construction.
2. Momentive Performance Materials, Inc; SCS2700 SilPruf LM: www.momentive.com.
3. Pecora Corporation; 895: www.pecora.com.
4. Tremco Commercial Sealants & Waterproofing; Proglaze SSG: www.tremcosealants.com.
5. Substitutions: See Section 01 60 00 - Product Requirements.

## 2.4 ACCESSORIES

A. Setting Blocks: Silicone, with 80 to 90 Shore A durometer hardness; ASTM C864 Option II. Length of 0.1 inch for each square foot of glazing or minimum 4 inch by width of glazing rabbet space minus 1/16 inch by height to suit glazing method and pane weight and area.

B. Glazing Splines: Resilient silicone extruded shape to suit glazing channel retaining slot; ASTM C864 Option II; color black.


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## PART 3 EXECUTION

### 3.1 VERIFICATION OF CONDITIONS

A. Verify that openings for glazing are correctly sized and within tolerances, including those for size, squareness, and offsets at corners.

B. Verify that the minimum required face and edge clearances are being provided.

C. Verify that surfaces of glazing channels or recesses are clean, free of obstructions that may impede moisture movement, weeps are clear, and support framing is ready to receive glazing system.

D. Proceed with glazing system installation only after unsatisfactory conditions have been corrected.

### 3.2 PREPARATION

A. Clean contact surfaces with appropriate solvent and wipe dry within maximum of 24 hours before glazing. Remove coatings that are not tightly bonded to substrates.

B. Seal porous glazing channels or recesses with substrate compatible primer or sealer.

C. Prime surfaces scheduled to receive sealant where required for proper sealant adhesion.

### 3.3 INSTALLATION, GENERAL

A. Install glazing in compliance with written instructions of glass, gaskets, and other glazing material manufacturers, unless more stringent requirements are indicated, including those in glazing referenced standards.

B. Install glazing sealants in accordance with ASTM C1193, GANA (SM), and manufacturer's instructions.

C. Do not exceed edge pressures around perimeter of glass lites as stipulated by glass manufacturer.

D. Set glass lites of system with uniform pattern, draw, bow, and similar characteristics.

E. Set glass lites in proper orientation so that coatings face exterior or interior as indicated.

F. Prevent glass from contact with any contaminating substances that may be the result of construction operations such as, and not limited to the following; weld splatter, fire-safing, plastering, mortar droppings, etc.


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3.4 INSTALLATION - DRY GLAZING METHOD (GASKET GLAZING)

A. Application - Exterior and/or Interior Glazed: Set glazing infills from either the exterior or the interior of the building.

B. Place setting blocks at 1/4 points with edge block no more than 6 inch from corners.

C. Rest glazing on setting blocks and push against fixed stop with sufficient pressure on gasket to attain full contact.

D. Install removable stops without displacing glazing gasket; exert pressure for full continuous contact.

3.5 CLEANING

A. Remove excess glazing materials from finish surfaces immediately after application using solvents or cleaners recommended by manufacturers.

B. Remove nonpermanent labels immediately after glazing installation is complete.

C. Clean glass and adjacent surfaces after sealants are fully cured.

D. Clean glass on both exposed surfaces not more than 4 days prior to Date of Substantial Completion in accordance with glass manufacturer's written recommendations.

3.6 PROTECTION

A. After installation, mark pane with an 'X' by using removable plastic tape or paste; do not mark heat absorbing or reflective glass units.

B. Remove and replace glass that is damaged during construction period prior to Date of Substantial Completion.

END OF SECTION


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# SECTION 09 21 16 - GYPSUM BOARD ASSEMBLIES

## PART 1 GENERAL

1.1 SECTION INCLUDES

A. Performance criteria for gypsum board assemblies.

B. Acoustic insulation.

C. Gypsum board.

D. Joint treatment and accessories.

1.2 RELATED REQUIREMENTS

A. Section 07 92 00 - Joint Sealants: Sealing acoustical gaps in construction other than gypsum board or plaster work.

1.3 REFERENCE STANDARDS

A. AISI S220 - North American Standard for Cold-Formed Steel Nonstructural Framing; 2020.

B. AISI S240 - North American Standard for Cold-Formed Steel Structural Framing; 2015, with Errata (2020).

C. ASTM A36/A36M - Standard Specification for Carbon Structural Steel; 2019.

D. ASTM A653/A653M - Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process; 2020.

E. ASTM A1003/A1003M - Standard Specification for Steel Sheet, Carbon, Metallic- and Nonmetallic-Coated for Cold-Formed Framing Members; 2015.

F. ASTM C475/C475M - Standard Specification for Joint Compound and Joint Tape for Finishing Gypsum Board; 2017 (Reapproved 2022).

G. ASTM C514 - Standard Specification for Nails for the Application of Gypsum Board; 2004 (Reapproved 2020).

H. ASTM C635/C635M - Standard Specification for Manufacture, Performance, and Testing of Metal Suspension Systems for Acoustical Tile and Lay-in Panel Ceilings; 2022.

I. ASTM C665 - Standard Specification for Mineral-Fiber Blanket Thermal Insulation for Light Frame Construction and Manufactured Housing; 2017.


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J. ASTM C754 - Standard Specification for Installation of Steel Framing Members to Receive Screw-Attached Gypsum Panel Products; 2020.

K. ASTM C840 - Standard Specification for Application and Finishing of Gypsum Board; 2023.

L. ASTM C919 - Standard Practice for Use of Sealants in Acoustical Applications; 2022.

M. ASTM C954 - Standard Specification for Steel Drill Screws for the Application of Gypsum Panel Products or Metal Plaster Bases to Steel Studs from 0.033 in. (0.84 mm) to 0.112 in. (2.84 mm) in Thickness; 2022.

N. 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; 2022.

O. ASTM C1047 - Standard Specification for Accessories for Gypsum Wallboard and Gypsum Veneer Base; 2019.

P. ASTM C1178/C1178M - Standard Specification for Coated Glass Mat Water-Resistant Gypsum Backing Panel; 2018.

Q. ASTM C1278/C1278M - Standard Specification for Fiber-Reinforced Gypsum Panel; 2017.

R. ASTM C1396/C1396M - Standard Specification for Gypsum Board; 2017.

S. ASTM C1629/C1629M - Standard Classification for Abuse-Resistant Nondecorated Interior Gypsum Panel Products and Fiber-Reinforced Cement Panels; 2023.

T. ASTM C1658/C1658M - Standard Specification for Glass Mat Gypsum Panels; 2019, with Editorial Revision (2020).

U. ASTM D3273 - Standard Test Method for Resistance to Growth of Mold on the Surface of Interior Coatings in an Environmental Chamber; 2021.

V. ASTM E814 - Standard Test Method for Fire Tests of Penetration Firestop Systems; 2013a (Reapproved 2017).

W. ASTM E935 - Standard Test Methods for Performance of Permanent Metal Railing Systems and Rails for Buildings; 2021.

X. ASTM E84 - Standard Test Method for Surface Burning Characteristics of Building Materials; 2022.

Y. ASTM E119 - Standard Test Methods for Fire Tests of Building Construction and Materials; 2020.

Z. GA-216 - Application and Finishing of Gypsum Panel Products; 2024.

AA. UL (FRD) - Fire Resistance Directory; Current Edition.


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1.4 SUBMITTALS

A. See Section 01 30 00 - Administrative Requirements for submittal procedures.

B. Product Data:

C. Test Reports: For stud framing products that do not comply with AISI S220 or ASTM C754, provide independent laboratory reports showing maximum stud heights at required spacings and deflections.

## PART 2 PRODUCTS

2.1 GYPSUM BOARD ASSEMBLIES

A. Provide completed assemblies complying with ASTM C840 and GA-216.

B. Fire-Resistance-Rated Assemblies: Provide completed assemblies complying with applicable code and UL assemblies indicated on drawings
   1. UL Assembly Numbers: Provide construction equivalent to that listed for the particular assembly in the current UL (FRD).

2.2 METAL FRAMING MATERIALS

A. Steel Sheet: ASTM A1003/A1003M, subject to the ductility limitations indicated in AISI S240.

B. Ceiling Suspension System: System manufactured in accordance with ASTM C635/C635M.

C. Area Separation Wall Studs and Accessories: AISI S220; galvanized sheet steel, of size and properties necessary to comply with specified performance requirements.

D. Non-structural Framing Accessories:
   1. Partial Height Wall Framing Support: Provides stud reinforcement and anchored connection to floor.
      a. Materials: ASTM A36/A36M formed sheet steel support member with factory-welded ASTM A1003/A1003M steel plate base.
      b. Design assembly at guardrails and reception desks to resist the following forces applied to the top of the assembly and in any direction, without damage or permanent set:
         1) Distributed Loads: 75 pounds per linear foot.
         2) Concentrated Loads: 200 pounds.
      c. Products:
         1) ClarkDietrich; Pony Wall (PW): www.clarkdietrich.com.
         2) The Steel Network; MidWall: www.steelnetwork.com.
         3) Substitutions: See Section 01 60 00 - Product Requirements.


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2. Framing Connectors: ASTM A653/A653M G90 galvanized steel clips; secures cold rolled channel to wall studs for lateral bracing.
3. Metal Backing: ASTM A653/A653M G90 galvanized steel.
   a. Provide framing and backing members as indicated or as required to support finishes, fixtures, specialty items, and trim.
   b. In walls, provide backing attached to studs as backing and support for wall-mounted items, unless item can be securely fastened to two or more studs or other method of support is explicitly indicated.
   c. Where ceiling-mounting is indicated, provide backing and supplementary supports above ceiling, unless other method of support is explicitly indicated.
4. Flexible Wood Backing: Fire-retardant-treated wood with sheet steel connectors.

E. Grid Suspension Systems: Steel grid system of main tees and support bars connected to structure using hanging wire.

2.3 BOARD MATERIALS

A. Gypsum Wallboard: Paper-faced gypsum panels as defined in ASTM C1396/C1396M; sizes to minimize joints in place; ends square cut.
   1. Application: Use for vertical surfaces and ceilings, unless otherwise indicated.
   2. Glass mat faced gypsum panels, as defined in ASTM C1658/C1658M, suitable for paint finish, of the same core type and thickness may be substituted for paper-faced board.
      a. Glass mat faced gypsum panels are required wherever board is installed before building is enclosed and conditioned.
   3. Unfaced fiber-reinforced gypsum panels as defined in ASTM C1278/C1278M, suitable for paint finish, of the same core type and thickness may be substituted for paper-faced board.
   4. At Assemblies Indicated with Fire-Resistance Rating: Use type required by indicated tested assembly; if no tested assembly is indicated, use Type X board, UL or WH listed.
   5. Thickness:
      a. Vertical Surfaces: 5/8 inch.
      b. Ceilings: 5/8 inch.

B. Backing Board For Tiled Areas:
   1. Application: Surfaces behind tile in wet areas including toilet and locker rooms, and kitchen backsplashes.

C. Exterior Soffit Board: Exterior gypsum soffit board as defined in ASTM C1396/C1396M; sizes to minimize joints in place; ends square cut.
   1. Application: Ceilings and soffits in protected exterior areas, unless otherwise indicated.
   2. Edges: Tapered.

2.4 GYPSUM BOARD ACCESSORIES

A. Acoustic Insulation: ASTM C665; preformed mineral-fiber, friction fit type, unfaced; thickness as required for STC.


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B. Acoustic Firestop: Moldable acoustic silicone pad, 1/8 inch thick, complying with ASTM E814, ASTM E119, and ASTM C919.
   1. Products:
      a. 3M Fire Protection Products; Fire Barrier Moldable Putty Pads MPP+ : www.3m.com/firestop.
      b. Rectorseal, a CSW Industrials Company; Metacaulk Putty and Pads : www.metacaulk.com.
      c. Everkem Diversified Products, Inc; Intumescent Fire-Rated Putty Pads : www.everkemproducts.com.
      d. Hilti, Inc; CP 617 Firestop Putty Pad: www.us.hilti.com.
      e. HoldRite, a Brand of Reliance Worldwide Corporation; HydroFlame Firestop Putty Pad: www.holdrite.com.
      f. Nelson FireStop Products; Firestop Fire Protective Putty (FSP) : www.nelsonfirestop.com.
      g. Passive Fire Protection Partners; MP1 - Putty Pads: www.firestop.com.
      h. Specified Technologies Inc; SpecSeal SSP Putty & Putty Pads: www.stifirestop.com.
      i. Tremco Commercial Sealants & Waterproofing; TREMstop MP : www.tremcosealants.com.
      j. Substitutions: See Section 01 60 00 - Product Requirements.

C. Mullion Trim Cap: Sound barrier mullion trim caps of aluminum and sound absorbing foam, capable of accommodating variations in adjacent surfaces.
   1. Fasteners: Concealed.
   2. Sound Transmission: STC 55.
   3. Surface Burning Characteristics: Flame spread/Smoke developed index of 25/50, maximum, when tested in accordance with ASTM E84.
   4. Finish: Anodized, natural.
   5. Products:
      a. MULL-it-OVER Products; Mullion Trim Cap: www.mullitoverproducts.com.
      b. Substitutions: See Section 01 60 00 - Product Requirements.

D. Beads, Joint Accessories, and Other Trim: ASTM C1047, galvanized steel or rolled zinc, unless noted otherwise.
   1. Types: As indicated on drawings or required for finished appearance.

E. Joint Materials: ASTM C475/C475M and as recommended by gypsum board manufacturer for project conditions.
   1. Paper Tape: 2 inch wide, creased paper tape for joints and corners, except as otherwise indicated.
   2. Joint Compound: Drying type, vinyl-based, ready-mixed.

F. Finishing Compound: Surface coat and primer, takes the place of skim coating.

G. High Build Drywall Surfacer: Vinyl acrylic latex-based coating for spray application, designed to take the place of skim coating and separate paint primer in achieving Level 5 finish.


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H. Screws for Fastening of Gypsum Panel Products to Cold-Formed Steel Studs Less than 0.033 inches in Thickness and Wood Members: ASTM C1002; self-piercing tapping screws, corrosion-resistant.

I. Screws for Fastening of Gypsum Panel Products to Steel Members from 0.033 to 0.112 inch in Thickness: ASTM C954; steel drill screws, corrosion-resistant.

J. Nails for Attachment to Wood Members: ASTM C514.

## PART 3 EXECUTION

### 3.1 EXAMINATION

A. Verify that project conditions are appropriate for work of this section to commence.

### 3.2 ACOUSTIC ACCESSORIES INSTALLATION

A. Acoustic Insulation: Place tightly within spaces, around cut openings, behind and around electrical and mechanical items within partitions, and tight to items passing through partitions.

B. Acoustic Sealant: Install in accordance with manufacturer's instructions.
   1. Place one bead continuously on substrate before installation of perimeter framing members.
   2. Place continuous bead at perimeter of each layer of gypsum board.
   3. Seal around all penetrations by conduit, pipe, ducts, and rough-in boxes, except where firestopping is provided.

C. Acoustic Firestop: Wrap pads around electrical boxes, cutting as required to fit around wires, before concealing or enclosing.

### 3.3 BOARD INSTALLATION

A. Comply with ASTM C840, GA-216, and manufacturer's instructions. Install to minimize butt end joints, especially in highly visible locations.

B. Single-Layer Nonrated: Install gypsum board in most economical direction, with ends and edges occurring over firm bearing.
   1. Exception: Tapered edges to receive joint treatment at right angles to framing.

C. Fire-Resistance-Rated Construction: Install gypsum board in strict compliance with requirements of assembly listing.

D. Exposed Gypsum Board in Interior Wet Areas: Seal joints, cut edges, and holes with water-resistant sealant.


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E. Exterior Soffits: Install exterior soffit board perpendicular to framing, with staggered end joints over framing members or other solid backing.

F. Installation on Metal Framing: Use screws for attachment of gypsum board except face layer of nonrated double-layer assemblies, which may be installed by means of adhesive lamination.

G. Installation on Wood Framing: For rated assemblies, comply with requirements of listing authority. For nonrated assemblies, install as follows:
   1. Single-Layer Applications: Screw attachment.

H. Replace gypsum board that directly or indirectly has been damaged by exposure to moisture or mold.

3.4 INSTALLATION OF TRIM AND ACCESSORIES

A. Control Joints: Place control joints consistent with lines of building spaces and as follows:
   1. Not more than 30 feet apart on walls, soffits, and ceilings over 50 feet long or more than 900 square feet in area.
   2. Where a control joint occurs in a fire or an acoustically rated assembly, provide gypsum blocking behind the joint.

B. Corner Beads: Install at external corners, using longest practical lengths.

C. Edge Trim: Install at locations where gypsum board abuts dissimilar materials.

3.5 JOINT TREATMENT

A. Glass Mat Faced Gypsum Board and Exterior Glass Mat Faced Sheathing: Use fiberglass joint tape, embed and finish with setting type joint compound.

B. Paper Faced Gypsum Board: Use paper joint tape, embed with drying type joint compound and finish with drying type joint compound.

C. Finish gypsum board in accordance with levels defined in ASTM C840, as follows:
   1. Level 5: Walls and ceilings to receive semi-gloss or gloss paint finish and other areas specifically indicated.
   2. Level 4: Walls and ceilings to receive paint finish or wall coverings, unless otherwise indicated.
   3. Level 2: In utility areas, behind cabinetry, and on backing board to receive tile finish.
   4. Level 1: Fire-resistance-rated wall areas above finished ceilings, whether or not accessible in the completed construction.
   5. Level 0: Temporary partitions.

D. Tape, fill, and sand exposed joints, edges, and corners to produce smooth surface ready to receive finishes.
   1. Feather coats of joint compound so that camber is maximum 1/32 inch.


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2. Taping, filling, and sanding is not required at surfaces behind adhesive applied ceramic tile.

E. Where Level 5 finish is indicated, spray apply high build drywall surfacer over entire surface after joints have been properly treated; achieve a flat and tool mark-free finish.

3.6 TOLERANCES

A. Maximum Variation of Finished Gypsum Board Surface from True Flatness: 1/8 inch in 10 feet in any direction.

END OF SECTION


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# SECTION 09 51 00 - ACOUSTICAL CEILINGS

## PART 1 GENERAL

1.1 SECTION INCLUDES

A. Suspended metal grid ceiling system.

B. Acoustical units.

1.2 REFERENCE STANDARDS

A. ASTM C635/C635M - Standard Specification for Manufacture, Performance, and Testing of Metal Suspension Systems for Acoustical Tile and Lay-in Panel Ceilings; 2022.

B. ASTM C636/C636M - Standard Practice for Installation of Metal Ceiling Suspension Systems for Acoustical Tile and Lay-In Panels; 2013.

C. ASTM E580/E580M - Standard Practice for Installation of Ceiling Suspension Systems for Acoustical Tile and Lay-in Panels in Areas Subject to Earthquake Ground Motions; 2020.

D. ASTM E1264 - Standard Classification for Acoustical Ceiling Products; 2023.

1.3 ADMINISTRATIVE REQUIREMENTS

A. Sequence 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.

B. Do not install acoustical units until after interior wet work is dry.

1.4 SUBMITTALS

A. See Section 01 30 00 - Administrative Requirements for submittal procedures.

B. Product Data: Provide data on suspension system components and acoustical units.

C. Samples: Submit two samples 4 by 4 inch in size illustrating material and finish of acoustical units.

D. Samples: Submit two samples each, 12 inches long, of suspension system main runner, cross runner, and perimeter molding.

E. Manufacturer's Installation Instructions: Indicate special procedures and perimeter conditions requiring special attention.


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F. Maintenance Materials: Furnish the following for Owner's use in maintenance of project.
   1. See Section 01 60 00 - Product Requirements, for additional provisions.
   2. Extra Acoustical Units: Quantity equal to 5 percent of total installed.

1.5 FIELD CONDITIONS

A. Maintain uniform temperature of minimum 60 degrees F, and maximum humidity of 40 percent prior to, during, and after acoustical unit installation.

## PART 2 PRODUCTS

2.1 MANUFACTURERS

A. Acoustic Tiles/Panels:
   1. Armstrong World Industries, Inc: www.armstrong.com.
   2. CertainTeed Corporation: www.certainteed.com/ceilings-and-walls.
   3. USG Corporation: www.usg.com.

B. Suspension Systems:
   1. Same as for acoustical units.
   2. Substitutions: See Section 01 60 00 - Product Requirements.

2.2 ACOUSTICAL UNITS

A. Acoustical Units - General: ASTM E1264, Class A.

B. Acoustical Panels Type AP-1:
   1. Size: 24 by 24 inches.
   2. Thickness: 1 inches.
   3. Edge: Square Tegular.
   4. Surface Color: White.
   5. Surface Pattern: Smooth textured.
   6. Suspension System: Exposed grid Type W.
   7. Products:
      a. Armstrong Lyra PB.

2.3 SUSPENSION SYSTEM(S)

A. Metal Suspension Systems - General: Complying with ASTM C635/C635M; die cut and interlocking components, with perimeter moldings, hold down clips, stabilizer bars, clips, and splices as required.

B. Exposed Steel Suspension System Type W: Formed steel, commercial quality cold rolled; intermediate-duty.
   1. Profile: Tee; 15/16 inch wide face.


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2. Construction: Double web.
3. Finish: White painted.

2.4 ACCESSORIES

A. Support Channels and Hangers: Galvanized steel; size and type to suit application and ceiling system flatness requirement specified.

B. Hanger Wire: 12 gauge, 0.08 inch galvanized steel wire.

C. Perimeter Moldings: Same metal and finish as grid.

D. Metal Edge Trim for "Cloud" Suspension Systems: Steel or extruded aluminum; provide attachment clips, splice plates, and preformed corner pieces for complete trim system.
1. Finish: Baked enamel.
2. Color: White.
3. Products:
a. Armstrong World Industries, Inc; Axiom: www.armstrong.com.
b. CertainTeed Corporation; Cloud Permeter Trim: www.certainteed.com.
c. USG Corporation; Compasso Suspension Trim: www.usg.com/ceilings.
d. Substitutions: See Section 01 60 00 - Product Requirements.

E. Touch-up Paint: Type and color to match acoustical and grid units.

## PART 3 EXECUTION

3.1 EXAMINATION

A. Verify existing conditions before starting work.

B. Verify that layout of hangers will not interfere with other work.

3.2 PREPARATION

A. Install after major above-ceiling work is complete.

B. Coordinate the location of hangers with other work.

C. Provide hanger clips during steel deck erection. Provide additional hangers and inserts as required.

3.3 INSTALLATION - SUSPENSION SYSTEM

A. Install suspension system in accordance with ASTM C636/C636M, ASTM E580/E580M, and manufacturer's instructions and as supplemented in this section.


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B. Rigidly secure system, including integral mechanical and electrical components, for maximum deflection of 1:360.

C. Perimeter Molding: Install at intersection of ceiling and vertical surfaces and at junctions with other interruptions.
   1. Use longest practical lengths.

D. Suspension System, Non-Seismic: Hang suspension system independent of walls, columns, ducts, pipes and conduit. Where carrying members are spliced, avoid visible displacement of face plane of adjacent members.

E. Where ducts or other equipment prevent the regular spacing of hangers, reinforce the nearest affected hangers and related carrying channels to span the extra distance.

F. Do not support components on main runners or cross runners if weight causes total dead load to exceed deflection capability.

G. Support fixture loads using supplementary hangers located within 6 inches of each corner, or support components independently.

H. Do not eccentrically load system or induce rotation of runners.

3.4 INSTALLATION - ACOUSTICAL UNITS

A. Install acoustical units in accordance with manufacturer's instructions.

B. Fit acoustical units in place, free from damaged edges or other defects detrimental to appearance and function.

C. Fit border trim neatly against abutting surfaces.

D. Install acoustical units level, in uniform plane, and free from twist, warp, and dents.

E. Cutting Acoustical Units:
   1. Cut to fit irregular grid and perimeter edge trim.
   2. Make field cut edges of same profile as factory edges.
   3. Double cut and field paint exposed reveal edges.

F. Where round obstructions occur, provide preformed closures to match perimeter molding.

G. Install hold-down clips on panels within 20 ft of an exterior door.

3.5 TOLERANCES

A. Maximum Variation from Flat and Level Surface: 1/8 inch in 10 feet.


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B. Maximum Variation from Plumb of Grid Members Caused by Eccentric Loads: 2 degrees.

END OF SECTION


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# SECTION 09 65 00 - RESILIENT FLOORING

## PART 1 GENERAL

1.1 SECTION INCLUDES

A. Resilient sheet flooring.

B. Resilient tile flooring.

C. Resilient base.

D. Installation accessories.

1.2 RELATED REQUIREMENTS

A. Section 03 30 00 - Cast-in-Place Concrete: Restrictions on curing compounds for concrete slabs and floors to receive adhesive-applied resilient flooring.

B. Section 09 05 61 - Common Work Results for Flooring Preparation: Removal of existing floor coverings, cleaning, and preparation.

C. Section 09 05 61 - Common Work Results for Flooring Preparation: Concrete slab moisture and alkalinity testing and remediation procedures.

D. Section 26 05 26 - Grounding and Bonding for Electrical Systems: Grounding and bonding of static control flooring to building grounding system.

1.3 REFERENCE STANDARDS

A. ASTM E648 - Standard Test Method for Critical Radiant Flux of Floor-Covering Systems Using a Radiant Heat Energy Source; 2019a, with Editorial Revision (2020).

B. ASTM F1700 - Standard Specification for Solid Vinyl Floor Tile; 2020.

C. ASTM F1861 - Standard Specification for Resilient Wall Base; 2021.

D. ASTM F2034 - Standard Specification for Sheet Linoleum Floor Covering; 2018.

E. NFPA 253 - Standard Method of Test for Critical Radiant Flux of Floor Covering Systems Using a Radiant Heat Energy Source; 2019.

1.4 SUBMITTALS

A. See Section 01 30 00 - Administrative Requirements for submittal procedures.


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B. Product Data: Provide data on specified products, describing physical and performance characteristics; including sizes, patterns and colors available; and installation instructions.

C. Verification Samples: Submit two samples, 12 by 12 inch in size illustrating color and pattern for each resilient flooring product specified.

D. Maintenance Data: Include maintenance procedures, recommended maintenance materials, and suggested schedule for cleaning, stripping, and re-waxing.

E. Maintenance Materials: Furnish the following for Owner's use in maintenance of project.
   1. See Section 01 60 00 - Product Requirements, for additional provisions.
   2. Extra Flooring Material: Quantity equivalent to 5 percent of each type and color.
   3. Extra Wall Base: Quantity equivalent to 5 percent of each type and color.

1.5 DELIVERY, STORAGE, AND HANDLING

A. Upon receipt, immediately remove any shrink-wrap and check materials for damage and the correct style, color, quantity and run numbers.

B. Store all materials off of the floor in an acclimatized, weather-tight space.

C. Maintain temperature in storage area between 55 degrees F and 90 degrees F.

1.6 FIELD CONDITIONS

A. Store materials for not less than 48 hours prior to installation in area of installation at a temperature of 70 degrees F to achieve temperature stability. Thereafter, maintain conditions above 55 degrees F.

## PART 2 PRODUCTS

2.1 TILE FLOORING

A. Vinyl Tile - Type VCT: Printed film type, with transparent or translucent wear layer.
   1. Manufacturers:
      a. As indicated on drawings.
      b. Substitutions: See Section 01 60 00 - Product Requirements.
   2. Minimum Requirements: Comply with ASTM F1700, of Class corresponding to type specified.
   3. Critical Radiant Flux (CRF): Minimum 0.22 watt per square centimeter, when tested in accordance with ASTM E648 or NFPA 253.
   4. Wear Layer Thickness: 0.020 inch.
   5. Total Thickness: 0.125 inch.
   6. Color: As indicated on drawings.


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2.2 RESILIENT BASE

A. Resilient Base: ASTM F1861, Type TS rubber, vulcanized thermoset; Style B, Cove.
   1. Manufacturers:
      a. As indicated on drawings.
      b. Substitutions: See Section 01 60 00 - Product Requirements.
   2. Critical Radiant Flux (CRF): Minimum 0.22 watt per square centimeter, when tested in accordance with ASTM E648 or NFPA 253.
   3. Height: 4 inch.
   4. Thickness: 0.125 inch.
   5. Finish: Satin.
   6. Length: Roll.
   7. Color: As indicated on drawings.

2.3 ACCESSORIES

A. Subfloor Filler: White premix latex; type recommended by adhesive material manufacturer.

B. Primers, Adhesives, and Seam Sealer: Waterproof; types recommended by flooring manufacturer.

C. Moldings, Transition and Edge Strips: Same material as flooring.

D. Filler for Coved Base: Plastic.

E. Sealer and Wax: Types recommended by flooring manufacturer.

## PART 3 EXECUTION

3.1 EXAMINATION

A. Verify that surfaces are flat to tolerances acceptable to flooring manufacturer, free of cracks that might telegraph through flooring, clean, dry, and free of curing compounds, surface hardeners, and other chemicals that might interfere with bonding of flooring to substrate.

B. Verify that wall surfaces are smooth and flat within the tolerances specified for that type of work, are dust-free, and are ready to receive resilient base.

C. Cementitious Subfloor Surfaces: Verify that substrates are ready for resilient flooring installation by testing for moisture and alkalinity (pH).
   1. Test in accordance with Section 09 05 61.
   2. Obtain instructions if test results are not within limits recommended by resilient flooring manufacturer and adhesive materials manufacturer.
   3. Follow moisture and alkalinity remediation procedures in Section 09 05 61.


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3.2 PREPARATION

A. Prepare floor substrates for installation of flooring in accordance with Section 09 05 61.

3.3 INSTALLATION - GENERAL

A. Starting installation constitutes acceptance of subfloor conditions.

B. Install in accordance with manufacturer's written instructions.

C. Adhesive-Applied Installation:
   1. Place copper grounding strip in conductive adhesive and apply additional adhesive to top side of strip before installing static control flooring. Allow strip to extend beyond flooring in accordance with static control flooring manufacturer's instructions. Refer to Section 26 05 26 for grounding and bonding to building grounding system.
   2. Fit joints and butt seams tightly.
   3. Set flooring in place, press with heavy roller to attain full adhesion.

D. Loose-Laid Installation: Set flooring in place in accordance with manufacturer's instructions.

E. Where type of floor finish, pattern, or color are different on opposite sides of door, terminate flooring under centerline of door.

F. Install edge strips at unprotected or exposed edges, where flooring terminates, and where indicated.

G. Scribe flooring to walls, columns, cabinets, floor outlets, and other appurtenances to produce tight joints.

H. Install flooring in recessed floor access covers, maintaining floor pattern.

3.4 INSTALLATION - SHEET FLOORING

A. Lay flooring with joints and seams parallel to longer room dimensions, to produce minimum number of seams. Lay out seams to avoid widths less than 1/3 of roll width; match patterns at seams.

B. Chemically bond seams using seam sealer where indicated on drawings.

3.5 INSTALLATION - TILE FLOORING

A. Mix tile from container to ensure shade variations are consistent when tile is placed, unless otherwise indicated in manufacturer's installation instructions.

B. Lay flooring with joints and seams parallel to building lines to produce symmetrical pattern.


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C. Install square tile to basket weave pattern. Allow minimum 1/2 full size tile width at room or area perimeter.

D. Install loose-laid tile, fit interlocking edges tightly.

E. Install plank tile with a random offset of at least 6 inches from adjacent rows.

3.6 INSTALLATION - RESILIENT BASE

A. Fit joints tightly and make vertical. Maintain minimum dimension of 18 inches between joints.

B. Miter internal corners. At external corners, 'V' cut back of base strip to 2/3 of its thickness and fold. At exposed ends, use premolded units.

C. Install base on solid backing. Bond tightly to wall and floor surfaces.

D. Scribe and fit to door frames and other interruptions.

3.7 CLEANING

A. Remove excess adhesive from floor, base, and wall surfaces without damage.

B. Clean, seal, and wax in accordance with manufacturer's written instructions.

3.8 PROTECTION

A. Prohibit traffic on resilient flooring for 48 hours after installation.

END OF SECTION


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# SECTION 09 68 13 - TILE CARPETING

## PART 1 GENERAL

1.1 SECTION INCLUDES

A. Carpet tile, fully adhered.

1.2 RELATED REQUIREMENTS

A. Section 09 05 61 - Common Work Results for Flooring Preparation: Removal of existing floor coverings, cleaning, and preparation.

B. Section 09 05 61 - Common Work Results for Flooring Preparation: Concrete slab moisture and alkalinity testing and remediation procedures.

1.3 REFERENCE STANDARDS

A. ASTM E648 - Standard Test Method for Critical Radiant Flux of Floor-Covering Systems Using a Radiant Heat Energy Source; 2019a, with Editorial Revision (2020).

B. NFPA 253 - Standard Method of Test for Critical Radiant Flux of Floor Covering Systems Using a Radiant Heat Energy Source; 2019.

1.4 SUBMITTALS

A. See Section 01 30 00 - Administrative Requirements, for submittal procedures.

B. Product Data: Provide data on specified products, describing physical and performance characteristics; sizes, patterns, colors available, and method of installation.

C. Samples: Submit two carpet tiles illustrating color and pattern design for each carpet color selected.

D. Manufacturer's Installation Instructions: Indicate special procedures and perimeter conditions requiring special attention.

E. Operation and Maintenance Data: Include maintenance procedures, recommended maintenance materials, and suggested schedule for cleaning.

F. Maintenance Materials: Furnish the following for Owner's use in maintenance of project.
   1. See Section 01 60 00 - Product Requirements, for additional provisions.
   2. Extra Carpet Tiles: Quantity equal to 5 percent of total installed of each color and pattern installed.


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1.5 QUALITY ASSURANCE

A. Manufacturer Qualifications: Company specializing in manufacturing specified carpet tile with minimum three years documented experience.

B. Installer Qualifications: Company specializing in installing carpet tile with minimum three years documented experience and approved by carpet tile manufacturer.

1.6 FIELD CONDITIONS

A. Store materials in area of installation for minimum period of 24 hours prior to installation.

## PART 2 PRODUCTS

2.1 MATERIALS

A. Tile Carpeting: Tufted, manufactured in one color dye lot.
   1. Product: As indicated on drawings.
   2. Critical Radiant Flux: Minimum of 0.22 watts/sq cm, when tested in accordance with ASTM E648 or NFPA 253.
   3. Yarn: Nylon.
   4. Primary Backing Material: Polypropylene.
   5. Secondary Backing Material: Fiberglass reinforced thermoplastic.

2.2 ACCESSORIES

A. Subfloor Filler: White premix latex; type recommended by flooring material manufacturer.

B. Edge Strips: Rubber, color as selected by Architect.

C. Adhesives:
   1. Compatible with materials being adhered; maximum VOC content of 50 g/L; CRI (GLP) certified; in lieu of labeled product, independent test report showing compliance is acceptable.

D. Carpet Tile Adhesive: Recommended by carpet tile manufacturer; releasable type.

## PART 3 EXECUTION

3.1 EXAMINATION

A. Verify that subfloor surfaces are smooth and flat within tolerances specified for that type of work and are ready to receive carpet tile.


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B. Verify that subfloor surfaces are dust-free and free of substances that could impair bonding of adhesive materials to subfloor surfaces.

C. Cementitious Subfloor Surfaces: Verify that substrates are ready for flooring installation by testing for moisture and alkalinity (pH).
   1. Test in accordance with Section 09 05 61.
   2. Obtain instructions if test results are not within limits recommended by flooring material manufacturer and adhesive materials manufacturer.
   3. Follow moisture and alkalinity remediation procedures in Section 09 05 61.

3.2 PREPARATION

A. Remove subfloor ridges and bumps. Fill minor or local low spots, cracks, joints, holes, and other defects with subfloor filler.

B. Apply, trowel, and float filler to achieve smooth, flat, hard surface. Prohibit traffic until filler is cured.

C. Vacuum clean substrate.

3.3 INSTALLATION

A. Starting installation constitutes acceptance of subfloor conditions.

B. Install carpet tile in accordance with manufacturer's instructions.

C. Blend carpet from different cartons to ensure minimal variation in color match.

D. Cut carpet tile clean. Fit carpet tight to intersection with vertical surfaces without gaps.

E. Lay carpet tile in square pattern, with pile direction parallel to next unit, set parallel to building lines.

F. Locate change of color or pattern between rooms under door centerline.

G. Fully adhere carpet tile to substrate.

H. Trim carpet tile neatly at walls and around interruptions.

I. Complete installation of edge strips, concealing exposed edges.

3.4 CLEANING

A. Remove excess adhesive without damage, from floor, base, and wall surfaces.


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B. Clean and vacuum carpet surfaces.

END OF SECTION


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# SECTION 09 91 13 - EXTERIOR PAINTING AND COATING

## PART 1 GENERAL

### 1.1 SECTION INCLUDES

A. Surface preparation.

B. Field application of paints.

C. Scope: Prepare and apply sealers, primers, paint and finishes on exterior wall surfaces as identified on the drawings

D. Do Not Paint or Finish the Following Items:
1. Metal window frames and frame-to-glass sealants.
2. Bricks on the front of the building.
3. Mortar joints between brick units.
4. Items factory-finished unless otherwise indicated.

### 1.2 RELATED REQUIREMENTS

A. Section 09 91 23 - Interior Painting.

### 1.3 REFERENCE STANDARDS

A. 40 CFR 59, Subpart D - National Volatile Organic Compound Emission Standards for Architectural Coatings; U.S. Environmental Protection Agency; Current Edition.

B. ASTM D4258 - Standard Practice for Surface Cleaning Concrete for Coating; 2023.

### 1.4 SUBMITTALS

A. See Section 01 30 00 - Administrative Requirements, for submittal procedures.

B. Product Data: Submit for approval the complete list of products to be used, with the following information for each:
1. Manufacturer's name, product name and/or catalog number, and general product category.
2. Cross-reference to specified paint and sealant system(s) product is to be used in; include description of each system.

C. Colors and Color Matching:
1. Do color matching for all the materials to be used on this exterior project.
2. Color mixing must be done at a facility controlled by the manufacturer. On-site mixing is not acceptable because of the difficulty of getting consistent results.


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3. Do color matching early in the project to allow ample time for submission and evaluation of the color matching.
4. The original (as it exists now) color scheme will be followed with colors matched to the existing colors. Where multiple colors were used originally on a single surface, the pattern should be reproduced.
5. Where the current surface is unpainted (the Parged Concrete surfaces), match the color to the color immediately above.
6. Where two different colors meet on a wall, provide means to mask the transition so that color change lines are sharp and accurate. Prepare a mockup of a typical color change masking situation. Prepare the mockup to show a masked color change on a Split Face CMU area.

D. Color Matched Samples: Submit three paper "draw down" samples, 8-1/2 by 11 inches in size, on heavy paper stock illustrating the range of colors selected for each finishing product specified.
1. Where sheen is specified, submit samples in only that sheen.
2. Where sheen is not specified, submit each color in each sheen available.

E. Manufacturer's Instructions: Indicate any special surface preparation procedures.

F. Maintenance Data: Submit data including finish schedule showing where each product/color/finish was used, product technical data sheets, material safety data sheets (MSDS), care and cleaning instructions, touch-up procedures, repair of painted and finished surfaces, and color samples of each color and finish used.

G. Maintenance Materials: Furnish the following for Owner's use in maintenance of project.
1. Extra Paint and Finish Materials: 1 gallon of each color and type; from the same product run and facility.
2. Label each container with type of paint, color identifier and application site(s) in addition to the manufacturer's label.

1.5 QUALITY ASSURANCE

A. Applicator Qualifications: Company specializing in performing the type of work specified with minimum five years experience.

1.6 DELIVERY, STORAGE, AND HANDLING

A. Deliver products to site in sealed and labeled containers; inspect to verify acceptability.

B. Container Label: Include manufacturer's name, type of paint, brand name, lot number, brand code, coverage, surface preparation, drying time, cleanup requirements, color designation, and instructions for mixing and reducing.

C. Paint and Sealant Materials: Store at minimum ambient temperature of 45 degrees F and a maximum of 90 degrees F, in ventilated area, and as required by manufacturer's instructions.


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Do not allow the paint to freeze at any time. Dispose of any paint that has been frozen or partially frozen on any occasion.

1.7 FIELD CONDITIONS

A. Do not apply materials when surface and ambient temperatures are outside the paint product manufacturer's temperature ranges.

B. Follow manufacturer's recommended procedures for producing best results, including testing of substrates, moisture in substrates, and humidity and temperature limitations.

C. Do not apply exterior paint and finishes during rain or snow, or when relative humidity is outside the humidity ranges required by the paint product manufacturer.

D. Minimum Application Temperatures for Latex Paints: 50 degrees F for exterior; unless required otherwise by manufacturer's instructions.

## PART 2 PRODUCTS

2.1 MANUFACTURERS

A. Provide paints and finishes used in any individual system from the same manufacturer; no exceptions.

B. Paints:
1. Sherwin-Williams Company: www.sherwin-williams.com. or
2. other paint manufacturer/supplier that can supply the same paint and sealant formulations as that produced by the Sherwin-Williams

C. Primers, Sealers and Fillers: Same manufacturer as top coats.

2.2 PAINTS AND FINISHES - GENERAL

A. Paints and Finishes: Ready-mixed, unless required to be a field-catalyzed paint.
1. Provide paints and finishes of a soft paste consistency, capable of being readily and uniformly dispersed to a homogeneous coating, with good flow and brushing properties, and capable of drying or curing free of streaks or sags.
2. Provide materials that are compatible with one another and the substrates indicated under conditions of service and application, as demonstrated by manufacturer based on testing and field experience.
3. For opaque finishes, tint each coat including primer coat and intermediate coats, one-half shade lighter than succeeding coat, with final finish coat as base color.
4. Do not reduce, thin, or dilute paint or finishes or add materials unless such procedure is described explicitly in manufacturer's product instructions.

B. Volatile Organic Compound (VOC) Content:


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1. Provide paints and finishes that comply with the most stringent requirements specified in the following:
   a. 40 CFR 59, Subpart D--National Volatile Organic Compound Emission Standards for Architectural Coatings.
   b. Ozone Transport Commission (OTC) Model Rule, Architectural, Industrial, and Maintenance Coatings; www.otcair.org; specifically:
      1) Opaque, Flat: 50 g/L, maximum.
      2) Opaque, Nonflat: 150 g/L, maximum.
      3) Opaque, High Gloss: 250 g/L, maximum.
2. Determination of VOC Content: Testing and calculation in accordance with 40 CFR 59, Subpart D (EPA Method 24), exclusive of colorants added to a tint base and water added at project site; or other method acceptable to authorities having jurisdiction.

2.3 PAINT SYSTEMS - EXTERIOR

A. BRICK
1. Exposed brick on the front of the building will not be coated but will only be repointed.

B. EIFS
1. Clean Surface
   a. Use detergent cleaning solution and pressure wash.
2. Surface Preparation
   a. Fill large cracks with sealant (1/8” or more)
   b. Fill small cracks (less than 1/8”) with paint during painting process
3. Primer Coat(s): Exterior 100% Acrylic Latex.
   a. Products:
      1) Sherwin-Williams Loxon Acrylic Conditioner (if needed).
         (a) product number: LX03V0100 Clear or White
         (b) product data sheet (PDS) #: 115.03
         (c) 1 coats
4. Top Coat(s): Elastomeric Masonry Coating
   a. Products:
      1) Sherwin-Williams ConFlex SherLastic Elastomeric Coating.
         (a) product number: CF16W0053
         (b) product data sheet (PDS) #: 116.16
         (c) 1-2 coats

C. SPLIT FACE CMU (UNCOATED)
1. Clean Surface
   a. Use detergent cleaning solution and pressure wash.
2. Surface Preparation
   a. Repoint seriously-deteriorated mortar joints
   b. Fill large cracks with sealant (1/8” or more)
   c. Fill small cracks (less than 1/8”) with paint during painting process
3. Primer Coat(s): Acrylic Resin Block Filler.
   a. Products:


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1) Sherwin-Williams Conflex Block Filler.
   (a) product number: CF01W0050
   (b) product data sheet (PDS) #: 116.01
   (c) 2 coats.

4. Top Coat(s): Elastomeric Masonry Coating
   a. Products:
      1) Sherwin-Williams ConFlex SherLastic Elastomeric Coating.
         (a) product number: CF16W0053
         (b) product data sheet (PDS) #: 116.16
         (c) 2 coats

D. PREVIOUSLY-PAINTED CMU
1. Clean Surface
   a. Use detergent cleaning solution and pressure wash.
2. Surface Preparation
   a. Repoint seriously-deteriorated mortar joints
   b. Fill large cracks with sealant (1/8” or more)
   c. Fill small cracks (less than 1/8”) with paint during painting process
3. Primer Coat(s): Exterior 100% AcrylicLatex.
   a. Products:
      1) Sherwin-Williams Loxon Acrylic Conditioner (if needed).
         (a) product number: LX03V0100 Clear or White
         (b) product data sheet (PDS) #: 115.03
         (c) 1 coat
4. Top Coat(s): Elastomeric Masonry Coating
   a. Products:
      1) Sherwin-Williams ConFlex SherLastic Elastomeric Coating.
         (a) product number: CF16W0053
         (b) product data sheet (PDS) #: 116.16
         (c) 1-2 coats

E. PARGED CONCRETE
1. Clean Surface
   a. Use detergent cleaning solution and pressure wash.
2. Surface Preparation
   a. Repoint seriously-deteriorated mortar joints
   b. Fill large cracks with sealant (1/8” or more)
   c. Fill small cracks (less than 1/8”) with paint during painting process
3. Primer Coat(s): Exterior 100% AcrylicLatex.
   a. Products:
      1) Sherwin-Williams Loxon Acrylic Conditioner.
         (a) product number: LX03V0100 Clear or White
         (b) product data sheet (PDS) #: 115.03
         (c) 1 coat


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4. Top Coat(s): Elastomeric Masonry Coating
   a. Products:
      1) Sherwin-Williams ConFlex SherLastic Elastomeric Coating.
         (a) product number: CF16W0053
         (b) product data sheet (PDS) #: 116.16
         (c) 1-2 coats

2.4 SEALANTS

A. Material to be used on this project for joint sealing and EIFS repairs. Single component. Elastomeric sealant which meets requirements of ASM C920. Low Shrinkage. Capable of substantial expansion and contraction of joints combined 70% joint movement capability. Where sealant will be visible in the final configuration it must be available in colors compatible with the finished coatings.
   1. Urethane: SherMax Urethanized Elastomeric Sealant from Sherwin Williams or,
   2. Polyether: M-1 Structural Adhesive/Sealant from ChemLink. www.chemlink.com

2.5 ACCESSORY MATERIALS AND EQUIPMENT

A. Accessory Materials: Provide primers, sealers, cleaning agents, cleaning cloths, sanding materials, and clean-up materials as required for final completion of painted surfaces.

B. Surface Cleaner:
   1. Non-Ionic Detergent Building Wash – Concentrate cleaning material which is non-toxic, odorless, non-corrosive and biodegradable and designed for cleaning existing masonry.
      a. "E-Wash 30, "Edison Coatings, Inc., Plainville, CT, www.edisoncoatings.com, (800) 341-6621
      b. "Enviro Klean 2010 All Surface Cleaner," Prosoco, Lawrence, KS, www.prosoco.com 1-800-255-4255 or approved equivalent product.

C. Pressure Washing
   1. Apply liberal amounts of cleaner with soft bristle brush or pump up sprayer. Saturate surface with cleaner so that there is substantial run down of cleaning material.
   2. Use hot or cold pressure washing in conjunction with the detergent cleaner to remove dirt from masonry surfaces. Limit pressure to 800 psi with a tip that has a 25 degree pattern or larger.
   3. Rinse wall thoroughly to remove all loose dirt and detergent cleaner.

D. Patching Material: Latex filler.

## PART 3 EXECUTION

3.1 EXAMINATION

A. Do not begin application of paints and finishes until substrates have been properly prepared.


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B. Verify that surfaces are ready to receive work as instructed by the product manufacturer.

C. Examine surfaces scheduled to be finished prior to commencement of work. Report any condition that may potentially effect proper application.

D. If substrate preparation is the responsibility of another installer, notify Architect of unsatisfactory preparation before proceeding.

E. Measure moisture content of surfaces using an electronic moisture meter. Do not apply finishes unless moisture content of surfaces are below the following maximums:
   1. Exterior Plaster and Stucco: 12 percent.
   2. Fiber Cement Siding: 12 percent.
   3. Masonry, Concrete, and Concrete Masonry Units: 12 percent.
   4. Exterior Wood: 15 percent, measured in accordance with ASTM D4442.
   5. Concrete Floors and Traffic Surfaces: 8 percent.

3.2 PREPARATION

A. Follow Sherwin Williams procedures and data sheets.

B. On site, have copies of the Sherwin Williams procedure and data sheets, these specification and project drawings on-site for reference by workers

C. Clean surfaces thoroughly and correct defects prior to application.

D. Prepare surfaces using the methods recommended by the manufacturer for achieving the best result for the substrate under the project conditions.

E. Remove or mask surface appurtenances, including electrical plates, hardware, light fixture trim, escutcheons, and fittings, prior to preparing surfaces for finishing.

F. Mask windows and doors including metal frames, glass and sealant strips

G. Seal surfaces that might cause bleed through or staining of topcoat.

H. Remove mildew from impervious surfaces by scrubbing with solution of tetra-sodium phosphate and bleach. Rinse with clean water and allow surface to dry.

I. Concrete, Stucco and Masonry:
   1. Remove release agents, curing compounds, efflorescence, and chalk. Do not coat surfaces if moisture content or alkalinity of surfaces to be coated exceeds that permitted in manufacturer's written instructions.
   2. Allow to dry thoroughly.
   3. Prepare surface as recommended by top coat manufacturer.


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3.3 APPLICATION

A. Remove unfinished louvers, grilles, covers, and access panels on mechanical and electrical components and paint separately.

B. Apply products in accordance with manufacturer's written instructions.

C. Do not apply finishes to surfaces that are not dry. Allow applied coats to dry before next coat is applied.

D. Apply each coat to uniform appearance.

E. Dark Colors and Deep Clear Colors: Regardless of number of coats specified, apply additional coats until complete hide is achieved.

F. Vacuum clean surfaces of loose particles. Use tack cloth to remove dust and particles just prior to applying next coat.

G. Reinstall electrical cover plates, hardware, light fixture trim, escutcheons, and fittings removed prior to finishing.

3.4 CLEANING

A. Collect waste material that could constitute a fire hazard, place in closed metal containers, and remove daily from site.

3.5 PROTECTION

A. Protect finishes until completion of project.

B. Touch-up damaged finishes after Substantial Completion.

END OF SECTION


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# SECTION 09 91 23 - INTERIOR PAINTING

## PART 1 GENERAL

1.1 SECTION INCLUDES

A. Surface preparation.

B. Field application of paints.

C. Scope: Finish interior surfaces exposed to view, unless fully factory-finished and unless otherwise indicated.
   1. Both sides and edges of plywood backboards for electrical and telecom equipment before installing equipment.
   2. Prime surfaces to receive wall coverings.
   3. Mechanical and Electrical:
      a. In finished areas, paint insulated and exposed pipes, conduit, boxes, insulated and exposed ducts, hangers, brackets, collars and supports, mechanical equipment, and electrical equipment, unless otherwise indicated.
      b. In finished areas, paint shop-primed items.
      c. 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 paint to visible surfaces.
      d. Paint dampers exposed behind louvers, grilles, and convector and baseboard cabinets to match face panels.

D. Do Not Paint or Finish the Following Items:
   1. Items factory-finished unless otherwise indicated; materials and products having factory-applied primers are not considered factory finished.
   2. Items indicated to receive other finishes.
   3. Items indicated to remain unfinished.
   4. Fire rating labels, equipment serial number and capacity labels, bar code labels, and operating parts of equipment.
   5. Stainless steel, anodized aluminum, bronze, terne-coated stainless steel, and lead items.
   6. Marble, granite, slate, and other natural stones.
   7. Floors, unless specifically indicated.
   8. Ceramic and other tiles.
   9. Brick, architectural concrete, cast stone, integrally colored plaster, and stucco.
   10. Glass.
   11. Acoustical materials, unless specifically indicated.
   12. Concealed pipes, ducts, and conduits.
   13. Operating and moving parts of operating equipment, including valve and damper operators, linkages, sensing devices, and motor and fan shafts.


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1.2 RELATED REQUIREMENTS

A. Section 05 50 00 - Metal Fabrications: Shop-primed items.

B. Section 05 51 00 - Metal Stairs: Shop-primed items.

C. Section 09 91 13 - Exterior Painting.

D. Section 09 93 00 - Staining and Transparent Finishing: Wood substrates.

1.3 REFERENCE STANDARDS

A. 40 CFR 59, Subpart D - National Volatile Organic Compound Emission Standards for Architectural Coatings; U.S. Environmental Protection Agency; Current Edition.

B. ASTM D4442 - Standard Test Methods for Direct Moisture Content Measurement of Wood and Wood-Based Materials; 2020.

C. MPI (APSM) - Master Painters Institute Architectural Painting Specification Manual; Current Edition.

D. SSPC-SP 1 - Solvent Cleaning; 2015, with Editorial Revision (2016).

E. SSPC-SP 2 - Hand Tool Cleaning; 2018.

F. SSPC-SP 6 - Commercial Blast Cleaning; 2007.

G. SSPC-SP 13 - Surface Preparation of Concrete; 2018.

1.4 SUBMITTALS

A. See Section 01 30 00 - Administrative Requirements, for submittal procedures.

B. Product Data: Provide complete list of products to be used, with the following information for each:
   1. Manufacturer's name, product name and/or catalog number, and general product category (e.g., "alkyd enamel").
   2. Cross-reference to specified paint system(s) product is to be used in; include description of each system.

C. Samples: Submit three paper "draw down" samples, 8-1/2 by 11 inches in size, illustrating range of colors available for each finishing product specified.
   1. Where sheen is specified, submit samples in only that sheen.

D. Manufacturer's Instructions: Indicate special surface preparation procedures.


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E. Maintenance Data: Submit data including finish schedule showing where each product/color/finish was used, product technical data sheets, material safety data sheets (MSDS), care and cleaning instructions, touch-up procedures, repair of painted and finished surfaces, and color samples of each color and finish used.

F. Maintenance Materials: Furnish the following for Owner's use in maintenance of project.
   1. See Section 01 60 00 - Product Requirements, for additional provisions.
   2. Extra Paint and Finish Materials: 1 gallon of each color and type; from the same product run, store where directed.
   3. Label each container with color, type, and room locations in addition to the manufacturer's label.

1.5 QUALITY ASSURANCE

A. Applicator Qualifications: Company specializing in performing the type of work specified with minimum five years experience and approved by manufacturer.

1.6 DELIVERY, STORAGE, AND HANDLING

A. Deliver products to site in sealed and labeled containers; inspect to verify acceptability.

B. Container Label: Include manufacturer's name, type of paint, brand name, lot number, brand code, coverage, surface preparation, drying time, cleanup requirements, color designation, and instructions for mixing and reducing.

C. Paint Materials: Store at minimum ambient temperature of 45 degrees F and a maximum of 90 degrees F, in ventilated area, and as required by manufacturer's instructions.

1.7 FIELD CONDITIONS

A. Do not apply materials when surface and ambient temperatures are outside the temperature ranges required by the paint product manufacturer.

B. Follow manufacturer's recommended procedures for producing best results, including testing of substrates, moisture in substrates, and humidity and temperature limitations.

C. Do not apply materials when relative humidity exceeds 85 percent, at temperatures less than 5 degrees F above the dew point, or to damp or wet surfaces.

D. Minimum Application Temperatures for Paints: 50 degrees F for interiors unless required otherwise by manufacturer's instructions.

E. Provide lighting level of 80 ft candles measured mid-height at substrate surface.


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## PART 2 PRODUCTS

### 2.1 MANUFACTURERS

A. Provide paints and finishes used in any individual system from the same manufacturer; no exceptions.

B. Paints:
1. Benjamin Moore: www.benjaminmoore.com.
2. PPG Paints: www.ppgpaints.com.
3. Sherwin-Williams Company: www.sherwin-williams.com.

C. Primer Sealers: Same manufacturer as top coats.

D. Substitutions: See Section 01 60 00 - Product Requirements.

### 2.2 PAINTS AND FINISHES - GENERAL

A. Paints and Finishes: Ready-mixed, unless intended to be a field-catalyzed paint.
1. Provide paints and finishes of a soft paste consistency, capable of being readily and uniformly dispersed to a homogeneous coating, with good flow and brushing properties, and capable of drying or curing free of streaks or sags.
2. Provide materials that are compatible with one another and the substrates indicated under conditions of service and application, as demonstrated by manufacturer based on testing and field experience.
3. For opaque finishes, tint each coat including primer coat and intermediate coats, one-half shade lighter than succeeding coat, with final finish coat as base color.
4. Supply each paint material in quantity required to complete entire project's work from a single production run.
5. Do not reduce, thin, or dilute paint or finishes or add materials unless such procedure is specifically described in manufacturer's product instructions.

B. Volatile Organic Compound (VOC) Content:
1. Provide paints and finishes that comply with the most stringent requirements specified in the following:
   a. 40 CFR 59, Subpart D--National Volatile Organic Compound Emission Standards for Architectural Coatings.
   b. Ozone Transport Commission (OTC) Model Rule, Architectural, Industrial, and Maintenance Coatings; www.otcair.org; specifically:
      1) Opaque, Flat: 50 g/L, maximum.
      2) Opaque, Nonflat: 150 g/L, maximum.
      3) Opaque, High Gloss: 250 g/L, maximum.
2. Determination of VOC Content: Testing and calculation in accordance with 40 CFR 59, Subpart D (EPA Method 24), exclusive of colorants added to a tint base and water added at project site; or other method acceptable to authorities having jurisdiction.


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C. Colors: As indicated on drawings.
   1. Extend colors to surface edges; colors may change at any edge as directed by Architect.
   2. In finished areas, finish pipes, ducts, conduit, and equipment the same color as the wall/ceiling under which they are mounted.

2.3 PAINT SYSTEMS - INTERIOR

A. Interior Surfaces to be Painted, Unless Otherwise Indicated: Including gypsum board, concrete, concrete masonry units, brick, wood, plaster, uncoated steel, shop primed steel, galvanized steel, aluminum, and acoustical ceilings.
   1. Two top coats and one coat primer.
   2. Top Coat(s): High Performance Architectural Interior Latex.
      a. Products:
         1) Benjamin Moore Ultra Spec 500, 537, Eggshell.
         2) Benjamin Moore Scuff-X, 485, Eggshell.
         3) Sherwin-Williams Pre-Catalyzed Waterbased Epoxy, K45 Series, Eg-Shel.
         4) Sherwin-Williams ProMar 200 HP Series, Low Gloss Eg-Shel.
         5) Substitutions: Section 01 60 00 - Product Requirements.
   3. Top Coat(s): Institutional Low Odor/VOC Interior Latex.
      a. Products:
         1) Benjamin Moore Ultra Spec 500, 535, Flat.
         2) Sherwin-Williams ProMar 200 Zero VOC Interior Latex, Flat.
         3) Substitutions: Section 01 60 00 - Product Requirements.
   4. Top Coat Sheen:
      a. Flat; use this sheen for ceilings and other overhead surfaces.
      b. Semi-Gloss; Use this sheen at all locations unless indicated otherwise.
   5. Primer: As specified under "PRIMERS" below.

B. Medium Duty Door/Trim: For surfaces subject to frequent contact by occupants, including metals:
   1. Medium duty applications include doors, door frames, railings, handrails, guardrails, and balustrades.
   2. Two top coats and one coat primer.
   3. Top Coat(s): Interior Urethane or Epoxy-Modified Latex.
      a. Products:
         1) Benjamin Moore Corotech Polyamide Epoxy Coating, V400, Gloss.
         2) PPG Paints Aquapon WB EP Two-Component Waterborne Epoxy Coating, 98E-1/98E-98 Series, Gloss.
         3) Sherwin-Williams Waterbased Catalyzed Epoxy, B73 Series, Gloss.
         4) Substitutions: Section 01 60 00 - Product Requirements.
   4. Top Coat Sheen:
      a. Gloss: Use this sheen unless indicated otherwise.
   5. Primer: As specified under "PRIMERS" below.


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## 2.4 PRIMERS

A. Primers: Provide the following unless other primer is required or recommended by manufacturer of top coats.
   1. Alkali Resistant Water Based Primer; For Smooth Concrete.
      a. Products:
         1) Benjamin Moore Insl-x Aqua Lock Primer Sealer.
         2) PPG Paints Perma-Crete Interior/Exterior Alkali Resistant Primer, 4-603XI.
         3) Sherwin-Williams Loxon Concrete & Masonry Primer, A24W8300.
         4) Substitutions: Section 01 60 00 - Product Requirements.
   2. Interior/Exterior Latex Block Filler; For Rough Concrete and Masonry.
      a. Products:
         1) Benjamin Moore Insl-x Aqua Lock Primer Sealer.
         2) PPG Paints: 6-15XI Speedhide Masonry Hi Fill Latex Block Filler.
         3) Sherwin-Williams Loxon Block Surfacer, A24W00200.
         4) Substitutions: Section 01 60 00 - Product Requirements.
   3. Interior Drywall Primer Sealer.
      a. Products:
         1) Benjamin Moore Ultra Spec 500 Interior Latex Primer, N534.
         2) PPG Paints Speedhide Interior Latex Sealer, 6-2.
         3) Sherwin-Williams ProMar 200 Zero VOC Interior Latex Primer, B28 W02600
         4) Substitutions: Section 01 60 00 - Product Requirements.
   4. Interior Rust-Inhibitive Water Based Primer; MPI #107.
      a. Products:
         1) Benjamin Moore Ultra Spec HP Acrylic Metal Primer, HP04.
         2) PPG Paints Pitt-Tech Plus Interior/Exterior DTM Waterborne Acrylic Primer/Finish, 4020 PF Series.
         3) Sherwin-Williams Pro-Cryl Universal Primer, B66-310 Series.
         4) Sherwin-Williams Pro Industrial Pro-Cryl Primer, B66-310 Series.
         5) Substitutions: Section 01 60 00 - Product Requirements.
   5. Latex Primer for Interior Wood; Plaster; or Gypsum Wallboard.
      a. Products:
         1) Benjamin Moore Ultra Spec 500 Interior Latex Primer, N534.
         2) Sherwin-Williams Premium Wall & Wood Interior Latex Primer, B28W08111; except ProMar 200 Zero VOC Interior Latex Primer, B28W02600, for gypsum wallboard.
         3) Substitutions: Section 01 60 00 - Product Requirements.

## 2.5 ACCESSORY MATERIALS

A. Accessory Materials: Provide primers, sealers, cleaning agents, cleaning cloths, sanding materials, and clean-up materials as required for final completion of painted surfaces.

B. Patching Material: Latex filler.


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C. Fastener Head Cover Material: Latex filler.

## PART 3 EXECUTION

### 3.1 EXAMINATION

A. Do not begin application of paints and finishes until substrates have been adequately prepared.

B. Verify that surfaces are ready to receive work as instructed by the product manufacturer.

C. Examine surfaces scheduled to be finished prior to commencement of work. Report any condition that may potentially affect proper application.

D. If substrate preparation is the responsibility of another installer, notify Architect of unsatisfactory preparation before proceeding.

E. Test shop-applied primer for compatibility with subsequent cover materials.

F. Measure moisture content of surfaces using an electronic moisture meter. Do not apply finishes unless moisture content of surfaces is below the following maximums:
   1. Gypsum Wallboard: 12 percent.
   2. Plaster and Stucco: 12 percent.
   3. Masonry, Concrete, and Concrete Masonry Units: 12 percent.
   4. Interior Wood: 15 percent, measured in accordance with ASTM D4442.
   5. Concrete Floors and Traffic Surfaces: 8 percent.

### 3.2 PREPARATION

A. Clean surfaces thoroughly and correct defects prior to application.

B. Prepare surfaces using the methods recommended by the manufacturer for achieving the best result for the substrate under the project conditions.

C. Remove or mask surface appurtenances, including electrical plates, hardware, light fixture trim, escutcheons, and fittings, prior to preparing surfaces or finishing.

D. Seal surfaces that might cause bleed through or staining of topcoat.

E. Remove mildew from impervious surfaces by scrubbing with solution of tetra-sodium phosphate and bleach. Rinse with clean water and allow surface to dry.

F. Gypsum Board: Fill minor defects with filler compound. Spot prime defects after repair.

G. Metal Doors to be Painted: Prime metal door top and bottom edge surfaces.
   1. Fill joints of knock-down frames.


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3.3 APPLICATION

A. Remove unfinished louvers, grilles, covers, and access panels on mechanical and electrical components and paint separately.

B. Apply products in accordance with manufacturer's written instructions.

C. Do not apply finishes to surfaces that are not dry. Allow applied coats to dry before next coat is applied.

D. Apply each coat to uniform appearance in thicknesses specified by manufacturer.

E. Dark Colors and Deep Clear Colors: Regardless of number of coats specified, apply as many coats as necessary for complete hide.

F. Sand wood and metal surfaces lightly between coats to achieve required finish.

G. Vacuum clean surfaces of loose particles. Use tack cloth to remove dust and particles just prior to applying next coat.

H. Reinstall electrical cover plates, hardware, light fixture trim, escutcheons, and fittings removed prior to finishing.

3.4 CLEANING

A. Collect waste material that could constitute a fire hazard, place in closed metal containers, and remove daily from site.

3.5 PROTECTION

A. Protect finishes until completion of project.

B. Touch-up damaged finishes after Substantial Completion.

END OF SECTION


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# SECTION 10 14 00 - SIGNAGE

## PART 1 GENERAL

1.1 SECTION INCLUDES

A. Room and door signs.

B. Building identification signs.

1.2 REFERENCE STANDARDS

A. 36 CFR 1191 - Americans with Disabilities Act (ADA) Accessibility Guidelines for Buildings and Facilities; Architectural Barriers Act (ABA) Accessibility Guidelines; current edition.

B. ADA Standards - 2010 ADA Standards for Accessible Design; 2010.

C. ICC A117.1 - Accessible and Usable Buildings and Facilities; 2017.

1.3 SUBMITTALS

A. See Section 01 30 00 - Administrative Requirements, for submittal procedures.

B. Product Data: Manufacturer's printed product literature for each type of sign, indicating sign styles, font, foreground and background colors, locations, overall dimensions of each sign.

C. Signage Schedule: Provide information sufficient to completely define each sign for fabrication, including room number, room name, other text to be applied, sign and letter sizes, fonts, and colors.
   1. When room numbers to appear on signs differ from those on drawings, include the drawing room number on schedule.
   2. When content of signs is indicated to be determined later, request such information from Owner through Architect at least 2 months prior to start of fabrication; upon request, submit preliminary schedule.
   3. Submit for approval by Owner through Architect prior to fabrication.

D. Samples: Submit two samples of each type of sign, of size similar to that required for project, illustrating sign style, font, and method of attachment.

E. Selection Samples: Where colors are not specified, submit two sets of color selection charts or chips.

F. Verification Samples: Submit samples showing colors specified.

G. Manufacturer's Installation Instructions: Include installation templates and attachment devices.


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1.4 DELIVERY, STORAGE, AND HANDLING

A. Package signs as required to prevent damage before installation.

B. Package room and door signs in sequential order of installation, labeled by floor or building.

## PART 2 PRODUCTS

2.1 SIGNAGE APPLICATIONS

A. Accessibility Compliance: Signs are required to comply with ADA Standards and ICC A117.1 and applicable building codes, unless otherwise indicated; in the event of conflicting requirements, comply with the most comprehensive and specific requirements.

B. Room and Door Signs: Provide a sign for every doorway, whether it has a door or not, not including corridors, lobbies, and similar open areas.

2.2 SIGN TYPES

A. Flat Signs: Signage media without frame.
   1. Edges: Square.
   2. Corners: Square.
   3. Wall and Ceiling Mounting of Two-Sided Signs: Aluminum wall bracket, powder coated, color selected from manufacturer's standard colors, attached with screws in predrilled mounting holes, set in clear silicone sealant.

B. Color and Font: Unless otherwise indicated:
   1. Character Font: Helvetica, Arial, or other sans serif font.
   2. Character Case: Upper case only.
   3. Background Color: Clear.
   4. Character Color: Contrasting color.

## PART 3 EXECUTION

3.1 EXAMINATION

A. Verify that substrate surfaces are ready to receive work.

3.2 INSTALLATION

A. Install in accordance with manufacturer's instructions.

B. Install neatly, with horizontal edges level.


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C. Protect from damage until Date of Substantial Completion; repair or replace damaged items.

END OF SECTION


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# SECTION 10 44 00 - FIRE PROTECTION SPECIALTIES

## PART 1 GENERAL

1.1 SECTION INCLUDES

A. Fire extinguishers.

B. Fire extinguisher cabinets.

C. Accessories.

1.2 REFERENCE STANDARDS

A. ASTM E814 - Standard Test Method for Fire Tests of Penetration Firestop Systems; 2013a (Reapproved 2017).

B. FM (AG) - FM Approval Guide; Current Edition.

C. NFPA 10 - Standard for Portable Fire Extinguishers; 2022.

D. UL (DIR) - Online Certifications Directory; Current Edition.

1.3 SUBMITTALS

A. See Section 01 30 00 - Administrative Requirements, for submittal procedures.

B. Product Data: Provide extinguisher operational features.

C. Shop Drawings: Indicate locations of cabinets and cabinet physical dimensions.

D. Manufacturer's Installation Instructions: Indicate special criteria and wall opening coordination requirements.

E. Maintenance Data: Include test, refill or recharge schedules and re-certification requirements.

## PART 2 PRODUCTS

2.1 FIRE EXTINGUISHERS

A. Fire Extinguishers - General: Comply with product requirements of NFPA 10 and applicable codes, whichever is more stringent.
   1. Provide extinguishers labeled by UL (DIR) or FM (AG) for purpose specified and as indicated.


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B. Multipurpose Dry Chemical Type Fire Extinguishers: Carbon steel tank, with pressure gauge.
   1. Class: A:B:C type.
   2. Size: 10 pound.
   3. Temperature range: Minus 40 degrees F to 120 degrees F.

2.2 FIRE EXTINGUISHER CABINETS

A. Fire Rating: Listed and labeled in accordance with ASTM E814 requirements for fire resistance rating of walls where being installed.

B. Cabinet Construction: Non-fire rated.
   1. Formed primed steel sheet; 0.036 inch thick base metal.

C. Fire Rated Cabinet Construction: Provide if wall is rated; match rating of wall.
   1. Steel; double wall or outer and inner boxes with fire barrier material.

D. Cabinet Configuration: Semi-recessed type.
   1. Interior nominal dimensions of 9 inch wide by 24 inch high by 6 inch deep.
   2. Trim: Flat square edge, with 1-3/4 inch wide face.
   3. Provide cabinet enclosure with right angle inside corners and seams, and with formed perimeter trim and door stiles.

E. Door: 0.036 inch metal thickness, reinforced for flatness and rigidity with nylon catch. Hinge doors for 180 degree opening with two butt hinges.

F. Door Glazing: Tempered glass, clear, 1/8 inch thick, and set in resilient channel glazing gasket.
   1. Configuration: Vertical duo.

G. Cabinet Mounting Hardware: Appropriate to cabinet, with pre-drilled holes for placement of anchors.

H. Fabrication: Weld, fill, and grind components smooth.

I. Finish of Cabinet Exterior Trim and Door: No.4 - Brushed stainless steel.

J. Finish of Cabinet Interior: White colored enamel.

2.3 ACCESSORIES

A. Extinguisher Brackets: Formed steel, galvanized and enamel finished.

B. Lettering: FIRE EXTINGUISHER decal, or vinyl self-adhering, pre-spaced black lettering in accordance with authorities having jurisdiction (AHJ).


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## PART 3 EXECUTION

### 3.1 EXAMINATION

A. Verify existing conditions before starting work.

B. Verify rough openings for cabinet are correctly sized and located.

### 3.2 INSTALLATION

A. Install in locations indicated on drawings and in additional locations and quantities as required by NFPA 10 and applicable codes, whichever is more stringent.

B. Install in accordance with manufacturer's instructions.

C. Install cabinets plumb and level in wall openings, 24 inches from finished floor to inside bottom of cabinet.

D. Secure rigidly in place.

E. Place extinguishers in cabinets.

## END OF SECTION


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# SECTION 12 36 00 - COUNTERTOPS

## PART 1 GENERAL

1.1 SECTION INCLUDES

A. Countertops for architectural cabinet work.

1.2 RELATED REQUIREMENTS

A. Section 06 41 00 - Architectural Wood Casework.

1.3 REFERENCE STANDARDS

A. ANSI A208.2 - Medium Density Fiberboard (MDF) for Interior Applications; 2022.

B. AWI/AWMAC/WI (AWS) - Architectural Woodwork Standards, 2nd Edition; 2014, with Errata (2016).

C. AWMAC/WI (NAAWS) - North American Architectural Woodwork Standards; 2021, with Errata.

D. IAPMO Z124 - Plastic Plumbing Fixtures; 2017 (Reaffirmed 2021).

E. ISFA 2-01 - Classification and Standards for Solid Surfacing Material; 2013.

F. ISFA 3-01 - Classification and Standards for Quartz Surfacing Material; 2013.

G. MIA (DSDM) - Dimensional Stone Design Manual, Version VIII; 2016.

H. NEMA LD 3 - High-Pressure Decorative Laminates; 2005.

I. NSI (DSDM) - Dimensional Stone Design Manual, Version VIII; 2016.

1.4 SUBMITTALS

A. See Section 01 30 00 - Administrative Requirements for submittal procedures.

B. Product Data: Manufacturer's data sheets on each product to be used, including:
   1. Preparation instructions and recommendations.
   2. Storage and handling requirements and recommendations.
   3. Specimen warranty.

C. Shop Drawings: Complete details of materials and installation ; combine with shop drawings of cabinets and casework specified in other sections.


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D. Verification Samples: For each finish product specified, minimum size 6 inches square, representing actual product, color, and patterns.

E. Test Reports: Chemical resistance testing, showing compliance with specified requirements.

F. Installation Instructions: Manufacturer's installation instructions and recommendations.

G. Maintenance Data: Manufacturer's instructions and recommendations for maintenance and repair of countertop surfaces.

1.5 QUALITY ASSURANCE

A. Installer Qualifications: Company specializing in performing work of the type specified in this section, with not less than three years of documented experience.

1.6 DELIVERY, STORAGE, AND HANDLING

A. Store products in manufacturer's unopened packaging until ready for installation.

B. Store and dispose of solvent-based materials, and materials used with solvent-based materials, in accordance with requirements of local authorities having jurisdiction.

1.7 FIELD CONDITIONS

A. Maintain environmental conditions (temperature, humidity, and ventilation) within limits recommended by manufacturer for optimum results. Do not install products under environmental conditions outside manufacturer's absolute limits.

## PART 2 PRODUCTS

2.1 COUNTERTOPS

A. Quality Standard: Custom Grade, in accordance with AWI/AWMAC/WI (AWS) or AWMAC/WI (NAAWS), unless noted otherwise.

B. Solid Surfacing Countertops: Solid surfacing sheet or plastic resin casting over continuous substrate.
   1. Flat Sheet Thickness: 1/2 inch, minimum.
   2. Solid Surfacing Sheet and Plastic Resin Castings: Complying with ISFA 2-01 and NEMA LD 3; acrylic or polyester resin, mineral filler, and pigments; homogenous, non-porous and capable of being worked and repaired using standard woodworking tools; no surface coating; color and pattern consistent throughout thickness.
      a. Sinks and Bowls: Integral castings; minimum 3/4 inch wall thickness; comply with IAPMO Z124.
      b. Finish on Exposed Surfaces: Matte, gloss rating of 5 to 20.
   3. Other Components Thickness: 1/2 inch, minimum.


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4. Exposed Edge Treatment: Built up to minimum 1-1/4 inch thick; square edge; use marine edge at sinks.
5. Back and End Splashes: Same sheet material, square top; minimum 4 inches high.

2.2 MATERIALS

A. Medium Density Fiberboard for Supporting Substrate: ANSI A208.2.

B. Adhesives: Chemical resistant waterproof adhesive as recommended by manufacturer of materials being joined.

2.3 FABRICATION

A. Fabricate tops and splashes in the largest sections practicable, with top surface of joints flush.
1. Join lengths of tops using best method recommended by manufacturer.
2. Fabricate to overhang fronts and ends of cabinets 1 inch except where top butts against cabinet or wall.
a. Rout a 1/8 inch drip groove at underside of exposed overlapping edges, set back 1/2 inch from face of edge.
3. Prepare all cutouts accurately to size; replace tops having improperly dimensioned or unnecessary cutouts or fixture holes.

B. Provide back/end splash wherever counter edge abuts vertical surface unless otherwise indicated.
1. Secure to countertop with concealed fasteners and with contact surfaces set in waterproof glue.
2. Height: 4 inches, unless otherwise indicated.

C. Wall-Mounted Counters: Provide skirts and aprons as indicated on drawings, finished to match.

## PART 3 EXECUTION

3.1 EXAMINATION

A. Do not begin installation until substrates have been properly prepared.

B. If substrate preparation is the responsibility of another installer, notify Architect of unsatisfactory preparation before proceeding.

C. Verify that wall surfaces have been finished and mechanical and electrical services and outlets are installed in proper locations.

3.2 PREPARATION

A. Clean surfaces thoroughly prior to installation.


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B. Prepare surfaces using the methods recommended by the manufacturer for achieving the best result for the substrate under the project conditions.

3.3 INSTALLATION

A. Securely attach countertops to cabinets using concealed fasteners. Make flat surfaces level; shim where required.

B. Attach plastic laminate countertops using screws with minimum penetration into substrate board of 5/8 inch.

C. Seal joint between back/end splashes and vertical surfaces.

3.4 TOLERANCES

A. Variation From Horizontal: 1/8 inch in 10 feet, maximum.

B. Offset From Wall, Countertops: 1/8 inch maximum; 1/16 inch minimum.

C. Field Joints: 1/8 inch wide, maximum.

3.5 CLEANING

A. Clean countertops surfaces thoroughly.

3.6 PROTECTION

A. Protect installed products until completion of project.

B. Touch-up, repair or replace damaged products before Date of Substantial Completion.

END OF SECTION


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# EXTERIOR + INTERIOR RESTORATION + ALTERATION

AT

# 921 ELIZABETH AVENUE

FOR THE

# COUNTY OF UNION

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CSI DIVISION

**DIVISION 00 PROCUREMENT**

00.01 ALL BIDDERS, UPON SUBMITTING BIDS, HEREBY CERTIFY THAT THEY HAVE REVIEWED THE ENTIRE SET OF CONTRACT DOCUMENTS. (CONTRACT DOCUMENTS CONSIST OF A COMPLETE SET OF DRAWINGS AND THE ENTIRE PROJECT MANUAL, INCLUDING ALL DIVISIONS & ANY/ALL ADDENDA) AND ARE AWARE OF, AND AGREE TO MEET THE INTENT OF THE CONTRACT DOCUMENTS WHETHER EXPRESSED OR IMPLIED.

00.02 PRODUCT MANUFACTURERS IN CONJUNCTION WITH SUBCONTRACTORS AND PRIME CONTRACTOR(S) ARE RESPONSIBLE FOR ALL COMPONENTS AND CALCULATIONS AND/OR CERTIFICATIONS OF THEIR PRODUCT AND FOR PROVIDING COMPLETE SYSTEMS/ASSEMBLIES TO MEET THE DESIGN INTENT OF THE PROJECT.

00.03 THE BIDDER/CONTRACTOR IS REQUIRED TO VISIT THE SITE & EXAMINE THE EXISTING CONDITIONS TO HIS COMPLETE SATISFACTION PRIOR TO BIDDING. THE BIDDER/CONTRACTOR SHALL COMPARE THE EXISTING CONDITIONS TO THE DESIGN INTENT OF THE CONTRACT DOCUMENTS & SHALL IMMEDIATELY NOTIFY THE ARCHITECT IN WRITING OF ANY/ALL DISCREPANCIES BEFORE SUBMITTING A BID. FAILURE TO DO SO WILL PLACE THE BURDEN OF RESPONSIBILITY ON THE CONTRACTOR TO PERFORM THE WORK AS INTENDED BY THE CONTRACT DOCUMENTS, AT NO ADDITIONAL COST TO THE OWNER.

**DIVISION 01 AVAILABLE INFORMATION**

01.01 ANY ADDITIONAL INFORMATION THAT IS NOT PART OF THE CONSTRUCTION DOCUMENTS, SUCH AS, BUT NOT LIMITED TO, SOIL REPORT(S), HAZARDOUS MATERIALS REPORT(S), EXISTING DRAWINGS, ETC., ARE INTENDED FOR REFERENCE ONLY AND ARE TO BE USED BY THE CONTRACTOR(S) AT HIS/HER OWN DISCRETION.

01.02 THE INDICATION OF SUBSTRATE & CONFIGURATION OF CONCEALED ITEMS & MATERIALS SHOWN ON THE CONSTRUCTION DOCUMENTS IS FOR GENERAL REFERENCE ONLY. THE CONTRACTOR(S) SHALL NOT BE ENTITLED TO ADDITIONAL COMPENSATION FOR ANY VARIANCE BETWEEN ACTUAL EXISTING CONDITIONS AND THAT REPRESENTED ON THE CONSTRUCTION DOCUMENTS.

01.03 ALL DIMENSIONS INDICATED ON THE CONSTRUCTION DOCUMENTS, OF EXISTING CONDITIONS, ARE APPROXIMATE AND SHALL BE FIELD VERIFIED BY THE CONTRACTOR(S) PRIOR TO SUBMITTING A BID.

**GENERAL REQUIREMENTS**

01.04 THE CONTRACTOR(S) SHALL DISCUSS & VERIFY, WITH ALL GOVERNING AUTHORITIES ALL CODE REQUIREMENTS INDICATED AND/OR REQUIRED FOR THE COMPLETE EXECUTION OF THE WORK AS INTENDED BY THE CONSTRUCTION DOCUMENTS.

01.05 THE CONTRACTOR(S) SHALL COMPLY WITH ALL FEDERAL, STATE, AND LOCAL CODES AND ORDINANCES HAVING JURISDICTION OVER THE PROJECT. THE CONTRACTOR(S) SHALL OBTAIN PERMITS & GIVE NOTICES TO SUCH AGENCIES IN AMPLE TIME FOR OFFICIALS TO CONDUCT INSPECTIONS AND OBTAIN TIMELY APPROVALS. FAILURE TO COMPLY WILL SOLELY BE THE RESPONSIBILITY OF THE CONTRACTOR(S).

01.06 THE CONTRACTOR(S) SHALL PROVIDE PROTECTION FOR THE PUBLIC, OWNER'S STAFF, AND CONSTRUCTION WORKERS IN AND AROUND THE CONSTRUCTION AREA & ADJACENT PROPERTY. ADEQUATE BARRIERS & SIGNAGE SHALL BE PROVIDED TO EXERCISE CONTROL OF SAFE INGRESS & EGRESS OF PREMISES. FIRE EXITS SHALL NOT BE BLOCKED. PROPER SITE SECURITY DURING WORKING & OFF-HOURS SHALL BE MAINTAINED. BARRICADE ALL UNSAFE OR POTENTIALLY DANGEROUS CONDITIONS. THE CONTRACTOR(S) SHALL FOLLOW O.S.H.A. STANDARDS DURING THE COURSE OF THE PROJECT.

01.07 DO NOT SCALE THE DRAWINGS. USE CALCULATED DIMENSIONS ONLY. NOTE THAT NOT ALL DIMENSIONS ARE GIVEN ON THE CONSTRUCTION DOCUMENTS. SOME DIMENSIONS ARE IMPLIED. IF THE CONTRACTOR IS NOT SURE OF A GIVEN DIMENSION, HE/SHE SHALL SUBMIT A REQUEST FOR INFORMATION (R.F.I.) AND/OR SHALL FIELD VERIFY EXISTING DIMENSIONS.

01.08 ALL INFORMATION FOR ALL TRADES CONTAINED WITHIN THE CONSTRUCTION DOCUMENTS SHALL BE USED TOGETHER & IN CONCERT WITH ONE ANOTHER AS A WHOLE BODY OF INFORMATION FOR THE PROJECT. THE DRAWINGS & PROJECT MANUAL ARE COMPLEMENTARY & WHAT IS REQUIRED BY ONE, SHALL BE REQUIRED BY BOTH. NEITHER THE PRIME CONTRACTOR(S) NOR ANY SUBCONTRACTOR(S) SHALL BE RELIEVED OF THE RESPONSIBILITY TO PROVIDE ALL ITEMS REQUIRED BY THE INFORMATION & DESIGN INTENT INDICATED & IMPLIED. IN THE EVENT OF CONFLICTS BETWEEN DOCUMENTS, THE GREATER QUANTITY OR HIGHER QUALITY OF WORK SHALL PREVAIL AND BE PROVIDED.

01.09 ALL ITEMS LABELED "EXISTING" ARE EXISTING "TO REMAIN" UNLESS OTHERWISE INDICATED. ITEMS NOT LABELED "EXISTING" ARE TO BE PROVIDED. THE TERM "PROVIDE" SHALL MEAN FURNISH & INSTALL AS IT IS USED THROUGHOUT THE CONTRACT DOCUMENTS.

**SUMMARY WORK (SINGLE OVERALL PRIME CONTRACT)**

01.10 THE SCOPE OF THIS SINGLE OVERALL PRIME CONTRACT INCLUDES ALL THE WORK AS INDICATED ON THE DRAWINGS AND IN THE PROJECT MANUAL. THE SINGLE OVERALL PRIME CONTRACTOR BEARS SOLE SOURCE RESPONSIBILITY FOR THE DELIVERY OF THE PROJECT TO 100% COMPLETION.

**PROJECT COORDINATION (SINGLE OVERALL PRIME CONTRACT)**

01.11 THE SINGLE OVERALL PRIME CONTRACTOR BEARS SOLE SOURCE RESPONSIBILITY FOR THE COORDINATION OF THE ACTIVITIES OF ALL SUBCONTRACTORS, SUB-SUBCONTRACTORS, MATERIAL SUPPLIERS, AND ALL PARTIES INVOLVED IN THE EXECUTION OF THE PROJECT.

01.12 ENGINEERING DRAWINGS (STRUCTURAL, MECHANICAL, ELECTRICAL, PLUMBING, FIRE PROTECTION, COMMUNICATIONS, AND SECURITY SYSTEM DRAWINGS, ETC.) ARE SHOWN DIAGRAMMATICALLY AND ARE NOT TO SCALE, NOR DO THEY SHOW THE EXACT LOCATION OF THEIR COMPONENTS. THE EXACT LOCATION AND CLEARANCES FOR EACH SUCH SYSTEM OF COMPONENTS SHALL BE COORDINATED BY THE CONTRACTOR(S). ALL PRIME CONTRACTORS, PRIOR TO PURCHASE, FABRICATION, OR INSTALLATION OF THESE ITEMS SHALL PREPARE COORDINATION DRAWINGS SHOWING THE DIFFERENT TRADES BY COLORS AND SHALL CONDUCT A COORDINATION MEETING WITH ALL OTHER CONTRACTOR(S) AFFECTED FOR A TOTAL UNDERSTANDING OF THE DESIGN INTENT. THE ARCHITECTS AND THE ENGINEERS(S) SHALL BE INVITED TO ATTEND THIS MEETING AND OFFER INPUT PRIOR TO ANY WORK BEING FABRICATED OR INSTALLED.

**QUALITY REQUIREMENTS**

01.13 THE CONTRACTOR SHALL PROVIDE ALL MATERIAL, LABOR, SERVICES, ETC. TO COMPLETE THE ENTIRE WORK IN A MANNER ACCEPTABLE TO THE OWNER AND THE ARCHITECT. IT IS UNDERSTOOD THAT NOT EVERY DETAIL OR DIMENSION IS SHOWN IN THE CONTRACT DOCUMENTS, NOR ARE THEY NECESSARY FOR THE CONTRACTOR(S) TO PROVIDE A QUALITY PRODUCT. THE CONTRACTOR SHALL SUBMIT A REQUEST FOR INFORMATION (R.F.I.) IF NEEDED TO CLARIFY THE INTENT OF ANY DETAIL OR OTHER INFORMATION. HOWEVER, SUCH REQUEST FOR INFORMATION SHALL NOT CONSTITUTE A CHANGE IN THE SCHEDULE, OR IN THE CONTRACT AMOUNT. NO WORK SHOULD BE INSTALLED IF THE CONTRACTOR IS UNSURE OF THE DESIGN INTENT. INSTALLATION OF ANY WORK THAT DOES NOT COMPLY WITH THE DESIGN INTENT, AS DETERMINED BY THE ARCHITECT, SHALL BE SUBJECT TO REPLACEMENT AT THE CONTRACTOR'S EXPENSE.

01.14 ALL CONSTRUCTION, EQUIPMENT, CONTENTS, ETC. SHALL BE PROTECTED BY EACH CONTRACTOR DURING THE ENTIRE PERFORMANCE OF THE WORK. AREAS DISTURBED OR DAMAGED BY THE CONTRACTOR SHALL BE COMPLETELY RESTORED, REPAIRED, OR REPLACED BY THE CONTRACTOR. TO THE OWNER'S COMPLETE SATISFACTION AT NO ADDITIONAL COST.

01.15 ALL UNUSED MATERIAL AND DEBRIS SHALL BE DISTURBED OR DAMAGED BY THE CONTRACTOR SHALL BE COMPLETELY REMOVED FROM THE SITE AND LEGALLY DISPOSED OF. NO ON-SITE STORAGE, BURNING, OR BURIAL OF DEBRIS SHALL BE PERMITTED. THE CONSTRUCTION SITE SHALL BE KEPT IN A CLEAN AND SAFE MANNER, INCLUDING, BUT NOT LIMITED TO DAILY BROOM CLEANING THROUGHOUT THE DURATION OF THE CONSTRUCTION PROJECT.

**TEMPORARY FACILITIES & ACCESS**

01.16 CONSTRUCTION ACCESS ROADS, CURB CUTS, SOIL EROSION CONTROL, & THE LOCATION OF ALL TEMPORARY FACILITIES (INCLUDING POWER, TELEPHONE, WATER, WASTE, ETC.) SHALL BE THE RESPONSIBILITY OF THE GENERAL CONTRACTOR (UNLESS OTHERWISE NOTED), & SHALL BE COORDINATED WITH UTILITY COMPANIES, MUNICIPAL AUTHORITIES, ETC. AS REQUIRED.

**PRODUCT REQUIREMENTS**

01.17 ALL MATERIALS AND PRODUCTS SHALL BE PROTECTED AND PROPERLY STORED AS PER MANUFACTURER'S RECOMMENDATION. ALL MATERIALS AND PRODUCTS SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S CURRENT PRINTED RECOMMENDATIONS TO MAINTAIN THE PROPER WARRANTIES.

01.18 PRIOR TO THE INSTALLATION OF ALL MAJOR BUILDING COMPONENTS, THE PRIME CONTRACTOR(S) SHALL CONDUCT A PRE-INSTALLATION AND COORDINATION MEETING WITH THE MANUFACTURER'S REPRESENTATIVE. INCLUDED IN THE MEETING SHALL BE ANY SUBCONTRACTOR AND PRODUCT MANUFACTURER AFFECTED BY THE SPECIFIC WORK. FAILURE OF THE PRIME CONTRACTOR(S) TO CONDUCT SUCH A MEETING, AND PROPERLY COORDINATE THE PROCESS, SHALL PLACE THE BURDEN FOR ANY & ALL PROBLEMS, RESULTING FROM SAID INSTALLATION, UPON THE PRIME CONTRACTOR(S) RESPONSIBLE FOR THAT PORTION OF THE WORK.

01.19 LONG LEAD ITEMS SHALL BE IDENTIFIED BY THE CONTRACTOR(S) WITH NOTIFICATION TO THE ARCHITECT IN A TIMELY MANNER. FAILURE BY THE CONTRACTOR(S) TO OBTAIN SUBMITTAL APPROVALS, AND TO ORDER LONG LEAD ITEMS, SO AS NOT THE DELAY THE PROGRESS OF THE WORK, WILL NOT JUSTIFY AN EXTENSION OF THE SCHEDULE FOR COMPLETION, NOR WILL IT CAUSE PRODUCT SUBSTITUTIONS IN ORDER TO MEET THE SCHEDULE.

**EXECUTION REQUIREMENTS**

01.20 MISCELLANEOUS WOOD, COLD FORMED, OR ROLLED STEEL SHAPES, WHETHER BLOCKING OR SUB-FRAMING WHICH ARE REQUIRED FOR THE INSTALLATION OF OTHER ITEMS NECESSARY FOR A COMPLETE PACKAGE SHALL BE PROVIDED WHETHER OR NOT SPECIFICALLY INDICATED ON THE DRAWINGS.

01.21 DIMENSIONS GIVEN FOR MASONRY OPENINGS ARE NOMINAL. GENERAL CONTRACTOR(S) SHALL COORDINATE THE FABRICATION OF DOOR, WINDOW, AND VISION PANEL FRAMES AND OTHER ITEMS TO BE INSTALLED IN MASONRY TO ACCOMMODATE ACTUAL DIMENSIONS VERIFIED IN THE FIELD WITH AND WITHOUT MORTAR JOINTS AS THEY OCCUR.

01.22 EACH PRIME CONTRACTOR SHALL PROVIDE ALL NECESSARY SHORING & BRACING TO SUPPORT EXISTING OR NEW CONSTRUCTION NOT FULLY SET UNTIL PERMANENT SUPPORTS ARE ERECTED. TAKE ALL NECESSARY MEASURES TO PREVENT COLLAPSE OF ANY ELEMENT OF NEW OR EXISTING CONSTRUCTION.

01.23 EACH PRIME CONTRACTOR SHALL FIRE STOP/SMOKE PROOF ANY/ALL PENETRATIONS AS REQUIRED TO MAINTAIN THE DESIGNATED FIRE RATING/SMOKE PROOFING OF THE CONSTRUCTION WHETHER EXISTING OR NEW. THE GENERAL CONTRACTOR SHALL ALSO EXTEND RATED CONSTRUCTION TO MAINTAIN CONTINUITY OF SAME THROUGH CONCEALED SPACES (VERTICAL & HORIZONTAL) AS REQUIRED.

01.24 ANY/ALL EQUIPMENT PROVIDED SHALL BE INSTALLED TO BE COMPLETELY FUNCTIONAL. EACH PIECE OF EQUIPMENT PROVIDED BY A PRIME CONTRACTOR, REQUIRING SERVICE CONNECTIONS BY ANOTHER PRIME CONTRACTOR SHALL BE COORDINATED BY THE GENERAL CONTRACTOR. STARTUP & TESTING OF RAQUIPMENT SHALL BE PERFORMED & DOCUMENTED BY FACTORY AUTHORIZED PERSONNEL.

01.25 DETAILS & SECTIONS ON THE DRAWINGS ARE SHOWN AT SPECIFIC LOCATIONS & ARE INTENDED TO SHOW GENERAL REQUIREMENTS THROUGHOUT. DETAILS NOTED "TYPICAL" IMPLY ALL "LIKE-CONDITIONS" ARE TO BE TREATED SIMILARLY.

01.26 WORK NOT INDICATED IN PART OF THE DRAWING, BUT REASONABLY IMPLIED TO BE SIMILAR TO THAT SHOWN AT CORRESPONDING PLACES SHALL BE PROVIDED BY THE CONTRACTOR AT NO ADDITIONAL COST.

01.27 MINOR DETAILS OR INCIDENTAL ITEMS NOT USUALLY SHOWN OR SPECIFIED, BUT NECESSARY FOR THE PROPER & COMPLETE EXECUTION OF ANY PART OF THE WORK SHALL BE INCLUDED AS IF THEY WERE SPECIFICALLY INDICATED IN THE CONSTRUCTION DOCUMENTS.

**CUTTING AND PATCHING**

01.28 UNLESS OTHERWISE INDICATED: CUTTING AND PATCHING (EXCEPT FOR FINISHES) IS TO BE PERFORMED BY THE PRIME CONTRACTOR REQUIRING CUTTING AND PATCHING, WHETHER AS SELECTIVE DEMOLITION, OR AS A MEANS OF ACCESSING OR CORRECTING UNSATISFACTORY WORK. PATCHING OF THE SUBSTRATE IS ALSO THE WORK OF THAT PRIME CONTRACTOR, HOWEVER THE PATCHING OF ALL FINISHES EXPOSED TO VIEW IS TO BE DONE BY THE GENERAL CONTRACTOR USING SKILLED TRADESMAN TRAINED FOR PATCHING THE PARTICULAR FINISH INVOLVED.

**SUBMITTALS AND SUBSTITUTIONS**

01.29 THE PROJECT HAS BEEN DESIGNED TO MEET A CERTAIN PROFESSIONAL STANDARD AND PRODUCTS HAVE BEEN SELECTED TO MEET SUCH STANDARDS. THE PRODUCTS SPECIFIED ARE THE PRODUCTS INTENDED TO BE USED. IN THE EVENT THAT SUBSTITUTIONS ARE SUBMITTED FOR REVIEW, A PROPER COMPARATIVE INFORMATION SHEET SHALL ALSO BE SUBMITTED. ALL REQUESTS FOR SUBSTITUTION SHALL BE MADE WITHIN THE FIRST 90 DAYS AFTER THE CONTRACTOR HAS BEEN AWARDED THE CONTRACT FOR CONSTRUCTION. NO SUBSTITUTION WILL BE CONSIDERED AFTER THIS PERIOD.

01.30 THE PRIME CONTRACTOR SHALL PROVIDE ALL REQUIRED SCHEDULES, SUCH AS BUT NO LIMITED TO: SUBMISSION SCHEDULE, CONSTRUCTION SCHEDULE, & SCHEDULE OF VALUES PRIOR TO SUBMISSION OF THE FIRST APPLICATION FOR PAYMENT. NO APPLICATION FOR PAYMENT WILL BE APPROVED BY THE ARCHITECT UNTIL THIS PREREQUISITE IS COMPLIED WITH PROPERLY.

01.31 THE CONTRACTOR SHALL SUBMIT SHOP DRAWINGS SUFFICIENTLY IN ADVANCE OF THE WORK TO ALLOW PROPER TIME FOR REVIEW. MATERIALS SHALL NOT BE FABRICATED OR DELIVERED TO THE SITE BEFORE THE SHOP DRAWINGS HAVE BEEN APPROVED.

01.32 SHOP DRAWINGS SHALL BE REVIEWED BY THE ARCHITECT/ENGINEER FOR BASIC CONFORMANCE TO THE DESIGN INTENT ONLY AFTER PRIOR APPROVAL BY THE RESPONSIBLE PRIME CONTRACTOR. THIS REVIEW DOES NOT RELIEVE THE CONTRACTOR OR HIS SUB-CONTRACTOR(S) OF RESPONSIBILITY FOR FULL COMPLIANCE WITH THE REQUIREMENTS OF THE CONTRACT DOCUMENTS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DIMENSIONS & CLEARANCES TO BE CONFIRMED & CORRELATED AT THE JOB SITE, FOR MATERIALS QUANTITIES & PROPER FABRICATION, FOR PROPER MEANS & METHODS, FOR PROPER SEQUENCES OF CONSTRUCTION, FOR THE PROPER COORDINATION WITH OTHER TRADES, AND FOR PROVIDING SAFE AND SATISFACTORY CONSTRUCTION OPERATIONS.

01.33 EACH CONTRACTOR IS ADVISED THAT CERTAIN COLOR SCHEDULE SELECTIONS MAY HAVE PREVIOUSLY BEEN MADE, REVIEWED, AND APPROVED BY THE OWNER & RETURNED TO THE CONTRACTOR FOR EXECUTION. ALL CONTRACTORS SHALL TAKE NOTE & HEREAFTER STRONGLY BE ADVISED THAT MATERIAL SUBSTITUTIONS SUBMITTED LATER MAY BE REQUIRED TO BE PROVIDED WITH CUSTOM COLORS, TEXTURES, & FINISHES BASED UPON SELECTIONS PREVIOUSLY APPROVED. MATERIAL SUBSTITUTIONS ARE SUBJECT TO REJECTION SOLELY ON APPEARANCE.

01.34 THE ARCHITECT WILL TAKE APPROPRIATE ACTION UP TO THREE (3) TIMES FOR EACH ITEM SUBMITTED. SUBMITTALS REQUIRING MORE THAN THREE (3) REVIEWS DUE TO INCORRECT OR INCOMPLETE INFORMATION SHALL BE SUBJECT TO A REVIEW FEE FOR EACH SUBSEQUENT SUBMITTAL. THIS FEE SHALL BE AT THE HOURLY RATE OF THE ARCHITECT & ENGINEER, AND SHALL BE PRE-PAID TO THE ARCHITECT BY THE CONTRACTOR PRIOR TO ANY ADDITIONAL CONSIDERATION. FEES PAID SHALL IN NO WAY CONSTITUTE AN OBLIGATION BY THE ARCHITECT TO APPROVE ANY SUBMITTAL THAT IN HIS/HER OPINION DOES NOT COMPLY WITH THE DESIGN INTENT OF THE CONTRACT DOCUMENTS. FURTHERMORE, ANY SUCH ADDITIONAL REVIEW TIME SHALL NOT BE A BASIS FOR AN EXTENSION OF TIME.

01.35 IF SUBSTITUTIONS ARE APPROVED, THE CONTRACTOR SHALL NOTIFY ALL OTHER TRADES AFFECTED BY THE SUBSTITUTION & FULLY COORDINATE THE IMPACT ON THE PROJECT. ANY ADDITIONAL COST RESULTING FROM SUBSTITUTIONS SHALL BE PAID BY THE CONTRACTOR PROPOSING THE SUBSTITUTION.

**STANDARD WARRANTY**

01.36 EACH PRIME CONTRACTOR SHALL PROVIDE, AS PART OF ITS REQUIRED CLOSE-OUT DOCUMENTS, A STANDARD WARRANTY COVERING ALL MATERIALS, PRODUCTS, AND WORKMANSHIP FOR A PERIOD OF ONE YEAR FROM THE DATE OF FINAL ACCEPTANCE BY THE ARCHITECT. THIS STANDARD WARRANTY IS A BASIC REQUIREMENT OF EACH PRIME CONTRACT AND SHALL BE EXTENDED BY SPECIFIC WARRANTY REQUIREMENTS OF THE VARIOUS PRODUCTS AND SYSTEMS AS INDICATED THROUGHOUT THE CONTRACT DOCUMENTS.

**DIVISION 02 DEMOLITION**

02.01 THE ACTUAL SCOPE OF DEMOLITION SHALL NOT BE LIMITED TO WHAT IS SPECIFICALLY INDICATED ON THE DRAWINGS OR WITHIN THE PROJECT MANUAL, BUT SHALL INCLUDE ANY AND ALL COMPLETE OR SELECTIVE DEMOLITION AS MAY BE NECESSARY TO ACCOMPLISH THE INTENDED CONSTRUCTION. THIS APPLIES TO THE WORK OF ALL TRADES.

**DIVISION 05 EXTERIOR FERROUS METALS**

05.01 ALL FERROUS METAL USED ON OR EXPOSED TO THE EXTERIOR OF THE BUILDING INCLUDING BUT NOT LIMITED TO: STRUCTURAL AND MISCELLANEOUS FRAMING, WINDOWS, DOORS AND FRAMES, HANDRAILS, LINTELS, ETC. SHALL BE HOT-DIPPED AND GALVANIZED PRIOR TO INSTALLATION AND PAINTING.

**DIVISION 06 WOOD BLOCKING**

06.01 EVERY HOLLOW WALLBOARD PARTITION THAT IS INDICATED TO RECEIVE ANY ACCESSORIES SUCH AS, BUT NOT LIMITED TO, TOILET ACCESSORIES, HANDICAP RAILS, CABINETS, WALL MOUNTED BACK-BOARDS, ETC. SHALL BE PROVIDED WITH SOLID BLOCKING AND REINFORCEMENT WITHIN THE FRAMING TO ADEQUATELY SUPPORT THE INSTALLATION OF SUCH ITEMS.

**EXTERIOR WOOD**

06.02 ALL WOOD FRAMING LUMBER AND BLOCKING EXPOSED TO THE ELEMENTS OR USED IN CONTACT WITH MASONRY, CONCRETE, AND/OR ROOFING SHALL BE PRESSURE TREATED FOR RESISTANCE TO DETERIORATION FROM MOISTURE.

**DIVISION 07 SEALANTS**

07.01 ANY AND ALL CONSTRUCTION JOINTS INCLUDING JOINTS BETWEEN DIFFERENT ITEMS AND MATERIALS, JOINTS SURROUNDING PENETRATIONS THROUGH MATERIALS, AND CRACKS WITHIN MATERIALS, ETC., WHETHER ON THE INTERIOR OR EXTERIOR OF THE BUILDING, SHALL BE FILLED WITH AN APPROPRIATE SEALANT AS REQUIRED. ON THE INTERIOR OF THE BUILDING, SAID SEALANT SHALL BE PAINTABLE. ON THE EXTERIOR OF THE BUILDING, SAID SEALANT SHALL BE WEATHERPROOF AND IN A COLOR SELECTED BY THE ARCHITECT.

**ROOFING**

07.02 PRIOR TO THE START OF ROOF WORK, THE CONTRACTOR IS REQUIRED TO CONDUCT A PRE-INSTALLATION CONFERENCE WITH THE ROOFING MANUFACTURER, THE ROOF INSTALLER, OTHER AFFECTED CONTRACTORS, AND THE ARCHITECT TO DISCUSS IN DETAIL THE INSTALLATION PROCESS. UPON COMPLETION, A WALK-THROUGH MEETING SHALL BE DONE WITH THE CONTRACT DOCUMENTS AND THE MANUFACTURER'S BEST PRACTICE RECOMMENDATIONS FOR THE WARRANTY SPECIFIED.

**DIVISION 08 GLASS**

08.01 THE PRIME CONTRACTOR SHALL SET A COORDINATION MEETING WITH THE GLASS SUPPLIER & THE ARCHITECT PRIOR TO FABRICATION & INSTALLATION OF GLAZING TO ASSURE THAT PROPER GLASS TYPE (SAFETY, FIRE RATED, WIRED, SPECIALTY, ETC.) IS PROVIDED IN CORRESPONDING LOCATIONS.

**DIVISION 09**

09.01 UNLESS FACTORY FINISHED, OR OTHERWISE SPECIFICALLY NOTED ON THE CONSTRUCTION DOCUMENTS, ALL EXPOSED SURFACES (BOTH INTERIOR & EXTERIOR OF THE BUILDING) SHALL BE PAINTED/COATED IN COLORS & TEXTURES AS SELECTED BY THE ARCHITECT/OWNER. NO SURFACES ARE TO BE LEFT UNFINISHED UNLESS SPECIFICALLY NOTED ON THE CONTRACT DOCUMENTS.

**DIVISION 11 EQUIPMENT**

11.01 EQUIPMENT SUPPORT MEMBERS AS WELL AS PLUMBING & ELECTRICAL REQUIREMENTS SHALL BE COORDINATED IN A PRE-INSTALLATION CONFERENCE BY THE GENERAL CONTRACTOR WITH SUPPLIER/INSTALLER, ARCHITECT, & ANY OTHER CONTRACTOR AFFECTED BY THIS WORK.

**DIVISION 12 FURNISHINGS**

12.01 FURNITURE SHOWN ON THE DRAWINGS IS INDICATED SCHEMATICALLY TO DEMONSTRATE ITS APPROXIMATE LOCATION AND THE INTENDED PURPOSE OF THE SPACE. IT IS NOT AN ACCURATE REPRESENTATION OF ACTUAL SIZE OR OTHER SPECIFICS OF THE OWNER'S NEW OR EXISTING FURNITURE. THE CONTRACTOR(S) SHALL COORDINATE WITH THE OWNER AND/OR FURNITURE SUPPLIER/INSTALLER FOR ACTUAL INFORMATION.

**MILLWORK & CASEWORK**

12.02 CASEWORK & MILLWORK SHALL BE FULLY COORDINATED BY THE CONTRACTOR FOR SIZE, COLOR, TEXTURE/FINISH, FINAL LOCATION, POWER/DATA, & ALL OTHER REQUIREMENTS. SIGN-OFF BY THE OWNER IS REQUIRED PRIOR TO FABRICATION & INSTALLATION.

**DIVISION 14 ELEVATORS & LIFTS**

14.01 THE PRIME CONTRACTOR SHALL COORDINATE PRIOR TO FABRICATION ALL SPECIAL REQUIREMENTS SUCH AS KEYING MECHANISM, CAB FINISHES, LIGHTING, ETC. AND GET SIGN-OFF BY THE OWNER.

**DIVISION 23 FIRE DAMPERS**

23.01 ALL WALLS, FLOORS, CEILINGS, SHAFTS, ETC. THAT ARE DESIGNATED WITH A SMOKE OR FIRE RESISTANCE RATING, OR ARE REQUIRED AS SUCH BY CODE SHALL BE PROVIDED WITH SMOKE OR FIRE DAMPERS WHETHER SHOWN ON THE CONSTRUCTION DOCUMENTS OR NOT. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR(S) AFFECTED TO ASSURE THAT THE SMOKE AND FIRE RESISTANCE INTEGRITY IS MAINTAINED WITH CONTINUITY.

**ROOF PENETRATIONS**

23.02 ALL ROOF PENETRATIONS FOR MECHANICAL ITEMS (PIPES, DUCTS, CURBS, ETC.) SHALL BE FULLY COORDINATED BY THE GENERAL CONTRACTOR FOR EXACT LOCATION, SIZE, SUPPORT, ETC. FAILURE TO COORDINATE THESE ITEMS MAY RESULT IN CHANGES IN THE FIELD AT THE EXPENSE OF THE GENERAL CONTRACTOR.

**DIVISION 26 ELECTRICAL**

26.01 CONVENIENCE & DATA OUTLETS, WALL SWITCHES, AND FIXTURES SHALL BE COORDINATED WITH THE LOCATION OF FURNITURE, MILLWORK, CASEWORK, ETC. PRIOR TO INSTALLATION. FAILURE TO COORDINATE THESE ITEMS MAY RESULT IN CHANGES IN THE FIELD AT THE EXPENSE OF THE PRIME CONTRACTOR.

## DRAWING LIST

### ARCHITECTURAL


A-000 COVER SHEET
A-010 BUILDING CODE ANALYSIS & BARRIER FREE LEGEND
A-101 FIRST FLOOR DEMOLITION + PROPOSED PLANS
A-102 SECOND FLOOR DEMOLITION + PROPOSED PLANS
A-103 THIRD FLOOR DEMOLITION + PROPOSED PLANS
A-104 FOURTH FLOOR DEMOLITION + PROPOSED PLANS
A-105 FIFTH FLOOR DEMOLITION + PROPOSED PLANS
A-140 EXISTING & PROPOSED ROOF PLANS
A-141 ROOF DETAILS
A-300 EXISTING EXTERIOR ELEVATIONS
A-600 OPENINGS - SCHEDULES + DETAILS


### STRUCTURAL


S-100 EXISTING & PROPOSED ROOF PLAN, GENERAL NOTES AND DETAILS


### FIRE PROTECTION


FP0.1 FIRE PROTECTION NOTES, SYMBOLS & ABBREVIATIONS
FP1.1 FIRE PROTECTION 2ND & 4TH FLOOR DEMOLITION PLANS
FP2.1 FIRE PROTECTION 2ND, 4TH & 5TH FLOOR NEW WORK PLANS


### PLUMBING

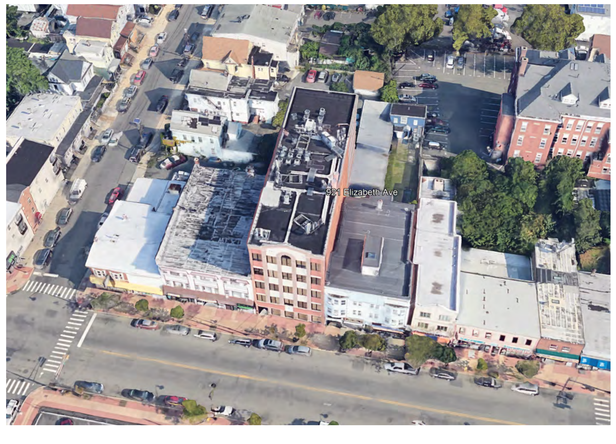

P0.1 PLUMBING NOTES, SYMBOLS, ABBREVIATIONS & SCHEDULE
P0.2 PLUMBING SPECIFICATIONS
P1.1 PLUMBING 5TH FLOOR DEMOLITION & NEW WORK PLANS


### MECHANICAL

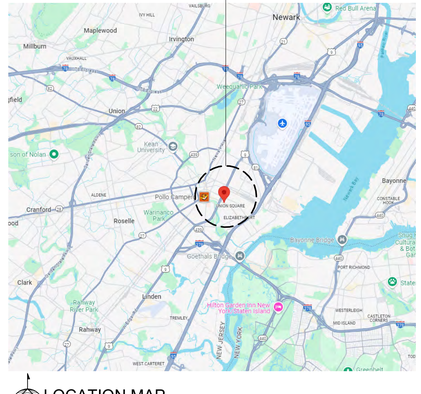

M0.1 MECHANICAL SYMBOLS, NOTES & ABBREVIATIONS
M0.2 MECHANICAL GENERAL NOTES
M1.1 MECHANICAL BSMT, 1ST, 2ND & 3RD FLOOR DEMO PLANS
M1.2 MECHANICAL 4TH, 5TH & ROOF DEMO PLANS
M2.1 MECHANICAL BSMT, 1ST, 2ND & 3RD FLOOR NEW WORK PLANS
M2.2 MECHANICAL 4TH, 5TH & ROOF NEW WORK PLANS
M3.1 MECHANICAL SCHEDULES
M4.1 MECHANICAL DETAILS
M4.2 MECHANICAL DETAILS
M5.1 MECHANICAL SCHEMATICS & ELEVATIONS
M6.1 MECHANICAL CONTROL DIAGRAMS & NOTES
M6.2 MECHANICAL CONTROL DIAGRAMS & NOTES
M7.1 MECHANICAL VRF PIPING & WIRING DIAGRAMS


### ELECTRICAL


E0.1 ELECTRICAL SYMBOLS, NOTES, & ABBREVIATIONS
E0.2 ELECTRICAL SPECIFICATIONS
E1.1 ELECTRICAL BSMT, 1ST, 2ND & 3RD FLOOR DEMOLITION PLANS
E1.2 ELECTRICAL 4TH, 5TH, & ROOF DEMOLITION PLANS
E2.1 ELECTRICAL BSMT, 1ST, 2ND & 3RD FLOOR NEW WORK PLANS - POWER
E2.2 ELECTRICAL 4TH, 5TH, & ROOF NEW WORK PLANS - POWER
E3.1 ELECTRICAL BSMT, 1ST, 2ND & 3RD FLOOR NEW WORK PLANS - LIGHTING
E3.2 ELECTRICAL 4TH, 5TH & ROOF NEW WORK PLANS - LIGHTING
E4.1 ELECTRICAL ONE-LINE DIAGRAM & PANEL SCHEDULES
E4.2 ELECTRICAL PANEL SCHEDULES
E5.1 ELECTRICAL DETAILS


PROJECT LOCATION:
921 ELIZABETH AVEUNE,
ELIZABETH, NJ 07201




LOCATION MAP
SCALE: N.T.S.

## DESIGN TEAM

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USA ARCHITECTS, PLANNERS AND INTERIOR DESIGNERS, LTD.

STRUCTURAL

MPP STRUCTURAL ENGINEER

MEP

JOHNSON & URBAN ENGINEER

RESTORATION SERVICES SPECIALIST

JOHN E. HARRY

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Joseph J. Policay Jr., CPWM
Director, Department of Engineering, Public Works and Facilities Management

**COUNTY EN

# BUILDING CODE INFORMATION

## NEW JERSEY ADMINISTRATIVE CODES

**APPLICABLE CONSTRUCTION CODES - NEW JERSEY ADMINISTRATIVE CODE ("N.J.A.C.")**

| | |
|---|---|
| N.J.A.C. 5:23 | **UNIFORM CONSTRUCTION CODE (UCC)** |
| N.J.A.C. 5:23-3.14 | **BUILDING SUBCODE -**<br>- INTERNATIONAL BUILDING CODE / 2021 NEW JERSEY EDITION ("NJ IBC 2021") |
| N.J.A.C. 5:23-3.15 | **PLUMBING SUBCODE -**<br>- NATIONAL STANDARD PLUMBING CODE / 2021 NEW JERSEY EDITION ("NJ NSPC 2021") |
| N.J.A.C. 5:23-3.16 | **ELECTRICAL SUBCODE -**<br>- NATIONAL ELECTRICAL CODE (NFPA 70) / 2020 ("NEC 2020") |
| N.J.A.C. 5:23-3.18 | **ENERGY SUBCODE -**<br>- ASHRAE 90.1-2019 (COMMERCIAL AND ALL OTHER RESIDENTIAL) |
| N.J.A.C. 5:23-3.20 | **MECHANICAL SUBCODE -**<br>- INTERNATIONAL MECHANICAL CODE / 2021 ("IMC 2021") |
| N.J.A.C. 5:23-3.22 | **FUEL GAS SUBCODE -**<br>- INTERNATIONAL FUEL GAS CODE / 2021 ("IFGC 2021") |
| N.J.A.C. 5:23-6 | **REHABILITATION SUBCODE -**<br>- NJUCC, SUBCHAPTER 6 |
| N.J.A.C. 5:23-7 | **BARRIER FREE SUBCODE -**<br>- CHAPTER 11 OF NJ IBC 2021 AND ICC/ANSI A117.1-2017 |
| N.J.A.C. 5:23-12 | **ELEVATOR SUBCODE -**<br>- AMERICAN SOCIETY OF MECHANICAL ENGINEERS (ASME) |
| N.J.A.C. 5:70 | **UNIFORM FIRE CODE (UFC) AND THE STATE FIRE PREVENTION CODE** |

## CHAPTER 3: USE AND OCCUPANCY CLASSIFICATION

| IBC REFERENCE | USE GROUP CLASSIFICATION |
|---|---|
| SECTION NO. 304.1 | B - BUSINESS (EXISTING, NO CHANGE) |
| | |
| | |

## CHAPTER 5: GENERAL BUILDING HEIGHTS AND AREAS

ALLOWABLE HEIGHTS AND AREAS

| | |
|---|---|
| PROPOSED HEIGHT AND STORIES | EXISTING, NO CHANGE |
| PROPOSED AREA | EXISTING, NO CHANGE |

## CHAPTER 6: TYPES OF CONSTRUCTION

| IBC REFERENCE | CONSTRUCTION CLASSIFICATION |
|---|---|
| SECTION NO.602.2 | IIB (EXISTING NOT CHANGE) |

## CHAPTER 8: INTERIOR FINISHES

| IBC REFERENCE | CLASSIFICATION | FLAME SPREAD | SMOKE DEVELOPMENT |
|---|---|---|---|
| 803.1.2 | CLASS A INTERIOR FINISH: | 0-25 | 0-450 |
| | CLASS B INTERIOR FINISH: | 26-75 | 0-450 |
| | CLASS C INTERIOR FINISH: | 76-200 | 0-450 |

TABLE 803.13 - INTERIOR WALL AND CEILING FINISH REQUIREMENTS

| LOCATION | OCCUPANCY | REQUIREMENT |
|---|---|---|
| EXIT ENCLOSURES AND PASSAGEWAYS | B - BUSINESS | CLASS B |
| CORRIDORS AND ENCLOSURES FOR EXIT ACCESS | B - BUSINESS | CLASS C |
| ROOMS AND ENCLOSED SPACES | B - BUSINESS | CLASS C |

| IBC REFERENCE | INTERIOR FLOOR FINISH CLASSIFICATION |
|---|---|
| 804.2 | CLASS I INTERIOR FLOOR FINISH/COVERING: 0.45 WATTS/CM2 OR GREATER<br>CLASS II INTERIOR FLOOR FINISH/COVERING: 0.22 WATTS/CM2 OR GREATER<br>(CLASSIFICATION AS DETERMINED BY ASTM E648 OR NFPA 253) |

## CHAPTER 9: FIRE PROTECTION SYSTEMS

902/913 FIRE PUMP AND RISER ROOM SIZE / FIRE PUMPS

| | | REQUIRED | PROVIDED |
|---|---|---|---|
| 903 | AUTOMATIC SPRINKLER SYSTEMS<br>B - BUSINESS | NO | YES (EXISTING, NO CHANGES) |
| 905 | STANDPIPE SYSTEMS<br>B - BUSINESS | YES | YES (EXISTING, NO CHANGES) |
| 906 | PORTABLE FIRE EXTINGUISHERS<br>B - BUSINESS | YES | YES (EXISTING , NO CHANGE) |
| 907 | MANUAL FIRE ALARM SYSTEM<br>B - BUSINESS | YES | YES (EXISTING, NO CHANGE) |
| | AUTOMATIC SMOKE DETECTION SYSTEM<br>B - BUSINESS | NO | NO (EXISTING, NO CHANGE) |
| | SMOKE ALARMS<br>B - BUSINESS | NO | NO (EXISTING, NO CHANGE) |
| 907.5 | OCCUPANT NOTIFICATION SYSTEM<br>B - BUSINESS | NO | NO (EXISTING, NO CHANGE) |

## CHAPTER 10: MEANS OF EGRESS

TABLE 1004.5 MAXIMUM FLOOR AREA ALLOWANCES PER OCCUPANT

| FUNCTION OF SPACE | FLOOR AREA IN SQUARE FOOT PER OCCUPANT |
|---|---|
| ACCESSORY | 300 GROSS |
| ASSEMBLY (UNCONCETRATED) | 15 NET |
| BUSINESS AREAS | 150 GROSS |

TABLE 1006.2.1 SPACES WITH ONE EXIT OR EXIT ACCESS DOORWAY

| OCCUPANCY | MAXIMUM OCCUPANT LOAD | MAXIMUM COMMON PATH |
|---|---|---|
| B - BUSINESS | 49 PERSONS | 100' |

1009 ACCESSIBLE MEANS OF EGRESS
NOT LESS THAN 2 ACCESSIBLE MEANS OF EGRESS PER FLOOR
REQUIRED CLEAR WIDTH OF 48" BETWEEN HANDRAILS NOT REQUIRED AT EXIT STAIRWAYS IN BUILDINGS EQUIPPED THROUGHOUT WITH AN AUTOMATIC SPRINKLER SYSTEM INSTALLED IN ACCORDANCE WITH SECTION 903.3.1.1.

TABLE 1017.2 EXIT ACCESS TRAVEL DISTANCE WITH SPRINKLER SYSTEM

| OCCUPANCY | MAXIMUM DISTANCE |
|---|---|
| B - BUSINESS | 300 FEET |

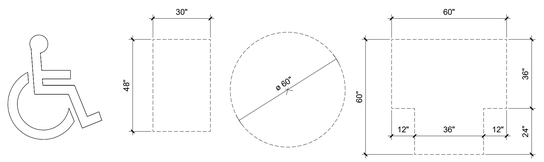
TABLE 1020.2 CORRIDOR FIRE-RESISTANCE RATING WITH SPRINKLER SYSTEM

| OCCUPANCY | OCCUPANT LOAD SERVED | FIRE-RESISTANCE RATING |
|---|---|---|
| B - BUSINESS | GRATER THAN 30 | 0 |

1028.5 THE EXIT DISCHARGE SHALL PROVIDE A DIRECT AND UNOBSTRUCTED ACCESS TO A PUBLIC WAY.

## BARRIER FREE LEGEND (ICC/ANSI A117.1 - 2017: ACCESSIBLE AND USABLE BUILDINGS AND FACILITIES - EXISTING BUILDING)

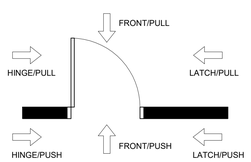
NOTE: ALL DIMENSIONS IN THIS LEGEND ARE TO THE FINISHED SURFACE UNLESS NOTED OTHERWISE

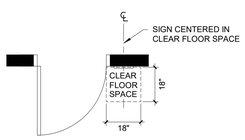



INTERNATIONAL SYMBOL OF ACCESS | CLEAR FLOOR AREA (EXISTING BUILDINGS) | TURNING CIRCLE (EXISTING BUILDINGS) | T-SHAPED TURNING AREA (EXISTING BUILDINGS)

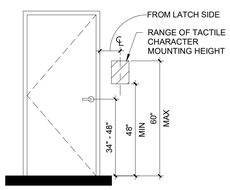
| MANEUVERING CLEARANCES AT MANUAL SWINGING DOORS - EXISTING BUILDINGS | | | |
|---|---|---|---|
| TYPE OF USE | | MINIMUM MANEUVERING CLEARANCES | |
| APPROACH DIRECTION | DOOR SIDE | PERPENDICULAR TO DOORWAY | PARALLEL TO DOORWAY (BEYOND LATCH UNLESS NOTED) |
| FROM FRONT | PULL | 60 INCHES | 18 INCHES |
| FROM FRONT | PUSH | 48 INCHES | 0 INCHES (NOTE 3) |
| FROM HINGE SIDE | PULL | 60 INCHES | 36 INCHES |
| FROM HINGE SIDE | PULL | 54 INCHES | 42 INCHES |
| FROM HINGE SIDE | PUSH | 42 INCHES (NOTE 1) | 22 INCHES (NOTE 4) |
| FROM LATCH SIDE | PULL | 48 INCHES (NOTE 2) | 24 INCHES |
| FROM LATCH SIDE | PUSH | 42 INCHES (NOTE 2) | 24 INCHES |

NOTES:
1. ADD 6" IF CLOSER AND LATCH PROVIDED.
2. ADD 6" IF CLOSER PROVIDED.
3. ADD 12" BEYOND LATCH IF CLOSER AND LATCH PROVIDED.
4. BEYOND HINGE SIDE.

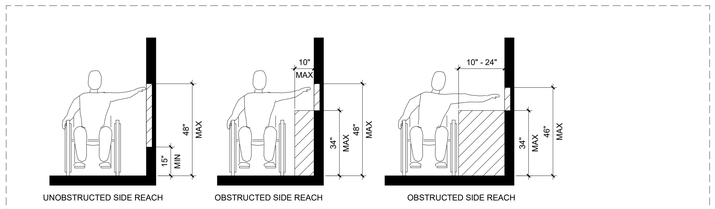



PLAN VIEW DOOR ACCESSORY MOUNTING LOCATION




FRONT VIEW DOOR ACCESSORY MOUNTING HEIGHT




UNOBSTRUCTED SIDE REACH | OBSTRUCTED SIDE REACH | OBSTRUCTED SIDE REACH

**NOTE: OPERABLE PARTS OF ALL FIXTURES ARE REQUIRED TO BE MOUNTED WITHIN THE REACH RANGES INDICATED ABOVE**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**EXTERIOR + INTERIOR RESTORATION + ALTERATION**
AT
**921 ELIZABETH AVENUE**
FOR THE
**COUNTY OF UNION**

PROJECT ADDRESS:
921 ELIZABETH AVENUE
ELIZABETH, NJ 07201

| No. | Date | Issue or Revision |
|---|---|---|
| 1 | 01.17.25 | ISSUED FOR BID |

Drawing Title
BUILDING CODE ANALYSIS & BARRIER FREE LEGEND

| | |
|---|---|
| Scale: AS NOTED | USA Project No.: R2024.0087 |
| Drawing Date: 01.17.2025 | Drawing No.: A-010 |
| Drawn By: CW/TD | Checked By: ApA |

EXISTING TO REMAIN

TO BE REMOVED

AREAS NOT IN CONTRACT

GENERAL DEMOLITION NOTES:

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2. DO NOT CONSIDER DEMOLITION AND ALTERATION NOTES TO BE ALL INCLUSIVE. IT IS THE CONTRACTOR'S RESPONSIBILITY TO INSPECT AND ASSESS EACH SPACE AND TO FULFILL THE INTENT OF THE WORK INDICATED BY THE CONTRACT DOCUMENTS. VERIFY ALL DIMENSIONS WITHIN THE CONTRACT LIMITS. BRING DEVIATIONS FROM THE CONTRACT DOCUMENTS TO THE ATTENTION OF THE ARCHITECT. THE EXTENT OF DEMOLITION AND REMOVAL INCLUDES, BUT IS NOT LIMITED TO WORK SHOWN ON THE DRAWINGS. COORDINATE W/ MECHANICAL, ELECTRICAL, PLUMBING & STRUCTURAL DRAWINGS.

3. REMOVE ANY MISCELLANEOUS PROJECTIONS, HANGERS, BOLTS, SCREWS AND NAILS FROM EXISTING SURFACES TO REMAIN. PATCH AND PREPARE SURFACES TO RECEIVE NEW FINISH.

4. PATCH AND REPAIR ALL ADJACENT SURFACES WHICH ARE AFFECTED BY THE DEMOLITION OR REMOVAL OF ACCESSORIES TO THEIR ORIGINAL FORM AND PREPARE FOR NEW FINISH. COORDINATE WITH FINISH DRAWINGS.

5. GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR DAILY CLEANUP OF CONSTRUCTION DEBRIS.

6. BEFORE DEMOLITION BEGINS, CONTRACTOR SHALL COORDINATE SEQUENCE AND SCHEDULES FOR ALL WORK AND RELOCATION OR DISPOSAL OF ALL MATERIALS WITH OWNER.

7. DEMOLITION PLANS ARE DIAGRAMMATIC. PRIOR TO SUBMITTING BID, GENERAL CONTRACTORS SHALL FAMILIARIZE THEMSELVES WITH EXISTING CONDITIONS AND BRING ANY AREAS IN QUESTION TO THE ATTENTION OF THE ARCHITECT.

## SELECTIVE DEMOLITION LEGEND:

- X — DEMOLITION SCOPE OF WORK ITEM TYPICAL THROUGHOUT ENTIRE ROOM / AREA
- X — DEMOLITION SCOPE OF WORK ITEM AT A SPECIFIC LOCATION
- 1 — REMOVE EXISTING INTERIOR PARTITION IN ITS ENTIRETY, PATCH AND REPAIR ADJACENT SURFACES TO RECEIVE NEW FINISHES AS SCHEDULED.
- 1A — REMOVE EXISTING INTERIOR PARTITION IN ITS ENTIRETY FROM FLOOR LEVEL TO THE PROPOSED CEILING HEIGHT. PATCH AND REPAIR TO PROVIDE FINISHED SOFFIT.
- 1B — REMOVE PORTION OF EXISTING WALL TO CREATE A NEW DOOR AND FRAME OPENING 7'-2" H. X WIDTH NOTED ON DRAWING. PATCH AND REPAIR ADJACENT SURFACES TO RECEIVE NEW FINISHES.
- 1C — REMOVE PORTION OF EXISTING WALL TO CREATE A NEW WINDOW AND FRAME OPENING 4'-0" H. X WIDTH NOTED ON DRAWING AT 3'-0" AFF. PATCH AND REPAIR ADJACENT SURFACES TO RECEIVE NEW FINISHES.
- 2 — REMOVE DOOR(S), FRAME(S), SIDELITE(S), AND TRANSOM WHERE THEY OCCUR AND ALL ASSOCIATED HARDWARE, SILLS, ANCHORS, ETC. PATCH AND REPAIR ADJACENT SURFACES.
- 3 — REMOVE ALL FLOORING TO SUB FLOOR. PREP SUBFLOOR AS REQUIRED FOR NEW FLOOR INSTALLATION.
- 4 — EXISTING FURNITURE TO REMAIN. RELOCATE EXISTING FURNITURE AS REQUIRED TO FACILITATE WORK, ALL FURNITURE MUST GO BACK TO SAME LOCATION ONCE WORK IS COMPLETED. ASSUME ALL FILE CABINETS AND DESK DRAWERS ARE FILLED.
- 4A — EXISTING FURNITURE TO BE REMOVED. REMOVE EXISTING FURNITURE IN ITS ENTIRETY AND DISPOSE.
- 5 — REMOVE PLUMBING FIXTURE(S) IN THEIR ENTIRETY. COORDINATE WITH PLUMBING DRAWINGS. PATCH AND REPAIR AS REQUIRED TO RECEIVE NEW FINISHES.
- 6 — REMOVE EXISTING CASEWORK, COUNTERTOPS AND SUPPORTS IN THEIR ENTIRETY, PATCH AND REPAIR ADJACENT SURFACES.
- 7 — EXISTING CEILING SYSTEM TO BE REMOVED AND REPLACED INCLUDING SOFFITS AND FASCIA, FRAMING, GRID AND HANGERS. REMOVE ALL LIGHTING FIXTURES AND CEILING MOUNTED ACCESS PANELS. PATCH AND REPAIR ALL SURFACES TO RECEIVE NEW FINISHES. SEE ELECTRICAL, MECHANICAL, AND PLUMBING FOR ADDITIONAL INFORMATION.
- 7A — EXISTING CEILING SYSTEM TO REMAIN. REMOVE EXISTING CEILING SYSTEM AS REQUIRED TO FACILITATE WORK, RE-INSTALL CEILING SYSTEM ONCE WORK IS COMPLETE. COORDINATE WITH MEP DRAWINGS FOR SCOPE OF NEW WORK IN WHICH THE EXISTING CEILING SYSTEM NEEDS TO BE REMOVED TO FACILITATE WORK.
- 8 — REMOVE EXISTING METAL STUDS, GYPSUM BOARD, AND INSULATION IN THEIR ENTIRETY. ALL ELECTRICAL OUTLETS AND DATA OUTLETS TO REMAIN AND MUST BE PUT BACK IN THE SAME LOCATION.
- 8A — REMOVE EXISTING FLOOR FINISH AS REQUIRED TO ACCOMMODATE DEMOLITION OF EXISTING / INSTALLATION OF NEW METAL STUD AND GYPSUM BOARD PARTITION ALONG EXTERIOR WALL.

## CEILING LEGEND

- AP-1 — 2' x 2' APC
- 2' x 4' LIGHT FIXTURE
- SUPPLY DIFFUSER
- RETURN DIFFUSER

## GENERAL REQUIREMENTS:

1. MEASURE EACH CEILING AREA PRIOR TO INSTALLATION AND ESTABLISH THE LAYOUT OF THE ACOUSTICAL PANEL SYSTEM SO THAT THE PANELS AT THE PERIMETER ARE CUT TO EQUAL SIZES TO THE OPPOSITE WALL AND PROVIDE MINIMUM DIMENSION OF 6" FOR CUT PIECES, UNLESS NOTED OTHERWISE BY SPECIFIC DIMENSIONS OR LAYOUT REQUIREMENTS.

2. REFER TO ELECTRICAL DRAWINGS FOR TYPES OF FIXTURES. UTILIZE REFLECTED CEILING PLANS FOR LOCATIONS AND COORDINATION OF FIXTURES. ANY DISCREPANCY BETWEEN ELECTRICAL AND ARCHITECTURAL DRAWINGS SHOULD BE BROUGHT TO THE ATTENTION OF THE ARCHITECT IMMEDIATELY.

3. REFER TO ELECTRICAL DRAWINGS FOR EMERGENCY LIGHTS, NIGHT LIGHTS, AND EXIT SIGN LOCATIONS.

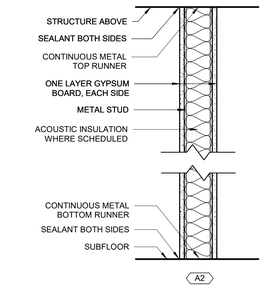
4. REFER TO MECHANICAL DRAWINGS FOR H.V.A.C. GRILLES AND DIFFUSERS. UTILIZE REFLECTED CEILING PLAN FOR LOCATION AND COORDINATION OF ITEMS. ANY DISCREPANCY BETWEEN THE MECHANICAL AND ARCHITECTURAL DRAWINGS SHOULD BE BROUGHT TO THE ATTENTION OF THE ARCHITECT IMMEDIATELY.

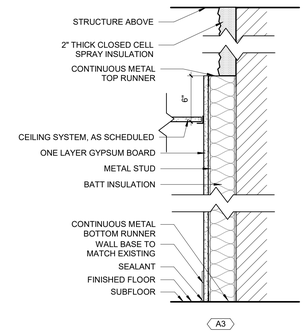
5. ALL CEILING HEIGHTS TO BE ABOVE FINISHED FLOOR FOR EACH ROOM.

6. PLACEMENT OF SPRINKLER HEADS SHALL BE AT THE CENTER OF ACOUSTICAL TILE UNLESS NOTED OTHERWISE. COORDINATE LOCATION WITH PLUMBING, ELECTRICAL, AND H.V.A.C. FIXTURES AND EQUIPMENT.

### FINISH MATERIAL LEGEND - BASIS OF DESIGN

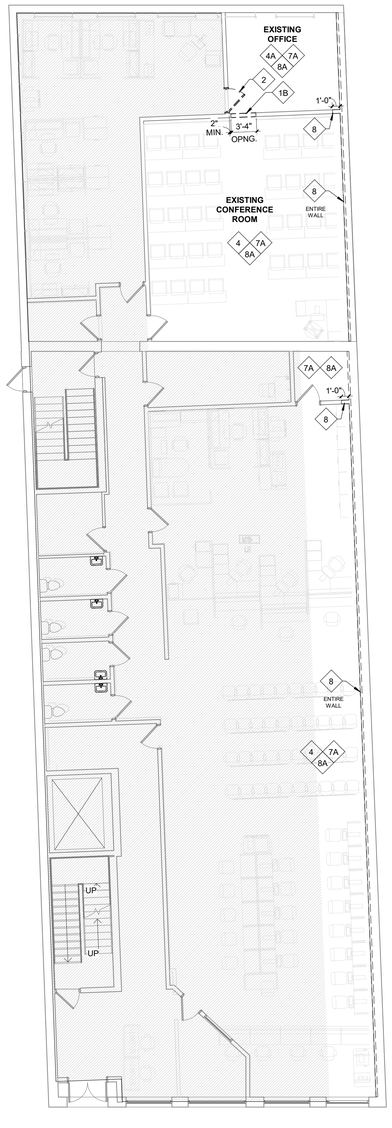
| TAG | FINISH | MANUFACTURER | STYLE | COLOR | SIZE |
|---|---|---|---|---|---|
| | **PAINT** | | | | |
| P-1 | PAINT - DOOR FRAME | BENJAMIN MOORE | SEMIGLOSS FINISH | OC-68 DISTANT GRAY | -- |
| P-2 | PAINT - WALL | BENJAMIN MOORE | EGGSHELL FINISH | OC-68 DISTANT GRAY | -- |
| | **CARPET** | | | | |
| C-1 | CARPET TILE | MANNINGTON | TRANCE END 82169 | FORM | 24"x24" |
| | **RESILIENT FLOOR** | | | | |
| VCT-1 | VINYL COMPOSITION TILE | AHF/ARMSTRONG | STANDARD EXCELON | PEWTER 51908 | 12"x12" |
| | **BASE FINISHES** | | | | |
| B-1 | WALL BASE | ROPPE | PINNACLE RUBBER COVE BASE | DOLPHIN 129 | 4" |
| | **MISCELLANEOUS** | | | | |
| ETR | EXISTING TO REMAIN | -- | EXISTING TO REMAIN | -- | -- |
| | **MILLWORK** | | | | |
| PL-1 | PLASTIC LAMINATE | FORMICA | STANDARD LAMINATE MATTE | 464-58 GRAYSTONE | |
| SS-1 | SOLID SURFACE RESIN | CORIAN | SOLID SURFACE RESIN | DOVE | |
| | | | | | |



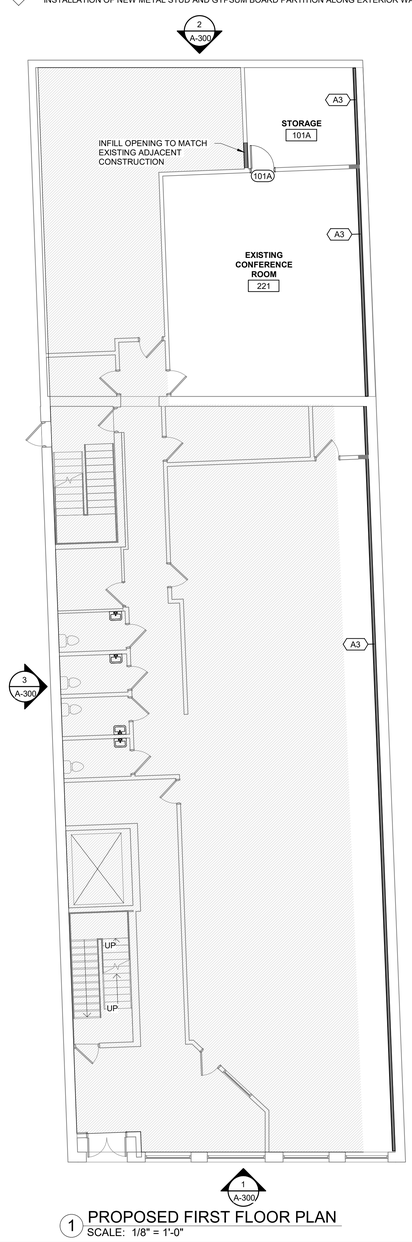




| MARK | STUD SIZE | GYP. BD. THICKNESS | GYPSUM BOARD HEIGHT | TOTAL PARTITION THICKNESS | ACOUSTIC INSULATION | STC RATING | FIRE RATING / UL DESIGN NO. |
|---|---|---|---|---|---|---|---|
| A2 | 3-5/8" | 5/8" | FULL HEIGHT TO STRUCTURE ABOVE | 4-7/8" | YES | - | - |
| A3 | 3-5/8" | 5/8" | 6" ABOVE FINISHED CEILING | 4 1/4" | YES | - | - |

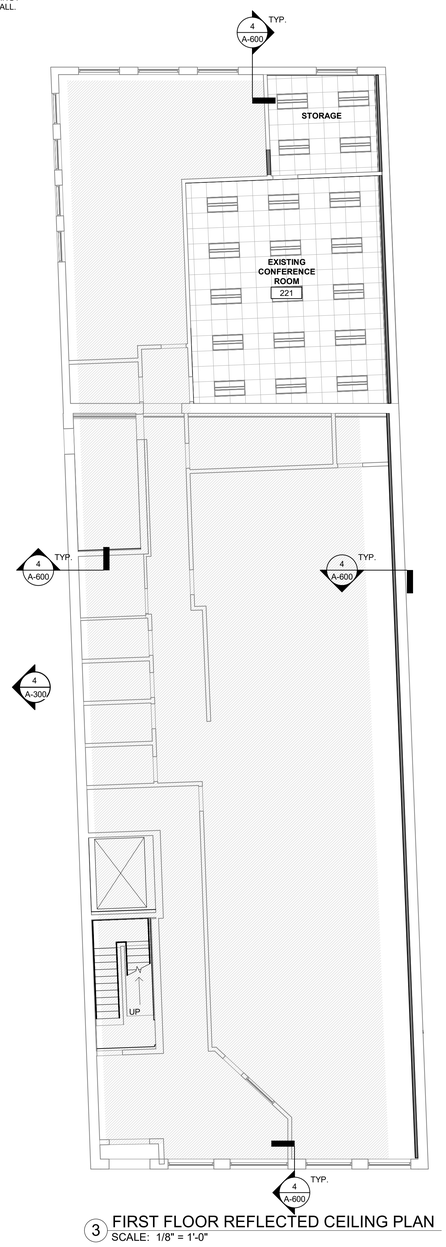
A GYPSUM PARTITION WALL TYPES



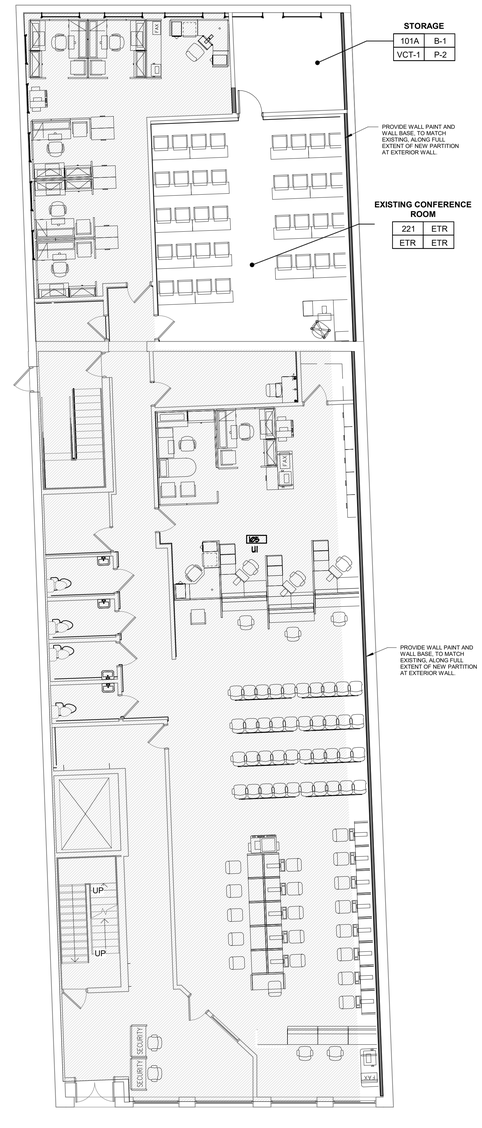

2 FIRST FLOOR DEMOLITION PLAN
SCALE: 1/8" = 1'-0"




1 PROPOSED FIRST FLOOR PLAN
SCALE: 1/8" = 1'-0"




3 FIRST FLOOR REFLECTED CEILING PLAN
SCALE: 1/8" = 1'-0"




4 FIRST FLOOR FINISH PLAN
SCALE: 1/8" = 1'-0"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PROJECT ADDRESS:
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| No. | Date | Issue or Revision |
|---|---|---|
| 1 | 01.17.25 | ISSUED FOR BID |

Drawing Title
FIRST FLOOR DEMOLITION + PROPOSED PLANS

| | |
|---|---|
| Scale: AS NOTED | USA Project No. R2024.0087 |
| Drawing Date: 01.17.2025 | Drawing No. A-101 |
| Drawn By: ChaW | Checked By: ApA |

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TO BE REMOVED

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### FINISH MATERIAL LEGEND - BASIS OF DESIGN

| TAG | FINISH | MANUFACTURER | STYLE | COLOR | SIZE |
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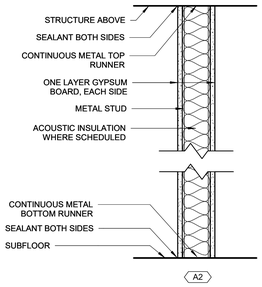
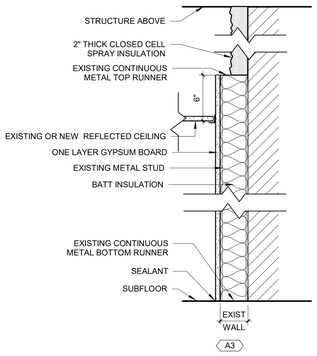
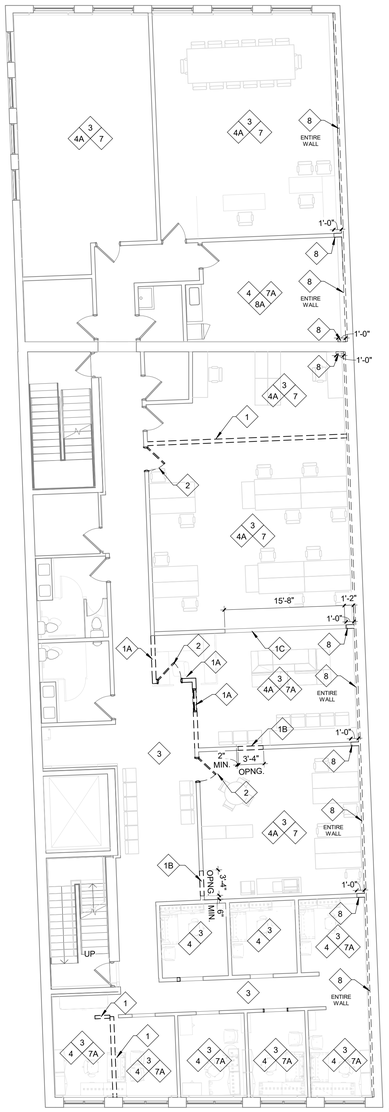
| P-2 | PAINT - WALL | BENJAMIN MOORE | EGGSHELL FINISH | OC-68 DISTANT GRAY | -- |
| | **CARPET** | | | | |
| C-1 | CARPET TILE | MANNINGTON | TRANCE END 82169 | FORM | 24"x24" |
| | **RESILIENT FLOOR** | | | | |
| VCT-1 | VINYL COMPOSITION TILE | AHF/ARMSTRONG | STANDARD EXCELON | PEWTER 51908 | 12"x12" |
| | **BASE FINISHES** | | | | |
| B-1 | WALL BASE | ROPPE | PINNACLE RUBBER COVE BASE | DOLPHIN 129 | 4" |
| | **MISCELLANEOUS** | | | | |
| ETR | EXISTING TO REMAIN | -- | EXISTING TO REMAIN | -- | -- |
| | **MILLWORK** | | | | |
| PL-1 | PLASTIC LAMINATE | FORMICA | STANDARD LAMINATE MATTE | 464-58 GRAYSTONE | |
| SS-1 | SOLID SURFACE RESIN | CORIAN | SOLID SURFACE RESIN | DOVE | |
| | | | | | |



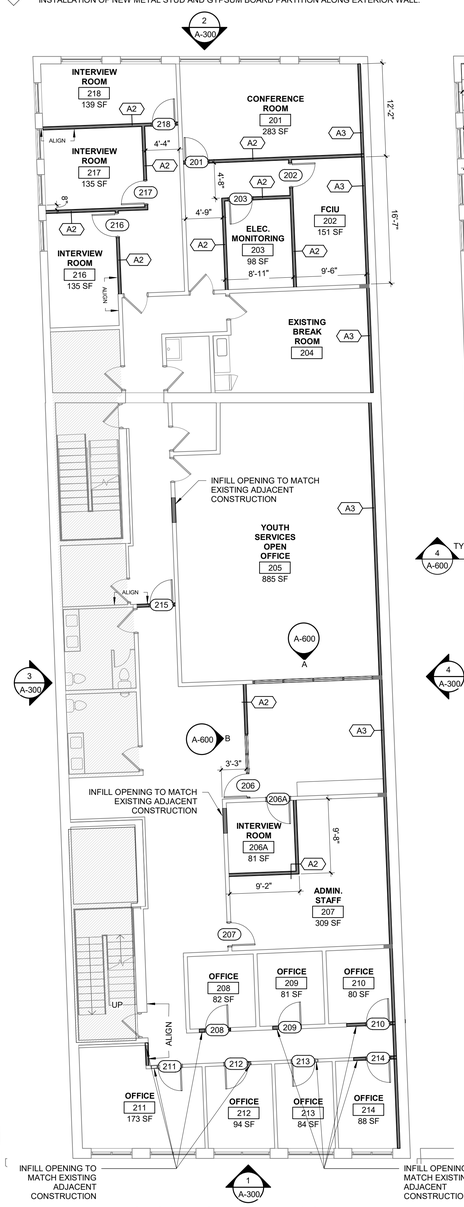




| MARK | STUD SIZE | GYP. BD. THICKNESS | GYPSUM BOARD HEIGHT | TOTAL PARTITION THICKNESS | ACOUSTIC INSULATION | STC RATING | FIRE RATING / UL DESIGN NO. |
|---|---|---|---|---|---|---|---|
| A2 | 3-5/8" - | 5/8" | FULL HEIGHT TO STRUCTURE ABOVE | 4-7/8" | YES | - | - |
| A3 | 3-5/8" | 5/8" | 6" ABOVE FINISHED CEILING | 4 1/4" | YES | - | - |

A GYPSUM PARTITION WALL TYPES




1 SECOND FLOOR DEMOLITION PLAN
SCALE: 1/8" = 1'-0"

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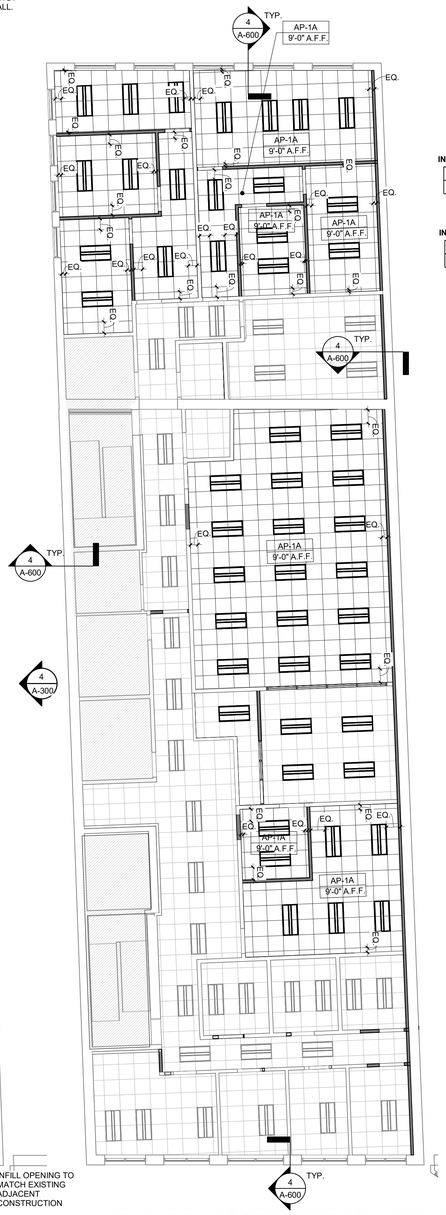
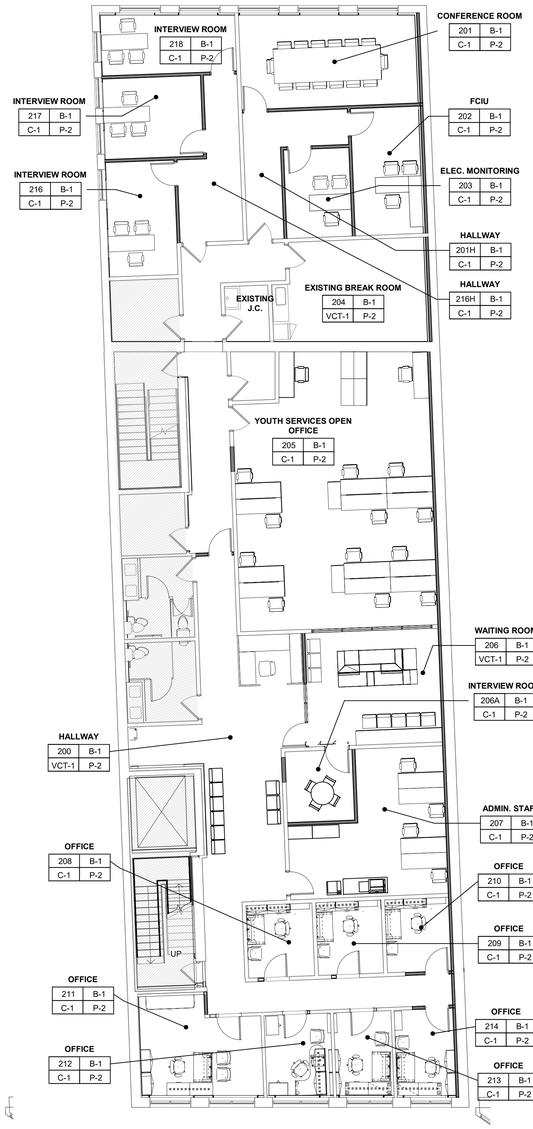
SCALE: 1/8" = 1'-0"




3 SECOND FLOOR REFLECTED CEILING PLAN
SCALE: 1/8" = 1'-0"




4 SECOND FLOOR FINISH PLAN
SCALE: 1/8" = 1'-0"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| No. | Date | Issue or Revision |
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| 1 | 01.17.25 | ISSUED FOR BID |

Drawing Title
SECOND FLOOR DEMOLITION + PROPOSED PLANS

| | |
|---|---|
| Scale: AS NOTED | USA Project No.: R2024.0087 |
| Drawing Date: 01.17.2025 | Drawing No.: A-102 |
| Drawn By: ChaW / Checked By: ApA | |

EXISTING TO REMAIN

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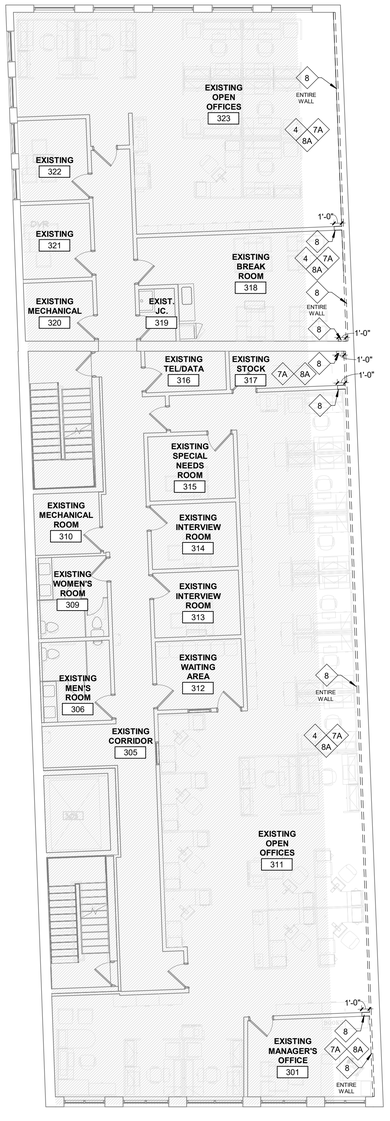
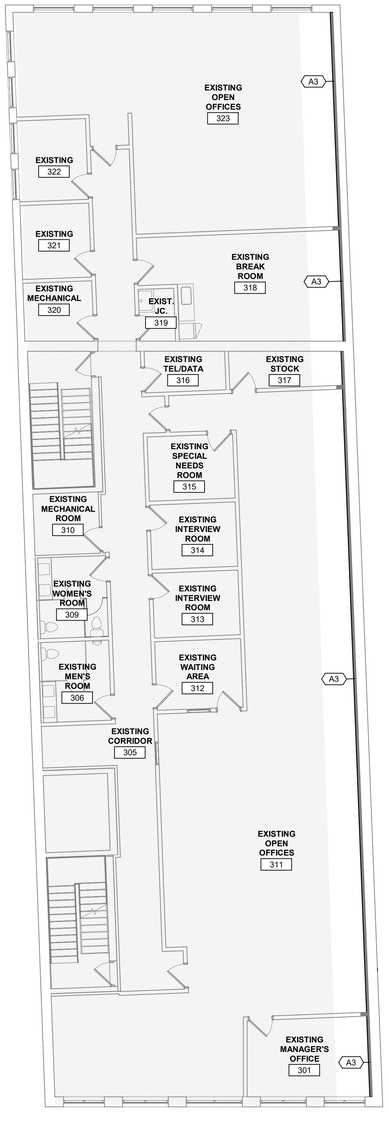



1 THIRD FLOOR DEMOLITION PLAN
SCALE: 1/8" = 1'-0"

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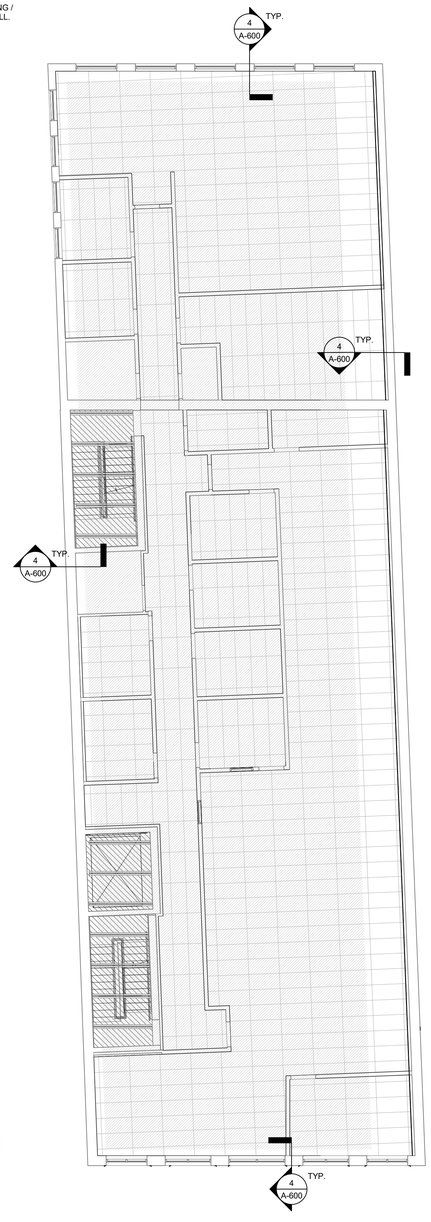
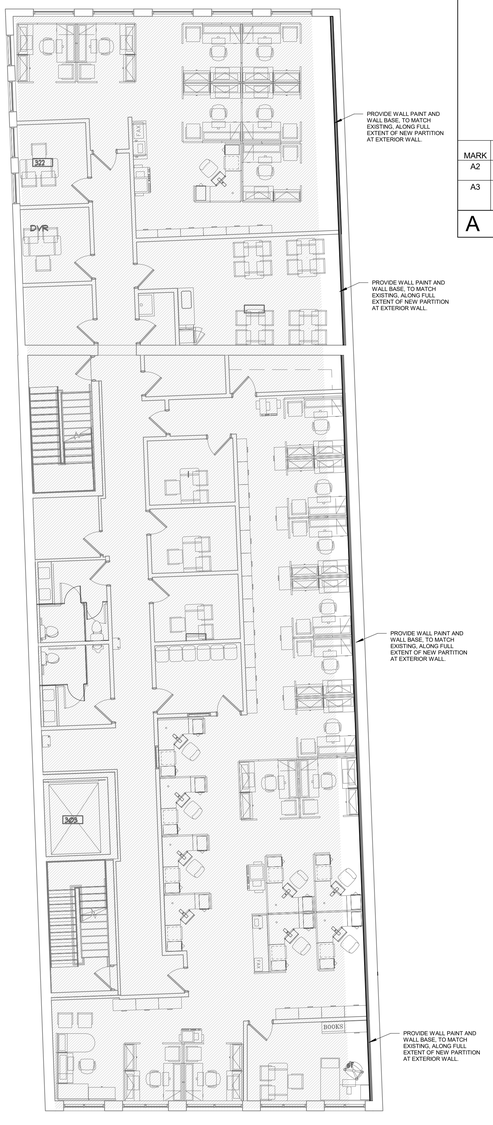
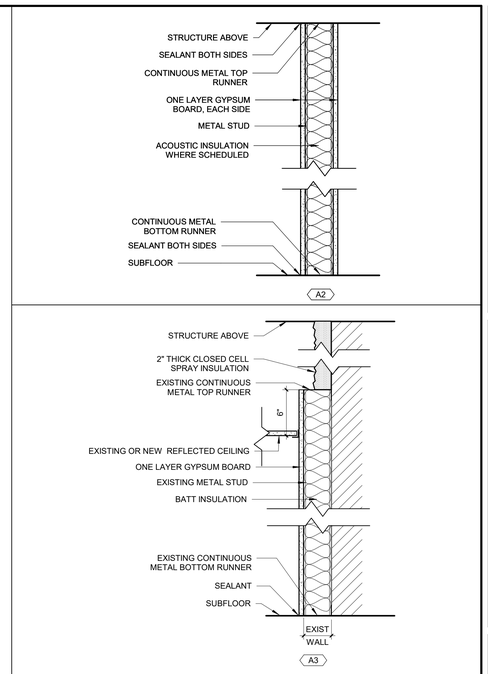



3 THIRD FLOOR REFLECTED CEILING PLAN
SCALE: 1/8" = 1'-0"




4 THIRD FLOOR FINISH PLAN
SCALE: 1/8" = 1'-0"

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A GYPSUM PARTITION WALL TYPES


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| 1 | 01.17.25 | ISSUED FOR BID |

Drawing Title
THIRD FLOOR DEMOLITION + PROPOSED PLANS

Scale: AS NOTED
USA Project No.: R2024.0087
Drawing Date: 01.17.2025
Drawing No.: A-103
Drawn By: ChaW
Checked By: ApA

EXISTING TO REMAIN

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## CEILING LEGEND

- AP-1 — 2' x 2' APC
- 2' x 4' LIGHT FIXTURE
- SUPPLY DIFFUSER
- RETURN DIFFUSER

## GENERAL REQUIREMENTS:

1. MEASURE EACH CEILING AREA PRIOR TO INSTALLATION AND ESTABLISH THE LAYOUT OF THE ACOUSTICAL PANEL SYSTEM SO THAT THE PANELS AT THE PERIMETER ARE CUT TO EQUAL SIZES TO THE OPPOSITE WALL AND PROVIDE MINIMUM DIMENSION OF 6" FOR CUT PIECES, UNLESS NOTED OTHERWISE BY SPECIFIC DIMENSIONS OR LAYOUT REQUIREMENTS.

2. REFER TO ELECTRICAL DRAWINGS FOR TYPES OF FIXTURES. UTILIZE REFLECTED CEILING PLANS FOR LOCATIONS AND COORDINATION OF FIXTURES. ANY DISCREPANCY BETWEEN ELECTRICAL AND ARCHITECTURAL DRAWINGS SHOULD BE BROUGHT TO THE ATTENTION OF THE ARCHITECT IMMEDIATELY.

3. REFER TO ELECTRICAL DRAWINGS FOR EMERGENCY LIGHTS, NIGHT LIGHTS, AND EXIT SIGN LOCATIONS.

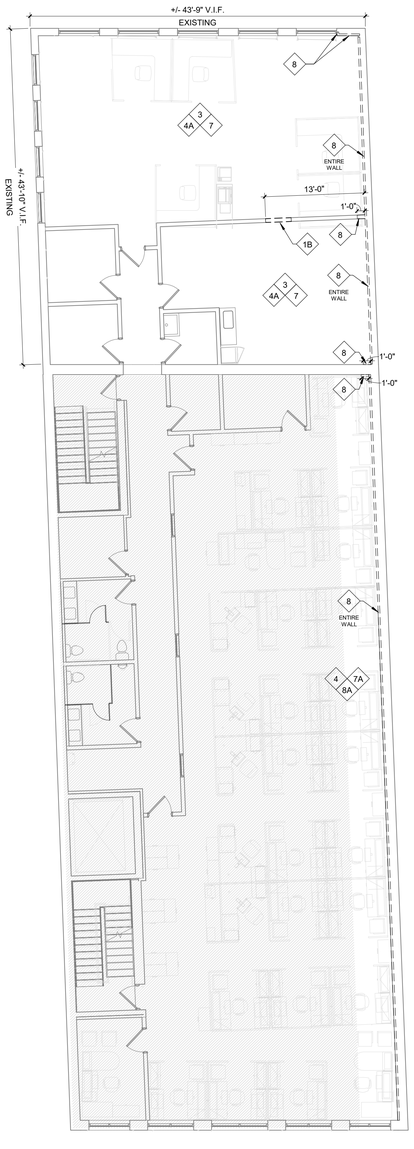
4. REFER TO MECHANICAL DRAWINGS FOR H.V.A.C. GRILLES AND DIFFUSERS. UTILIZE REFLECTED CEILING PLAN FOR LOCATION AND COORDINATION OF ITEMS. ANY DISCREPANCY BETWEEN THE MECHANICAL AND ARCHITECTURAL DRAWINGS SHOULD BE BROUGHT TO THE ATTENTION OF THE ARCHITECT IMMEDIATELY.

5. ALL CEILING HEIGHTS TO BE ABOVE FINISHED FLOOR FOR EACH ROOM.

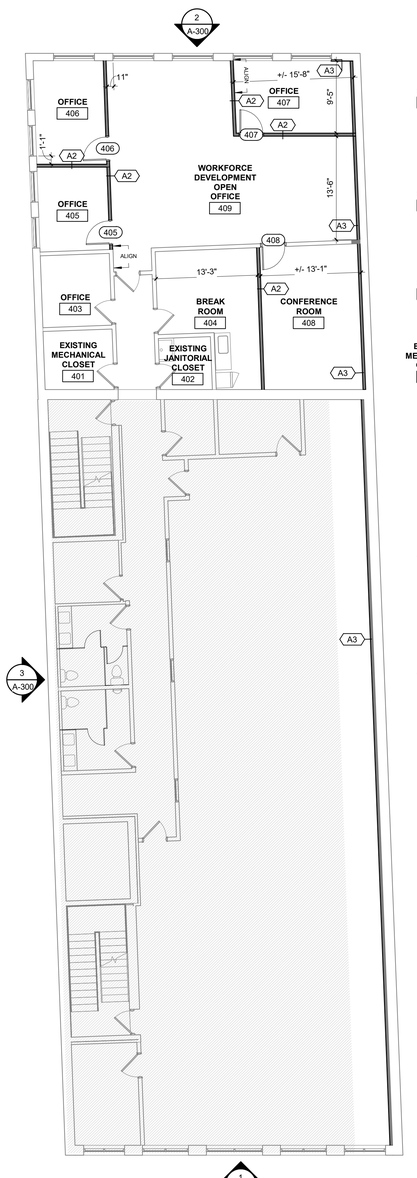
6. PLACEMENT OF SPRINKLER HEADS SHALL BE AT THE CENTER OF ACOUSTICAL TILE UNLESS NOTED OTHERWISE. COORDINATE LOCATION WITH PLUMBING, ELECTRICAL, AND H.V.A.C. FIXTURES AND EQUIPMENT.

### FINISH MATERIAL LEGEND - BASIS OF DESIGN

| TAG | FINISH | MANUFACTURER | STYLE | COLOR | SIZE |
|---|---|---|---|---|---|
| | **PAINT** | | | | |
| P-1 | PAINT - DOOR FRAME | BENJAMIN MOORE | SEMIGLOSS FINISH | OC-68 DISTANT GRAY | -- |
| P-2 | PAINT - WALL | BENJAMIN MOORE | EGGSHELL FINISH | OC-68 DISTANT GRAY | -- |
| | **CARPET** | | | | |
| C-1 | CARPET TILE | MANNINGTON | TRANCE END 82169 | FORM | 24"x24" |
| | **RESILIENT FLOOR** | | | | |
| VCT-1 | VINYL COMPOSITION TILE | AHF/ARMSTRONG | STANDARD EXCELON | PEWTER 51908 | 12"x12" |
| | **BASE FINISHES** | | | | |
| B-1 | WALL BASE | ROPPE | PINNACLE RUBBER COVE BASE | DOLPHIN 129 | 4" |
| | **MISCELLANEOUS** | | | | |
| ETR | EXISTING TO REMAIN | -- | EXISTING TO REMAIN | -- | -- |
| | **MILLWORK** | | | | |
| PL-1 | PLASTIC LAMINATE | FORMICA | STANDARD LAMINATE MATTE | 464-58 GRAYSTONE | |
| SS-1 | SOLID SURFACE RESIN | CORIAN | SOLID SURFACE RESIN | DOVE | |
| | | | | | |




1 FOURTH FLOOR DEMOLITION PLAN
SCALE: 1/8" = 1'-0"

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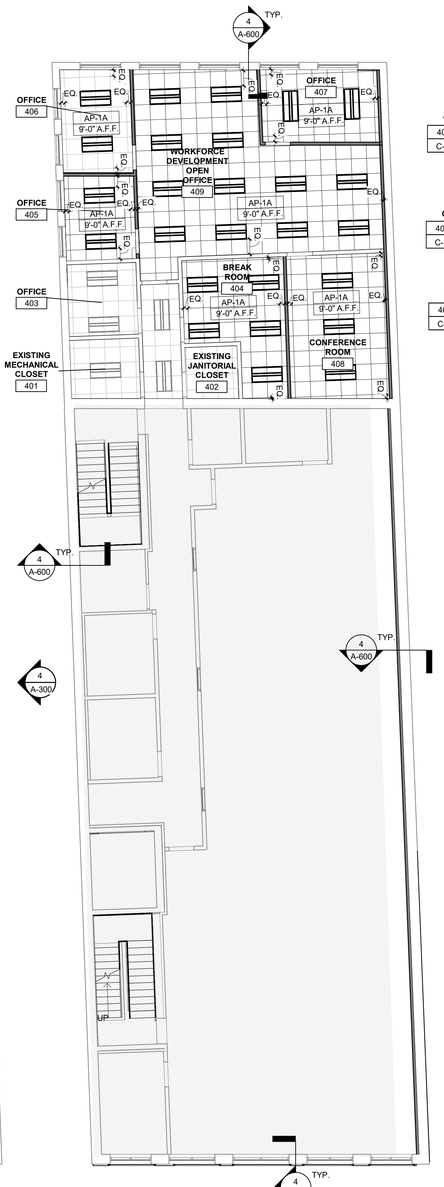


3 FOURTH FLOOR REFLECTED CEILING PLAN
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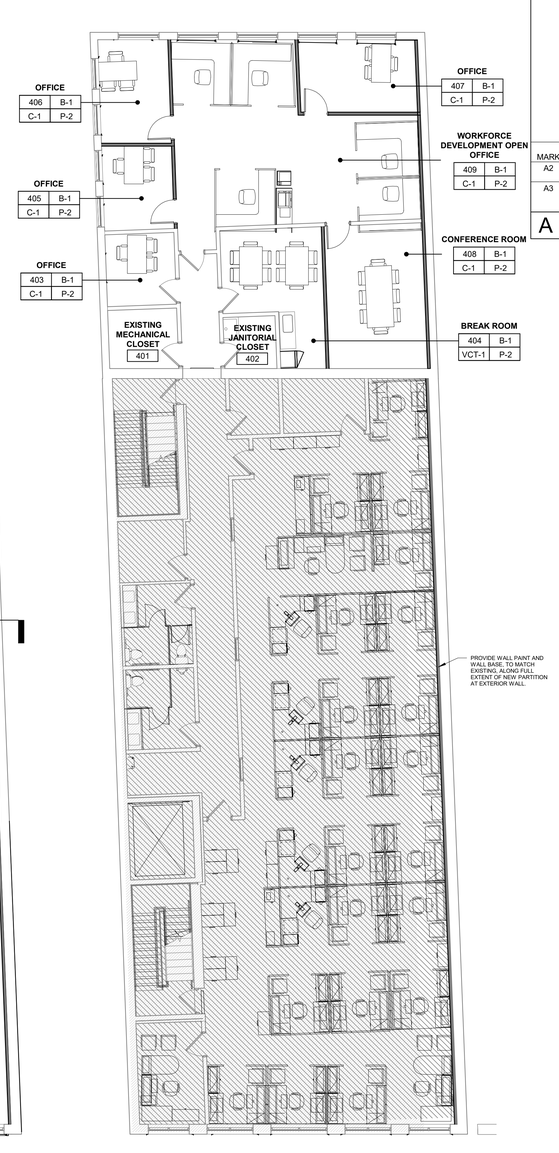


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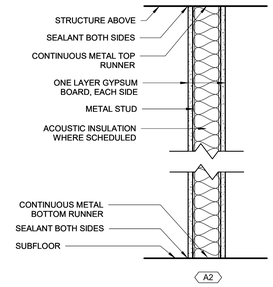


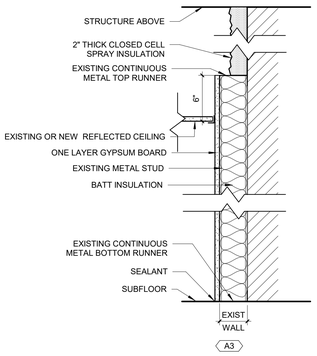


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Drawing Title
FOURTH FLOOR DEMOLITION + PROPOSED PLANS

| | |
|---|---|
| Scale: AS NOTED | USA Project No. R2024.0087 |
| Drawing Date: 01.17.2025 | Drawing No. A-104 |
| Drawn By: ChaW / Checked By: ApA | |

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2. DO NOT CONSIDER DEMOLITION AND ALTERATION NOTES TO BE ALL INCLUSIVE. IT IS THE CONTRACTOR'S RESPONSIBILITY TO INSPECT AND ASSESS EACH SPACE AND TO FULFILL THE INTENT OF THE WORK INDICATED BY THE CONTRACT DOCUMENTS. VERIFY ALL DIMENSIONS WITHIN THE CONTRACT LIMITS. BRING DEVIATIONS FROM THE CONTRACT DOCUMENTS TO THE ATTENTION OF THE ARCHITECT. THE EXTENT OF DEMOLITION AND REMOVAL INCLUDES, BUT IS NOT LIMITED TO WORK SHOWN ON THE DRAWINGS. COORDINATE W/ MECHANICAL, ELECTRICAL, PLUMBING & STRUCTURAL DRAWINGS.

3. REMOVE ANY MISCELLANEOUS PROJECTIONS, HANGERS, BOLTS, SCREWS AND NAILS FROM EXISTING SURFACES TO REMAIN. PATCH AND PREPARE SURFACES TO RECEIVE NEW FINISH.

4. PATCH AND REPAIR ALL ADJACENT SURFACES WHICH ARE AFFECTED BY THE DEMOLITION OR REMOVAL OF ACCESSORIES TO THEIR ORIGINAL FORM AND PREPARE FOR NEW FINISH. COORDINATE WITH FINISH DRAWINGS.

5. GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR DAILY CLEANUP OF CONSTRUCTION DEBRIS.

6. BEFORE DEMOLITION BEGINS, CONTRACTOR SHALL COORDINATE SEQUENCE AND SCHEDULES FOR ALL WORK AND RELOCATION OR DISPOSAL OF ALL MATERIALS WITH OWNER.

7. DEMOLITION PLANS ARE DIAGRAMMATIC. PRIOR TO SUBMITTING BID, GENERAL CONTRACTORS SHALL FAMILIARIZE THEMSELVES WITH EXISTING CONDITIONS AND BRING ANY AREAS IN QUESTION TO THE ATTENTION OF THE ARCHITECT.

## CEILING LEGEND

- AP-1 — 2' x 2' APC
- 2' x 4' LIGHT FIXTURE
- SUPPLY DIFFUSER
- RETURN DIFFUSER

## GENERAL REQUIREMENTS:

1. MEASURE EACH CEILING AREA PRIOR TO INSTALLATION AND ESTABLISH THE LAYOUT OF THE ACOUSTICAL PANEL SYSTEM SO THAT THE PANELS AT THE PERIMETER ARE CUT TO EQUAL SIZES TO THE OPPOSITE WALL AND PROVIDE MINIMUM DIMENSION OF 6" FOR CUT PIECES, UNLESS NOTED OTHERWISE BY SPECIFIC DIMENSIONS OR LAYOUT REQUIREMENTS.

2. REFER TO ELECTRICAL DRAWINGS FOR TYPES OF FIXTURES. UTILIZE REFLECTED CEILING PLANS FOR LOCATIONS AND COORDINATION OF FIXTURES. ANY DISCREPANCY BETWEEN ELECTRICAL AND ARCHITECTURAL DRAWINGS SHOULD BE BROUGHT TO THE ATTENTION OF THE ARCHITECT IMMEDIATELY.

3. REFER TO ELECTRICAL DRAWINGS FOR EMERGENCY LIGHTS, NIGHT LIGHTS, AND EXIT SIGN LOCATIONS.

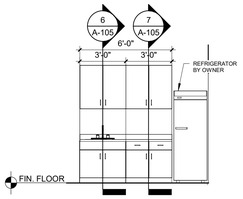
4. REFER TO MECHANICAL DRAWINGS FOR H.V.A.C. GRILLES AND DIFFUSERS. UTILIZE REFLECTED CEILING PLAN FOR LOCATION AND COORDINATION OF ITEMS. ANY DISCREPANCY BETWEEN THE MECHANICAL AND ARCHITECTURAL DRAWINGS SHOULD BE BROUGHT TO THE ATTENTION OF THE ARCHITECT IMMEDIATELY.

5. ALL CEILING HEIGHTS TO BE ABOVE FINISHED FLOOR FOR EACH ROOM.

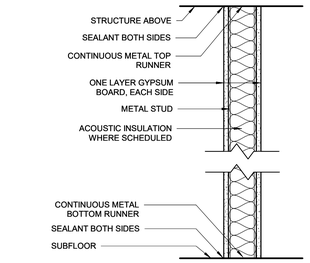
6. PLACEMENT OF SPRINKLER HEADS SHALL BE AT THE CENTER OF ACOUSTICAL TILE UNLESS NOTED OTHERWISE. COORDINATE LOCATION WITH PLUMBING, ELECTRICAL, AND H.V.A.C. FIXTURES AND EQUIPMENT.

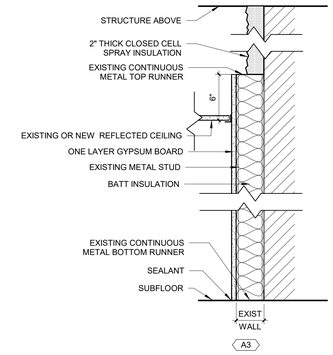
### FINISH MATERIAL LEGEND - BASIS OF DESIGN

| TAG | FINISH | MANUFACTURER | STYLE | COLOR | SIZE |
|---|---|---|---|---|---|
| | **PAINT** | | | | |
| P-1 | PAINT - DOOR FRAME | BENJAMIN MOORE | SEMIGLOSS FINISH | OC-68 DISTANT GRAY | -- |
| P-2 | PAINT - WALL | BENJAMIN MOORE | EGGSHELL FINISH | OC-68 DISTANT GRAY | -- |
| | **CARPET** | | | | |
| C-1 | CARPET TILE | MANNINGTON | TRANCE END 82169 | FORM | 24"x24" |
| | **RESILIENT FLOOR** | | | | |
| VCT-1 | VINYL COMPOSITION TILE | AHF/ARMSTRONG | STANDARD EXCELON | PEWTER 51908 | 12"x12" |
| | **BASE FINISHES** | | | | |
| B-1 | WALL BASE | ROPPE | PINNACLE RUBBER COVE BASE | DOLPHIN 129 | 4" |
| | **MISCELLANEOUS** | | | | |
| ETR | EXISTING TO REMAIN | -- | EXISTING TO REMAIN | -- | -- |
| | **MILLWORK** | | | | |
| PL-1 | PLASTIC LAMINATE | FORMICA | STANDARD LAMINATE MATTE | 464-58 GRAYSTONE | |
| SS-1 | SOLID SURFACE RESIN | CORIAN | SOLID SURFACE RESIN | DOVE | |



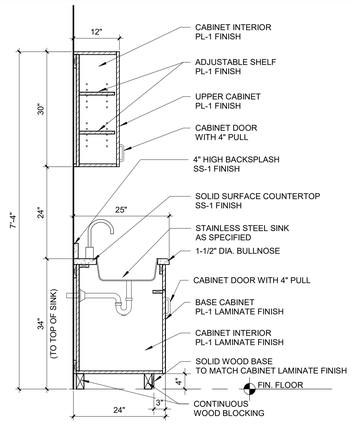

5 CASEWORK ELEVATION
SCALE: 1/4" = 1'-0"



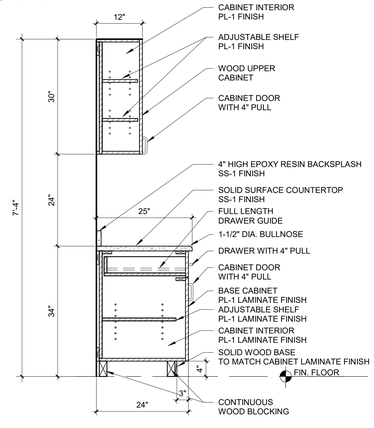




| MARK | STUD SIZE | GYP. BD. THICKNESS | GYPSUM BOARD HEIGHT | TOTAL PARTITION THICKNESS | ACOUSTIC INSULATION | STC RATING | FIRE RATING / UL DESIGN NO. |
|---|---|---|---|---|---|---|---|
| A2 | 3-5/8" | 5/8" | FULL HEIGHT TO STRUCTURE ABOVE | 4-7/8" | YES | - | - |
| A3 | 3-5/8" | 5/8" | 6" ABOVE FINISHED CEILING | 4-1/4" | YES | - | - |

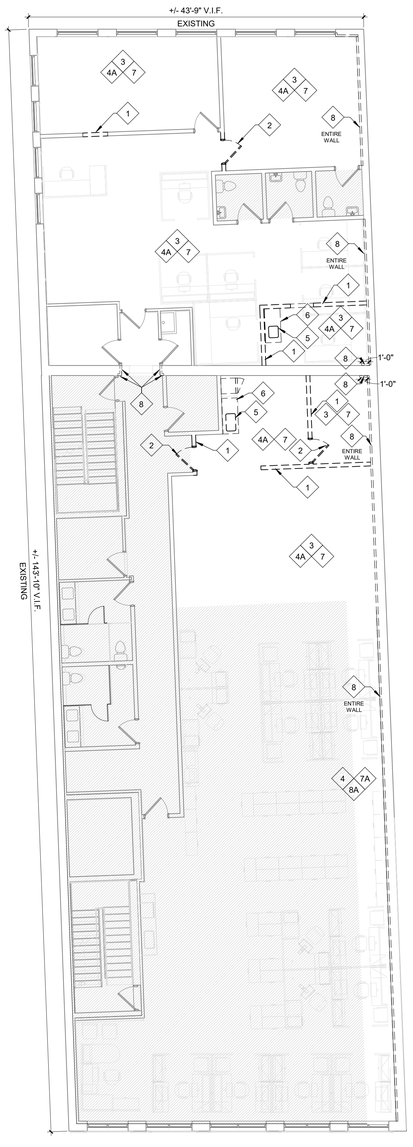
A GYPSUM PARTITION WALL TYPES



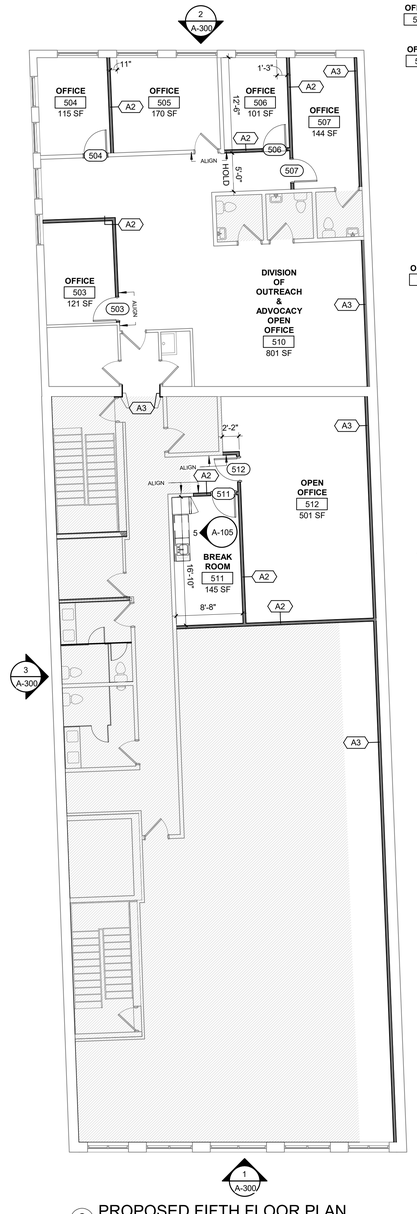

6 SINK + UPPER CABINET DETAIL
SCALE: 3/4" = 1'-0"



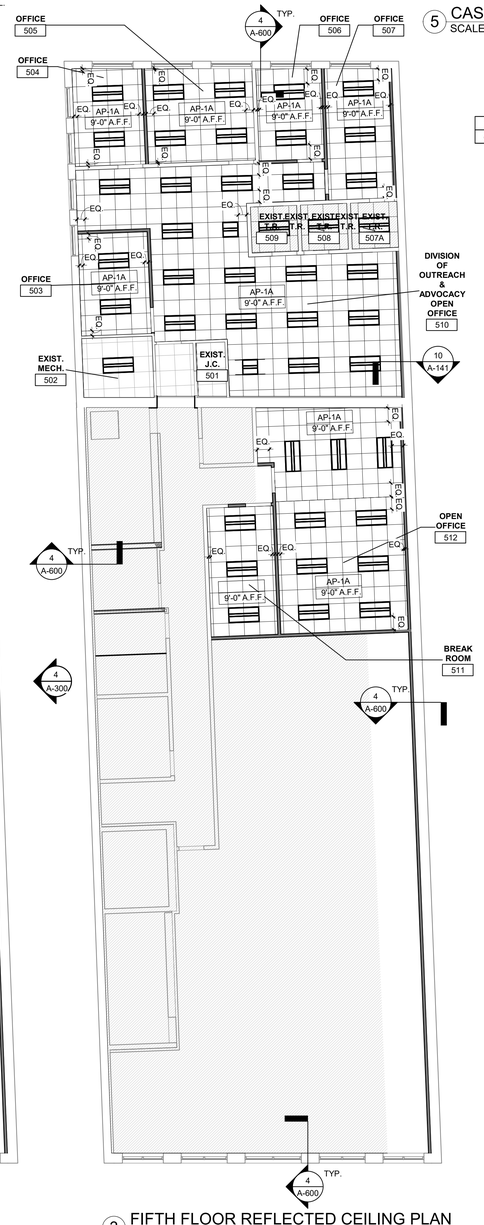

7 CASEWORK DETAIL
SCALE: 3/4" = 1'-0"



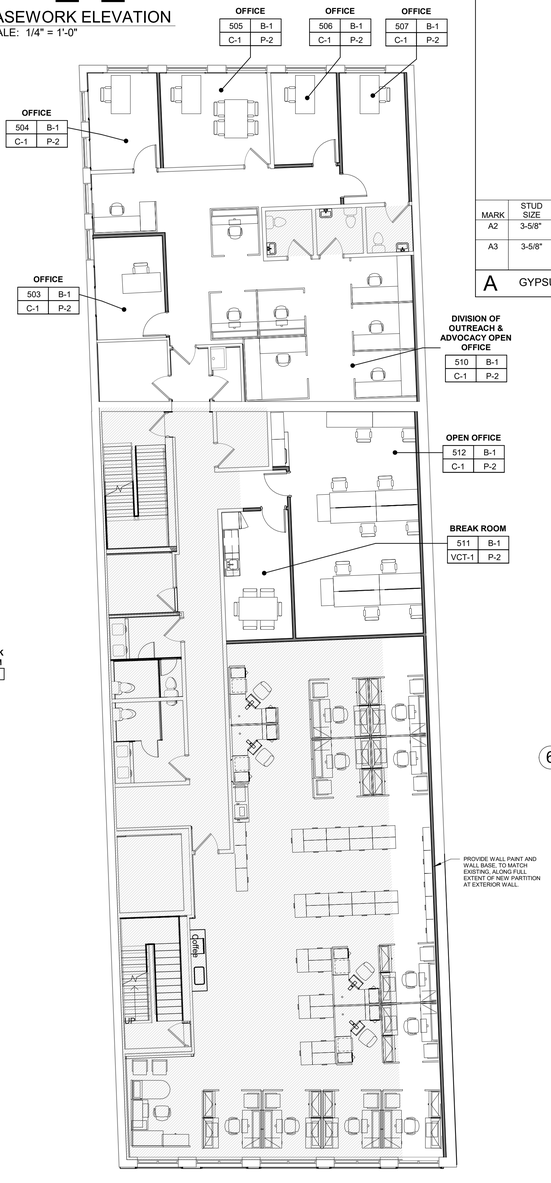

1 FIFTH FLOOR EXISTING PLAN
SCALE: 1/8" = 1'-0"




2 PROPOSED FIFTH FLOOR PLAN
SCALE: 1/8" = 1'-0"




3 FIFTH FLOOR REFLECTED CEILING PLAN
SCALE: 1/8" = 1'-0"




4 FIFTH FLOOR FINISH PLAN
SCALE: 1/8" = 1'-0"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AT
**921 ELIZABETH AVENUE**
FOR THE
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PROJECT ADDRESS:
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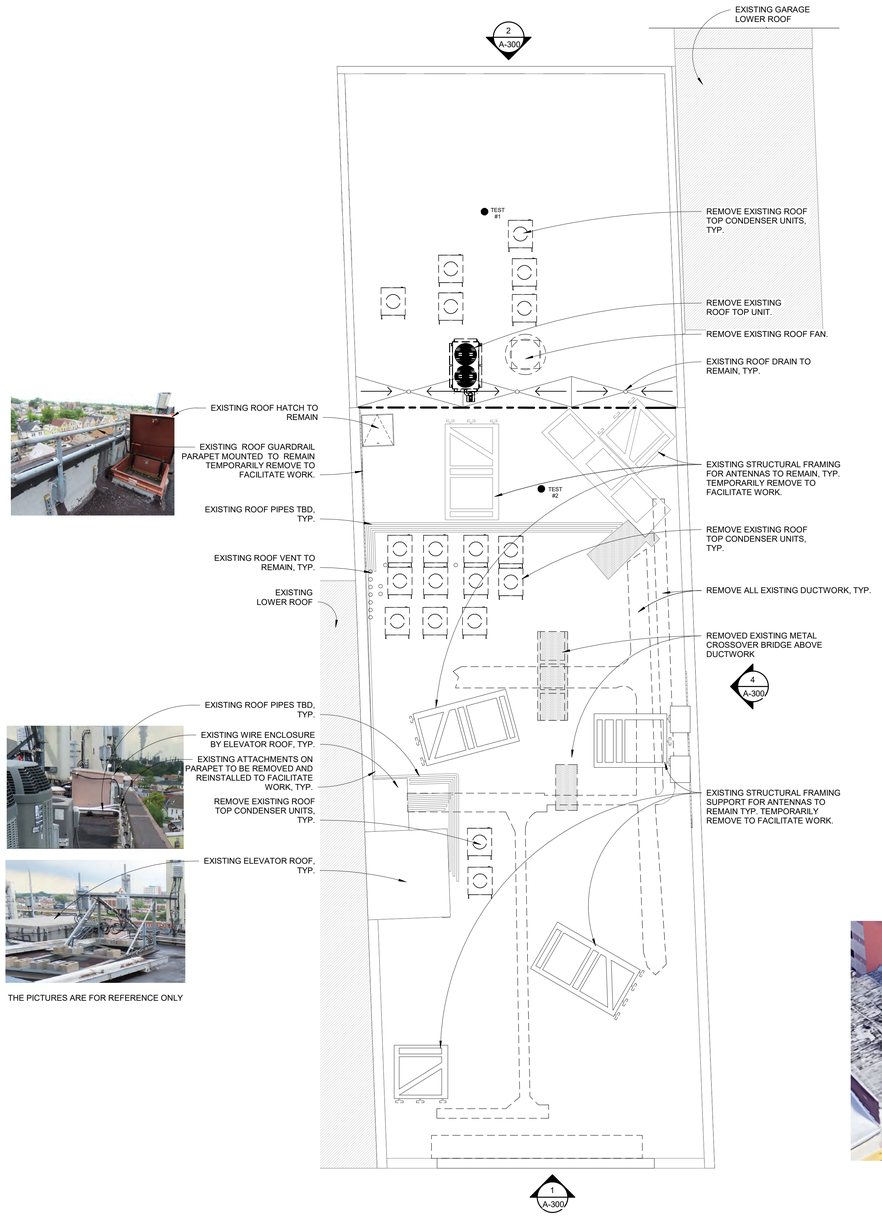
ELIZABETH, NJ 07201

| No. | Date | Issue or Revision |
|---|---|---|
| 1 | 01.17.25 | ISSUED FOR BID |

Drawing Title
FIFTH FLOOR DEMOLITION + PROPOSED PLANS

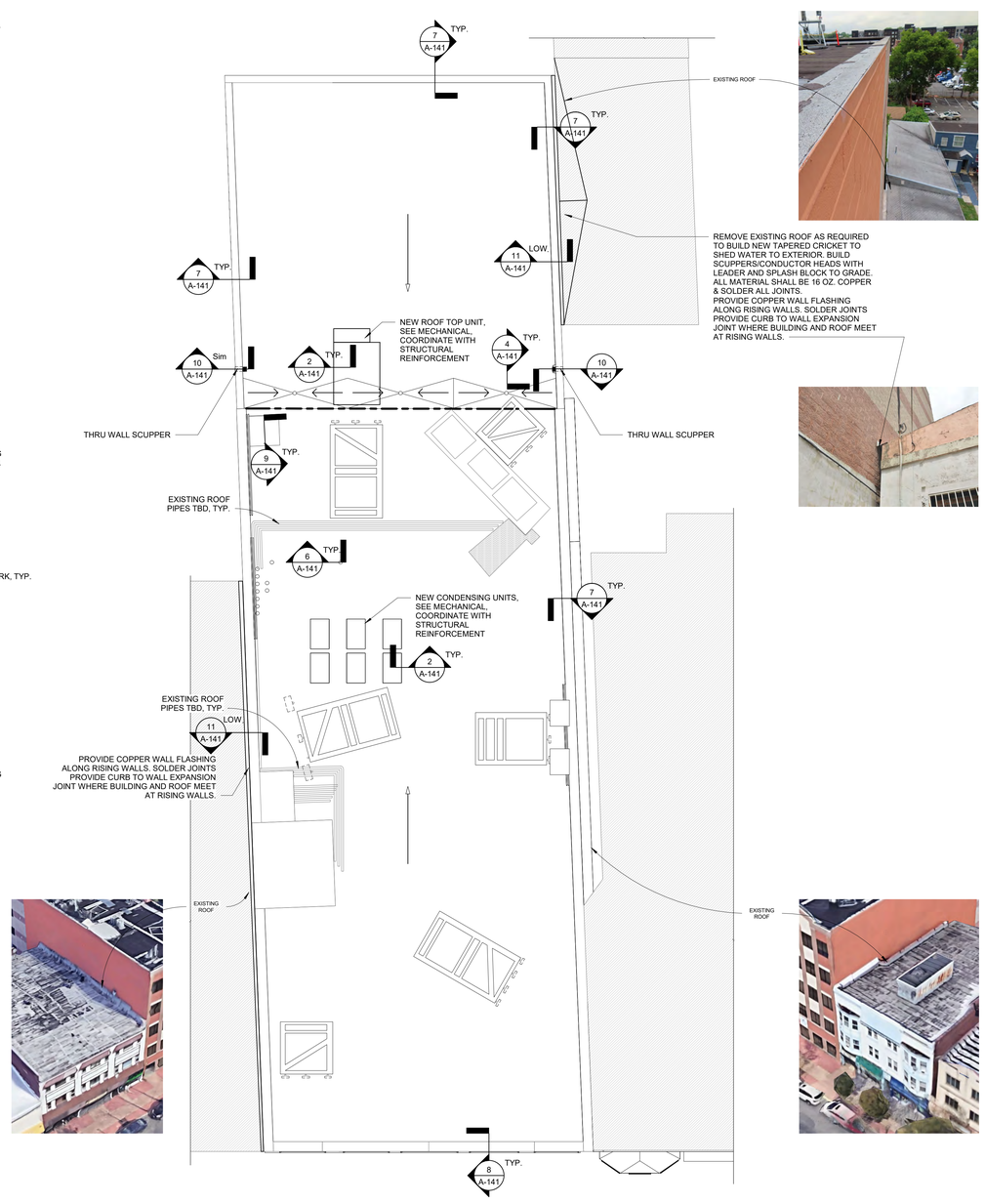
| | |
|---|---|
| Scale: AS NOTED | USA Project No.: R2024.0087 |
| Drawing Date: 01.17.2025 | Drawing No.: A-105 |
| Drawn By: ChaW | Checked By: ApA |




THE PICTURES ARE FOR REFERENCE ONLY

## 1 EXISTING ROOF PLAN
SCALE: 1/8" = 1'-0"

| TEST NUMBER | TOTAL THICKNESS | FIBER BOARD | FIBERBOARD THICKNESS | ISO TOTAL THICKNESS | MEMBRANE | DECK TYPE |
|---|---|---|---|---|---|---|
| 1 | 2 3/4" | NO | NA | 2 1/2" | NEW REPAIR 2 PLY | STEEL |
| 2 | 2 3/4" | YES | 1" | 1 1/2" | 4 PLY BUILT-UP | STEEL |




## 2 PROPOSED ROOF PLAN
SCALE: 1/8" = 1'-0"

## LEGEND

ARROW SHOWN THUSLY INDICATES EXISTING SLOPED CRICKET

ARROW SHOWN THUSLY INDICATES EXISTING OF CONSTANT THICKNESS INSULATION

LINE SHOWN THUSLY INDICATES EXISTING EXPANSION JOINT

## GENERAL REQUIREMENTS:

**ROOF PREPARATION**

1. REMOVE EXISTING ROOFING SYSTEM, INSULATION, & FLASHINGS TO DECK. EXPOSE EXISTING METAL DECKS.
2. REMOVE EXISTING FLASHINGS, CANT STRIPS, ETC.
3. REMOVE ALL EXISTING FASCIA AND COPING.
4. REMOVE THE EXISTING ROOF DRAIN CLAMPING RING AND DOME STRAINER.
5. EXAMINE EXISTING DECKS AND REPAIR ANY DETERIORATED AREAS IN ACCORDANCE WITH THE REQUIREMENTS INDICATED IN THE PROJECT MANUAL. NOTIFY THE OWNER OF ANY EXISTING NOTED DAMAGE FOUND PRIOR TO NEW ROOF SYSTEM INSTALLATION.
6. EXAMINE ALL EXISTING WOOD NAILERS AND BLOCKING AND REPLACE DETERIORATED PIECES IN ACCORDANCE WITH REQUIREMENTS INDICATED IN THE PROJECT MANUAL.
7. REMOVE ALL COUNTER FLASHINGS AT PARAPET WALLS, RISING WALLS, EQUIPMENT CURBS ETC. REMOVE ALL ABANDONED DUNNAGE.

**REPLACEMENT ROOFING SYSTEM**

1. PROVIDE FIRE RETARDANT TREATED WOOD BLOCKING AT PERIMETER EDGE, TOP OF PARAPET WALLS AND OTHER CONDITIONS, AS INDICATED AND/OR REQUIRED.
2. AT ALL ROOF DRAINS, PROVIDE NEW JR SMITH 1010 OR 1015 DRAIN BODY AT ALL EXISTING DRAIN LOCATIONS WITH SUMP PANS.
3. AT METAL DECK AREAS MECHANICALLY FASTEN A 2" ISOCYANURATE BASE LAYER OF INSULATION. CONTRACTOR IS REQUIRED TO PROVIDE UPLIFT PULL TEST BY FASTENER MANUFACTURER AND PROVIDE DATA OF TEST TO ARCHITECT FOR REVIEW AND APPROVAL PRIOR TO INSTALLATION. FASTENER FREQUENCY AND SPACING TO BE DETERMINED BY ROOF SYSTEM MANUFACTURER.
4. PROVIDE 1/8" PER FOOT SLOPE TAPERED RIGID INSULATION WITH 1/2" MINIMUM LEADING EDGE SET IN LOW RISE FOAM ADHESIVE OR ASTM D-312 HOT ASPHALT INSULATION BITUMEN OVER BASE LAYERS OF INSULATION. ALL JOINTS BETWEEN BASE LAYER AND TOP LAYER INSULATION SHALL BE STAGGERED.
5. PROVIDE 1/4" PER FOOT SLOPED CRICKETS AT HIGH SIDE OF ROOF PENETRATIONS AND BETWEEN DRAINS AS INDICATED ON DRAWINGS.
6. PROVIDE 1/8" ASPHALT FIBERGLASS COVER BOARD IN INSULATION ADHESIVE.
7. PROVIDE CANT STRIPS SET IN SPECIFIED ADHESIVE ALONG PERIMETER WALLS, RISING WALLS, AROUND EQUIPMENT CURBS AND AT ALL 90 DEGREE TRANSITIONS.
8. PROVIDE 3 BASE PLIES OF TRILAMINATE REINFORCED SBS SHEET SET IN SPECIFIED ADHESIVE AS PER SPECIFICATIONS.
9. PROVIDE MINERAL SURFACED POLYESTER REINFORCED FIRE RATED CAP SHEET SET IN SPECIFIED ADHESIVE AS PER SPECIFICATIONS.
10. PROVIDE ROOF MSFR GRANULATED SBS MULTI-PLY FLASHING SYSTEM SET IN SPECIFIED FLASHING ADHESIVE AS PER SPECIFICATIONS WHERE INDICATED/REQUIRED AT ALL LOCATIONS AS PER DETAILS AND NOTED ON THE DRAWINGS. ALL FLASHINGS SHALL BE A MINIMUM OF 8" OF EXPOSED VERTICAL HEIGHT ABOVE KANT STRIPS.
11. PROVIDE METAL TERMINATION BAR, METAL COUNTER FLASHING, "SLIP METAL" COUNTER FLASHING AT ALL ROOF TRANSITION LOCATIONS, AND ALL MISCELLANEOUS ITEMS AND ACCESSORIES, AS INDICATED ON THE DRAWINGS AND AS PER MANUFACTURERS REQUIREMENTS.
12. PROVIDE PRE-MANUFACTURED FASCIA AND OR COPING SYSTEM AS PER SPECIFICATIONS AND AS NOTED ON THE DRAWINGS. PROVIDE FASCIA EXTENDERS AS REQUIRED. LENGTH TO BE DETERMINED. MINIMUM COPING AND OR FASCIA LENGTH SHALL COVER ANY EXPOSED WALL REVEAL 1 ½" - .050 ALUMINUM. KYNAR FINISH.
13. NOT USED.
14. PROVIDE NEW ALUMINUM PRE-ENGINEERED ROOF TOP UNIT RAILS AND PIPE BOXES AT ALL ROOF TOP UNIT LOCATIONS.
15. PROVIDE NEW THROUGH WALL FLASHING SYSTEM. WEEPS HOLES, COUNTER FLASHINGS AT NOTED LOCATIONS ON THE DRAWINGS. THROUGH WALL SHALL BE 16 OUNCE COPPER. SOLDER ALL JOINTS.
16. PROVIDE NEW ALUMINUM OR COPPER THROUGH WALL SCUPPERS, GUTTERS, CONDUCTOR HEADS LEADERS AS PER SPECIFICATIONS AND INDICATED ON THE DRAWINGS. GUTTER AND LEADERS SYSTEM SHALL BE PRE-ENGINEERED SYSTEM. .050 ALUMINUM WITH EXTRUDED HANGERS. KYNAR FINISH TO MATCH FASCIA AND COPING SYSTEM.
17. PROVIDE SHOP DRAWINGS FOR ALL COMPONENTS FOR APPROVAL BY THE ARCHITECT PRIOR TO STARTING WORK.
18. PROVIDE 25 YEAR MANUFACTURER- NDL – EDGE TO EDGE ROOF SYSTEM WARRANTY.
19. PROVIDE MINIMUM .050 GAUGE KYNAR FINISH ON ALL METAL. COLOR TO BE SELECTED BY ARCHITECT.

**ADDITIONAL GENERAL REQUIREMENTS**

1. THE CONTRACTOR SHALL TEMPORARILY REMOVE AND REINSTALL ANY AND ALL EXISTING ITEMS AS NECESSARY TO FACILITATE THE WORK.
2. ANY AND ALL EXISTING ELECTRICAL ITEMS (LIGHTS, JUNCTION BOXES, CONDUITS) SHALL BE REMOVED AND REINSTALLED IN ACCORDANCE WITH APPLICABLE ELECTRICAL CODES. THE CONTRACTOR IS REQUIRED TO MEET ALL OF THE "BEST PRACTICE" REQUIREMENTS OF THE MANUFACTURER OF THE PRODUCTS, MATERIALS AND/OR SYSTEMS INCORPORATED IN THIS PROJECT. WHERE A SPECIFIC REQUIREMENT OF THE ARCHITECT IS IN VARIANCE TO A REQUIREMENT OF THE MANUFACTURER, THE GREATER QUANTITY OR QUALITY OF THE WORK SHALL BE PROVIDED.
3. AT ALL ROOF DRAINS, "SNAKE-OUT" OR OTHERWISE CLEAN OUT DRAIN PIPING AS REQUIRED TO ENSURE PROPER OPERATION OF ALL DRAINS AT THE START AND CONCLUSION OF THE PROJECT.
4. PROVIDE FLASHING AT ALL EXISTING CURB MOUNTED MECHANICAL EQUIPMENT, AND OTHER PENETRATIONS AS THEY OCCUR ON THE ROOF. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO INCREASE OR REBUILD ANY CURB THAT IS EITHER DETERIORATED, DAMAGED, OR MUST BE RAISED TO PROPERLY FACILITATE INSULATION AND ROOFING AS REQUIRED.
5. THE LOCATION OF MECHANICAL UNITS & CURBS ARE APPROXIMATE. IF A MECHANICAL UNIT FALLS IN A VALLEY, CONTRACTOR IS TO CRICKET WATER FLOW AROUND THE UNIT.
6. THE CONTRACTOR SHALL TEMPORARILY REMOVE AND REINSTALL WITH CARE ANY MECHANICAL/ELECTRICAL CONNECTIONS AT ANY MECHANICAL EQUIPMENT AFFECTED BY THE ROOF WORK. ANY DISCONNECTED MECHANICAL EQUIPMENT SHALL BE BROUGHT BACK TO ITS ORIGINAL WORKING CONDITION, BEFORE THE START OF NEXT WORK DAY.
7. ALL PLUMBING VENTS THROUGH ROOF ARE NOT SHOWN. IT IS THE CONTRACTOR'S RESPONSIBILITY TO FLASH ALL ITEMS AS INDICATED IN DETAILS OR REQUIRED BY THE MANUFACTURER.
8. THE CONTRACTOR SHALL PROVIDE PITCH POCKETS WITH BONNETTS ON ALL MISCELLANEOUS PIPE AND OR CONDUITS AND OR REQUIRED ROOF PENETRATIONS. PROVIDE PIPE SUPPORTS ON WALKWAY PADS AS AT ALL CONDUITS AS REQUIRED AND OR INDICATED ON THE DRAWINGS.
9. THE CONTRACTOR IS REQUIRED AND SHALL ASSURE THAT THE ENTIRE ROOF SHALL BE WATERTIGHT AT THE END OF EACH WORK DAY.
10. THE CONTRACTOR SHALL PROVIDE SEALANT ON ALL EXPOSED FASTENERS LOCATIONS.
11. IT IS THE CONTRACTOR'S SOLE RESPONSIBILITY TO FULLY UNDERTSAND THE SCOPE OF THE PROJECT PRIOR TO BIDDING.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| No. | Date | Issue or Revision |
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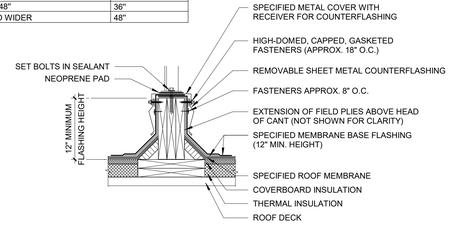
| 1 | 01.17.25 | ISSUED FOR BID |

Drawing Title
EXISTING & PROPOSED ROOF PLANS

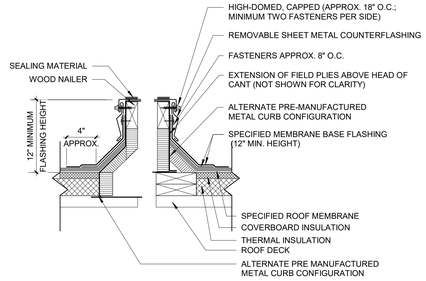
| | |
|---|---|
| Scale: AS NOTED | USA Project No.: R2024.0087 |
| Drawing Date: 01.17.2025 | Drawing No.: A-140 |
| Drawn By: ChaW / Checked By: ApA | |

| WIDTH OF EQUIPMENT | HEIGHT OF LEGS |
|---|---|
| UP TO 24" | 24" |
| 24" TO 48" | 36" |
| 48" AND WIDER | 48" |



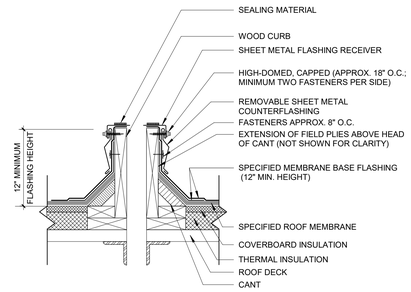

NOTES:
1. A MINIMUM OF 2 FEET OF HORIZONTAL CLEARANCE MUST BE PROVIDED FOR REMOVAL AND REPLACEMENT OF ROOFING AND FLASHING BETWEEN PARALLEL SUPPORTS. A MINIMUM OF 3 FEET OF VERTICAL CLEARANCE FROM ROOF SURFACE TO BOTTOM OF SUPPORTED EQUIPMENT SHOULD ALSO BE PROVIDED.
2. DO NOT USE MODIFIED COAL TAR ON SLOPES THAT EXCEED 1/2" PER FOOT.
3. OR WITH TARRED ORGANIC FELTS ON SLOPES THAT EXCEED 1/2" PER FOOT.

## 1 EQUIPMENT SUPPORT CURB ROOF DETAIL
SCALE: N.T.S.



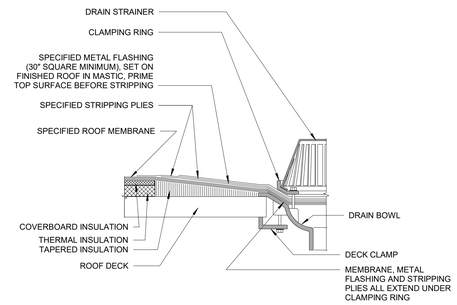

NOTES:
1. DO NOT USE MODIFIED COAL TAR ON SLOPES THAT EXCEED 1/2" PER FOOT.
2. DO NOT USE TYPE I TAR WITH POLYESTER OR TARRED GLASS FELTS ON SLOPES THAT EXCEED 1/4" PER FOOT, OR WITH TARRED ORGANIC FELTS ON SLOPES THAT EXCEED 1/2" PER FOOT.

## 2 RAISED PATE CURB DETAIL FOR ROOFTOP EQUIPMENT (PRE MANUFACTURE METAL CURB)
SCALE: N.T.S.



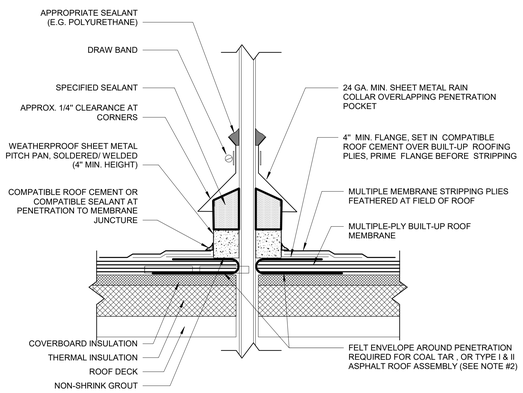

NOTES:
1. DO NOT USE MODIFIED COAL TAR ON SLOPES THAT EXCEED 1/2" PER FOOT.
2. DO NOT USE TYPE I TAR WITH POLYESTER OR TARRED GLASS FELTS ON SLOPES THAT EXCEED 1/4" PER FOOT, OR WITH TARRED ORGANIC FELTS ON SLOPES THAT EXCEED 1/2" PER FOOT.

## 3 RAISED CURB DETAIL FOR ROOFTOP AIRHANDLE UNITS AND DUCTS (JOB SIDE CONSTRUCTED WOOD CURB)
SCALE: N.T.S.



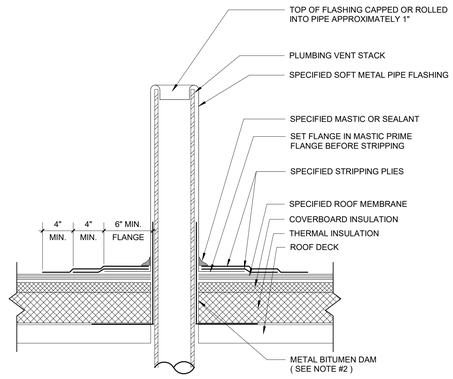

NOTE:
1. DO NOT APPLY COAL TAR OR DEAD LEVEL ASPHALT INTO DRAIN SUMP. INSTALL METAL GRAVEL STOPS.
2. DO NOT USE MODIFIED COAL TAR ON SLOPES THAT EXCEED 1/2" PER FOOT.
3. DO NOT USE TYPE I TAR WITH POLYESTER OR TARRED GLASS FELTS ON SLOPES THAT EXCEED 1/4" PER FOOT, OR WITH TARRED ORGANIC FELTS ON SLOPES THAT EXCEED 1/2" PER FOOT.

## 4 ROOF DRAIN DETAIL
SCALE: N.T.S.



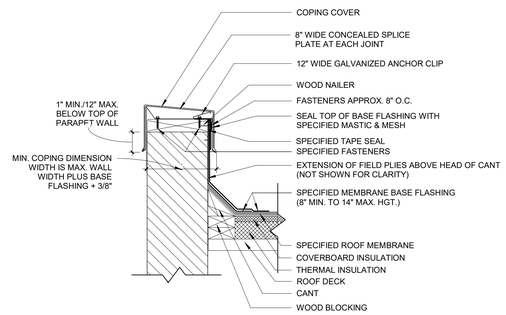

NOTES:
1. PRIOR TO INSTALLATION, SEAL PENETRATION WITH ELASTIC FILL.
2. INSTALL ENVELOPE (BITUMEN-STOP) FOR A CONTINUOUS EDGE SEAL AT THE PERIMETER AND AT PENETRATIONS BY EXTENDING ONE PLY OF SPECIFIED BASE SHEET OR TWO PLIES OF NON-PERFORATED ORGANIC ASPHALT SATURATED FELT BEYOND THE EDGE OF THE MEMBRANE FIELD PLIES. AFTER ALL OVERLAPPING FIELD PLIES ARE IN PLACE, THE EXTENDED PLY IS TURNED BACK INTO THE MEMBRANE AND ADHERED. THE ENVELOPE IS INTENDED TO PREVENT BITUMEN SEEPAGE FROM THE EDGE OF THE MEMBRANE.
3. DO NOT USE MODIFIED COAL TAR ON SLOPES THAT EXCEED 1/2" PER FOOT.
4. DO NOT USE TYPE I TAR WITH POLYESTER OR TARRED GLASS FELTS ON SLOPES THAT EXCEED 1/4" PER

## 5 PENETRATION POCKET WITHOUT BLOCKING
SCALE: N.T.S.



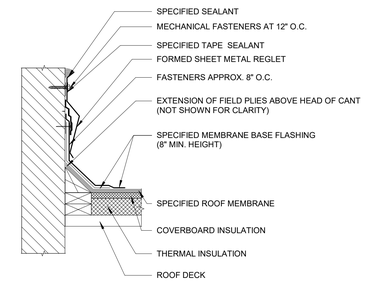

NOTES:
1. SHEET LEAD MINIMUM OF 2-1/2 LB PER SQUARE FOOT.
2. THE METAL BITUMEN DAM IS REQUIRED FOR COAL TAR BUILT-UP ROOFING. IT MUST EXTEND 2" ABOVE THE ROOFING MEMBRANE AND SET IN ASPHALT MASTIC ON DECK.
3. DO NOT USE MODIFIED COAL TAR ON SLOPES THAT EXCEED 1/2" PER FOOT.
4. DO NOT USE TYPE I TAR WITH POLYESTER OR TARRED GLASS FELTS ON SLOPES THAT EXCEED 1/4" PER FOOT, OR WITH TARRED ORGANIC FELTS ON SLOPES THAT EXCEED 1/2" PER FOOT.

## 6 PLUMBING VENT DETAIL
SCALE: N.T.S.



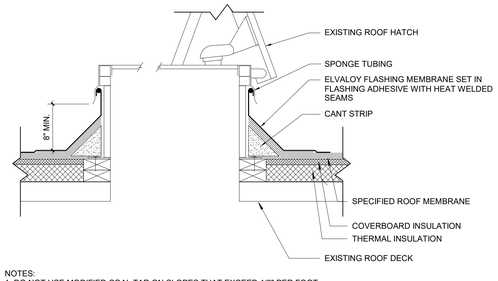

NOTES:
1. DO NOT USE MODIFIED COAL TAR ON SLOPES THAT EXCEED 1/2" PER FOOT.
2. DO NOT USE TYPE I TAR WITH POLYESTER OR TARRED GLASS FELTS ON SLOPES THAT EXCEED 1/4" PER FOOT, OR WITH TARRED ORGANIC FELTS ON SLOPES THAT EXCEED 1/2" PER FOOT.

## 7 BASE FLASHING FOR WALL SUPPORT DECK
SCALE: N.T.S.



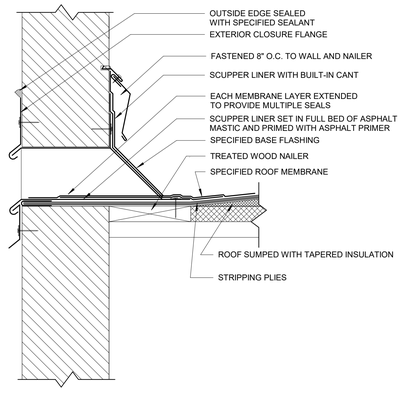

NOTES:
1. DO NOT OBSTRUCT WEEP HOLES WITH TOOLED SEALANT
2. BLOCKING FASTENERS NOT SHOWN FOR CLARITY.

## 8 BASE FLASHING FOR WALL SUPPORT DECK
SCALE: N.T.S.



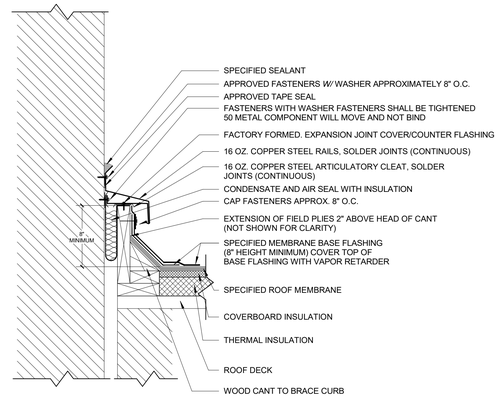

NOTES:
1. DO NOT USE MODIFIED COAL TAR ON SLOPES THAT EXCEED 1/2" PER FOOT.
2. DO NOT USE TYPE I TAR WITH POLYESTER OR TARRED GLASS FELTS ON SLOPES THAT EXCEED 1/4" PER FOOT, OR WITH TARRED ORGANIC FELTS ON SLOPES THAT EXCEED 1/2" PER FOOT.

## 9 FLASHING AT ROOF HATCH
SCALE: 1 1/2" = 1'-0"




NOTES:
1. SUMP 2'-0" AROUND SCUPPER OPENING TO PROMOTE WATER RUN OFF.
2. SCUPPER LINER TO BE MANUFACTURED FROM 16 OZ. COPPER. SOLDER JOINTS. ALL SURFACES THAT RECEIVE AN ADHERED MEMBRANE SHOULD BE PRIMED WITH ASPHALT PRIMER.
3. OUTSIDE EDGE OF SCUPPER SHOULD BE TOTALLY SEALED TO PREVENT WATER FROM ENTERING WALL CAVITY.
4. SCUPPER HEAD NOT SHOWN) MUST BE BELOW OR HAVE SPILL-OUT BOTTOM LEVEL OF SCUPPER.
5. BREAK OUTSIDE TOP AND BOTTOM EDGES DOWN 45 DEGREES.
6. FLANGES SHALL BE A MINIMUM OF 6" WITH SOLD SOLDERED CORNERS.

## 10 SCUPPER DETAIL
SCALE: 1 1/2" = 1'-0"




NOTES:
1. THIS DETAIL SHOULD BE USED WHERE THERE IS ANY POSSIBILITY THAT DIFFERENTIAL MOVEMENT WILL OCCUR BETWEEN THE DECK AND A VERTICAL SURFACE. THE WOOD MEMBERS SHOULD NOT BE FASTENED TO THE WALL.
2. THE JOINTS IN THE COPPER COUNTERFLASHING SHOULD BE SOLDERED.

## 11 WALL TO ROOF
SCALE: 1 1/2" = 1'-0"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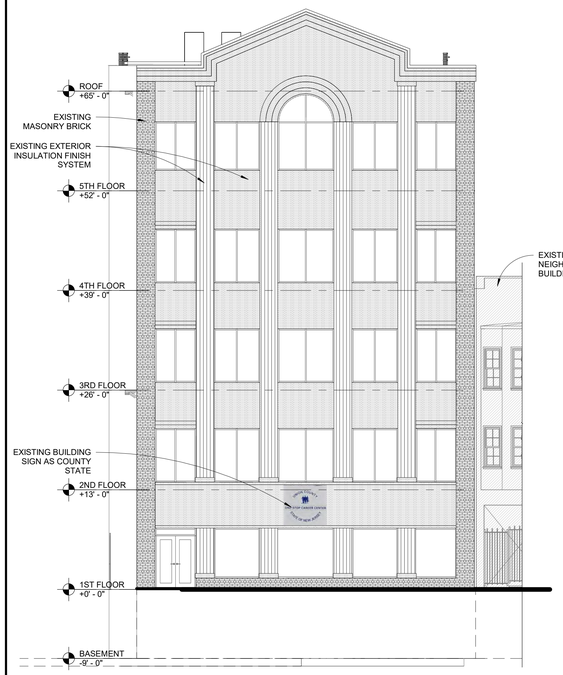
**EXTERIOR + INTERIOR RESTORATION + ALTERATION**
AT
**921 ELIZABETH AVENUE**
FOR THE
**COUNTY OF UNION**
PROJECT ADDRESS:
921 ELIZABETH AVENUE
ELIZABETH, NJ 07201

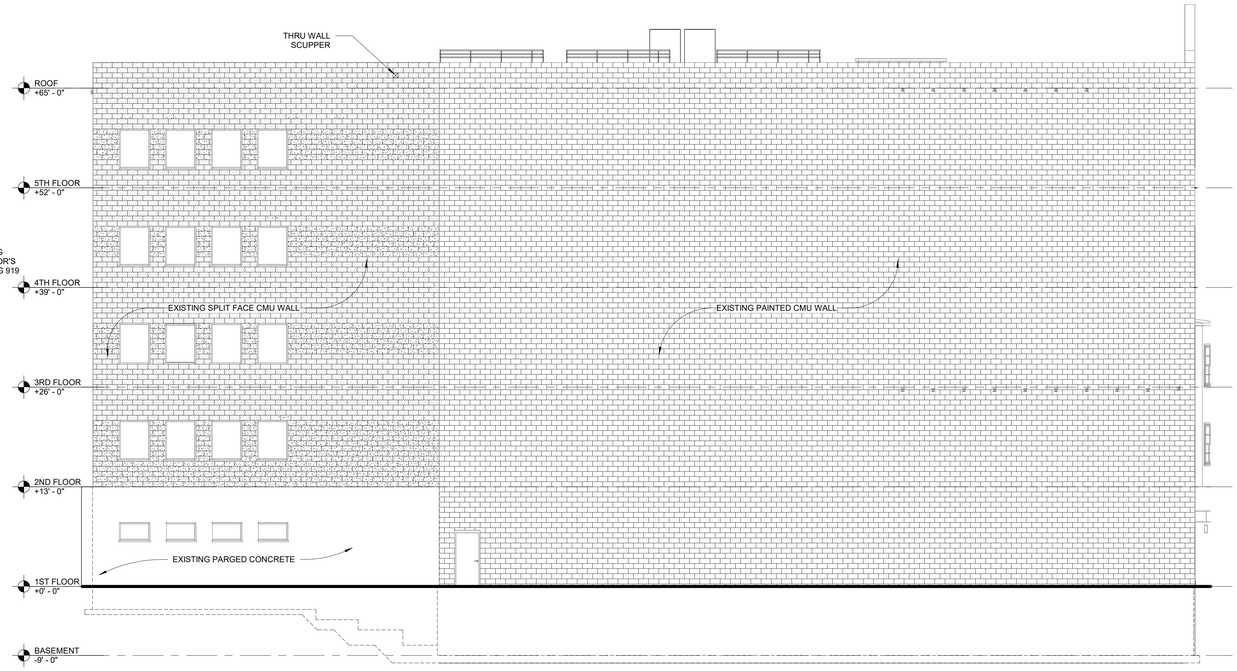
| No. | Date | Issue or Revision |
|---|---|---|
| 1 | 01.17.25 | ISSUED FOR BID |

Drawing Title
ROOF DETAILS

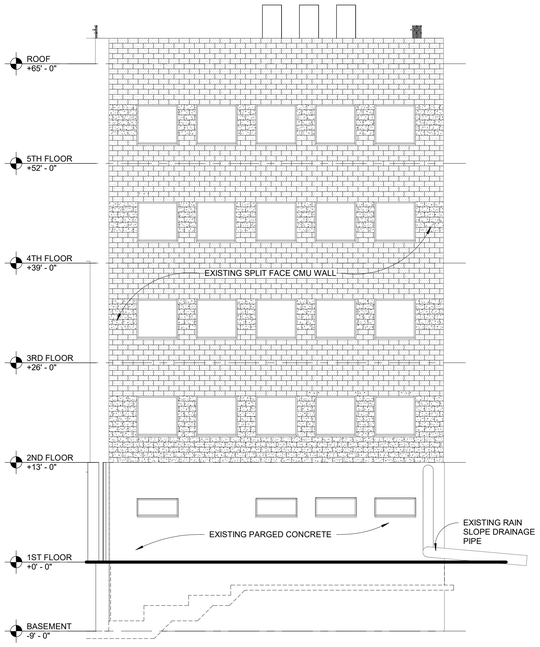
| | |
|---|---|
| Scale: AS NOTED | USA Project No.: R2024.0087 |
| Drawing Date: 01.17.2025 | Drawing No.: A-141 |
| Drawn By: ChaW / Checked By: ApA | |



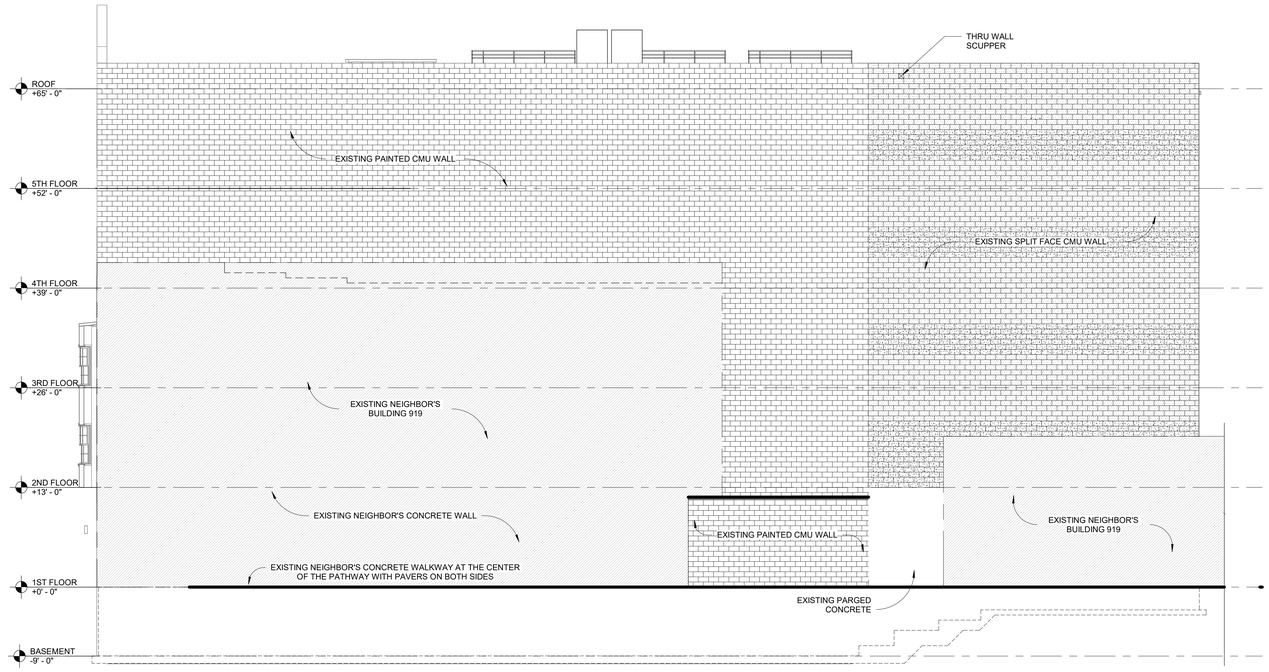

1 SOUTH ELEVATION - EXISTING (FRONT)
SCALE: 1/8" = 1'-0"




3 WEST ELEVATION - EXISTING (LEFT SIDE)
SCALE: 1/8" = 1'-0"




2 NORTH ELEVATION - EXISTING (REAR)
SCALE: 1/8" = 1'-0"




4 EAST ELEVATION EXISTING (RIGHT SIDE AT NEIGHBOR)
SCALE: 1/8" = 1'-0"

5 EXTERIOR IMAGES - NORTH ELEVATION
SCALE: 12" = 1'-0"

## EXTERIOR RESTORATION AND RECOATING NOTES:

1. GENERAL STATEMENT:
   A. The exterior walls are constructed with the following 5 exposed materials:
      Brick (uncoated),
      EIFS,
      Split Face CMU (uncoated),
      CMU (painted)
      Parged Concrete These areas may include some parged CMU.
   B. Objectives:
      To reduce water infiltration,
      To prevent deterioration of the exterior walls and
      To enhance the appearance of the building.

2. AREAS:
   The exterior walls are estimated at the following surface areas. These area measurements are for the areas of the faces of the building. These measurements are net of window and door areas (they were subtracted already). These measurements do not include the areas of window returns and door returns.
   South (Front) Elevation:
      Brick: 365 sf
      EIFS: 1,730 sf
   North (Back) Elevation:
      Split Face CMU: 1,860 sf
      Parged Concrete: 520 sf
   West (Left) Elevation:
      Split Face CMU: 2,170 sf
      Parged Concrete: 550 sf
      Painted CMU: 6,710 sf
   East (Right) Elevation:
      Split Face CMU: 2,165 sf
      Parged Concrete: 125 sf
      Painted CMU: 3,475 sf

3. EXCLUDED FROM REPAIR AND COATING WORK:
   All items at or above the roof level
   Windows and doors including the seal between the metal frames and the glass surfaces.

4. ACCESS:
   Contractor shall provide the means and equipment to access all the exposed areas of the building on all four sides in a manner that protects the safety of construction workers and the public. If the roof is used for mounting or placing equipment, GC shall hire a licensed NJ structural engineer to review and approve the weights and locations of access equipment.

5. REPAIRS:
   A. Scrape off all loose or deteriorated: paint, coatings, and masonry materials (all elevations).
   D. Perform these repairs with the following allowances (for the total of all elevations):

| | | |
|---|---|---|
| Brick mortar joints | 400 sf | Repoint joints |
| EIFS | 100 sf | Repair damaged areas |
| Split Face CMU | 1,000 sf | Repoint seriously-deteriorated mortar joints and fill cracks greater than 1/8" with joint sealant (caulk) |
| Painted CMU | 100 sf | Repoint seriously-deteriorated mortar joints and fill cracks greater than 1/8" with joint sealant (caulk) |
| Parged Concrete | 250 sf | Fill cracks greater than 1/8" with joint sealant (caulk) |

6. APPLICATION OF COATINGS:
   A. Remove all dust and residual deposits from surfaces to be coated.
   B. Pressure wash with detergent solution. Rinse thoroughly. Let dry completely before applying coatings.
   C. Apply coatings and perform restoration repairs per Section 09 91 13, Exterior Painting and Section 04 01 01 Masonry Restoration of the specifications for this project and according to the manufacturer(s) of the products being utilized.

7. VEGETATION:
   A. Remove all vegetation (trees, shrubs, etc.) at rear of building (North elevation), including stumps and roots.
   B. All removed vegetation material to be brought off-site and disposed of according to applicable regulations.

8. WORK CLOSEOUT
   A. Remove all coating drops and smears from glass surfaces.
   B. Clean the exterior glass panels (windows and doors), all elevations. Use professional-type equipment and cleaning solutions.
   C. Remove all temporary anchors for scaffolding and rigging. Seal holes with caulk and touch up coating with matching material.

## EXTERIOR MATERIAL LEGEND:

- PARGED CONCRETE
- PAINTED CONCRETE MASONRY UNITS
- SPLIT FACE CONCRETE MASONRY UNITS
- EXTERIOR INSULATION FINISHING SYSTEM (EIFS)
- MODULAR MASONRY BRICK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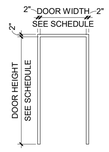
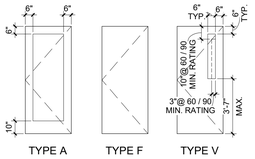
Drawing Title
EXISTING EXTERIOR ELEVATIONS

| | |
|---|---|
| Scale: AS NOTED | USA Project No. R2024.0087 |
| Drawing Date: 01.17.2025 | Drawing No. A-300 |
| Drawn By: ChaW / Checked By: ApA | |



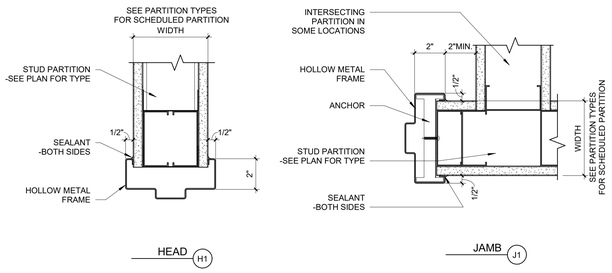

TYPE 1A

1 FRAME ELEVATIONS
SCALE: 1/4" = 1'-0"




TYPE A TYPE F TYPE V

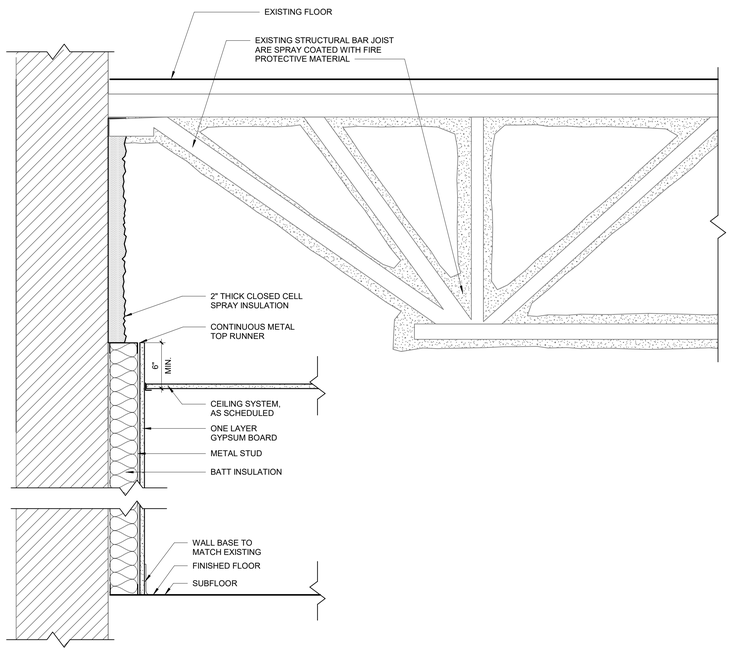
2 DOOR ELEVATIONS
SCALE: 1/4" = 1'-0"



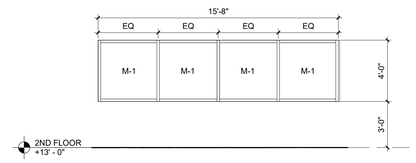

3 DOOR HEAD AND JAMB DETAILS
SCALE: 3" = 1'-0"

DOOR SCHEDULE

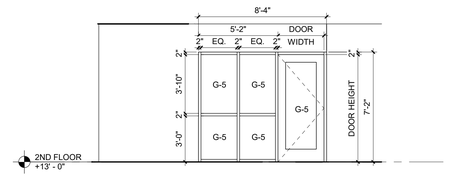
| DOOR NUMBER | DOOR | | | | FRAME | | | HARDWARE SET | FIRE RATING | COMMENTS |
|---|---|---|---|---|---|---|---|---|---|---|
| | TYPE | WIDTH | HEIGHT | MATERIAL | TYPE | HEIGHT | MATERIAL | | | |
| 101A | F | 3'-0" | 7'-0" | WD | 1A | 7'-2" | HM | 01 | | |
| 201 | A | 3'-0" | 7'-0" | WD | 1A | 7'-2" | HM | 03A | | |
| 202 | V | 3'-0" | 7'-0" | WD | 1A | 7'-2" | HM | 02A | | |
| 203 | V | 3'-0" | 7'-0" | WD | 1A | 7'-2" | HM | 02A | | |
| 206 | A | 3'-0" | 7'-0" | AL | B | 7'-2" | AL | 04 | | |
| 206A | F | 3'-0" | 7'-0" | WD | 1A | 7'-2" | HM | 03A | | |
| 207 | F | 3'-0" | 7'-0" | WD | 1A | 7'-2" | HM | 02A | | |
| 208 | V | 3'-0" | 7'-0" | WD | 1A | 7'-2" | HM | 02 | | |
| 209 | V | 3'-0" | 7'-0" | WD | 1A | 7'-2" | HM | 02 | | |
| 210 | V | 3'-0" | 7'-0" | WD | 1A | 7'-2" | HM | 02A | | |
| 211 | V | 3'-0" | 7'-0" | WD | 1A | 7'-2" | HM | 02 | | |
| 212 | V | 3'-0" | 7'-0" | WD | 1A | 7'-2" | HM | 02 | | |
| 213 | V | 3'-0" | 7'-0" | WD | 1A | 7'-2" | HM | 02 | | |
| 214 | V | 3'-0" | 7'-0" | WD | 1A | 7'-2" | HM | 02A | | |
| 215 | V | 3'-0" | 7'-0" | WD | 1A | 7'-2" | HM | 03 | | |
| 216 | F | 3'-0" | 7'-0" | WD | 1A | 7'-2" | HM | 03A | | |
| 217 | F | 3'-0" | 7'-0" | WD | 1A | 7'-2" | HM | 03A | | |
| 218 | F | 3'-0" | 7'-0" | WD | 1A | 7'-2" | HM | 03A | | |
| 405 | V | 3'-0" | 7'-0" | WD | 1A | 7'-2" | HM | 02A | | |
| 406 | V | 3'-0" | 7'-0" | WD | 1A | 7'-2" | HM | 02A | | |
| 407 | V | 3'-0" | 7'-0" | WD | 1A | 7'-2" | HM | 02A | | |
| 408 | A | 3'-0" | 7'-0" | WD | 1A | 7'-2" | HM | 03A | | |
| 503 | V | 3'-0" | 7'-0" | WD | 1A | 7'-2" | HM | 02A | | |
| 504 | V | 3'-0" | 7'-0" | WD | 1A | 7'-2" | HM | 02A | | |
| 506 | V | 3'-0" | 7'-0" | WD | 1A | 7'-2" | HM | 02A | | |
| 507 | V | 3'-0" | 7'-0" | WD | 1A | 7'-2" | HM | 02A | | |
| 511 | A | 3'-0" | 7'-0" | WD | 1A | 7'-2" | HM | 05 | | |
| 512 | A | 3'-0" | 7'-0" | WD | 1A | 7'-2" | HM | 02B | | |




4 EXTERIOR WALL DETAIL - TYPICAL
SCALE: 1 1/2" = 1'-0"




A INTERIOR STOREFRONT ELEVATION
SCALE: 1/4" = 1'-0"




B INTERIOR STOREFRONT ELEVATION.
SCALE: 1/4" = 1'-0"

## SYMBOL LEGEND

| | |
|---|---|
| G-5 | 1/4" MONOLITHIC INTERIOR VISION GLAZING |
| M-1 | 1/4" ONE-WAY MIRROR GLAZING |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| 1 | 01.17.25 | ISSUED FOR BID |

Drawing Title
OPENINGS - SCHEDULES + DETAILS

Scale: AS NOTED
USA Project No.: R2024.0087
Drawing Date: 01.17.2025
Drawing No.: A-600
Drawn By: ChaW
Checked By: ApA

## GENERAL STRUCTURAL AND CONSTRUCTION NOTES

### 1.0 GENERAL

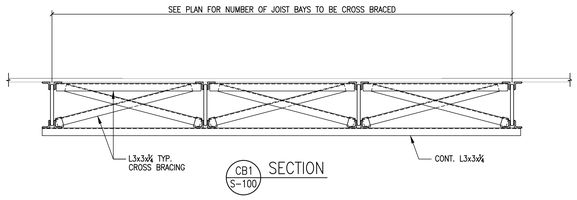
1. All work shall conform to the "2021 International Building Code, NJ Edition"and to all other applicable Federal, State, and Local regulations.
2. In case of conflict between the General Notes, and details, the most rigid requirements shall govern.
3. Work not indicated on a part of the drawings but reasonably implied to be similar to that shown at corresponding places shall be repeated.
4. Job site safety and construction procedures are the sole responsibility of the Contractor.
5. The Contractor shall verify and/or establish all existing conditions and dimensions at the site. Failure to notify Architect/Engineer of unsatisfactory conditions constitutes acceptance of unsatisfactory conditions.
6. If the existing field conditions do not permit the installation of the work in accordance with the details shown, the Contractor shall notify the Architect/Engineer immediately and provide a sketch of the condition with his proposed modification of the details given on the Contract Documents. Do not commence work until condition is resolved and modification is approved by the Engineer.

### 2.0 STRUCTURAL STEEL

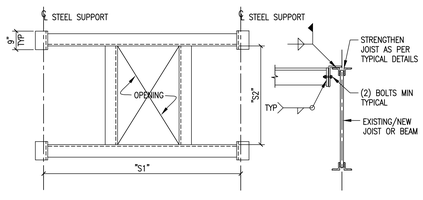
1. Structural steel work shall comply with the American Institute of Steel Construction, ANSI/AISC 360–16.
2. Fabrication and erection of structural steel shall conform to the "Steel Construction Manual", 15th Edition, American Institute of Steel Construction including Specifications for Structural Steel Buildings, Specification for Structural Joints Using ASTM A325 or A490 Bolts, and AISC Code of Standard Practice except Sections 4.2 and 7.9 which shall not be applicable to this project.
3. All welding shall be performed by certified welders and shall conform to "Structural Welding Code ANSI/AWS D1.4–17", American Welding Society.
4. Wide flange shapes: ASTM A992 or A572, Grade 50.
5. Structural shapes & plates: ASTM A36, A572 or A992.
6. All bolted connections shall be with ASTM A325 high strength bolts ¾" minimum diameter, unless noted otherwise.
7. Welding electrodes shall be E70XX for manual arc welding and F7X–EXXX for submerged arc welding. All welders shall be certified by the AWS. Minimum weld size shall be 3/16" unless noted otherwise.
8. Submit shop drawings for fabrication and erection of structural steel. Shop and Erection drawings must show all shop/floor and field welds. Initial shop drawing submittal shall include proposed connection details and job standards.
9. All steel shall be painted with shop standard primer unless noted otherwise.
10. Existing framing requiring welding shall be thoroughly cleaned to ensure proper welding. Provide temporary shoring when welding to existing steel.
11. Field welded surfaces within four (4) inches of weld shall be cleaned and ground smooth. After welding coat the exposed area with appropriate primer/paints as specified.
12. Visually inspect all fillet welds. 10% of all Field fillet welds in primary connections and multi–pass welds shall be tested by the magnetic particle method, complying with E109, performed on the root pass and on the finished weld.
13. Contractor shall be responsible for removal and replacement of all spray fireproofing on existing roof joists as part of the reinforcement for the new mechanical units.

### 3.0 DESIGN DATA

1. Governing Code: International Building Code 2021, NJ Edition
2. Roof Live Load
   - A. Live Load.....20 PSF
   - B. Snow Load:
     - Pg (Ground Snow Load).....25 PSF
     - Pf (Flat Snow Load).....20 PSF
     - $C_e$ (Snow Exposure Factor).....1.0
     - I (Snow Load Importance Factor).....1.0
     - $C_t$ (Thermal Factor).....1.0

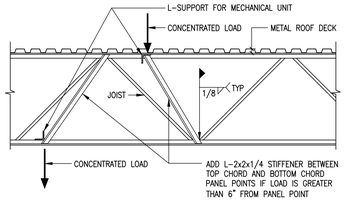



CB1 / S-100 SECTION



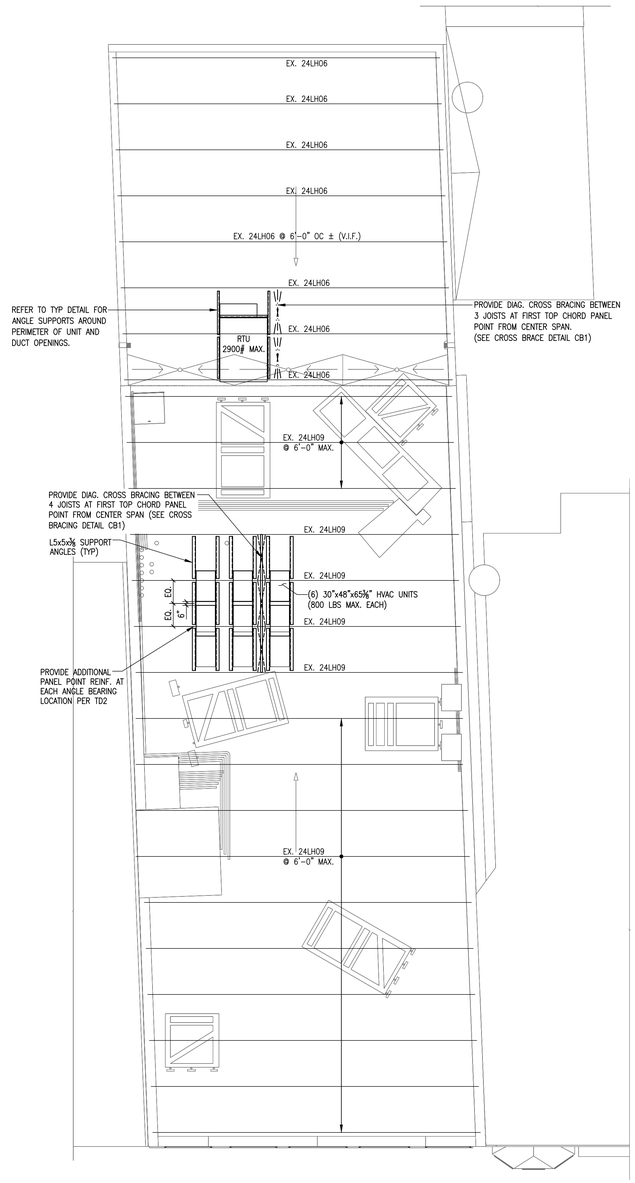

NOTES:
1. FOR SIZE AND LOCATION OF OPENINGS SEE ARCHITECTURAL AND MECHANICAL DRAWINGS.
2. STEEL CONTRACTOR SHALL VERIFY ALL OPENINGS AND EXACT LOCATIONS WITH THE TRADE CONTRACTOR REQUIRING OPENINGS PRIOR TO FABRICATION AND ERECTION OF STEEL FRAMES.
3. PROVIDE STEEL FRAMING AS SHOWN AROUND ALL OPENINGS LARGER THAN 8" AT THE ROOF.
4. WHEN JOIST SPACING EXCEEDS 6'–0", VERIFY ALL ANGLES SIZES W/ENGINEER.
5. WHERE ROOF STEEL SLOPES, CURB HEIGHTS MUST VARY TO PROVIDE A LEVEL SURFACE. PROVIDE BRIDGING FOR ONE BAY ON BOTH SIDES OF OPENING WHEN BRIDGING IS INTERRUPTED.
6. PROVIDE STEEL ANGLES ON ALL SIDES OF OPENINGS UNLESS BEAM IS SHOWN ON PLAN. ANGLE SIZES TO BE:
   - FOR "S1" OR "S2" < 4'–0" – L 4x4x1/4
   - FOR "S1" OR "S2" > 4'–0" – L 5x5x3/8
   - FOR "S1" OR "S2" > 9'–0" – L 7x4x3/8 (LLV)

TD1 / S-100 TYPICAL DETAIL
FRAMING AT ROOF OPENING




NOTE:
SUPPORTING LOAD AT CONDENSERS, MECHANICAL UNITS, AND ALL CONCENTRATED LOADS GREATER THAN 150 LBS AND NOT EXCEEDING 500 LBS.

TD2 / S-100 TYPICAL DETAIL
REINFORCED JOIST




## EXISTING & PROPOSD ROOF PLAN

SCALE: 1/8"=1'–0" (DO NOT SCALE PLAN)

NOTES:
1. VERIFY IN FIELD ALL EXISTING CONDITIONS INCLUDING JOIST DEPTH AND SPACING.
2. IF EXISTING BRIDGING CONFLICTS WITH DUCTS OR NEW SUPPORTS, REMOVE AND REINSTALL JUST BEYOND THE CONFLICT AREA. PROVIDE CROSS BRIDGING AS TERMINATION OF INTERRUPTED HORIZONTAL BRIDGING LINES.
3. NO NEW EQUIPMENT OR OTHER LOADS SHALL EXIST ALONG THE ENTIRE LENGTH OF THE JOISTS THAT ARE SUPPORTING THE NEW RTU OR CONDENSING UNITS.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**EXTERIOR + INTERIOR RESTORATION & ALTERATION**
AT
**921 ELIZABETH AVENUE**
FOR THE
**COUNTY OF UNION**

PROJECT ADDRESS:
921 ELIZABETH AVENUE
ELIZABETH, NJ 07201

| No. | Date | Issue or Revision |
|---|---|---|
| 1 | 01.17.2025 | ISSUED FOR BID |

Drawing Title
EXISTING & PROPOSED ROOF PLAN, GENERAL NOTES AND DETAILS

| | |
|---|---|
| Scale: AS NOTED | USA Project No.: R2024.0087 |
| Drawing Date: 01.17.2025 | Drawing No.: S-100 |
| Drawn By: MPP / Checked By: SWM | |

## PERFORMANCE FIRE SPRINKLER SPECIFATIONS

1.) GENERAL REQUIREMENTS:

A. DRAWINGS ARE DIAGRAMMATIC AND INDICATE GENERAL ARRANGEMENT.

B. VERIFY ALL GOVERNING DIMENSIONS IN THE BUILDING.

C. COORDINATE ALL WORK WITH OTHER TRADES TO MINIMIZE INTERFERENCE WITH EXISTING AND NEW FACILITIES. TO FACILITATE TIMELY COMPLETION AND AVOID NECESSITY FOR CUTTING AND PATCHING. FURNISH TO OTHER AFFECTED TRADES ALL NECESSARY INFORMATION WORKING DRAWINGS OR MATERIALS REQUIRED FOR INSTALLATION AND COMPLETION OF ALL WORK.

D. PROVIDE WORKMANSHIP OF HIGHEST GRADE. INSTALL ALL PIPING AND SPRINKLER HEADS IN CONFORMANCE WITH MANUFACTURER'S RECOMMENDATIONS, REQUIREMENTS OF NFPA-13, LOCAL FIRE DEPARTMENT, OWNER'S INSURANCE UNDERWRITERS AND BUILDING CODE LATEST EDITION.

E. PROVIDE ONE YEAR GUARANTEE AGAINST DEFECTIVE WORKMANSHIP AND MATERIALS.

F. NO SHUT-DOWN OF EXISTING FIRE PROTECTION SYSTEMS SHALL BE DONE WITHOUT PRIOR WRITTEN PERMISSION FROM BUILDING MANAGEMENT. REQUESTS FOR SHUT DOWNS MUST BE DELIVERED TO THE OWNERS REP. AT LEAST (7) WORKING DAYS PRIOR TO THE REQUESTED SHUTDOWN AND SHALL BE SUBJECT TO THE FINAL APPROVAL OF THE MANAGER. KEEP THE SHUT DOWN TIME TO A MINIMUM. DRAINAGE SHALL BE TO A PROPERLY CONNECTED RECEPTACLE WITHOUT CAUSING DAMAGE TO OTHER WORK AND PROPERTY.

G. THIS IS A PERFORMANCE SPRINKLER DESIGN SPECIFICATION. THE CONTRACTOR SHALL FOLLOW NFPA 13 AND THE GUIDELINES SHOWN ON THESE DRAWINGS TO DEVELOP THE SPRINKLER DESIGN FOR THIS PROJECT. THE CONTRACTOR SHALL PROVIDE SIGNED AND SEALED HYDRAULIC CALCULATIONS AND SHOP DRAWINGS INCLUDING DETAILS FOR REVIEW BY LOCAL CODE OFFICIAL, ENGINEER AND ARCHITECT.

H. FIRE PROTECTION CONTRACTOR IS RESPONSIBLE FOR COMPLYING WITH THE REQUIREMENTS OF THE LOCAL FIRE MARSHALL CONCERNING FIRE ALARM SYSTEM AND/OR FIRE SPRINKLER SHUTDOWN PLANS, PROCEDURES, AND FIRE WATCH PLANS THAT WILL BE IMPLEMENTED FOR SYSTEM INTERRUPTIONS DURING DEMOLITION AND CONSTRUCTION.

2.) SCOPE OF WORK:

A. PROVIDE ALL REQUIRED LABOR, MATERIALS, EQUIPMENT, HYDRAULIC CALCULATIONS, PERMITS, CERTIFICATES, INSPECTION, TESTING AND OTHER SERVICES NECESSARY OR REQUIRED FOR COMPLETE SAFE INSTALLATION OF WORK IN FULL CONFORMANCE WITH NFPA-13 REQUIREMENTS ALL AS INDICATED ON DRAWINGS AND/OR HEREIN SPECIFIED.

B. CUTTING AND PATCHING.

3.) WORK NOT INCLUDED:

1.) FINISHED PAINTING.

4.) SUBMITTALS:

A. SHOP DRAWINGS

1.) SPRINKLERS

2.) VALVES

3.) HANGERS

4.) PIPING LAYOUT COORDINATED WITH ALL TRADES INCLUDE ON EACH WORKING DRAWING LAYOUT CERTIFICATE THAT ALL RELATED CONDITIONS HAVE BEEN CHECKED WITH ALL TRADES, AND THAT NO CONFLICT EXISTS. SUBMISSION WILL NOT BE APPROVED WITHOUT SUCH CERTIFICATION.

5.) HYDRAULIC CALCULATIONS BROUGHT BACK TO THE CONNECTION TO THE RISER. VERIFY PRESSURE AT THE RISER. PROVIDE COVER SHEET AS PER FIG A-6-2.2(a) OF NFPA 13. INDICATE SOURCE OF WATER SUPPLY. WATER RESERVE AND ELEVATION.

A. AS BUILT DRAWINGS:

1.) FURNISH AND INSTALL "AS-BUILT" SHOP DRAWINGS FOR SPRINKLER INSTALLATION.

B. SPRINKLER HYDRAULIC CALCULATIONS:

1.) THE CONTRACTOR SHALL SUBMIT SIGNED AND SEALED SPRINKLER HYDRAULIC CALCULATION FOR REVIEW AND APPROVAL BY THE ARCHITECT/ENGINEER OF RECORD.

2.) PREPARE FOR SUBMITTAL PLANS SHOWING EXISTING DISTRIBUTION PIPING, SIZES, ELEVATIONS, ETC.

6.) CONNECTION TO EXISTING WORK:

A. CONNECT NEW WORK IN NEAT AND APPROVED MANNER. RESTORE EXISTING PIPING DISTURBED IN MAKING SUCH CONNECTIONS TO PERFECT CONDITIONS. TEMPORARY SHUT DOWN OF EXISTING SERVICES ONLY WITH WRITTEN APPROVAL OF OWNER, AT TIMES NOT TO INTERFERE WITH NORMAL OPERATIONS.

7.) MATERIALS – GENERAL:

A. TYPE AND SIZE OF MATERIALS SHALL BE APPROVED AS PER NFPA STANDARDS AND OWNER'S INSURANCE UNDERWRITERS. SYSTEM AS INSTALLED SHALL MEET ALL REQUIREMENTS AND RECEIVE APPROVAL OF SAME BEFORE FINAL PAYMENT.

B. ALL MATERIALS SHALL BE UL LISTED AND FM APPROVED.

8.) HANGERS AND SUPPORTS:

A. ALL SPRINKLER PIPING SHALL BE INSTALLED IN ACCORDANCE WITH N.F.P.A. 13.

B. SPRINKLER HEADS SHALL BE CENTERED ON ½ CEILING TILES OR AS PER CONTRACT DWGS.

C. UNLESS OTHERWISE SPECIFICALLY APPROVED, HANGER SIZE AND SPACING SHALL BE WITHIN FOLLOWING LIMITS:

| PIPE SIZE | MAX. HANGER SPACING | MIN. ROD SIZE |
|---|---|---|
| 1" | 8 FT. O.C. | 3/8" |
| 1-1/4" TO 2" | 10 FT. O.C. | 3/8" |
| 2-1/2" TO 3-1/2" | 12 FT. O.C. | 1/2" |

THE ABOVE HANGER SPACINGS APPLY TO STRAIGHT RUNS OF PIPE ONLY. AT POINTS WHERE VALVES, SPECIALTIES OR BRANCH CONNECTIONS ARE LOCATED, ADDITIONAL HANGERS OR SUPPORTS SHALL BE USED TO PROPERLY SUPPORT THE LOAD.

9.) SUPPORTS:

A. ALL PIPING SHALL BE HUNG FROM EXISTING STRUCTURAL STEEL AND CONCRETE BEAMS. PROVIDE AUXILIARY STEEL WHEN REQUIRED.

B. BEAM CLAMPS: APPROVED C-CLAMPS WITH LOCKNUT.

10.) SLEEVES AND ESCUTCHEONS

A. SLEEVES FOR PIPING PASSING THROUGH MASONRY WALLS SHALL BE SCHEDULE 40. STANDARD GALVANIZED STEEL PIPE: IN FRAMED PARTITIONS SHALL BE 20 GAUGE SHEET METAL. THE SPACE BETWEEN THE PIPE AND IT'S SLEEVE SHALL NOT EXCEED ONE-HALF INCH. THE SLEEVE SHALL HAVE SUFFICIENT LENGTH TO BE FLUSH WITH THE FINISHED WALL SURFACES.

B. EXPOSED PIPING PASSING THROUGH WALLS, FLOORS OR CEILING SHALL BE FITTED WITH CHROMIUM PLATED CAST BRASS ESCUTCHEONS WITH FASTENING SET SCREWS SIMLAR TO FEE & MASON MANUFACTURING CO., F. & S. MANUFACTURING CO., OR RITTER PATTERN AND CASTING CO.

11.) CUTTING AND PATCHING

A. PIPING PASSING THROUGH WALLS SHALL HAVE A TRIM OPENING CUT NO GREATER THAN NECESSARY FOR THE INSTALLATION OF A SLEEVE SECURED THEREIN.

B. PIPING PASSING THROUGH CONCRETE FLOORS SHALL HAVE THE OPENING CORE DRILLED SO THAT THE SPACE BETWEEN THE OPENING AND THE PIPE SHALL NOT EXCEED ONE-HALF INCH.

C. ANNULAR SPACES BETWEEN PIPING AND SLEEVES OR CORE DRILLED FLOOR OPENING SHALL BE PACKED WITH MINERAL WOOL AND SEALED. TO RETAIN THE FIRE INTEGRITY OF THE WALLS AND FLOORS, WITH A NON-HARDENING COMPOUND SIMILAR AND EQUAL TO UNISEAL OR DUXSEAL AS MANUFACTURED BY THE J.M. CLIPPER CORPORATION.

12.) PIPE

A SPRINKLER STANDARD WEIGHT SCHEDULE 40 BLACK STEEL PIPE, SEAMLESS OR WELDED MILD STEEL, CONFORMING TO ASTM A-795/A-53.

13.) FITTINGS

A. CAST IRON: THREADED CLASS 125, ANSI B-16.4.

B. MALLEABLE IRON: CLASS 150 THREADED, ANSI B- 16-3.

C. GROOVED AND MALLEABLE IRON FITTINGS AND COUPLINGS WITH PRESSURE RATING, SIMILAR TO VICTAULIC WILL NOT BE ALLOWED.

D. REDUCERS AND INCREASERS: OF TAPERED TYPE. NO BUSHINGS PERMITTED.

14.) SPRINKLER HEADS

A. CAST BRASS, CLOSED FUSIBLE LINK, SPRAY TYPE, 1/2 IN. ORIFICE, ORDINARY DEGREE TEMPERATURE RATING (165 DEG. F), EXCEPT AS NOTED.

1.) SPRINKLERS IN AREAS WITH HUNG CEILINGS SHALL BE VICTAULIC, QUICK RESPONSE MODEL CONCEALED AUTOMATIC SPRINKLER. THE HEADS MUST BE COMPLETE WITH WHITE FLUSH COVER PLATE 165°F TEMPERATURE RATING. COLOR TO BE FACTORY APPLIED.

2.) UPRIGHT, PENDENT AND SIDEWALL SPRINKLERS SHALL BE VICTAULIC QUICK RESPONSE AUTOMATIC SPRINKLERS

B. HIGHER TEMPERATURE RATING WHERE SUBJECT TO ABNORMAL HEATING CONDITIONS AND/OR WHERE INDICATED.

C. SPRINKLER HEADS TO BE CENTERED ON CEILING TILES, OR AS PER CONTRACT DWGS.

15.) DRAINAGE

A. PROVISIONS SHALL BE MADE FOR COMPLETE DRAINAGE OF THE SYSTEM.

16.) TESTS

A. PERFORM HYDROSTATIC TESTS FOR ALL SECTIONS OF THE PIPING SYSTEMS INSTALLED UNDER THIS SECTION. AT NOT LESS THAN 200 PSIG PRESSURE FOR TWO HOURS, OR AT 50 PSI IN EXCESS OF THE MAXIMUM PRESSURE, WHEN THE MAXIMUM PRESSURE TO BE MAINTAINED IN THE SYSTEM IS IN EXCESS OF 150 PSIG. THE TEST PRESSURE SHALL BE READ FROM A GAUGE LOCATED AT THE LOW ELEVATION POINT OF THE INDIVIDUAL SYSTEM, OR PORTION OF THE SYSTEM BEING TESTED.

B. TESTS SHALL BE MADE IN THE PRESENCE OF THE ARCHITECT OR HIS REPRESENTATIVES. AT LEAST 48 HOURS NOTICE SHALL BE GIVEN IN ADVANCE OF ALL TESTS.

17.) DESIGN CRITERIA

ENTIRE SYSTEM SHALL BY HYDRAULICALLY CALCULATED TO MEET FOLLOWING CRITERIA:

A. SPRINKLER SYSTEM

1. LIGHT HAZARD OCCUPANCY – OFFICEES, TOILET ROOM AREAS, CORRIDORS, & COMMON AREAS: DENSITY .10 GPM PER SQUARE FOOT OVER MOST HYDRAULICALLY REMOTE 1500 SQUARE FEET. MAXIMUM COVERAGE PER SPRINKLER HEAD 225 SQUARE FEET.

2. ORDINARY HAZARD (GR1) OCCUPANCY – STORAGE AREAS & MECHANICAL ROOM ROOM: DENSITY .15 GPM PER SQUARE FOOT OVER MOST HYDRAULICALLY REMOTE 1500 SQUARE FEET, MAXIMUM COVERAGE PER SPRINKLER HEAD 130 SQUARE FEET.

3. EQUIVALENT FITTING LENGTHS USED IN HYDRAULIC CALCULATIONS SHALL BE IN ACCORDANCE WITH NFPA STANDARD NO. 13.

4. DISCHARGE FROM EACH SPRINKLER HEAD SHALL BE IN ACCORDANCE WITH NFPA STANDARD NO. 13.

## FIRE SPRINKLER GENERAL NOTES

1. IT IS THE INTENT OF THESE DRAWINGS AND SPECIFICATIONS FOR THE CONTRACTOR TO MODIFY THE EXISTING WET SYSTEM IN ACCORDANCE WITH NFPA 13. SPRINKLER HEAD AND BRANCH LOCATIONS TO BE ADJUSTED TO ACCOMMODATE NEW ROOM LAYOUT, CEILING GRID, CEILING HEIGHTS AND OBSTRUCTIONS. THIS CONTRACTOR SHALL BE RESPONSIBLE FOR THE FULL DESIGN ASPECT OF THE FIRE PROTECTION SYSTEM INCLUDING HYDRAULIC CALCULATIONS.

2. THE ENTIRE INSTALLATION SHALL BE IN ACCORDANCE WITH THE LATEST RULES AND REGULATIONS OF THE AUTHORITIES HAVING JURISDICTION INCLUDING BUT NOT LIMITED TO, THE BUILDING AND FIRE CODES OF THE STATE OF NEW JERSEY, THE ACCEPTED NATIONAL FIRE PROTECTION ASSOCIATION STANDARD NO. 13, 14 & 20 AND THE OWNER'S INSURANCE UNDERWRITERS.

3. IF THERE ARE ANY QUESTIONS CONCERNING WHAT THE INSURANCE UNDERWRITER WILL REQUIRE IN ORDER TO APPROVE THE COMPLETED INSTALLATION (PIPING SIZING, LOCATION OF RISERS, TEST STATIONS, HYDRANTS, ALARMS, ETC.) THE BIDDER SHALL CONSULT WITH THE INSURANCE UNDERWRITER BEFORE SUBMITTING HIS BID. FAILURE TO CONSULT WITH THE INSURANCE UNDERWRITER DOES NOT RELIEVE THIS CONTRACTOR FROM HIS RESPONSIBILITY BY THE COMPLETION OF ANY AND ALL WORK REQUIRED WITH NO EXTRA CHARGES TO THE OWNER.

4. CONTRACTOR SHALL SUBMIT FOR APPROVAL, DETAILED CONSTRUCTION DRAWINGS AND HYDRAULIC CALCULATIONS TO THE ENGINEER, FIRE SUB-CODE OFFICIAL PRIOR TO THE INSTALLATION OF ANY EQUIPMENT. OBTAIN CERTIFICATE OF INSPECTION AND APPROVAL FROM THE SAME AGENCY HAVING JURISDICTION AFTER INSTALLATION. FIRE SUPPRESSION CONSTRUCTION DRAWINGS SHALL BE SIGNED AND SEALED BY AN ENGINEER LICENSED IN THE AREA WHERE THE PROJECT IS LOCATED.

5. DETAILED DRAWINGS AND CALCULATIONS OF THE SPRINKLER SYSTEM(S), AND SHOP DRAWINGS OF EQUIPMENT, STAMPED AND APPROVED BY AUTHORITIES HAVING JURISDICTION, INCLUDING FIRE MARSHAL AND INSURANCE UNDERWRITERS, ARE REQUIRED FOR THIS WORK. DRAWINGS AND CALCULATIONS SHALL BE PREPARED, SIGNED AND SEALED BY A LICENSED PROFESSIONAL ENGINEER AND SHALL COMPLY WITH NFPA 13, CHAPTER 22.

6. THE CONTRACTOR SHALL RUN A CURRENT CERTIFIED FLOW TEST AS REQUIRED BY N.F.P.A. 13.

7. FURNISH ALL MATERIALS, LABOR, TOOLS, EQUIPMENT AND SUPERVISION REQUIRED FOR THE INSTALLATION OF COMPLETE SYSTEMS AND ALL NECESSARY PIPING, SPRINKLER HEADS, TEST CONNECTIONS, VALVES, DRAINS AND SPRINKLER ALARMS, FLOW SWITCHES, HORNS OR GONGS, DETECTOR CHECK VALVES, SIAMESE FIRE DEPARTMENT CONNECTIONS, PRESSURE GAUGES, AND OTHER REQUIRED COMPONENTS.

8. ALL MATERIALS EXPOSED WITHIN PLENUMS SHALL BE NONCUMBUSTIBLE OR SHALL HAVE A FLAME SPREAD INDEX OF NOT MORE THAN 25 AND A SMOKE DEVELOPED INDEX OF NOT MORE THAN 50 WHEN TESTED IN ACCORDANCE WITH ASTM E 84. CONTRACTOR SHALL PROVIDE PROOF OF COMPLIANCE WITH THIS REQUIREMENT UPON REQUEST.

9. ALL SPRINKLER PIPING SHALL BE CONCEALED IN ALL FINISHED AREAS, AVOIDING INTERFERENCE WITH LIGHTS, DUCTS, PIPES, ETC.. BALANCE MAY BE RUN EXPOSED.

10. SPRINKLER HEADS SHALL NOT INTERFERE WITH LIGHTING FIXTURES, SPEAKERS, AIR CONDITIONING DIFFUSERS AND GRILLES, ETC. COORDINATE WITH ARCHITECT'S REFLECTED CEILING PRIOR TO SUBMITTING SHOP DRAWING.

11. EXACT LOCATION OF SPRINKLER HEADS AND PIPING SHALL BE COORDINATED WITH OTHER TRADES AND THE ARCHITECT'S REFLECTED CEILING PLAN BEFORE INSTALLATION.

12. CUTTING AND NOTCHING OF JOISTS IS NOT ACCEPTABLE AND WILL NOT BE PERMITTED. ANY DAMAGE CAUSED TO THE BUILDING STRUCTURE DURING INSTALLATION SHALL BE REPAIRED AT THIS CONTRACTORS EXPENSE.

13. ALL ELECTRICAL REQUIREMENTS FOR FIRE PROTECTION AND SPRINKLER SYSTEM ARE TO BE INCLUDED AS PART OF THIS CONTRACTOR'S RESPONSIBILITY. THIS CONTRACTOR SHALL SUB- CONTRACT FOR ALL WIRING AND RELATED COMPONENT REQUIREMENTS WITH SEPARATE ELECTRICAL CONTRACTOR. ALARM WIRING REQUIREMENTS FOR THE FIRE PROTECTION AND ALARM SYSTEM ARE TO BE INCLUDED IN THIS WORK.

14. ALL EQUIPMENT AND WORKMANSHIP SHALL BE GUARANTEED FOR A PERIOD OF ONE(1) YEAR AFTER ACCEPTANCE BY THE OWNER AND ARCHITECT, AGAINST DEFECTIVE MATERIALS AND LABOR AND IMPROPER DESIGN.

15. INSTALL SPRINKLER PIPING IN ACCORDANCE WITH NFPA 13, CHAPTER 9, FOR HANGING, BRACING AND RESTRAINING OF PIPING.

16. CONTRACTOR TO PAY FOR AND SUPPLY ALL DUMPSTERS FOR DEBRIS REMOVAL, COORDINATE AND OBTAIN APPROVAL FOR DUMPSTER LOCATIONS ON SITE AND DEBRIS REMOVAL ROUTES WITH THE CONSTRUCTION MANAGER.

17. CONTRACTOR TO UTILIZE ARCHITECTURAL REFLECTED CEILING PLANS FOR EXACT LOCATIONS AND COORDINATION OF SPRINKLER HEADS WITH MECHANICAL AND ELECTRICAL ELEMENTS.

18. REFER TO ARCHITECTURAL DRAWINGS FOR SUSPENDED CEILING HEIGHTS AND MINIMUM CLEAR HEIGHTS ABOVE FLOORS WHERE NO CEILINGS ARE INSTALLED FOR SPACING SPRINKLER HEADS IN ACCORDANCE WITH CODES.

19. ALL PIPE FITTINGS SHALL BE THREADED OR GROOVED COUPLING TYPE. NO SOLDERING OR BURNING SHALL BE PERFORMED.

20. PIPING IN GENERAL TO BE CONCEALED ABOVE HUNG CEILING WITH DROP NIPPLES TO SPRINKLER HEADS.

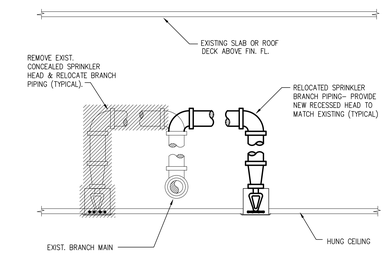
21. FLUSH TEST AND INSPECT SPRINKLER PIPING SYSTEMS IN ACCORDANCE WITH NFPA 13 & 13R.

22. CONTRACTOR SHALL SUBMIT PRODUCT DATA FOR EACH TYPE SPRINKLER HEAD, VALVE, PIPING SPECIALTY AND FIRE PROTECTION SPECIALTY.

23. INSTALLER'S QUALIFICATIONS: A QUALIFIED FIRM THAT IS EXPERIENCED (MINIMUM OF 5 PREVIOUS PROJECTS SIMILAR IN SIZE AND SCOPE TO THE PROJECT) IN SUCH WORK, FAMILIAR WITH PRECAUTIONS REQUIRED, AND IN COMPLIANCE WITH THE REQUIREMENTS OF THE AUTHORITY HAVING JURISDICTION.

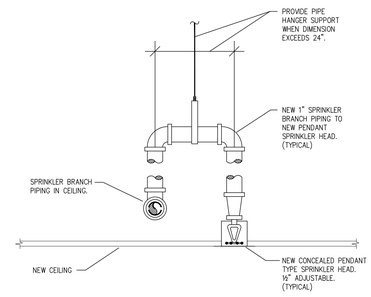
## FIRE SPRINKLER SYMBOLS

| | |
|---|---|
| ⊠ | EXISTING PENDANT SPRINKLER HEAD |
| ● | NEW CONCEALED TYPE SPRINKLER HEAD |
| △ | EXISTING SIDEWALL SPRINKLER HEAD |
| ——— | SPRINKLER BRANCH PIPING |



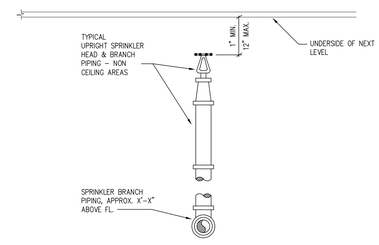

TYPICAL DETAIL OF SPRINKLER HEAD RELOCATION DETAIL

N.T.S.




TYPICAL PENDANT TYPE SPRINKLER HEAD DETAIL

N.T.S.




TYPICAL UPRIGHT SPRINKLER HEAD INSTALLATION DETAIL

N.T.S.

NOTE:
FIRE PROTECTION DRAWINGS ARE FOR REFERENCE ONLY. AFTER, BEING AWARDED THE PROJECT, COMPLETE SPRINKLER SHOP DRAWINGS AND HYDRAULIC CALCULATIONS, SIGNED AND SEALED BY A NEW JERSEY LICENSED PROFESSIONAL ENGINEER , SHALL BE SUBMITTED BY THE CONTRACTOR TO THE ENGINEER OF RECORD. ONCE APPROVED BY THE ENGINEER OF RECORD, THEY WILL BE SUBMITTED TO NJDCA FOR REVIEW AND APPROVAL.

NOTE:
FIRE PROTECTION DESIGN SHALL BE BY PROJECT FIRE PROTECTION CONTRACTOR. THE INFORMATION SHOWN ON THESE DRAWINGS IS DIAGRAMMATIC AND FOR REFERENCE ONLY. COORDINATE ALL FIRE PROTECTION INSTALLATIONS WITH SIGNED AND SEALED DOCUMENTS PROVIDED BY THE FIRE PROTECTION CONTRACTOR.

## DRAWING LIST


| | |
|---|---|
| FP0.1 | FIRE PROTECTION NOTES, SYMBOLS & ABBREVIATIONS |
| FP1.1 | FIRE PROTECTION – SECOND, FOURTH & FIFTH FLOOR DEMOLITION PLAN |
| FP2.1 | FIRE PROTECTION – SECOND, FOURTH & FIFTH FLOOR NEW WORK PLAN |



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**EXTERIOR + INTERIOR RESTORATION & ALTERATION**

AT

**921 ELIZABETH AVENUE**

FOR THE

**COUNTY OF UNION**

PROJECT ADDRESS:

921 ELIZABETH AVENUE
ELIZABETH, NJ 07201

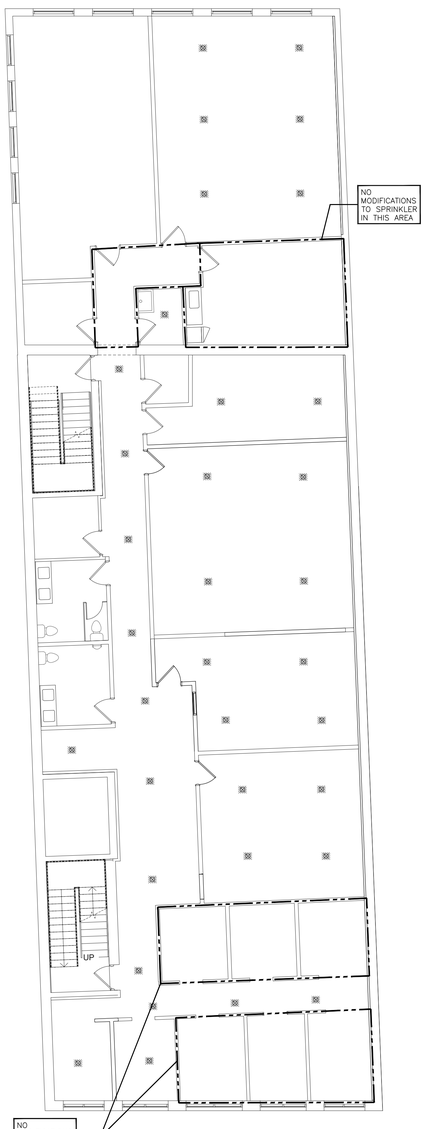
| No. | Date | Issue or Revision |
|---|---|---|
| 1 | 01.17.25 | ISSUED FOR BID |

Drawing Title

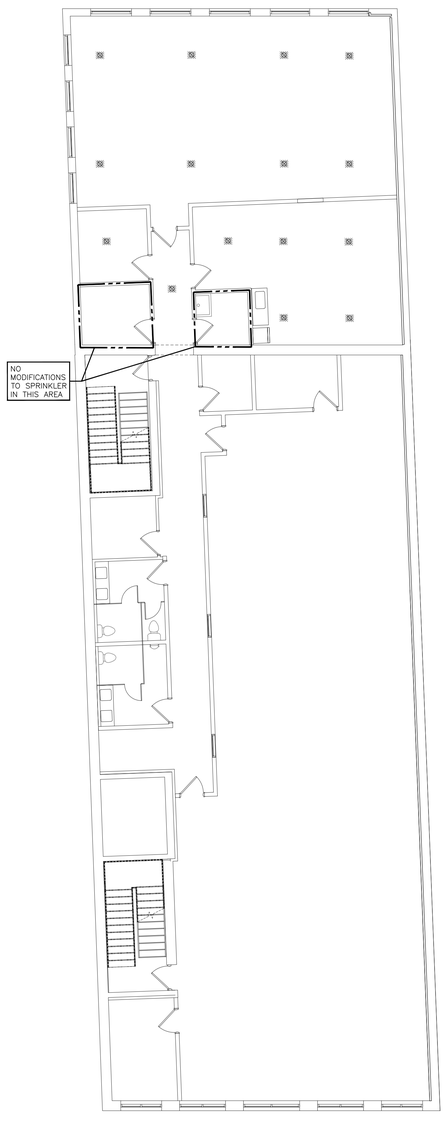
FIRE PROTECTION NOTES, SYMBOLS & ABBREVIATIONS

| | |
|---|---|
| Scale: AS NOTED | USA Project No.: R2024.0087 |
| Drawing Date: 01.17.2025 | Drawing No.: FP0.1 |
| Drawn By | Checked By |

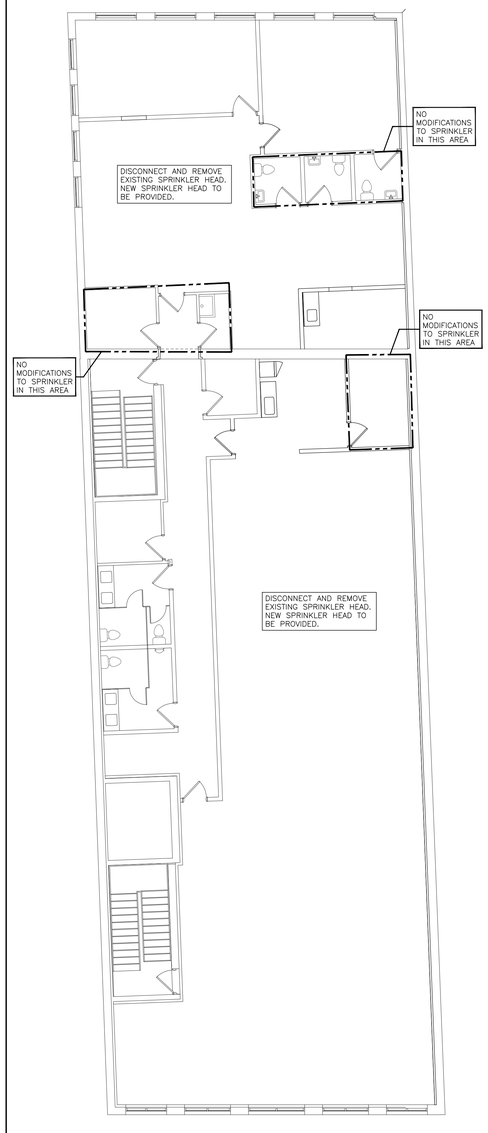

Plotted: 1/17/2025 2:32 PM By: msalles
File: U:\Projects 24\24-061 Union City - 921 Elizabeth Ave HVAC Upgrades\Drawings\24-061FP0.x - Cover\FP0.1




SECOND FLOOR




FOURTH FLOOR




FIFTH FLOOR

| SPRINKLER HEAD LEGEND – GENERAL | |
|---|---|
| SYMBOL | DESCRIPTION |
| ⊠ | EXISTING CONCEALED SPRINKLER HEAD |
| ▨ | EXISTING CONCEALED SPRINKLER HEAD TO BE REMOVED |
| ● | NEW CONCEALED SPRINKLER HEAD |

DRAWING GENERAL NOTES:

1. ALL CONCEALED SPRINKLER HEADS SHALL HAVE WHITE FINISH CAPS UNLESS OTHERWISE NOTED ON DRAWINGS OR AS OTHERWISE DIRECTED BY ARCHITECT.
2. ALL SPRINKLER HEAD LOCATIONS TO BE FIELD COORDINATED WITH LIGHTING FIXTURES: – IN CYP: 8D CEILING AREAS SPRINKLERS TO BE ALIGNED WITH OR CENTERED BETWEEN ADJACENT LIGHT FIXTURES.
3. SPRINKLER HEAD LOCATIONS SHALL BE LOCATED TO AVOID OBSTRUCTIONS (LTG FIXTURES, BEAMS, ETC.) WITH MINIMUM ALLOWABLE DISTANCES AS REQUIRED PER NFPA–13 AND LOCAL JURISDICTION.
4. ADDITIONAL PENDENT SPRINKLER HEADS TO BE INSTALL WHERE THE SOFFITS USED FOR THE INSTALLATION OF SIDEWALL SPRINKLER HEADS EXCEEDS 8".

SPRINKLER DESIGN CRITERIA

1) LIGHT HAZARD CRITERIA (OFFICES, AMMENITIES, COMMON SPACES)
   –MAX. SPRINKLER HEAD COVERAGE – 225 SQ.FT.
   –DESIGN DENSITY 0.10 GPM/SQ. FT.
   –DESIGN AREA 1500 SQ. FT.
2) ORDINARY HAZARD CRITERIA (MECHANICAL & STORAGE SPACES)
   –MAX. SPRINKLER HEAD COVERAGE – 130 SQ.FT.
   –DESIGN DENSITY 0.15 GPM/SQ. FT.
   –DESIGN AREA 1500 SQ. FT.
3) MAXIMUM HOSE LENGTH FROM HOSE VALVE CONNECTION = 150 FT.

UNLESS OTHERWISE SPECIFICALLY APPROVED, HANGER SIZE AND SPACING SHALL BE WITHIN FOLLOWING LIMITS:

| PIPE SIZE | MAX. HANGER SPACING | MIN. ROD SIZE |
|---|---|---|
| 1" | 8 FT. O.C. | 3/8" |
| 1–1/4" TO 2" | 10 FT. O.C. | 3/8" |
| 2–1/2" TO 3–1/2" | 12 FT. O.C. | 1/2" |

THE ABOVE HANGER SPACINGS APPLY TO STRAIGHT RUNS OF PIPE ONLY. AT POINTS WHERE VALVES, SPECIALTIES OR BRANCH CONNECTIONS ARE LOCATED, ADDITIONAL HANGERS OR SUPPORTS SHALL BE USED TO PROPERLY SUPPORT THE LOAD.

NOTE:

EXISTING WET SPRINKLER SYSTEM IN ALL OUTLINED AREAS TO BE MODIFIED IN ACCORDANCE WITH NFPA 13 2016 EDITION. SPRINKLER HEAD & BRANCH LOCATIONS IN AREA OF CONTRACT TO BE ADJUSTED TO ACCOMMODATE NEW ROOM LAYOUT, CEILING HEIGHTS AND OBSTRUCTIONS AS REQUIRED. ALL EXISTING SPRINKLER HEADS THAT NEED TO BE REMOVED TO REPLACE CEILING GRID OR CEILING TILES ARE TO BE REPLACED WITH NEW SPRINKLER HEADS.

SPRINKLER NOTE:

SPRINKLER CONTRACTOR TO COORDINATE ALL EXISTING FIRE SPRINKLER PIPING WHICH NEED TO BE RAISED OR RE–ROUTED) AND ALL NEW FIRE SPRINKLER PIPING WITH ALL OTHER TRADES AND NEW CEILING HEIGHTS TO ENSURE PROPER CLEARANCES.

1 FIRE PROTECTION SECOND FLOOR DEMOLITION PLAN — 0 4 8 — SCALE 1/8"=1'–0"

2 FIRE PROTECTION FOURTH FLOOR DEMOLITION PLAN — 0 4 8 — SCALE 1/8"=1'–0"

3 FIRE PROTECTION FIFTH FLOOR DEMOLITION PLAN — 0 4 8 — SCALE 1/8"=1'–0"

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**EXTERIOR + INTERIOR RESTORATION & ALTERATION**
AT
**921 ELIZABETH AVENUE**
FOR THE
**COUNTY OF UNION**

PROJECT ADDRESS:
921 ELIZABETH AVENUE
ELIZABETH, NJ 07201

| No. | Date | Issue or Revision |
|---|---|---|
| 1 | 01.17.25 | ISSUED FOR BID |

Drawing Title
FIRE PROTECTION 2ND & 4TH FLOOR DEMOLITION PLANS

| Scale | USA Project No. |
|---|---|
| AS NOTED | R2024.0087 |
| Drawing Date 01.17.2025 | Drawing No. FP1.1 |
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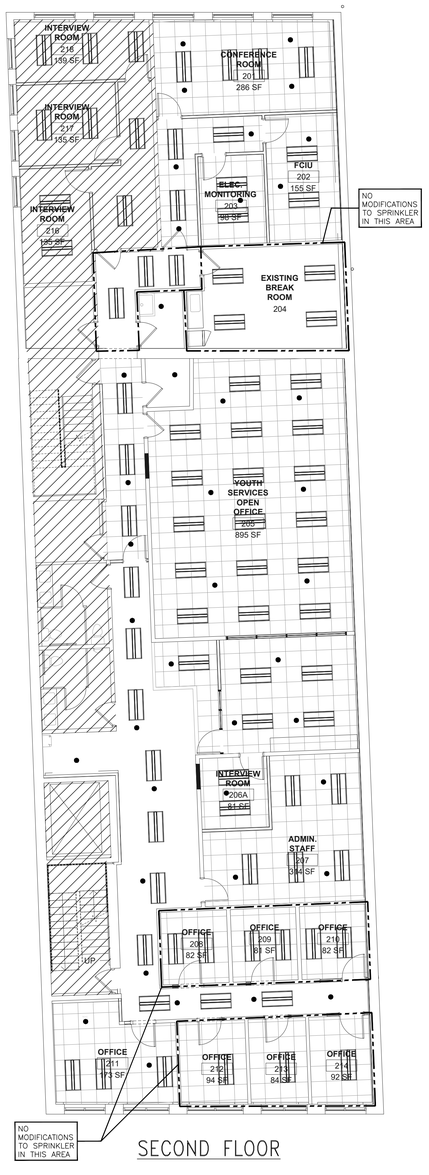
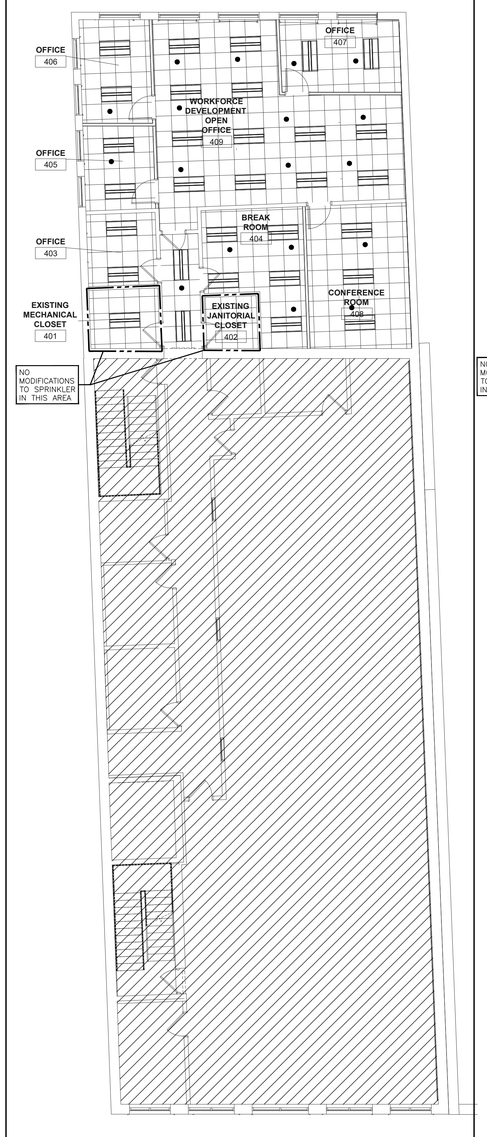
File: U:\Projects 24\24-061 Union City – 921 Elizabeth Ave HVAC Upgrades\Drawings\24-061FP1.1 – FP2.2 Demolition & New Work\FP1.1




SECOND FLOOR

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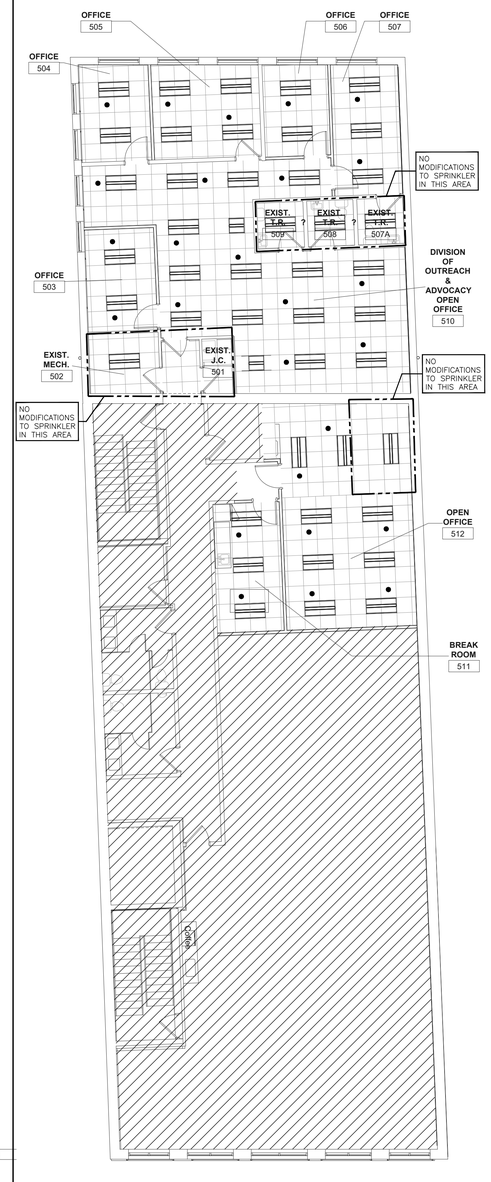


FIFTH FLOOR

| SPRINKLER HEAD LEGEND – GENERAL | |
|---|---|
| SYMBOL | DESCRIPTION |
| | EXISTING CONCEALED SPRINKLER HEAD |
| | EXISTING CONCEALED SPRINKLER HEAD TO BE REMOVED |
| ● | NEW CONCEALED SPRINKLER HEAD |

DRAWING GENERAL NOTES:

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**EXTERIOR + INTERIOR RESTORATION & ALTERATION**

AT

**921 ELIZABETH AVENUE**

FOR THE

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PROJECT ADDRESS:

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| No. | Date | Issue or Revision |
|---|---|---|
| 1 | 01.17.25 | ISSUED FOR BID |

Drawing Title

FIRE PROTECTION 2ND, 4TH& 5TH FLOOR PLANS

| Scale | USA Project No. |
|---|---|
| AS NOTED | R2024.0087 |
| Drawing Date 01.17.2025 | Drawing No. FP2.1 |
| Drawn By | Checked By |

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File: K:\Projects 24\24-061 Union City - 921 Elizabeth Ave HVAC Upgrades\Drawings\24-061FP1.1 - FP2.2 Demolition & New Work\FP2.1

## PLUMBING GENERAL NOTES

1. DO NOT SCALE FROM THESE DRAWINGS.
2. DO NOT MAKE ANY CHANGES OR SUBSTITUTIONS WITHOUT SPECIFIC WRITTEN APPROVAL FROM THE ARCHITECT OR ENGINEER.
3. ALL INDICATED WORK SHALL BE PERFORMED BY THE PLUMBING CONTRACTOR UNLESS OTHERWISE NOTED.
4. REFER TO THE WRITTEN SPECIFICATIONS IN CONJUNCTION WITH THE PLANS FOR FULL PROJECT SCOPE.
5. IT IS THE RESPONSIBILITY OF THE PLUMBING CONTRACTOR TO REVIEW THESE PLANS AND SPECIFICATIONS, AS WELL AS THE RELATED HVAC, FIRE PROTECTION, ELECTRICAL, STRUCTURAL, ARCHITECTURAL, INTERIOR DECOR AND SITE ENGINEERING DRAWING TO BECOME FAMILIAR WITH THE FULL PROJECT SCOPE. DURING THE COURSE OF CONSTRUCTION COORDINATION AND ACTUAL CONSTRUCTION, IT IS THE RESPONSIBILITY OF THE PLUMBING CONTRACTOR TO WORK CLOSELY WITH ALL ACCOMPANYING CONTRACTORS AND TRADESMEN IN ORDER TO ENSURE A SMOOTH RUNNING AND CAREFULLY COORDINATED INSTALLATION.
6. ANY DISCREPANCIES OR INADEQUACIES WITHIN THESE BID DOCUMENTS OR BETWEEN THESE BID DOCUMENTS AND THE RELATED HVAC, FIRE PROTECTION, ELECTRICAL, STRUCTURAL, ARCHITECTURAL, INTERIOR DECOR AND SITE ENGINEERING DRAWINGS, OR BETWEEN THESE BID DOCUMENTS AND FIELD CONDITIONS MUST BE BROUGHT TO THE ATTENTION OF THE OWNER, ARCHITECT AND ENGINEER PRIOR TO BID SUBMISSION.
7. ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH ALL APPLICABLE REGULATIONS INCLUDING BUT NOT LIMITED TO NATIONAL, CITY, STATE, LOCAL CODES AND ORDINANCES WHICH MAY BE IN EFFECT. ALL PLUMBING MATERIALS, INSTALLATION PROCEDURES AND SYSTEM LAYOUTS SHALL BE APPROVED BY ALL APPLICABLE CODE ENFORCEMENT AUTHORITIES HAVING JURISDICTION, AND IT SHALL BE THE PLUMBING CONTRACTOR'S RESPONSIBILITY TO OBTAIN AND PAY FOR ALL NECESSARY PERMITS AND APPROVALS FOR THIS INSTALLATION.
8. THE PLUMBING CONTRACTOR SHALL PROVIDE A COMPLETE SET OF COORDINATED RECORD "AS-BUILT" DRAWINGS INDICATING THE PRECISE LOCATION OF ALL SYSTEMS, EQUIPMENT CONCEALED OR EMBEDDED PIPING, PIPING CONNECTIONS AND ACCESS DOORS. THESE DRAWINGS SHALL ALSO INCLUDE ALL CHANGES AND DEVIATIONS FROM BID DOCUMENTS.
9. RUN ALL DOMESTIC, WASTE & VENT PIPING AS HIGH AS POSSIBLE THROUGHOUT ENTIRE BUILDING. INSTALL PIPING WITHIN JOIST SPACE WHERE POSSIBLE. COORDINATE AND VERIFY WITH OTHER CONTRACTORS AS NOT TO INTERFERE WITH DUCTWORK, FIRE PROTECTION PIPING, LIGHTING SYSTEMS, ETC.
10. ALL EXPOSED HORIZONTAL AND VERTICAL PIPING SHALL BE INSTALLED IN A NEAT ARRANGEMENT IN LOCATIONS WHICH ARE THE MOST INCONSPICUOUS. VERTICAL DROPS SHALL BE KEPT TO AN ABSOLUTE MINIMUM AND THEIR FINAL LOCATIONS SHALL BE COORDINATED AND RUN WITHIN CHASES, WALLS, SOFFITS WITH OTHER MECHANICAL / ELECTRICAL FEEDS.
11. ALL PLUMBING FIXTURES / APPLIANCES SHALL HAVE THEIR OWN INDEPENDENT SHUT-OFF VALVES, INSTALLED IN AN EASILY ACCESSIBLE AND CONVENIENT LOCATION.
12. ALL DOMESTIC WATER BRANCH LINES SHALL HAVE THEIR OWN RESPECTIVE SHUT-OFF VALVES.
13. DOMESTIC WATER HEATER TEMPERATURE/PRESSURE RELIEF VALVES SHALL BE PIPED FULL SIZE TO THE NEAREST APPROVED STANDPIPE OR FLOOR DRAIN. INDIRECT WASTE PIPING TO BE SIZED ACCORDING TO NSPC 2021 TABLE 10.16.6 IF POINT OF DISPOSAL IS NOT WITHIN THE SPACE OR ROOM WHICH THE RELIEF VALVE IS LOCATED. THIS REQUIREMENT SHALL BE APPLICABLE TO ALL DOMESTIC WATER HEATING STORAGE VESSELS. INSTANTANEOUS WATER HEATERS NOT STORING WATER SHALL NOT REQUIRE TEMPERATURE OR PRESSURE RELIEF VALVES.
14. ALL PLUMBING VENT LINES NOTED AS "V. UP" OR "VENT UP" SHALL BE CONNECTED TO THE NEAREST APPROVED "V.T.R." OR "VENT THRU ROOF."
15. PRIOR TO INSTALLING SYSTEMS, THE PLUMBING CONTRACTOR SHALL MEET WITH THE ARCHITECTS REPRESENTATIVE TO FIELD VERIFY THE EXACT LOCATION OF ALL PROPOSED EQUIPMENT WHICH MAY NOT BE CLEARLY INDICATED ON THE DRAWINGS.
16. PROVIDE C.O.'S AT THE BASE OF ALL SANITARY AND WASTE STACKS. PROVIDE FINISHED WALL PLATE
17. SANITARY SEWER PIPING SHOWN IS BASED ON .25" PER FOOT FALL FOR ALL PIPING SMALLER THAN 3", AND 1/8" PER FOOT FALL FOR ALL PIPING 3" AND LARGER UNLESS OTHERWISE NOTED.
18. ROUTE ALL INDIRECT WASTE PIPING TO FLOOR DRAIN OR FLOOR SINK AGAINST WALLS TOWARD REAR OF COUNTERS OR TABLES AND CLEAR OF ANY WORK AREAS.
19. VIBRATION ISOLATION & SEISMIC RESTRAINTS – IBC 2021 – NEW JERSEY ADDITION UNLESS OTHERWISE NOTED ON DRAWINGS. ALL PLUMBING EQUIPMENT SHALL BE MOUNTED ON SEISMIC RESTRAINTS AND VIBRATIONS ISOLATORS. SEISMIC RESTRAINTS AND ISOLATORS SHALL BE SELECTED IN ACCORDANCE WITH SPECIFICATIONS AND THE ACTUAL WEIGHT DISTRIBUTION OF THE EQUIPMENT FURNISHED, SO AS TO PRODUCE REASONABLY UNIFORMED DEFLECTION, DEFLECTION SHALL BE AS NOTED ON THE EQUIPMENT SHOP DRAWING SUBMITTAL. THE MANUFACTURER OF THE VIBRATION AND SEISMIC CONTROL EQUIPMENT WILL DESIGN AND CALCULATE THE VIBRATION ISOLATION TYPES, SIZES, LOCATIONS, DEFLECTIONS, DEAD LOADS, ANCHORING METHODS, BOLT DIAMETERS, EMBEDMENT AND WELD LENGTHS BASE ON ACTUAL EQUIPMENT BEING INSTALLED. THE MANUFACTURER WILL SUBMIT THESE CALCULATIONS STAMPED AND APPROVED BY A PROFESSIONAL ENGINEER, AS PART OF THE VIBRATION ISOLATION AND SEISMIC RESTRAINTS SHOP DRAWINGS. ALSO SUBMIT A SEISMIC DESIGN ERRORS AND OMISSIONS INSURANCE CERTIFICATE AS PART OF THIS SHOP DRAWING. THE MANUFACTURER WILL PROVIDE INSTALLATION INSTRUCTIONS, DRAWINGS, DETAILS, AND FIELD SUPERVISION.
20. PROVIDE ACCESS DOORS IN CEILINGS AND WALLS AS REQUIRED TO MAKE VALVES, TRAP PRIMERS, ETC. READILY ACCESSIBLE. COORDINATE LOCATIONS WITH INSTALLATIONS OF VALVES, WATER HAMMER ARRESTERS, & TRAP PRIMERS IN FIELD DURING CONSTRUCTION.
21. PLUMBING CONTRACTOR TO INSTALL WATER HAMMER ARRESTORS ON ALL WATERS SUPPLIES SERVING QUICK CLOSING FIXTURES
22. PLUMBING CONTRACTOR IS RESPONSIBLE FOR FINAL CONNECTIONS TO ALL SANITARY LATERALS INSTALLED BY SITE CONTRACTOR.
23. ALL VALVES SHALL RECEIVE A MANUFACTURED VALVE TAG AND A CORRESPONDING VALVE SCHEDULE. TO BE GIVEN TO OWNER FOR HIS REFERENCE.
24. ALL GAS PIPING TO BE IDENTIFIED IN ACCORDANCE WITH THE ADOPTED RELEASE OF THE INTERNATIONAL FUEL GAS CODE 2021.
25. REFER TO ARCHITECTURAL FOR ALL FIXTURE MOUNTING HEIGHTS.
26. PLUMBING CONTRACTOR SHALL INSTALL LINK SEAL TYPE PROTECTION ON ALL SLAB AND FOOTING PENETRATIONS.
27. MOUNT ALL ACCESSIBLE FIXTURES INDICATED ON ARCHITECTURAL DRAWING IN ACCORDANCE WITH THE STATE ADOPTED BARRIER FREE SUBCODE ICC/ANSI A117.1-2017.
28. PLUMBING CONTRACTOR TO PROVIDE SEALING AND FIRESTOPPING OF ALL PENETRATIONS THROUGH FIRE RATED FLOOR/WALL ASSEMBLIES.
29. PLUMBING CONTRACTOR SHALL MAKE ALL FINAL CONNECTIONS TO ALL PLUMBING FIXTURES AND EQUIPMENT INCLUDING EQUIPMENT SUPPLIED BY OTHERS.
30. PIPING LAYOUTS ARE DIAGRAMMATIC AND ARE TO SHOW DESIGN INTENT, GENERAL ARRANGEMENT, SIZE AND CAPACITY. ALL OFFSET ARE NOT SHOWN. PIPING IS TO BE ARRANGED AND COORDINATED TO AVOID CONFLICTS WITH ALL OTHER TRADES AND MODIFIED AS REQUIRED.
31. PLUMBING CONTRACTOR SHALL BE RESPONSIBLE FOR REMOVAL OF DEBRIS GENERATED BY HIS WORK AT THE END OF EACH WORKING DAY. PLUMBING CONTRACTOR TO SUPPLY DUMPSTER(S) AS REQUIRED FOR HIS TRADE.
32. ALL GAS FIRED EQUIPMENT SHALL BE CONNECTED TO GAS PIPING AS PER INTERNATIONAL FUEL GAS CODE 2021. EACH PIECE OF EQUIPMENT SHALL HAVE A DIRT LEG, UNION GAS COCK AND REGULATOR IF LOWER THAT SUPPLIED PRESSURE IS REQUIRED.
33. CONTRACTOR TO PROVIDE AND INSTALL BACKWATER VALVES AS REQUIRED BY N.S.P.C. 2021
34. CONTRACTOR IS RESPONSIBLE FOR LOW VOLTAGE WIRING REQUIRED FOR OPERATION OF ANY PLUMBING RELATED EQUIPMENT.
35. ALL ROOFING WORK SHALL BE PERFORMED BY THE OWNER'S CERTIFIED ROOFING CONTRACTOR WHO HOLDS THE WARRANTY FOR THE EXISTING ROOF. COORDINATE ALL SCOPE ITEMS RELATING TO THE ROOF WITH OWNER AND THEIR CONTRACTOR PRIOR TO CONSTRUCTION.

## PLUMBING ABBREVIATIONS

| | |
|---|---|
| A.F.W.H. | ANTI-FREEZE WALL HYDRANT |
| A.D. | ACCESS DOOR |
| A.F.F. | ABOVE FINISHED FLOOR |
| B.F.F. | BELOW FINISHED FLOOR |
| B.F.P. | BACK FLOW PREVENTER |
| CA. | COMPRESSED AIR |
| CO. | CLEAN OUT |
| C.O.D.P. | CLEAN OUT DECK PLATE |
| C.O.G. | CLEAN OUT AT GRADE |
| C.W. | COLD WATER |
| D.I. | DRAINAGE INLET |
| EXIST. | EXISTING |
| E.W.C. | ELECTRIC WATER COOLER |
| F.A.I. | FRESH AIR INLET |
| F.D. | FLOOR DRAIN |
| G.E. | GRADE ELEVATION |
| H.B. | HOSE BIBB |
| H.W. | HOT WATER |
| H.W.R. | HOT WATER RETURN |
| I.E. | INVERT ELEVATION |
| LAV. | LAVATORY |
| LDR. | LEADER |
| N.C. | NORMALLY CLOSED |
| N.I.C. | NOT IN CONTRACT |
| O.R.D. | OVER-FLOW ROOF DRAIN |
| O.W. | OIL WASTE |
| R.D. | ROOF DRAIN |
| S. | SANITARY |
| SK. | SINK |
| S.S. | SERVICE SINK |
| ST | STORM DRAINAGE |
| T.E. | TOP ELEVATION |
| UR. | URINAL |
| VAC | VACUUM |
| V.B. | VACUUM BREAKER |
| V.I.F. | VERIFY IN FIELD |
| V.T.R | VENT THRU ROOF |
| W.V.T.R | WET VENT THRU ROOF |
| W. | WASTE |
| W.C. | WATER CLOSET |
| W.C.O. | WALL CLEAN OUT |

* NOTE THAT NOT ALL ABBREVATIONS APPLY TO THE PROJECT

## PLUMBING DRAWING LIST

| DWG # | DRAWING TITLE |
|---|---|
| P0.1 | PLUMBING NOTES, SYMBOLS, ABBREVIATIONS & SCHEDULE |
| P0.2 | PLUMBING SPECIFICATIONS |
| P0.3 | PLUMBING SCHEDULES |
| P1.1 | PLUMBING 5TH FLOOR DEMOLITION & NEW WORK PLANS |

## PLUMBING SYMBOLS

| | |
|---|---|
| S | SANITARY WASTE |
| S | SANITARY WASTE – UNDERGROUND |
| G | NATURAL GAS |
| | VENT LINE |
| | COLD WATER |
| | HOT WATER |
| | HOT WATER RETURN |
| | SOLENOID VALVE |
| | BALL VALVE |
| | GATE VALVE |
| | CHECK VALVE |
| | GAS REGULATOR W/ PRESSURE GAUGES |
| | BALANCING VALVE |
| | CLEAN OUT DECK PLATE |
| | HORIZONTAL CLEANOUT |
| | GAS COCK |
| | FLOOR DRAIN |
| | FLOOR SINK |
| | TRENCH DRAIN |
| | BACK WATER VALVE |
| | P TRAP |
| | TRAP |
| | PIPE DOWN, DROP & RISE |
| | PIPE UP |
| | TEE PLAN UP |
| | TEE PLAN DOWN |
| | ANTI-FREEZE WALL HYDRANT |
| | AUTOMATIC TRAP PRIMER |
| | HOSE BIBB |
| | ACCESS DOOR |
| | HOT WATER RETURN CIRCUIT SETTER ASSEMBLY |
| | BACKFLOW PREVENTER |
| 1 1 | KEY NOTE |
| XX X | EQUIPMENT TAG |
| | DENOTES LOCATION OF DEMOLITION |

* NOTE THAT NOT ALL SYMBOLS APPLY TO THE PROJECT

## INSULATION SCHEDULE

| SYSTEM | PIPE SIZE | PIPE INSULATION TYPE | PIPE INSULATION THICKNESS | FITTINGS, VALVES,FLANGES INSULATION TYPE | REMARKS |
|---|---|---|---|---|---|
| DOMESTIC COLD WATER, HOT WATER DOMESTIC HOT WATER RECIRCULATION | LESS THAN 1½" | MINERAL FIBER, PRE-FORMED | 1" | MINERAL FIBER, PRE-FORMED | TYPE 1 |
| DOMESTIC COLD WATER, BUILDING SERVICE WATER, DOMESTIC HOT WATER DOMESTIC HW RECIRCULATION | 1 ¼" & LARGER | MINERAL FIBER, PRE-FORMED | 1-1/2" | MINERAL FIBER, PRE-FORMED | TYPE 1 |
| CONDENSATE DRAINS | ALL | MINERAL FIBER, PRE-FORMED | TWICE PIPE DIAMETER | MINERAL FIBER, PRE-FORMED | TYPE 1 |
| STORM WATER & OVERFLOW DRAIN PIPING | ALL | MINERAL FIBER, PRE-FORMED | 1-1/2" | MINERAL FIBER, PRE-FORMED | TYPE 1 |
| ROOF DRAINS & OVERFLOW DRAIN BODIES | ALL | MINERAL FIBER, PRE-FORMED | 1-1/2" | MINERAL FIBER, PRE-FORMED | TYPE 1 |
| ADA COMPLIANT FIXTURE SUPPLIES, STOP VALVES, DRAIN TAILPIECES, TRAPS & WASTE. | ALL | TRUEBRO OR SIMILAR APPROVED | – | – | – |
| DOMESTIC WATER RISERS AND BRANCHES | LESS THAN 1½" | MINERAL FIBER, PRE-FORMED | 1" | MINERAL FIBER, PRE-FORMED | TYPE 1 |
| DOMESTIC WATER RISERS AND BRANCHES | 1 ¼" & LARGER | MINERAL FIBER, PRE-FORMED | 1-1/2" | MINERAL FIBER, PRE-FORMED | TYPE 1 |
| PIPE INSULATION IN MECHANICAL ROOMS | LESS THAN 1½" | MINERAL FIBER, PRE-FORMED | 1-1/2" | MINERAL FIBER, PRE-FORMED | TYPE 1 |
| PIPE INSULATION IN MECHANICAL ROOMS | 1 ¼" & LARGER | MINERAL FIBER, PRE-FORMED | 2" | MINERAL FIBER, PRE-FORMED | TYPE 1 |
| UNDERGROUND DOMESTIC COLD WATER, HOT WATER DOMESTIC HOT WATER RECIRCULATION | LESS THAN 1½" | ARMAFLEX | 1" | ARMAFLEX | – |

NOTES:
1. MINERAL FIBER. THERMAL CONDUCTIVITY .22 TO .25 BTU X IN/HR X °F W/ 100° F MEAN TEMP. THICKNESS BASED ON ASHRAE 90.1, 207, TABLE 6.8.3
2. REFER TO SPECIFICATIONS FOR ADDITIONAL INFORMATION. AND GENERAL NOTES FOR ADDITIONAL INFORMATION.
3. FULL LENGTH OF BRANCH PIPING (EG: CROTONS) MUST ALSO BE INSULATED OFF DHW RISERS.

## PLUMBING FIXTURE SCHEDULE

| NO. | FIXTURE | MFG. | TYPE AND MODEL NO. | FAUCET/TRIM | SUPPORT | PIPE SIZES | | | | | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | TRAP | WASTE | VENT | CW | HW | |
| P1 | SINK | ELKAY | LUSTERTONE CLASSIC UNDERMOUNT LRAD211555PD | K-22972-CP | COUNTER | 1-1/2" | 2" | 1-1/2" | 1/2" | 1/2" | STAINLESS STEEL SINK WITH SINGLE FAUCET HOLE. PROVIDE SUPPLY STOPS, P-TRAPS. PULL-DOWN KITCHEN SINK FAUCET WITH THREE-FUNCTION SPRAY HEAD |
| | | | | | | | | | | | |
| | | | | | | | | | | | |

1 SEE ARCHITECTURAL DRAWINGS FOR LOCATIONS OF HANDICAPPED FIXTURES.
2 PRIOR TO SUBMITTING SHOP DRAWINGS, THE CONTRACTOR SHALL COORDINATE FIXTURE TYPES AND COLORS WITH THE ARCHITECT.
3 REFER TO THE ARCHITECTS DRAWINGS FOR LOCATION AND QUANTITIES OF HANDICAPPED FIXTURES.
4 ALL HANDICAPPED FIXTURES SHALL BE INSTALLED AS PER ANSI A117.1-2017 REQUIREMENTS.


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| No. | Date | Issue or Revision |
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Drawing Title
PLUMBING NOTES, SYMBOLS, ABBREVIATIONS & SCHEDULE

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# PLUMBING SPECIFICATIONS

PART I GENERAL

1.01 GENERAL REQUIREMENTS

A. MATERIALS AND WORKMANSHIP, UNLESS OTHERWISE NOTED. SHALL BE IN ACCORDANCE WITH BUILDING STANDARDS. ALL MATERIALS AND EQUIPMENT TO BE NEW UNLESS OTHERWISE NOTED.

B. ALL ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE LATEST ADOPTED UNIFORM CONSTRUCTION CODE OF NEW JERSEY, INTERNATIONAL BUILDING CODE 2021, INTERNATIONAL FUEL GAS CODE 2021, NATIONAL STANDARD PLUMBING CODE 2021, AND ALL OTHER APPLICABLE LOCAL, STATE, AND FEDERAL CODES. THESE PROVISIONS SHALL BE CARRIED OUT BY THE CONTRACTOR WHO SHALL INFORM THE OWNER, PRIOR TO SUBMITTING A PROPOSAL, OF ANY WORK OR MATERIALS WHICH VIOLATE ANY OF THE LAWS AND REGULATIONS. ANY WORK DONE BY THE CONTRACTOR CAUSING SUCH VIOLATIONS SHALL BE CORRECTED BY THE CONTRACTOR AT NO ADDITIONAL COST TO OWNER.

C. FURNISH ALL MATERIALS, LABOR, TOOLS AND EQUIPMENT NECESSARY TO COMPLETE AND MAKE READY FOR OPERATION BY OWNER ALL PLUMBING WORK INDICATED ON THE CONTRACT DOCUMENTS.

D. THIS CONTRACTOR IS TO ASSUME COMPLETE RESPONSIBILITY FOR STORING, HANDLING, INSTALLATION FOR ALL EQUIPMENT IN HIS SCOPE OF WORK.

E. ALL WORK SHALL BE INSTALLED IN ACCORDANCE TO MANUFACTURERS' INSTRUCTIONS AND RECOMMENDED OR REQUIRED SERVICE AND SAFETY CLEARANCES.

F. ALL WORK SHALL BE INSTALLED IN A MANNER AS TO CONSERVE AS MUCH SPACE AS POSSIBLE WITHOUT VIOLATING CODE REQUIREMENTS AND/OR MANUFACTURER'S RECOMMENDED SERVICE AND SAFETY CLEARANCES.

G. THE DRAWINGS INDICATE REQUIRED SIZE, POINTS OF TERMINATIONS AND SUGGEST PROPER CONFIGURATION FOR FLUID FLOW, ROUTES TO CONFORM TO STRUCTURES, AVOID OBSTRUCTIONS AND PRESERVE CLEARANCES. HOWEVER, THE DRAWINGS DO NOT INDICATE EXACT LOCATION AND ALL NECESSARY OFFSETS WHICH MIGHT HAVE TO BE MADE IN ORDER TO CONFORM TO FIELD CONDITIONS.

H. IT IS NOT THE INTENTION OF THESE SPECIFICATIONS TO DESCRIBE, NOR THE CONTRACT DRAWINGS TO SHOW IN DETAIL, ALL THE VARIOUS PIECES OF APPARATUS AND APPURTENANCES AND THEIR CONNECTIONS. THIS CONTRACTOR SHALL, AS PART OF THE CONTRACT, FURNISH AND INSTALL ALL INCIDENTALS, SUCH AS PIPING FITTINGS, VALVES, ETC. REQUIRED TO COMPLETE THE INSTALLATION OF THE EQUIPMENT. THIS CONTRACTOR SHALL REFER TO ARCHITECTURAL DRAWINGS AND PLUMBING DRAWINGS FOR EXACT LOCATION OF FIXTURES INCLUDING TYPE AND QUANTITIES.

I. SECURE PERMITS, LICENSES AND CERTIFICATES. PAY ALL FEES AND CHARGES FOR ALL WORK INSTALLED CERTIFYING COMPLIANCE WITH LOCAL CODES AND GOVERNING AUTHORITIES. DELIVER CERTIFICATES TO OWNER OR ARCHITECT PRIOR TO THE COMMENCEMENT OF ALL WORK.

J. GUARANTEE: CONTRACTOR SHALL FURNISH A WRITTEN GUARANTEE TO REPLACE OR REPAIR PROMPTLY, AND ASSUME FULL RESPONSIBILITY OF ALL EXPENSES INCURRED FOR WORKMANSHIP AND/OR EQUIPMENT IN WHICH DEFECTS OCCUR WITHIN ONE YEAR FROM DATE OF ACCEPTANCE BY OWNER.

K. CONTRACTOR BIDDING THIS JOB SHALL VISIT AND INSPECT THE JOB SITE TO BECOME FULLY KNOWLEDGEABLE OF EXISTING CONDITIONS PRIOR TO SUBMITTING HIS BID. CONTRACTOR SHALL COORDINATE THE SITE VISIT WITH THE ARCHITECT.

L. BY SUBMISSION OF THE BID, IT IS UNDERSTOOD THAT SUCH INSPECTION HAS BEEN MADE AND INCLUDES ALL THE MATERIALS, LABOR AND EQUIPMENT FOR ALL WORK.

M. CONTRACTOR SHALL VERIFY WITH ARCHITECT, THE PHASING PROCEDURE OF THE CONSTRUCTION WORK.

N. CONTRACTOR SHALL ONLY STORE MATERIALS IN SPACES DESIGNATED BY THE OWNER'S REPRESENTATIVE.

O. CONTRACTOR IS RESPONSIBLE TO REMOVE RUBBISH & DEBRIS FROM PREMISES AS OFTEN AS NECESSARY OR AS DIRECTED BY OWNERS REP. AREA OF WORK IS TO BE LEFT "BROOM-CLEAN" EACH DAY.

1.02 SCOPE OF WORK

A. PROVIDE ALL REQUIRED LABOR, MATERIALS, EQUIPMENT, APPARATUS, TOOLS, CERTIFICATES, SUBMITTALS, TEMPORARY WORK AND SERVICES NECESSARY FOR A COMPLETE AND SAFE INSTALLATION OF PLUMBING WORK READY FOR USE AND OPERATION BY THE OWNER. ALL WORK SHALL BE IN FULL CONFORMITY WITH THE REQUIREMENTS OF BUILDING CODES AND ALL AUTHORITIES HAVING JURISDICTION WHETHER OR NOT SUCH WORK HAS BEEN SHOWN OR INDICATED ON THE CONTRACT DOCUMENTS.

B. THIS CONTRACTOR IS RESPONSIBLE FOR FIELD COORDINATION WITH ALL OTHER TRADES, EXERCISING CARE IN LOCATING EQUIPMENT AND MATERIAL SO AS NOT TO INTERFERE WITH ARCHITECTURAL, STRUCTURAL, HVAC OR ELECTRICAL FEATURES, DEVICES OR INSTALLATION IN THEIR FUNCTION. FAILURE TO DO SO SHALL REQUIRE THE RELOCATION AND/OR MODIFICATION OF AN INSTALLATION AT THIS CONTRACTOR'S COST.

C. CONTRACTOR SHALL FURNISH AND INSTALL ALL EQUIPMENT AND SUPPORTS, FURNISH AND INSTALL ALL FIXTURES, PIPING, FITTINGS, APPURTENANCES, ACCESSORIES, INSULATION, ETC. AS REQUIRED FOR A COMPLETE, CODE COMPLIANT AND OPERABLE INSTALLATION.

D. CONTRACTOR SHALL SUBMIT REPRODUCIBLE "AS-BUILT" RECORD DRAWINGS, MINIMUM SCALE ¼" = 1'-0", INDICATING THE ACTUAL AND TRUE INSTALLATION OF ALL PIPING AND EQUIPMENT.

1.03 CUTTING AND PATCHING

A. THE CONTRACTOR SHALL DO ALL CUTTING AND PATCHING REQUIRED TO SATISFACTORILY PERFORM HIS WORK. CONTRACTOR SHALL CONTACT OWNER PRIOR TO ANY ROOF WORK TO CONTACT MANUFACTURER'S REPRESENTATIVE FOR ROOF BEFORE ANY CUTTING AND PATCHING, SO AS NOT TO VOID ROOF WARRANTY. NO STRUCTURAL MEMBER SHALL BE CUT WITHOUT THE PRIOR APPROVAL OF THE STRUCTURAL ENGINEER.

1.05 SUBMITTALS

A. SUBMIT COORDINATED SHOP DRAWINGS ON 1/4" SCALE INDICATING ALL EQUIPMENT, PIPING, FIXTURES AND WORK BY OTHER TRADES.

B. SUBMIT ALL SHOP DRAWINGS FOR REVIEW AND APPROVAL PRIOR TO PURCHASE, FABRICATION AND INSTALLATION.

C. IF SUBMISSIONS ARE CATALOG CUTS: SUBMIT ONE ORIGINAL AND TWO COPIES. ALL CATALOG CUTS SHALL BE COMPLETE. SUBMIT SHOP DRAWINGS FOR ALL PIPING MATERIALS, VALVES, EQUIPMENT, INSULATION, HANGERS, SUPPORTS, FIXTURES & TRIM, AND IDENTIFICATION.

PART II PRODUCTS

2.01 QUALITY ASSURANCE

A. ALL FIXTURE TRIM, INCLUDING FAUCETS, STRAINERS, ESCUTCHEONS, STOPS, WASTE TRAPS OR VISIBLE HANGERS SHALL BE MADE OF BRASS AND SHALL BE POLISHED CHROMIUM PLATED. ALL MATERIAL SPECIFIED, SUCH AS CHROMIUM PLATING, SHALL BE THOROUGHLY AND EVENLY APPLIED AND GUARANTEED NOT TO STRIP OR PEEL ALL CHROMIUM PLATING ON PLUMBING FIXTURE TRIM SHALL BE IN ACCORDANCE WITH FEDERAL SPECIFICATION WW-P-541B FOR GRADE 'R' PLATING. MANUFACTURER SHALL SUBMIT CERTIFICATION THAT ALL CHROMIUM PLATING ON FINISHED TRIM MEETS THE AFOREMENTIONED FEDERAL SPECIFICATION. ALL PLATED WORK SHALL BE HIGHLY BUFFED. PLASTIC, ZINC OR WHITE METAL WILL NOT BE ACCEPTABLE.

2.02 PIPING MATERIALS & SPECIALTIES

A. DOMESTIC WATER PIPING SHALL BE SEAMLESS DRAWN OR EXTRUDED HARD TEMPER TYPE "L" COPPER TUBING, ASTM B-88, WITH SOLDER JOINT FITTINGS. FITTINGS SHALL BE COPPER. JOINTS SHALL BE MADE WITH A LEAD FREE ALLOY SOLDER AND SHALL CONFORM TO ASTM SPECIFICATION B-32.

ALL WATER PIPING LOCATED UNDERGROUND TO BE TYPE "K" COPPER WITH ARMAFLEX INSULATION

ANY PRODUCT DESIGNED FOR DISPENSING POTABLE WATER MUST BE LEAD FREE AND MEET BOTH THE NSF 61 AND NSF 372 TEST STANDARDS VIA THIRD-PARTY TESTING AND CERTIFICATION. LEAD FREE REFERS TO THE WETTED SURFACE OF PIPE, FITTINGS AND FIXTURES IN POTABLE WATER SYSTEMS THAT HAVE A WEIGHTED AVERAGE LEAD CONTENT <=0.25% PER THE SAFE DRINKING WATER ACT (SEC. 1417) AMENDED 1-4-2011 AND OTHER EQUIVALENT STATE REGULATIONS.

B. SOIL, WASTE, VENT AND STORM PIPING BELOW FLOOR SHALL BE SERVICE WEIGHT CAST IRON HUB & SPIGOT WITH NEOPRENE GASKETS. PIPING ABOVE FLOOR TO BE SERVICE WEIGHT CAST IRON NO-HUB WITH NEOPRENE GASKET AND 304 STAINLESS STEEL HOUSING CLAMP. TYPE-M COPPER MAY BE INSTALLED FOR WASTE & VENT PIPING 1 1/2" AND SMALLER.

C. SOIL, WASTE, VENT AND STORM PIPING ABOVE GROUND OR IN PLENUM CEILING AREAS SHALL BE SERVICE WEIGHT HUBLESS CAST-IRON PIPE AND FITTINGS. ALL CAST IRON SOIL PIPING AND FITTINGS SHALL BE MARKED WITH THE COLLECTIVE TRADEMARK OF THE CAST IRON SOIL PIPE INSTITUTE (CISPI) AND BE LISTED BY NSF INTERNATIONAL. (ASTM A888). TYPE-M COPPER MAY BE INSTALLED FOR WASTE AND VENT PIPING 1 1/2" AND SMALLER.

E. NATURAL GAS PIPING 2" AND SMALLER SHALL BE SCHEDULE 40 BLACK STEEL PIPE (ASTM B16.3) WITH SCREWED FITTINGS. PIPING 2-1/2" AND LARGER SHALL BE SCHEDULE 40 BLACK STEEL PIPE WITH WELDED FITTINGS. WHERE REQUIRED BY CODE OR DIRECTED BY LOCAL AUTHORITIES, THIS CONTRACTOR SHALL PROVIDE SEISMIC HANGERS AND RESTRAINTS ON ALL GAS PIPING IN COMPLETE ACCORDANCE WITH LATEST ISSUE OF THE GOVERNING BUILDING CODE. ALL GAS PIPING EXPOSED TO THE ELEMENTS TO BE PAINTED WITH PAINT SUITABLE FOR EXTERIOR USE. FOR GAS PIPING ON ROOF, PROVIDE SUPPORT BLOCKING COMPATIBLE WITH ROOFING SYSTEM

F. INDIRECT WASTE TO BE TYPE L-COPPER

E. VALVES AND SPECIALTIES

A. DOMESTIC WATER VALVES SHALL BE AS MANUFACTURED BY WATTS WATER TECHNOLOGIES, CONBRACO INDUSTRIES (APOLLO VALVES), NIBCO INCORPORATED, OR EQUAL.

B. BALL VALVES SHALL BE TWO-PIECE, ALL BRONZE CONSTRUCTION, FULL PORT DESIGN WITH THREADED OR SOLDER ENDS RATED AT 600 PSI WOG, 150 PSI WSP.

C. GATE VALVES SHALL BE CLASS 125, NON-RISING STEM, ALL BRONZE CONSTRUCTION WITH THREADED OR SOLDER ENDS RATED AT 200PSI WOG, 125 PSI WSP.

D. CHECK VALVES SHALL BE CLASS 125, Y-PATTERN, ALL BRONZE CONSTRUCTION WITH BRONZE DISC AND THREADED OR SOLDER ENDS.

E GLOBE VALVES SHALL BE CLASS 125, ALL BRONZE CONSTRUCTION WITH SCREW IN BONNET, RENEWABLE SEAT, BRONZE DISC AND THREADED OR SOLDER ENDS.

F. NATURAL GAS PLUG VALVES SHALL BE CLASS 125, NON-LUBRICATED WITH DUCTILE IRON BODY, FLANGED CONNECTION, NICKEL SEAT AND NITRILE ELASTOMER.

G. PIPE SLEEVES SHALL BE INSTALLED AT ALL PIPING PENETRATIONS THROUGH WALLS, FLOORS, CEILINGS, ROOF, AND STRUCTURAL MEMBERS. SLEEVE SEAL SHALL BE TWO (2) PIPE SIZES LARGER THAN THE PIPE SERVED AND ALLOW FREE MOVEMENT OF THE PIPE INCLUDING INSULATION. USE GALVANIZED STEEL, SCHEDULE 40 PIPE SLEEVES ABOVE GRADE, CAST IRON PIPE SLEEVES BELOW GRADE. CAULK PIPE SLEEVES AT FLOOR, EXTERIOR WALLS, FIRE RATED WALLS AND AS OTHERWISE INDICATED.

H. PROVIDE ALL SPECIALTIES AND SPECIAL EQUIPMENT TO MAKE A COMPLETE PLUMBING SYSTEM AS CALLED FOR ON THE DRAWINGS AND IN THIS SPECIFICATION INCLUDING, BUT NOT LIMITED TO: BACKFLOW PREVENTERS, ESCUTCHEON PLATES, STRAINERS, T&P RELIEF VALVES, BALANCING VALVES, GAUGES, THERMOMETERS, EXPANSION JOINTS, ETC.

2.03 HANGERS AND SUPPORTS

A. SUPPORTS AND HANGERS SHALL BE PROVIDED FOR HORIZONTAL AND VERTICAL PIPING. THE HANGER DESIGN SHALL CONFORM TO THE LATEST ASA CODE FOR PRESSURE PIPING. HANGERS SHALL BE KEPT OUTSIDE OF PIPE INSULATION.

B. PIPE HANGERS AND SUPPORTS SHALL BE SECURELY MOUNTED FROM THE BUILDING STRUCTURE.

C. INSULATION PROTECTION: FOR ALL INSULATED PIPE, FURNISH CLEVIS HANGERS WITH 12" INSULATION SHIELDS, INSTALLED BETWEEN THE HANGER AND INSULATION.

D. ROOFTOP PIPING SUPPORTS SHALL BE THE PRE-FABRICATED TYPE, SUITABLE FOR THE APPLICATION AND SPACED IN ACCORDANCE WITH THE IFGC. WOOD SUPPORTS ARE NOT ACCEPTABLE.

2.04 INSULATING MATERIALS & IDENTIFICATION

A. INSULATION FOR ALL ABOVE GROUND DOMESTIC HOT AND COLD WATER PIPING SHALL BE MINERAL FIBER WITH A MAXIMUM K-FACTOR OF 0.25 AT 75°F MEAN TEMPERATURE WITH A FACTORY APPLIED, FOIL BACKED, ALL SERVICE VAPOR BARRIER JACKET. INSULATION THICKNESS SHALL BE 1" MIN. SIZE PER ENERGY CODE REQUIREMENTS.

B. INSULATION ON HORIZONTAL STORM WATER PIPING SHALL BE MINERAL FIBER WITH ALL SERVICE VAPOR BARRIER JACKET. INSULATION SHALL BE ½".

C. INSULATION FOR FITTINGS AND VALVES SHALL BE MINERAL FIBER INSULATION COVERED WITH ZESTON 25/50 RATED, 20 MIL PVC COVERS.

D. ALL TESTING SHALL BE PERFORMED AND ACCEPTED BEFORE INSTALLING INSULATION ON PIPING SYSTEMS.

E. PROVIDE PRE-PRINTED PIPE LABELS WITH SELF-ADHESIVE BACKING WITH LETTERING INDICATING THE PIPE SERVICE AND FLOW DIRECTION SPACED AT MAXIMUM INTERVALS OF 50 FEET.

F. INSTALL TAGS ON VALVES AND CONTROL DEVICES IN PIPING SYSTEMS, EXCEPT CHECK VALVES, VALVES WITHIN FACTORY-FABRICATED EQUIPMENT UNITS, SHUTOFF VALVES, FAUCETS, CONVENIENCE AND LAWN-WATERING HOSE CONNECTIONS, AND SIMILAR ROUGHING-IN CONNECTIONS OF END-USE FIXTURES AND UNITS. LIST TAGGED VALVES IN A VALVE SCHEDULE.

2.05 FIXTURES

A. FURNISH ALL PLUMBING FIXTURES IN ACCORDANCE WITH THE PLUMBING FIXTURE SCHEDULE.

B. PROVIDE ALL MOUNTING HARDWARE, SUPPORTS, FLUSHOMETERS, FAUCETS, TRIM PIECES, ETC. REQUIRED FOR A COMPLETE AND FULLY OPERATIONAL INSTALLATION.

PART III EXECUTION

3.1. TESTING AND ADJUSTMENTS

A. WORK OF THIS CONTRACTOR SHALL INCLUDE THE FURNISHING OF ALL TESTING INSTRUMENTS, GAUGES, PUMPS, SMOKE MACHINES, AND OTHER EQUIPMENT REQUIRED OR NECESSARY FOR TESTS REQUIRED BY CODE AND REGULATIONS AS REQUIRED BY THE LOCAL INSPECTOR.

B. TEST WATER DISTRIBUTION PIPING AS FOLLOWS:

C. LEAVE UNCOVERED AND UNCONCEALED ALL NEW, ALTERED, EXTENDED, OR REPLACED WATER DISTRIBUTION PIPING UNTIL IT HAS BEEN TESTED AND APPROVED. EXPOSE WORK THAT HAS BEEN COVERED OR CONCEALED BEFORE IT HAS BEEN TESTED AND APPROVED FOR TESTING.

D. CAP AND SUBJECT THE PIPING SYSTEM TO A STATIC PRESSURE OF NOT LESS THAN THE SYSTEM WORKING PRESSURE OR 80 PSIG, WHICHEVER IS GREATER. ISOLATE TEST SOURCE AND ALLOW TO STAND FOR 4 HOURS. LEAKS AND LOSS IN TEST PRESSURE CONSTITUTE DEFECTS THAT MUST BE REPAIRED.

E. REPAIR LEAKS AND DEFECTS WITH NEW MATERIALS AND RETEST SYSTEM OR PORTION THEREOF UNTIL SATISFACTORY RESULTS ARE OBTAINED.

F. TEST DRAINAGE AND VENT PIPING ACCORDING TO THE PROCEDURES OF THE AUTHORITY HAVING JURISDICTION OR IN ABSENCE OF A PUBLISHED PROCEDURE AS FOLLOWS:

G. TEST FOR LEAKS AND DEFECTS IN NEW PIPING AND PARTS OF EXISTING PIPING THAT HAVE BEEN ALTERED, EXTEND, OR REPAIRED. IF TESTING IS PERFORMED IN SEGMENTS, SUBMIT SEPARATE REPORT FOR EACH TEST, COMPLETE WITH DIAGRAM OF PORTION OF PIPING TESTED.

H. LEAVE UNCOVERED AND UNCONCEALED ALL NEW, ALTERED, EXTENDED, OR REPLACED DRAINAGE AND VENT PIPING UNTIL IT HAS BEEN TESTED AND APPROVED. EXPOSE WORK THAT HAS BEEN COVERED OR CONCEALED BEFORE IT HAS BEEN TESTED AND APPROVED FOR TESTING.

I. ROUGH-IN PLUMBING TEST PROCEDURE: THE WATER TEST SHALL BE APPLIED TO THE DRAINAGE SYSTEM IN ITS ENTIRETY OR IN SECTIONS AFTER ROUGH PIPING HAS BEEN INSTALLED. IF APPLIED TO THE ENTIRE SYSTEM, ALL OPENINGS IN THE PIPING SHALL BE TIGHTLY CLOSED, EXCEPT THE HIGHEST OPENING, AND THE SYSTEM FILLED WITH WATER TO THE POINT OF OVERFLOW. IF THE SYSTEM IS TESTED IN SECTIONS, EACH OPENING SHALL BE TIGHTLY PLUGGED EXCEPT THE HIGHEST OPENING OF THE SECTION UNDER TEST, AND EACH SECTION SHALL BE FILLED WITH WATER, BUT NO SECTION SHALL BE TESTED WITH LESS THAN A 10-FOOT HEAD OF WATER. IN TESTING SUCCESSIVE SECTIONS AT LEAST THE UPPER 10 FEET OF THE NEXT PRECEDING SECTION SHALL BE TESTED, SO THAT NO JOINT OR PIPE IN THE BUILDING (EXCEPT THE UPPERMOST 10 FEET OF THE SYSTEM) SHALL HAVE BEEN SUBMITTED TO A TEST OF LESS THAN 10-FOOT HEAD OF WATER. THE WATER SHALL BE KEPT IN THE SYSTEM OR IN THE PORTION UNDER TEST FOR AT LEAST 15 MINUTES BEFORE INSPECTION STARTS THE SYSTEM SHALL THEN BE TIGHT AT ALL POINTS.

J. FINISHED PLUMBING TEST PROCEDURE: A SMOKE TEST SHALL BE MADE BY FILLING ALL TRAPS WITH WATER AND THEN REINTRODUCING INTO THE ENTIRE SYSTEM A PUNGENT, THICK SMOKE PRODUCED BY ONE OR MORE SMOKE MACHINES. WHEN THE SMOKE APPEARS AT STACK OPENINGS ON THE ROOF, THEY SHALL BE CLOSED AND A PRESSURE EQUIVALENT TO ONE-INCH WATER COLUMN SHALL BE DEVELOPED AND MAINTAINED FOR THE PERIOD OF THE INSPECTION.

K. REPAIR LEAKS AND DEFECTS WITH NEW MATERIALS AND RETEST SYSTEM OR PORTION THEREOF UNTIL SATISFACTORY RESULTS ARE OBTAINED.

D. INSTALL INSULATION IN ACCORDANCE WITH THE INSULATION SECTION OF THIS SPECIFICATION SUBSEQUENT TO TESTING AND ACCEPTANCE OF TESTS.

3.02 CLEANING

A. WHERE REQUIRED BY THE AUTHORITY HAVING JURISDICTION. THE WATER SERVICE PIPING AND THE HOT AND COLD WATER DISTRIBUTION PIPING IN NEW OR RENOVATED POTABLE WATER SYSTEMS SHALL BE DISINFECTED AFTER FLUSHING AND PRIOR TO USE. THE PROCEDURE USED SHALL BE AS FOLLOWS OR AN APPROVED EQUIVALENT:

B. ALL WATER OUTLETS SHALL BE POSTED TO WARN AGAINST USE DURING DISINFECTING OPERATIONS.

C. DISINFECTING SHALL BE PERFORMED BY PERSONS EXPERIENCED IN SUCH WORK.

D. THE WATER SUPPLY TO THE PIPING SYSTEM OR PANS THEREOF BEING DISINFECTED SHALL BE VALVED-OFF FROM THE NORMAL WATER SOURCE TO PREVENT THE INTRODUCTION OF DISINFECTING AGENTS INTO A PUBLIC WATER SUPPLY OR PORTIONS OF A SYSTEM THAT ARE NOT BEING DISINFECTED.

E. THE PIPING SHALL BE DISINFECTED WITH A WATER-CHLORINE SOLUTION. DURING THE INJECTION OF THE DISINFECTING AGENT INTO THE PIPING, EACH OUTLET SHALL BE FULLY OPENED SEVERAL TIMES UNTIL A CONCENTRATION OF NOT LESS THAN 50 PARTS PER MILLION CHLORINE IS PRESENT AT EVERY OUTLET. THE SOLUTION SHALL BE ALLOWED TO STAND IN THE PIPING FOR AT LEAST 24 HOURS.

F. AN ACCEPTABLE ALTERNATE TO THE 50 PPM/24 HOUR PROCEDURE DESCRIBED SHALL BE TO MAINTAIN A LEVEL OF NOT LESS THAN 200 PARTS PER MILLION CHLORINE FOR NOT LESS THAN THREE HOURS. IF THIS ALTERNATE PROCEDURE IS USED, THE HEAVILY CONCENTRATED CHLORINE SHALL NOT BE ALLOWED TO STAND IN THE PIPING SYSTEM FOR MORE THAN 6 HOURS. ALSO, SPECIAL PROCEDURES SHALL BE USED TO DISPOSE OF THE HEAVILY CONCENTRATED CHLORINE IN AN ENVIRONMENTALLY ACCEPTABLE AND APPROVED MANNER.

G. AT THE END OF THE REQUIRED RETENTION TIME. THE RESIDUAL LEVEL OF CHLORINE AT EVERY OUTLET SHALL BE NOT LESS THAN FIVE PARTS PER MILLION. IF THE RESIDUAL IS LESS THAN FIVE PARTS PER MILLION. THE DISINFECTING PROCEDURE SHALL BE REPEATED UNTIL THE REQUIRED MINIMUM CHLORINE RESIDUAL IS OBTAINED AT EVERY OUTLET.

H. AFTER THE REQUIRED RESIDUAL CHLORINE LEVEL IS OBTAINED AT EVERY OUTLET, THE SYSTEM SHALL BE FLUSHED TO REMOVE THE DISINFECTING AGENT. FLUSHING SHALL CONTINUE UNTIL THE CHLORINE LEVEL AT EVERY OUTLET IS REDUCED TO THAT OF THE INCOMING WATER SUPPLY.

I. ANY FAUCET AERATORS OR SCREENS THAT WERE REMOVED UNDER SHALL BE REPLACED.

J. A CERTIFICATION OF PERFORMANCE AND LABORATORY TEST REPORT SHOWING THE ABSENCE OF COLIFORM ORGANISMS SHALL BE SUBMITTED TO THE AUTHORITY HAVING JURISDICTION UPON SATISFACTORY COMPLETION OF THE DISINFECTING OPERATIONS.

B. PURGE NEW POTABLE WATER DISTRIBUTION PIPING SYSTEMS AND PARTS OF EXISTING POTABLE WATER SYSTEMS THAT HAVE BEEN ALTERED, EXTENDED, OR REPAIRED PRIOR TO USE.

C. CLEAN THE INTERIOR OF THE PIPING SYSTEM. REMOVE DIRT AND DEBRIS AS WORK PROGRESSES.

D. PREPARE AND SUBMIT REPORTS FOR PURGING AND DISINFECTING ACTIVITIES.


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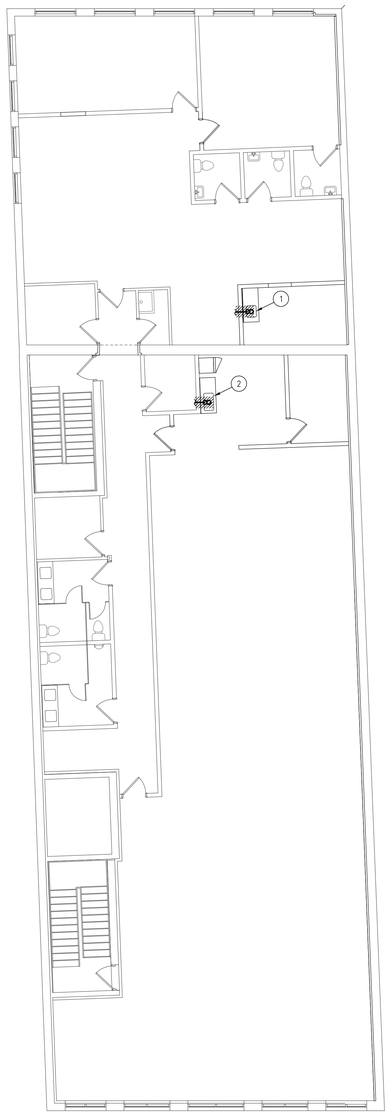



FIFTH FLOOR

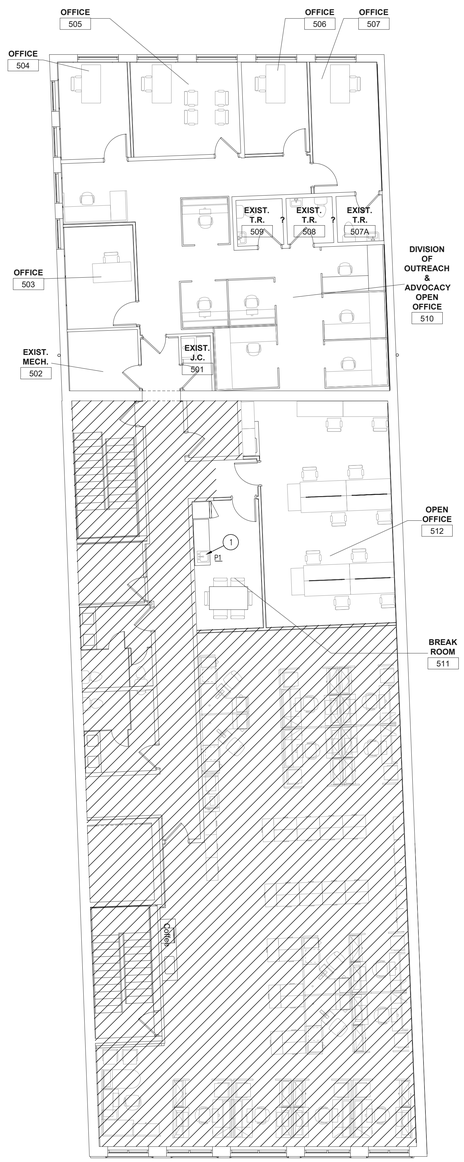
1 PLUMBING FIFTH FLOOR DEMOLITION PLAN

0 4 8

SCALE 1/8"=1'-0"

## DEMOLITION KEY NOTES

1. DEMOLISH EXISTING COUNTER MOUNTED SINK IN IT'S ENTIRETY. CAP ALL ASSOCIATED LINES BACK TO ACTIVE MAINS.
2. DEMOLISH EXISTING COUNTER MOUNTED SINK IN IT'S ENTIRETY. CAP ALL ASSOCIATED LINES BACK BELOW FLOOR/CEILING. PREPARE PIPING FOR CONNECTION TO NEW SINK IN MODIFIED LOCATION.




FIFTH FLOOR

2 PLUMBING FIFTH FLOOR NEW WORK PLAN

0 4 8

SCALE 1/8"=1'-0"

## NEW WORK KEY NOTES

1. INSTALL NEW COUNTER MOUNTED SINK. PROVIDE 1½" WASTE DN., 1½" VENT UP AND ½" H&CW. CONNECT TO EXISTING SERVICES IN CEILING/FLOOR BELOW. CONTRACTOR TO VERIFY EXACT TIE-IN LOCATIONS IN FIELD.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**EXTERIOR + INTERIOR RESTORATION & ALTERATION**

AT

**921 ELIZABETH AVENUE**

FOR THE

**COUNTY OF UNION**

PROJECT ADDRESS:

921 ELIZABETH AVENUE
ELIZABETH, NJ 07201

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Drawing Title
PLUMBING
5TH FLOOR
DEMOLITION & NEW WORK PLANS

| Scale | USA Project No. |
|---|---|
| AS NOTED | R2024.0087 |
| Drawing Date 01.17.2025 | Drawing No. P1.1 |
| Drawn By | Checked By |


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File: Q:\Projects 24\24-061 Union City - 921 Elizabeth Ave HVAC Upgrades\Drawings\24-061P1.x - Demolition & New Work\P1.1

## MECHANICAL SYMBOLS

| SYMBOL | DESCRIPTION |
|---|---|
| PC | PUMPED CONDENSATE |
| CD | CONDENSATE DRAIN |
| RL | REFRIGERANT LIQUID |
| RS | REFRIGERANT SUCTION |
| | PIPE TURNING UP |
| | PIPE TURNING DOWN |
| DN | PITCH DOWN |
| | DIRECTION OF FLOW |
| | DUCTWORK TO BE DEMOLISHED |
| | PIPE TO BE DEMOLISHED |
| | CEILING DIFFUSER |
| | EXHAUST OR RETURN REGISTER |
| | DUCT UNDER POSITIVE PRESSURE |
| | DUCT UNDER NEGATIVE PRESSURE |
| | ROUND DUCT |
| or | FLEXIBLE DUCT |
| | SUPPLY REGISTER |
| | RETURN OR EXHAUST REGISTER |
| SD | DUCT SMOKE DETECTOR |
| | VOLUME DAMPER |
| F | FIRE DAMPER W/ACCESS DOOR |
| M | MOTORIZED DAMPER |
| U | AIRFLOW THRU UNDERCUT |
| L | AIRFLOW THRU LOUVERED DOOR |
| T | THERMOSTAT |
| 12/8 | NECK SIZES IN DUCT SPLIT |
| | CONNECT TO EXISTING |
| X CFM | AIR DEVICE TYPE<br>AIR QUANTITY |
| | DUCTWORK W/INTERNAL LINING (SINGLE LINE) |
| | DUCTWORK W/INTERNAL LINING (DOUBLE LINE) |
| S | TEMPERATURE SENSOR |
| RS | REFRIGERANT SENSOR |
| | FLEXIBLE CONNECTION |
| | EXISTING DUCTWORK TO REMAIN |
| | ELBOW WITH DOUBLE THICKNESS TURNING VANES |
| | BELLMOUTH TAKE-OFF W/ VOLUME DAMPER |
| | 45° BOOT TAKE-OFF W/ VOLUME DAMPER |
| 1 | KEY NOTES APPLYING TO DEMOLITION WORK |
| 1 2 | KEY NOTES APPLYING TO NEW WORK |

## MECHANICAL ABBREVIATIONS

| IDENTIFIER | DESCRIPTION |
|---|---|
| BOD | BOTTOM OF DUCT |
| CFM | CUBIC FEET PER MINUTE |
| CR | CEILING REGISTER |
| CU | CONDENSING UNIT |
| CW | COLD WATER |
| CHW | CHILLED WATER |
| CHWS | CHILLED WATER SUPPLY |
| CHWR | CHILLED WATER RETURN |
| DB | DRY BULB |
| DN | DOWN |
| E/A | EXHAUST AIR |
| EAT | ENTERING AIR TEMPERATURE |
| EDB | ENTERING DRY BULB |
| EER | ENERGY EFFICIENCY RATIO |
| EG | EXHAUST GRILLE |
| EH | ELECTRIC HEATER |
| ESP | EXTERNAL STATIC PRESSURE |
| EWB | ENTERING WET BULB |
| EF | EXHAUST FAN |
| FB | FILTER BANK |
| FC | FLEXIBLE CONNECTION |
| BMS | BUILDING MANAGEMENT SYSTEM |
| ATC | AUTOMATIC TEMPERATURE CONTROL |
| FD | FIRE DAMPER WITH ACCESS DOOR |
| FPM | FEET PER MINUTE |
| G | GAS |
| HW | HOT WATER |
| HWS | HOT WATER SUPPLY |
| HWR | HOT WATER RETURN |
| NC | NORMALLY CLOSED |
| NK | NECK |
| O/A | OUTSIDE AIR |
| OAI | OUTSIDE AIR INTAKE |
| OED | OPEN ENDED DUCT |
| R/A | RETURN AIR |
| RAV | RELIEF AIR VENT |
| RG | RETURN GRILLE |
| RH | RELATIVE HUMIDITY |
| BAS | BUILDING AUTOMATION SYSTEM |
| RR | RETURN REGISTER |
| S/A | SUPPLY AIR |
| SD | SMOKE DAMPER |
| SE | SMOKE EXHAUST |
| SF | SUPPLY FAN |
| SR | SUPPLY REGISTER |
| T | THERMOSTAT |
| NO | NORMALLY OPEN |
| TG | TRANSFER GRILLE |
| TO | TRANSFER OPENING |
| WMS | WIRE MESH SCREEN |
| TR | TOP REGISTER |
| TT | THERMOSTATIC TRAP |
| UH | UNIT HEATER |
| UV | UNIT VENTILATOR |
| VD | VOLUME DAMPER |
| WB | WET BULB |
| WC | WATER COLUMN |
| WG | WATER GAUGE |

## MECHANICAL DEMOLITION NOTES

1. SCOPE OF WORK

A. CONTRACTOR SHALL SUPPLY ALL LABOR, MATERIALS, EQUIPMENT, AND SERVICES NECESSARY TO COMPLETE ALL REMOVALS AND RENOVATION WORK AS SHOWN ON THE CONTRACT DRAWINGS AND CALLED FOR IN THE SPECIFICATIONS. THE WORK SHALL INCLUDE BUT IS NOT LIMITED TO THE FOLLOWING:

B. DISCONNECT, DEMOLISH, AND REMOVE ALL EXISTING DUCTWORK, PIPING, INSULATION, EQUIPMENT, AND OTHER ASSOCIATED ITEMS.

C. CAPPING ALL EXISTING PIPING NOT BEING REUSED (AT THE MAINS). WHERE REMOVAL OF PIPING LEAVES OPEN CONNECTIONS, PROVIDE SCREWED CAPS OR PLUGS OR WELDED CAPS TO CLOSE SUCH CONNECTIONS.

D. CAPPING ALL EXISTING DUCTWORK NOT BEING REUSED (AT THE MAINS).

E. INSULATE DUCT CAPS AND PIPE CAPS TO MATCH THE EXISTING INSULATION.

F. CAPPING ALL OPENINGS CREATED BY THE REMOVAL OF ROOFTOP HVAC EQUIPMENT. PROVIDE INSULATED CURB CAPS FOR ALL REMOVED ROOF FANS, ROOFTOP UNITS, ETC. INSULATED CURB CAPS SHALL BE BRACED FROM BELOW AND SHALL BE CAPABLE OF WITH STANDING LIVE LOAD. PROVIDE NECESSARY FLASHING AND COORDINATE WITH ROOFING CONTRACTOR AND/OR EXISTING ROOF GUARANTEE.

G. PROVIDE ADDITIONAL HANGERS AND OTHER SUPPORTS AS REQUIRED BY THE REMOVAL OF EXISTING PIPING AND/OR DUCTWORK. ALL REMAINING PIPING AND/OR DUCTWORK SHALL BE SUPPORTED IN ACCORDANCE WITH THE SPECIFICATIONS.

H. REMOVAL OF HVAC EQUIPMENT'S ASSOCIATED CONCRETE PADS.

2. VERIFICATION OF FIELD CONDITIONS

A. LOCATION, SIZE, AND DIMENSIONS OF EXISTING EQUIPMENT, PIPING, DUCTWORK, AND ACCESSORIES SHOWN ARE APPROXIMATE. NOT ALL EXISTING PIPING, DUCTWORK AND EQUIPMENT ARE SHOWN ON DRAWINGS.

B. CONTRACTOR SHALL VERIFY EXACT LOCATIONS AND DIMENSIONS OF EXISTING EQUIPMENT, PIPING, DUCTWORK AND ACCESSORIES IN FIELD PRIOR TO PREPARATION OF DETAILED SHOP DRAWINGS AND ANY REMOVALS AND RELOCATIONS.

3. SEQUENCING & SCHEDULING

A. EXISTING MECHANICAL SYSTEMS NOT RELATED TO NEW CONSTRUCTION SHALL REMAIN IN SERVICE UNLESS OTHERWISE NOTED.

B. CONTRACTOR SHALL COORDINATE ALL REQUIRED REMOVAL AND RELOCATIONS OF MECHANICAL SYSTEMS IN THE EXISTING BUILDING, RELATED TO NEW CONSTRUCTION, AS SHOWN ON CONTRACT DRAWINGS.

C. PROVIDE RELOCATIONS, REMOVALS AND RE-ROUTING OF ANY EXISTING EQUIPMENT THAT INTERFERES WITH INSTALLATION OF THE NEW EQUIPMENT. COORDINATE IN ADVANCE AND OBTAIN OWNERS APPROVAL FOR THESE RELOCATIONS, EITHER TEMPORARY OR PERMANENT.

D. CONTRACTOR TO REMOVE EXISTING PARTITIONS, CEILING TILES AND SUPPORTS AS NECESSARY TO PERFORM REMOVALS AND NEW INSTALLATION IN EXISTING AREAS. REINSTALL EXISTING AND REPLACE THOSE DAMAGED DUE TO THE NEW WORK.

4. COORDINATION WITH OWNER

E. THE CONTRACTOR SHALL CAREFULLY INSPECT ALL AREAS INVOLVED WITH REMOVALS AND PROVIDE THE PROPER COORDINATION AND MANPOWER REQUIRED FOR AN EFFICIENT OPERATION WITHOUT INTERFERING WITH THE BUILDING FUNCTION.

F. EQUIPMENT AND MATERIALS DESIRED BY THE OWNER SHALL BE DELIVERED BY THE CONTRACTOR TO AN ON-SITE STORAGE LOCATION DESIGNATED BY THE OWNER.

G. REMOVED EQUIPMENT AND MATERIALS NOT DESIRED BY THE OWNER SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND SHALL BE PROMPTLY REMOVED FROM THE SITE.

5. DISPOSAL OF MATERIALS REMOVED

A. CONTRACTOR IS RESPONSIBLE FOR REMOVAL OF ALL DEBRIS RESULTING FROM DEMOLITION WORK AND CONSTRUCTION FOR THIS PROJECT. THIS WILL INCLUDE, BUT NOT BE LIMITED TO PROVISIONS FOR PORTABLE CONTAINERS (DUMPSTERS) AND ALL CARTAGE AND DUMPING FEES.

B. THE CONTRACTOR SHALL AT ALL TIMES MAINTAIN ALL AREAS IN AND ABOUT THE WORK IN A NEAT AND SAFE CONDITION. TRASH AND OTHER WASTE RESULTING FROM THE WORK SHALL BE REMOVED FROM THE SITE BY THE CONTRACTOR. USE OF THE OWNER'S TRASH RECEPTACLES IS FORBIDDEN FOR DISPOSAL OF ANY REMOVALS, RUBBISH, OR WASTE RESULTING FROM WORK UNDER THIS CONTRACT.

C. THE CONTRACTOR SHALL BE RESPONSIBLE FOR SAFE DISPOSAL AT HIS COST IN ACCORDANCE WITH ANY APPLICABLE STATE OR FEDERAL REGULATION.

D. REMOVAL AND DISPOSAL OF REFRIGERANT SHALL BE IN ACCORDANCE WITH NJDEP REGULATIONS. THE CONTRACTOR SHALL COMPLY WITH SECTION 608 OF THE CLEAN AIR ACT, WHICH IS AN EPA REGULATION TO LIMIT THE RELEASES OF ENVIRONMENTALLY HARMFUL REFRIGERANTS INTO THE ENVIRONMENT DURING THE MAINTENANCE, SERVICE, REPAIR OR DISPOSAL OF AIR CONDITIONING AND REFRIGERATION EQUIPMENT TO THE "LOWEST ACHIEVABLE LEVEL".

6. DAMAGES

A. CONTRACTOR SHALL EXERCISE SPECIAL CARE NOT TO DAMAGE ANY OF THE OWNERS' FACILITIES OR EQUIPMENT WHILE PERFORMING CONSTRUCTION WORK. CONTRACTOR WILL BE HELD RESPONSIBLE FOR ANY DAMAGE THAT OCCURS.

B. ANY EXISTING OR NEW CONSTRUCTION THAT IS DAMAGED DURING THE COURSE OF THE MECHANICAL WORK SHALL BE RESTORED TO ITS ORIGINAL CONDITION BY THE MECHANICAL CONTRACTOR.

C. CONTRACTOR SHALL PROVIDE AND INSTALL NEW INSULATION FOR ALL EXISTING DUCT AND PIPE INSULATION THAT IS DAMAGED DUE TO THE IMPLEMENTATION OF THIS CONTRACT.

7. CUTTING & PATCHING

A. CONTRACTOR SHALL PERFORM ALL CUTTING AND PATCHING AS REQUIRED UNDER THIS CONTRACT, INCLUDING WORK DUE TO EQUIPMENT, PIPING, AND DUCTWORK REMOVALS TO MATCH ADJACENT CONSTRUCTION.

B. PATCH AND SEAL OPENINGS WITH APPROVED MATERIALS TO MAINTAIN EXISTING FIRE AND/OR SMOKE RESISTANCE RATINGS OF THE EXISTING STRUCTURE.

C. SEAL ROOF AND EXTERIOR WALL OPENINGS WEATHER AND AIR TIGHT.

D. PATCH ALL WALL, ROOF AND FLOOR OPENINGS AS NECESSARY DUE TO PIPING, DUCTWORK, OR EQUIPMENT REMOVALS TO MATCH EXISTING ADJACENT CONSTRUCTION.

8. RESTORING SURFACE FINISHES

A. WHERE CONCRETE PADS ARE REMOVED OR ATTACHMENTS TO FLOORS, WALLS, AND CEILINGS ARE REMOVED, THE FLOORS, WALLS, AND CEILINGS SHALL BE PATCHED AND FINISHED AS NECESSARY TO PROVIDE A SMOOTH FINISHED SURFACE, INCLUDING PAINT, TO MATCH THE ADJACENT FINISHES OF THE SURROUNDING AREA.

9. CONTROLS

A. REMOVE CONTROLS, WHICH DO NOT REMAIN AS PART OF THE BUILDING AUTOMATION SYSTEM, ALL ASSOCIATED ABANDONED WIRING AND CONDUIT, AND ALL ASSOCIATED PNEUMATIC TUBING. THE OWNER WILL INFORM THE CONTRACTOR OF ANY EQUIPMENT, WHICH IS TO BE REMOVED, THAT WILL REMAIN THE PROPERTY OF THE OWNER. ALL OTHER EQUIPMENT, WHICH IS REMOVED, WILL BE DISPOSED OF BY THE CONTRACTOR.

B. FOR RENOVATION PROJECTS, THE CONTRACTOR SHALL MAINTAIN THE INTEGRITY, CONTINUITY AND COMMUNICATION OF THE EXISTING ATC OF THE SYSTEM THAT SERVES HVAC EQUIPMENT THAT IS TO REMAIN.

## PROJECT GENERAL NOTES

1. MOTOR CONTROLLERS, MOTOR STARTERS & DISCONNECTS SHALL BE FURNISHED BY THE MECHANICAL CONTRACTOR FOR INSTALLATION BY THE ELECTRICAL CONTRACTOR.

2. POWER WIRING TO MECHANICAL EQUIPMENT, MOTOR CONTROLLERS AND CONTROL PANELS SHALL BE PROVIDED BY THE ELECTRICAL CONTRACTOR. THE MECHANICAL CONTRACTOR SHALL COORDINATE THE POWER REQUIREMENTS OF ALL EQUIPMENT WITH THE ELECTRICAL CONTRACTOR PRIOR TO BID. THE MECHANICAL CONTRACTOR SHALL COORDINATE THE POWER REQUIREMENTS AND QUANTITY OF ALL CONTROLLERS AND END DEVICES WITH THE ELECTRICAL CONTRACTOR PRIOR TO BID. ALLOCATE THE REQUIRED NUMBER OF CIRCUITS AND ASSOCIATED WIRING PER THE ATC SYSTEM REQUIREMENTS. ADDITIONAL COST SHALL FOR EQUIPMENT, END DEVICE, AND CONTROL POWER SHALL NOT BE PERMITTED.

3. HVAC CONTROL WIRING SHALL BE PROVIDED BY THE MECHANICAL CONTRACTOR.

4. DUCTWORK AND PIPING LAYOUTS ARE SCHEMATIC DIAGRAMS AND ARE INTENDED TO SHOW GENERAL ARRANGEMENT, SIZE AND CAPACITY AND DO NOT INDICATE WHICH PIPE OR DUCT IS ABOVE OR BELOW THE OTHER. ALL OFFSETS ARE NOT NECESSARILY SHOWN, CONTRACTOR SHALL ARRANGE AND COORDINATE THE WORK, FURNISH NECESSARY OFFSETS, VALVES, VENTS, AND FITTINGS TO AVOID CONFLICT WITH OTHER MECHANICAL AND ELECTRICAL SERVICES AND STRUCTURAL AND ARCHITECTURAL ELEMENTS WITHOUT ADDITIONAL COST TO THE OWNER. IF AREAS OF CONFLICT ARE ENCOUNTERED, THE ARCHITECT SHALL BE NOTIFIED AND CONTRACTORS RECOMMENDATIONS SHALL BE SUBMITTED TO THE ARCHITECT FOR APPROVAL BEFORE WORK HAS BEGUN.

5. ENTIRE INSTALLATION SHALL COMPLY WITH ALL LOCAL AND STATE CODES AND OTHER AUTHORITIES HAVING JURISDICTION.

6. CONTRACTOR SHALL SECURE AND PAY FOR ALL REQUIRED PERMITS AND SHALL ARRANGE ALL REQUIRED INSPECTIONS.

7. PROPER FIRE PROTECTION MEASURES, SATISFACTORY TO THE LOCAL FIRE DEPARTMENT SHALL BE TAKEN WHEN WELDING OR CUTTING WITH TORCHES OR ELECTRIC ARC.

8. PROVIDE FLEXIBLE CONNECTIONS ON ALL ROTATING EQUIPMENT.

9. CONTRACTOR SHALL PROVIDE ALL NECESSARY MISCELLANEOUS SUPPORTS FOR ALL EQUIPMENT, PIPING, CONDUIT, AND DUCTWORK. SUSPEND FROM SLAB, STEEL, WALL, OR TRUSS WORK.

10. BALANCE AND CERTIFY ALL AIR AND WATER FLOWS AS PER SPECIFICATIONS. REFER TO DRAWINGS FOR CFM REQUIREMENTS.

11. CONTRACTOR SHALL COORDINATE HIS WORK WITH THE WORK OF ALL OTHER TRADES AND THE FIELD CONDITIONS.

12. ALL AIR MOVING DEVICES, INCLUDING NOT LIMITED TO, AIR HANDLING UNITS AND AIR CONDITIONING UNITS MUST COMPLY WITH AMCA STANDARD 210 AND ASHRAE.

13. CONTRACTOR SHALL ENSURE THAT ALL MECHANICAL DEVICES WILL BE INSTALLED IN A LOCATION WHICH AFFORDS ACCESSIBILITY FOR MAINTENANCE AND REPAIR. COORDINATE INSTALLATION AMONG ALL TRADES TO AVOID INTERFERENCE, AND LOCATE EQUIPMENT TO MEET OR EXCEED CLEARANCE RECOMMENDED BY THE MANUFACTURER. PRIOR TO PROJECT COMPLETION, REPRESENTATIVES OF OWNER AND JOHNSON & URBAN, LLC CONSULTING ENGINEERS WILL REVIEW EACH INSTALLATION AND WILL DIRECT CHANGES WHENEVER ACCESS OR SERVICEABILITY IS, IN THEIR OPINION, UNACCEPTABLE.

14. FURNISH LOCAL DISCONNECT SWITCHES FOR ALL ELECTRICALLY DRIVEN HVAC EQUIPMENT. DISCONNECT SWITCH SHALL BE IN ACCORDANCE WITH MANUFACTURER'S REQUIREMENTS.

15. WALL MOUNTED THERMOSTAT LOCATIONS SHALL BE COORDINATED WITH THE OWNER AND ARCHITECT'S FURNITURE PLANS PRIOR TO INSTALLATION.

16. THERMOSTAT WIRING SHALL BE INSTALLED IN CONCEALED SPACE, WALL OR CHASE.

17. ALL MECHANICAL COMPONENTS LOCATED BEHIND WALLS/CHASES/HARD CEILINGS REQUIRING ACCESS SHALL BE PROVIDED WITH METAL ACCESS DOORS AT WALL/CEILING SURFACES. THESE COMPONENTS SHALL INCLUDE BUT NOT BE LIMITED TO VALVES, ACTUATORS, VOLUME DAMPERS, FIRE DAMPERS, SMOKE DAMPERS AND COMBINATION FIRE/SMOKE DAMPERS. ACCESS DOOR SHALL MATCH FIRE RATING OF WALL/CHASE. COORDINATE FULL REQUIREMENTS WITH ARCHITECT. MINIMUM DOOR SIZE SHALL BE 8x8 FOR HAND/ARM ACCESS AND 16x16 FOR HEAD/ARM ACCESS.

18. ALL INSULATION PROVIDED FOR THE PROJECT MUST MEET A MAXIMUM FLAME SPREAD RATING OF 25 AND SMOKE DEVELOPED OF 50 OR LESS, AS TESTED IN ACCORDANCE WITH ASTM, NFPA & U.L. GUIDELINES.

19. ALL EQUIPMENT FOR THIS PROJECT SHALL BE LISTED BY A NATIONALLY RECOGNIZED TESTING LABORATORY.

20. COORDINATION DRAWINGS SHALL BE PREPARED AT A MINIMUM 1/4 SCALE AND SHALL INDICATE ALL TRADES. SUBMIT COORDINATION DRAWINGS TO ENGINEER FOR APPROVAL PRIOR TO BEGINNING ANY WORK.

21. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PREPARATION AND SUBMISSION OF THE NECESSARY FORM-WORK FOR THE PURPOSES OF SECURING SMART-START REBATES FOR THE HVAC EQUIPMENT, MOTORS AND SYSTEMS. CONTRACTOR SHALL INCLUDE THIS WORK AS PART OF THEIR BID.

22. AMERICAN MANUFACTURED PRODUCTS SHALL BE USED WHERE POSSIBLE FOR ALL WORK IN ACCORDANCE WITH NJAC 4GA:11-1B. CONTRACTOR SHALL VERIFY THAT ALL SUBMITTED EQUIPMENT FOR ALL CONTRACTS FOR COUNTY OR MUNICIPAL WORK OR FOR WORK FOR WHICH IT WILL PAY ANY PART OF THE COST, OR WORK WHICH BY CONTRACT OR ORDINANCE IT WILL ULTIMATELY OWN AND MAINTAIN, THAT ONLY MANUFACTURED PRODUCTS OF THE UNITED STATES, WHENEVER AVAILABLE, BE USED IN SUCH WORK. ANY SUBSTITUTIONS OF BASIS OF DESIGN EQUIPMENT SHALL BE VERIFIED BY CONTRACTOR TO CONFORM TO THE ABOVE NOTED REQUIREMENTS.

23. PROVIDE ALL REQUIRED EQUIPMENT CONTROLLERS, RELAYS, CURRENT SENSORS, SPACE SENSORS, DUCT SENSORS, SWITCHES, DAMPERS, VALVES, ACTUATORS, INTERCONNECTING WIRING, CONDUIT, ENCLOSURES, ETC. FOR A COMPLETE AND OPERATIONAL INSTALLATION. THE MECHANICAL CONTRACTOR SHALL COORDINATE WITH THE EQUIPMENT MANUFACTURERS AND THE ATC VENDOR/CONTRACTOR TO PROVIDE DEVICES AND OPERATIONS THAT ARE INCLUDED AS PART OF THE EQUIPMENT AND THOSE THAT ARE REQUIRED BY THE ATC SYSTEM. IT IS THE RESPONSIBILITY OF THE MECHANICAL CONTRACTOR TO PROVIDE A FULLY COORDINATED AND OPERATIONAL CONTROL SYSTEM.

## RESTRAINTS AND VIBRATION ISOLATORS

AS DESCRIBED BELOW AND IN THE SPECIFICATION, MECHANICAL SYSTEMS SHALL BE INSTALLED WITH WIND RESTRAINTS AND VIBRATION ISOLATORS TO PREVENT THE TRANSMISSION OF VIBRATION AND MECHANICALLY TRANSMITTED SOUND TO THE BUILDING STRUCTURE. WIND RESTRAINTS AND VIBRATION ISOLATORS SHALL BE SELECTED IN ACCORDANCE WITH THE SPECIFICATIONS AND ON ACTUAL WEIGHT DISTRIBUTION OF THE EQUIPMENT FURNISHED, SO AS TO PRODUCE REASONABLY UNIFORM DEFLECTION. DEFLECTIONS SHALL BE AS NOTED ON THE EQUIPMENT SHOP DRAWING SUBMITTALS.

ALL WIND & SEISMIC RESTRAINTS AND VIBRATION ISOLATORS WILL BE IN STRICT ACCORDANCE WITH THE INTERNATIONAL BUILDING CODE/2021 ASCE7/2016. THE MANUFACTURER OF THE WIND RESTRAINTS AND VIBRATION CONTROL EQUIPMENT WILL DESIGN AND CALCULATE THE WIND & SEISMIC RESTRAINTS AND VIBRATION ISOLATORS TYPES, SIZES, LOCATIONS, DEFLECTIONS, DEAD LOADS, ANCHORING METHODS, BOLT DIAMETERS, EMBEDMENT AND WELD LENGTHS BASED ON ACTUAL EQUIPMENT BEING INSTALLED. THIS MANUFACTURER WILL SUBMIT THESE CALCULATIONS STAMPED AND APPROVED BY A PROFESSIONAL MECHANICAL ENGINEER, AS PART OF THE WIND & SEISMIC RESTRAINTS AND VIBRATION ISOLATORS SHOP DRAWINGS. THE MANUFACTURER WILL PROVIDE INSTALLATION INSTRUCTIONS, DRAWINGS, DETAILS, AND FIELD SUPERVISION AS NOTED IN SPECIFICATION.

ALL EQUIPMENT, PIPING, AND DUCTWORK SHALL BE PROVIDED WITH WIND RESTRAINTS AND VIBRATION ISOLATORS AS DESCRIBED IN THE SPECIFICATIONS ACCORDING TO THE WIND DESIGN SPEED AND SEISMIC DESIGN CATEGORY OF THE SITE LISTED BELOW:

DESIGN WIND SPEED:120 MPH

## DRAWING LIST


| | |
|---|---|
| M0.1 | MECHANICAL-NOTES, SYMBOLS & ABBREVIATIONS |
| M0.2 | MECHANICAL-GENERAL NOTES |
| M1.1 | MECHANICAL-BSMT,1ST,2ND & 3RD FLOOR DEMOLITION PLANS |
| M1.2 | MECHANICAL-4TH & 5TH FLOOR & ROOF DEMOLITION PLANS |
| M2.1 | MECHANICAL-BSMT,1ST,2ND & 3RD FLOOR NEW WORK PLANS |
| M2.2 | MECHANICAL-4TH & 5TH FLOOR & ROOF NEW WORK PLANS |
| M3.1 | MECHANICAL-SCHEDULES |
| M4.1 | MECHANICAL-DETAILS |
| M4.2 | MECHANICAL-DETAILS |
| M5.1 | MECHANICAL-SCHEMATICS & ELEVATIONS |
| M6.1 | MECHANICAL-CONTROL DIAGRAMS & NOTES |
| M6.2 | MECHANICAL-CONTROL DIAGRAMS & NOTES |
| M7.1 | MECHANICAL-VRF PIPING & WIRING DIAGRAMS |



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**EXTERIOR + INTERIOR RESTORATION & ALTERATION**

AT

**921 ELIZABETH AVENUE**

FOR THE

**COUNTY OF UNION**

PROJECT ADDRESS:

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ELIZABETH, NJ 07201

| No. | Date | Issue or Revision |
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Drawing Title

MECHANICAL SYMBOLS,NOTES & ABBREVIATIONS

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|---|---|
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| Drawing Date: 01.17.2025 | Drawing No. M0.1 |
| Drawn By | Checked By |


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# MECHANICAL GENERAL NOTES

HVAC DESIGN CRITERIA

1. APPLICABLE CODES AND REFERENCES:
   A. INTERNATIONAL BUILDING CODE, 2021 – LATEST ADOPTED NEW JERSEY EDITION.
   B. INTERNATIONAL MECHANICAL CODE, 2021 – LATEST ADOPTED NEW JERSEY EDITION.
   C. INTERNATIONAL FUEL GAS CODE, 2021 – LATEST ADOPTED NEW JERSEY EDITION.
   D. ASHRAE 90.1, 2019 – LATEST ADOPTED NEW JERSEY EDITION.
   E. NATIONAL STANDARD PLUMBING CODE, 2021.
   F. NFPA No. 90A – AIR CONDITIONING AND VENTILATING SYSTEMS.
   G. ASHRAE HANDBOOKS – AMERICAN SOCIETY OF HEATING, REFRIGERATION, AND AIR CONDITIONING ENGINEERS.
   H. UNIFORM CONSTRUCTION CODE OF NEW JERSEY.
2. SUMMER OUTDOOR DESIGN CONDITIONS (1.0% FOR NEWARK, NJ PER ASHRAE 90.1 – 2019):
   A. DRY BULB: 91 DEG. F.
   B. WET BULB: 74 DEG. F.
3. SUMMER INDOOR DESIGN CONDITIONS:
   A. DRY BULB: 75 DEG. F. (+/– 2 DEG. F.)
   B. RELATIVE HUMIDITY: 50%
4. WINTER OUTDOOR DESIGN CONDITIONS (99.6% FOR NEWARK, NJ PER ASHRAE 90.1 – 2019):
   A. DRY BULB: 11 DEG. F.
5. WINTER INDOOR DESIGN CONDITIONS:
   A. DRY BULB: 70 DEG. F. (+/– 2 DEG. F.)
   B. RELATIVE HUMIDITY: NO MINIMUM HUMIDITY CONTROL PROVIDED
6. VENTILATION:
   A. OUTSIDE AIR VENTILATION DESIGN AIR QUANTITIES WILL BE AS REQUIRED BY THE INTERNATIONAL MECHANICAL CODE, 2021 – LATEST ADOPTED NEW JERSEY EDITION.
7. FILTRATION:
   A. MINMUM MERV 7 FILTER MEDIA.

BASIC MECH. MATERIALS & METHODS

1. THE CONTRACTOR SHALL FURNISH ALL EQUIPMENT AND MATERIALS AS INDICATED ON THE CONTRACT DRAWINGS AND THESE SPECIFICATIONS.
2. ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE LATEST ADOPTED EDITIONS OF THE UNIFORM CONSTRUCTION CODE OF NEW JERSEY, IBC, NFPA, SMACNA AND ASHRAE AND ALL OTHER APPLICABLE CODES.
3. ALL NEW EQUIPMENT AND MATERIAL SHALL BE FREE OF DEFECTS AND SHALL PERFORM AS INTENDED. THE CONTRACTOR SHALL SUBMIT SHOP DRAWINGS OF ALL MAJOR MANUFACTURED ITEMS REQUIRED ON THIS PROJECT. SHEET METAL SHOP DRAWINGS SHALL BE SUBMITTED MINIMUM ¼" SCALE. SHOP DRAWINGS SHALL ILLUSTRATE COORDINATION OF ALL TRADES INVOLVED IN THE PROJECT. SHOP DRAWINGS SHALL BE COMPLETE IN ALL RESPECTS, INCORPORATING AND IDENTIFYING ALL INFORMATION REQUIRED FOR THE EVALUATION OF THE PROPOSED MECHANICAL EQUIPMENT AND SYSTEM'S COMPLIANCE WITH THE CONTRACT DOCUMENTS. PARTIAL, INCOMPLETE OR ILLEGIBLE SUBMISSIONS WILL BE RETURNED TO THE CONTRACTOR WITHOUT REVIEW FOR RESUBMITTAL.
4. THE CONTRACTOR SHALL VISIT THE SITE AND INSPECT THE EXISTING INSTALLATION PRIOR TO SUBMITTING A PROPOSAL FOR WORK. HE SHALL INVESTIGATE ALL CONDITIONS AND DIMENSIONS AND INCLUDE IN HIS PRICE THE COST FOR OVERCOMING ALL DIFFICULTIES DUE TO FIELD CONDITIONS. NO PART OF THE WORK SHALL BEGIN BEFORE EXISTING CONDITIONS ARE CAREFULLY CHECKED AND ALL DISCREPANCIES ARE REPORTED TO THE ARCHITECT OR ENGINEER.
5. THE CONTRACTOR SHALL PAY ALL FEES AND OBTAIN ALL PERMITS REQUIRED FOR CONSTRUCTION AND SHALL ARRANGE ALL REQUIRED INSPECTIONS.
6. ALL WORK SHALL BE DONE DURING NORMAL WORKING HOURS UNLESS OTHERWISE REQUESTED BY OWNER.
7. THE DRAWINGS DO NOT INDICATE ALL EQUIPMENT, PIPING, DUCTWORK AND CONDUIT LOCATED WITHIN THE SPACE OR ABOVE THE CEILING. THE CONTRACTOR SHALL COORDINATE HIS WORK WITH ALL OTHER TRADES PRIOR TO FABRICATION OF PIPING AND DUCTWORK AND INSTALLATION OF EQUIPMENT. THE CONTRACTOR SHALL, AT NO ADDITIONAL EXPENSE TO THE OWNER, MAKE ANY REQUIRED CHANGES AS A RESULT OF A FAILURE TO COORDINATE HIS WORK WITH ALL TRADES.
8. SEE THE ARCHITECT'S REFLECTED CEILING PLAN FOR FINAL LOCATION OF CEILING DIFFUSERS, RETURN AIR GRILLES, LIGHT FIXTURES AND SPRINKLER HEADS.
9. ALL APPLIANCES REGULATED BY THE INTERNATIONAL MECHANICAL CODE SHALL BE LISTED AND LABELED FOR THE APPLICATION IN WHICH THEY ARE INSTALLED AND USED
10. THE CONTRACTOR SHALL FURNISH THE QUALIFIED PERSONNEL, SUPPLIERS, EQUIPMENT REQUIRED TO MAKE ALL NECESSARY TESTS AND VERIFICATION OF EQUIPMENT PERFORMANCE AND CONTROLS. ELECTRICAL POWER, WATER AND FUEL CONSUMPTION FOR TESTING SHALL BE FROM THE OWNER'S SUPPLY.
11. CONTRACTOR SHALL PROVIDE ALL NECESSARY MISCELLANEOUS STEEL FOR THE SUPPORT OF ALL EQUIPMENT SUSPENDED FROM SLAB OR STEEL. CONTRACTOR SHALL VERIFY THE LOCATION OF EXISTING CEILING JOISTS, ETC. PRIOR TO SUSPENDING EQUIPMENT. THE CONTRACTOR SHALL SUBMIT FOR APPROVAL, SHOP DRAWINGS AND DETAILS, INDICATING THE PROPOSED EQUIPMENT, PIPING AND DUCT SUPPORTING METHODS PRIOR TO INSTALLATION.
12. DAMAGE TO BUILDING AND EQUIPMENT, WHICH IS TO REMAIN, RESULTING FROM DEMOLITION SHALL BE REPAINTED, REPAIRED AND/OR REPLACED BY THE CONTRACTOR.
13. CONTRACTOR SHALL PERFORM ALL CUTTING AND PATCHING AS REQUIRED UNDER THIS CONTRACT, INCLUDING WORK FOR ROOF AND WALL PENETRATIONS OF PIPING AND DUCTWORK, CORE DRILLING FLOOR SLABS FOR THE PENETRATION OF DUCT AND PIPE RISERS, AND DUE TO EQUIPMENT, PIPING, AND DUCTWORK REMOVALS. SEAL OPENINGS WITH APPROVED MATERIALS TO MAINTAIN EXISTING FIRE RESISTANCE RATINGS OF STRUCTURE. SEAL ROOF AND EXTERIOR WALL OPENINGS WEATHER AND AIR TIGHT.
14. PATCH ALL WALL, ROOF AND FLOOR OPENINGS AS NECESSARY DUE TO PIPING, DUCTWORK OR EQUIPMENT REMOVALS TO MATCH EXISTING ADJACENT CONSTRUCTION. PAINT WALLS AND CEILINGS TO MATCH ADJACENT EXISTING FINISHES.
15. EQUIPMENT MANUFACTURERS NAMES AND MODEL NUMBERS ARE SHOWN FOR THE BASIS OF DESIGN. THE EQUIPMENT HAS BEEN SELECTED BY THE ENGINEER FOR CONFORMANCE TO VARIOUS CRITERIA SUCH AS, CAPACITIES, ELECTRICAL CRITERIA, STANDARD FEATURES, ETC. SUBSTITUTION OF ANY EQUIPMENT SHALL NOT BE ALLOWED UNLESS APPROVED BY THE ENGINEER. ALL COSTS RESULTING FROM SELECTION OF OTHER THAN SPECIFIED EQUIPMENT SHALL BE BORNE BY THE CONTRACTOR, INCLUDING BUT NOT LIMITED TO, WORK AFFECTING OTHER CONTRACTORS, OWNER, OR DESIGN, INCLUDING REVISING SUPPORTS AND STRUCTURES, ELECTRICAL PROVISIONS AND CONTROLS.
16. UNLESS OTHERWISE NOTED ON THE DRAWINGS, ALL MECHANICAL EQUIPMENT SHALL BE MOUNTED ON OR SUSPENDED FROM VIBRATION ISOLATORS TO PREVENT THE TRANSMISSION OF SOUND TO THE BUILDING STRUCTURE. VIBRATION ISOLATORS SHALL BE IN ACCORDANCE WITH THE SPECIFICATIONS, LOCAL SEISMIC CODES AND ON ACTUAL WEIGHT DISTRIBUTION OF THE EQUIPMENT FURNISHED. DEFLECTIONS SHALL BE AS NOTED ON THE EQUIPMENT SHOP DRAWING SUBMITTALS.
17. THE CONTRACTOR SHALL PROVIDE THE OWNER WITH REPRODUCIBLE "AS-BUILT" DRAWINGS AND FOUR (4) COPIES OF AN OPERATING AND MAINTENANCE MANUAL AT THE CONCLUSION OF THE JOB.
18. THE CONTRACTOR SHALL PROVIDE THE OWNER WITH A ONE (1) YEAR WRITTEN GUARANTEE OF ALL WORK (LABOR AND MATERIALS) AND A 5 YEAR WARRANTY ON THE COMPRESSORS, STARTING FROM THE DATE OF THE OWNER ACCEPTANCE.
19. ALL AUTOMATIC TEMPERATURE CONTROL WIRING SHALL BE THE RESPONSIBILITY OF THE MECHANICAL CONTRACTOR.
20. THE MECHANICAL CONTRACTOR SHALL FURNISH ALL LOCAL POWER DISCONNECT SWITCHES FOR ALL HVAC EQUIPMENT. FOR FURNACE ROOMS THE MECHANICAL CONTRACTOR SHALL PROVIDE EMERGENCY SHUT-DOWN SWITCHES AT EACH FURNACE ROOM DOOR AND PROVIDE LOCAL DISCONNECT SWITCHES WITH LOCKABLE COVER AT EACH FURNACE. THE MECHANICAL CONTRACTOR SHALL COORDINATE THE ELECTRICAL REQUIREMENTS OF HIS WORK WITH THE GENERAL AND ELECTRICAL CONTRACTORS PRIOR TO SUBMISSION OF BIDS.
21. UNLESS OTHERWISE SPECIFIED, ALL MOTORS ½ H.P. AND ABOVE SHALL BE 3 PHASE AND MOTORS UNDER ½ H.P. SHALL BE SINGLE PHASE. ALL MOTORS SHALL MEET MINIMUM EFFICIENCIES AS OUTLINED BY ASHRAE/ IESNA STANDARD 90.1-2019 "ENERGY EFFICIENT DESIGN OF NEW BUILDINGS EXCEPT LOW-RISE RESIDENTIAL BUILDINGS".
22. HVAC CONTRACTOR IS RESPONSIBLE FOR SUPPLYING ALL MOTOR STARTERS ASSOCIATED WITH HIS WORK. PROVIDE COMBINATION STARTER/DISCONNECTS WHEN EQUIPMENT IS NOT IN SIGHT OF ELECTRIC PANEL SERVING SAME. ALL STARTERS SHALL HAVE "HAND-OFF-AUTO" SELECTION SWITCHES WITH INDICATOR LIGHTS AND 120V HOLDING COILS. COORDINATE STARTER REQUIREMENTS WITH THE ATC CONTRACTOR.
23. ELECTRICAL CONTRACTOR SHALL PROVIDE DUCT MOUNTED SMOKE DETECTORS (SUPPLY & RETURN) TO BE INSTALLED BY THE MECHANICAL CONTRACTOR AND WIRED BY THE ELECTRICAL CONTRACTOR. DUCT MOUNTED SMOKE DETECTORS SHALL BE PRESENT IN THE MAIN RETURN DUCT FOR ALL AIR HANDLING UNITS SUPPLYING AIR QUANTITIES GREATER THAN OR EQUAL TO 2,000 CFM. DETECTORS SHALL BE PROVIDED IN BOTH SUPPLY AND RETURN MAINS IF THE SYSTEM IS GREATER THAN 15,000 CFM OR AN AIR HANDLING SYSTEM, WHICH EXHAUSTS GREATER THAN 50% OF THE SUPPLY AIR.
24. THE MECHANICAL CONTRACTOR SHALL PROVIDE CARBON MONOXIDE (CO) DETECTION AND ALARM SYSTEM IN ROOMS OR SPACES THAT CONTAIN FUEL-BURNING APPLIANCES OR ROOMS OR SPACES THAT ARE SERVED BY FUEL BURNING FORCED AIR FURNACES. CO DETECTORS SHALL BE HARD-WIRED BY THE ELECTRICAL CONTRACTOR AND PROVIDED WITH BATTERY BACKUP.
25. ALL PIPE, DUCT, CONDUIT, AND CABLE PENETRATIONS OF FIRE-RESISTANCE-RATED WALLS AND HORIZONTAL ASSEMBLIES SHALL BE PROTECTED WITH APPROVED FIRESTOP SYSTEMS THAT COMPLY WITH ASTM E 814 AND UL 1479 AS MANUFACTURED BY HILTI, 3M (FIRE PROTECTION PRODUCTS DIVISION), JOHNS MANVILLE, OR APPROVED EQUAL. COMPLY WITH THE INSTALLATION REQUIREMENTS ESTABLISHED BY THE QUALIFIED TESTING AND INSPECTING AGENCY.
26. ALL EQUIPMENT SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S WRITTEN INSTALLATION INSTRUCTIONS.

VALVES

1. PROVIDE VALVES OF THE TYPE AND SIZE AS INDICATED ON THE DRAWINGS AND DETAILS. PROVIDE BRASS VALVE TAGS & CHAINS FOR THE PURPOSE OF IDENTIFICATION. CONSULT OWNER'S REPRESENTATIVE FOR PROPER NUMBER SEQUENCING. PROVIDE A CHART COMPILING ALL VALVES AND LOCATIONS AND FURNISH SAME TO OWNER.
2. PROVIDE SHUT OFF VALVES, IF NOT EXISTING, ON EACH TERMINAL UNIT AND AT ALL TAKEOFFS THAT SERVE MORE THAN ONE TERMINAL UNIT.
3. SHUT-OFF VALVES FOR REFRIGERATION PIPING SHALL BE 500 PSI PRESSURE RATING, FORGED BRASS BODY, REMOVABLE VALVE CORE, INTEGRAL BALL CHECK VALVE, WITH BRAZED END CONNECTIONS.
2. NATURAL GAS PLUG VALVES SHALL BE CLASS 125, NON-LUBRICATED WITH DUCTILE IRON BODY, FLANGED CONNECTION, NICKEL SEAT AND NITRILE ELASTOMER.

PIPING

1. PROVIDE AND ERECT IN A WORKMANLIKE MANNER, ACCORDING TO THE BEST PRACTICE OF THE TRADE, ALL PIPING SHOWN ON THE DRAWINGS OR REQUIRED TO COMPLETE THE INSTALLATION INTENDED BY THESE SPECIFICATIONS.
2. IN CONCEALED LOCATIONS WHERE PIPING, OTHER THAN CAST-IRON OR STEEL, IS INSTALLED THROUGH HOLES OR NOTCHES IN STUDS, JOISTS, RAFTERS OR SIMILAR MEMBERS LESS THAN 1⅝ INCHES FROM THE NEAREST EDGE OF THE MEMBER, THE PIPE SHALL BE PROTECTED BY SHIELD PLATES. PROTECTIVE STEEL SHIELDPLATES HAVING A MINIMUM THICKNESS OF 0.0575-INCH (NO. 16 GAGE) SHALL COVER THE AREA OF THE PIPE WHERE THE MEMBER IS NOTCHED OR BORED, AND SHALL EXTEND A MINIMUM OF 2 INCHES ABOVE SOLE PLATES AND BELOW TOP PLATES.
3. DISSIMILAR PIPING SHALL BE CONNECTED WITH DIELECTRIC FITTINGS AS MANUFACTURED BY EBCO OR EQUAL.
4. PROVIDE UNIONS AT ALL PIPING CONNECTIONS TO EQUIPMENT TO FACILITATE EASY REMOVAL FOR SERVICING. UNIONS 2" AND SMALLER SHALL BE SCREWED. UNIONS 2-1/2" AND LARGER SHALL BE FLANGED.
11. REFRIGERANT PIPING
   A. ALL NEW REFRIGERANT PIPING SHALL BE COPPER TYPE 'K' OR ACR WITH BRAZED CONNECTIONS WROUGHT COPPER FITTINGS.
   B. REFRIGERANT PIPING SHALL COMPLY WITH THE REQUIREMENTS OF THE INTERNATIONAL MECHANICAL CODE/2021, CHAPTER 11, SECTION 1107 AND 1108.
   C. REFRIGERANT PIPING INSTALLATION AND TESTING SHALL COMPLY WITH THE REQUIREMENTS OF THE INTERNATIONAL MECHANICAL CODE/2021, CHAPTER 11, SECTION 1109 AND 1110.
   D. REFRIGERANT PIPING SHALL BE OF SIZES AS RECOMMENDED BY THE EQUIPMENT MANUFACTURER FOR COMPLETE AUTOMATIC OPERATION OF THE REFRIGERANT CYCLE, AND INSTALLED IN ACCORDANCE WITH STANDARD ENGINEERING PRACTICE AS RECOGNIZED BY THE AMERICAN SOCIETY OF HEATING, REFRIGERATION AND AIR CONDITIONING ENGINEERS (ASHRAE 15).
   E. REFRIGERANT PIPING INDICATED IS SCHEMATIC ONLY. CONTRACTOR SHALL SIZE AND DESIGN THE LAYOUT AND INSTALLATION OF THE PIPING, INCLUDING OIL TRAPS, DOUBLE RISERS, VALVE, SPECIALTIES, AND PIPE AND TUBE SIZES, TO ENSURE PROPER OPERATION AND CONFORMATION WITH THE WARRANTIES OF CONNECTED EQUIPMENT.
12. A.C. CONDENSATE DRAIN PIPING
   A. ALL CONDENSATE DRAIN PIPING SHALL BE COPPER TYPE 'L' WITH SOLDERED WROUGHT COPPER FITTINGS.
13. NATURAL GAS PIPING
   A. NATURAL GAS PIPING 2" AND SMALLER SHALL BE SCHEDULE 40 BLACK STEEL PIPE (ASTM B16.3) WITH SCREWED FITTINGS. PIPING 2-1/2" AND LARGER SHALL BE SCHEDULE 40 BLACK STEEL PIPE WITH WELDED FITTINGS. WHERE REQUIRED BY CODE OR DIRECTED BY LOCAL AUTHORITIES, THIS CONTRACTOR SHALL PROVIDE SEISMIC HANGERS AND RESTRAINTS ON ALL GAS PIPING IN COMPLETE ACCORDANCE WITH THE LATEST ISSUE OF THE GOVERNING BODY CODE.
14. HANGERS
   A. PROVIDE NECESSARY STRUCTURAL MEMBERS, HANGERS AND SUPPORTS OF APPROVED DESIGN TO KEEP PIPING IN PROPER ALIGNMENT.
   B. PIPE HANGERS SHALL BE OF THE CLEVIS, PIPE ROLL AND PIPE CLAMP TYPES, HANGERS SHALL BE GRINNELL OR EQUAL.
   C. SUPPORT ALL HORIZONTAL PIPING 1-1/4" AND SMALLER NOT MORE THAN 6' ON CENTERS. ALL HORIZONTAL PIPING 1-1/2" AND LARGER SHALL BE SUPPORTED NOT MORE THAN 10' ON CENTERS, EXCEPT THAT COPPER TUBING SHALL NOT BE MORE THAN 8' ON CENTERS.
15. PROVIDE HANGER RODS OF SUITABLE LENGTH AND DIAMETER TO ADEQUATELY SUPPORT PIPING.
16. FURNISH AND INSTALL PIPE SLEEVES PASSING THROUGH INTERIOR WALLS. SLEEVES SHALL BE STEEL PIPE: ASTM A 53, TYPE E, GRADE A, SCHEDULE 40, GALVANIZED, PLAIN ENDS, LENGTH EQUAL TO WIDTH OF WALL.
17. ALL PIPING SHALL BE TESTED FOR A PERIOD OF NOT LESS THAN FOUR (4) HOURS AT 1-1/2" TIMES THE MAXIMUM ALLOWABLE WORKING PRESSURE OF THE SYSTEM.

DUCTWORK

1. FURNISH AND INSTALL SHEET METAL DUCTWORK WHERE INDICATED ON THE DRAWINGS.
2. ALL DUCTWORK, UNLESS OTHERWISE NOTED, SHALL BE GALVANIZED SHEET METAL FABRICATED AND INSTALLED TO THE LATEST SMACNA STANDARDS AND SECURED WITH SHEET METAL SCREWS. ALL JOINTS 18" IN LENGTH OR GREATER SHALL BE OF THE DUCTMATE SYSTEM OR THE SMACNA EQUIVALENT CONNECTION AND CONSTRUCTION. PROVIDE GASKETS AT MATING FLANGES. ALL TRANSVERSE JOINTS AND SEAMS SHALL BE SEALED WITH HIGH PRESSURE DUCT SEALANT. SIZES ON DRAWINGS ARE CLEAR INSIDE DIMENSIONS, INCREASE SIZE BY 1" ALL AROUND TO ACCOMMODATE LINING IF REQUIRED.
3. ALL NEW FLEXIBLE DUCTWORK SHALL BE THERMAFLEX TYPE M-KE OR APPROVED EQUAL. SUPPORTED NOT MORE THAN 3'-0" INTERVALS WITH 1" WIDE STRAPS. ALL FLEXIBLE DUCTWORK SHALL MEET ALL IMC AND NFPA REQUIREMENTS FOR USE IN A RETURN AIR PLENUM. PROVIDE SPIN COLLARS WITH VOLUME DAMPERS AT ALL NEW FLEXIBLE CONNECTIONS. MAXIMUM ALLOWABLE RUN OF FLEX SHALL NOT EXCEED 6'-0".
4. PROVIDE FLEXIBLE DUCT CONNECTIONS AT ROTATING EQUIPMENT, "VENTGLASS" OR EQUAL.
5. ALL NEW FIRE DAMPERS SHALL BE INSTALLED IN ACCORDANCE WITH THE LATEST EDITIONS OF NFPA, SMACNA AND UCC. ALL DAMPERS SHALL BE RUSKIN OR APPROVED EQUAL WITH THE BLADE STACK OUT OF THE AIRSTREAM (TYPE 'B'). FURTHERMORE, DAMPERS SHALL BEAR A U.L. RATING FOR "DYNAMIC OPERATION".
6. ALL NEW DUCTWORK SHALL BE TESTED FOR AIR LEAKAGE. THE NEW DUCTWORK SHALL BE SEAL CLASS 'A' AND LEAKAGE CLASS-4, AS DEFINED BY THE SMACNA "HVAC SYSTEMS DUCT DESIGN" MANUAL. THE CONTRACTOR SHALL REPAIR ALL LEAKS AT HIS OWN EXPENSE AND RE-TEST SAME.
7. INSTALL SUITABLE SIZED ACCESS DOORS WHERE REQUIRED AT ALL DAMPERS, COILS, FAN BEARINGS, VOLUME CONTROLS ETC. PROVIDE INSULATED DOORS WHERE DUCTWORK IS INSULATED.
8. INSTALL VOLUME DAMPERS AT ALL DUCT BRANCHES AND EXTEND ALL VOLUME DAMPER HANDLES BEYOND THE DUCT INSULATION.

MECHANICAL INSULATION

1. ALL INSULATION MUST BE APPLIED IN STRICT ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.
2. APPLY INSULATION AFTER ALL TESTING HAS BEEN COMPLETED AND APPROVED.
3. ALL INSULATION PROVIDED FOR THE PROJECT MUST MEET A MAXIMUM FLAME SPREAD RATING OF 25 AND SMOKE DEVELOPED INDEX OF 50 OR LESS, AS TESTED IN ACCORDANCE WITH ASTM, NFPA & U.L. GUIDELINES.
4. ALL INSULATION FOR EQUIPMENT AND PIPING WITH A SURFACE TEMPERATURE BELOW 65 DEGREES F, SHALL CONTAIN A COMPLETE VAPOR BARRIER SEAL.
5. PIPING INSULATION – SEE MINIMUM PIPE INSULATION SCHEDULE FOR REQUIRED INSULATION THICKNESS.
   A. ALL AIR CONDITIONING CONDENSATE PIPING SHALL BE INSULATED WITH FIBERGLASS INSULATION WITH AN ALL SERVICE JACKET. PROVIDE ONE-PIECE, MOLDED PVC JACKETS, AS MANUFACTURED BY JOHNS MANVILLE CORP. ZESTON 2000 OR EQUAL, AT ALL FITTINGS AND VALVES.
   B. ALL REFRIGERANT SUCTION, LIQUID AND HOT GAS PIPING SHALL BE INSULATED WITH ELASTOMERIC FOAM INSULATION, AS MANUFACTURED BY ARMACELL, TYPE AP, OR EQUAL. ALL EXTERNAL PIPING SHALL BE PROTECTED FROM THE ELEMENTS WITH A UV COATING PER MANUFACTURERS' RECOMMENDATIONS AND PROVIDED WITH A PVC PIPE ENCLOSURE.
6. DUCTWORK INSULATION
   A. ALL SUPPLY AND OUTDOOR AIR DUCTS WITHIN THE BUILDING ENVELOPE SHALL BE INSULATED WITH A MINIMUM INSULATION VALUE OF R-3.5 (INSTALLED) FOIL-SCRIM-KRAFT, FORMALDEHYDE FREE FLEXIBLE FIBERGLASS DUCT WRAP (APPROXIMATE 1-1/2" THICK).
   B. FOR ALL INTERIOR EXPOSED DUCTWORK PROVIDE 1" THICK DUCT LINING AS MANUFACTURED BY JOHNS MANVILLE CORP. "PERMACTE LINACOUSTIC HP". PROVIDE METAL NOSINGS AT EXPOSED EDGES. IN ADDITION, PROVIDE A MINIMUM 15'-0" LENGTH OF ACOUSTICAL DUCT LINING UPSTREAM AND DOWNSTREAM OF MECHANICAL AIR HANDLING EQUIPMENT. DUCTWORK DIMENSIONS INDICATED ON THE PLANS ARE CLEAR INSIDE DIMENSIONS, INCREASE DUCT SIZE TO ACCOMMODATE THE DUCT LINER. LINER THICKNESS TO BE INCREASED TO MEET INSULATION REQUIREMENTS.
   C. EXHAUST DUCTWORK BETWEEN THE EXHAUST DUCT'S MOTORIZED OR BACKDRAFT DAMPER AND THE PENETRATION OF THE EXTERIOR OF THE BUILDING SHALL BE INSULATED WITH A MINIMUM INSULATION VALUE OF R-3.5 (INSTALLED) FOIL-SCRIM-KRAFT, FORMALDEHYDE FREE FLEXIBLE FIBERGLASS DUCT WRAP (APPROXIMATE 1-1/2" THICK).

TESTING, ADJUSTING & BALANCING

1. BALANCING THE AIR SYSTEMS
   A. OPERATE ALL SYSTEMS FOR AS LONG AS NECESSARY TO TEST AIR FLOW AT ALL OPENINGS. ADJUST DAMPERS, FANS, AND SHEAVES UNTIL EVEN DISTRIBUTION AND REQUIRED CFM OF AIR IS OBTAINED THROUGHOUT. SUBMIT FOR APPROVAL FOUR (4) TEST REPORTS SHOWING ALL PERTINENT OPERATING DATA, SUCH AS CFM AND FPM AT EACH OUTLET. FAN RPM, MOTOR CURRENT, ETC., SHALL BE SUBMITTED FOR PERMANENT RECORD. BALANCE AIR VOLUME TO WITHIN 10% OF DESIGN VALUES. DURING ADJUSTMENT PERIOD, MAKE ALL NECESSARY SETTINGS AND ADJUSTMENTS OF TEMPERATURE REGULATING EQUIPMENT. TEST REPORTS SHALL BE CERTIFIED BY A LICENSED PROFESSIONAL ENGINEER WHO SHALL BE A MEMBER OF THE BALANCING FIRM.

MINIMUM PIPE INSULATION THICKNESS SCHEDULE

| FLUID OPERATING TEMPERATURE RANGE (F) AND USAGE | INSULATION CONDUCTIVITY | | NOMINAL PIPE OR TUBE SIZE (INCHES) | | | | |
|---|---|---|---|---|---|---|---|
| | CONDUCTIVITY Btu*in/(h*ft^2*F) | MEAN RATING TEMP. (F) | <1 | 1-<1.5 | 1.5-<4 | 4-<8 | >8 |
| 40-60 – CONDENSATE DRAIN | 0.21-0.27 | 75 | 0.5 | 0.5 | 1 | 1 | 1 |
| 40-60 – REFRIGERANT (INTERIOR) | 0.21-0.27 | 75 | 0.5 | 0.5 | 1 | 1 | 1 |
| 40-60 – REFRIGERANT(EXTERIOR) | 0.21-0.27 | 75 | 0.5 | 0.5 | 1 | 1 | 1 |

NOTES:
1. FOR PIPING SMALLER THAN 1.5" AND LOCATED IN PARTITIONS WITHIN CONDITIONED SPACES, REDUCTION OF THESE THICKNESS BY 1 INCH SHALL BE PERMITTED, BUT NOT TO A THICKNESS LESS THAN 1 INCH.
2. SEE SPECIFICATION SECTION HVAC INSULATION FOR ADDITIONAL INFORMATION.

EXCEPTIONS:
1. FACTORY-INSTALLED PIPING WITHIN HVAC EQUIPMENT TESTED AND RATED IN ACCORDANCE WITH ASHRAE 90.1 SECTION 6.4.1.
2. PIPING THAT CONVEYS FLUIDS THAT HAVE NOT BEEN HEATED OR COOLED THROUGH THE USE OF FOSSIL FUELS OR ELECTRIC POWER.
3. PIPING THAT CONVEYS FLUIDS THAT HAVE A DESIGN OPERATING TEMPERATURE RANGE BETWEEN 60°F (15°C) AND 105°F (41°C).
4. WHERE HEAT GAIN OR HEAT LOSS WILL NOT INCREASE ENERGY USAGE (SUCH AS LIQUID REFRIGERANT PIPING).


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**EXTERIOR + INTERIOR RESTORATION & ALTERATION**
AT
**921 ELIZABETH AVENUE**
FOR THE
**COUNTY OF UNION**

PROJECT ADDRESS:
921 ELIZABETH AVENUE
ELIZABETH, NJ 07201

| No. | Date | Issue or Revision |
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MECHANICAL GENERAL NOTES

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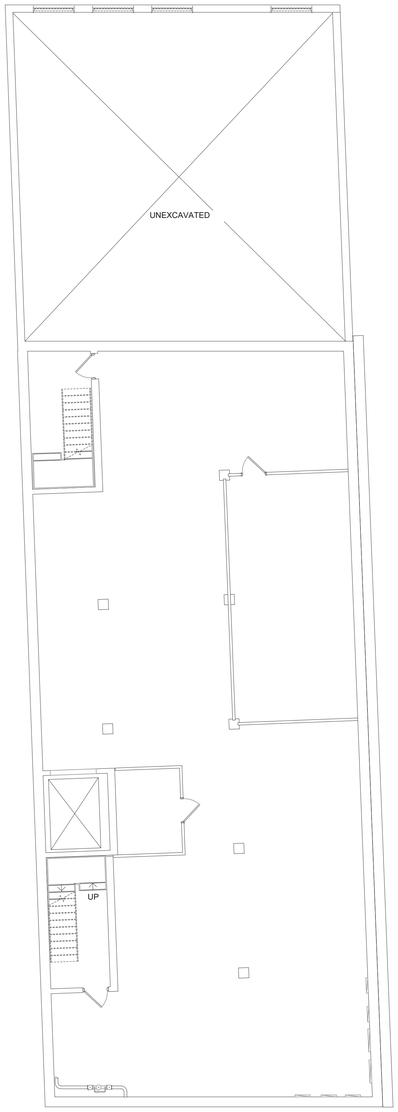


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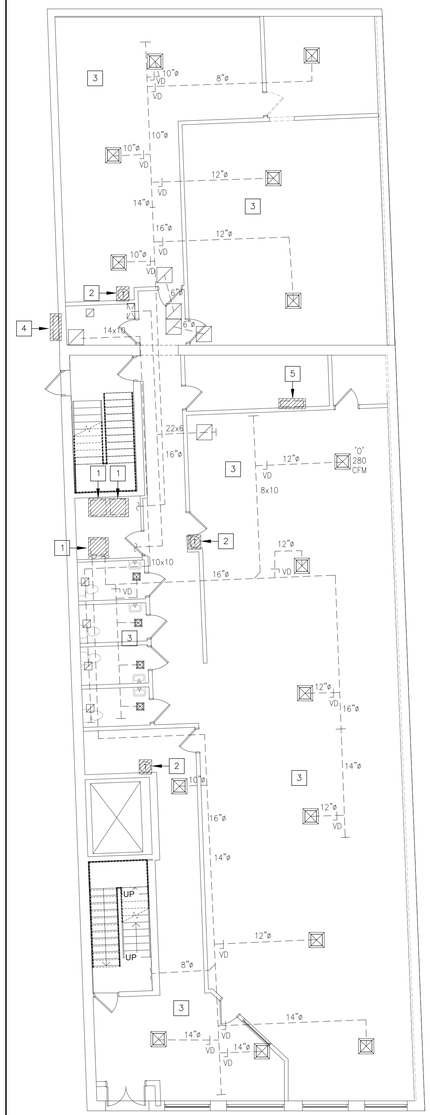
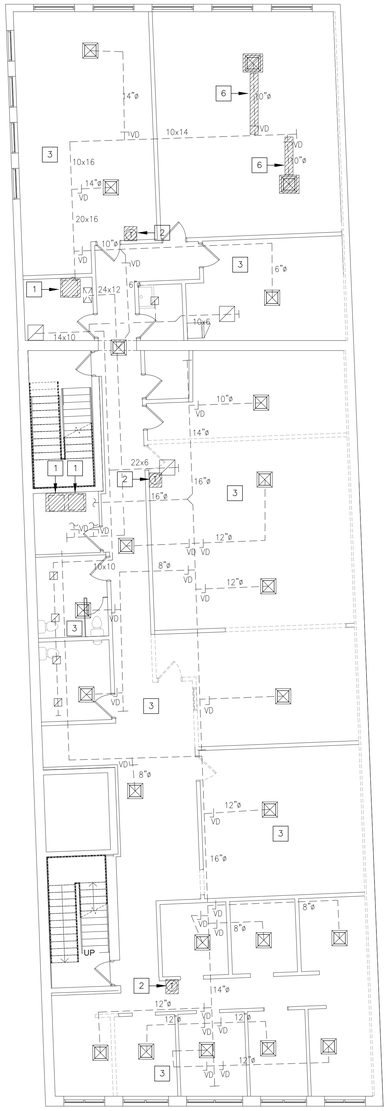



FIRST FLOOR

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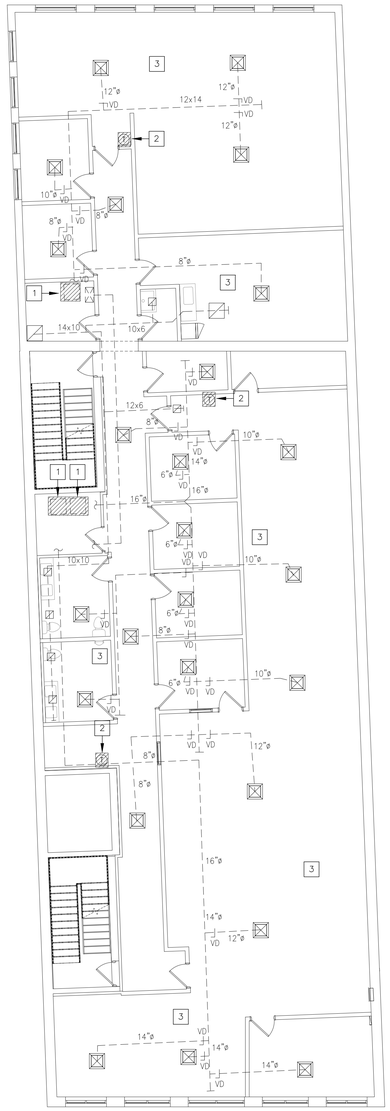

THIRD FLOOR

1 MECHANICAL BASEMENT DEMOLITION PLAN — SCALE 1/8"=1'-0"

2 MECHANICAL FIRST FLOOR DEMOLITION PLAN — SCALE 1/8"=1'-0"

3 MECHANICAL SECOND FLOOR DEMOLITION PLAN — SCALE 1/8"=1'-0"

4 MECHANICAL THIRD DEMOLITION PLAN — SCALE 1/8"=1'-0"

## DUCT CLEANING NOTES

THE CONTRACT SHALL ENGAGE THE SERVICE OF A PROFESSIONAL LICENSED COMMERCIAL DUCT CLEANING COMPANY TO CLEAN ALL OF THE EXISTING SUPPLY, RETURN, OUTDOOR AIR AND EXISTING DUCTWORK:

1. AIR-DISTRIBUTION SYSTEMS:
   - CREATE SERVICE OPENINGS IN THE HVAC SYSTEM AS NECESSARY TO ACCOMMODATE CLEANING.
   - MECHANICALLY CLEAN AIR-DISTRIBUTION SYSTEMS SPECIFIED TO REMOVE ALL VISIBLE CONTAMINANTS, SO THAT THE SYSTEMS ARE CAPABLE OF PASSING THE HVAC SYSTEM CLEANLINESS TESTS (SEE NADCA ACR).
2. DEBRIS REMOVED FROM THE HVAC SYSTEM SHALL BE DISPOSED OF ACCORDING TO APPLICABLE FEDERAL, STATE, AND LOCAL REQUIREMENTS.
3. MECHANICAL CLEANING METHODOLOGY:
   - SOURCE-REMOVAL CLEANING METHODS: THE HVAC SYSTEM SHALL BE CLEANED USING SOURCE-REMOVAL MECHANICAL CLEANING METHODS DESIGNED TO EXTRACT CONTAMINANTS FROM WITHIN THE HVAC SYSTEM AND TO SAFELY REMOVE THESE CONTAMINANTS FROM THE FACILITY. NO CLEANING METHOD, OR COMBINATION OF METHODS, SHALL BE USED THAT COULD POTENTIALLY DAMAGE COMPONENTS OF THE HVAC SYSTEM OR NEGATIVELY ALTER THE INTEGRITY OF THE SYSTEM.
     USE CONTINUOUSLY OPERATING VACUUM-COLLECTION DEVICES TO KEEP EACH SECTION BEING CLEANED UNDER NEGATIVE PRESSURE.

CLEANING METHODS THAT REQUIRE MECHANICAL AGITATION DEVICES TO DISLODGE DEBRIS THAT IS ADHERED TO INTERIOR SURFACES OF HVAC SYSTEM COMPONENTS SHALL BE EQUIPPED TO SAFELY REMOVE THESE DEVICES. CLEANING METHODS SHALL NOT DAMAGE THE INTEGRITY OF HVAC SYSTEM COMPONENTS OR DAMAGE POROUS SURFACE MATERIALS, SUCH AS DUCT AND PLENUM LINERS.

4. CLEANING MINERAL-FIBER INSULATION COMPONENTS:
   - FIBROUS-GLASS THERMAL OR ACOUSTICAL INSULATION ELEMENTS PRESENT IN EQUIPMENT OR DUCTWORK SHALL BE THOROUGHLY CLEANED WITH HEPA VACUUMING EQUIPMENT WHILE THE HVAC SYSTEM IS UNDER CONSTANT NEGATIVE PRESSURE AND SHALL NOT BE PERMITTED TO GET WET ACCORDING TO NADCA ACR.
   - CLEANING METHODS USED SHALL NOT CAUSE DAMAGE TO FIBROUS-GLASS COMPONENTS AND WILL RENDER THE SYSTEM CAPABLE OF PASSING THE HVAC SYSTEM CLEANLINESS TESTS (SEE NADCA ACR).
   - FIBROUS MATERIALS THAT BECOME WET SHALL BE DISCARDED AND REPLACED.

## PRE-DEMOLITION TAB REQUIREMENTS

PRE-BALANCING EXISTING AIR SYSTEMS

PRIOR TO MAKING ALTERATIONS TO THE EXISTING SYSTEMS AND ORDERING EQUIPMENT, THIS CONTRACTOR SHALL HIRE A LICENSED (AABC OR NEBB) BALANCING CONTRACTOR WHO SHALL PERFORM AND RECORD THE FOLLOWING READINGS ON ALL SYSTEMS TO BE ALTERED OR AFFECTED BY THIS WORK TO INCLUDE BUT NOT TO BE LIMITED BY THE FOLLOWING:

AIR FLOW AT EACH DIFFUSER, GRILLE, AND REGISTER
STATIC PRESSURE AT EACH FAN SYSTEM
SUPPLY & RETURN AIRFLOW AT EACH FAN SYSTEM

ALL DATA SHALL BE RECORDED ON STANDARD AABC OR NEBB FORMS WITH CORRESPNDING PLANS AND SHALL BE SUBMITTED TO THE ARCHITECT AND ENGINEER FOR THEIR REVIEW AND COMMENT, PRIOR TO PERFORMING ANY WORK AND ORDERING ANY EQUIPMENT AFFECTING THESE SYSTEMS.

## KEY NOTES

1. REMOVE EXISTING GAS-FIRED FURNACE, DX COIL AND RELATED REFRIGERANT AND CONDENSATE DRAIN PIPING. EXISTING CONDENSATE PUMP TO REMAIN (WHERE PRESENT). REMOVE PORTIONS OF THE EXISTING SUPPLY AND RETURN DUCTWORK AND SECTION OF FLUE VENT. REFER TO AHU DEMOLITION ELEVATION DETAIL ON DRAWING M5.1 FOR ADDITIONAL INFORMATION.
2. REMOVE EXISTING GAS-FIRED FURNACE THERMOSTAT AND RELATED CONTROL WIRING.
3. ALL EXISTING SUPPLY, RETURN, EXHAUST & OUTDOOR AIR DUCTWORK AND RELATED DIFFUSERS AND REGISTERS TO REMAIN UNLESS OTHERWISE NOTED. EXISTING DUCTWORK SHALL BE CLEANED AND AIRFLOW RE-BALANCED.
4. REMOVE EXISTING WALL MOUNTED SPLIT SYSTEM CONDENSING UNIT AND RELATED REFRIGERANT PIPING AND CONTROLS.
5. REMOVE EXISTING WALL MOUNTED SPLIT SYSTEM CASSETTE UNIT AND RELATED REFRIGERANT PIPING AND CONTROLS. EXISTING CONDENSATE DRAIN PIPING TO REMAIN.
6. REMOVE EXISTING CEILING DIFFUSER AND RELATED BRANCH DUCTWORK.

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AT
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| No. | Date | Issue or Revision |
|---|---|---|
| 1 | 01.17.25 | ISSUED FOR BID |

Drawing Title
MECHANICAL
BSMT, 1ST, 2ND & 3RD
FLOOR DEMOLITION
PLANS

| Scale | USA Project No. |
|---|---|
| AS NOTED | R2024.0087 |
| Drawing Date: 01.17.2025 | Drawing No.: M1.1 |
| Drawn By | Checked By |

Plotted: 1/17/2025 12:07 PM By: mlonergan
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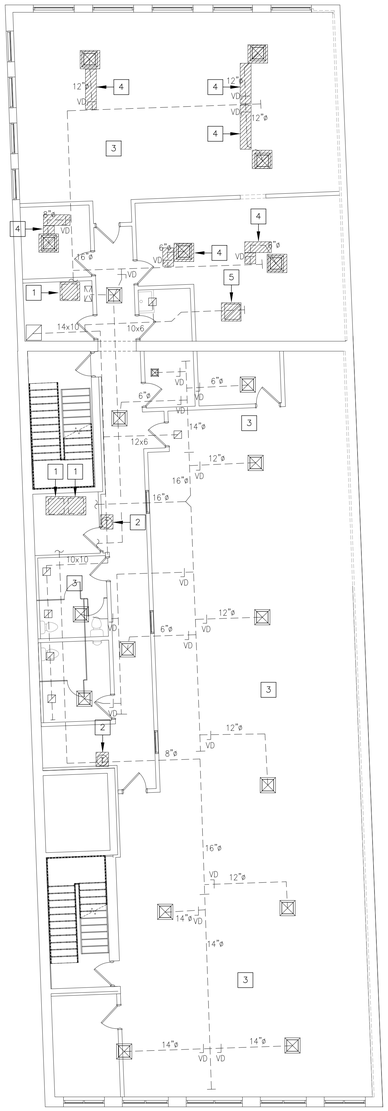

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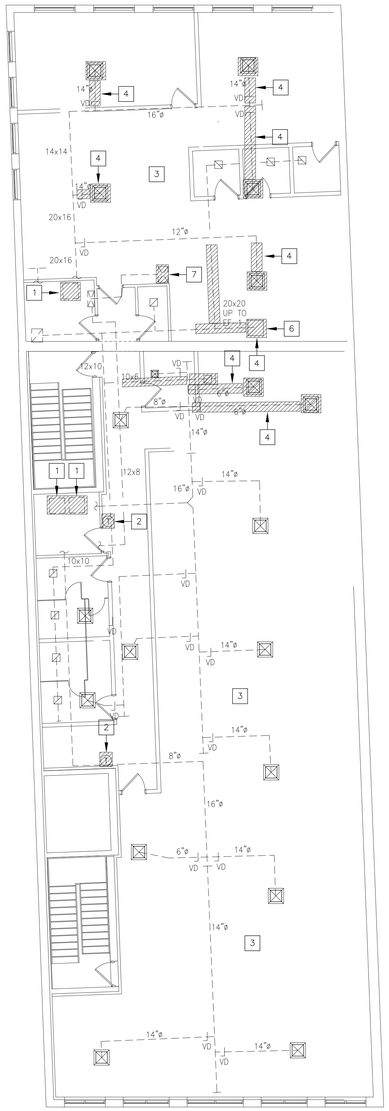

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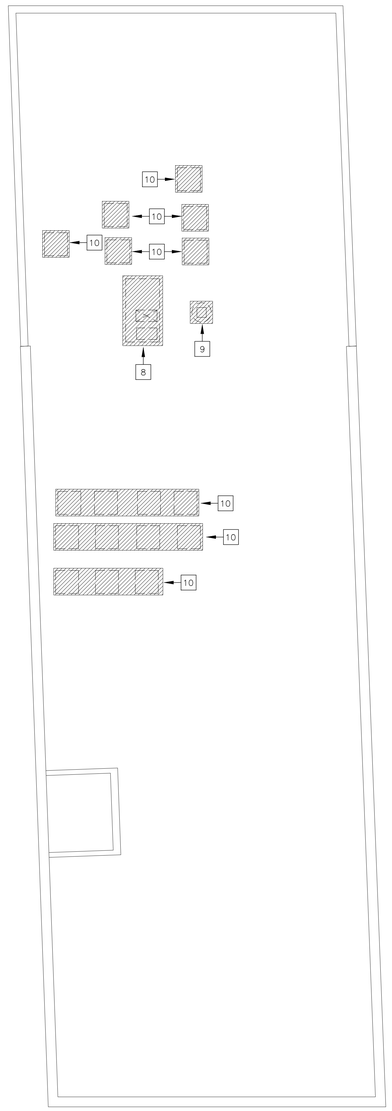

## DUCT CLEANING NOTES

THE CONTRACT SHALL ENGAGE THE SERVICE OF A PROFESSIONAL LICENSED COMMERCIAL DUCT CLEANING COMPANY TO CLEAN ALL OF THE EXISTING SUPPLY, RETURN, OUTDOOR AIR AND EXISTING DUCTWORK:

1. AIR–DISTRIBUTION SYSTEMS:
   - CREATE SERVICE OPENINGS IN THE HVAC SYSTEM AS NECESSARY TO ACCOMMODATE CLEANING.
   - MECHANICALLY CLEAN AIR–DISTRIBUTION SYSTEMS SPECIFIED TO REMOVE ALL VISIBLE CONTAMINANTS, SO THAT THE SYSTEMS ARE CAPABLE OF PASSING THE HVAC SYSTEM CLEANLINESS TESTS (SEE NADCA ACR).
2. DEBRIS REMOVED FROM THE HVAC SYSTEM SHALL BE DISPOSED OF ACCORDING TO APPLICABLE FEDERAL, STATE, AND LOCAL REQUIREMENTS.
3. MECHANICAL CLEANING METHODOLOGY:
   - SOURCE–REMOVAL CLEANING METHODS: THE HVAC SYSTEM SHALL BE CLEANED USING SOURCE–REMOVAL MECHANICAL CLEANING METHODS DESIGNED TO EXTRACT CONTAMINANTS FROM WITHIN THE HVAC SYSTEM AND TO SAFELY REMOVE THESE CONTAMINANTS FROM THE FACILITY. NO CLEANING METHOD, OR COMBINATION OF METHODS, SHALL BE USED THAT COULD POTENTIALLY DAMAGE COMPONENTS OF THE HVAC SYSTEM OR NEGATIVELY ALTER THE INTEGRITY OF THE SYSTEM.
     USE CONTINUOUSLY OPERATING VACUUM–COLLECTION DEVICES TO KEEP EACH SECTION BEING CLEANED UNDER NEGATIVE PRESSURE.

CLEANING METHODS THAT REQUIRE MECHANICAL AGITATION DEVICES TO DISLODGE DEBRIS THAT IS ADHERED TO INTERIOR SURFACES OF HVAC SYSTEM COMPONENTS SHALL BE EQUIPPED TO SAFELY REMOVE THESE DEVICES. CLEANING METHODS SHALL NOT DAMAGE THE INTEGRITY OF HVAC SYSTEM COMPONENTS OR DAMAGE POROUS SURFACE MATERIALS, SUCH AS DUCT AND PLENUM LINERS.

4. CLEANING MINERAL–FIBER INSULATION COMPONENTS:
   - FIBROUS–GLASS THERMAL OR ACOUSTICAL INSULATION ELEMENTS PRESENT IN EQUIPMENT OR DUCTWORK SHALL BE THOROUGHLY CLEANED WITH HEPA VACUUMING EQUIPMENT WHILE THE HVAC SYSTEM IS UNDER CONSTANT NEGATIVE PRESSURE AND SHALL NOT BE PERMITTED TO GET WET ACCORDING TO NADCA ACR.
   - CLEANING METHODS USED SHALL NOT CAUSE DAMAGE TO FIBROUS–GLASS COMPONENTS AND WILL RENDER THE SYSTEM CAPABLE OF PASSING THE HVAC SYSTEM CLEANLINESS TESTS (SEE NADCA ACR).
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## PRE–DEMOLITION TAB REQUIREMENTS

PRE–BALANCING EXISTING AIR SYSTEMS

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AIR FLOW AT EACH DIFFUSER, GRILLE, AND REGISTER
STATIC PRESSURE AT EACH FAN SYSTEM
SUPPLY & RETURN AIRFLOW AT EACH FAN SYSTEM

ALL DATA SHALL BE RECORDED ON STANDARD AABC OR NEBB FORMS WITH CORRESPNDING PLANS AND SHALL BE SUBMITTED TO THE ARCHITECT AND ENGINEER FOR THEIR REVIEW AND COMMENT, PRIOR TO PERFORMING ANY WORK AND ORDERING ANY EQUIPMENT AFFECTING THESE SYSTEMS.

AFTER COMPLETION OF THE ALTERATION WORK TO THE AFFECTED SYSTEMS, THE BALANCING CONTRACTOR WHO PERFORMED THE INITIAL READINGS SHALL RETURN TO THE SITE AND BALANCE THE ALTERED SYSTEMS TO PROVIDE THE READINGS PREVIOUSLY TABULATED.

## KEY NOTES

1. REMOVE EXISTING GAS–FIRED FURNACE, DX COIL AND RELATED REFRIGERANT AND CONDENSATE DRAIN PIPING. EXISTING CONDENSATE PUMP TO REMAIN (WHERE PRESENT). REMOVE PORTIONS OF THE EXISTING SUPPLY AND RETURN DUCTWORK AND SECTION OF FLUE VENT, REFER TO AHU DEMOLITION ELEVATION DETAIL ON DRAWING M5.1 FOR ADDITIONAL INFORMATION.
2. REMOVE EXISTING GAS–FIRED FURNACE THERMOSTAT AND RELATED CONTROL WIRING.
3. ALL EXISTING SUPPLY, RETURN, EXHAUST & OUTDOOR AIR DUCTWORK AND RELATED DIFFUSERS AND REGISTERS TO REMAIN UNLESS OTHERWISE NOTED. EXISTING DUCTWORK SHALL BE CLEANED AND AIRFLOW RE–BALANCED.
4. REMOVE EXISTING CEILING DIFFUSER AND RELATED BRANCH DUCTWORK.
5. REMOVE EXISTING CEILING RETURN GRILLED AND RELATED BRANCH DUCTWORK.
6. REMOVE EXISTING EXHAUST DUCTWORK UP TO ROOF MOUNTED EXHAUST FAN.
7. REMOVE EXISTING OUTDOOR AIR VENTILATION SUPPLY UP TO ROOF.
8. REMOVE EXISTING ROOFTOP OUTSIDE AIR VENTILATION UNIT AND RELATED CONTROLS. EXISTING CURB SHALL BE RE–USED.
9. REMOVE EXISTING EXHAUST FAN AND RELATED CONTROLS. PROVIDE ROOF CURB WEATHER–TIGHT, STRUCTURAL CAP.
10. REMOVE EXISTING AIR COOLED CONDENSING UNIT AND RELATED PIPING, CONTROLS AND ROOF MOUNTED SUPPORTS. THE CONTRACTOR SHALL RETURN THE TWO OF THE RECENTLY INSTALLED ACCU'S TO THE OWNER.

1 MECHANICAL FOURTH FLOOR DEMOLITION PLAN — 0 4 8 — SCALE 1/8"=1'–0"

2 MECHANICAL FIFTH FLOOR DEMOLITION PLAN — 0 4 8 — SCALE 1/8"=1'–0"

3 MECHANICAL ROOF DEMOLITION PLAN — 0 4 8 — SCALE 1/8"=1'–0"


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| 1 | 01.17.25 | ISSUED FOR BID |

Drawing Title
MECHANICAL 4TH & 5TH FLOOR & ROOF DEMOLITION PLANS

| Scale | USA Project No. |
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| Drawing Date: 01.17.2025 | Drawing No.: M1.2 |
| Drawn By | Checked By |


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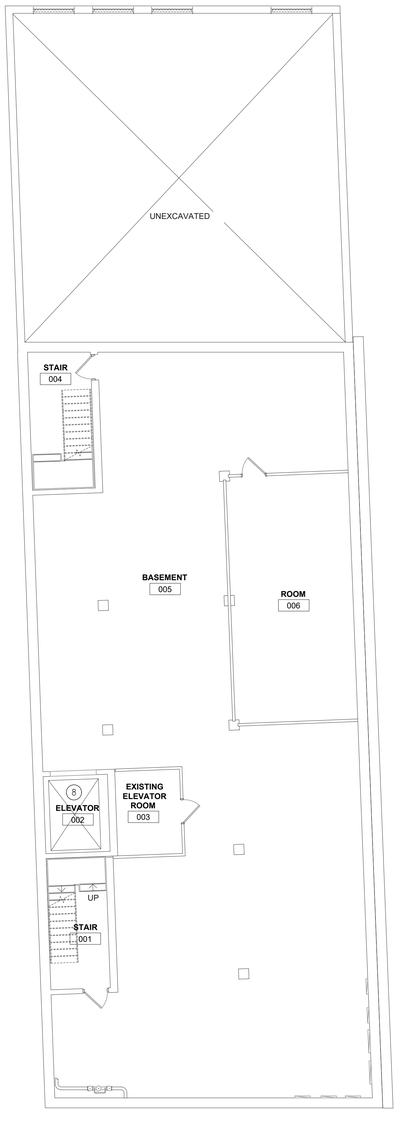


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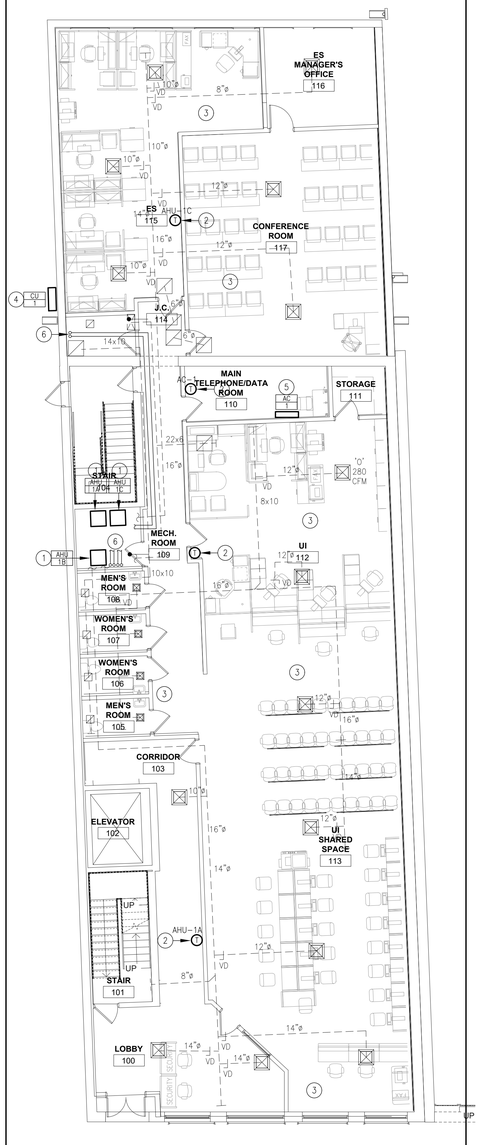
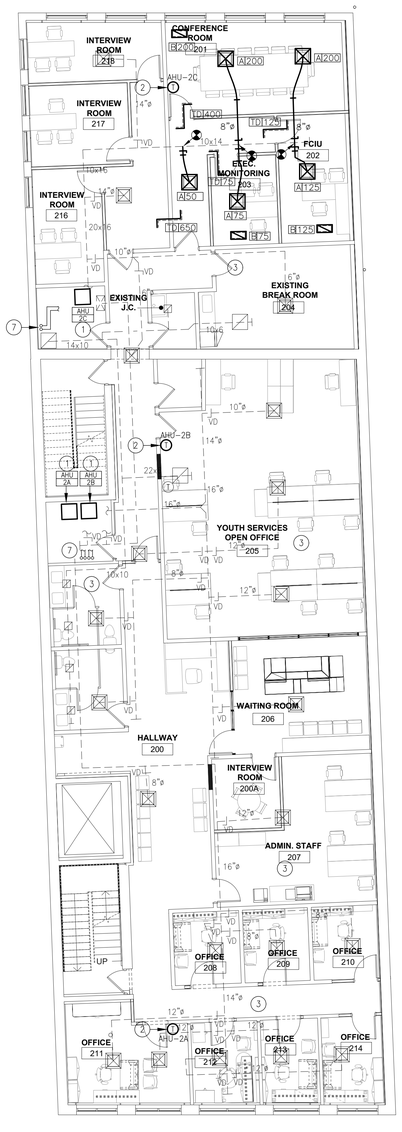



FIRST FLOOR

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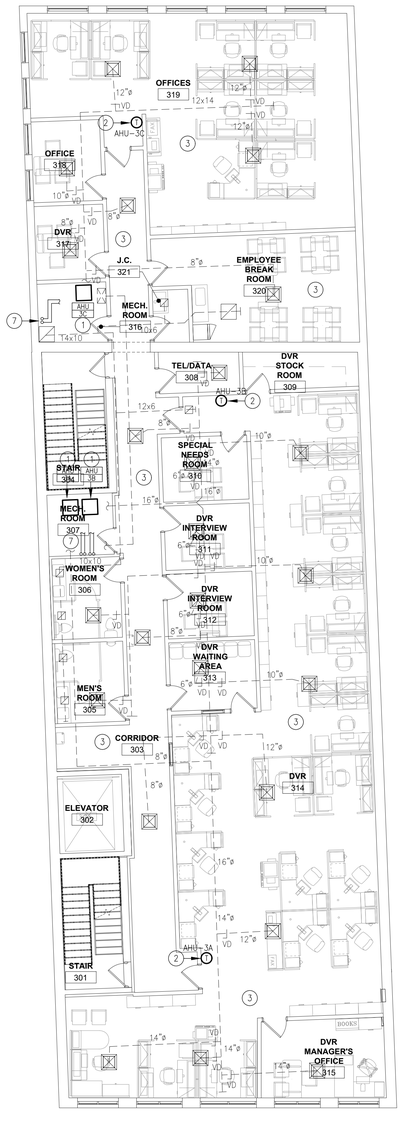


THIRD FLOOR

## GENERAL NOTES

1. THE EXACT MOUNTING HEIGHTS AND LOCATIONS OF ALL HVAC EQUIPMENT SHALL BE FIELD VERIFIED AND COORDINATED WITH ALL OTHER MECHANICAL, ELECTRICAL, ARCHITECTURAL AND STRUCTURAL SYSTEMS.
2. VERIFY ALL EQUIPMENT VOLTAGES WITH THE ELECTRICAL CONTRACTOR PRIOR TO ORDERING EQUIPMENT.
3. PROVIDE DISCONNECT SWITCHES FOR ALL HVAC EQUIPMENT INCLUDING WEATHERPROOF DISCONNECT AS REQUIRED.
4. PROVIDE PHASE LOSS PROTECTION FOR ALL POLY-PHASE MOTOR DEVICES.
5. THE FINAL LOCATION OF AIR DEVICES MUST BE COORDINATED WITH THE REFLECTED CEILING PLAN AND ALL OTHER MECHANICAL, ELECTRICAL, FIRE PROTECTION, ARCHITECTURAL, AND STRUCTURAL SYSTEMS.
6. PROVIDE FLEXIBLE CONNECTIONS AT ALL DUCT CONNECTIONS TO VIBRATING EQUIPMENT. THESE CONNECTIONS SHALL BE INSTALLED IN CLOSE PROXIMITY TO SUCH EQUIPMENT.
7. LOCATE MECHANICAL EQUIPMENT SO ALL SERVICABLE PARTS ARE ACCESSIBLE. COORDINATE LOCATION WITH DUCTWORK, PIPING, THE WORK OF OTHER TRADES, BUILDING STRUCTURAL ELEMENTS, ETC. SO THAT THE MANUFACTURER'S AND CODE REQUIRED CLEARANCES ARE MET OR EXCEEDED.
8. PROVIDE VANDAL RESISTANT THERMOSTAT GUARDS ON ALL THERMOSTATS, LOCATED IN CORRIDORS, TOILET ROOMS, VESTIBULES AND OTHER PUBLIC SPACES.
9. UNLESS OTHERWISE NOTED, ALL SUPPLY AND RETURN DUCTWORK 15 FT UPSTREAM AND DOWNSTREAM OF AIR HANDLING UNITS, SHALL BE INTERNALLY LINED WITH 1" THICK ACOUSTICAL DUCT LINER.
10. THE CONTRACTOR SHALL VERIFY EXACT SIZE OF PIPING BASED ON THE ACTUAL INSTALLED PIPING, FITTINGS, EQUIPMENT, ETC. WITH THE VRF EQUIPMENT MANUFACTURER. ALL FITTINGS, TAKEOFFS, FLARES, VALVES, SPECIALTIES, ETC. SHALL BE APPROVED BY THE VRF SYSTEM MANUFACTURER AND SUITABLE FOR THE SYSTEM OPERATING PRESSURES AND TEMPERATURES. PIPING INSTALLATION SHALL BE IN STRICT ACCORDANCE WITH THE MANUFACTURER'S REQUIREMENTS. PROVIDE CONTINUOUS NITROGEN PURGE DURING ALL BRAZING TO PREVENT SCALE FORMATION.
11. REFRIGERANT PIPING SHALL BE SIZED AND INSTALLED AS PER THE SPLIT SYSTEM MFR'S RECOMMENDATIONS.
12. CONDENSATE DRAIN PIPING FROM FAN COIL UNITS AND SPLIT SYSTEM AC UNITS SHALL BE ¾" UNLESS OTHERWISE NOTED. PROVIDE TRAP IN ACCORDANCE WITH TRAP PIPING DETAIL.
13. PROVIDE ALL COOLING COILS WITH OVERFLOW DETECTION SENSOR, TO SHUT-DOWN UNIT AND SIGNAL AN ALARM TO THE BMS.

## KEY NOTES

1. PROVIDE GAS-FIRED FURNACE, DX COIL AND RELATED REFRIGERANT AND CONDENSATE DRAIN PIPING. CONNECT TO THE EXISTING SUPPLY & RETURN AIR DUCTWORK AND EXISTING FLUE VENT PIPING. PROVIDE CONDENSATE DRAIN PIPING FROM THE DX COIL AND FURNACE SECTION WHEN TRAPS AND EXTEND TO THE EXISTING CONDENSATE DRAIN PIPING OR EXISTING CONDENSATE PUMP (WHERE PRESENT). REFER TO AHU NEW WORK ELEVATION DETAIL ON DRAWING M5.1 FOR ADDITIONAL INFORMATION.
2. PROVIDE NEW SPACE THERMOSTAT AND RELATED CONTROL WIRING.
3. UNLESS OTHERWISE NOTED, BALANCE ALL SUPPLY, RETURN, EXHAUST & OUTDOOR AIR DUCTWORK AND RELATED DIFFUSERS AND REGISTERS TO THE PRE-DEMO TAB AIRFLOW RESULTS. (TYPICAL)
4. INSTALL SPLIT SYSTEM CONDENSING UNIT ON THE EXTERIOR WALL, PROVIDE MFR'S WALL MOUNTING BACKETS. PROVIDE REFRIGERANT PIPING TO THE WALL MOUNTED AC UNIT. INSTALL REFRIGERANT PIPING TO FOLLOW THE SAME PATH AS THE PREVIOUS AND PROVIDE PIPE HANGERS AND SUPPORTS.
5. INSTALL WALL MOUNTED SPLIT SYSTEM CASSETTE AT THE SAME LOCATION AS THE PREVIOUS. PROVIDE REFRIGERANT PIPING CONNECTIONS AND EXTEND CONDENSATE DRAIN PIPING TO CONNECT TO THE EXISTING CONDENSATE DRAIN PIPING.
6. REFRIGERANT PIPING UP TO FLOOR ABOVE, EXTEND PIPING AND CONNECT TO THEIR ASSOCIATED AHU DX COIL.
7. REFRIGERANT PIPING UP AND DOWN TO FLOORS ABOVE AND BELOW, EXTEND PIPING AND CONNECT TO THEIR ASSOCIATED AHU DX COIL.
8. PROVIDE SUMP PUMP CONTROLS AND TIE INTO THE BMS. PROVIDE SUMP PUMP CURRENT SENSOR AND HIGH LEVEL WATER ALARM SENSOR IN THE ELEVATOR PIT.


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Drawing Title
MECHANICAL BSMT, 1ST, 2ND & 3RD FLOOR NEW WORK PLANS

| Scale | USA Project No. |
|---|---|
| AS NOTED | R2024.0087 |
| Drawing Date: 01.17.2025 | Drawing No.: M2.1 |
| Drawn By | Checked By |

1 MECHANICAL BASEMENT NEW WORK PLAN — SCALE 1/8"=1'-0"

2 MECHANICAL FIRST FLOOR NEW WORK PLAN — SCALE 1/8"=1'-0"

3 MECHANICAL SECOND FLOOR NEW WORK PLAN — SCALE 1/8"=1'-0"

4 MECHANICAL THIRD NEW WORK PLAN — SCALE 1/8"=1'-0"


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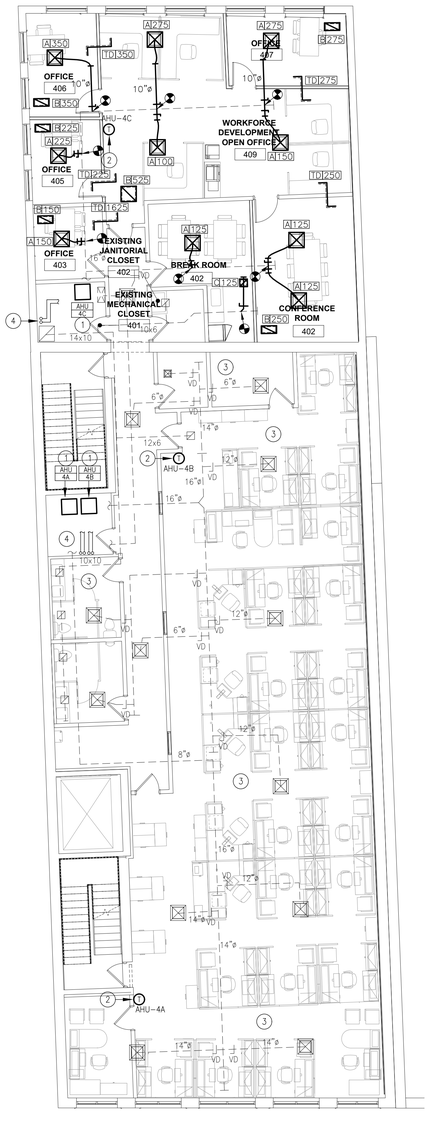
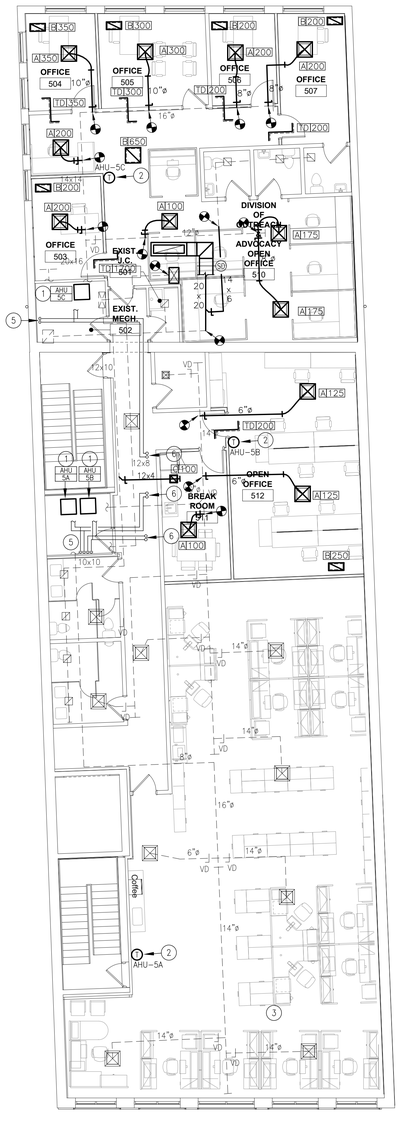
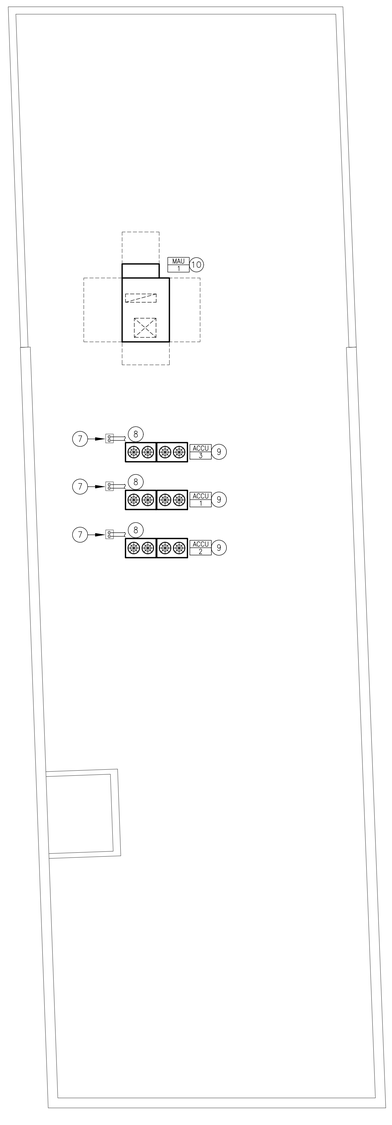



FOURTH FLOOR




FIFTH FLOOR




## GENERAL NOTES

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2. VERIFY ALL EQUIPMENT VOLTAGES WITH THE ELECTRICAL CONTRACTOR PRIOR TO ORDERING EQUIPMENT.
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4. PROVIDE PHASE LOSS PROTECTION FOR ALL POLY-PHASE MOTOR DEVICES.
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7. LOCATE MECHANICAL EQUIPMENT SO ALL SERVICABLE PARTS ARE ACCESSIBLE. COORDINATE LOCATION WITH DUCTWORK, PIPING, THE WORK OF OTHER TRADES, BUILDING STRUCTURAL ELEMENTS, ETC. SO THAT THE MANUFACTURER'S AND CODE REQUIRED CLEARANCES ARE MET OR EXCEEDED.
8. PROVIDE VANDAL RESISTANT THERMOSTAT GUARDS ON ALL THERMOSTATS, LOCATED IN CORRIDORS, TOILET ROOMS, VESTIBULES AND OTHER PUBLIC SPACES.
9. UNLESS OTHERWISE NOTED, ALL SUPPLY AND RETURN DUCTWORK 15 FT UPSTREAM AND DOWNSTREAM OF AIR HANDLING UNITS, SHALL BE INTERNALLY LINED WITH 1" THICK ACOUSTICAL DUCT LINER.
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## KEY NOTES

1. PROVIDE GAS-FIRED FURNACE, DX COIL AND RELATED REFRIGERANT AND CONDENSATE DRAIN PIPING. CONNECT TO THE EXISTING SUPPLY & RETURN AIR DUCTWORK AND EXISTING FLUE VENT PIPING. PROVIDE CONDENSATE DRAIN PIPING FROM THE DX COIL AND FURNACE SECTION WHEN TRAPS AND EXTEND TO THE EXISTING CONDENSATE DRAIN PIPING OR EXISTING CONDENSATE PUMP (WHERE PRESENT). REFER TO AHU NEW WORK ELEVATION DETAIL ON DRAWING M5.1 FOR ADDITIONAL INFORMATION.
2. PROVIDE NEW SPACE THERMOSTAT AND RELATED CONTROL WIRING.
3. UNLESS OTHERWISE NOTED, BALANCE ALL SUPPLY, RETURN, EXHAUST & OUTDOOR AIR DUCTWORK AND RELATED DIFFUSERS AND REGISTERS TO THE PRE-DEMO TAB AIRFLOW RESULTS. (TYPICAL)
4. REFRIGERANT PIPING UP AND DOWN TO FLOORS ABOVE AND BELOW, EXTEND PIPING AND CONNECT TO THEIR ASSOCIATED AHU DX COIL.
5. REFRIGERANT PIPING DOWN TO FLOOR BELOW, EXTEND PIPING AND CONNECT TO THEIR ASSOCIATED AHU DX COIL.
6. REFRIGERANT PIPINGUP TO ROOF ABOVE.
7. REFRIGERANT PIPING DOWN THROUGH ROOF, PROVIDE ROOF MOUNTED PIPE CURB AND ROOF MOUNTED PIPE SUPPORT RAILS. ALL EXPOSED ROOF MOUNTED REFRIGERANT PIPING SHALL BE INSULATED AND PROVIDED WITH PVC PROTECTIVE JACKET.
8. EXTEND VRF REFRIGERANT PIPING AND MAKE CONNECTION TO THE RESPECTIVE VRFHP UNIT AS PER THE MFR'S REQUIREMENTS AND PROVIDE ROOF MOUNTED PIPE SUPPORT RAILS.
9. INSTALL HEAT PUMP UNIT ON ROOF EQUIPMENT SUPPORT RAILS (HEIGHT – MIN. 18" ABOVE THE ROOF INSULATION) WITH VIBRATION ISOLATORS.
10. INSTALL MAU ON THE EXISTING ROOF CURB, PROVIDE CURB ADAPTER AS REQUIRED. EXTEND AND TRANSITION THE SUPPLY DUCTWORK AND CONNECT THE EXISTING SUPPLY DUCTWORK ON THE FLOOR BELOW. PROVIDE NEW RETURN/EXHAUST DUCTWORK DOWN THROUGH THE ROOF AND EXTEND AND CONNECT TO THE EXISTING EXHAUST DUCTWOEK ON THE FLOOR BELOW.

1 MECHANICAL FOURTH FLOOR NEW WORK PLAN — SCALE 1/8"=1'-0"

2 MECHANICAL FIFTH FLOOR NEW WORK PLAN — SCALE 1/8"=1'-0"

3 MECHANICAL ROOF NEW WORK PLAN — SCALE 1/8"=1'-0"

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**EXTERIOR + INTERIOR RESTORATION & ALTERATION**
AT

**921 ELIZABETH AVENUE**

FOR THE

**COUNTY OF UNION**

PROJECT ADDRESS:

921 ELIZABETH AVENUE
ELIZABETH, NJ 07201

| No. | Date | Issue or Revision |
|---|---|---|
| 1 | 01.17.25 | ISSUED FOR BID |

Drawing Title
MECHANICAL 4TH & 5TH FLOOR & ROOF NEW WORK PLANS

| Scale | USA Project No. |
|---|---|
| AS NOTED | R2024.0087 |
| Drawing Date 01.17.2025 | Drawing No. M2.2 |
| Drawn By | Checked By |

Plotted: 1/17/2025 12:07 PM By: mlonergan
File: U:\Projects 24\24-061 Union City - 921 Elizabeth Ave HVAC Upgrades\Drawings\24-061M1.4-M2.x - DEMOLITION & NEW WORK\M2.2

## ROOFTOP MAKEUP AIR UNIT

| UNIT ID | MODEL | AREA SERVED | SUPPLY CFM | OA CFM | SUPPLY FAN ESP IN. W.G. | SUPPLY FAN FAN RPM | SUPPLY FAN BHP | SUPPLY FAN MOTOR HP | EXHAUST FAN ESP IN. W.G. | EXHAUST FAN FAN RPM | EXHAUST FAN BHP | EXHAUST FAN MOTOR HP | DX COOLING COIL TOTAL MBH | DX COOLING COIL SENSIBLE MBH | DX COOLING COIL ROWS | DX COOLING COIL EAT (DB/WB °F) | DX COOLING COIL LAT (DB/WB °F) | CONDENSING SECTION COMPRESSOR QTY | CONDENSING SECTION STAGES | SUMMER ENTHALPY RECOVERY OAT (DB/WB °F) | SUMMER ENTHALPY RECOVERY RAT (DB/WB °F) | SUMMER ENTHALPY RECOVERY SENS EFF (%) | SUMMER ENTHALPY RECOVERY NRG RECV'D (MBH) | WINTER ENTHALPY RECOVERY OAT (DB/WB °F) | WINTER ENTHALPY RECOVERY RAT (DB/WB °F) | WINTER ENTHALPY RECOVERY SENS EFF (%) | WINTER ENTHALPY RECOVERY NRG RECV'D (MBH) | ELECTRICAL FLA | ELECTRICAL MCA | ELECTRICAL MOP | ELECTRICAL VOLTS/PH/HZ | WEIGHT (LBS) | NOTES |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| MAU-1 | DPSC10B | OA TO ALL AHU'S | 4,060 | 4,050 | 2.4 | 1863 | 2.38 | 4.3 | 0.63 | 2209 | 1.98 | 4.4 | 130.3 | 160.2 | 4 | 82.9/67.9 | 57.6/57.3 | 1 | VARIABLE | 95/75 | 75/62 | 0.6 | 108.2 | 0/0 | 70/50 | 0.59 | 206.7 | 77.3 | 87.8 | 125 | 208/3/60 | 2874 | 1,2,3,4,5,6,7,8,9,10,11,12 |

NOTES
1. SELECTION BASED ON DAIKIN.
2. UNIT TO BE 2" DOUBLE WALL CONSTRUCTION WITH SIDE OUTLET DRAIN. PIPE CONDENSATE THROUGH TRAP TO GRADE..
3. UNIT TO BE A COMPLETE PACKAGE INCLUDING ALL CONTROLS WITH BACNET GATEWAY CONNECTION TO THE BMS.
4. MCA INCLUDES ALL SECTIONS OF THE UNIT INCLUDING CONTROLS. UNIT SHALL HAVE A SINGLE POINT POWER CONNECTION WITH FUSED DISCONNECT.
5. ALL MOTORS SHALL BE HIGH EFFICIENCY MOTORS.
6. STATIC PRESSURE INDICATED ABOVE IS THE EXTERNAL STATIC PRESSURE WHICH EXCLUDES ANY PRESSURE DROPS WITHIN THE UNIT.
7. MAXIMUM AIR VELOCITY THRU COOLING SHALL NOT EXCEED 500 FEET PER MINUTE.
8. CONTRACTOR TO ENSURE THAT OUTDOOR AIR INTAKES ARE A MINIMUM OF 10'-0" AWAY FROM ANY EXHAUST FAN DISCHARGE, PLUMBING VENT OR OTHER CONTAMINANT SOURCE.
9. IF SUPPLY CFM EQUALS OR EXCEEDS 2,000 CFM, PROVIDE SMOKE DETECTOR IN RETURN DUCTWORK.
10. PROVIDE WITH WIND RATED ADAPTER CURB, MATING UP TO THE EXISTING CURB DIMENSIONS.
11. UNIT SHALL BE RATED AT 95 DEGREE FAHRENHEIT AMBIENT.
12. REFRIGERANT SHALL BE R32.

## AIR HANDLING UNIT SCHEDULE

| UNIT ID | MODEL | AREA SERVED | SUPPLY FAN SUPPLY CFM | SUPPLY FAN OA CFM | SUPPLY FAN ESP IN. W.G. | GAS HEATING MBH INPUT | GAS HEATING MBH OUTPUT | GAS HEATING AFLU (%) | GAS HEATING STAGES | GAS HEATING MIN PRESS (INWC) | GAS HEATING MAX PRESS. (INWC) | GAS HEATING CONN. (IN) | AC UNIT MODEL NO. | AC UNIT CONDENSING UNIT | AC UNIT DX COIL (COOLING) NOM. TONS | AC UNIT DX COIL (COOLING) TMBH | AC UNIT DX COIL (COOLING) SMBH | AC UNIT DX COIL (COOLING) EDB/EWB (°F) | AC UNIT DX COIL (HEATING) MBH | AC UNIT DX COIL (HEATING) EAT (°F) | ELECTRICAL MCA | ELECTRICAL MOP | ELECTRICAL VOLTS/PH/HZ | WEIGHT (LBS.) | NOTES |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| AHU-1A | DM96VC1205DN | 1ST FLOOR - FRONT | 1900 | 320 | 0.5 | 120 | 115.2 | 96 | 2 | 4.5 | 10 | 1/2 | CXTQ60TA5BLU | ACCU-1 | 5 | 60.0 | 69.2 | 80/67 | 70.6 | 60 | 14.4 | 20 | 115/1/60 | 235 | 1,2,3,4,5,6,7,8,9 |
| AHU-2A | DM96VC1205DN | 2ND FLOOR - FRONT | 1900 | 380 | 0.5 | 120 | 115.2 | 96 | 2 | 4.5 | 10 | 1/2 | CXTQ60TA5BLU | ACCU-1 | 5 | 60.0 | 69.2 | 80/67 | 70.6 | 60 | 14.4 | 20 | 115/1/60 | 235 | 1,2,3,4,5,6,7,8,9 |
| AHU-3A | DM96VC1205DN | 3RD FLOOR - FRONT | 1900 | 225 | 0.5 | 120 | 115.2 | 96 | 2 | 4.5 | 10 | 1/2 | CXTQ60TA5BLU | ACCU-1 | 5 | 60.0 | 69.2 | 80/67 | 70.6 | 60 | 14.4 | 20 | 115/1/60 | 235 | 1,2,3,4,5,6,7,8,9 |
| AHU-4A | DM96VC1205DN | 4TH FLOOR - FRONT | 1900 | 240 | 0.5 | 120 | 115.2 | 96 | 2 | 4.5 | 10 | 1/2 | CXTQ60TA5BLU | ACCU-1 | 5 | 60.0 | 69.2 | 80/67 | 70.6 | 60 | 14.4 | 20 | 115/1/60 | 235 | 1,2,3,4,5,6,7,8,9 |
| AHU-5A | DM96VC1205DN | 5TH FLOOR - FRONT | 1900 | 185 | 0.5 | 120 | 115.2 | 96 | 2 | 4.5 | 10 | 1/2 | CXTQ60TA5BLU | ACCU-1 | 5 | 60.0 | 69.2 | 80/67 | 70.6 | 60 | 14.4 | 20 | 115/1/60 | 235 | 1,2,3,4,5,6,7,8,9 |
| AHU-1B | DM96VC1205DN | 1ST FLOOR - CENTER | 1900 | 320 | 0.5 | 120 | 115.2 | 96 | 2 | 4.5 | 10 | 1/2 | CXTQ60TA5BLU | ACCU-2 | 5 | 60.0 | 69.2 | 80/67 | 70.6 | 60 | 14.4 | 20 | 115/1/60 | 235 | 1,2,3,4,5,6,7,8,9 |
| AHU-2B | DM96VC1205DN | 2ND FLOOR - CENTER | 1900 | 380 | 0.5 | 120 | 115.2 | 96 | 2 | 4.5 | 10 | 1/2 | CXTQ60TA5BLU | ACCU-2 | 5 | 60.0 | 69.2 | 80/67 | 70.6 | 60 | 14.4 | 20 | 115/1/60 | 235 | 1,2,3,4,5,6,7,8,9 |
| AHU-3B | DM96VC1205DN | 3RD FLOOR - CENTER | 1900 | 225 | 0.5 | 120 | 115.2 | 96 | 2 | 4.5 | 10 | 1/2 | CXTQ60TA5BLU | ACCU-2 | 5 | 60.0 | 69.2 | 80/67 | 70.6 | 60 | 14.4 | 20 | 115/1/60 | 235 | 1,2,3,4,5,6,7,8,9 |
| AHU-4B | DM96VC1205DN | 4TH FLOOR - CENTER | 1900 | 240 | 0.5 | 120 | 115.2 | 96 | 2 | 4.5 | 10 | 1/2 | CXTQ60TA5BLU | ACCU-2 | 5 | 60.0 | 69.2 | 80/67 | 70.6 | 60 | 14.4 | 20 | 115/1/60 | 235 | 1,2,3,4,5,6,7,8,9 |
| AHU-5B | DM96VC1205DN | 5TH FLOOR - CENTER | 1900 | 185 | 0.5 | 120 | 115.2 | 96 | 2 | 4.5 | 10 | 1/2 | CXTQ60TA5BLU | ACCU-2 | 5 | 60.0 | 69.2 | 80/67 | 70.6 | 60 | 14.4 | 20 | 115/1/60 | 235 | 1,2,3,4,5,6,7,8,9 |
| AHU-1C | DM96VC1205DN | 1ST FLOOR - BACK | 1900 | 320 | 0.5 | 120 | 115.2 | 96 | 2 | 4.5 | 10 | 1/2 | CXTQ60TA5BLU | ACCU-3 | 5 | 60.0 | 69.2 | 80/67 | 70.6 | 60 | 14.4 | 20 | 115/1/60 | 235 | 1,2,3,4,5,6,7,8,9 |
| AHU-2C | DM96VC1205DN | 2ND FLOOR - BACK | 1900 | 380 | 0.5 | 120 | 115.2 | 96 | 2 | 4.5 | 10 | 1/2 | CXTQ60TA5BLU | ACCU-3 | 5 | 60.0 | 69.2 | 80/67 | 70.6 | 60 | 14.4 | 20 | 115/1/60 | 235 | 1,2,3,4,5,6,7,8,9 |
| AHU-3C | DM96VC1205DN | 3RD FLOOR - BACK | 1900 | 225 | 0.5 | 120 | 115.2 | 96 | 2 | 4.5 | 10 | 1/2 | CXTQ60TA5BLU | ACCU-3 | 5 | 60.0 | 69.2 | 80/67 | 70.6 | 60 | 14.4 | 20 | 115/1/60 | 235 | 1,2,3,4,5,6,7,8,9 |
| AHU-4C | DM96VC1205DN | 4TH FLOOR - BACK | 1900 | 240 | 0.5 | 120 | 115.2 | 96 | 2 | 4.5 | 10 | 1/2 | CXTQ60TA5BLU | ACCU-3 | 5 | 60.0 | 69.2 | 80/67 | 70.6 | 60 | 14.4 | 20 | 115/1/60 | 235 | 1,2,3,4,5,6,7,8,9 |
| AHU-5C | DM96VC1205DN | 5TH FLOOR - BACK | 1900 | 185 | 0.5 | 120 | 115.2 | 96 | 2 | 4.5 | 10 | 1/2 | CXTQ60TA5BLU | ACCU-3 | 5 | 60.0 | 69.2 | 80/67 | 70.6 | 60 | 14.4 | 20 | 115/1/60 | 235 | 1,2,3,4,5,6,7,8,9 |

NOTES
1. SELECTION BASED ON DAIKIN.
2. PROVIDE UNIT WITH DISCONNECT SWITCH.
3. PROVIDE UNIT WITH ALL CONTROLS REQUIRED FOR OCCUPIED / UNOCCUPIED SCHEDULING INCLUDING A WALL MOUNTED THERMOSTAT AND CONNECTION TO THE BMS.
4. PROVIDE SAFETY SWITCH IN PRIMARY DRAIN LINE TO SHUT DOWN UNIT IF DRAIN LINE BECOMES BLOCKED.
5. PROVIDE MOUNTING CHANNELS OR LEGS WITH NEOPRENE PADS TO RAISE UNIT A MINIMUM OF 2" ABOVE THE FLOOR.
6. PROVIDE ALL PIPING CONNECTIONS IN ACCORDANCE WITH THE MANUFACTURER'S INSTALLATION INSTRUCTIONS.
7. SIZE PIPING AS DIRECTED BY MANUFACTURER BASED ON ACTUAL FIELD ROUTING. UNIT TO BE INSTALLED PER MANUFACTURER'S INSTALLATION REQUIREMENTS.
8. FURNISH UNIT WITH ALL REQUIRED DUCT MOUNTING FLANGES.
9. PROVIDE UNIT WITH SIDE RETURN FILTER RACK AND MERV 13 FILTERS.

## VARIABLE REFRIGERANT VOLUME AIR COOLED OUTDOOR UNIT SCHEDULE

| UNIT ID. | MODEL NO. | AC'S SERVED | RATED CAPACITY DATA COOLING (MBH) | RATED CAPACITY DATA HEATING (MBH) | CORRECTED CAPACITY COOLING (MBH) | CORRECTED CAPACITY HEATING (MBH) | COMPRESSOR DATA TYPE | ELECTRICAL RLA | ELECTRICAL MCA | ELECTRICAL MOCP | ELECTRICAL VOLTS/PH/HZ | ENERGY EFFICIENCY AS SPECIFIED EER | ENERGY EFFICIENCY AS SPECIFIED COP | WEIGHT (LBS) | NOTES |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ACCU-1 | RXYQ168AATJA / RXYQ144AATJA | 1A, 2A, 3A, 4A & 5A | 160 / 138 | 180 / 138 | 311.9 | 213.6 | HERMETICALLY SEALED SCROLL | 32.5 / 25.8 | 54.9 / 47.8 | 60 / 50 | 208/3/60 | 10.7 / 10.2 | 3.5 / 3.2 | 749.6 / 749.6 | 1,2,3,4,5,6,7,8,9 |
| ACCU-2 | RXYQ168AATJA / RXYQ144AATJA | 1B, 2B, 3B, 4B & 5B | 160 / 138 | 180 / 138 | 311.9 | 213.6 | HERMETICALLY SEALED SCROLL | 32.5 / 25.8 | 54.9 / 47.8 | 60 / 50 | 208/3/60 | 10.7 / 10.2 | 3.5 / 3.2 | 749.6 / 749.6 | 1,2,3,4,5,6,7,8,9 |
| ACCU-3 | RXYQ168AATJA / RXYQ144AATJA | 1C, 2C, 3C, 4C & 5C | 160 / 138 | 180 / 138 | 311.9 | 213.6 | HERMETICALLY SEALED SCROLL | 32.5 / 25.8 | 54.9 / 47.8 | 60 / 50 | 208/3/60 | 10.7 / 10.2 | 3.5 / 3.2 | 749.6 / 749.6 | 1,2,3,4,5,6,7,8,9 |

NOTES:
1. UNIT SELECTION IS BASED ON DAIKIN.
2. CORRECTED CAPACITY IS BASED ON THE MANUFACTURER'S ADJUSTMENTS FOR EQUIPMENT CONNECTION RATIO, 91°F / 10°F AMBIENT, 75°F @ 50% / 70°F INDOOR, AND PIPING LOSSES.
3. UNIT SHALL BE TWO MODULES WITH SEPARATE POWER CONNECTIONS. DATA SHOWN WITH TWO NUMBER, XX / XX, REPRESENTS THE CHARATERISTIC FOR EACH MODULE.
3. FURNISH UNIT WITH ALL REQUIRED BRANCH JOINTS AND HEADERS FOR REFRIGERANT PIPING CONNECTIONS IN ACCORDANCE WITH THE MANUFACTURER'S INSTALLATION INSTRUCTIONS.
4. PROVIDE NON-FUSED DISCONNECT SWITCH.
5. REFRIGERANT PIPING SHALL BE SIZED BASED ON THE ACTUAL LINE LENGTH AND THE MANUFACTURER'S RECOMMENDATIONS. PROVIDE ALL REQUIRED PIPING SPECIALTIES.
6. INTERLOCK UNIT CONTROLS WITH THEIR RESPECTIVE INDOOR UNITS, AND MFR'S SYSTEM CONTROL PANEL, PROVIDE BACNET GATEWAY FOR CONNECTION TO THE BMS.
7. FURNISH UNIT WITH MANUFACTURER'S STANDARD 10-YEAR WARRANTY ON PARTS AND COMPRESSORS.
8. MOUNT UNITS 20" HIGH ROOF MOUNTED EQUIPMENT SUPPORT CURBS WITH SPRING VIBRATION ISOLATORS.

## DIFFUSER AND REGISTER SCHEDULE

| UNIT ID | MODEL | FACE SIZE | DESCRIPTION | NECK SIZE (AT CFM LISTED) <101 | <151 | <201 | <251 | <301 | <351 | <401 | <501 | <751 | <1001 | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| A | SPD | 24" x 24" | STEEL, FULL FACE, ARCHITECTURAL SQUARE PANEL DIFFUSER WITH REMOVABLE FACE PANEL AND OPPOSED BLADE DAMPER | 6" | 8" | 8" | 8" | 10" | 10" | 12" | 12" | 14" | - | 1,2,3,4,5,6,7 |
| B | 530 | NECK SIZE PLUS 2" | STEEL, CEILING RETURN GRILLE WITH 3/4" BLADE SPACING, FIXED 45° DEFLECTION AND BARS PARALLEL TO THE LONG DIMENSION. | 10x10 | 10x10 | 10x10 | 10x22 | 10x22 | 10x22 | 10x22 | 10x22 | 22x22 | 22x22 | 1,2,3,4,5,6 |
| C | 530 | NECK SIZE PLUS 2" | STEEL, CEILING EXHAUST REGISTER WITH 3/4" BLADE SPACING, OPPOSED BLADE DAMPER, FIXED 45° DEFLECTION AND BARS PARALLEL TO THE LONG DIMENSION. | 10x10 | 10x10 | 10x10 | 12x12 | 12x12 | 12x12 | 10x22 | 10x22 | 22x22 | 22x22 | 1,2,3,4,5,6 |

NOTES:
1. MODEL SELECTION IS BASED ON PRICE.
2. TABLE INDICATES SIZES FOR NOISE CRITERION RATING <NC 20 IN GENERAL AREAS,.
3. BAKED ENAMEL FINISH, COLOR TO BE SELECTED BY ARCHITECT.
4. MOUNTING FRAME TYPE SHALL BE COORDINATED WITH CEILING AND/OR WALL CONSTRUCTION TYPE.
5. DIFFUSER NECK SIZE INDICATED REFERS TO NOMINAL DUCT SIZE, NOT FACE SIZE, AND SHALL VARY WITH CFM AS SCHEDULED.
6. FOR LOCKER AND TOILET ROOMS, PROVIDE EQUIVALENT MODELS CONSTRUCTED OF ALUMINUM.
7. DIFFUSERS SHALL BE 4-WAY BLOW UNLESS OTHERWISE INDICATED ON PLANS.

## SPLIT SYSTEM HEAT PUMP

| UNIT ID | MODEL OUTDOOR UNIT | MODEL INDOOR UNIT | SERIVCE | NOMINAL SIZE (TON) | INDOOR TYPE | FAN DATA AIRFLOW SUPPLY (CFM) | COOLING DATA TOT CAP (MBH) | COOLING DATA ENT AIR (DB/WB) | SYSTEM ELECTRICAL DATA POWER (V/P/H) | SYSTEM ELECTRICAL DATA MCA (AMPS) | SYSTEM ELECTRICAL DATA MOP (AMPS) | PHYSICAL DATA OUTDOOR UNIT DIM (WxDxH) | PHYSICAL DATA OUTDOOR UNIT WEIGHT (LBS) | PHYSICAL DATA INDOOR UNIT DIM (WxDxH) | PHYSICAL DATA INDOOR UNIT WEIGHT (LBS) | NOTES |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| AC-1 / CU-1 | RKF18AXVJU | FTKF18AXVJU | TELE/DATA ROOM | 1.5 | WALL MOUNTED | 754 | 18.1 | 80/67 | 208/1/60 | 14.2 | 20.0 | 36X14X28 | 121 | 40X11X12 | 30 | 1 THRU 7 |

NOTES:
1. UNIT SELECTION BASED ON DAIKIN.
2. SIZE REFRIGERANT PIPING AS DIRECTED BY MANUFACTURER.
3. UNIT TO BE PROVIDED WITH MFR'S CONTROLS WITH BACNET GATEWAY CONNECTION TO THE BMS.
4. PROVIDE UNIT WITH FIELD SETTINGS AND WIND BAFFLES FOR YEAR ROUND COOLING.
5. UNIT TO INCLUDE MFR PROVIDED WALL MOUNTED WIRED THERMOSTAT.
6. PROVIDE CU-1 WITH EXTERIOR WALL MOUNTING BRACKET
7. PROVIDE UNIT WITH ACCESSORY FOR CONDENSATE PUMP POWERED FROM THE AC UNIT.


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AT
**921 ELIZABETH AVENUE**
FOR THE
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PROJECT ADDRESS:
921 ELIZABETH AVENUE
ELIZABETH, NJ 07201

| No. | Date | Issue or Revision |
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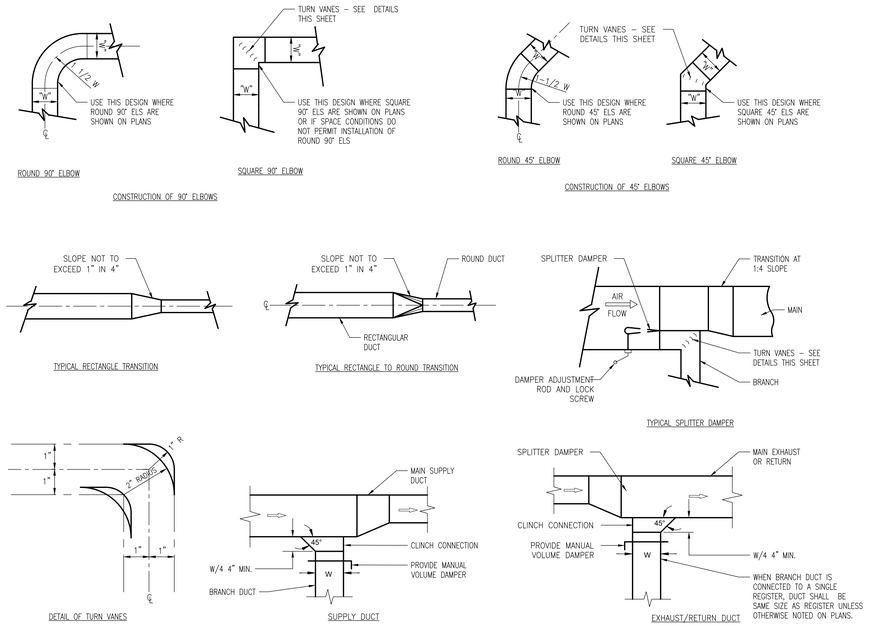
Drawing Title

MECHANICAL SCHEDULES

Scale: AS NOTED
USA Project No.: R2024.0087
Drawing Date: 01.17.2025
Drawing No.: M3.1
Drawn By
Checked By


Plotted: 1/17/2025 12:07 PM By: mlonergan
File: U:\Projects 24\24-061 Union City - 921 Elizabeth Ave HVAC Upgrades\Drawings\24-061M3.1 Schedules\M3.1



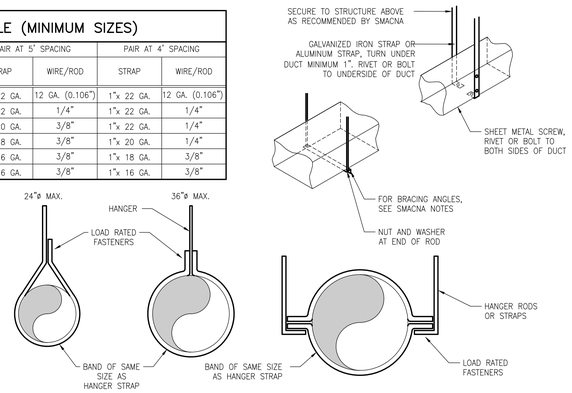

DUCTWORK DETAILS — SCALE NONE

## RECTANGULAR DUCT HANGER SCHEDULE (MINIMUM SIZES)

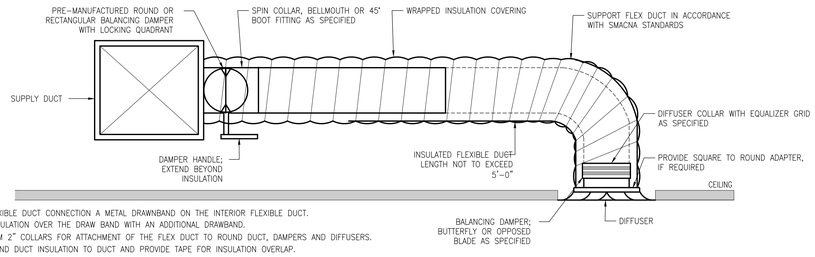
| HALF DUCT PERIMETER RANGE | PAIR AT 10' SPACING | | PAIR AT 8' SPACING | | PAIR AT 5' SPACING | | PAIR AT 4' SPACING | |
|---|---|---|---|---|---|---|---|---|
| | STRAP | WIRE/ROD | STRAP | WIRE/ROD | STRAP | WIRE/ROD | STRAP | WIRE/ROD |
| P/2 < 30' | 1"x 22 GA. | 10 GA. (0.135") | 1"x 22 GA. | 10 GA. (0.135") | 1"x 22 GA. | 12 GA. (0.106") | 1"x 22 GA. | 12 GA. (0.106") |
| P/2 < 72" | 1"x 18 GA. | 3/8" | 1"x 20 GA. | 1/4" | 1"x 22 GA. | 1/4" | 1"x 22 GA. | 1/4" |
| P/2 < 96" | 1"x 16 GA. | 3/8" | 1"x 18 GA. | 3/8" | 1"x 20 GA. | 3/8" | 1"x 22 GA. | 1/4" |
| P/2 < 120" | 1-1/2"x 16 GA. | 1/2" | 1"x 16 GA. | 3/8" | 1"x 18 GA. | 3/8" | 1"x 20 GA. | 1/4" |
| P/2 < 168" | 1-1/2"x 16 GA. | 1/2" | 1"x 16 GA. | 1/2" | 1"x 16 GA. | 3/8" | 1"x 18 GA. | 3/8" |
| P/2 < 192" | – | 1/2" | 1-1/2"x 16 GA. | 1/2" | 1"x 16 GA. | 3/8" | 1"x 16 GA. | 3/8" |

## ROUND DUCT HANGER SCHEDULE

| DIAMETER | MAXIMUM SPACING | WIRE | ROD | STRAP |
|---|---|---|---|---|
| 10" OR LESS | 12' | – | 1/4" | 1"x 22 GA. |
| 11"–18" | 12' | – | 1/4" | 1"x 22 GA. |
| 19"–24" | 12' | – | 1/4" | 1"x 22 GA. |
| 25"–36" | 12' | – | 3/8" | 1"x 20 GA. |
| 37"–50" | 12' | – | TWO 3/8" | TWO 1"x 20 GA. |
| 51"–60" | 12' | – | TWO 3/8" | TWO 1"x 18 GA. |
| 61"–84" | 12' | – | TWO 3/8" | TWO 1"x 16 GA. |

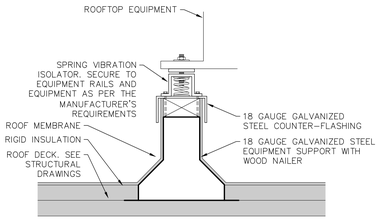



DUCT HANGER DETAIL — SCALE NONE




1. PROVIDE AT FLEXIBLE DUCT CONNECTION A METAL DRAWNBAND ON THE INTERIOR FLEXIBLE DUCT.
2. SECURE THE INSULATION OVER THE DRAW BAND WITH AN ADDITIONAL DRAWBAND.
3. PROVIDE MINIMUM 2" COLLARS FOR ATTACHMENT OF THE FLEX DUCT TO ROUND DUCT, DAMPERS AND DIFFUSERS.
4. BAND RIGID ROUND DUCT INSULATION TO DUCT AND PROVIDE TAPE FOR INSULATION OVERLAP.
5. NO FLEXIBLE DUCTWORK SHALL BE RUN EXPOSED.

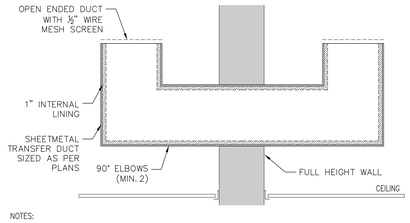
FLEXIBLE DUCT INSTALLATION DETAILS — SCALE NONE




NOTES:

1. FLASH AND COUNTER FLASH AS REQUIRED TO PROVIDE A WEATHERPROOF AND WATERTIGHT ENCLOSURE.
2. FASTEN EQUIPMENT SUPPORT TO ROOF DECK AT 6" O.C. WITH STAINLESS STEEL SHEETMETAL SCREWS.
3. EQUIPMENT RAILS SHALL BE A MINIMUM OF 18" HIGH.

ROOFTOP EQUIPMENT SUPPORT DETAIL — SCALE NONE




| TRANSFER DUCT SIZE SCHEDULE | |
|---|---|
| CFM RANGE | SIZE |
| 0 – 200 | 8x8 |
| 201 – 400 | 12x8 |
| 401 – 600 | 16x8 |
| 601 – 800 | 16x10 |
| 801 – 1,000 | 18x10 |
| 1,001 – 1,200 | 18x12 |
| 1,201 – 1,600 | 18x14 |
| 1,601 – 2,000 | 22x14 |
| 2,001 – 2,600 | 24x16 |

NOTES:

1. WHERE DUCT PENETRATES A FIRE RATED ASSEMBLY, PROVIDE FIRE DAMPER. COORDINATE WITH THE ARCHITECTURAL DRAWINGS
2. CONTRACTOR IS PERMITTED TO USE DIFFERENT DIMENSION DUCTWORK AS LONG AS THE CROSS SECTION AREAS ARE EQUAL TO THOSE SHOWN ON THE DRAWINGS.
3. CONTRACTOR IS PERMITTED TO USE MULTIPLE TRANSFER DUCTS IN LIEU OF ONE DUCT AS LONG AS THE TOTAL MEETS THE REQUIRED AMOUNT.
4. ENDS OF TRANSFER DUCTS SHALL BE PROVIDED WITH GALVANIZED WIRE MESH SCREEN.

TRANSFER DUCT DETAIL — SCALE NONE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**EXTERIOR + INTERIOR RESTORATION & ALTERATION**
AT
**921 ELIZABETH AVENUE**
FOR THE
**COUNTY OF UNION**

PROJECT ADDRESS:
921 ELIZABETH AVENUE
ELIZABETH, NJ 07201

| No. | Date | Issue or Revision |
|---|---|---|
| 1 | 01.17.25 | ISSUED FOR BID |

Drawing Title
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Scale: AS NOTED
USA Project No.: R2024.0087
Drawing Date: 01.17.2025
Drawn By:
Checked By:
Drawing No.: M4.1


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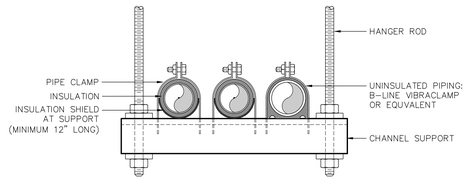
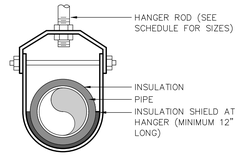
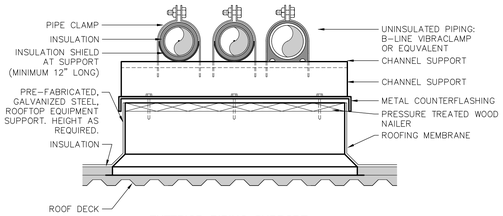



INTERIOR PIPING SUPPORT – MULTIPLE RUNS




INTERIOR PIPING SUPPORT – SINGLE RUN




EXTERIOR PIPING SUPPORT

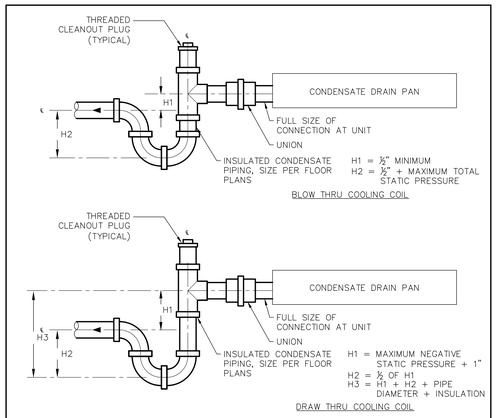
NOTES:

1. HVAC CONTRACTOR SHALL COORDINATE ROOFTOP EQUIPMENT SUPPORT RAIL PENETRATION FLASHING REQUIREMENTS WITH THE GENERAL CONTRACTOR. ALL PENETRATIONS SHALL BE SEALED AIR AND WATER TIGHT.

**HANGER SPACING/ROD SIZE SCHEDULE**

| PIPE SIZE | MINIMUM HANGER ROD SIZE | MAXIMUM HANGER SPACING: COPPER TYPE ACR, L, K |
|---|---|---|
| 1/4" | 3/8" | 5' |
| 3/8" | 3/8" | 5' |
| 1/2" | 3/8" | 5' |
| 5/8" | 3/8" | 5' |
| 3/4" | 3/8" | 5' |
| 7/8" | 3/8" | 5' |
| 1" | 3/8" | 6' |
| 1-1/8" | 3/8" | 6' |
| 1-1/4" | 3/8" | 7' |
| 1-3/8" | 3/8" | 7' |
| 1-1/2" | 3/8" | 8' |
| 1-5/8" | 3/8" | 8' |
| 2" | 1/2" | 8' |
| 2-1/8" | 1/2" | 8' |

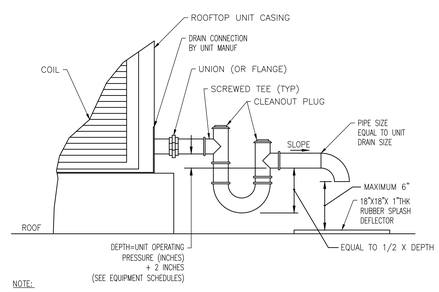
PIPE HANGER DETAIL — SCALE NONE




NOTE:

1. PROVIDE DRAIN PAN WITH CONDENSATE OVERFLOW SENSOR, TO DE-ENERGIZE THE UNIT'S COOLING OPERATION AND INITIATE AN ALARM.

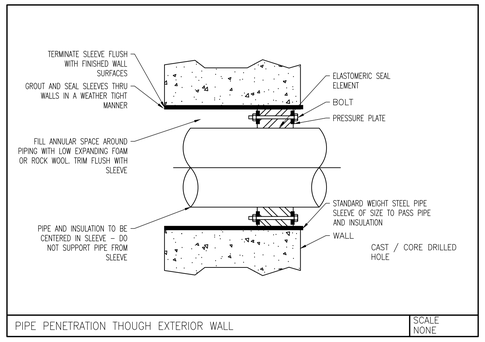
CONDENSATE TRAP DETAIL — SCALE NONE



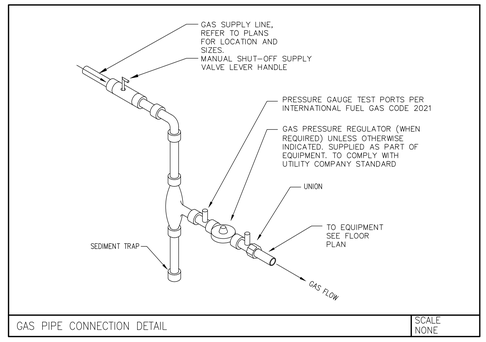

NOTE:

1. PROVIDE DRAIN PAN WITH CONDENSATE OVERFLOW SENSOR, TO DE-ENERGIZE THE UNIT'S COOLING OPERATION AND INITIATE AN ALARM.

CONDENSATE TRAP & DRAIN FOR ROOFTOP UNITS — SCALE NONE




PIPE PENETRATION THOUGH EXTERIOR WALL — SCALE NONE




GAS PIPE CONNECTION DETAIL — SCALE NONE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AT

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| Scale: AS NOTED | USA Project No.: R2024.0087 |
| Drawing Date: 01.17.2025 | Drawing No.: M4.2 |
| Drawn By: | Checked By: |


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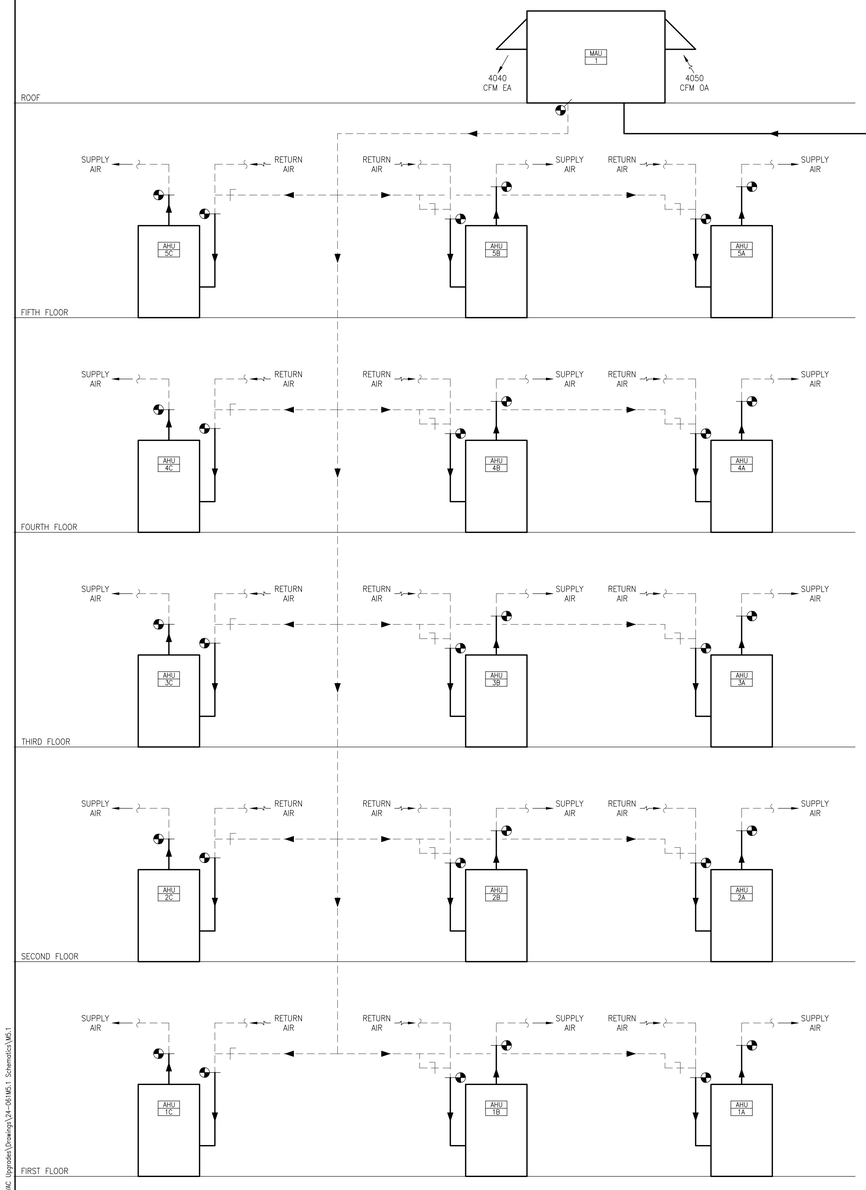
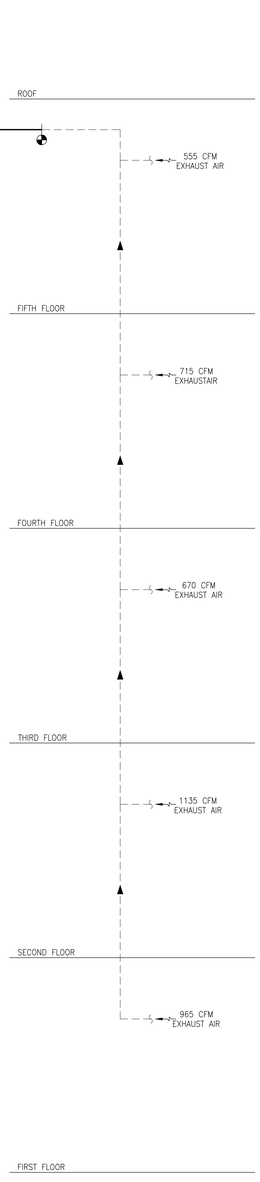


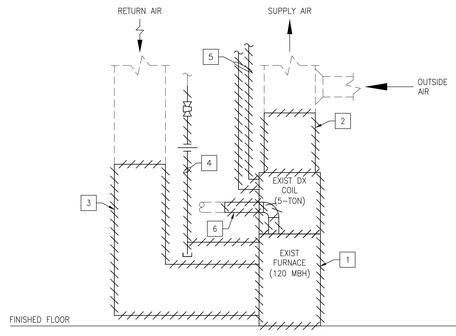

OUTSIDE AIR RISER DIAGRAM

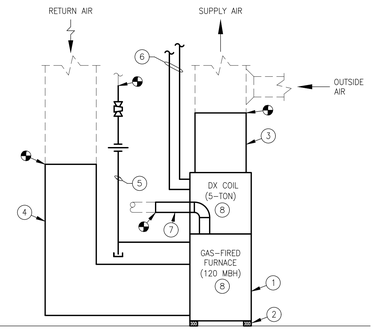



EXHAUST AIR RISER DIAGRAM

AIRFLOW SCHEMATICS

SCALE NONE




## DEMOLITION KEY NOTES

1. REMOVE EXIST GAS-FIRED FURNACE AND DX COOLING COIL. REMOVE ALL ASSOCIATED CONTROLS.
2. CUT BACK SUPPLY DUCT TO ACCOMMODATE NEW AC.
3. CUT BACK RETURN DUCT TO ACCOMMODATE NEW AC.
4. CUT BACK NG PIPING. REMOVE EXIST UNION AND SHUTOFF VALVE.
5. REMOVE ALL ASSOCIATED DX PIPING FROM COIL TO ROOFTOP CONDENSING UNIT.
6. CUT BACK EXIST 4" PVC GAS VENT TO ACCOMMODATE NEW AC.

## NEW WORK KEY NOTES

1. PROVIDE NEW AC UNIT. PROVIDE NEW THERMOSTAT IN EXISTING LOCATION.
2. PROVIDE NEOPRENE PAD SUPPORTS FOR AC UNIT.
3. PROVIDE NEW SUPPLY DUCT FROM AC UNIT TO EXIST SUPPLY DUCT. PROVIDE TRANSITIONS AS REQUIRED.
4. PROVIDE NEW RUTURN DUCT FROM AC UNIT TO EXIST SUPPLY DUCT. PROVIDE TRANSITIONS AS REQUIRED.
5. EXTEND EXIST 3/4" NG TO NEW AC UNIT. PROVIDE NEW PLUG VALVE, UNION & SEDIMENT LEG.
6. PROVIDE NEW DX PIPING TO AC UNIT. REFER TO REFRIGERANT PIPING SCHEMATIC FOR DETAILS AND PIPE SIZES.
7. PROVIDE VENT PIPE FROM AC UNIT TO EXIST VENT PIPE.
8. PROVIDE CONDENSATE DRAIN PIPING WITH TRAP AND EXTEND PIPING TO EXISTING DRAIN PIPING OR CONDENSATE PUMP.

AHU ELEVATION DETAIL – DEMOLITION AND NEW

0 2 4

SCALE 1/4"=1'-0"

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MECHANICAL SCHEMATICS & ELEVATIONS

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| Scale: AS NOTED | USA Project No.: R2024.0087 |
| Drawing Date: 01.17.2025 | Drawing No.: M5.1 |
| Drawn By | Checked By |

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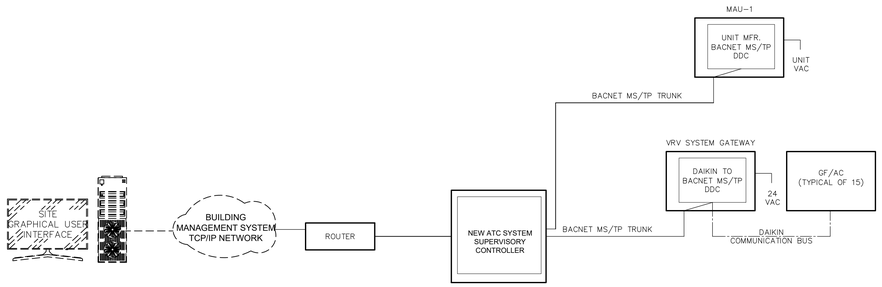


EXISTING COUNTY BMS SYTEM:
AUTOMATED LOGIC

PENNETTA INDUSTRIAL AUTOMATION
17 INDUSTRIAL AVENUE
LITTLE FERRY NJ, 07643

OFFICE - (201) 420-1693

NOTES:

1. REFER TO UNIT MANUFACTURER SYSTEM COMMUNICATIONS TRUNK WIRING INSTRUCTIONS FOR FURTHER DETAIL.
2. BUS ROUTING SHOWN IS DIAGRAMMATIC ONLY, ACTUAL BUS ROUTING, EQUIPMENT CONNECTIONS, FIELD AND/OR FACTORY PROVIDED CONTROLLER QUANTITY TO BE DETERMINED BY ATC ELECTRICIAN AND SHOWN ON AS-BUILT DRAWINGS
3. PROVIDE BUS AND NETWORK REPEATERS, AS REQUIRED BY THE SYSTEM MANUFACTURER FOR THE ACTUAL INSTALLED WIRING LENGTHS.
4. PROVIDE ALL REQUIRED COMUNICATION ACCESSORIES, ADAPTERS, GATEWAYS, ETC. FOR EQUIPMENT CONNECTED TO NETWORK BUSSES.
5. REFER TO MECHANICAL DRAWINGS/SCHEDULES FOR ACTUAL QUANTITIES OF MECHANICAL EQUIPMENT. ARRANGEMENT SHOWN IS SCHEMATIC ONLY.
6. PROVIDE ALL NECESSARY NETWORK/BUS ADAPTERS FOR CONNECTING INTERCONENCTING VRV AND SPLIT SYSTEMS TO THE VRV NETWORK BUS, SYSTEM CONTROLLER, AND BACNET GATEWAY.

ATC SYSTEM SCHEMATIC ARCHITECTURE

SCALE NONE

## AUTOMATIC TEMPERATURE CONTROL (ATC) GENERAL NOTES

1. THE AUTOMATIC TEMPERATURE CONTROL (ATC) SYSTEM SHALL BE A NETWORK OF STAND ALONE BACNET DIRECT DIGITAL CONTROL (DDC) PANELS FOR AUTOMATIC UNATTENDED OPERATION OF THE NEW HVAC EQUIPMENT.
2. THE AUTOMATIC TEMPERATURE CONTROL (ATC) SYSTEM SHALL BE AN EXTENSION OF THE COUNTY'S EXISTING BMS CURRENTLY SERVICED BY PENNETTA INDUSTRIAL AUTOMATION, INC.
3. THE ATC SYSTEM SHALL BE INSTALLED BY COMPETENT MECHANICS REGULARLY EMPLOYED BY THE CONTROL SYSTEM MANUFACTURER OR AN APPROVED AUTHORIZED AGENT WITH FULL RESPONSIBILITY FOR PROPER OPERATION OF THE CONTROL SYSTEM INCLUDING DEBUGGING AND PROPER CALIBRATION OF EACH COMPONENT IN THE ENTIRE SYSTEM.
4. ATC CONTRACTOR SHALL THOROUGHLY EXAMINE ALL PROJECT CONTRACT DOCUMENTS AND INSPECT THE SITE, IF APPLICABLE, FOR CONTROL DEVICE AND EQUIPMENT LOCATIONS TO VERIFY THAT EQUIPMENT CAN BE INSTALLED AS SHOWN.
5. ALL EQUIPMENT, INSTALLATION, RACEWAYS, CONTROL AND INTERLOCK WIRING, SHALL COMPLY WITH ACCEPTABLE INDUSTRY STANDARDS FOR PERFORMANCE, RELIABILITY, AND COMPATIBILITY AND SHALL BE EXECUTED IN STRICT ADHERENCE WITH NATIONAL AND LOCAL ELECTRICAL CODES.
6. ALL EQUIPMENT SHALL BE PROVIDED WITH A HAND–AUTO–OFF SWITCH. ALL SAFETY DEVICES SHALL BE WIRED SO THEY STOP THE MOTOR WITH THE HAND–OFF–AUTO SWITCH IN THE HAND AS WELL AS THE AUTO POSITION. THIS WILL NORMALLY MEAN BREAKING THE COMMON WIRE FROM THE HAND–OFF–AUTO SWITCH TO THE STARTER'S HOLDING COIL THROUGH THE SAFETY DEVICES.
7. THE ATC CONTRACTOR SHALL BE RESPONSIBLE FOR ALL NECESSARY PROGRAMMING AND COORDINATION WITH EQUIPMENT MANUFACTURERS TO ACCOMMODATE THE NEW MECHANICAL EQUIPMENT. PROVIDE COLOR, ON SCREEN GRAPHICS SHOWING ALL AVAILABLE CONTROL INPUTS, EQUIPMENT STATUS, AND ADJUSTABLE SETTINGS.
8. THE ATC CONTACTOR SHALL PROVIDE ALL REQUIRED PROGRAMMING AND SCHEDULING OF THE ATC SYSTEM. COORDINATE EQUIPMENT SCHEDULES, OPERATING CHARACTERISTICS, ETC. WITH THE BUILDING OWNER.
9. THE CONTROL SYSTEM SHALL INCLUDE REMOTE WEB–BASED ACCESS AND LOCAL COMPUTER DISPLAYS. COORDINATE WITH OWNER FOR LOCATION. GRAPHICS PACKAGE SHALL SHOW FLOOR PLAN AND EQUIPMENT SCHEMATICS WITH COLOR–CODED INDICATION SHOWING ALARM/WARNING. ALL DESIGN VALUES THAT ARE USER–ADJUSTABLE, EXCEPT FOR ROOM SET POINT, SHALL BE HARD CODED TO DISPLAY ON SCREEN ALLOWING FOR EASY REFERENCE TO MANUALLY INPUT BACK TO DEFAULT VALUES. WORKSTATION TO INCLUDE: 32" LED SCREEN, KEYBOARD, MOUSE AND PRINTER.
10. SECURED OFFSITE REAL–TIME BACKUP SHALL BE PROVIDED FOR ALL PROGRAMMING, FUNCTIONS AND SETPOINTS TO ENABLE REMOTE OPERATION IN THE EVENT OF LOCAL FAILURE OF THE HOST COMPUTER.
11. THE OWNER SHALL BE PROVIDED WITH FULL OWNERSHIP AND ACCESS TO THE ATC SYSTEM AT COMPLETION OF PROJECT. THIS SHALL INCLUDE ALL SOFTWARE, PROGRAMMING INTERFACE, PASSWORDS AND PROGRAMMING DISK. NOTE NO PART OF THE SYSTEM SHALL BE LICENSED OR CONTROLLED BY THE ATC CONTRACTOR.
12. THE SYSTEM DESIGN SHALL INCLUDE THE CAPACITY TO SUPPORT 15% ADDITIONAL POINTS.
13. ACCESS SHALL BE PROVIDED AT A MINIMUM OF FOUR LEVELS. RECOMMEND THE FOLLOWING: LEVEL 4–ONLY READ ACCESS, LEVEL 3–OCCUPIED/UNOCCUPIED AND ROOM TEMPERATURE RANGES, LEVEL 2–FULL USER INPUT CHANGES, LEVEL 1–PROGRAMMING. COORDINATE EXACT REQUIREMENTS WITH SCHOOL PERSONNEL.
14. PROVIDE ALL REQUIRED EQUIPMENT CONTROLLERS, RELAYS, CURRENT SENSORS, SPACE SENSORS, DUCT SENSORS, SWITCHES, DAMPERS, VALVES, ACTUATORS, INTERCONNECTING WIRING, CONDUIT, ENCLOSURES, ETC. FOR A COMPLETE AND OPERATIONAL INSTALLATION.
15. THE CONTROL SEQUENCES DESCRIBE ALL NECESSARY EQUIPMENT OPERATION INCLUDING THOSE OPERATIONS THAT ARE PROVIDED BY THE HVAC EQUIPMENT MANUFACTURERS AND THOSE AS PART OF THE CENTRAL CONTROL SYSTEM. REFER TO INDIVIDUAL EQUIPMENT SPECIFICATIONS FOR DEVICES PROVIDED BY THE HVAC EQUIPMENT MANUFACTURERS. IT IS THE RESPONSIBILITY OF THE MECHANICAL CONTRACTOR TO PROVIDE A FULLY COORDINATED AND OPERATIONAL CONTROL SYSTEM.
16. WHERE THE ATC IS INTERFACING WITH AN UNIT'S INTERNAL CONTROLLER THE ATC CONTRACTOR SHALL CONFIRM THAT THE UNIT WILL BE ABLE TO OPERATE AS REQUIRED IN THE SEQUENCE AND SUBMIT THE MANUFACTURER'S LITERATURE (SEQUENCE AND COMPONENT DIAGRAM) WITH THE ATC SHOP DRAWING AND O&M MANUALS. THE CONTRACTOR SHALL PROVIDE LISTING OF ALL AVAILABLE BACNET POINTS FOR EACH PIECE OF MECHANICAL EQUIPMENT. THE LISTING WILL BE USED BY THE OWNER TO INDICATE WHICH DATA POINTS SHALL BE REPORTED AT THE BMS FRONT END. ANY DEVICES NOT INCLUDED AS PART OF FACTORY INSTALLED COMPONENTS SHALL BE PROVIDED/INSTALLED BY ATC.
17. ATC CONTRACTOR SHALL SUBMIT FOUR (4) COPIES OF ENGINEERED SHOP DRAWINGS AND MANUFACTURER'S SPECIFICATION DATA SHEETS FOR ALL HARDWARE AND SOFTWARE TO BE PROVIDED. NO WORK SHALL BEGIN ON ANY SEGMENT OF THIS PROJECT UNTIL THE ENGINEER AND OWNER HAVE REVIEWED THE SUBMITTALS FOR CONFORMITY WITH THE PLANS AND SPECIFICATIONS.
18. ALL THERMOSTATS LOCATED IN COMMON/PUBLIC SPACES, WHETHER PROVIDED BY THE HVAC EQUIPMENT MANUFACTURER OR THE CONTROLS MANUFACTURER SHALL BE PROVIDED WITH MATCHING LOCKING METAL COVERS BY THE CONTROLS MANUFACTURER IN ORDER TO PREVENT UNAUTHORIZED TAMPERING AND VANDALISM.
19. ALL ZONE EQUIPMENT (I.E. FCU, VAV, SINGLE ZONE ERU, RTU) TO BE PROVIDED WITH LOCAL ADJUSTABLE THERMOSTAT. DEVICE TO INCLUDE WARMER/COLDER SLIDER, ATC ADJUSTED ALLOWABLE SETPOINT RANGES AND OVERRIDE BUTTON.
20. WHERE NOTED ON PLANS 24V CONTROL DEVICES SHALL BE POWERED FROM TRANSFORMERS INSTALLED WITHIN THE ATC CONTROL PANEL.
21. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING ALL 120V AND 24V POWER NEEDS FOR CONTROL DEVICES. ALL ATC POWER TO BE CONNECTED TO EMERGENCY CIRCUITS (WHERE APPLICABLE)
22. ALL EXPOSED CONTROL WIRING LOCATED IN UNFINISHED SPACE (MECHANICAL ROOMS), WITHIN WALL CAVITIES OR ABOVE INACCESSIBLE CEILING (DRYWALL CEILING) SHALL BE INSTALLED IN APPROPRIATELY SIZED E.M.T.
23. WIRING LOCATED ABOVE ACCESSIBLE CEILING TO BE SUPPORTED FROM CABLE TRAY OR J–HOOKS. WIRING SHALL NOT BE SUPPORTED FROM CEILING STRUCTURE. NO WIRING SHALL BE INSTALLED IN WIREMOLD UNLESS SPECIFICALLY NOTED ON PLANS OR APPROVED BY OWNER/ARCHITECT AT SPECIFIC LOCATIONS
24. ALL POWER WIRING SHALL BE INSTALLED IN APPROPRIATELY SIZED E.M.T. INSTALLATION OF ALL ELECTRICAL DEVICES AND WIRING SHALL FOLLOW WIRING METHODS SPECIFIED ON THE ELECTRICAL CONTRACT DRAWINGS AND SPECIFICATIONS.
25. MECHANICAL CONTRACT WORK WILL INCLUDE ALL CONTROL WIRING. POWER SUPPLY WIRING TO ALL ACTUATORS (VALVES, DAMPERS, ETC.), INCLUDING LOW VOLTAGE TRANSFORMERS, SHALL BE PROVIDED AS PART OF THE MECHANICAL CONTRACT.
26. INSTALL ALL EQUIPMENT IN READILY ACCESSIBLE LOCATIONS.
27. WHERE CLASS 2 WIRES ARE IN CONCEALED AND ACCESSIBLE LOCATIONS INCLUDING CEILING RETURN AIR PLENUMS, APPROVED CABLES, NOT IN RACEWAY MAY BE USED, PROVIDED THAT:
    - CIRCUITS MEET NEC CLASS 2 (CURRENT LIMITED) REQUIREMENTS. LOW–VOLTAGE POWER CIRCUITS SHALL BE SUB–FUSED WHEN REQUIRED TO MEET CLASS 2 CURRENT LIMIT;
    - ALL CABLES SHALL BE UL LISTED FOR APPLICATION, I.E. CABLES USED IN CEILING PLENUMS SHALL BE UL LISTED SPECIFICALLY FOR THAT PURPOSE.
28. INSTALL WIRING IN SLEEVES WHERE IT PASSES THROUGH WALLS AND FLOORS. MAINTAIN FIRE RATING AT ALL PENETRATIONS IN ACCORDANCE WITH SPECIFICATIONS AND LOCAL CODES. SLEEVES SHALL HAVE NYLON RINGS AT EACH END TO PROTECT WIRING JACKET.
29. WHERE WIRING IS RUN IN EXPOSED RACEWAYS, SUCH AS IN MECHANICAL EQUIPMENT ROOMS, WIRING SHALL BE IN EMT, RUN PARALLEL TO THE SURFACE OR PERPENDICULAR TO IT. CONTROL WIRING IN WET OR EXTERIOR LOCATIONS SHALL BE IN WEATHERPROOF EMT
30. SHOP DRAWINGS SHALL BE COMPLETE WITH POINT–TO–POINT TERMINATION WIRING DIAGRAMS, SYSTEM SEQUENCES OF OPERATION, AND ALL SYSTEM HARDWARE AND MODEL NUMBER TECHNICAL DATA SHEETS.
31. PROJECT RECORD DOCUMENTS: UPON COMPLETION OF THE INSTALLATION, SUBMIT THREE (3) COPIES OF PROJECT DRAWINGS AND OPERATING & MAINTENANCE (O&M) MANUALS. THESE SHALL BE THE "AS–BUILT" VERSIONS OF THE APPROVED SUBMITTAL SHOP DRAWINGS AND THE PRODUCT DATA LITERATURE.
32. ATC COMPONENTS AND LABOR FURNISHED BY THIS SECTION SHALL BE WARRANTED TO BE FREE FROM DEFECTS FOR A PERIOD OF TWELVE MONTHS AFTER SUBSTANTIAL COMPLETION. BAS FAILURES DURING THE WARRANTY PERIOD SHALL BE ADJUSTED, REPAIRED, OR REPLACED AT NO CHARGE TO THE OWNER.
33. UPON NOTIFICATION OF THE OWNER'S REQUEST FOR WARRANTY SERVICE, THE BAS MANUFACTURER MUST ATTEMPT TO RECTIFY THE PROBLEM VIA TELEPHONE, WITHIN (8) HOURS OF NOTIFICATION. IF UNABLE TO RESOLVE VIA TELEPHONE, THE BAS MANUFACTURER SHALL RESPOND TO THE SITE WITHIN (24) HOURS OF THE ORIGINAL CALL AT NO CHARGE, DURING THE WARRANTY PERIOD.
34. ALL PRODUCTS USED FOR THIS INSTALLATION SHALL BE THE LATEST VERSION OFFERED BY THE MANUFACTURER AND REPLACEMENT PARTS SHALL BE AVAILABLE FOR AT LEAST 5 YEARS AFTER COMPLETION OF THIS CONTRACT.
35. PROVIDE TWO SESSIONS OF (8) HOURS OF ON–SITE TRAINING, WHICH SHALL BE COMPLETED WITHIN 30 DAYS OF PROJECT COMPLETION. THE OBJECTIVE IS TO ALLOW OWNER DESIGNATED PERSONNEL TO RECEIVE HANDS–ON TRAINING IN ORDER TO PROFICIENTLY OPERATE THE SYSTEM. EACH SESSION SHALL BE VIDEOTAPED AND COPIES SHALL BE SUBMITTED TO THE DISTRICT ON A DVD OR OTHER MEDIA AS REQUESTED BY THE OWNER.
36. CONTROL SYSTEM SHALL NOT BE DEEMED ACCEPTED AS MEETING THE REQUIREMENTS OF COMPLETION, UNTIL ALL SYSTEMS HAVE BEEN SHOWN TO PERFORM, TO THE SATISFACTION OF BOTH THE ENGINEER AND OWNER. ANY TEST THAT CANNOT BE PERFORMED DUE TO CIRCUMSTANCES BEYOND THE CONTROL OF THE ATC CONTRACTOR MAY BE EXEMPT FROM THE COMPLETION REQUIREMENTS ONLY IF PERMITTED, IN WRITING, BY THE OWNER. SUCH TESTS SHALL THEN BE PERFORMED AS PART OF THE WARRANTY.

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AT
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FOR THE
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PROJECT ADDRESS:
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| 1 | 01.17.25 | ISSUED FOR BID |

Drawing Title
MECHANICAL CONTROL DIAGRAMS & NOTES

| Scale | USA Project No. |
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| AS NOTED | R2024.0087 |
| Drawing Date: 01.17.2025 | Drawing No. M6.1 |
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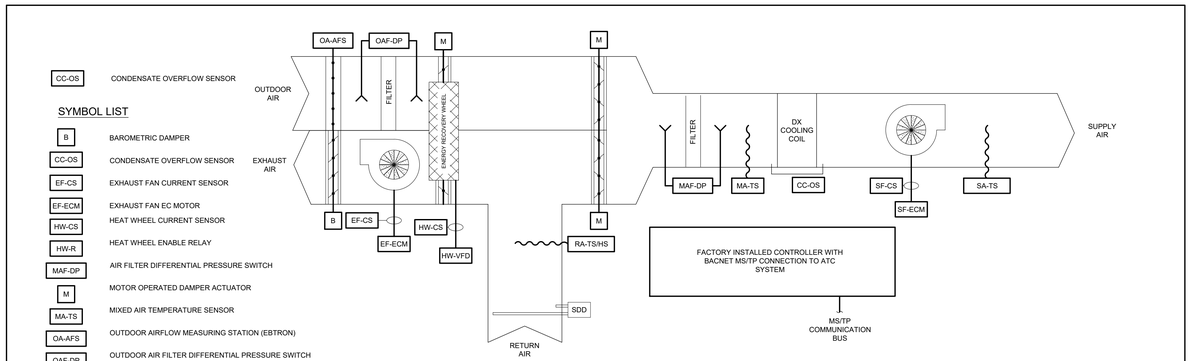



## SYMBOL LIST

| | |
|---|---|
| CC-OS | CONDENSATE OVERFLOW SENSOR |
| B | BAROMETRIC DAMPER |
| CC-OS | CONDENSATE OVERFLOW SENSOR |
| EF-CS | EXHAUST FAN CURRENT SENSOR |
| EF-ECM | EXHAUST FAN EC MOTOR |
| HW-CS | HEAT WHEEL CURRENT SENSOR |
| HW-R | HEAT WHEEL ENABLE RELAY |
| MAF-DP | AIR FILTER DIFFERENTIAL PRESSURE SWITCH |
| M | MOTOR OPERATED DAMPER ACTUATOR |
| MA-TS | MIXED AIR TEMPERATURE SENSOR |
| OA-AFS | OUTDOOR AIRFLOW MEASURING STATION (EBTRON) |
| OAF-DP | OUTDOOR AIR FILTER DIFFERENTIAL PRESSURE SWITCH |
| RA-TS/HS | RETURN AIR TEMP/HUMIDITY SENSOR |
| SA-TS | SUPPLY AIR TEMPERATURE SENSOR |
| SF-CS | SUPPLY FAN CURRENT SENSOR |
| SF-ECM | SUPPLY FAN EC MOTOR |
| SDD | DUCT SMOKE DETECTOR |

## ANALOG INPUTS

MIXED AIR TEMPERATURE
OUTDOOR AIRFLOW RATE
RETURN AIR TEMPERATURE
RETURN AIR HUMIDITY
SUPPLY AIR TEMPERATURE

## ANALOG OUTPUTS

EXHAUST FAN SPEED
HEAT WHEEL BYPASS DAMPER
OUTDOOR/RETURN AIR DAMPER
DIGITAL COMPRESSOR

## DIGITAL INPUTS

DUCT DETECTOR STATUS
FILTER STATUS
HEAT WHEEL STATUS
EXHAUST FAN STATUS
SUPPLY FAN STATUS
FIRE ALARM SYSTEM - UNIT SHUTDOWN

## DIGITAL OUTPUTS

HEAT WHEEL START/STOP
EXHAUST FAN START/STOP
SUPPLY FAN START/STOP

## NOTES:

1. REFER TO THE SEQUENCE OF OPERATIONS FOR A COMPLETE LIST OF ALARMS, INPUTS, OUTPUTS, POINTS, ADJUSTABLE VALUES, AND GRAPHIC INTERFACE REQUIREMENTS.

PACKAGED OUTDOOR AIR MAKE-UP AIR SYSTEM CONTROL DETAIL — SCALE NONE

## PACKAGED OUTDOOR AIR MAKE-UP AIR – SEQUENCE OF OPERATION

GENERAL

THE EQUIPMENT SHALL BE PROVIDED WITH INTEGRAL CONTROLS. THE ATC CONTRACTOR SHALL INTEGRATE THE EQUIPMENT INTO THE BUILDING AUTOMATIC TEMPERATURE CONTROL (ATC) SYSTEM. THE ATC CONTRACTOR SHALL PROVIDE ANY ADDITIONAL CONTROLLERS, EXPANSION BOARDS, RELAYS, SENSORS, CONTROL WIRING, SWITCHES, ETC. AS REQUIRED. THE ATC CONTRACTOR SHALL CONNECT TO THE UNIT THROUGH THE CONTROLLER'S BACNET CONNECTION AND SHALL READ/CONTROL POINTS AS OUTLINED TO PROVIDE THE FOLLOWING SEQUENCE OF OPERATION.

THE UNIT SHALL BE INDEXED FOR OCCUPIED/UNOCCUPIED MODE THROUGH ITS DDC CONTROLLER, A PUSH BUTTON TIMER, OR THE HOST COMPUTER FOR UP TO THREE (3) HOURS (ADJ).

UNOCCUPIED MODE

WHEN THE SYSTEM IS IN THE UNOCCUPIED MODE, THE OUTDOOR AND RELIEF AIR DAMPERS SHALL BE CLOSED, ANY RETURN AIR BYPASS DAMPERS SHALL BE OPEN, AND THE SUPPLY AND EXHAUST FANS WILL BE OFF.

OCCUPIED MODE

IN THE OCCUPIED CYCLE, THE OUTDOOR AND RELIEF AIR DAMPERS SHALL BE OPEN, ANY RETURN AIR BYPASS DAMPERS SHALL BE CLOSED, AND THE SUPPLY AND EXHAUST AIR FANS SHALL BE ENERGIZED AND RUN CONTINUOUSLY.

THE UNIT TEMPERATURE SENSORS SHALL MODULATE THE DX COOLING AND THE ENERGY RECOVERY WHEEL TO MAINTAIN THE SUPPLY AIR TEMPERATURE SETPOINT. ON AN INCREASE IN SUPPLY AIR TEMPERATURE, DX COOLING SHALL MODULATE TO MAINTAIN THE SUPPLY AIR TEMPERATURE SETPOINT AS DESCRIBED BELOW.

THE UNIT SHALL BE INDEXED FOR THE SUMMER/WINTER MODE MANUALLY THROUGH THE OPERATOR WORKSTATION OR AUTOMATICALLY. WHEN THE OUTDOOR AIR TEMPERATURE IS ABOVE 65 DEG F, THE SUPPLY AIR TEMPERATURE SETPOINT SHALL BE INDEXED FOR SUMMER OPERATION AND SHALL BE 60 DEG F (ADJ). WHEN THE OUTDOOR AIR TEMPERATURE IS BELOW 65 DEG F, THE SUPPLY AIR TEMPERATURE SHALL BE THE MAXIMUM DISCHARGE AIR TEMPERATURE THAT CAN BE ACHIEVED FROM THE ENERGY RECOVERY WHEEL.

ENERGY RECOVEY WHEEL

THE UNIT CONTROLLER WILL ENABLE THE ENERGY RECOVERY WHEEL WHEN THE UNIT GOES INTO THE OCCUPIED MODE. WHEN THE ENERGY RECOVERY WHEEL IS ACTIVE, THE INTEGRAL VFD SHALL MODULATE THE ENERGY RECOVERY WHEEL TO MAINTAIN DISCHARGE AIR SETPOINTS AND TO PREVENT FROST FORMATION.

DUCT SMOKE DETECTOR

A DUCT SMOKE DETECTOR SHALL BE FURNISHED BY THE ELECTRICAL CONTRACTOR AND INSTALLED IN THE DUCTWORK BY THE MECHANICAL CONTRACTOR. THE ELECTRICAL CONTRACTOR SHALL PROVIDE WIRING FROM THE DUCT SMOKE DETECTOR TO THE ASSOCIATED UNIT'S MOTOR STARTER AND TO THE BUILDING FIRE ALARM SYSTEM. WHENEVER PRODUCTS OF COMBUSTION ARE SENSED, THE UNIT'S FANS WILL SHUTDOWN.

THE MECHANICAL CONTRACTOR SHALL PROVIDE WIRING FROM AN ADDITIONAL SET OF CONTACTS FROM THE DUCT SMOKE DETECTOR TO THE HVAC UNIT'S CONTROL PANEL TO INDICATE A FIRE ALARM CONDITION AND FOR SECONDARY SHUTDOWN.

AIRFLOW MONITORING

PROVIDE AIR FLOW STATIONS IN THE OUTDOOR AIR STREAMS. OUTDOOR READING TO BE USED AS NOTED ABOVE. IF THE OUTDOOR AIR FLOW DIFFERS BY MORE THAN 10% OF REQUIRED OPERATION REPORT ALARM TO BMS.

FILTER STATUS

PROVIDE A DIFFERENTIAL PRESSURE SENSOR AT EACH OF THE FILTER BANKS, INCLUDING WHEEL FILTERS. THE SENOR SHALL BE SET AS PER THE FILTER MANUFACTURER'S RATING FOR A DIRTY FILTER. WHENEVER THE FILTER EXCEEDS THIS RATING, THE SENSOR SHALL INDICATE A DIRTY FILTER ALARM TO THE ATC SYSTEM.

DRAIN PAN OVERFLOW PROTECTION

INSTALL CONDENSATE LEVEL SENSOR IN ALL DRAIN PANS. THE CONTROL SYSTEM SHALL MONITOR THE SENSOR AND WHENEVER IT DETECTS A HIGH LEVEL CONDITION THE CONTROLS SHALL DISABLE THE UNIT AND GENERATE AN ALARM.

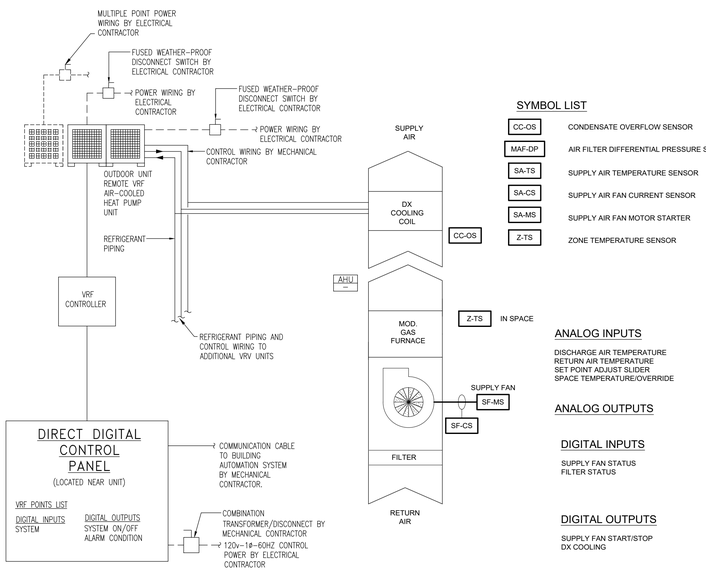
BMS INTERFACE

AN ALARM SHALL BE GENERATED AT THE FRONT END WORKSTATION UPON:

- CONTROL BOARD LOSS OF COMMUNICATION
- HIGH DISCHARGE AIR TEMPERATURE (5 DEG. F ABOVE SETPOINT)
- LOW DISCHARGE AIR TEMPERATURE (5 DEG. F BELOW SETPOINT)
- OUTDOOR AIR (10% ABOVE OR BELOW SETPOINT)
- FAN FAILURE
- CLOGGED AIR FILTER
- CONDENSATE OVERFLOW
- SMOKE DETECTION

AT THE FRONT END WORKSTATION, PROVIDE A DYNAMIC COMPUTERIZED GRAPHICAL REPRESENTATION OF THE UNIT AND COMPONENTS. THE USER SHALL BE CAPABLE OF VIEWING AND ADJUSTING SETPOINTS AND OPERATIONAL CONDITIONS OF THE FOLLOWING:

- READ MIXED AIR TEMPERATURE
- READ DISCHARGE AIR TEMPERATURE
- RESET DISCHARGE AIR TEMPERATURE
- READ RETURN AIR TEMPERATURE
- READ RETURN AIR HUMIDITY
- RESET RETURN AIR HUMIDITY
- OVERRIDE OCCUPIED/UNOCCUPIED OPERATION
- ASSIGN DAILY OCCUPIED/UNOCCUPIED TIMES
- READ OUTDOOR AIR CFM
- READ DAMPER(S) STATUS
- READ DIRTY FILTER(S)
- SUPPLY AIR FAN ALARM AND STATUS
- EXHAUST AIR FAN ALARM AND STATUS
- READ DX COOLING STATUS
- READ HEAT WHEEL ALARM AND STATUS
- SMOKE ALARM UNIT SHUTDOWN







## SYMBOL LIST

| | |
|---|---|
| CC-OS | CONDENSATE OVERFLOW SENSOR |
| MAF-DP | AIR FILTER DIFFERENTIAL PRESSURE SWITCH |
| SA-TS | SUPPLY AIR TEMPERATURE SENSOR |
| SA-CS | SUPPLY AIR FAN CURRENT SENSOR |
| SA-MS | SUPPLY AIR FAN MOTOR STARTER |
| Z-TS | ZONE TEMPERATURE SENSOR |

## ANALOG INPUTS

DISCHARGE AIR TEMPERATURE
RETURN AIR TEMPERATURE
SET POINT ADJUST SLIDER
SPACE TEMPERATURE/OVERRIDE

## ANALOG OUTPUTS

## DIGITAL INPUTS

SUPPLY FAN STATUS
FILTER STATUS

## DIGITAL OUTPUTS

SUPPLY FAN START/STOP
DX COOLING

## NOTES:

1. REFER TO THE SEQUENCE OF OPERATIONS FOR A COMPLETE LIST OF ALARMS, INPUTS, OUTPUTS, POINTS, ADJUSTABLE VALUES, AND GRAPHIC INTERFACE REQUIREMENTS.

GAS FURNACE WITH VRF COOLING COIL CONTROL DETAIL — SCALE NONE

## GAS FURNACE WITH DX COOLING COIL – SEQUENCE OF OPERATION

GENERAL

THE ATC CONTRACTOR SHALL FURNISH A BACNET DDC CONTROLLER AND ALL REQUIRED SENSORS, ACTUATORS, DAMPERS, VALVES, ETC. FOR OPERATION AS DESCRIBED HEREIN.

THE UNIT WILL BE INDEXED FOR OCCUPIED/UNOCCUPIED CYCLE FROM THE UNIT MOUNTED DDC CONTROLLER AND FRONT END WORKSTATION. THE UNIT CAN BE INDEXED TO THE OCCUPIED MODE FROM THE PUSH-BUTION OVERRIDE ON THE ROOM TEMPERATURE SENSOR.

THE ROOM TEMPERATURE SENSOR WILL HAVE LOCAL SETPOINT ADJUSTMENTS AND WILL BE INITIALLY SET FOR 70 DEG F IN WINTER MODE AND 75 DEG F IN SUMMER MODE. THE SETPOINT ADJUSTMENT WILL BE LIMITED FROM THE CONTROLLER TO PLUS OR MINUS 3 DEG F OF SETPOINT.

UNOCCUPIED MODE

WHEN THE UNIT IS IN UNOCCUPIED MODE THE SUPPLY FAN WILL BE OFF. THE SPACE SENSORS SHALL CYCLE THE SUPPLY FAN, DX COOLING, AND NATURAL GAS HEATING TO MAINTAIN A MAXIMUM SPACE TEMPERATURE OF 85°F AND A MINIMUM SPACE TEMPERATURE OF 60°F (ADJ).

OCCUPIED MODE

IN THE OCCUPIED MODE, THE SUPPLY FAN WILL RUN CONTINUOUSLY.

THE ROOM TEMPERATURE SENSOR SHALL HAVE LOCAL SETPOINT ADJUSTMENTS AND SHALL BE INITIALLY SET FOR 75°F SUMMER AND 70°F WINTER (ADJ).

HEATING CYCLE
WHEN THE SPACE TEMPERATURE SET POINT DROPS BELOW HEATING SET POINT, THE THE GAS FURNACE SHALL MODULATE TO MAINTAIN SET POINT TEMPERATURE.

COOLING CYCLE
ON A CALL FOR COOLING, THE ROOM THERMOSTAT SHALL MODULATE THE DX COOLING AS REQUIRED TO MAINTAIN SET POINT TEMPERATURE.

DRAIN PAN OVERFLOW PROTECTION

INSTALL CONDENSATE LEVEL SENSOR IN ALL DRAIN PANS. THE CONTROL SYSTEM SHALL MONITOR THE SENSOR AND WHENEVER IT DETECTS A HIGH LEVEL CONDITION THE CONTROLS SHALL DISABLE THE UNIT AND GENERATE AN ALARM.

FILTER STATUS

PROVIDE A DIFFERENTIAL PRESSURE SWITCH AT EACH OF THE FILTER BANKS. THE SWITCH SHALL BE SET AS PER THE FILTER MANUFACTURER'S RATING FOR A DIRTY FILTER. WHENEVER THE FILTER EXCEEDS THIS RATING, THE FILTER SWITCH SHALL INDICATE A DIRTY FILTER ALARM TO THE ATC SYSTEM.

BMS INTERFACE

AN ALARM SHALL BE GENERATED AT THE FRONT END WORKSTATION UPON:

- CONTROL BOARD LOSS OF COMMUNICATION
- HIGH SPACE TEMPERATURE (5 DEG. F ABOVE SETPOINT)
- LOW SPACE TEMPERATURE (5 DEG. F BELOW SETPOINT)
- FAN FAILURE
- CLOGGED AIR FILTER
- CONDENSATE OVERFLOW

AT THE FRONT END WORKSTATION, PROVIDE A DYNAMIC COMPUTERIZED GRAPHICAL REPRESENTATION OF THE UNIT AND COMPONENTS. THE USER SHALL BE CAPABLE OF VIEWING AND ADJUSTING SETPOINTS AND OPERATIONAL CONDITIONS OF THE FOLLOWING:

- ROOM TEMPERATURE AND SETPOINT
- DISCHARGE AIR TEMPERATURE
- COOLING STATUS (STAGES ENABLED)
- SUPPLY FAN STATUS
- OCCUPIED/UNOCCUPIED CYCLE
- LOW LIMIT ALARM INCLUDING RESET
- FILTER STATUS
- READ NATURAL GAS HEATING STATUS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Drawing Title
MECHANICAL CONTROL DIAGRAMS & NOTES

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| Drawing Date: 01.17.2025 | Drawing No.: M6.2 |
| Drawn By | Checked By |


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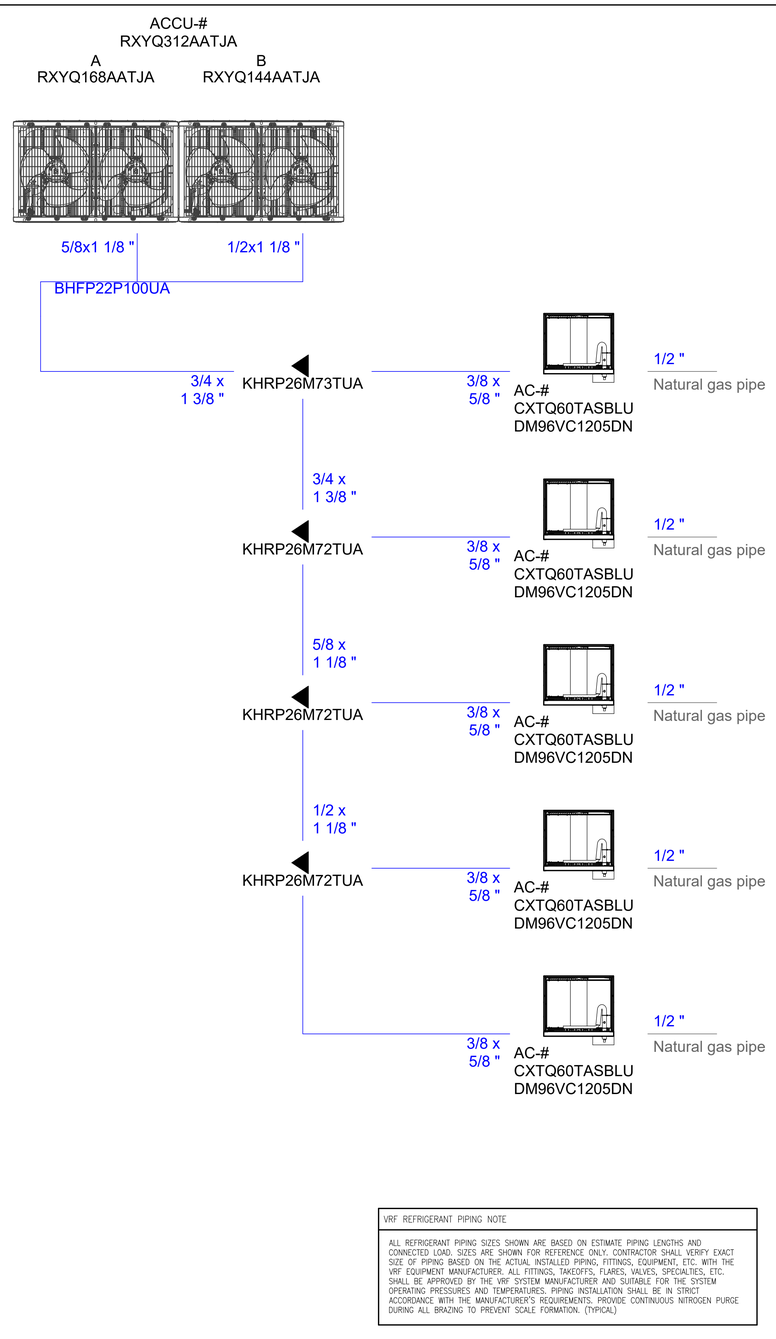
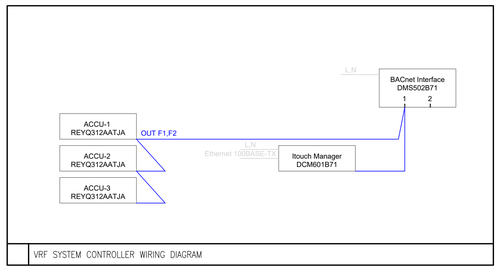


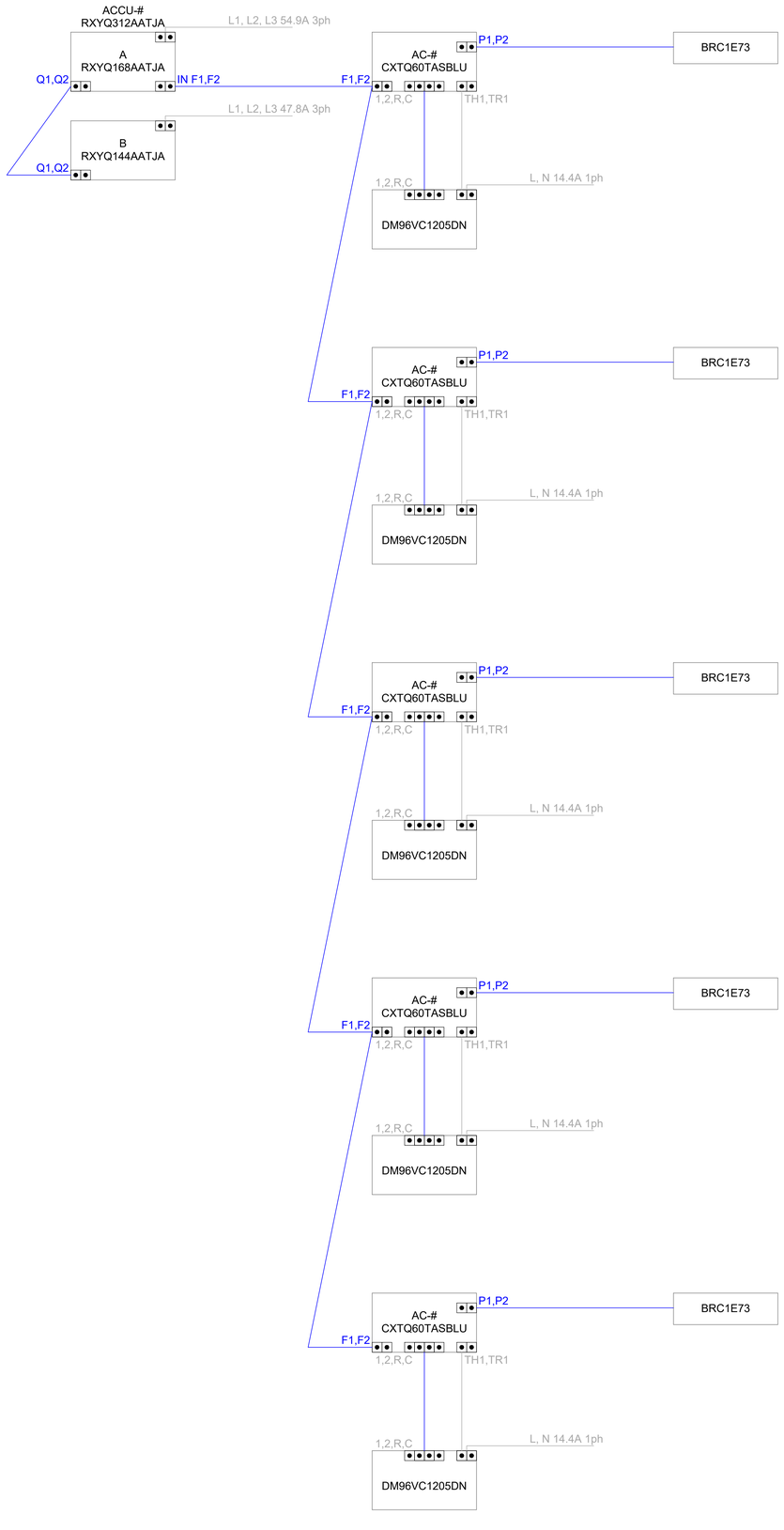

VRF REFRIGERANT PIPING NOTE

ALL REFRIGERANT PIPING SIZES SHOWN ARE BASED ON ESTIMATE PIPING LENGTHS AND CONNECTED LOAD. SIZES ARE SHOWN FOR REFERENCE ONLY. CONTRACTOR SHALL VERIFY EXACT SIZE OF PIPING BASED ON THE ACTUAL INSTALLED PIPING, FITTINGS, EQUIPMENT, ETC. WITH THE VRF EQUIPMENT MANUFACTURER. ALL FITTINGS, TAKEOFFS, FLARES, VALVES, SPECIALTIES, ETC. SHALL BE APPROVED BY THE VRF SYSTEM MANUFACTURER AND SUITABLE FOR THE SYSTEM OPERATING PRESSURES AND TEMPERATURES. PIPING INSTALLATION SHALL BE IN STRICT ACCORDANCE WITH THE MANUFACTURER'S REQUIREMENTS. PROVIDE CONTINUOUS NITROGEN PURGE DURING ALL BRAZING TO PREVENT SCALE FORMATION. (TYPICAL)

VRF SYSTEM REFRIGERANT PIPING DIAGRAM – TYPICAL FOR 3




VRF SYSTEM CONTROLLER WIRING DIAGRAM




VRF SYSTEM WIRING DIAGRAM – TYPICAL FOR 3

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Drawing Title
MECHANICAL
VRF PIPING & WIRING DIAGRAMS

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| Drawing Date: 01.17.2025 | Drawing No.: M7.1 |
| Drawn By | Checked By |

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# ELECTRICAL GENERAL NOTES

1. ALL ELECTRICAL WORK SHALL CONFORM TO THE LATEST ADOPTED EDITIONS OF THE NATIONAL ELECTRICAL CODE, NFPA, IBC, UCC, NATIONAL ELECTRIC SAFETY CODE, AND LOCAL CODES.
2. DRAWINGS ARE DIAGRAMMATIC AND DEFINE THE INTENT OF THE WORK. LOCATIONS OF EQUIPMENT, FIXTURES, DEVICES, PANELBOARDS, DUCTS, PIPING, DIFFUSERS, PARTITIONS, OPENINGS, ETC. ARE APPROXIMATE AND ARE SUBJECT TO MODIFICATIONS CAUSED BY STRUCTURAL CONDITIONS AND EQUIPMENT PROVIDED BY OTHER CONTRACTORS, SUBCONTRACTORS OR THE OWNER. COORDINATE ALL WORK WITH THE WORK OF OTHER TRADES. DETERMINE ROUGHING LOCATIONS FROM APPROVED SHOP DRAWINGS. MINOR MODIFICATIONS OF LOCATIONS REQUIRED TO EFFECT SUCH COORDINATION SHALL BE MADE AT NO COST TO THE OWNER.
3. DRAWINGS AND SPECIFICATIONS ARE INTENDED TO BE COMPLEMENTARY TO EACH OTHER. WHERE DISCREPANCIES OR CONFLICTS OCCUR, THE CONTRACTOR SHALL INCLUDE THE MORE COSTLY METHOD IN HIS PROPOSAL UNLESS CLARIFIED BY BULLETIN OR ADDENDUM ACKNOWLEDGED PRIOR TO RECEIPT OF BIDS.
4. REFER TO MECHANICAL, PLUMBING, AND FIRE PROTECTION DRAWINGS FOR EXACT LOCATIONS OF ALL MECHANICAL AND PLUMBING/FIRE PROTECTION EQUIPMENT. THE CONTRACTOR MUST HAVE THE MECHANICAL, PLUMBING, AND FIRE PROTECTION DRAWINGS FOR LOCATIONS OF EQUIPMENT AND CONTROL WIRING REQUIREMENTS. ONLY POWER FEEDER TO MECHANICAL EQUIPMENT ARE SHOWN ON THE ELECTRICAL DRAWINGS. FURNISH AND INSTALL ALL CODE REQUIRED DISCONNECT SWITCHES FOR MECHANICAL AND PLUMBING EQUIPMENT UNLESS SPECIFIED ON MECHANICAL OR PLUMBING DRAWINGS TO BE SUPPLIED BY MANUFACTURER. PROVIDE FUSED SWITCHES WHEREVER MANUFACTURER REQUIRES THEM.
5. ALL TELEPHONE AND DATA WIRING IS BY THE OWNER. ELECTRICAL CONTRACTOR SHALL COORDINATE WITH OWNER'S REP AND PROVIDE ALL NECESSARY RACEWAYS, BACK BOXES, PULL-STRINGS, ETC.
6. CONDUCTOR SIZES (PHASE AND GROUND) SHALL BE INCREASED DUE TO DE-RATING AND VOLTAGE DROP REQUIREMENTS AS NECESSARY. CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING VOLTAGE DROP BASED ON THE FEEDER AND BRANCH CIRCUIT RUNS SUCH THAT THE TOTAL VOLTAGE DROP ON EACH RUN DOES NOT EXCEED 5% TOTAL. PROVIDE AND INSTALL SPLICE/TAP J-BOX BEFORE CONNECTION TO LOAD AND TRANSFER TO SMALLER CONDUCTORS (PER CODE) FOR CONNECTION TO DEVICE TERMINALS WHERE REQUIRED.
7. ALL NEW ELECTRICAL SYSTEMS, INCLUDING LIGHTING, CONDUIT, PANELS, ETC., SHALL BE SEISMICALLY BRACED IN ACCORDANCE WITH INTERNATIONAL BUILDING CODE.
8. PROVIDE ALL SAFETY SWITCHES AS SHOWN ON THE DRAWINGS AND/OR AS REQUIRED BY NEC FOR MOTOR, APPLIANCE AND ELECTRIC HEAT EQUIPMENT DISCONNECTION. ALL DISCONNECT SWITCHES SHALL BE LOCAL TO THE EQUIPMENT THEY ARE SERVING AND SHALL BE LOCKABLE IN THE "ON" OR "OFF" POSITION. LOCKABLE CIRCUIT BREAKERS SHALL NOT BE ACCEPTABLE.
9. PANEL BOARD LOCKS SHALL BE KEYED IN ACCORDANCE TO OWNER REQUIREMENTS.
10. SEPARATE NEUTRALS SHALL BE RUN FOR ALL CIRCUITS UTILIZING SWITCH MODE POWER SUPPLIES (EG. COMPUTERS, FLUORESCENT LIGHTING, ETC.).
11. AS-BUILTS SHALL BE PROVIDED WITHIN 30 DAYS OF SYSTEM ACCEPTANCE, INCLUDING BUT NOT LIMITED TO SINGLE-LINE OF ELECTRICAL DISTRIBUTION SYSTEM AND FLOOR PLAN WITH LOCATIONS OF DISTRIBUTION EQUIPMENT AND AREAS SERVED BY THAT EQUIPMENT. (ASHRAE STANDARD 90.1-2019.)
12. O & M MANUALS MUST BE PROVIDED FOR THE ELECTRICAL DISTRIBUTION SYSTEM, INCLUDING BUT NOT LIMITED TO NAMEPLATE RATINGS, SCHEDULED MAINTENANCE, SPECIFIC EQUIPMENT SUPPLIED, NAMES AND ADDRESSES OF QUALIFIED SERVICE AGENCIES, COMPLETE NARRATIVE AND SCHEMATIC OF SYSTEM IN NORMAL OPERATION. (ASHRAE STANDARD 90.1-2019.)
13. RELOCATE EXISTING JUNCTION BOXES, PULL/SPLICE BOXES, ETC. WHICH REQUIRE ACCESS THAT WILL BE BLOCKED BY NEW CONSTRUCTION (MECHANICAL AND ELECTRICAL). CONTRACTOR SHALL COORDINATE WITH FIELD CONDITIONS AND OTHER TRADES FOR NEW OR EXISTING ELECTRICAL ITEMS REQUIRING ACCESS LOCATED OVER S.W.B. OR OTHER INACCESSIBLE CEILINGS. PROVIDE ACCESS PANELS TO BE LOCATED IN COORDINATION WITH ARCHITECT AND INSTALLED BY G.C.
14. DEVICE AND EQUIPMENT MOUNTING HEIGHTS ARE AS LISTED ON DRAWING AND/OR DESCRIBED IN SPECIFICATIONS UNLESS ITEMIZED BY ARCHITECTURAL DOCUMENTS.
15. CONTRACTOR SHALL COORDINATE WITH OTHER TRADES TO SUBMIT MEP COORDINATION DRAWINGS AS EARLY AS POSSIBLE IN THE CONSTRUCTION PERIOD.
16. THE ELECTRICAL CONTRACTOR SHALL TRACE AFFECTED POWER PANEL BRANCH CIRCUITS IN CONTRACT AREAS TO DETERMINE WIRING CONFIGURATION OF AFFECTED AND SURROUNDING AREAS. ELECTRICAL CONTRACTOR SHALL DOCUMENT EXISTING CONDITIONS TO AID IN REWIRING CONTRACT AREAS IN COMPLIANCE WITH ENGINEERING DOCUMENTS, LOCAL CODES, AND ORDINANCES. PROVIDE FINDINGS IN REPORT FORM WITH MARKED UP DRAWINGS, TO THE ENGINEER AS SOON AS COMPLETED. NO REWIRING SHALL BEGIN UNTIL THIS STEP IS COMPLETED.
17. THE ELECTRICAL CONTRACTOR SHALL MEASURE THE STEADY STATE LOAD CURRENT AT EACH AFFECTED PANEL BOARD FEEDER AND DOCUMENT PRE-CONSTRUCTION VALUES FOR EXISTING LIGHTING AND MECHANICAL LOADS TO UNDERSTAND AVAILABILITY OF ADDITIONAL PANEL BOARD LOADING WITHIN THE CONSTRAINTS OF THE STATE BUILDING AND ELECTRICAL CODES. PROVIDE FINDINGS IN REPORT FORM WITH MARKED UP DRAWINGS, TO THE ENGINEER AS SOON AS COMPLETED. NO REWIRING SHALL BEGIN UNTIL THIS STEP IS COMPLETED.
18. AT COMPLETION OF ALL BRANCH WIRING DESCRIBED ON CONTRACT DOCUMENTS, ELECTRICAL CONTRACTOR SHALL COMPILE A LIST OF EXISTING AND NEW CIRCUITS TO PROVIDE A FULL PANEL SCHEDULE DIRECTORY WITH DEVICE NAME (LIGHTING, RECEPTACLES, EQUIPMENT, ETC.) AND ROOM NUMBERS BEING SERVED. LABEL ALL CIRCUIT BREAKERS NOT BEING USED AS SPARE AND REMOVE CONDUCTORS FROM PANEL BOARD AND CONDUITS.
19. ELECTRICAL CONTRACTOR SHALL REVIEW ARCHITECTURAL AND MECHANICAL DRAWINGS TO UNDERSTAND THE EXTENT OF LIGHTING FIXTURE REMOVAL AND REPLACEMENT TO ACCOMMODATE OUT OF CONTRACT AREAS THAT ARE AFFECTED IN SYSTEMS CONSTRUCTION.
20. REMOVE AND REINSTALL CEILING SYSTEM AS REQUIRED FOR THE INSTALLATION OF ELECTRICAL WORK AND REPLACE IN KIND ANY COMPONENTS DAMAGED BY PERSONNEL OR EQUIPMENT DURING PERFORMANCE OF THE WORK.
21. CONTRACTOR SHALL BE RESPONSIBLE FOR REPLACING ANY DAMAGED GRID TILE THAT MIGHT OCCUR DURING DEMOLITION AND/OR RE-INSTALLATION OF THE EXISTING CEILING AND/OR CEILING MOUNTED DEVICES. NEW GRID/TILES TO MATCH EXISTING. PATCH AND REPAIR ALL DAMAGE CAUSED BY REMOVAL, MATCH EXISTING ADJACENT FINISH.
22. CONTRACTOR SHALL TEMPORARILY SUPPORT AND/OR DISCONNECT ALL EXISTING CEILING MOUNTED DEVICES THAT ARE NOT BEING DEMOLISHED TO ALLOW FOR THE REMOVAL AND/OR INSTALLATION OF A NEW CEILING AND/OR MECHANICAL EQUIPMENT. IF THERE ARE OTHER DEVICES BEING SERVED BY THE SAME CIRCUIT IN ANOTHER AREA, CONTRACTOR SHALL EXTEND THE WIRING/CONDUIT TO THE NEXT DEVICE IN LINE TO MAINTAIN CONTINUITY. FIRE ALARM SYSTEM SHALL REMAIN OPERATIONAL AT ALL TIMES. ALL ELECTRICAL DEVICES ARE NOT SPECIFICALLY SHOWN ON THIS PLAN. CONTRACTOR SHALL VERIFY ALL EXISTING DEVICES IN THE FIELD.
23. CONTRACTOR SHALL REINSTALL ALL EXISTING CEILING MOUNTED DEVICES THAT WERE TEMPORARILY SUPPORTED DURING DEMOLITION IN THE NEW CEILING. WHERE THE EXISTING DEVICE LOCATIONS WILL BE OCCUPIED BY A MECHANICAL DIFFUSER OR PIECE OF EQUIPMENT, CONTRACTOR SHALL RELOCATE THE DEVICE TO THE NEAREST AVAILABLE AREA THAT STILL MEETS CODE. EXTEND NEW WIRING AS REQUIRED. PROVIDE NEW WIRING TO THE PREVIOUS AND/OR FOLLOWING DEVICE WHERE EXISTING WIRE SLACK IS NOT ADEQUATE FOR RECONNECTION.
24. ALL FIRE ALARM WORK MUST BE IN ACCORDANCE WITH THE LATEST ADOPTED EDITION OF NFPA 72 AND IBC NJ. CONTRACTOR TO PROVIDE ALL SHOP DOCUMENTATION IN ACCORDANCE WITH IBC NJ 907.1.1 & NFPA 72.
25. CLEAN EXTERIOR AND INTERIOR LUMINAIRE SURFACES OF LIGHTING FIXTURES THAT ARE TO REMAIN AND BE RE-USED AND PROVIDE NEW LAMPS; REPLACE DAMAGED AND DISCOLORED LENSES, DEFECTIVE BALLASTS AND BROKEN ELECTRICAL PARTS.
26. ALL SWITCHES AND RECEPTACLES SHALL BE LABELED WITH CIRCUIT NUMBER(S) AND PANEL OF ORIGIN. UTILIZE AN ELECTRONIC LABEL MAKER (E.G. DYMO OR EQUAL) WITH BLACK LETTERS/NUMBERS ON A CLEAR BACKGROUND.
27. ALL 125 VOLT, SINGLE PHASE, 15- AND 20- AMPERE SINGLE AND DUPLEX RECEPTACLES WHICH DO NOT SERVE A DEDICATED APPLIANCE AND ARE WITHIN A 6 FOOT RADIUS OF A SINK, ARE INSTALLED IN WET LOCATIONS, ARE INSTALLED IN BATHROOMS, LAUNDRY AREAS, GARAGES, DISHWASHERS, ON ROOFS, OR OUTDOORS WITH DIRECT GRADE ACCESS, SHALL BE GROUND FAULT CIRCUIT INTERRUPTING TYPE WHERE AVAILABLE OR SHALL BE PROTECTED BY GROUND FAULT CIRCUIT INTERRUPTING CIRCUIT BREAKERS
28. FOR ANY ABOVE CEILING SPACE THAT, AS A RESULT OF NEW CONSTRUCTION WILL BECOME AN "EXPOSED" CONDITION, THE ELECTRICAL CONTRACTOR SHALL RE-ROUTE, RE-CONFIGURE AND RE-BUNDLE ALL NEW AND EXISTING WIRING & RACEWAYS AS NECESSARY TO PROVIDE A NEAT, WORKMAN-LIKE CONDITION TO THE SATISFACTION OF THE ARCHITECT OR ENGINEER. ROUTE AND BUNDLE ALL WIRING, RACEWAYS, ETC. TIGHT TO BEAMS, TIGHT TO UNDERSIDE OF STRUCTURE, PARALLEL TO MAJOR ELEMENTS AND AT 90 DEGREE ANGLES TO MAJOR ELEMENTS IN THE EXPOSED CAVITY SPACE.
29. APPLY U.L. APPROVED FIRE STOPPING ("3M" FIRE STOP SEALANT 2000 AND/OR "3M" FIRE BARRIER CP25 WB) TO ALL PENETRATIONS OF FIRE RATED FLOORS, WALL AND CEILING ASSEMBLIES. RATING MUST RE-ESTABLISH THE ORIGINAL FIRE RESISTANCE.
30. PROVIDE A MINIMUM OF 6" OF SEPARATION BETWEEN OUTLET BOXES THAT ARE LOCATED BACK TO BACK IN WALLS UNLESS WALLS ARE ACOUSTICALLY RATED TO PREVENT SOUND TRANSMISSION, IN WHICH CASE CONTRACTOR SHALL PROVIDE MINIMUM OF 24" OF SEPARATION BETWEEN BACK TO BACK OUTLET BOXES. PROVIDE FIRE RATED BOXES OR U.L. APPROVED FIRE RATED MATERIAL BETWEEN THE BOXES.
31. ALL NEW RECEPTACLES, SWITCHES, DATA/TEL BACK BOXES, ETC. SHALL BE FULLY RECESSED IN THE NEW OR EXISTING PARTITIONS (EXCEPT FOR EXTERIOR BLOCK WALLS). ALL WIRING SHALL BE FISHED AND CONCEALED WITHIN THE NEW OR EXISTING WALLS/PARTITIONS.
32. FOR ANY EXISTING PARTITIONS THAT WILL BE FURRED-OUT, ELECTRICAL CONTRACTOR TO PROVIDE J-BOX EXTENSIONS AND/OR NEW J-BOXES TO ACCOMMODATE EXISTING TO REMAIN ELECTRICAL DEVICES. REFER TO ARCHITECT'S DRAWINGS FOR PARTITION WORK.
33. WHERE ELECTRICAL EQUIPMENT (I.E. SWITCHBOARDS, PANELBOARDS, BUS DUCTS, TRANSFORMERS, DISCONNECTS, ETC.) OR SYSTEMS (I.E. FIRE ALARM, SOUND, INTERCOMMUNICATIONS, ALARM, ETC.) IS INDICATED TO BE MODIFIED TO ACCEPT NEW WORK, SAID MODIFICATIONS SHALL BE PERFORMED BY ELECTRICAL EQUIPMENT FABRICATORS OR MANUFACTURER'S REPRESENTATIVES WHO CAN AFFECT SUCH MODIFICATIONS WITHOUT VOIDING THE U.L. LABEL OR MANUFACTURER'S WARRANTIES.
34. IN THE EVENT ANY OF THE WIRE AND CONDUIT THAT IS EXISTING TO REMAINS NEED TO BE REPLACED, THE CONTRACTOR SHALL PROVIDE A UNIT PRICE FOR WIRE AND CONDUIT.
35. FURNISH AND INSTALL ALL CODE REQUIRED DISCONNECT SWITCHES WITHIN LINE OF SIGHT, OR LOCKABLE BREAKER FOR PERMANENTLY CONNECTED APPLIANCES PER NEC 422-III.

35.1. PROVIDE GFI RECEPTACLE OR CIRCUIT BREAKER FOR ALL HAND DRYERS AND/OR VENDING MACHINES. U.O.N.

36. ALL CABLE MUST BE SUPPORTED ABOVE THE CEILING APPROXIMATELY EVERY (4) TO (6) FEET. USAGE OF METALLIC D-RINGS AND DRIVE RINGS ARE PERMITTED. ALL CABLE TIES ABOVE THE CEILING MUST BE PLENUM RATED. ALL CABLES MUST BE NEATLY BUNDLED AND SUPPORTED IN A PROFESSIONAL MANNER. ANY CABLE RUNS IN EXPOSED PUBLIC VIEWING AREAS, I.E., CLASSROOMS, HALLWAYS, ETC., MUST BE ENCLOSED IN RACEWAY.
37. A DUPLEX RECEPTACLE SHALL BE INSTALL ON THE SAME LEVEL AND WITHIN 25 FT OF ALL MECHANICAL EQUIPMENT. REFER TO MECHANICAL DRAWING FOR LOCATION OF EQUIPMENT. CONNECT WITH 2#12, 1#12G., IN 3/4"C. TO NEAREST 120-VOLT UN-SWITCHED CIRCUIT OR TO NEW 20-AMP, 1-POLE, CIRCUIT BREAKER IN NEAREST PANEL. EXTERIOR RECEPTACLES SHALL BE GFI AND IN A WEATHERPROOF ENCLOSURE. U.O.N.
38. REFER TO MECHANICAL DRAWINGS FOR EXACT LOCATIONS AND QUANTITIES OF ALL VRF SYSTEM BRANCH BOXES. FURNISH AND INSTALL ALL CODE REQUIRED DISCONNECT SWITCHES FOR EQUIPMENT, UNLESS SPECIFIED ON MECHANICAL DRAWINGS TO BE SUPPLIED BY MANUFACTURER. CIRCUIT VRF SYSTEM BRANCH BOXES TO NEAREST SPARE 2P/20A, 208V CIRCUIT BREAKER WITH 2#12, 1#12G IN 3/4"C, UON.
55. AMERICAN MANUFACTURED PRODUCTS SHALL BE USED WHERE POSSIBLE FOR ALL WORK IN ACCORDANCE WITH NJAC 40A:11-18. CONTRACTOR SHALL VERIFY THAT ALL SUBMITTED EQUIPMENT FOR ALL CONTRACTS FOR COUNTY OR MUNICIPAL WORK OR FOR WORK FOR WHICH IT WILL PAY ANY PART OF THE COST, OR WORK WHICH BY CONTRACT OR ORDINANCE IT WILL ULTIMATELY OWN AND MAINTAIN, THAT ONLY MANUFACTURED PRODUCTS OF THE UNITED STATES, WHEREVER AVAILABLE, BE USED IN SUCH WORK. ANY SUBSTITUTIONS OF BASIS OF DESIGN EQUIPMENT SHALL BE VERIFIED BY CONTRACTOR TO CONFORM TO THE ABOVE NOTED REQUIREMENTS.
56. DURING THE INSTALLATION OF ELECTRICAL EQUIPMENT AND ASSOCIATED SYSTEMS, THE CONTRACTOR SHALL IDENTIFY ANY DAMAGE TO FIREPROOFING MATERIAL CAUSED BY WORK OF THE TRADE. THE CONTRACTOR SHALL PROVIDE WRITTEN REPORT DESIGNATION LOCATIONS, TO GENERAL CONSISIBLE CONTRACTOR, BEFORE FIREPROOFING IS COVERED BY SUBSEQUENT CONSTRUCTION.
57. CONTRACTOR SHALL XRAY ALL FLOOR SLABS PRIOR TO MAKING ANY SLAB PENETRATIONS. PROVIDE XRAY REPORT TO ARCHITECT/ENGINEER PRIOR TO PERFORMING ANY SLAB WORK.

# SCOPE NOTE

IN ALL AREAS OF THE BUILDING, CONTRACTOR SHALL BE RESPONSIBLE FOR SUPPORTING ALL EXISTING ELECTRICAL DEVICES AND WIRING/CONDUIT ABOVE THE EXISTING CEILINGS, PER NEC. ALL TELE/DATA AND FIRE ALARM WIRING SHALL BE INDEPENDENTLY SUPPORTED FROM THE STRUCTURE WITH J-HOOKS AND NOT TIE-WRAPPED TO CONDUITS OR MECHANICAL PIPING. ALL EXISTING POWER WIRING/CONDUIT AND JUNCTION BOXES SHALL BE INDEPENDENTLY SUPPORTED TO THE STRUCTURE AND NOT TO THE CEILING GUIDE WIRES, HVAC DUCTS, PIPING, ETC. PROVIDE ALL REQUIRED SUPPORTS AND ACCESSORIES AS REQUIRED PER NEC. CONTRACTOR SHALL PROVIDE ALL REQUIRED FIRE-RATED SLEEVES FOR EXISTING AND NEW WIRING THAT IS TO PASS THROUGH NEW FIRE RATED WALLS.

# LIGHTING FIXTURE SCHEDULE

| SYMBOL | TYPE | DESCRIPTION | MANUFACTURER | CATALOG # | LAMP # | LAMP WATTS | LAMP TYPE | VOLTAGE | MOUNTING | BALLAST | NOTES |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | A1 | 2X4 RECESSED LED FIXTURE WITH STEEL HOUSING, ANGLED ACRYLIC LENS., AND LED DRIVER | FINELITE | HPR-LED-A-2X4-H-835-96LG-120-SC-FC10-C1-(LGD18W) | - | 40W | LED | 120 | RECESSED | LED DRIVER | SEE NOTE 2 |
| | A2 | 2X4 RECESSED LED FIXTURE WITH STEEL HOUSING, ANGLED ACRYLIC LENS., AND LED DRIVER | FINELITE | HPR-LED-A-2X4-S-835-96LG-120-SC-FC10-C1-(LGD18W) | - | 27W | LED | 120 | RECESSED | LED DRIVER | SEE NOTE 2 |
| | B1 | 2X2 RECESSED LED FIXTURE WITH STEEL HOUSING, ANGLED ACRYLIC LENS., AND LED DRIVER | FINELITE | HPR-LED-A-2X2-H-835-96LG-120-SC-FC10-C1-(LGD18W) | - | 43W | LED | 120 | RECESSED | LED DRIVER | SEE NOTE 2 |
| | X1 | LED EXIT SIGN WITH THERMOPLASTIC HOUSING EMERGENCY BATTERY, AND LED DRIVER. BATTERY SHALL BE CAPABLE OF OPERATING FIXTURE FOR MINIMUM 90 MINUTES. | COMPASS | CERSD | - | - | LED | 120/277 | WALL / CLG | LED DRIVER | SEE NOTE 1 |

NOTES
1. ALL FIXTURES OF THIS TYPE SHALL CONTAIN AN INTEGRAL BATTERY, UNLESS SPECIFICALLY NOTED OTHERWISE. BATTERY SHALL OPERATE FIXTURE FOR MINIMUM OF 90 MINS.
2. FIXTURES OF THIS TYPE THAT ARE DESIGNATED WITH A FULL SHADE, HALF SHADE, AND/OR "EMG" SHALL CONTAIN AN INTEGRAL BATTERY, UNLESS SPECIFICALLY NOTED OTHERWISE. BATTERY SHALL OPERATE FIXTURE FOR MINIMUM OF 90 MINS.

# POWER DEVICE LEGEND

| SYMBOLS | DESCRIPTION |
|---|---|
| | POWER PANELBOARD, SURFACE AND RECESSED |
| | LIGHTING PANELBOARD, SURFACE AND RECESSED |
| J | WALL MOUNTED JUNCTION BOX |
| J | CEILING MOUNTED JUNCTION BOX |
| P | POWER FEED TO SYSTEM FURNITURE, WALL MOUNTED. PROVIDE A 2-GANG JUNCTION BOX WITH 3/4" CONDUIT AND PULLSTRING TO ABOVE ACCESSIBLE CEILING AND A FLEXIBLE WHIP CONNECTION TO THE FURNITURE AS REQUIRED. |
| M | MOTOR |
| | DISCONNECT SWITCH. |
| M | MOTOR RATED DISCONNECT SWITCH. |
| | HOMERUN TO PANELBOARD |
| | EXPOSED CONDUIT OR CABLE |
| | CONCEALED CONDUIT OR CABLE |
| | ELECTRICAL WIRING |
| | CONDUIT UP |
| | CONDUIT DOWN |
| | EQUIPMENT/ITEM TO BE DEMOLISHED |

# WIRING DEVICE LEGEND

| SYMBOLS | DESCRIPTION |
|---|---|
| X X | NEMA 5-20R DUPLEX RECEPTACLE. "X" INDICATES CIRCUIT NUMBER. SYMBOL WITH LINE THRU IT DENOTES MOUNTED ABOVE 18". COORDINATE HEIGHT WITH ARCHITECTURAL DRAWINGS. |
| X X | NEMA 5-20R DUPLEX RECEPTACLE WITH GROUND FAULT INTERRUPTER. "X" INDICATES CIRCUIT NUMBER. SYMBOL WITH LINE THRU IT DENOTES MOUNTED ABOVE 18". COORDINATE HEIGHT WITH ARCHITECTURAL DRAWINGS. |
| P3 | 6" POKE-THRU WITH (2) DUPLEX RECEPTACLES AND SINGLE GANG FOR DATA JACKS. PROVIDE REQUIRED FLANGE AND COVER PLATE. COORDINATE COLOR WITH ARCHITECT. |

# LOW VOLTAGE DEVICE LEGEND

| SYMBOLS | DESCRIPTION |
|---|---|
| T T | WALL MOUNTED DATA COMMUNICATIONS OUTLET: 2-GANG JUNCTION BOX WITH 3/4" CONDUIT AND PULLSTRING UP TO ACCESSIBLE CEILING. SYMBOL WITH LINE THRU IT DENOTES MOUNTED ABOVE 18". COORDINATE HEIGHT WITH ARCHITECTURAL DRAWINGS. |

# FIRE ALARM DEVICE LEGEND

| SYMBOLS | DESCRIPTION |
|---|---|
| FACP | FIRE ALARM CONTROL PANEL |
| F | FIRE ALARM HORN / STROBE - WALL MOUNTED |
| F | FIRE ALARM HORN / STROBE - CEILING MOUNTED |
| F | FIRE ALARM STROBE - WALL MOUNTED |
| F | FIRE ALARM STROBE - CEILING MOUNTED |

# LIGHTING LEGEND

| SYMBOLS | DESCRIPTION |
|---|---|
| X | LIGHTING FIXTURE TYPE: SEE LIGHTING FIXTURE SCHEDULE FOR ADDITIONAL INFORMATION. |
| S X | SINGLE POLE LIGHT SWITCH 20A, 120/277V. "X" INDICATES FIXTURE/ZONE CONTROLLED. |
| S X OS | WALL MOUNTED PASSIVE INFRARED OCCUPANCY SENSOR & SWITCH. "X" INDICATES FIXTURE/ZONE CONTROLLED; CURRENT LIGHTHAWK LHRMTS1-G |
| S X OS | WALL MOUNTED LIGHT SWITCH WITH DUAL TECH VACANCY SENSOR (MANUAL ON/AUTO OFF) WITH DIMMING; CURRENTL LIGHTHAWK LHRDMMTS2-WH |
| S X LV1 | 1-BUTTON DIGITAL SWITCH. "X" INDICATES FIXTURE/ZONE CONTROLLED; CURRENT NXSW-1 |
| S X LVD | LOW VOLTAGE ON/OFF/RAISE/LOWER DIGITAL DIMMER SWITCH; "X" INDICATES SWITCH LEG CURRENT NXSW-ORLO. |
| OS DT | CEILING MOUNTED DUAL TECHNOLOGY OCCUPANCY SENSOR; CURRENT NXSMDT-OMNI |
| RC1 | 1-RELAY ON/OFF ROOM CONTROLLER; CURRENTL NXRC-1R |
| RCD1 | 1-RELAY ON/OFF 0-10 DIMMING ROOM CONTROLLER; CURRENTL NXRC2FX2-1RD |

1. OCCUPANCY SENSORS ARE SHOWN ON THE PLANS ONLY TO INDICATE ROOMS REQUIRING COVERAGE AND QUANTITY OF SENSORS SHOWN ON THE DRAWINGS ARE THE MINIMUM THAT MUST BE PROVIDED BY THE CONTRACTOR. EXACT QUANTITY OF SENSORS AND EXACT LOCATIONS WITHIN EACH ROOM SHALL BE BASED ON MANUFACTURERS RECOMMENDATIONS FOR TOTAL COVERAGE OF THE SPACE, BASED ON THE SENSORS TO BE INSTALLED. SUBMIT SHOP DWG SHOWING SENSOR CONVERGES AND DEMONSTRATING THAT EACH SPACE/ROOM WITH SENSORS SHOWN IS COMPLETELY COVERED WITH NO "DEAD ZONES"
2. PROVIDE ALL REQUIRED RELAYS, TRANSFORMERS, POWER PACKS, ETC AS REQUIRED FOR CONTROL OF THE RESPECTIVE ROOM BY THE OCCUPANCY SENSORS. PROVIDE ALL REQUIRED WIRING/CONDUIT AND MAKE ALL FINAL TERMINATIONS.

# ELECTRICAL DRAWING LIST

| DWG # | DRAWING TITLE |
|---|---|
| E0.1 | ELECTRICAL SYMBOLS, NOTES, & ABBREVIATIONS |
| E0.2 | ELECTRICAL SPECIFICATONS |
| E1.1 | ELECTRICAL BSMT, 1ST, 2ND, & 3RD FLOOR DEMOLITION PLANS |
| E1.2 | ELECTRICAL 4TH, 5TH, AND ROOF DEMOLITION PLANS |
| E2.1 | ELECTRICAL BSMT, 1ST, 2ND, & 3RD FLOOR NEW WORK PLANS - POWER |
| E2.2 | ELECTRICAL 4TH, 5TH, AND ROOF NEW WORK PLANS - POWER |
| E3.1 | ELECTRICAL BSMT, 1ST, 2ND, & 3RD FLOOR NEW WORK PLANS - LIGHTING |
| E3.2 | ELECTRICAL 4TH, 5TH, AND ROOF NEW WORK PLANS - LIGHTING |
| E4.1 | ELECTRICAL ONE-LINE DIAGRAM & PANEL SCHEDULES |
| E4.2 | ELECTRICAL PANEL SCHEDULES |
| E5.1 | ELECTRICAL DETAILS |
| | |

# TYPICAL MOUNTING HEIGHTS

| | |
|---|---|
| 12'-0" | EXTERIOR WALL MOUNTED LIGHTING FIXTURES |
| TBD | BATTERY UNITS AND EMERGENCY REMOTE HEADS SHALL BE MOUNTED 1'-0" BELOW FINISHED CEILING TO TOP OF FIXTURE |
| 8'-6" | PENDANT MOUNTED INDUSTRIAL AND STRIP LIGHTING FIXTURES |
| PER N.F.P.A. & A.D.A. CODE REQUIREMENTS 6'-8" (MIN.) | WALL- MOUNTED CLOCKS, PROGRAM BELLS, BOTTOM OF FIRE ALARM AUDIBLE AND VISUAL DEVICES (OR AS SHOWN ON ARCHITECTURAL DETAILS) |
| CENTERED ABOVE DOOR OR WINDOW OPENING | WARNING AND SIGNALING FIXTURES/SIGNS. |
| 6'-6" | CENTERLINE OF INTERIOR WALL MOUNTED FIXTURES |
| 6'-6" | TOP OF FLUSH AND SURFACE MOUNTED ELECTRICAL PANELBOARDS, TELEPHONE CABINETS, OR FIRE ALARM CABINETS. |
| 6'-3" | TOP OF BACK-MOUNTED WALL EXIT FIXTURES (NOT MOUNTED ABOVE DOORS) |
| 6'-0" | TOP OF HIGHEST ELECTRICAL SAFETY DISCONNECT SWITCHES, MAGNETIC STARTERS, CONTACTORS. |
| 4'-6" | WALL MOUNTED TELEPHONES AND PAY STATIONS (3'-6" AT HANDICAP LOCATIONS). |
| 4'-0" | TOP OF WALL MOUNTED ELECTRICAL LIGHT SWITCHES, MANUAL MOTOR STARTERS, THERMOSTATS, FIRE ALARM PULL STATIONS, GARAGE AREA RECEPTACLES AND TOP OF WIREMOLD. |
| 2'-0" | ELECTRICAL RECEPTACLE WITHIN ELECTRICAL/MECHANICAL SPACES AND ELEVATOR ROOMS. |
| 1'-6" | ELECTRICAL RECEPTACLES, TELEPHONE OUTLETS, COMPUTER OUTLETS |
| FINISHED FLOOR | |

NOTES:
1. MOUNTING HEIGHTS TO CENTER OF OUTLETS UNLESS OTHERWISE NOTED. IN MASONRY WALL CONSTRUCTION THE ABOVE MOUNTING HEIGHTS SHALL BE USED FOR REFERENCE TO NEAREST BLOCK OR BRICK COURSING.
2. THE ABOVE MOUNTING HEIGHTS SHALL BE ADHERED TO UNLESS SPECIFICALLY NOTED OR DETAILED OTHERWISE ON THE DRAWINGS OR SPECIFICATIONS.
3. VERIFY ALL MOUNTING HEIGHTS WITH OWNER AND ARCHITECT PRIOR TO ROUGH-IN.
4. ALL MOUNTING HEIGHTS SHALL COMPLY WITH ANSI A117.1

# ABBREVIATIONS

| | | | |
|---|---|---|---|
| A | AMPERE | GND, G | GROUND |
| AFF | ABOVE FINISHED FLOOR | ICIG | INTERRUPTING CAPACITY ISOLATED GROUND |
| AFG | ABOVE FINISHED GRADE | | |
| C | CONDUIT(S) | I/L | INTERLOCKED |
| CB | CIRCUIT BREAKER | MC | MECHANICAL CONTRACTOR |
| CH | COUNTER HEIGHT | MOD | MOTOR OPERATED DAMPER |
| CO | CONDUIT ONLY | NIC | NOT IN CONTRACT |
| CT | CURRENT TRANSFORMER | NL | NIGHT LIGHT |
| CU | COPPER | NTS | NOT TO SCALE |
| EC | ELECTRICAL CONTRACTOR | RGS | RIGID GALVANIZED STEEL |
| EG | EQUIPMENT GROUND | SPD | SURGE PROTECTIVE DEVICE |
| EM | EMERGENCY | TVSS | TRANSIENT VOLTAGE SURGE SUPPRESSOR |
| EMT | ELECTRICAL METALLIC TUBING | | |
| ETR | EXISTING TO REMAIN | T/C | TIME CLOCK |
| EWC | ELECTRIC WATER COOLER | UON | UNLESS OTHERWISE NOTED |
| FA | FIRE ALARM | V | VOLTS |
| FBO | FURNISHED BY OTHERS | W | WALL MOUNTED |
| GFI | GROUND FAULT INTERRUPTER | WP | WEATHERPROOF |


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**EXTERIOR + INTERIOR RESTORATION & ALTERATION**

AT

**921 ELIZABETH AVENUE**

FOR THE

**COUNTY OF UNION**

PROJECT ADDRESS:

921 ELIZABETH AVENUE
ELIZABETH, NJ 07201

| No. | Date | Issue or Revision |
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ELECTRICAL SYMBOLS, NOTES, & ABBREVIATIONS

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# ELECTRICAL SPECIFICATIONS

PART 1 – GENERAL

DEFINITIONS

A. THE TERM "FURNISH" SHALL MEAN TO OBTAIN AND DELIVER TO THE JOB SITE.

B. THE TERM "INSTALL" SHALL MEAN TO UNPACK, STORE, ASSEMBLE, FIX IN POSITION, AND CONNECT FOR USE.

C. THE TERM "PROVIDE" SHALL MEAN TO FURNISH AND INSTALL.

D. THE TERM "CONTRACTOR" SHALL MEAN THE ELECTRICAL CONTRACTOR OR ANY ELECTRICAL SUBCONTRACTOR.

SCOPE OF WORK

THE WORK SHALL INCLUDE, BUT NOT BE LIMITED TO THE FOLLOWING:

A. EACH CONTRACTOR SHALL HAVE LIMITED USE OF PREMISES FOR CONSTRUCTION OPERATIONS AS INDICATED ON DRAWINGS BY AREAS SHOWN.

B. MAINTAIN EXISTING BUILDING IN A WEATHER-TIGHT CONDITION THROUGHOUT CONSTRUCTION PERIOD. ALL WORK NOT SPECIFICALLY CALLED FOR, BUT REASONABLY IMPLIED, INCLUDING THE CUTTING, PATCHING AND REPAIR OF DAMAGE CAUSED BY CONSTRUCTION OPERATIONS SHALL BE PROVIDED BY THE CONTRACTOR.

C. THE CONTRACTOR SHALL ENSURE THAT ALL RULES AND REGULATIONS, INCLUDING THOSE WHICH MAY BE ISSUED BY THE OWNER, ARE BEING OBSERVED. THE CONTRACTOR SHALL INSTALL SIGNAGE, BARRIERS AND OTHER MEANS TO PROVIDE WARNINGS AND RESTRICT ACCESS TO CONSTRUCTION AREAS.

D. DO NOT INTERRUPT UTILITIES SERVING AREAS OCCUPIED BY THE OWNER OR OTHERS UNLESS ARRANGEMENTS WITH THE OWNER HAVE BEEN MADE. NOTIFY OWNER NOT LESS THAN ONE WEEK IN ADVANCE OF PROPOSED UTILITY INTERRUPTIONS. DO NOT PROCEED WITH UTILITY INTERRUPTIONS WITHOUT OWNER'S WRITTEN PERMISSION.

E. WORK SHALL BE GENERALLY PERFORMED DURING NORMAL BUSINESS WORKING HOURS OF 8 AM TO 5 PM, MONDAY THROUGH FRIDAY UNLESS OTHER ARRANGEMENTS WITH THE OWNER HAVE BEEN MADE. WORK THAT GENERATES EXCESSIVE NOISE OR REQUIRES A UTILITY SHUTDOWN SHALL BE PERFORMED DURING OFF HOURS AND SHALL BE SCHEDULED WITH OWNER. PROVIDE A MINIMUM OF ONE (1) WEEK NOTICE TO OWNER.

F. THE WORK TO BE DONE UNDER THE SCOPE OF THIS PROJECT INCLUDES PROVIDING ALL EQUIPMENT, MATERIALS, LABOR AND SERVICES, AND PERFORMING ALL OPERATIONS FOR A COMPLETE AND OPERATIONAL SYSTEM. ANY WORK NOT SPECIFICALLY COVERED, BUT NECESSARY TO COMPLETE INSTALLATION, SHALL BE PROVIDED BY THE CONTRACTOR. ALL EQUIPMENT AND WIRING TO BE NEW AND PROVIDED UNDER THIS CONTRACT, UNLESS OTHERWISE NOTED.

G. THE ELECTRICAL DRAWINGS ARE DIAGRAMMATIC AND ALL SPECIALTIES AND APPURTENANCES ARE NOT SHOWN, BUT SHALL BE PROVIDED AS REQUIRED. REFER TO ARCHITECTURAL DRAWINGS FOR EXACT LOCATIONS OF EQUIPMENT, UNLESS OTHERWISE NOTED. DISCREPANCIES SHALL BE CLARIFIED BY ARCHITECT AND/OR ENGINEER.

H. CONTRACTOR SHALL PROVIDE TEMPORARY POWER AND LIGHTING FOR ALL TRADES, AS REQUIRED FOR CONSTRUCTION OR SO AS TO MAINTAIN NORMAL OPERATIONS OF THE BUILDING/SITE'S ACTIVITIES. CONTRACTOR SHALL PROVIDE EQUIPMENT AND MAKE ARRANGEMENTS WITH UTILITY COMPANY, AS NECESSARY.

PROJECT MANAGEMENT

A. CONTRACTOR SHALL PREPARE AND SUBMIT THREE (3) COPIES OF A PROJECT SCHEDULE INDICATING SPECIFIC ACTIVITIES WITH START AND COMPLETION DATES FOR EACH ACTIVITY.

B. CONTRACTOR SHALL ATTEND REGULAR PROJECT MEETINGS AS SCHEDULED BY THE PROJECT SUPERINTENDENT. CONTRACTOR SHALL PREPARE A CONSTRUCTION SCHEDULE TO REVIEW PROGRESS SINCE PREVIOUS MEETING AND TO DETERMINE WHICH ACTIVITIES ARE ON TIME, AHEAD OF SCHEDULE, OR BEHIND SCHEDULE IN RELATION TO THE PROJECT SCHEDULE.

C. CONTRACTOR SHALL PREPARE AND SUBMIT THREE (3) COPIES OF A SUBMITTALS SCHEDULE. THE SCHEDULE SHALL INCLUDE THE FOLLOWING: DATE FOR FIRST SUBMITTAL, DESCRIPTION OF WORK OR ITEM SUBMITTED, NAME OF SUBCONTRACTOR, SCHEDULED DATE FOR APPROVAL.

COORDINATION

A. EACH CONTRACTOR SHALL COORDINATE ITS OPERATIONS WITH THE OPERATIONS OF OTHER TRADE CONTRACTORS THAT DEPEND ON EACH OTHER FOR PROPER INSTALLATION, CONNECTION AND OPERATION.

B. ALL CONDUIT ROUTING LAYOUTS INDICATED ON DRAWINGS ARE PURELY DIAGRAMMATIC AND SHOWN FOR DIAGRAMMATICAL PURPOSES ONLY. CONTRACTOR SHALL COORDINATE CONDUIT ROUTING LAYOUT WITH EQUIPMENT LOCATIONS AND SPECIFICATIONS FOR ALL OTHER DISCIPLINES, UNLESS OTHERWISE INDICATED ON ENGINEERING PLANS.

C. CONTRACTOR SHALL PREPARE AND SUBMIT FIVE (5) COPIES OF PROJECT SPECIFIC COORDINATION DRAWINGS DRAWN ACCURATELY TO SCALE FOR AREAS INDICATED. DO NOT BASE COORDINATION DRAWINGS ON REPRODUCTIONS OF THE CONTRACT DOCUMENTS OR STANDARD, PRINTED DATA. INDICATE FUNCTIONAL AND SPATIAL RELATIONSHIPS OF COMPONENTS OF ARCHITECTURAL, STRUCTURAL, CIVIL, MECHANICAL AND ELECTRICAL SYSTEMS. INDICATE DIMENSIONS AND MAKE SPECIFIC NOTE OF DIMENSIONS THAT APPEAR TO BE IN CONFLICT WITH SUBMITTED EQUIPMENT AND MINIMUM CLEARANCE REQUIREMENTS. PROVIDE ALTERNATE SKETCHES FOR RESOLUTION OF SUCH CONFLICTS.

SUBMITTAL PROCEDURES

A. CONTRACTOR SHALL PREPARE AND SUBMIT FIVE (5) COPIES OF SUBMITTALS FOR WORK AND ITEMS INDICATED. PROVIDE SUBMITTALS FOR THE FOLLOWING: PERFORMANCE DATA AND MATERIAL SPECIFICATIONS FOR ALL EQUIPMENT LISTED IN SCHEDULES, DIMENSIONED CONDUIT LAYOUT DRAWINGS, DIMENSIONED EQUIPMENT SERVICE AND ACCESS CLEARANCE REQUIREMENTS, WIRING DIAGRAMS, ELECTRICAL SPECIFICATIONS AND MATERIAL SPECIFICATIONS FOR ITEMS LISTED IN PRODUCTS SECTION. FOR ALL EQUIPMENT AND MATERIALS PROPOSED BY THE ENGINEER, CONTRACTOR SHALL BE RESPONSIBLE FOR CHECKING PROPOSED EQUIPMENT PRIOR TO SUBMITTAL TO THE ENGINEER. THE CAUSE OF ANY RE-DESIGNING DUE TO A SUBSTITUTION OR LACK OF COORDINATION SHALL BE BORNE BY THE CONTRACTOR.

B. CONTRACTOR SHALL ALLOW SUFFICIENT PROCESSING OF SUBMITTALS FOR REVIEW PRIOR TO START DATES OF FABRICATION, PURCHASING, TESTING, AND DELIVERY NECESSARY TO MEET PROJECT SCHEDULE. CONTRACTOR SHALL ALLOW TWELVE (12) DAYS FOR THE REVIEW AND TRANSMISSION OF EACH SUBMITTAL.

C. ALL SUBMITTALS SHALL INCLUDE THE FOLLOWING INFORMATION: PROJECT NAME AND LOCATION, DATE, NAME AND ADDRESS OF ENGINEER, NAME AND ADDRESS OF CONTRACTOR AND/OR SUBCONTRACTOR, NAME AND ADDRESS OF SUPPLIER, NAME OF MANUFACTURER, SUBMITTAL NUMBER, AND A DESCRIPTION OF THE WORK OR ITEM SUBMITTED. IDENTIFY ALL DEVIATIONS FROM THE CONTRACT DOCUMENTS ON THE SUBMITTALS.

D. TRANSMIT EACH SUBMITTAL WITH A TRANSMITTAL FORM LISTING SUBMITTALS AND QUANTITY OF EACH SUBMITTAL.

E. RE-SUBMITTALS WILL FOLLOW THE SAME PROCEDURES AS STATED FOR SUBMITTALS.

F. ENGINEER SHALL REVIEW EACH SUBMITTAL, MAKE MARKS TO INDICATE CORRECTIONS OR MODIFICATIONS, AND STAMP EACH SUBMITTAL WITH ACTION STAMP INDICATING ACTION TO BE TAKEN. APPROVAL OF SUBMITTAL SHALL NEITHER RELIEVE THE CONTRACTOR OF THE RESPONSIBILITY FOR PROPER INSTALLATION NOR ACCURACY OF MEASUREMENTS.

REFERENCES

A. UNLESS THE CONTRACT DOCUMENTS INCLUDE MORE STRINGENT REQUIREMENTS, APPLICABLE CONSTRUCTION INDUSTRY STANDARDS HAVE THE SAME FORCE AND EFFECT AS IF COPIED DIRECTLY INTO THE CONTRACT DOCUMENTS TO THE EXTENT REFERENCED. SUCH STANDARDS ARE MADE PART OF THE CONTRACT DOCUMENTS BY REFERENCE.

B. COMPLY WITH STANDARDS IN EFFECT AS OF THE DATE OF THE CONTRACT DOCUMENTS, UNLESS OTHERWISE INDICATED.

C. ALL WORK SHALL COMPLY WITH THE CODES, REQUIREMENTS, AND RECOMMENDED PRACTICES OF THE LATEST APPLICABLE VERSION OF THE NATIONAL ELECTRICAL CODE (NEC).

D. THE CONTRACTOR SHALL BE FAMILIAR WITH INDUSTRY STANDARDS APPLICABLE TO ITS CONSTRUCTION ACTIVITY. WHERE COPIES OF STANDARDS ARE NEEDED TO PERFORM A REQUIRED CONSTRUCTION ACTIVITY, OBTAIN COPIES DIRECTLY FROM PUBLICATION SOURCE.

E. THE CONTRACTOR SHALL COMPLY WITH ALL LAWS, ORDINANCES, STATUTES, AND LAWFUL ORDERS ISSUED BY AUTHORITIES HAVING JURISDICTION AND RULES, CONVENTIONS, AND AGREEMENTS WITHIN THE CONSTRUCTION INDUSTRY THAT CONTROL THE PERFORMANCE OF THE WORK.

WASTE MANAGEMENT

A. THE CONTRACTOR SHALL PERFORM THE FOLLOWING FOR ITEMS SALVAGED FOR REUSE IN THE WORK: CLEAN SALVAGED ITEMS, PROTECT AND STORE ITEMS UNTIL INSTALLATION, AND INSTALL SALVAGED ITEMS TO COMPLY WITH INSTALLATION REQUIREMENTS FOR NEW MATERIALS AND EQUIPMENT.

B. THE CONTRACTOR SHALL PERFORM THE FOLLOWING FOR ITEMS SALVAGED FOR OWNER'S USE: CLEAN SALVAGED ITEMS, PROTECT AND STORE ITEMS UNTIL DELIVERY, TRANSPORT ITEMS TO OWNER'S STORAGE AREA.

C. THE CONTRACTOR SHALL FOLLOW THE LOCAL ORDINANCES FOR RECYCLED MATERIALS.

D. THE CONTRACTOR SHALL DISPOSE OF ALL DEMOLITION AND CONSTRUCTION WASTE FROM THE PROJECT SITE IN A LANDFILL OR INCINERATOR ACCEPTABLE TO AUTHORITIES HAVING JURISDICTION.

PRODUCT REQUIREMENTS

A. THE PRODUCTS SHOWN ON THE DRAWINGS ARE BASED ON A SPECIFIC MANUFACTURER, MAKE, AND MODEL. THESE PRODUCTS ESTABLISH SIGNIFICANT QUALITIES RELATED TO TYPE, FUNCTION, DIMENSION, IN-SERVICE PERFORMANCE, PHYSICAL PROPERTIES, APPEARANCE, AND OTHER CHARACTERISTICS FOR THE PURPOSES OF EVALUATING PRODUCTS OF OTHER NAMED MANUFACTURERS.

B. THE ENGINEER WILL CONSIDER REQUESTS FOR SUBSTITUTION WHEN THE FOLLOWING CONDITIONS ARE SATISFIED: REQUESTED SUBSTITUTION OFFERS OWNER A SUBSTANTIAL ADVANTAGE IN COST, TIME, OR ENERGY CONSERVATION AFTER DEDUCTING ADDITIONAL RESPONSIBILITIES THE SUBSTITUTION MAY PRESENT TO THE OWNER INCLUDING COMPENSATION TO ENGINEER FOR RE-DESIGN AND EVALUATION SERVICES AND INCREASED CONSTRUCTION COSTS OF RELATED WORK; WORK DOES NOT REQUIRE EXTENSIVE REVISIONS TO THE CONTRACT DOCUMENTS; WORK IS CONSISTENT WITH THE CONSTRUCTION DOCUMENTS AND WILL PRODUCE THE INDICATED RESULTS; WORK IS FULLY DOCUMENTED AND PROPERLY SUBMITTED; WORK WILL NOT ADVERSELY AFFECT THE CONTRACTOR'S CONSTRUCTION SCHEDULE; AND HAS BEEN COORDINATED WITH OTHER RELATED WORK.

C. ALL NEW ELECTRICAL MATERIALS AND EQUIPMENT SHALL BE LISTED BY THE UNDERWRITERS' LABORATORIES, INC. (UL) AND CLEARLY BEAR THE "UL" LABEL.

D. SOURCE LIMITATIONS SHALL BE TO OBTAIN EACH PIECE OF ELECTRICAL EQUIPMENT THROUGH ONE (1) SOURCE FROM A SINGLE MANUFACTURER, UNLESS CLEARLY SPECIFIED OTHERWISE ON DRAWINGS BY THE ENGINEER.

E. THE CONTRACTOR SHALL DELIVER, STORE, AND HANDLE PRODUCTS USING MEANS AND METHODS THAT WILL PREVENT DAMAGE, DETERIORATION, AND LOSS. COMPLY WITH MANUFACTURER'S WRITTEN INSTRUCTIONS. THE CONTRACTOR SHALL STORE MATERIALS IN A MANNER THAT WILL NOT ENDANGER PROJECT STRUCTURE.

F. THE CONTRACTOR SHALL PROVIDE THE MANUFACTURER'S STANDARD WRITTEN PRODUCT WARRANTY TO THE OWNER. WHERE SPECIAL WARRANTIES ARE INDICATED, THE CONTRACTOR SHALL PROVIDE THE WRITTEN WARRANTY FOR THE GIVEN TIME PERIOD TO THE OWNER. WARRANTIES SPECIFIED IN OTHER SECTIONS SHALL BE IN ADDITION TO, AND RUN CONCURRENT WITH OTHER WARRANTIES REQUIRED BY THE CONTRACT DOCUMENTS. MANUFACTURER'S DISCLAIMERS AND LIMITATIONS ON PRODUCT WARRANTIES DO NOT RELIEVE THE CONTRACTOR OF OBLIGATIONS UNDER THE REQUIREMENTS OF THE CONTRACT DOCUMENTS.

PART 2 – PRODUCTS

BASIC ELECTRICAL MATERIALS AND METHODS

A. COORDINATION

1. THE INSTALLATION OF ALL ELECTRICAL EQUIPMENT AND DEVICES SHALL COMPLY WITH ALL REQUIREMENTS OF THE NATIONAL ELECTRIC CODE, INCLUDING ARTICLE 110.26. PROVIDE ALL NEC-REQUIRED WORKSPACE AND EQUIPMENT CLEARANCES.

2. ARRANGEMENT, MOUNTING, AND SUPPORT OF ELECTRICAL EQUIPMENT SHALL BE PERFORMED SUCH AS TO ALLOW RIGHT OF WAY FOR PIPING AND CONDUIT INSTALLED AT A REQUIRED SLOPE, TO PROVIDE FOR EASE OF DISCONNECTING ELECTRICAL EQUIPMENT WITH MINIMUM INTERFERENCE TO OTHER EQUIPMENT OR EQUIPMENT INSTALLATIONS, AND TO ALLOW THE CONNECTION OF RACEWAYS, CABLES, WIREWAYS, CABLE TRAYS, AND BUSWAYS TO BE CLEAR OF OBSTRUCTIONS AND OF THE SERVICE, ACCESS, AND CLEARANCE SPACE OF OTHER EQUIPMENT.

3. COORDINATE ELECTRICAL TESTING OF ELECTRICAL, MECHANICAL, AND ARCHITECTURAL ITEMS, SO THAT EQUIPMENT AND SYSTEMS THAT ARE FUNCTIONALLY INTERDEPENDENT ARE TESTED TO DEMONSTRATE SUCCESSFUL INTEROPERABILITY.

B. FIRE-STOPPING FOR ELECTRICAL PENETRATIONS

1. FIRE-RATED ASSEMBLY PENETRATIONS SHALL MAINTAIN INDICATED FIRE RATING OF WALLS, PARTITIONS, CEILINGS, AND FLOORS. APPLY FIRE-STOPPING TO ELECTRICAL PENETRATIONS OF FIRE-RATED FLOOR AND WALL ASSEMBLIES TO RESTORE ORIGINAL FIRE-RESISTANCE RATING OF ASSEMBLY.

C. SLEEVES FOR RACEWAYS AND CABLES

1. STEEL PIPE SLEEVES SHALL BE ASTM A 53/A 53M, TYPE E, GRADE B, SCHEDULE 40, GALVANIZED STEEL, PLAIN ENDS.

2. CAST-IRON PIPE SLEEVES SHALL BE CAST OR FABRICATED "WALL PIPE," EQUIVALENT TO DUCTILE-IRON PRESSURE PIPE, WITH PLAIN ENDS AND INTEGRAL WATERSTOP, UNLESS OTHERWISE INDICATED.

3. SLEEVES FOR RECTANGULAR OPENINGS SHALL BE GALVANIZED SHEET STEEL WITH MINIMUM 0.138 INCH THICKNESS, AS INDICATED, AND OF LENGTH TO SUIT APPLICATION.

C. SLEEVE SEALS

1. DESCRIPTION: MODULAR SEALING DEVICE, DESIGNED FOR FIELD ASSEMBLY, TO FILL ANNULAR SPACE BETWEEN SLEEVE AND RACEWAY OR CABLE.

2. AVAILABLE MANUFACTURERS SHALL BE ONE OF THE FOLLOWING, UNLESS OTHERWISE INDICATED ON ENGINEERING DRAWINGS:

A) ADVANCE PRODUCTS & SYSTEMS, INC.
B) CALPICO, INC.
C) METRAFLEX CO.
D) PIPELINE SEAL AND INSULATOR, INC.

3. SEALING ELEMENTS SHALL BE EPDM (Ethylene-propylene-diene terpolymer rubber) OR NBR (Acrylonitrile-butadiene rubber) INTERLOCKING LINKS SHAPED TO FIT SURFACE OF CABLE OR CONDUIT. INDICATE TYPE AND NUMBER REQUIRED FOR MATERIAL AND SIZE OF RACEWAY OR CABLE.

4. PRESSURE PLATES SHALL BE STAINLESS STEEL. INCLUDE TWO FOR EACH SEALING ELEMENT. CONNECTING BOLTS AND NUTS SHALL BE STAINLESS STEEL OF LENGTH REQUIRED TO SECURE PRESSURE PLATES TO SEALING ELEMENTS. INCLUDE ONE (1) FOR EACH SEALING ELEMENT.

GROUNDING AND BONDING

C. GENERAL

1. ALL GROUNDING WIRES, LUGS, CLAMPS, AND BUS BARS SHALL BE COPPER.

2. PROVIDE A COMPLETE EQUIPMENT GROUND SYSTEM, AS AN EXTENSION OF EXISTING SYSTEM IF EXISTING SYSTEM IS ALREADY IN PLACE. FOR THE ELECTRICAL SYSTEM AS REQUIRED BY ARTICLE 250 OF THE NEC AND AS SPECIFIED HEREIN.

B. CONDUCTORS AND CONNECTORS

1. INSULATED CONDUCTORS SHALL BE COPPER WIRE OR CABLE INSULATED FOR 600V UNLESS OTHERWISE REQUIRED BY APPLICABLE CODE OR AUTHORITIES HAVING JURISDICTION.

2. ALL BRANCH CIRCUITS FOR POWER WIRING SHALL CONTAIN A COPPER EQUIPMENT SAFETY GROUND WIRE. NO FLEXIBLE METAL CONDUIT OF ANY KIND, TYPE, OR LENGTH SHALL BE USED AS AN EQUIPMENT GROUNDING CONDUCTOR.

3. COPPER GROUNDING BUS SHALL BE INSTALLED IN ELECTRICAL AND TELEPHONE EQUIPMENT ROOMS, IN ROOMS HOUSING ELECTRICAL SERVICE EQUIPMENT, AND ELSEWHERE AS INDICATED ON DRAWINGS.

4. GROUNDING CONDUCTORS SHALL BE ROUTED ALONG SHORTEST AND STRAIGHTEST PATHS POSSIBLE, UNLESS OTHERWISE INDICATED ON DRAWINGS OR REQUIRED BY CODE. AVOID OBSTRUCTING ACCESS OR PLACING CONDUCTORS WHERE THEY MAY BE SUBJECTED TO STRAIN, IMPACT, OR DAMAGE.

C. EQUIPMENT GROUNDING

1. INSTALL INSULATED EQUIPMENT GROUNDING CONDUCTORS WITH ALL FEEDERS AND BRANCH CIRCUITS.

2. INSTALL INSULATED EQUIPMENT GROUNDING CONDUCTORS WITH THE FOLLOWING ITEMS, IN ADDITION TO THOSE REQUIRED BY NFPA 70: FEEDERS AND BRANCH CIRCUITS, LIGHTING CIRCUITS, RECEPTACLE CIRCUITS, SINGLE-PHASE MOTOR AND APPLIANCE BRANCH CIRCUITS, THREE-PHASE MOTOR AND APPLIANCE BRANCH CIRCUITS, COMPUTER AND RACK-MOUNTED ELECTRONIC EQUIPMENT CIRCUITS, AND FLEXIBLE METAL RACEWAY RUNS.

3. FOR DESIGNATED EQUIPMENT SUPPLIED BY A BRANCH CIRCUIT OR FEEDER, ISOLATE EQUIPMENT ENCLOSURE FROM SUPPLY CIRCUIT RACEWAY WITH A NONMETALLIC RACEWAY FITTING LISTED FOR THE PURPOSE. INSTALL FITTING WHERE RACEWAY ENTERS ENCLOSURE, AND INSTALL A SEPARATE INSULATED EQUIPMENT GROUNDING CONDUCTOR. ISOLATE CONDUCTOR FROM RACEWAY AND FROM PANELBOARD GROUNDING TERMINALS. TERMINATE AT EQUIPMENT GROUNDING CONDUCTOR TERMINAL OF THE APPLICABLE DERIVED SYSTEM OR SERVICE, UNLESS OTHERWISE INDICATED.

ELECTRICAL SUPPORTS AND SEISMIC RESTRAINTS

A. SUPPORT, ANCHORAGE, AND ATTACHMENT COMPONENTS.

1. RATED STRENGTH SHALL BE ADEQUATE IN TENSION, SHEAR, AND PULLOUT FORCE TO RESIST MAXIMUM LOADS CALCULATED OR IMPOSED UNDER THIS PROJECT, WITH A MINIMUM STRUCTURAL SAFETY FACTOR OF FIVE TIMES THE APPLIED FORCE.

2. RACEWAY AND CABLE SUPPORTS SHALL BE AS DESCRIBED IN NECA 1.

3. CONDUIT AND CABLE SUPPORT DEVICES SHALL BE STEEL HANGERS, CLAMPS, AND ASSOCIATED FITTINGS, DESIGNED FOR TYPES AND SIZES OF RACEWAY OR CABLE TO BE SUPPORTED.

4. SUPPORT FOR CONDUCTORS IN VERTICAL CONDUIT SHALL BE FACTORY-FABRICATED ASSEMBLY CONSISTING OF THREADED BODY AND INSULATING WEDGING PLUG OR PLUGS FOR NON-ARMORED ELECTRICAL CONDUCTORS OR CABLES IN RISER CONDUITS. PLUGS SHALL HAVE NUMBER, SIZE, AND SHAPE OF CONDUCTOR GRIPPING PIECES AS REQUIRED TO SUIT INDIVIDUAL CONDUCTORS OR CABLES SUPPORTED. BODY SHALL BE MALLEABLE IRON.

ELECTRICAL IDENTIFICATION

A. COORDINATION

1. COORDINATE IDENTIFICATION NAMES, ABBREVIATIONS, COLORS, AND OTHER FEATURES WITH REQUIREMENTS IN THE CONTRACT DOCUMENTS, SHOP DRAWINGS, MANUFACTURER'S WIRING DIAGRAMS, ENGINEERING DRAWINGS, OPERATION AND MAINTENANCE MANUALS, AND WITH THOSE REQUIRED BY CODES, STANDARDS, AND 29 CFR 1910.145. CONSISTENT DESIGNATIONS SHALL BE USED THROUGHOUT PROJECT.

B. WARNING LABELS AND SIGNS

1. ALL WARNING LABELS AND SIGNS SHALL COMPLY WITH NFPA 70 AND 29 CFR 1910.145.

2. SELF-ADHESIVE WARNING LABELS AND IDENTIFICATION TAGS SHALL BE FACTORY-PRINTED, MULTICOLOR, PRESSURE-SENSITIVE ADHESIVE LABELS, CONFIGURED FOR DISPLAY ON FRONT COVER, DOOR, OR OTHER ACCESS TO EQUIPMENT, UNLESS OTHERWISE INDICATED ON DRAWINGS.

C. IDENTIFICATION

1. APPLY IDENTIFICATION PRACTICES ON CONDUIT FOR LIFE SAFETY SYSTEMS AT MAXIMUM OR 25' CENTERS AND AT LEAST ONE (1) PER ROOM. USE PERMANENT VINYL, SELF-ADHERING MARKERS, UNLESS OTHERWISE NOTED.

2. APPLY CABLE/CONDUCTOR IDENTIFICATION MARKERS ON EACH CABLE AND CONDUCTOR IN EACH BOX, ENCLOSURE, OR CABINET (THOMAS & BETTS TY-RAP OR APPROVED EQUAL).

3. PROVIDE SELF-ADHESIVE PLASTIC SIGNS WITH APPROPRIATE INSTRUCTIONS OR WARNINGS AT ALL ELECTRICAL REQUIPMENT ROOMS AND ON ALL ELECTRICAL EQUIPMENT ENCLOSURES INCLUDING, BUT NOT LIMITED TO, TRANSFORMERS, PANELBOARDS, MOTOR STARTERS, DISCONNECT SWITCHES, AND ELECTRICAL BOXES AND CABINETS.

4. PROVIDE ENGRAVED, SELF-ADHESIVE, FACTORY-PRINTED, PRESSURE-SENSITIVE IDENTIFICATION LABELS, CONFIGURED FOR DISPLAY ON FRONT COVERS, DOORS, ETC. FOR ALL ELECTRICAL EQUIPMENT ENCLOSURES INCLUDING, BUT NOT LIMITED TO, PANELBOARDS, TRANSFORMERS, MOTOR STARTERS, DISCONNECT SWITCHES, AND ELECTRICAL BOXES AND CABINETS.

5. PROVIDE CIRCUIT IDENTIFICATION TAGS TO ALL BRANCH CIRCUIT WIRING DEVICES. PANEL DESIGNATION AND CIRCUIT NUMBER SHALL BE TYPE WRITTEN BLACK LETTERS ON A CLEAR, SELF-ADHESIVE TAPE STRIP.

6. PROVIDE NEW DISTRIBUTION PANELBOARD DIRECTORIES WITHIN EACH PANELBOARD WITH A DESCRIPTION OF THE LOAD SERVED BY EACH CIRCUIT, INCLUDING LOCATION OF EACH LOAD.

7. PROVIDE PROFESSIONAL, SELF-ADHESIVE CIRCUIT IDENTIFICATION NUMBERS ADJACENT TO EACH CIRCUIT BREAKER POSITION WITHIN NEW DISTRIBUTION PANELBOARDS. CIRCUIT IDENTIFICATION NUMBERS SHALL CORRESPOND WITH THOSE INDICATED IN PANEL SCHEDULES.

8. COLOR-CODING FOR PHASE AND VOLTAGE LEVEL IDENTIFICATION, 600V AND LESS, SHALL BE OF THE COLORS LISTED BELOW FOR UNGROUNDED SERVICE, FEEDER, AND/OR BRANCH-CIRCUIT CONDUCTORS:

A) COLOR SHALL BE FACTORY APPLIED OR, FOR SIZES LARGER THAN NO. 12 AWG, FIELD APPLIED IF AUTHORITIES HAVING JURISDICTION PERMIT.

B) COLORS FOR CIRCUITS SHALL BE:

| | 208Y/120V | 480Y/277V |
|---|---|---|
| PHASE A: | BLACK | BROWN |
| PHASE B: | RED | ORANGE |
| PHASE C: | BLUE | YELLOW |
| NEUTRAL: | WHITE | WHITE |
| GROUND: | GREEN | GREEN |
| ISOLATED GROUND: | GREEN/YELLOW | GREEN/YELLOW |

CONDUCTORS AND CABLES

A. CONDUCTORS AND CABLES

1. SUBJECT TO COMPLIANCE WITH REQUIREMENTS, PROVIDE PRODUCTS BY ONE OF THE FOLLOWING, UNLESS OTHERWISE INDICATED ON ENGINEERING DRAWINGS:

A) ALCAN PRODUCTS CORPORATION; ALCAN CABLE DIVISION
B) AMERICAN INSULATED WIRE CORP.; A LEVITON COMPANY
C) GENERAL CABLE CORPORATION
D) SOUTHWIRE COMPANY

2. COPPER CONDUCTORS SHALL COMPLY WITH NEMA WC 70.

3. CONDUCTOR INSULATION SHALL COMPLY WITH NEMA WC 70 FOR TYPES THHN-THWN, XHHW, UF, USE, AND SO.

4. MULTI-CONDUCTOR CABLE SHALL COMPLY WITH NEMA WC 70 FOR METAL-CLAD CABLE, TYPE MC, WITH GROUND WIRE.

5. MINIMUM CONDUCTOR SIZE SHALL BE #12 FOR ALL POWER CONDUCTORS AND #14 FOR CONTROL CONDUCTORS. PROVIDE A SEPARATE NEUTRAL FOR EACH POWER CIRCUIT. NEUTRALS SHALL NOT BE SHARED.

6. ALL ELECTRICAL CONNECTIONS SHALL BE COPPER.

7. CIRCUIT NUMBERS AND DESIGNATIONS ARE SHOWN ONLY FOR GROUPING AND IDENTIFICATION. CONTRACTOR SHALL MAINTAIN LOAD BALANCE BETWEEN PHASES OF +/- 10%.

8. CONTRACTOR SHALL PROVIDE #10 WIRE FOR 120 VOLTS CIRCUITS THAT EXCEED APPROXIMATELY 100 FEET TO THE FARTHEST ELECTRICAL CONNECTION (SUCH AS AN OUTLET) AND FOR 277V CIRCUITS THAT EXCEED 200 FEET TO THE FARTHEST ELECTRICAL CONNECTION.

9. FEEDERS SHALL NOT BE SPLICED, UNLESS OTHERWISE INDICATED ON ENGINEERING DRAWINGS.

B. CONNECTORS AND SPLICES

1. SUBJECT TO COMPLIANCE WITH REQUIREMENTS, PROVIDE PRODUCTS BY ONE OF THE FOLLOWING, UNLESS OTHERWISE INDICATED ON ENGINEERING DRAWINGS:

A) AFC CABLE SYSTEMS, INC.
B) HUBBELL POWER SYSTEMS, INC.
C) O-Z/GEDNEY; EGS ELECTRICAL GROUP LLC.
D) 3M; ELECTRICAL PRODUCTS DIVISION
E) TYCO ELECTRONICS CORP.

C. SLEEVE SEALS

1. SUBJECT TO COMPLIANCE WITH REQUIREMENTS, PROVIDE PRODUCTS BY ONE OF THE FOLLOWING, UNLESS OTHERWISE INDICATED ON ENGINEERING DRAWINGS:

A) ADVANCE PRODUCTS & POWER SYSTEMS, INC.
B) CALPICO, INC.
C) METRAFLEX CO.
D) PIPELINE SEAL AND INSULATOR, INC.

2. SEALING ELEMENTS SHALL BE EPDM OR NBR INTERLOCKING LINKS SHAPED TO FIT SURFACE OF CABLE OR CONDUIT. INCLUDE TYPE AND NUMBER REQUIRED FOR MATERIAL AND SIZE OF RACEWAY OR CABLE.

3. PRESSURE PLATES SHALL BE STAINLESS STEEL. INCLUDE TWO (2) FOR EACH SEALING ELEMENT. CONNECTING BOLTS AND NUTS SHALL BE STAINLESS STEEL OF LENGTH REQUIRED TO SECURE PRESSURE PLATES TO SEALING ELEMENTS. INCLUDE ONE (1) FOR EACH SEALING ELEMENT.

D. CONDUCTOR MATERIAL APPLICATIONS

1. FEEDERS SHALL BE COPPER. SOLID FOR NO. 10 AWG AND SMALLER; STRANDED NO. 8 AWG AND LARGER. MINIMUM FEEDER CONDUCTOR SIZE SHALL BE NO. 12 AWG FOR POWER CONDUCTORS AND NO. 14 AWG FOR CONTROL CONDUCTORS.

2. BRANCH CIRCUITS SHALL BE COPPER. SOLID FOR NO. 10 AWG AND SMALLER; STRANDED FOR NO. 8 AWG AND LARGER. MINIMUM BRANCH CIRCUIT CONDUCTOR SIZE SHALL BE NO. 12 AWG FOR POWER CONDUCTORS AND NO. 14 AWG FOR CONTROL CONDUCTORS.

3. BRANCH CIRCUITS CONCEALED IN CEILINGS, WALLS, AND PARTITIONS SHALL BE OF TYPE THHN-THWN, SINGLE CONDUCTORS IN RACEWAY, METAL-CLAD CABLE, TYPE MC, UNLESS OTHERWISE INDICATED ON ENGINEERING DRAWINGS.

4. ALL ELECTRICAL CONNECTORS SHALL BE COPPER OR TINNED-COPPER.

5. CLASS 1 CONTROL CIRCUITS SHALL BE OF TYPE THHN-THWN, IN RACEWAY.

6. CLASS 2 CONTROL CIRCUITS SHALL BE OF TYPE THHN-THWN, IN RACEWAY.

7. ALL WIRING IN AREAS WITH EXPOSED CEILINGS SHALL BE WITHIN CONDUIT. MC CABLE SHALL ONLY BE USED IN AREAS WITH CEILINGS OR CONCEALED WITHIN WALLS.

RACEWAYS AND BOXES

A. RACEWAY

5. ALL WIRING SHALL BE CONCEALED AND INSTALLED IN CONDUIT WITH A MINIMUM TRADE SIZE OF 3/4" FOR POWER CIRCUITS AND 1/2" FOR CONTROL CIRCUITS.

6. ELECTRICAL RACEWAY CONNECTIONS TO VIBRATING EQUIPMENT AND MACHINERY SUCH AS MOTORS, TRANSFORMERS, ETC., SHALL BE MADE WITH FLEXIBLE METAL CONDUIT (LIQUID TIGHT FLEXIBLE METAL CONDUIT IN OUTDOOR OR WET LOCATIONS).

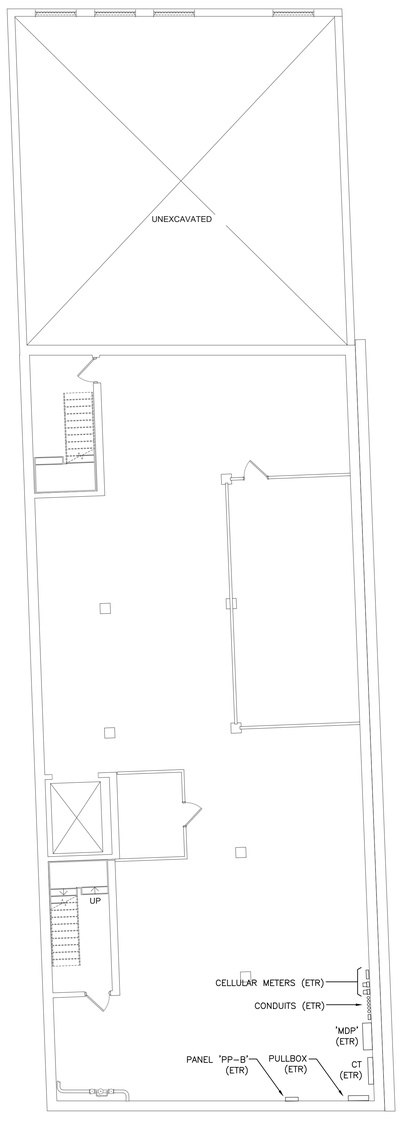
7. LIQUID TIGHT FLEXIBLE METAL CONDUIT LOCATED BELOW ACCESS FLOORS SHALL BE JACKETED, FLEXIBLE STEEL CONDUIT WITH AN INTEGRAL COPPERING SHIELDING CONDUCTOR.

8. METAL CLAD (MC) CABLE MAY BE USED FOR DISTRIBUTION CIRCUITS WHEN CONCEALED IN FINISHED CEILINGS, WALLS, OR FLOORS, UNLESS OTHERWISE NOTED ON DRAWINGS, OR PROHIBITED BY CODE. ALL FEEDERS SHALL BE INSTALLED IN RIGID METAL RACEWAY SUCH AS ELECTRICAL METALLIC TUBING (EMT) OR GALVANIZED RIGID STEEL (GRS) CONDUIT, UNLESS OTHERWISE NOTED.

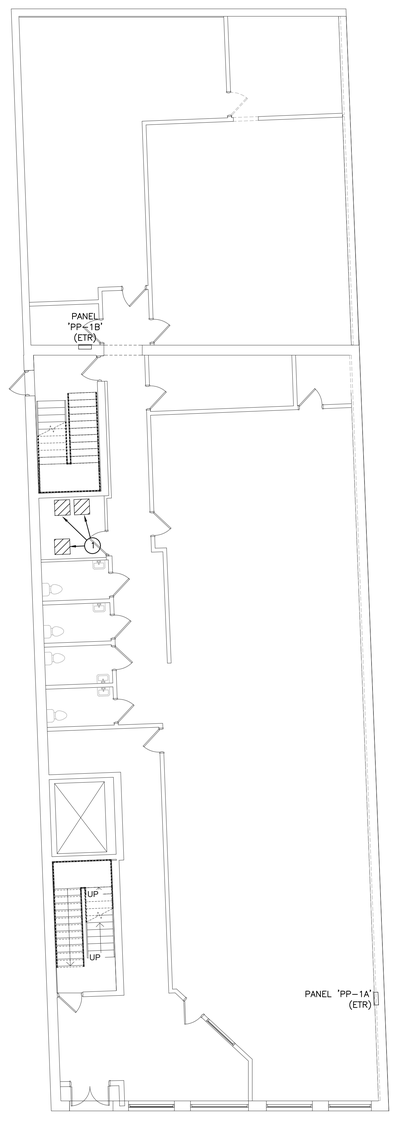
9. ALL PENETRATIONS SHALL BE SEALED WITH FIRE-PROOF COMPOUND USING A UL LISTED FIRE-STOP MATERIAL.

10. GROUP AND INSTALL ALL CONDUITS PARALLEL TO OR PERPENDICULAR TO BUILDING SURFACES

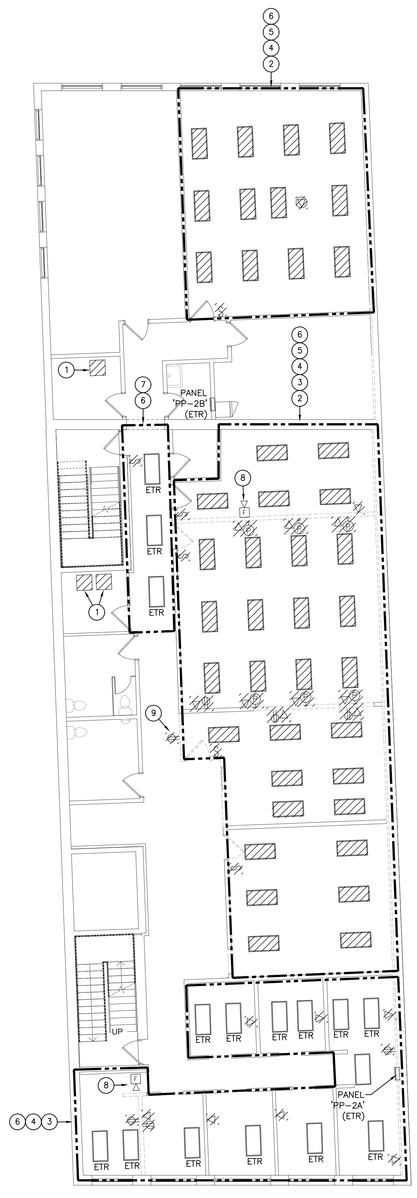
11. INDOOR CONDUIT SHALL BE ELECTRICAL METALLIC TUBING (EMT) WITH COMPRESSION-TYPE FITTINGS, UNLESS OTHERWISE NOTED ON DRAWINGS.



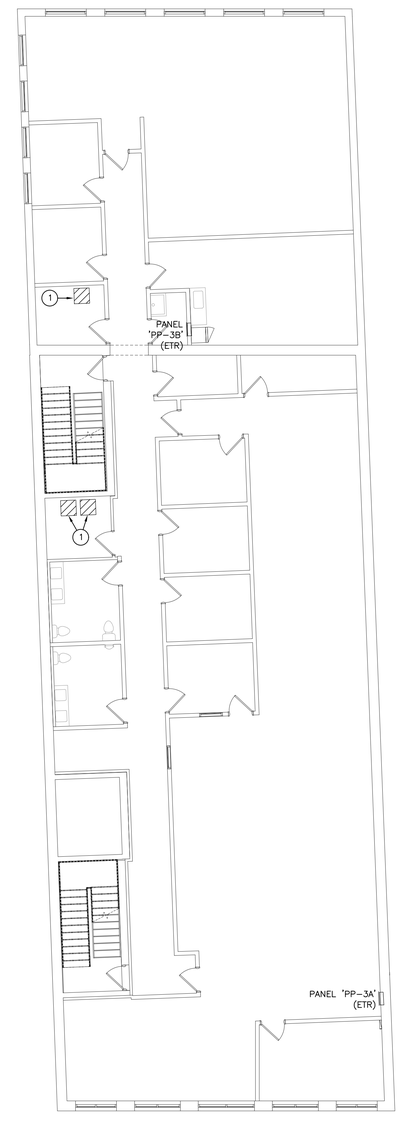

1 ELECTRICAL BASEMENT DEMOLITION PLAN 0 4 8 SCALE 1/8"=1'-0"




2 ELECTRICAL FIRST FLOOR DEMOLITION PLAN 0 4 8 SCALE 1/8"=1'-0"




3 ELECTRICAL SECOND FLOOR DEMOLITION PLAN 0 4 8 SCALE 1/8"=1'-0"




4 ELECTRICAL THIRD DEMOLITION PLAN 0 4 8 SCALE 1/8"=1'-0"

## GENERAL NOTES

1. CONTRACTOR SHALL VISIT THE SITE TO VERIFY EXISTING CONDITIONS PRIOR TO SUBMISSION OF BID. NO ADDITIONAL COMPENSATION SHALL BE CONSIDERED FOR FAILURE TO OBSERVE THIS REQUIREMENT.
2. THE CONTRACTOR SHALL DISCONNECT AND REMOVE ALL ELECTRICAL WIRING AND EQUIPMENT AS REQUIRED WITHIN ALL AREAS TO BE RENOVATED. THIS SHALL INCLUDE BUT NOT BE LIMITED TO FIXTURES, DEVICES, OUTLETS, SWITCHES, RECEPTACLES, STARTERS, DISCONNECTS, PANELS, FEEDERS, ETC.
3. THE CONTRACTOR SHALL DISCONNECT AND REMOVE ALL EXISTING CIRCUITS TO MECHANICAL & PLUMBING EQUIPMENT BEING REMOVED. REFER TO ALL MECHANICAL & PLUMBING DEMOLITION DRAWINGS OR NOTES FOR LOCATIONS.
4. WHERE ELECTRICAL ITEMS ARE REMOVED, ALL BRANCH DEVICE'S WIRING SHALL BE REMOVED BACK TO PANEL SERVICING THE EQUIPMENT. WHERE CIRCUITS SERVE ADDITIONAL DEVICES OR EQUIPMENT REMAINING, WIRING SHALL BE REMOVED BACK TO THE NEAREST ACTIVE JUNCTION BOX.
5. THE CONTRACTOR SHALL MAINTAIN CONTINUITY OF EXISTING CIRCUITS THAT ARE TO REMAIN IN OPERATION AND SCHEDULE FOR RE-FEEDING FROM NEW PANELS. FORWARD FINDINGS TO ENGINEER FOR REVIEW AND COORDINATION.
6. ALL UNUSED CIRCUITS REMAINING AFTER REMOVALS SHALL BECOME SPARE IN PANELS AND LABELED AS SPARE.
7. THE CONTRACTOR SHALL REFER TO ARCHITECTURAL DEMOLITION DRAWINGS FOR ADDITIONAL INFORMATION AND SCOPE OF DEMOLITION.
8. ALL MATERIALS AND EQUIPMENT REMOVALS SHALL BE DISPOSED OF AS DIRECTED BY THE OWNER OR THE ARCHITECT.
9. NOT ALL AREAS MAY HAVE BEEN ACCESSIBLE DURING SURVEY. EQUIPMENT SHOWN IS TO THE BEST OF THE SURVEYOR'S ABILITY DUE TO SITE CONSTRAINTS. CONTRACTOR IS RESPONSIBLE FOR FINAL SURVEY OF ALL AREAS IN SCOPE FOR DEMOLITION AS SHOWN.

## KEY NOTES

1. EXISTING MECHANICAL UNIT TO BE DISCONNECTED AND REMOVED IN ITS ENTIRETY. REMOVE THE EXISTING CIRCUIT(S) BACK TO THE SOURCE.
2. CONTRACTOR SHALL TEMPORARILY SUPPORT AND/OR DISCONNECT ALL EXISTING CEILING MOUNTED DEVICES THAT ARE NOT BEING DEMOLISHED TO ALLOW FOR THE REMOVAL AND/OR INSTALLATION OF A NEW CEILING, LIGHTING AND/OR MECHANICAL EQUIPMENT. EXTEND EXISTING CIRCUITS AS REQUIRED TO MAINTAIN CONTINUITY. IF THERE ARE OTHER DEVICES BEING SERVED BY THE SAME CIRCUIT IN ANOTHER AREA, CONTRACTOR SHALL EXTEND THE WIRING/CONDUIT TO THE NEXT DEVICE IN LINE TO MAINTAIN CONTINUITY. FIRE ALARM SYSTEM SHALL REMAIN OPERATIONAL AT ALL TIMES. ALL ELECTRICAL DEVICES MAY NOT BE SPECIFICALLY SHOWN ON THIS PLAN. CONTRACTOR SHALL VERIFY ALL EXISTING DEVICES IN THE FIELD.
3. CONTRACTOR SHALL DISCONNECT AND REMOVE ALL EXISTING RECEPTACLES AND/OR FURNITURE POWER WITHIN THIS BOUNDARY THAT ARE SHOWN WITH A CROSS HATCH. CONTRACTOR SHALL REMOVE ALL WIRING/CONDUIT ASSOCIATED WITH THESE DEVICES BACK TO THE SOURCE, OR PREVIOUS/NEXT DEVICE IN LINE. IF THERE ARE OTHER DEVICES BEING SERVED BY THE SAME CIRCUIT IN ANOTHER AREA, CONTRACTOR SHALL EXTEND THE WIRING/CONDUIT TO THE NEXT DEVICE IN LINE TO MAINTAIN CONTINUITY.
4. CONTRACTOR SHALL DISCONNECT AND REMOVE ALL EXISTING DATA LOCATIONS WITHIN THIS BOUNDARY THAT ARE SHOWN WITH A CROSS HATCH. CONTRACTOR SHALL PULL BACK EXISTING DATA WIRING TO ABOVE THE NEAREST ACCESSIBLE CEILING. PROVIDE A PULLBOX, SIZED PER NEC, FOR FUTURE EXTENSION.
5. CONTRACTOR SHALL DISCONNECT AND REMOVE ALL EXISTING LIGHT FIXTURES WITHIN THIS BOUNDARY THAT ARE SHOWN WITH A CROSS HATCH. CONTRACTOR SHALL REMOVE ALL WIRING/CONDUIT BETWEEN FIXTURES. EXISTING CIRCUIT SHALL REMAIN AND BE RE-USED TO FEED THE NEW FIXTURES. IF THERE ARE OTHER DEVICES BEING SERVED BY THE SAME CIRCUIT IN ANOTHER AREA, CONTRACTOR SHALL EXTEND THE WIRING/CONDUIT TO THE NEXT DEVICE IN LINE TO MAINTAIN CONTINUITY. REFER TO THE NEW WORK PLAN FOR ADDITIONAL INFORMATION.
6. CONTRACTOR SHALL DISCONNECT AND REMOVE EXISTING LIGHT SWITCHES WITHIN THIS BOUNDARY THAT ARE SHOWN WITH A CROSS HATCH. EXISTING BACKBOX AND CONDUIT SHALL REMAIN AND BE RE-USED. ALL LINE VOLTAGE WIRING SHALL BE REMOVED. IF LIGHTING CIRCUIT SERVICES ORIGINATES IN THE SWITCH BOX, CONTRACTOR SHALL PULL IT BACK TO ABOVE THE ACCESSIBLE CEILING. PROVIDE A PULLBOX, SIZED PER NEC, TO EXTEND THE CIRCUIT AS REQUIRED. REFER TO THE NEW WORK PLAN FOR ADDITIONAL INFORMATION.
7. FIXTURES WITHIN THIS BOUNDARY THAT ARE INDICATED AS EXISTING TO REMAIN (ETR) SHALL BE CONNECTED TO NEW CONTROLS. REFER TO THE NEW WORK PLAN FOR ADDITIONAL INFORMATION.
8. EXISTING FIRE ALARM DEVICE TO BE DISCONNECTED, REMOVED, AND RELOCATED. CONTRACTOR SHALL REMOVE THE EXISTING WIRING TO THE PREVIOUS AND NEXT DEVICE IN LINE. IF THERE ARE OTHER DEVICES BEING SERVED BY THE SAME CIRCUIT IN ANOTHER AREA, CONTRACTOR SHALL EXTEND THE WIRING/CONDUIT TO THE NEXT DEVICE IN LINE TO MAINTAIN CONTINUITY. REFER TO THE NEW WORK PLAN FOR ADDITIONAL INFORMATION.
9. CONTRACTOR SHALL DISCONNECT AND REMOVE THE EXISTING RECEPTACLE IN ITS ENTIREY. REMOVE ALL WIRING/CONDUIT ASSOCIATED WITH THESE DEVICES BACK TO THE SOURCE, OR PREVIOUS/NEXT DEVICE IN LINE. IF THERE ARE OTHER DEVICES BEING SERVED BY THE SAME CIRCUIT IN ANOTHER AREA, CONTRACTOR SHALL EXTEND THE WIRING/CONDUIT TO THE NEXT DEVICE IN LINE TO MAINTAIN CONTINUITY.

## SCOPE NOTE

IN ALL AREAS OF THE BUILDING, CONTRACTOR SHALL BE RESPONSIBLE FOR SUPPORTING ALL EXISTING ELECTRICAL DEVICES AND WIRING/CONDUIT ABOVE THE EXISTING CEILINGS, PER NEC. ALL TELE/DATA AND FIRE ALARM WIRING SHALL BE INDEPENDENTLY SUPPORTED FROM THE STRUCTURE WITH J-HOOKS AND NOT TIE-WRAPPED TO CONDUITS OR MECHANICAL PIPING. ALL EXISTING POWER WIRING/CONDUIT AND JUNCTION BOXES SHALL BE INDEPENDENTLY SUPPORTED TO THE STRUCTURE AND NOT TO THE CEILING GUIDE WIRES, HVAC DUCTS, PIPING, ETC. PROVIDE ALL REQUIRED SUPPORTS AND ACCESSORIES AS REQUIRED PER NEC. CONTRACTOR SHALL PROVIDE ALL REQUIRED FIRE-RATED SLEEVES FOR EXISTING AND NEW WIRING THAT IS TO PASS THROUGH NEW FIRE RATED WALLS.

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AT

**921 ELIZABETH AVENUE**

FOR THE

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ELIZABETH, NJ 07201

| No. | Date | Issue or Revision |
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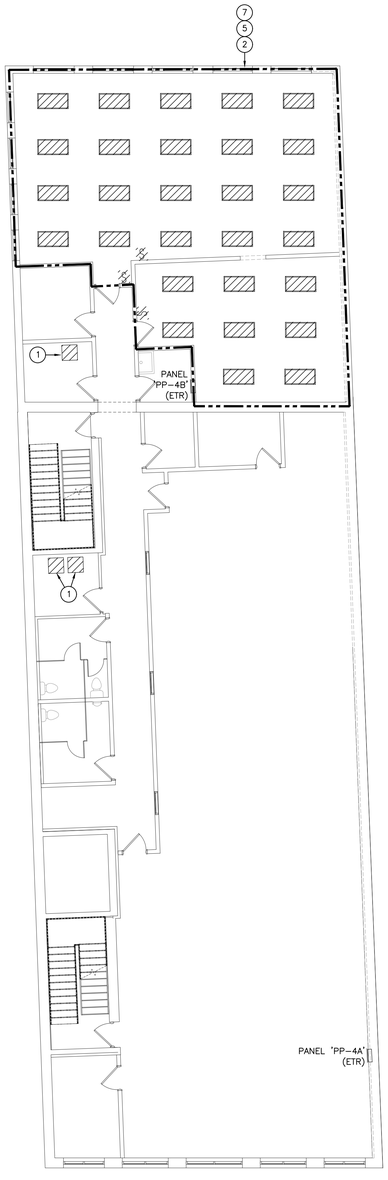
| 1 | 01.17.25 | ISSUED FOR BID |

Drawing Title
ELECTRICAL
BSMT, 1ST, 2ND & 3RD FLOOR DEMOLITION PLANS

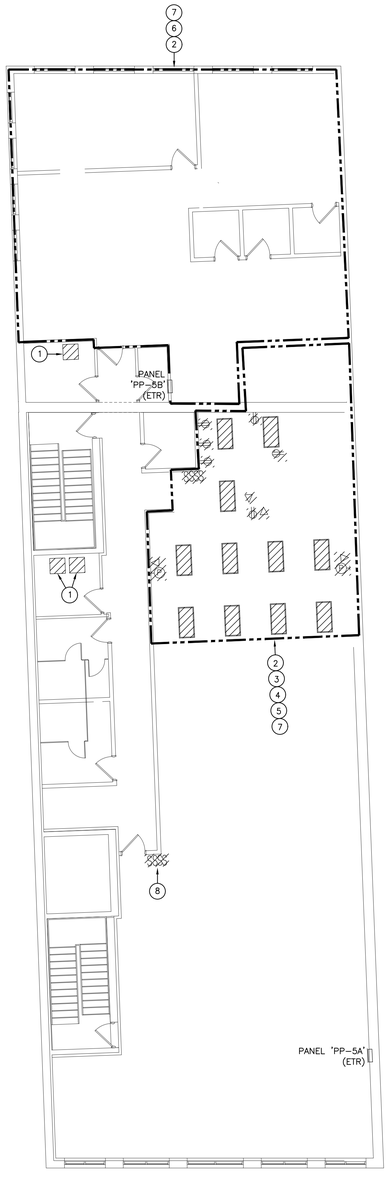
| | |
|---|---|
| Scale: AS NOTED | USA Project No. R2024.0087 |
| Drawing Date: 01.17.2025 | Drawing No. E1.1 |
| Drawn By | Checked By |

Plotted: 1/17/2025 10:03 AM By: gpolan
File: K:\Projects 24\24-061 Union City - 921 Elizabeth Ave HVAC Upgrades\Drawings\24-061E1x-E3x - DEMOLITION & NEW WORK\E1.1



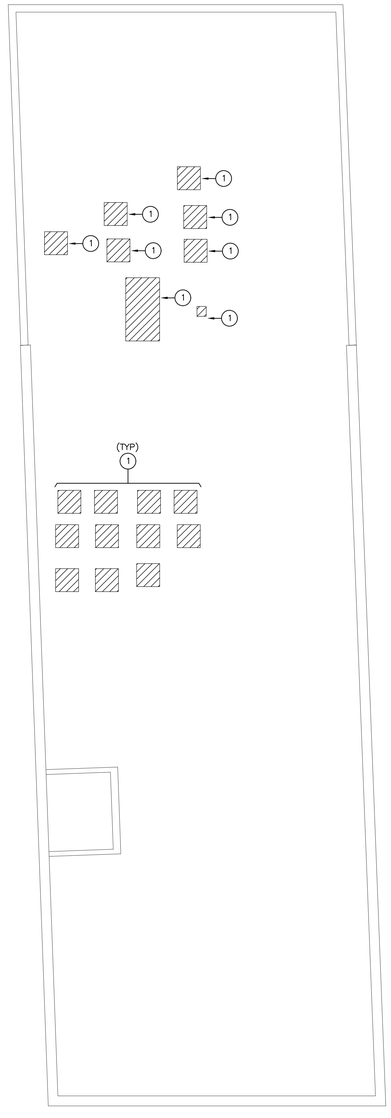

1 ELECTRICAL FOURTH FLOOR DEMOLITION PLAN

SCALE 1/8"=1'-0"




2 ELECTRICAL FIFTH FLOOR DEMOLITION PLAN

SCALE 1/8"=1'-0"




3 ELECTRICAL ROOF DEMOLITION PLAN

SCALE 1/8"=1'-0"

## GENERAL NOTES

1. CONTRACTOR SHALL VISIT THE SITE TO VERIFY EXISTING CONDITIONS PRIOR TO SUBMISSION OF BID. NO ADDITIONAL COMPENSATION SHALL BE CONSIDERED FOR FAILURE TO OBSERVE THIS REQUIREMENT.
2. THE CONTRACTOR SHALL DISCONNECT AND REMOVE ALL ELECTRICAL WIRING AND EQUIPMENT AS REQUIRED WITHIN ALL AREAS TO BE RENOVATED. THIS SHALL INCLUDE BUT NOT BE LIMITED TO FIXTURES, DEVICES, OUTLETS, SWITCHES, RECEPTACLES, STARTERS, DISCONNECTS, PANELS, FEEDERS, ETC.
3. THE CONTRACTOR SHALL DISCONNECT AND REMOVE ALL EXISTING CIRCUITS TO MECHANICAL & PLUMBING EQUIPMENT BEING REMOVED. REFER TO ALL MECHANICAL & PLUMBING DEMOLITION DRAWINGS OR NOTES FOR LOCATIONS.
4. WHERE ELECTRICAL ITEMS ARE REMOVED, ALL BRANCH DEVICE'S WIRING SHALL BE REMOVED BACK TO PANEL SERVICING THE EQUIPMENT. WHERE CIRCUITS SERVE ADDITIONAL DEVICES OR EQUIPMENT REMAINING, WIRING SHALL BE REMOVED BACK TO THE NEAREST ACTIVE JUNCTION BOX.
5. THE CONTRACTOR SHALL MAINTAIN CONTINUITY OF EXISTING CIRCUITS THAT ARE TO REMAIN IN OPERATION AND SCHEDULE FOR RE-FEEDING FROM NEW PANELS. FORWARD FINDINGS TO ENGINEER FOR REVIEW AND COORDINATION.
6. ALL UNUSED CIRCUITS REMAINING AFTER REMOVALS SHALL BECOME SPARE IN PANELS AND LABELED AS SPARE.
7. THE CONTRACTOR SHALL REFER TO ARCHITECTURAL DEMOLITION DRAWINGS FOR ADDITIONAL INFORMATION AND SCOPE OF DEMOLITION.
8. ALL MATERIALS AND EQUIPMENT REMOVALS SHALL BE DISPOSED OF AS DIRECTED BY THE OWNER OR THE ARCHITECT.
9. NOT ALL AREAS MAY HAVE BEEN ACCESSIBLE DURING SURVEY. EQUIPMENT SHOWN IS TO THE BEST OF THE SURVEYOR'S ABILITY DUE TO SITE CONSTRAINTS. CONTRACTOR IS RESPONSIBLE FOR FINAL SURVEY OF ALL AREAS IN SCOPE FOR DEMOLITION AS SHOWN.

## KEY NOTES

1. EXISTING MECHANICAL UNIT TO BE DISCONNECTED AND REMOVED IN ITS ENTIRETY. REMOVE THE EXISTING CIRCUIT(S) BACK TO THE SOURCE.
2. CONTRACTOR SHALL TEMPORARILY SUPPORT AND/OR DISCONNECT ALL EXISTING CEILING MOUNTED DEVICES THAT ARE NOT BEING DEMOLISHED TO ALLOW FOR THE REMOVAL AND/OR INSTALLATION OF A NEW CEILING, LIGHTING AND/OR MECHANICAL EQUIPMENT. EXTEND EXISTING CIRCUITS AS REQUIRED TO MAINTAIN CONTINUITY. IF THERE ARE OTHER DEVICES BEING SERVED BY THE SAME CIRCUIT IN ANOTHER AREA, CONTRACTOR SHALL EXTEND THE WIRING/CONDUIT TO THE NEXT DEVICE IN LINE TO MAINTAIN CONTINUITY. FIRE ALARM SYSTEM SHALL REMAIN OPERATIONAL AT ALL TIMES. ALL ELECTRICAL DEVICES MAY NOT BE SPECIFICALLY SHOWN ON THIS PLAN. CONTRACTOR SHALL VERIFY ALL EXISTING DEVICES IN THE FIELD.
3. CONTRACTOR SHALL DISCONNECT AND REMOVE ALL EXISTING RECEPTACLES AND FURNITURE POWER WITHIN THIS BOUNDARY THAT ARE SHOWN WITH A CROSS HATCH. CONTRACTOR SHALL REMOVE ALL WIRING/CONDUIT ASSOCIATED WITH THESE DEVICES BACK TO THE SOURCE, OR PREVIOUS/NEXT DEVICE IN LINE. IF THERE ARE OTHER DEVICES BEING SERVED BY THE SAME CIRCUIT IN ANOTHER AREA, CONTRACTOR SHALL EXTEND THE WIRING/CONDUIT TO THE NEXT DEVICE IN LINE TO MAINTAIN CONTINUITY.
4. CONTRACTOR SHALL DISCONNECT AND REMOVE ALL EXISTING DATA LOCATIONS WITHIN THIS BOUNDARY THAT ARE SHOWN WITH A CROSS HATCH. CONTRACTOR SHALL PULL BACK EXISTING DATA WIRING TO ABOVE THE NEAREST ACCESSIBLE CEILING. PROVIDE A PULLBOX, SIZED PER NEC, FOR FUTURE EXTENSION.
5. CONTRACTOR SHALL DISCONNECT AND REMOVE ALL EXISTING LIGHT FIXTURES WITHIN THIS BOUNDARY THAT ARE SHOWN WITH A CROSS HATCH. CONTRACTOR SHALL REMOVE ALL WIRING/CONDUIT BETWEEN FIXTURES. EXISTING CIRCUIT SHALL REMAIN AND BE RE-USED TO FEED THE NEW FIXTURES. IF THERE ARE OTHER DEVICES BEING SERVED BY THE SAME CIRCUIT IN ANOTHER AREA, CONTRACTOR SHALL EXTEND THE WIRING/CONDUIT TO THE NEXT DEVICE IN LINE TO MAINTAIN CONTINUITY. REFER TO THE NEW WORK PLAN FOR ADDITIONAL INFORMATION.
6. CONTRACTOR SHALL DISCONNECT AND REMOVE ALL EXISTING LIGHT FIXTURES WITHIN THIS BOUNDARY. NOTE THAT EXACT QUANTITY AND LOCATION OF EXISTING FIXTURES MAY NOT BE INDICATED. CONTRACTOR SHALL REMOVE ALL WIRING/CONDUIT BETWEEN FIXTURES. EXISTING CIRCUIT SHALL REMAIN AND BE RE-USED TO FEED THE NEW FIXTURES. IF THERE ARE OTHER DEVICES BEING SERVED BY THE SAME CIRCUIT IN ANOTHER AREA, CONTRACTOR SHALL EXTEND THE WIRING/CONDUIT TO THE NEXT DEVICE IN LINE TO MAINTAIN CONTINUITY. REFER TO THE NEW WORK PLAN FOR ADDITIONAL INFORMATION.
7. CONTRACTOR SHALL DISCONNECT AND REMOVE EXISTING LIGHT SWITCHES WITHIN THIS BOUNDARY THAT ARE SHOWN WITH A CROSS HATCH. EXISTING BACKBOX AND CONDUIT SHALL REMAIN AND BE RE-USED. ALL LINE VOLTAGE WIRING SHALL BE REMOVED. IF LIGHTING CIRCUIT SERVICES ORIGINATES IN THE SWITCH BOX, CONTRACTOR SHALL PULL IT BACK TO ABOVE THE ACCESSIBLE CEILING. PROVIDE A PULLBOX, SIZED PER NEC, TO EXTEND THE CIRCUIT AS REQUIRED. REFER TO THE NEW WORK PLAN FOR ADDITIONAL INFORMATION.
8. EXISTING 3-WAY SWITCHES TO BE DISCONNECTED, REMOVED, AND REPLACED WITH NEW SINGLE POLE SWITCHES. REFER TO THE NEW WORK PLAN FOR ADDITIONAL INFORMATION.

## SCOPE NOTE

IN ALL AREAS OF THE BUILDING, CONTRACTOR SHALL BE RESPONSIBLE FOR SUPPORTING ALL EXISTING ELECTRICAL DEVICES AND WIRING/CONDUIT ABOVE THE EXISTING CEILINGS, PER NEC. ALL TELE/DATA AND FIRE ALARM WIRING SHALL BE INDEPENDENTLY SUPPORTED FROM THE STRUCTURE WITH J-HOOKS AND NOT TIE-WRAPPED TO CONDUITS OR MECHANICAL PIPING. ALL EXISTING POWER WIRING/CONDUIT AND JUNCTION BOXES SHALL BE INDEPENDENTLY SUPPORTED TO THE STRUCTURE AND NOT TO THE CEILING GUIDE WIRES, HVAC DUCTS, PIPING, ETC. PROVIDE ALL REQUIRED SUPPORTS AND ACCESSORIES AS REQUIRED PER NEC. CONTRACTOR SHALL PROVIDE ALL REQUIRED FIRE-RATED SLEEVES FOR EXISTING AND NEW WIRING THAT IS TO PASS THROUGH NEW FIRE RATED WALLS.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|---|---|---|
| 1 | 01.17.25 | ISSUED FOR BID |

Drawing Title
ELECTRICAL
4TH, 5TH, & ROOF
DEMOLITION PLANS

| Scale | USA Project No. |
|---|---|
| AS NOTED | R2024.0087 |
| Drawing Date 01.17.2025 | Drawing No. E1.2 |
| Drawn By | Checked By |


Plotted: 1/17/2025 10:03 AM By: gnolori
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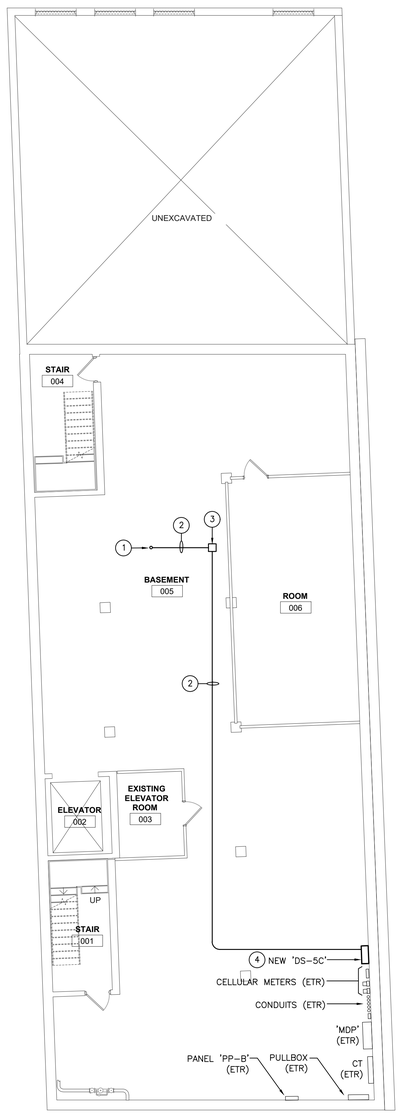
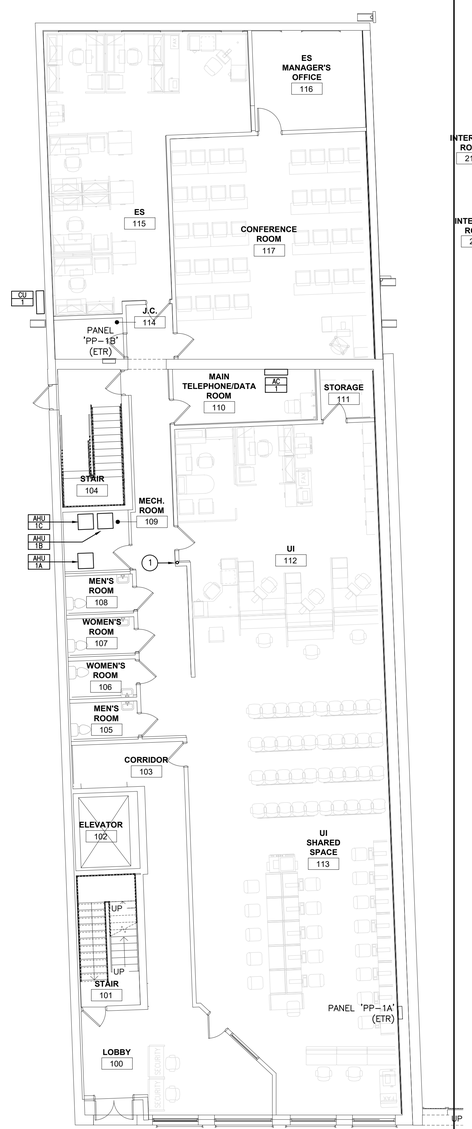
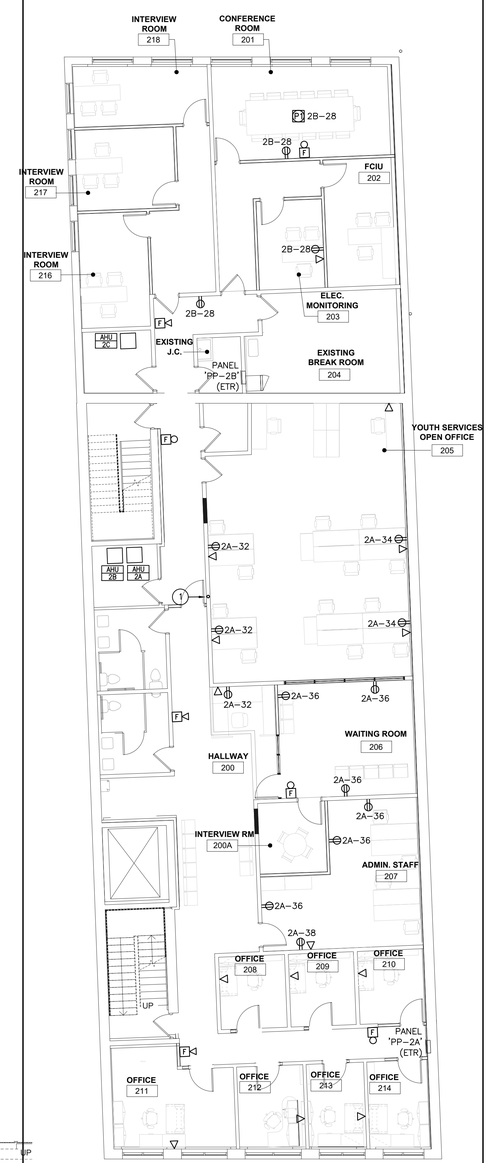


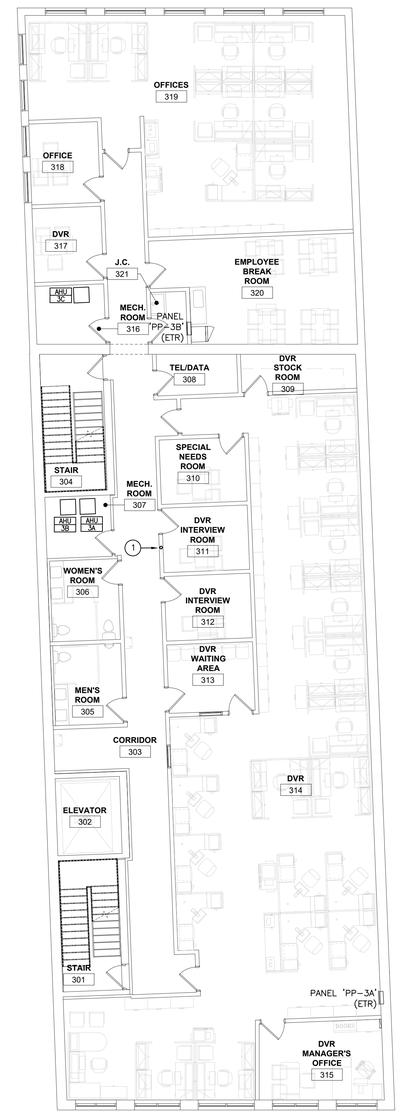

1 ELECTRICAL BASEMENT NEW WORK PLAN – POWER 0 4 8 SCALE 1/8"=1'-0"




2 ELECTRICAL FIRST FLOOR NEW WORK PLAN – POWER 0 4 8 SCALE 1/8"=1'-0"




3 ELECTRICAL SECOND FLOOR NEW WORK PLAN – POWER 0 4 8 SCALE 1/8"=1'-0"




4 ELECTRICAL THIRD NEW WORK PLAN – POWER 0 4 8 SCALE 1/8"=1'-0"

## GENERAL NOTES

1. REFER TO ARCHITECTURAL AND EQUIPMENT PLANS FOR EXACT LOCATIONS OF ALL EQUIPMENT.
2. COORDINATE EXACT DEVICE LOCATIONS AND MOUNTING HEIGHTS WITH ARCHITECT AND ARCHITECTURAL DOCUMENTS PRIOR TO INSTALLATION.
3. MECHANICAL AND/OR PLUMBING EQUIPMENT IS INDICATED FOR REFERENCE ONLY. REFER TO MECHANICAL AND PLUMBING DRAWINGS FOR EXACT QUANTITY AND LOCATIONS OF ALL MECHANICAL AND PLUMBING EQUIPMENT. THE CONTRACTOR MUST HAVE THE H.V.A.C. AND PLUMBING DRAWINGS FOR LOCATIONS OF EQUIPMENT AND CONTROL WIRING REQUIREMENTS. POWER FEEDER TO MECHANICAL AND/OR PLUMBING EQUIPMENT ARE SCHEDULED ON THE ELECTRICAL DRAWINGS. FURNISH AND INSTALL ALL CODE REQUIRED DISCONNECT SWITCHES FOR MECHANICAL EQUIPMENT UNLESS SPECIFIED ON MECHANICAL DRAWINGS TO BE SUPPLIED BY MANUFACTURER. PROVIDE FUSED SWITCHES WHEREVER MANUFACTURER REQUIRES THEM.
4. ALL WIRING IN AREAS WITH EXPOSED CEILINGS SHALL BE WITHIN CONDUIT. MC CABLE SHALL ONLY BE USED IN AREAS WITH CEILINGS OR CONCEALED WITHIN WALLS.
5. ALL WIRING ABOVE ACCESSIBLE SUSPENDED CEILINGS SHALL BE SUPPORTED WITH J-HOOKS SPACED AT MAXIMUM 4'-0" ON CENTERS.
6. ALL CIRCUITS INDICATED BY '2A-#' SHALL BE WIRE TO PANEL 'PP-2A'
7. ALL CIRCUITS INDICATED BY '2B-#' SHALL BE WIRE TO PANEL 'PP-2B'

## KEY NOTES

1. APPROXIMATE LOCATION OF NEW FEEDER FROM 'DS-5C' IN THE BASEMENT TO PANEL 'PP-5C' ON THE FIRST FLOOR. CONTRACTOR MAY CUT BACK ANY WALL MATERIAL REQUIRED TO ALLOW FOR THE INSTALLATION OF THE NEW FEEDER, BUT SHALL KEEP THE WALL DEMOLITION TO A MINIMUM WHEREVER POSSIBLE. ONCE NEW CONDUIT IS INSTALLED, CONTRACTOR SHALL PATCH AND PAINT THE WALL TO MATCH ADJACENT SURFACES. COORDINATE EXACT LOCATION IN THE FIELD.
2. NEW ELECTRICAL FEEDER FROM 'DS-5C' IN THE BASEMENT TO PANEL 'PP-5C' ON THE FIRST FLOOR. FEEDER SHALL BE ROUTED AS HIGH AS POSSIBLE AND SUPPORTED PER NEC FOR THE ENTIRE LENGTH OF RUN. COORDINATE EXACT ROUTE IN THE FIELD.
3. NEW ELECTRICAL PULLBOX, SIZED PER NEC.
4. COORDINATE EXACT LOCATION OF NEW DISCONNECT SWITCH SUCH THAT ALL NEC CLEARANCES ARE MET.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|---|---|---|
| 1 | 01.17.25 | ISSUED FOR BID |

Drawing Title
ELECTRICAL
BSMT, 1ST, 2ND & 3RD FLOOR NEW WORK PLANS - POWER

| Scale | USA Project No. |
|---|---|
| AS NOTED | R2024.0087 |
| Drawing Date 01.17.2025 | Drawing No. E2.1 |
| Drawn By | Checked By |


Plotted: 1/17/2025 10:03 AM By: gpalori
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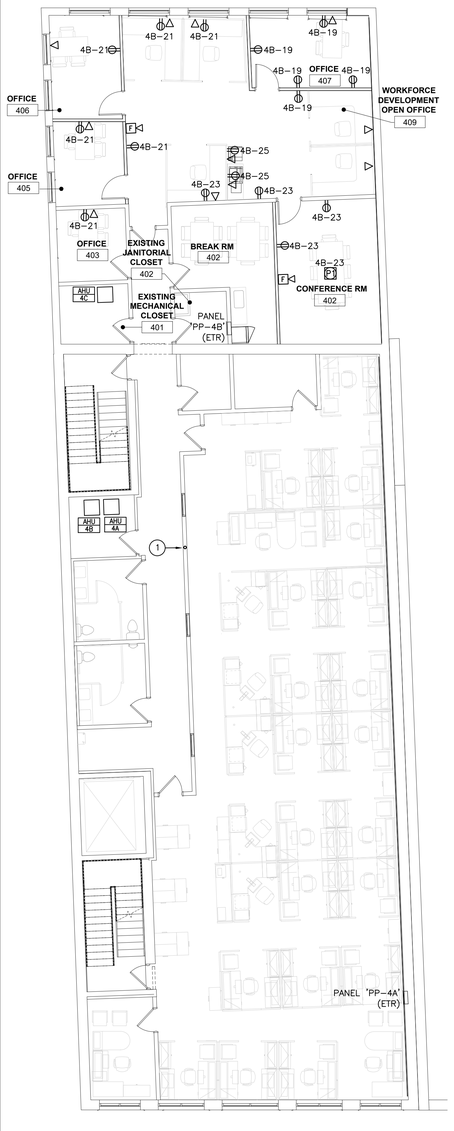
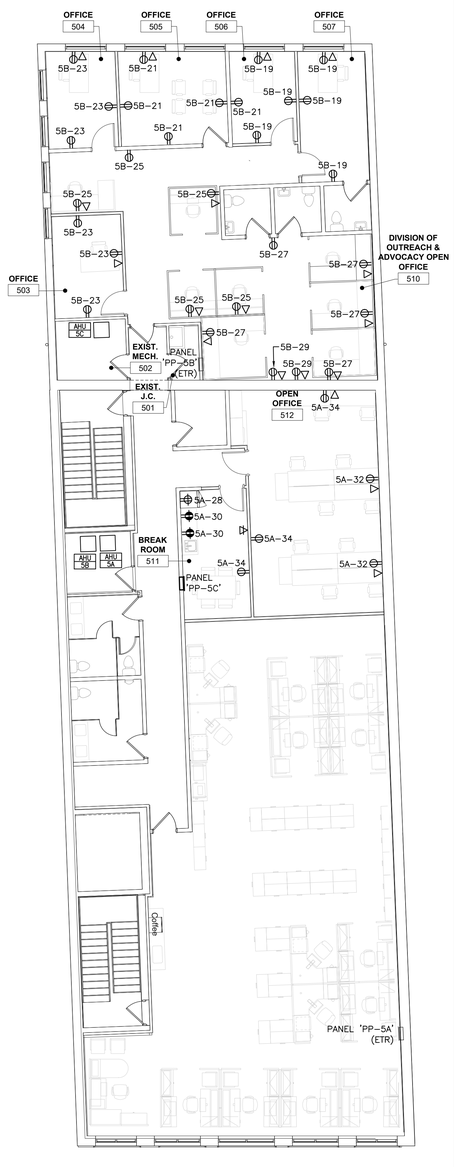


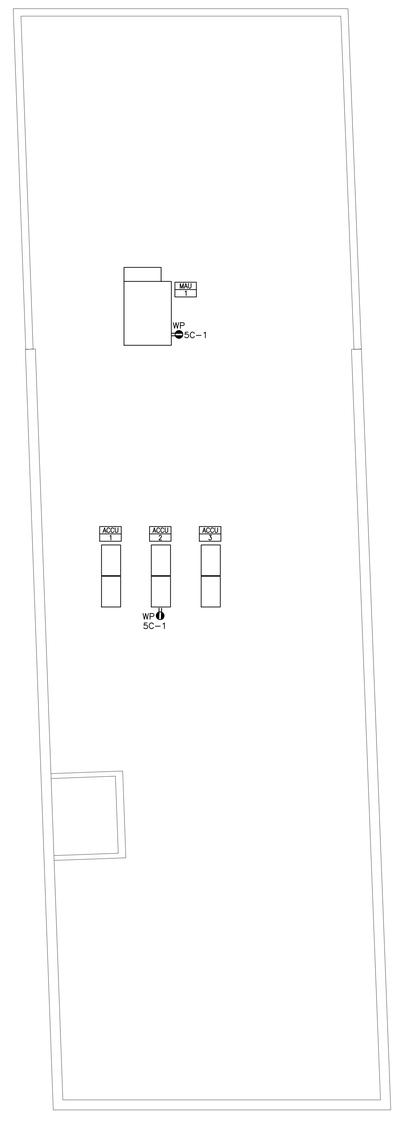

1 ELECTRICAL FOURTH FLOOR NEW WORK PLAN – POWER

SCALE 1/8"=1'-0"




2 ELECTRICAL FIFTH FLOOR NEW WORK PLAN – POWER

SCALE 1/8"=1'-0"




3 ELECTRICAL ROOF NEW WORK PLAN – POWER

SCALE 1/8"=1'-0"

## GENERAL NOTES

1. REFER TO ARCHITECTURAL AND EQUIPMENT PLANS FOR EXACT LOCATIONS OF ALL EQUIPMENT.
2. COORDINATE EXACT DEVICE LOCATIONS AND MOUNTING HEIGHTS WITH ARCHITECT AND ARCHITECTURAL DOCUMENTS PRIOR TO INSTALLATION.
3. MECHANICAL AND/OR PLUMBING EQUIPMENT IS INDICATED FOR REFERENCE ONLY. REFER TO MECHANICAL AND PLUMBING DRAWINGS FOR EXACT QUANTITY AND LOCATIONS OF ALL MECHANICAL AND PLUMBING EQUIPMENT. THE CONTRACTOR MUST HAVE THE H.V.A.C. AND PLUMBING DRAWINGS FOR LOCATIONS OF EQUIPMENT AND CONTROL WIRING REQUIREMENTS. POWER FEEDER TO MECHANICAL AND/OR PLUMBING EQUIPMENT ARE SCHEDULED ON THE ELECTRICAL DRAWINGS. FURNISH AND INSTALL ALL CODE REQUIRED DISCONNECT SWITCHES FOR MECHANICAL EQUIPMENT UNLESS SPECIFIED ON MECHANICAL DRAWINGS TO BE SUPPLIED BY MANUFACTURER. PROVIDE FUSED SWITCHES WHEREVER MANUFACTURER REQUIRES THEM.
4. ALL WIRING IN AREAS WITH EXPOSED CEILINGS SHALL BE WITHIN CONDUIT. MC CABLE SHALL ONLY BE USED IN AREAS WITH CEILINGS OR CONCEALED WITHIN WALLS.
5. ALL WIRING ABOVE ACCESSIBLE SUSPENDED CEILINGS SHALL BE SUPPORTED WITH J-HOOKS SPACED AT MAXIMUM 4'-0" ON CENTERS.
6. ALL CIRCUITS INDICATED BY '4B-#' SHALL BE WIRE TO PANEL 'PP-4B'
7. ALL CIRCUITS INDICATED BY '5A-#' SHALL BE WIRE TO PANEL 'PP-5A'
8. ALL CIRCUITS INDICATED BY '5B-#' SHALL BE WIRE TO PANEL 'PP-5B'
9. ALL CIRCUITS INDICATED BY '5C-#' SHALL BE WIRE TO PANEL 'PP-5C'

## KEY NOTES

1. APPROXIMATE LOCATION OF NEW FEEDER FROM 'DS-5C' IN THE BASEMENT TO PANEL 'PP-5C' ON THE FIRST FLOOR. CONTRACTOR MAY CUT BACK ANY WALL MATERIAL REQUIRED TO ALLOW FOR THE INSTALLATION OF THE NEW FEEDER, BUT SHALL KEEP THE WALL DEMOLITION TO A MINIMUM WHEREVER POSSIBLE. ONCE NEW CONDUIT IS INSTALLED, CONTRACTOR SHALL PATCH AND PAINT THE WALL TO MATCH ADJACENT SURFACES. COORDINATE EXACT LOCATION IN THE FIELD.

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J&U Project # 24-061

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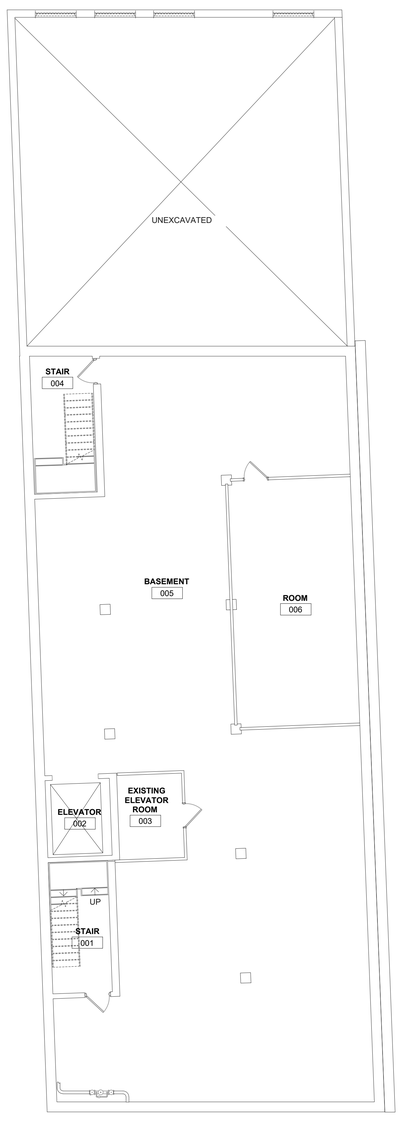
**EXTERIOR + INTERIOR RESTORATION & ALTERATION**
AT
**921 ELIZABETH AVENUE**
FOR THE
**COUNTY OF UNION**
PROJECT ADDRESS:
921 ELIZABETH AVENUE
ELIZABETH, NJ 07201

| No. | Date | Issue or Revision |
|---|---|---|
| 1 | 01.17.25 | ISSUED FOR BID |

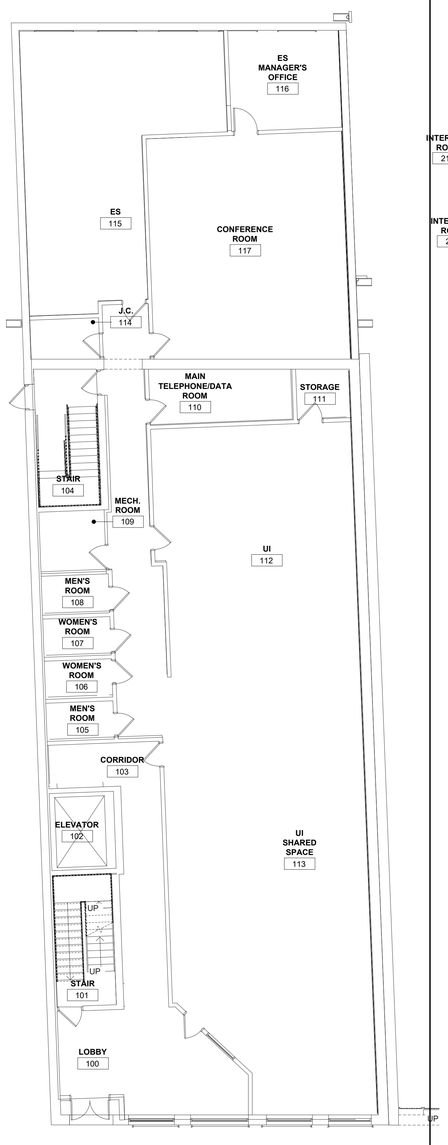
Drawing Title
ELECTRICAL
4TH, 5TH, & ROOF
NEW WORK PLANS - POWER

| | |
|---|---|
| Scale: AS NOTED | USA Project No. R2024.0087 |
| Drawing Date: 01.17.2025 | Drawing No. E2.2 |
| Drawn By | Checked By |

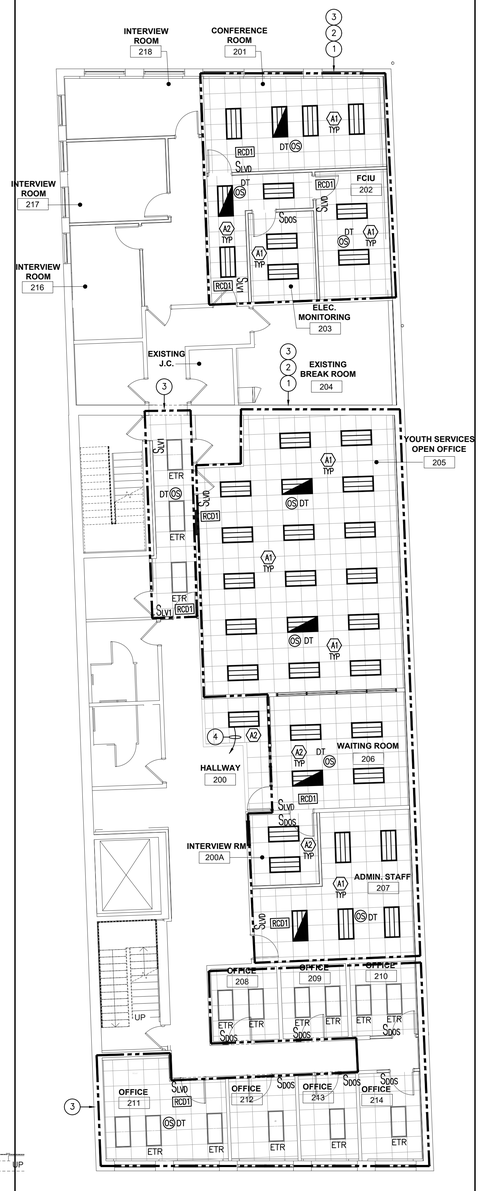
Plotted: 1/17/2025 10:03 AM By: gaolan
File: U:\Projects 24\24-061 Union City - 921 Elizabeth Ave HVAC Upgrades\Drawings\24-061E1-E3x - EXMOLITION & NEW WORK\E2.2



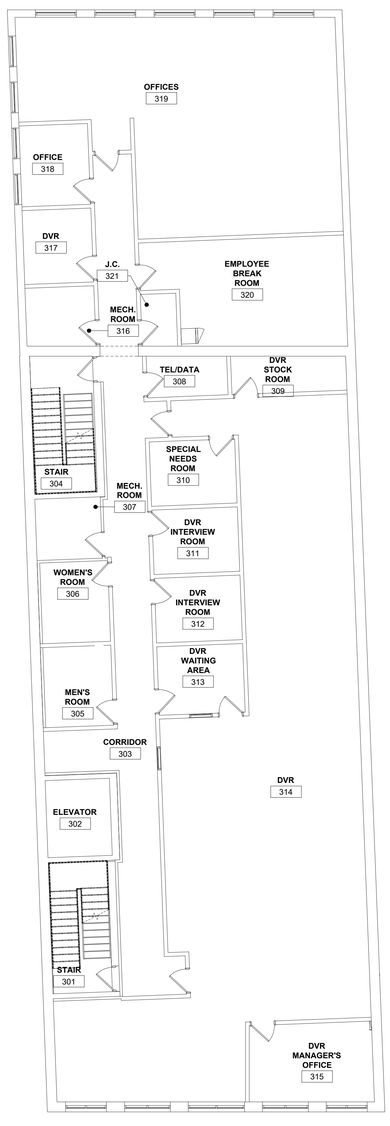

1 ELECTRICAL BASEMENT NEW WORK PLAN – LIGHTING 0 4 8 SCALE 1/8"=1'-0"




2 ELECTRICAL FIRST FLOOR NEW WORK PLAN – LTG 0 4 8 SCALE 1/8"=1'-0"




3 ELECTRICAL SECOND FLOOR NEW WORK PLAN – LTG 0 4 8 SCALE 1/8"=1'-0"




4 ELECTRICAL THIRD NEW WORK PLAN – LIGHTING 0 4 8 SCALE 1/8"=1'-0"

## GENERAL NOTES

1. REFER TO ARCHITECTURAL AND EQUIPMENT PLANS FOR EXACT LOCATIONS OF ALL EQUIPMENT.
2. COORDINATE EXACT DEVICE LOCATIONS AND MOUNTING HEIGHTS WITH ARCHITECT AND ARCHITECTURAL DOCUMENTS PRIOR TO INSTALLATION.
3. ALL WIRING IN AREAS WITH EXPOSED CEILINGS SHALL BE WITHIN CONDUIT. MC CABLE SHALL ONLY BE USED IN AREAS WITH CEILINGS OR CONCEALED WITHIN WALLS.
4. ALL WIRING ABOVE ACCESSIBLE SUSPENDED CEILINGS SHALL BE SUPPORTED WITH J-HOOKS SPACED AT MAXIMUM 4'-0" ON CENTERS.
5. CIRCUIT ALL EMERGENCY LIGHTING AND EXIT SIGNS IN THIS AREA TO BRANCH CIRCUIT SERVING SPACE, AHEAD OF SWITCH CONTROL

## KEY NOTES

1. CONTRACTOR SHALL REINSTALL ALL EXISTING CEILING MOUNTED DEVICES THAT WERE TEMPORARILY SUPPORTED DURING DEMOLITION IN THE NEW CEILING. WHERE THE EXISTING DEVICE LOCATIONS WILL BE OCCUPIED BY A MECHANICAL DIFFUSER OR PIECE OF EQUIPMENT, CONTRACTOR SHALL RELOCATE THE DEVICE TO THE NEAREST AVAILABLE AREA THAT STILL MEETS CODE. EXTEND NEW WIRING AS REQUIRED. PROVIDE NEW WIRING TO THE PREVIOUS AND/OR FOLLOWING DEVICE WHERE EXISTING WIRE SLACK IS NOT ADEQUATE FOR RECONNECTION.
2. NEW FIXTURES SHALL BE CONNECTED TO THE EXITING LIGHTING CIRCUIT(S) LEFT IN A PULLBOX DURING DEMOLITION. PROVIDE NEW WIRING, QTY AND SIZE TO MATCH EXISTING, AND MAKE ALL FINAL TERMINATIONS.
3. LIGHT FIXTURE SHALL BE CONNECTED TO THE NEW LIGHTING CONTROLS INDICATED. PROVIDE ALL REQUIRED WIRING BETWEEN THE FIXTURES AND THE NEW CONTROL. REFER TO THE DETAILS SHEETS FOR ADDITIONAL INFORMATION.
4. NEW LIGHT FIXTURE SHALL BE WIRED TO THE EXISTING LIGHTING CIRCUIT AND CONTROLS IN THE SPACE.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AT

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FOR THE

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Drawing Title
ELECTRICAL
BSMT, 1ST, 2ND & 3RD
FLOOR NEW WORK
PLANS - LIGHTING

| Scale | USA Project No. |
|---|---|
| AS NOTED | R2024.0087 |
| Drawing Date 01.17.2025 | Drawing No. E3.1 |
| Drawn By | Checked By |


Plotted: 1/17/2025 10:03 AM By: gaston
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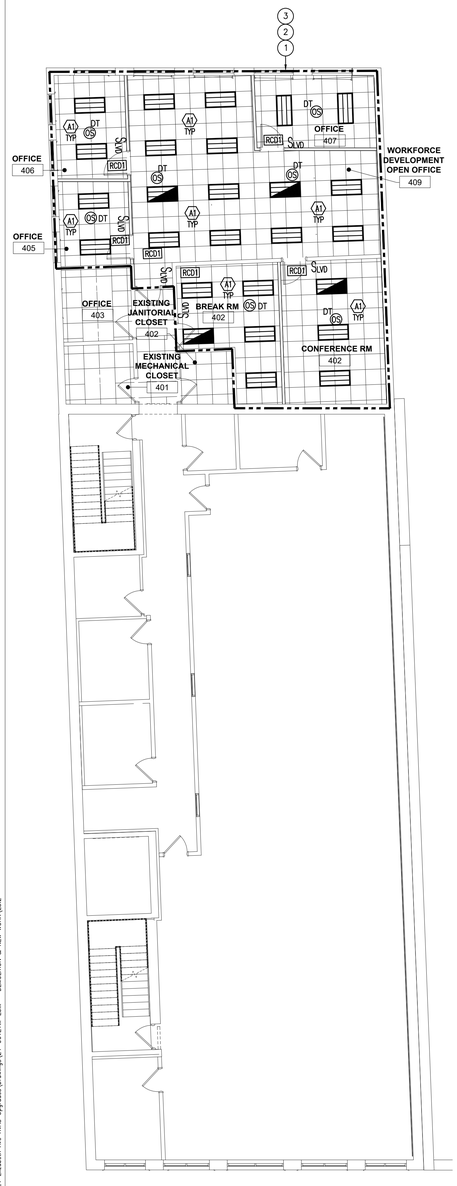
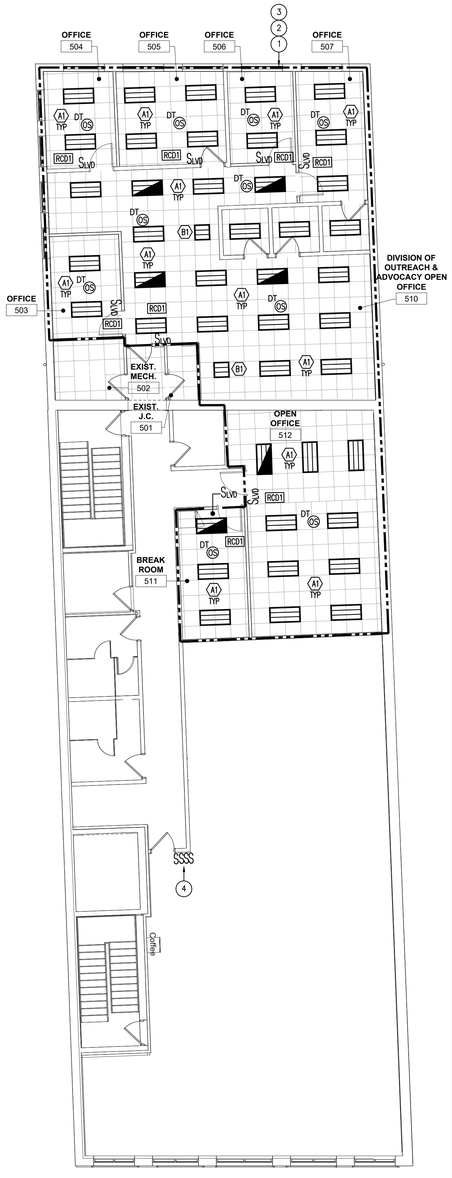


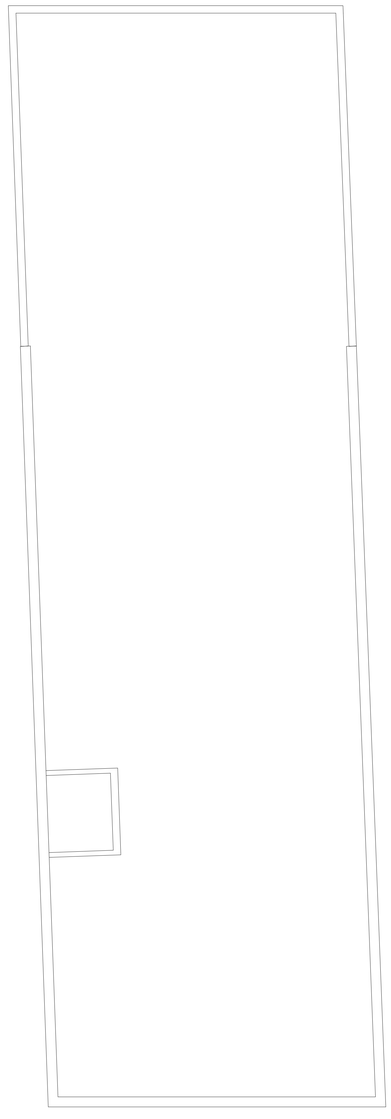

1 ELECTRICAL FOURTH FLOOR NEW WORK PLAN – LTG

SCALE 1/8"=1'-0"




2 ELECTRICAL FIFTH FLOOR NEW WORK PLAN – LTG

SCALE 1/8"=1'-0"



3 ELECTRICAL ROOF NEW WORK PLAN – LIGHTING

SCALE 1/8"=1'-0"

## GENERAL NOTES

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2. COORDINATE EXACT DEVICE LOCATIONS AND MOUNTING HEIGHTS WITH ARCHITECT AND ARCHITECTURAL DOCUMENTS PRIOR TO INSTALLATION.
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4. ALL WIRING ABOVE ACCESSIBLE SUSPENDED CEILINGS SHALL BE SUPPORTED WITH J–HOOKS SPACED AT MAXIMUM 4'–0" ON CENTERS.
5. CIRCUIT ALL EMERGENCY LIGHTING AND EXIT SIGNS IN THIS AREA TO BRANCH CIRCUIT SERVING SPACE, AHEAD OF SWITCH CONTROL

## KEY NOTES

1. CONTRACTOR SHALL REINSTALL ALL EXISTING CEILING MOUNTED DEVICES THAT WERE TEMPORARILY SUPPORTED DURING DEMOLITION IN THE NEW CEILING. WHERE THE EXISTING DEVICE LOCATIONS WILL BE OCCUPIED BY A MECHANICAL DIFFUSER OR PIECE OF EQUIPMENT, CONTRACTOR SHALL RELOCATE THE DEVICE TO THE NEAREST AVAILABLE AREA THAT STILL MEETS CODE. EXTEND NEW WIRING AS REQUIRED. PROVIDE NEW WIRING TO THE PREVIOUS AND/OR FOLLOWING DEVICE WHERE EXISTING WIRE SLACK IS NOT ADEQUATE FOR RECONNECTION.
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3. LIGHT FIXTURE SHALL BE CONNECTED TO THE NEW LIGHTING CONTROLS INDICATED. PROVIDE ALL REQUIRED WIRING BETWEEN THE FIXTURES AND THE NEW CONTROL. REFER TO THE DETAILS SHEETS FOR ADDITIONAL INFORMATION.
4. PROVIDE NEW SINGLE POLE SWITCHES IN THE EXISTING SWITCHBOX. CONTRACTOR SHALL CAP ANY EXTRA WIRES THAT ARE NO LONGER USED FROM THE OLD 3–WAY SWITCHES. COORDINATE ALL WORK IN THE FIELD.

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AT
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ELIZABETH, NJ 07201

| No. | Date | Issue or Revision |
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| 1 | 01.17.25 | ISSUED FOR BID |

Drawing Title
ELECTRICAL
4TH, 5TH, & ROOF
NEW WORK PLANS - LIGHTING

| | |
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| Scale: AS NOTED | USA Project No. R2024.0087 |
| Drawing Date 01.17.2025 | Drawing No. E3.2 |
| Drawn By | Checked By |

Plotted: 1/17/2025 10:03 AM By: gpolet
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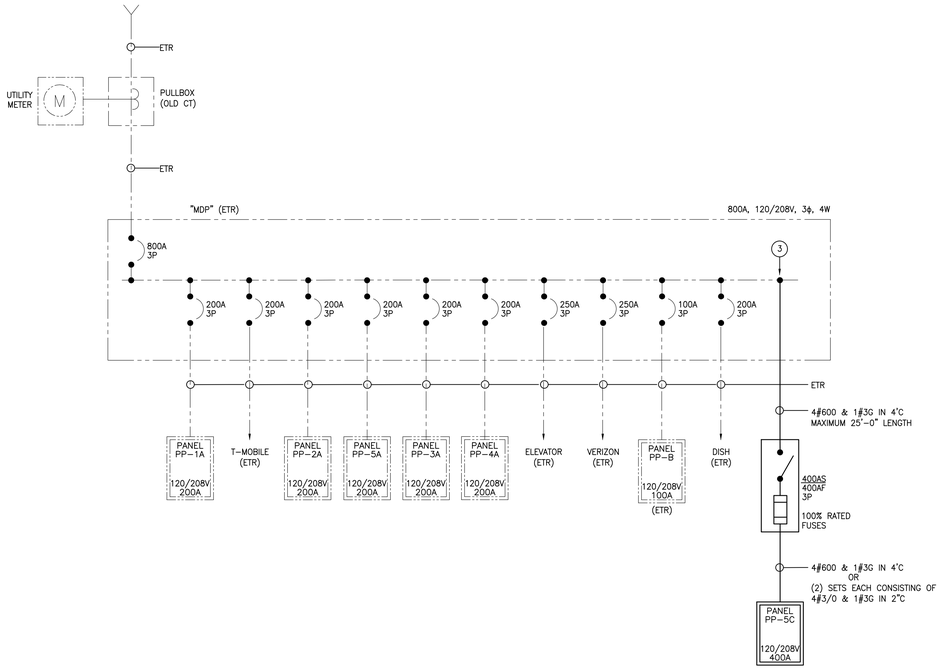


## KEYNOTES

1. CONTRACTOR SHALL REPLACE THE EXISTING CIRCUIT BREAKER(S) WITH NEW CIRCUIT BREAKER(S). NEW BREAKER(S) SHALL HAVE THE SAME RATINGS, INCLUDING KAIC, AS THE REST OF THE EXISTING BREAKERS.
2. CONTRACTOR SHALL PROVIDE A NEW CIRCUIT BREAKER IN AN EXISTING SPACE. NEW BREAKER SHALL HAVE THE SAME RATINGS, INCLUDING KAIC, AS THE REST OF THE EXISTING BREAKERS.
3. COORDINATE EXACT LOCATION TO TAP THE EXISTING PANELBOARD. PROVIDE ALL REQUIRED LUGS, CONNECTORS, ETC. COORDINATE ALL DOWNTIMES WITH THE OWNER.

## PANEL PP-1A

(EXISTING)
208/120V, 3 PH, 4W

BUS SIZE: 225 MAIN LUGS ONLY
LOCATION: 1ST FLOOR
FED FROM: MDP

PANEL TYPE: NEMA 1
MOUNTING: RECESSED
AIC RATING EXISTING FULLY RATED

| CKT. NO. | CIRCUIT DESCRIPTION | LOAD VA | BREAKER POLE | BREAKER SIZE | BREAKER TYPE | CIRCUIT WIRING No. | WIRE | GND | COND | PHASE A | PHASE B | PHASE C | CIRCUIT WIRING No. | WIRE | GND | COND | BREAKER TYPE | BREAKER SIZE | BREAKER POLE | LOAD VA | CIRCUIT DESCRIPTION | CKT. NO. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | EXISTING | | 1 | 20 | | | | EXISTING | | 0 | | | | | | | | | | | | 2 |
| 3 | EXISTING | | 1 | 20 | | | | EXISTING | | | 0 | | | | | | | | | | | 4 |
| 5 | EXISTING | | 3 | 20 | | | | EXISTING | | | | 0 | | | | EXISTING | | 100 | 3 | | EXISTING PANEL PP-1B | 6 |
| 7 | | | | | | | | | | 0 | | | | | | EXISTING | | 20 | 1 | | EXISTING | 8 |
| 9 | | | | | | | | | | | 0 | | | | | EXISTING | | 20 | 1 | | EXISTING | 10 |
| 11 | EXISTING | | 3 | 20 | | | | EXISTING | | | | 0 | | | | EXISTING | | 20 | 1 | | EXISTING | 12 |
| 13 | | | | | | | | | | 0 | | | | | | EXISTING | | 20 | 1 | | EXISTING | 14 |
| 15 | | | | | | | | | | | 0 | | | | | EXISTING | | 20 | 1 | | EXISTING | 16 |
| 17 | EXISTING | | 3 | 20 | | | | EXISTING | | | | 0 | | | | EXISTING | | 20 | 1 | | EXISTING | 18 |
| 19 | | | | | | | | | | 0 | | | | | | EXISTING | | 20 | 1 | | EXISTING | 20 |
| 21 | EXISTING | | 1 | 20 | | | | EXISTING | | | 0 | | | | | EXISTING | | 20 | 1 | | EXISTING | 22 |
| 23 | EXISTING | | 1 | 20 | | | | EXISTING | | | | 0 | | | | EXISTING | | 20 | 1 | | EXISTING | 24 |
| 25 | EXISTING | | 1 | 20 | | | | EXISTING | | 0 | | | | | | EXISTING | | 20 | 1 | | EXISTING | 26 |
| 27 | EXISTING | | 1 | 20 | | | | EXISTING | | | 0 | | | | | | | 60 | 2 | | ~~EXISTING A/C UNIT~~ SPARE | 28 |
| 29 | | | | | | | | | | | | 0 | | | | | | | | | | 30 |
| 31 | EXISTING | | 3 | 20 | | | | EXISTING | | 0 | | | | | | | | 60 | 2 | | ~~EXISTING A/C UNIT~~ SPARE | 32 |
| 33 | | | | | | | | | | | 0 | | | | | | | | | | | 34 |
| 35 | | | | | | | | | | | | 0 | | | | | | 60 | 2 | | ~~EXISTING A/C UNIT~~ SPARE | 36 |
| 37 | EXISTING | | 3 | 20 | | | | EXISTING | | 0 | | | | | | | | | | | | 38 |
| 39 | | | | | | | | | | | 0 | | | | | EXISTING | | 20 | 1 | | EXISTING | 40 |
| 41 | EXISTING | | 1 | 20 | | | | EXISTING | | | | 0 | | | | EXISTING | | 20 | 1 | | EXISTING | 42 |
| | | | | | | | | TOTAL (PHASE): | | 0 | 0 | 0 | | | | | | | | | | |

| CIRCUIT BREAKER TYPES | |
|---|---|
| AF | ARC FAULT CIRCUIT BREAKER |
| GF | GROUND FAULT CIRCUIT BREAKER |
| AG | ARC FAULT & GROUND FAULT BKR |
| ST | SHUNT TRIP CIRCUIT BREAKER |
| 100% | 100% RATED CIRCUIT BREAKER |

NOTES
1. ALL BUSING TO BE COPPER
2. ALL WIRE SIZES ARE BASED ON 75 DEGREE WIRE
3. CONTRACTOR IS RESPONSIBLE TO COORDINATE THE SHORT CIRCUIT RATING PER THE SPECIFICATIONS AND NOTIFY THE ENGINEER PRIOR TO PURCHASING ANY EQUIPMENT.
4. PROVIDE 3-POLE 30A CIRCUIT BREAKER AND EXTERNAL MOUNTED TVSS FOR ALL EMERGENCY PANELBOARDS
5. A "BLANK" SPACE UNDER BREAKER TYPE DENOTES A STANDARD CIRCUIT BREAKER.

## PANEL PP-1B

(EXISTING)
208/120V, 3 PH, 4W

BUS SIZE: 100 MAIN LUGS ONLY
LOCATION: 1ST FL JAN CLOSET
FED FROM: PANEL PP-1A

PANEL TYPE: NEMA 1
MOUNTING: RECESSED
AIC RATING EXISTING FULLY RATED

| CKT. NO. | CIRCUIT DESCRIPTION | LOAD VA | BREAKER POLE | BREAKER SIZE | BREAKER TYPE | CIRCUIT WIRING No. | WIRE | GND | COND | PHASE A | PHASE B | PHASE C | CIRCUIT WIRING No. | WIRE | GND | COND | BREAKER TYPE | BREAKER SIZE | BREAKER POLE | LOAD VA | CIRCUIT DESCRIPTION | CKT. NO. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | EXISTING | | 1 | 20 | | | | EXISTING | | 0 | | | | | | EXISTING | | 20 | 1 | | EXISTING | 2 |
| 3 | EXISTING | | 1 | 20 | | | | EXISTING | | | 0 | | | | | | | | | | | 4 |
| 5 | EXISTING | | 1 | 20 | | | | EXISTING | | | | 0 | | | | EXISTING | | 30 | 3 | | EXISTING | 6 |
| 7 | EXISTING | | 1 | 20 | | | | EXISTING | | 0 | | | | | | | | | | | | 8 |
| 9 | EXISTING | | 1 | 20 | | | | EXISTING | | | 0 | | | | | | | | | | | 10 |
| 11 | EXISTING | | 1 | 20 | | | | EXISTING | | | | 0 | | | | EXISTING | | 30 | 3 | | EXISTING | 12 |
| 13 | EXISTING | | 1 | 20 | | | | EXISTING | | 0 | | | | | | | | | | | | 14 |
| 15 | EXISTING | | 1 | 20 | | | | EXISTING | | | 1181 | | | | | | | | | 1181 | | 16 |
| 17 | EXISTING | | 1 | 20 | | | | EXISTING | | | | 1181 | 3 | 12 | 12 | 3/4 | | 20 | 2 | 1181 | NEW AC-1/ CU-1 | 18 |
| 19 | EXISTING | | 1 | 20 | | | | EXISTING | | 0 | | | | | | EXISTING | | 20 | 1 | | EXISTING | 20 |
| 21 | EXISTING | | 1 | 20 | | | | EXISTING | | | 1380 | | 2 | 12 | 12 | 3/4 | | 20 | 1 | 1380 | AHU-1A | 22 |
| 23 | SPACE | | 1 | | | | | | | | | 1380 | 2 | 12 | 12 | 3/4 | | 20 | 1 | 1380 | AHU-1B | 24 |
| 25 | SPACE | | 1 | | | | | | | 1380 | | | 2 | 12 | 12 | 3/4 | | 20 | 1 | 1380 | AHU-1C | 26 |
| 27 | SPACE | | 1 | | | | | | | | 0 | | | | | | | | 1 | | SPACE | 28 |
| 29 | SPACE | | 1 | | | | | | | | | 0 | | | | | | | 1 | | SPACE | 30 |
| | | | | | | | | TOTAL (PHASE): | | 1380 | 2561 | 2561 | | | | | | | | | | |

(2)

| CIRCUIT BREAKER TYPES | |
|---|---|
| AF | ARC FAULT CIRCUIT BREAKER |
| GF | GROUND FAULT CIRCUIT BREAKER |
| AG | ARC FAULT & GROUND FAULT BKR |
| ST | SHUNT TRIP CIRCUIT BREAKER |
| 100% | 100% RATED CIRCUIT BREAKER |

NOTES
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5. A "BLANK" SPACE UNDER BREAKER TYPE DENOTES A STANDARD CIRCUIT BREAKER.

## PANEL PP-2A

(EXISTING)
208/120V, 3 PH, 4W

BUS SIZE: 100 MAIN LUGS ONLY
LOCATION: 2ND FL
FED FROM: MDP

PANEL TYPE: NEMA 1
MOUNTING: RECESSED
AIC RATING EXISTING FULLY RATED

| CKT. NO. | CIRCUIT DESCRIPTION | LOAD VA | BREAKER POLE | BREAKER SIZE | BREAKER TYPE | CIRCUIT WIRING No. | WIRE | GND | COND | PHASE A | PHASE B | PHASE C | CIRCUIT WIRING No. | WIRE | GND | COND | BREAKER TYPE | BREAKER SIZE | BREAKER POLE | LOAD VA | CIRCUIT DESCRIPTION | CKT. NO. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | | | | | | | | 0 | | | | | | EXISTING | | 20 | 1 | | EXISTING | 2 |
| 3 | EXISTING | | 3 | 20 | | | | EXISTING | | | 0 | | | | | EXISTING | | 20 | 1 | | EXISTING | 4 |
| 5 | | | | | | | | | | | | 0 | | | | EXISTING | | 20 | 1 | | EXISTING | 6 |
| 7 | | | | | | | | | | 0 | | | | | | EXISTING | | 20 | 1 | | EXISTING | 8 |
| 9 | EXISTING | | 3 | 20 | | | | EXISTING | | | 0 | | | | | EXISTING | | 20 | 1 | | EXISTING | 10 |
| 11 | | | | | | | | | | | | 0 | | | | EXISTING | | 20 | 1 | | EXISTING | 12 |
| 13 | EXISTING | | 1 | 20 | | | | EXISTING | | 0 | | | | | | EXISTING | | 20 | 1 | | EXISTING | 14 |
| 15 | EXISTING | | 1 | 20 | | | | EXISTING | | | 0 | | | | | EXISTING | | 20 | 1 | | EXISTING | 16 |
| 17 | EXISTING | | 1 | 20 | | | | EXISTING | | | | 0 | | | | EXISTING | | 20 | 1 | | EXISTING | 18 |
| 19 | EXISTING | | 1 | 20 | | | | EXISTING | | 0 | | | | | | EXISTING | | 20 | 1 | | EXISTING | 20 |
| 21 | EXISTING | | 1 | 20 | | | | EXISTING | | | 0 | | | | | | | | | | | 22 |
| 23 | EXISTING | | 1 | 20 | | | | EXISTING | | | | 0 | | | | EXISTING | | 30 | 3 | | EXISTING | 24 |
| 25 | EXISTING | | 1 | 20 | | | | EXISTING | | 0 | | | | | | | | | | | | 26 |
| 27 | EXISTING | | 1 | 20 | | | | EXISTING | | | 0 | | | | | EXISTING | | | 1 | | EXISTING | 28 |
| 29 | EXISTING | | 1 | 20 | | | | EXISTING | | | | 540 | 2 | 12 | 12 | 3/4 | | 20 | 1 | 540 | RECEPTS – OFFICE 205 | 30 |
| 31 | EXISTING | | 1 | 20 | | | | EXISTING | | 360 | | | 2 | 12 | 12 | 3/4 | | 20 | 1 | 360 | RECEPTS – OFFICE 205 | 32 |
| 33 | EXISTING | | 1 | 20 | | | | EXISTING | | | 1080 | | 2 | 12 | 12 | 3/4 | | 20 | 1 | 1080 | RECEPTS – WAIT 206 / ADMIN 207 | 34 |
| 35 | EXISTING | | 1 | 20 | | | | EXISTING | | | | 750 | 2 | 12 | 12 | 3/4 | | 20 | 1 | 750 | COPIER / PRINTER – ADMIN 107 | 36 |
| 37 | EXISTING | | 1 | 20 | | | | EXISTING | | 0 | | | | | | | | | | | | 38 |
| 39 | EXISTING | | 1 | 20 | | | | EXISTING | | | 0 | | | | | EXISTING | | 100 | 3 | | EXISTING PANEL PP-2B | 40 |
| 41 | EXISTING | | 1 | 20 | | | | EXISTING | | | | 0 | | | | | | | | | | 42 |
| | | | | | | | | TOTAL (PHASE): | | 360 | 1080 | 1290 | | | | | | | | | | |

(1)

| CIRCUIT BREAKER TYPES | |
|---|---|
| AF | ARC FAULT CIRCUIT BREAKER |
| GF | GROUND FAULT CIRCUIT BREAKER |
| AG | ARC FAULT & GROUND FAULT BKR |
| ST | SHUNT TRIP CIRCUIT BREAKER |
| 100% | 100% RATED CIRCUIT BREAKER |

NOTES
1. ALL BUSING TO BE COPPER
2. ALL WIRE SIZES ARE BASED ON 75 DEGREE WIRE
3. CONTRACTOR IS RESPONSIBLE TO COORDINATE THE SHORT CIRCUIT RATING PER THE SPECIFICATIONS AND NOTIFY THE ENGINEER PRIOR TO PURCHASING ANY EQUIPMENT.
4. PROVIDE 3-POLE 30A CIRCUIT BREAKER AND EXTERNAL MOUNTED TVSS FOR ALL EMERGENCY PANELBOARDS
5. A "BLANK" SPACE UNDER BREAKER TYPE DENOTES A STANDARD CIRCUIT BREAKER.


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**EXTERIOR + INTERIOR RESTORATION & ALTERATION**

AT

**921 ELIZABETH AVENUE**

FOR THE

**COUNTY OF UNION**

PROJECT ADDRESS:

921 ELIZABETH AVENUE
ELIZABETH, NJ 07201

| No. | Date | Issue or Revision |
|---|---|---|
| 1 | 01.17.25 | ISSUED FOR BID |

Drawing Title

ELECTRICAL
ONE-LINE DIAGRAM &
PANEL SCHEDULES

| Scale | USA Project No. |
|---|---|
| AS NOTED | R2024.0087 |
| Drawing Date | Drawing No. |
| 01.17.2025 | E4.1 |
| Drawn By | Checked By |


Plotted: 1/17/2025 10:03 AM By: gaston
File: U:\Projects 24\24-061 Union City - 921 Elizabeth Ave HVAC Upgrades\Drawings\24-061E4x - ONE-LINE & PANEL SCHEDULES\E4.1

## PANEL PP-2B

BUS SIZE: 100 MAIN LUGS ONLY
LOCATION: 2ND FL JAN CLOSET
FED FROM: PANEL PP-2A

(EXISTING)
208/120V, 3 PH, 4W

PANEL TYPE: NEMA 1
MOUNTING: RECESSED
AIC RATING EXISTING FULLY RATED

| CKT. NO. | CIRCUIT DESCRIPTION | LOAD VA | BREAKER POLE | BREAKER SIZE | BREAKER TYPE | CIRCUIT WIRING No. | WIRE | GND | COND | PHASE A | PHASE B | PHASE C | CIRCUIT WIRING No. | WIRE | GND | COND | BREAKER TYPE | BREAKER SIZE | BREAKER POLE | LOAD VA | CIRCUIT DESCRIPTION | CKT. NO. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | EXISTING | | 1 | 20 | | | EXISTING | | | 0 | | | | EXISTING | | | | 20 | 1 | | EXISTING | 2 |
| 3 | EXISTING | | 1 | 20 | | | EXISTING | | | | 0 | | | | | | | 20 | 1 | | EXISTING | 4 |
| 5 | EXISTING | | 1 | 20 | | | EXISTING | | | | | 0 | | | | | | 20 | 1 | | EXISTING | 6 |
| 7 | EXISTING | | 1 | 20 | | | EXISTING | | | 0 | | | | | | | | 20 | 1 | | EXISTING | 8 |
| 9 | EXISTING | | 1 | 20 | | | EXISTING | | | | 0 | | | | | | | 20 | 1 | | EXISTING | 10 |
| 11 | EXISTING | | 1 | 20 | | | EXISTING | | | | | 0 | | | | | | 20 | 1 | | EXISTING | 12 |
| 13 | | | | | | | | | | 0 | | | | | | | | 20 | 1 | | EXISTING | 14 |
| 15 | EXISTING | | 3 | 30 | | | EXISTING | | | | 0 | | | | | | | 20 | 1 | | EXISTING | 16 |
| 17 | | | | | | | | | | | | 0 | | | | | | 20 | 1 | | EXISTING | 18 |
| 19 | SPACE | | 1 | | | | | | | 0 | | | | | | | | 20 | 1 | | EXISTING | 20 |
| 21 | SPACE | | 1 | | | | | | | | 1380 | | 2 | 12 | 12 | 3/4 | | 20 | 1 | 1380 | AHU-2A | 22 |
| 23 | SPACE | | 1 | | | | | | | | | 1380 | 2 | 12 | 12 | 3/4 | | 20 | 1 | 1380 | AHU-2B | 24 |
| 25 | SPACE | | 1 | | | | | | | 1380 | | | 2 | 12 | 12 | 3/4 | | 20 | 1 | 1380 | AHU-2C | 26 |
| 27 | SPACE | | 1 | | | | | | | | 900 | | 2 | 12 | 12 | 3/4 | | 20 | 1 | 900 | RECEPTS - OFFICE / CONF RM | 28 |
| 29 | SPACE | | 1 | | | | | | | | | 0 | | | | | | | 1 | | SPACE | 30 |
| | | | | | | | | | TOTAL (PHASE): | 1380 | 2280 | 1380 | | | | | | | | | | |

CIRCUIT BREAKER TYPES

| | |
|---|---|
| AF | ARC FAULT CIRCUIT BREAKER |
| GF | GROUND FAULT CIRCUIT BREAKER |
| AG | ARC FAULT & GROUND FAULT BKR |
| ST | SHUNT TRIP CIRCUIT BREAKER |
| 100% | 100% RATED CIRCUIT BREAKER |

NOTES
1 ALL BUSING TO BE COPPER
2 ALL WIRE SIZES ARE BASED ON 75 DEGREE WIRE
3 CONTRACTOR IS RESPONSIBLE TO COORDINATE THE SHORT CIRCUIT RATING PER THE SPECIFICATIONS AND NOTIFY THE ENGINEER PRIOR TO PURCHASING ANY EQUIPMENT.
4 PROVIDE 3-POLE 30A CIRCUIT BREAKER AND EXTERNAL MOUNTED TVSS FOR ALL EMERGENCY PANELBOARDS
5 A "BLANK" SPACE UNDER BREAKER TYPE DENOTES A STANDARD CIRCUIT BREAKER.

## PANEL PP-4B

BUS SIZE: 100 MAIN LUGS ONLY
LOCATION: 4TH FL JAN CLOSET
FED FROM: PANEL PP-4A

(EXISTING)
208/120V, 3 PH, 4W

PANEL TYPE: NEMA 1
MOUNTING: RECESSED
AIC RATING EXISTING FULLY RATED

| CKT. NO. | CIRCUIT DESCRIPTION | LOAD VA | BREAKER POLE | BREAKER SIZE | BREAKER TYPE | CIRCUIT WIRING No. | WIRE | GND | COND | PHASE A | PHASE B | PHASE C | CIRCUIT WIRING No. | WIRE | GND | COND | BREAKER TYPE | BREAKER SIZE | BREAKER POLE | LOAD VA | CIRCUIT DESCRIPTION | CKT. NO. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | EXISTING | | 1 | 20 | | | EXISTING | | | 0 | | | | EXISTING | | | | 20 | 1 | | EXISTING | 2 |
| 3 | EXISTING | | 1 | 20 | | | EXISTING | | | | 0 | | | | | | | 20 | 1 | | EXISTING | 4 |
| 5 | EXISTING | | 1 | 20 | | | EXISTING | | | | | 0 | | | | | | 20 | 1 | | EXISTING | 6 |
| 7 | EXISTING | | 1 | 20 | | | EXISTING | | | 0 | | | | | | | | 20 | 1 | | EXISTING | 8 |
| 9 | EXISTING | | 1 | 20 | | | EXISTING | | | | 0 | | | | | | | 20 | 1 | | EXISTING | 10 |
| 11 | EXISTING | | 1 | 20 | | | EXISTING | | | | | 0 | | | | | | 20 | 1 | | EXISTING | 12 |
| 13 | | | | | | | | | | 0 | | | | | | | | 20 | 1 | | EXISTING | 14 |
| 15 | EXISTING | | 3 | 30 | | | EXISTING | | | | 0 | | | | | | | 20 | 1 | | EXISTING | 16 |
| 17 | | | | | | | | | | | | 0 | | | | | | 20 | 1 | | EXISTING | 18 |
| 19 | RECEPTS - OFFICE 407, 409 | 900 | 1 | 20 | | 2 | 12 | 12 | 3/4 | 2280 | | | 2 | 12 | 12 | 3/4 | | 20 | 1 | 1380 | AHU-4A | 20 |
| 21 | RECEPTS - OFF. 404, 405, 406, 409 | 1080 | 1 | 20 | | 2 | 12 | 12 | 3/4 | | 2460 | | 2 | 12 | 12 | 3/4 | | 20 | 1 | 1380 | AHU-4B | 22 |
| 23 | RECEPTS - OFF 409, CONF 402 | 1080 | 1 | 20 | | 2 | 12 | 12 | 3/4 | | | 2460 | 2 | 12 | 12 | 3/4 | | 20 | 1 | 1380 | AHU-4C | 24 |
| 25 | COPIER / PRINTER - OFFICE 409 | 750 | 1 | 20 | | 2 | 12 | 12 | 3/4 | 750 | | | | | | | | | 1 | | SPACE | 26 |
| 27 | SPACE | | 1 | | | | | | | | 0 | | | | | | | | 1 | | SPACE | 28 |
| 29 | SPACE | | 1 | | | | | | | | | 0 | | | | | | | 1 | | SPACE | 30 |
| | | | | | | | | | TOTAL (PHASE): | 3030 | 2460 | 2460 | | | | | | | | | | |

CIRCUIT BREAKER TYPES

| | |
|---|---|
| AF | ARC FAULT CIRCUIT BREAKER |
| GF | GROUND FAULT CIRCUIT BREAKER |
| AG | ARC FAULT & GROUND FAULT BKR |
| ST | SHUNT TRIP CIRCUIT BREAKER |
| 100% | 100% RATED CIRCUIT BREAKER |

NOTES
1 ALL BUSING TO BE COPPER
2 ALL WIRE SIZES ARE BASED ON 75 DEGREE WIRE
3 CONTRACTOR IS RESPONSIBLE TO COORDINATE THE SHORT CIRCUIT RATING PER THE SPECIFICATIONS AND NOTIFY THE ENGINEER PRIOR TO PURCHASING ANY EQUIPMENT.
4 PROVIDE 3-POLE 30A CIRCUIT BREAKER AND EXTERNAL MOUNTED TVSS FOR ALL EMERGENCY PANELBOARDS
5 A "BLANK" SPACE UNDER BREAKER TYPE DENOTES A STANDARD CIRCUIT BREAKER.

## PANEL PP-3A

BUS SIZE: 100 MAIN LUGS ONLY
LOCATION: 3RD FL
FED FROM: MDP

(EXISTING)
208/120V, 3 PH, 4W

PANEL TYPE: NEMA 1
MOUNTING: RECESSED
AIC RATING EXISTING FULLY RATED

| CKT. NO. | CIRCUIT DESCRIPTION | LOAD VA | BREAKER POLE | BREAKER SIZE | BREAKER TYPE | CIRCUIT WIRING No. | WIRE | GND | COND | PHASE A | PHASE B | PHASE C | CIRCUIT WIRING No. | WIRE | GND | COND | BREAKER TYPE | BREAKER SIZE | BREAKER POLE | LOAD VA | CIRCUIT DESCRIPTION | CKT. NO. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | | | | | | | | 0 | | | | | | | | | | | | 2 |
| 3 | EXISTING PANEL PP-3B | | 3 | 100 | | | EXISTING | | | | 0 | | | | EXISTING | | | 20 | 3 | | EXISTING | 4 |
| 5 | | | | | | | | | | | | 0 | | | | | | | | | | 6 |
| 7 | | | | | | | | | | 0 | | | | | EXISTING | | | 20 | 1 | | EXISTING | 8 |
| 9 | EXISTING | | 3 | 20 | | | EXISTING | | | | 0 | | | | EXISTING | | | 20 | 1 | | EXISTING | 10 |
| 11 | | | | | | | | | | | | 0 | | | EXISTING | | | 20 | 1 | | EXISTING | 12 |
| 13 | | | | | | | | | | 0 | | | | | EXISTING | | | 20 | 1 | | EXISTING | 14 |
| 15 | EXISTING | | 3 | 20 | | | EXISTING | | | | 0 | | | | EXISTING | | | 20 | 1 | | EXISTING | 16 |
| 17 | | | | | | | | | | | | 0 | | | EXISTING | | | 20 | 1 | | EXISTING | 18 |
| 19 | EXISTING | | 1 | 20 | | | EXISTING | | | 0 | | | | | EXISTING | | | 20 | 1 | | EXISTING | 20 |
| 21 | EXISTING | | 1 | 20 | | | EXISTING | | | | 0 | | | | EXISTING | | | 20 | 1 | | EXISTING | 22 |
| 23 | EXISTING | | 1 | 20 | | | EXISTING | | | | | 0 | | | EXISTING | | | 20 | 1 | | EXISTING | 24 |
| 25 | EXISTING | | 1 | 20 | | | EXISTING | | | 0 | | | | | | | | | | | | 26 |
| 27 | EXISTING | | 1 | 20 | | | EXISTING | | | | 0 | | | | EXISTING | | | 20 | 3 | | EXISTING | 28 |
| 29 | EXISTING | | 1 | 20 | | | EXISTING | | | | | 0 | | | | | | | | | | 30 |
| 31 | EXISTING | | 1 | 20 | | | EXISTING | | | 0 | | | | | | | | | | | | 32 |
| 33 | EXISTING | | 1 | 20 | | | EXISTING | | | | 0 | | | | | | | 60 | 2 | | ~~EXISTING A/C UNIT~~ SPARE | 34 |
| 35 | EXISTING | | 1 | 20 | | | EXISTING | | | | | 0 | | | | | | | | | | 36 |
| 37 | EXISTING | | 1 | 20 | | | EXISTING | | | 0 | | | | | | | | 60 | 2 | | ~~EXISTING A/C UNIT~~ SPARE | 38 |
| 39 | EXISTING | | 1 | 20 | | | EXISTING | | | | 0 | | | | EXISTING | | | 20 | 1 | | EXISTING | 40 |
| 41 | SPACE | | 1 | | | | | | | | | 0 | | | | | | | 1 | | SPACE | 42 |
| | | | | | | | | | TOTAL (PHASE): | 0 | 0 | 0 | | | | | | | | | | |

CIRCUIT BREAKER TYPES

| | |
|---|---|
| AF | ARC FAULT CIRCUIT BREAKER |
| GF | GROUND FAULT CIRCUIT BREAKER |
| AG | ARC FAULT & GROUND FAULT BKR |
| ST | SHUNT TRIP CIRCUIT BREAKER |
| 100% | 100% RATED CIRCUIT BREAKER |

NOTES
1 ALL BUSING TO BE COPPER
2 ALL WIRE SIZES ARE BASED ON 75 DEGREE WIRE
3 CONTRACTOR IS RESPONSIBLE TO COORDINATE THE SHORT CIRCUIT RATING PER THE SPECIFICATIONS AND NOTIFY THE ENGINEER PRIOR TO PURCHASING ANY EQUIPMENT.
4 PROVIDE 3-POLE 30A CIRCUIT BREAKER AND EXTERNAL MOUNTED TVSS FOR ALL EMERGENCY PANELBOARDS
5 A "BLANK" SPACE UNDER BREAKER TYPE DENOTES A STANDARD CIRCUIT BREAKER.

## PANEL PP-5A

BUS SIZE: 100 MAIN LUGS ONLY
LOCATION: 5TH FL
FED FROM: MDP

(EXISTING)
208/120V, 3 PH, 4W

PANEL TYPE: NEMA 1
MOUNTING: RECESSED
AIC RATING EXISTING FULLY RATED

| CKT. NO. | CIRCUIT DESCRIPTION | LOAD VA | BREAKER POLE | BREAKER SIZE | BREAKER TYPE | CIRCUIT WIRING No. | WIRE | GND | COND | PHASE A | PHASE B | PHASE C | CIRCUIT WIRING No. | WIRE | GND | COND | BREAKER TYPE | BREAKER SIZE | BREAKER POLE | LOAD VA | CIRCUIT DESCRIPTION | CKT. NO. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | | | | | | | | 0 | | | | | | | | 20 | 1 | | EXISTING | 2 |
| 3 | EXISTING | | 3 | 20 | | | EXISTING | | | | 0 | | | | | | | 20 | 1 | | EXISTING | 4 |
| 5 | | | | | | | | | | | | 0 | | | | | | 20 | 1 | | EXISTING | 6 |
| 7 | EXISTING | | 1 | 20 | | | EXISTING | | | 0 | | | | | | | | 20 | 1 | | EXISTING | 8 |
| 9 | EXISTING | | 1 | 20 | | | EXISTING | | | | 0 | | | | | | | 20 | 1 | | EXISTING | 10 |
| 11 | EXISTING | | 1 | 20 | | | EXISTING | | | | | 0 | | | | | | 20 | 1 | | EXISTING | 12 |
| 13 | EXISTING | | 1 | 20 | | | EXISTING | | | 0 | | | | | | | | 20 | 1 | | EXISTING | 14 |
| 15 | EXISTING | | 1 | 20 | | | EXISTING | | | | 0 | | | | | | | 20 | 1 | | EXISTING | 16 |
| 17 | EXISTING | | 1 | 20 | | | EXISTING | | | | | 0 | | | | | | 20 | 1 | | EXISTING | 18 |
| 19 | EXISTING | | 1 | 20 | | | EXISTING | | | 0 | | | | | | | | 20 | 1 | | EXISTING | 20 |
| 21 | EXISTING | | 1 | 20 | | | EXISTING | | | | 0 | | | | | | | 20 | 1 | | EXISTING | 22 |
| 23 | EXISTING | | 1 | 20 | | | EXISTING | | | | | 0 | | | | | | 20 | 1 | | EXISTING | 24 |
| 25 | EXISTING | | 1 | 20 | | | EXISTING | | | 0 | | | | | | | | | | | | 26 |
| 27 | EXISTING | | 1 | 20 | | | EXISTING | | | | 750 | | 2 | 12 | 12 | 3/4 | GF | 20 | 1 | 750 | REFRIGERATOR - BREAK RM 511 | 28 |
| 29 | | | | | | | | | | | | 360 | 2 | 12 | 12 | 3/4 | | 20 | 1 | 360 | RECEPTS - BREAK RM 511 | 30 |
| 31 | EXISTING | | 3 | 20 | | | EXISTING | | | 360 | | | 2 | 12 | 12 | 3/4 | | 20 | 1 | 360 | RECEPTS - OFFIC 512 | 32 |
| 33 | | | | | | | | | | | 360 | | 2 | 12 | 12 | 3/4 | | 20 | 1 | 360 | RECEPTS - OFFIC 513 | 34 |
| 35 | | | | | | | | | | | | 0 | | | | | | 20 | 1 | | EXISTING | 36 |
| 37 | EXISTING | | 3 | 20 | | | EXISTING | | | 0 | | | | | | | | | | | | 38 |
| 39 | | | | | | | | | | | 0 | | | | | | | 100 | 3 | | EXISTING PANEL PP-5B | 40 |
| 41 | EXISTING | | 1 | 20 | | | EXISTING | | | | | 0 | | | | | | | | | | 42 |
| | | | | | | | | | TOTAL (PHASE): | 360 | 1110 | 360 | | | | | | | | | | |

CIRCUIT BREAKER TYPES

| | |
|---|---|
| AF | ARC FAULT CIRCUIT BREAKER |
| GF | GROUND FAULT CIRCUIT BREAKER |
| AG | ARC FAULT & GROUND FAULT BKR |
| ST | SHUNT TRIP CIRCUIT BREAKER |
| 100% | 100% RATED CIRCUIT BREAKER |

NOTES
1 ALL BUSING TO BE COPPER
2 ALL WIRE SIZES ARE BASED ON 75 DEGREE WIRE
3 CONTRACTOR IS RESPONSIBLE TO COORDINATE THE SHORT CIRCUIT RATING PER THE SPECIFICATIONS AND NOTIFY THE ENGINEER PRIOR TO PURCHASING ANY EQUIPMENT.
4 PROVIDE 3-POLE 30A CIRCUIT BREAKER AND EXTERNAL MOUNTED TVSS FOR ALL EMERGENCY PANELBOARDS
5 A "BLANK" SPACE UNDER BREAKER TYPE DENOTES A STANDARD CIRCUIT BREAKER.

## PANEL PP-3B

BUS SIZE: 100 MAIN LUGS ONLY
LOCATION: 3RD FL JAN CLOSET
FED FROM: PANEL PP-3A

(EXISTING)
208/120V, 3 PH, 4W

PANEL TYPE: NEMA 1
MOUNTING: RECESSED
AIC RATING EXISTING FULLY RATED

| CKT. NO. | CIRCUIT DESCRIPTION | LOAD VA | BREAKER POLE | BREAKER SIZE | BREAKER TYPE | CIRCUIT WIRING No. | WIRE | GND | COND | PHASE A | PHASE B | PHASE C | CIRCUIT WIRING No. | WIRE | GND | COND | BREAKER TYPE | BREAKER SIZE | BREAKER POLE | LOAD VA | CIRCUIT DESCRIPTION | CKT. NO. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | EXISTING | | 1 | 20 | | | EXISTING | | | 0 | | | | EXISTING | | | | 20 | 1 | | EXISTING | 2 |
| 3 | EXISTING | | 1 | 20 | | | EXISTING | | | | 0 | | | EXISTING | | | | 20 | 1 | | EXISTING | 4 |
| 5 | EXISTING | | 1 | 20 | | | EXISTING | | | | | 0 | | EXISTING | | | | 20 | 1 | | EXISTING | 6 |
| 7 | EXISTING | | 1 | 20 | | | EXISTING | | | 0 | | | | | | | | | | | | 8 |
| 9 | EXISTING | | 1 | 20 | | | EXISTING | | | | 0 | | | | EXISTING | | | 20 | 3 | | EXISTING | 10 |
| 11 | | | | | | | | | | | | 0 | | | | | | | | | | 12 |
| 13 | EXISTING | | 3 | 30 | | | EXISTING | | | 0 | | | | EXISTING | | | | 20 | 1 | | EXISTING | 14 |
| 15 | | | | | | | | | | | 0 | | | EXISTING | | | | 20 | 1 | | EXISTING | 16 |
| 17 | EXISTING | | 1 | 20 | | | | | | | | 0 | | EXISTING | | | | 20 | 1 | | EXISTING | 18 |
| 19 | EXISTING | | 1 | 20 | | | | | | 0 | | | | | | | | | | | | 20 |
| 21 | EXISTING | | 1 | 20 | | | | | | | 0 | | | EXISTING | | | | 30 | 3 | | EXISTING | 22 |
| 23 | EXISTING | | 1 | 20 | | | | | | | | 0 | | | | | | | | | | 24 |
| 25 | AHU-3A | 1380 | 1 | 20 | | 2 | 12 | 12 | 3/4 | 1380 | | | | EXISTING | | | | 20 | 1 | | EXISTING | 26 |
| 27 | AHU-3B | 1380 | 1 | 20 | | 2 | 12 | 12 | 3/4 | | 1380 | | | | | | | | 1 | | SPACE | 28 |
| 29 | AHU-3C | 1380 | 1 | 20 | | 2 | 12 | 12 | 3/4 | | | 1380 | | | | | | | 1 | | SPACE | 30 |
| | | | | | | | | | TOTAL (PHASE): | 1380 | 1380 | 1380 | | | | | | | | | | |

CIRCUIT BREAKER TYPES

| | |
|---|---|
| AF | ARC FAULT CIRCUIT BREAKER |
| GF | GROUND FAULT CIRCUIT BREAKER |
| AG | ARC FAULT & GROUND FAULT BKR |
| ST | SHUNT TRIP CIRCUIT BREAKER |
| 100% | 100% RATED CIRCUIT BREAKER |

NOTES
1 ALL BUSING TO BE COPPER
2 ALL WIRE SIZES ARE BASED ON 75 DEGREE WIRE
3 CONTRACTOR IS RESPONSIBLE TO COORDINATE THE SHORT CIRCUIT RATING PER THE SPECIFICATIONS AND NOTIFY THE ENGINEER PRIOR TO PURCHASING ANY EQUIPMENT.
4 PROVIDE 3-POLE 30A CIRCUIT BREAKER AND EXTERNAL MOUNTED TVSS FOR ALL EMERGENCY PANELBOARDS
5 A "BLANK" SPACE UNDER BREAKER TYPE DENOTES A STANDARD CIRCUIT BREAKER.

## PANEL PP-5B

BUS SIZE: 100 MAIN LUGS ONLY
LOCATION: 5TH FL JAN CLOSET
FED FROM: PANEL PP-5A

(EXISTING)
208/120V, 3 PH, 4W

PANEL TYPE: NEMA 1
MOUNTING: RECESSED
AIC RATING EXISTING FULLY RATED

| CKT. NO. | CIRCUIT DESCRIPTION | LOAD VA | BREAKER POLE | BREAKER SIZE | BREAKER TYPE | CIRCUIT WIRING No. | WIRE | GND | COND | PHASE A | PHASE B | PHASE C | CIRCUIT WIRING No. | WIRE | GND | COND | BREAKER TYPE | BREAKER SIZE | BREAKER POLE | LOAD VA | CIRCUIT DESCRIPTION | CKT. NO. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | EXISTING | | 1 | 20 | | | EXISTING | | | 0 | | | | EXISTING | | | | 20 | 1 | | EXISTING | 2 |
| 3 | EXISTING | | 1 | 20 | | | EXISTING | | | | 0 | | | EXISTING | | | | 20 | 1 | | EXISTING | 4 |
| 5 | EXISTING | | 1 | 20 | | | EXISTING | | | | | 0 | | EXISTING | | | | 20 | 1 | | EXISTING | 6 |
| 7 | EXISTING | | 1 | 20 | | | EXISTING | | | 0 | | | | EXISTING | | | | 20 | 1 | | EXISTING | 8 |
| 9 | EXISTING | | 1 | 20 | | | EXISTING | | | | 0 | | | EXISTING | | | | 20 | 1 | | EXISTING | 10 |
| 11 | EXISTING | | 1 | 20 | | | EXISTING | | | | | 0 | | EXISTING | | | | 20 | 1 | | EXISTING | 12 |
| 13 | EXISTING | | 1 | 20 | | | EXISTING | | | 0 | | | | EXISTING | | | | 20 | 1 | | EXISTING | 14 |
| 15 | EXISTING | | 1 | 20 | | | EXISTING | | | | 0 | | | EXISTING | | | | 20 | 1 | | EXISTING | 16 |
| 17 | EXISTING | | 1 | 20 | | | EXISTING | | | | | 0 | | EXISTING | | | | 20 | 1 | | EXISTING | 18 |
| 19 | RECEPTS - OFFICE 506, 507 | 1080 | 1 | 20 | | 2 | 12 | 12 | 3/4 | 1080 | | | | EXISTING | | | | 20 | 1 | | EXISTING | 20 |
| 21 | RECEPTS - OFFICE 505, 506 | 1080 | 1 | 20 | | 2 | 12 | 12 | 3/4 | | 1080 | | | EXISTING | | | | 20 | 1 | | EXISTING | 22 |
| 23 | RECEPTS - OFFICE 503, 504 | 1080 | 1 | 20 | | 2 | 12 | 12 | 3/4 | | | 1080 | | EXISTING | | | | 20 | 1 | | EXISTING | 24 |
| 25 | RECEPTS - OFFICE 510 | 900 | 1 | 20 | | 2 | 12 | 12 | 3/4 | 2280 | | | 2 | 12 | 12 | 3/4 | | 20 | 1 | 1380 | AHU-5A | 26 |
| 27 | RECEPTS - OFFICE 510 | 900 | 1 | 20 | | 2 | 12 | 12 | 3/4 | | 2280 | | 2 | 12 | 12 | 3/4 | | 20 | 1 | 1380 | AHU-5B | 28 |
| 29 | COPIER / PRINTER - OFFICE 510 | 750 | 1 | 20 | | 2 | 12 | 12 | 3/4 | | | 2130 | 2 | 12 | 12 | 3/4 | | 20 | 1 | 1380 | AHU-5C | 30 |
| | | | | | | | | | TOTAL (PHASE): | 3360 | 3360 | 3210 | | | | | | | | | | |

CIRCUIT BREAKER TYPES

| | |
|---|---|
| AF | ARC FAULT CIRCUIT BREAKER |
| GF | GROUND FAULT CIRCUIT BREAKER |
| AG | ARC FAULT & GROUND FAULT BKR |
| ST | SHUNT TRIP CIRCUIT BREAKER |
| 100% | 100% RATED CIRCUIT BREAKER |

NOTES
1 ALL BUSING TO BE COPPER
2 ALL WIRE SIZES ARE BASED ON 75 DEGREE WIRE
3 CONTRACTOR IS RESPONSIBLE TO COORDINATE THE SHORT CIRCUIT RATING PER THE SPECIFICATIONS AND NOTIFY THE ENGINEER PRIOR TO PURCHASING ANY EQUIPMENT.
4 PROVIDE 3-POLE 30A CIRCUIT BREAKER AND EXTERNAL MOUNTED TVSS FOR ALL EMERGENCY PANELBOARDS
5 A "BLANK" SPACE UNDER BREAKER TYPE DENOTES A STANDARD CIRCUIT BREAKER.

## PANEL PP-4A

BUS SIZE: 100 MAIN LUGS ONLY
LOCATION: 4TH FL
FED FROM: MDP

(EXISTING)
208/120V, 3 PH, 4W

PANEL TYPE: NEMA 1
MOUNTING: RECESSED
AIC RATING EXISTING FULLY RATED

| CKT. NO. | CIRCUIT DESCRIPTION | LOAD VA | BREAKER POLE | BREAKER SIZE | BREAKER TYPE | CIRCUIT WIRING No. | WIRE | GND | COND | PHASE A | PHASE B | PHASE C | CIRCUIT WIRING No. | WIRE | GND | COND | BREAKER TYPE | BREAKER SIZE | BREAKER POLE | LOAD VA | CIRCUIT DESCRIPTION | CKT. NO. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | EXISTING | | 1 | 20 | | | EXISTING | | | 0 | | | | EXISTING | | | | 20 | 1 | | EXISTING | 2 |
| 3 | EXISTING | | 1 | 20 | | | EXISTING | | | | 0 | | | | | | | 20 | 1 | | EXISTING | 4 |
| 5 | EXISTING | | 1 | 20 | | | EXISTING | | | | | 0 | | | | | | 20 | 1 | | EXISTING | 6 |
| 7 | EXISTING | | 1 | 20 | | | EXISTING | | | 0 | | | | | | | | 20 | 1 | | EXISTING | 8 |
| 9 | EXISTING | | 1 | 20 | | | EXISTING | | | | 0 | | | | | | | 20 | 1 | | EXISTING | 10 |
| 11 | EXISTING | | 1 | 20 | | | EXISTING | | | | | 0 | | | | | | 20 | 1 | | EXISTING | 12 |
| 13 | EXISTING | | 1 | 20 | | | EXISTING | | | 0 | | | | | | | | 20 | 1 | | EXISTING | 14 |
| 15 | EXISTING | | 1 | 20 | | | EXISTING | | | | 0 | | | | | | | 20 | 1 | | EXISTING | 16 |
| 17 | EXISTING | | 1 | 20 | | | EXISTING | | | | | 0 | | | | | | 20 | 1 | | EXISTING | 18 |
| 19 | | | | | | | | | | 0 | | | | | | | | | | | | 20 |
| 21 | EXISTING | | 3 | 20 | | | EXISTING | | | | 0 | | | | | | | 20 | 2 | | EXISTING | 22 |
| 23 | | | | | | | | | | | | 0 | | | | | | | | | | 24 |
| 25 | | | | | | | | | | 0 | | | | | | | | | | | | 26 |
| 27 | EXISTING | | 3 | 20 | | | EXISTING | | | | 0 | | | | | | | 20 | 1 | | EXISTING | 28 |
| 29 | | | | | | | | | | | | 0 | | | | | | | | | | 30 |
| 31 | EXISTING | | 1 | 20 | | | EXISTING | | | 0 | | | | | | | | | | | | 32 |
| 33 | ~~EXISTING A/C UNIT~~ SPARE | | 1 | 60 | | | | | | | 0 | | | | | | | 60 | 2 | | ~~EXISTING A/C UNIT~~ SPARE | 34 |
| 35 | | | | | | | | | | | | 0 | | | | | | | | | | 36 |
| 37 | | | | | | | | | | 0 | | | | | | | | | | | | 38 |
| 39 | EXISTING PANEL PP-4B | | 3 | 100 | | | EXISTING | | | | 0 | | | | EXISTING | | | 20 | 3 | | EXISTING | 40 |
| 41 | | | | | | | | | | | | 0 | | | | | | | | | | 42 |
| | | | | | | | | | TOTAL (PHASE): | 0 | 0 | 0 | | | | | | | | | | |

CIRCUIT BREAKER TYPES

| | |
|---|---|
| AF | ARC FAULT CIRCUIT BREAKER |
| GF | GROUND FAULT CIRCUIT BREAKER |
| AG | ARC FAULT & GROUND FAULT BKR |
| ST | SHUNT TRIP CIRCUIT BREAKER |
| 100% | 100% RATED CIRCUIT BREAKER |

NOTES
1 ALL BUSING TO BE COPPER
2 ALL WIRE SIZES ARE BASED ON 75 DEGREE WIRE
3 CONTRACTOR IS RESPONSIBLE TO COORDINATE THE SHORT CIRCUIT RATING PER THE SPECIFICATIONS AND NOTIFY THE ENGINEER PRIOR TO PURCHASING ANY EQUIPMENT.
4 PROVIDE 3-POLE 30A CIRCUIT BREAKER AND EXTERNAL MOUNTED TVSS FOR ALL EMERGENCY PANELBOARDS
5 A "BLANK" SPACE UNDER BREAKER TYPE DENOTES A STANDARD CIRCUIT BREAKER.

## PANEL PP-5C

BUS SIZE: 400 MAIN LUGS ONLY
LOCATION: 5TH FL STAFF LOUNGE
FED FROM: MDP

(NEW)
208/120V, 3 PH, 4W

PANEL TYPE: NEMA 1
MOUNTING: RECESSED
AIC RATING 42000 AMPS FULLY RATED

| CKT. NO. | CIRCUIT DESCRIPTION | LOAD VA | BREAKER POLE | BREAKER SIZE | BREAKER TYPE | CIRCUIT WIRING No. | WIRE | GND | COND | PHASE A | PHASE B | PHASE C | CIRCUIT WIRING No. | WIRE | GND | COND | BREAKER TYPE | BREAKER SIZE | BREAKER POLE | LOAD VA | CIRCUIT DESCRIPTION | CKT. NO. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | RECEPTS - ROOF | 360 | 1 | 20 | | 2 | 12 | 12 | 3/4 | 4949 | | | | | | | | | | 4589 | | 2 |
| 3 | SPARE | | 1 | 20 | | | | | | | 4589 | | 4 | 8 | 10 | 1 | | 50 | 3 | 4589 | ACCU-1 #2 | 4 |
| 5 | SPARE | | 1 | 20 | | | | | | | | 4589 | | | | | | | | 4589 | | 6 |
| 7 | | 5271 | | | | | | | | 9860 | | | | | | | | | | 4589 | | 8 |
| 9 | ACCU-1 #1 | 5271 | 3 | 60 | | 4 | 6 | 10 | 1 | | 9860 | | 4 | 8 | 10 | 1 | | 50 | 3 | 4589 | ACCU-2 #2 | 10 |
| 11 | | 5271 | | | | | | | | | | 9860 | | | | | | | | 4589 | | 12 |
| 13 | | 5271 | | | | | | | | 9860 | | | | | | | | | | 4589 | | 14 |
| 15 | ACCU-2 #1 | 5271 | 3 | 60 | | 4 | 6 | 10 | 1 | | 9860 | | 4 | 8 | 10 | 1 | | 50 | 3 | 4589 | ACCU-3 #2 | 16 |
| 17 | | 5271 | | | | | | | | | | 9860 | | | | | | | | 4589 | | 18 |
| 19 | | 5271 | | | | | | | | 14655 | | | | | | | | | | 9384 | | 20 |
| 21 | ACCU-3 #1 | 5271 | 3 | 60 | | 4 | 6 | 10 | 1 | | 14655 | | 4 | 2 | 6 | 1-1/2 | | 110 | 3 | 9384 | MAU-1 | 22 |
| 23 | | 5271 | | | | | | | | | | 14655 | | | | | | | | 9384 | | 24 |
| 25 | SPACE | | 1 | | | | | | | 0 | | | | | | | | | 1 | | SPACE | 26 |
| 27 | SPACE | | 1 | | | | | | | | 0 | | | | | | | | 1 | | SPACE | 28 |
| 29 | SPACE | | 1 | | | | | | | | | 0 | | | | | | | 1 | | SPACE | 30 |
| 31 | SPACE | | 1 | | | | | | | 0 | | | | | | | | | 1 | | SPACE | 32 |
| 33 | SPACE | | 1 | | | | | | | | 0 | | | | | | | | 1 | | SPACE | 34 |
| 35 | SPACE | | 1 | | | | | | | | | 0 | | | | | | | 1 | | SPACE | 36 |
| | | | | | | | | | TOTAL (PHASE): | 39324 | 38964 | 38964 | | | | | | | | | | |

CIRCUIT BREAKER TYPES

| | |
|---|---|
| AF | ARC FAULT CIRCUIT BREAKER |
| GF | GROUND FAULT CIRCUIT BREAKER |
| AG | ARC FAULT & GROUND FAULT BKR |
| ST | SHUNT TRIP CIRCUIT BREAKER |
| 100% | 100% RATED CIRCUIT BREAKER |

| TOTAL CONNECTED LOAD: | | |
|---|---|---|
| | 117.3 | KVA |
| | 325.8 | AMPS |

NOTES
1 ALL BUSING TO BE COPPER
2 ALL WIRE SIZES ARE BASED ON 75 DEGREE WIRE
3 CONTRACTOR IS RESPONSIBLE TO COORDINATE THE SHORT CIRCUIT RATING PER THE SPECIFICATIONS AND NOTIFY THE ENGINEER PRIOR TO PURCHASING ANY EQUIPMENT.
4 PROVIDE 3-POLE 30A CIRCUIT BREAKER AND EXTERNAL MOUNTED TVSS FOR ALL EMERGENCY PANELBOARDS
5 A "BLANK" SPACE UNDER BREAKER TYPE DENOTES A STANDARD CIRCUIT BREAKER.

## KEYNOTES

1. CONTRACTOR SHALL REPLACE THE EXISTING CIRCUIT BREAKER(S) WITH NEW CIRCUIT BREAKER(S). NEW BREAKER(S) SHALL HAVE THE SAME RATINGS, INCLUDING KAIC, AS THE REST OF THE EXISTING BREAKERS.
2. CONTRACTOR SHALL PROVIDE A NEW CIRCUIT BREAKER IN AN EXISTING SPACE. NEW BREAKER SHALL HAVE THE SAME RATINGS, INCLUDING KAIC, AS THE REST OF THE EXISTING BREAKERS.


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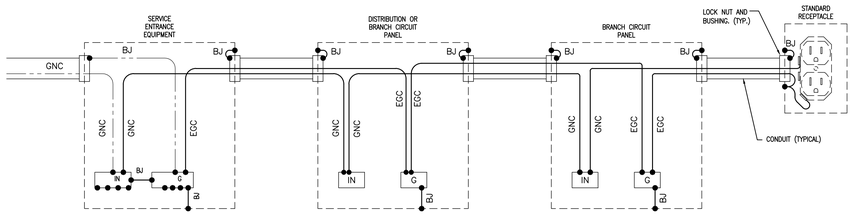


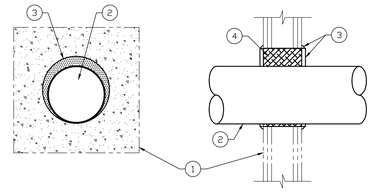

NOTES:

1. DETAIL IS TYPICAL AND IS INTENDED TO ILLUSTRATE METHODS OF GROUNDING AND BONDING OF ELECTRICAL DISTRIBUTION SYSTEM COMPONENTS.
2. METHODS OF ESTABLISHING THE GROUNDING ELECTRODE SHALL BE BY MEANS OF ONE OF THE COMBINATIONS OF GROUNDING ELECTRODE CONDUCTORS AND GROUNDING ELECTRODES INDICATED IN THE DETAIL.
3. BONDING JUMPERS (BJ), GROUNDING ELECTRODE CONDUCTORS (GEC), GROUNDED NEUTRAL CONDUCTORS (GNC), AND EQUIPMENT GROUNDING CONDUCTORS (EGC) SHALL ALL BE INSULATED. BONDING JUMPERS (BJ) MAY BE BARE WHEN WITHIN AN ENCLOSURE OR LESS THAN 6'-0" IN LENGTH. INSULATION COLORS SHALL BE AS FOLLOWS:
   a. BJ: GREEN
   b. GEC: GREEN
   c. GNC: WHITE
   d. EGC: GREEN
4. REFER TO NATIONAL ELECTRICAL CODE "GROUNDING ELECTRODE CONDUCTORS" TABLE (NEC 250.66) AND "EQUIPMENT GROUNDING CONDUCTORS" TABLE (NEC 250.122) FOR SIZING OF GROUNDING AND BONDING CONDUCTORS INDICATED ABOVE.
5. BONDING JUMPER IS NOT REQUIRED FOR RECEPTACLES IF U.L. LISTED AUTO-GROUND WIRING DEVICES ARE USED.
6. BONDING JUMPER IS NOT REQUIRED IF U.L. LISTED AND APPROVED BONDING LOCKNUTS OR BUSHINGS AND NONMETALLIC RACEWAYS AND/OR BOXES ARE USED
7. ELECTRICALLY CONTINUOUS METAL BAR JOISTS IN MASONRY CONSTRUCTION SHALL BE BONDED TO THE SERVICE ENTRANCE EQUIPMENT ENCLOSURE OR TO INTERIOR, GROUNDED, STRUCTURAL STEEL IN OTHER PORTIONS OF THE BUILDING.
8. CONCRETE ENCASED ELECTRODE SHALL BE ELECTRICALLY CONDUCTIVE ALONG ITS ENTIRE LENGTH. PIGTAIL SHALL BE SAME SIZE AND MATERIAL AS GROUNDING ELECTRODE CONDUCTOR. COORDINATE INSPECTION OF PIGTAIL, SLEEVE AND CONNECTION TO ELECTRODE WITH AUTHORITY HAVING JURISDICTION.

LEGEND

| | | |
|---|---|---|
| BJ | = | BONDING JUMPER |
| CEE | = | CONCRETE ENCASED ELECTRODE |
| CPWG | = | COLD WATER PIPE GROUND |
| DGR | = | DRIVEN GROUND ROD |
| EGC | = | EQUIPMENT GROUNDING CONDUCTOR |
| G | = | GROUND BLOCK |
| GEC | = | GROUNDING ELECTRODE CONDUCTOR |
| GNC | = | GROUNDED NEUTRAL CONDUCTOR |
| IG | = | ISOLATED GROUND BLOCK |
| IGC | = | ISOLATED GROUNDING CONDUCTOR |
| IN | = | INSULATED NEUTRAL BLOCK |
| N | = | NEUTRAL BLOCK |
| UGL | = | UNDERGROUND GROUND LOOP |
| Xo | = | TRANSFORMER NEUTRAL BLOCK |

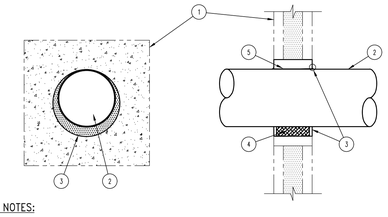
1 TYPICAL GROUNDING AND BONDING DETAIL — SCALE NONE




KEY NOTES:

1. RATED GYPSUM WALL BOARD ASSEMBLY.
2. MAXIMUM 10" TRADE SIZE STEEL CONDUIT OR EMT.
3. STI SPECSEAL SERIES 100 SEALANT INSTALLED TO A 1/2" DEPTH FLUSH TO THE END OF THE SLEEVE WITH AN ADDITIONAL 1/4" CROWN APPLIED AROUND THE SLEEVE / WALL INTERFACE. ANNULUS RANGING FROM 1/8" MINIMUM TO 2 1/4" MAXIMUM.
4. STEEL SLEEVE PACKED WITH MINERAL WOOL BATT, TO FULL THICKNESS RECESSED FROM BOTH SIDES TO ACCOMODATE FILL MATERIAL.

2 1 OR 2 HOUR RATED FIRESTOP FOR METALLIC CONDUIT THRU GYPSUM — SCALE NONE



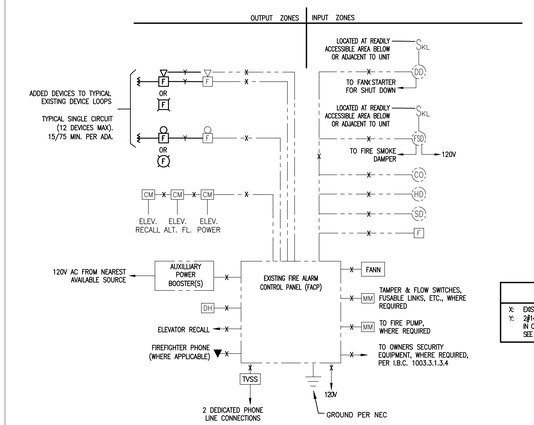

KEY NOTES:

1. CONCRETE SLAB OR CONCRETE OVER STEEL DECK.
2. MAXIMUM 8" TRADE SIZE STEEL CONDUIT. ANNULUS RANGING FROM POINT CONTACT* TO 1.4" MAXIMUM.
3. STI SPECSEAL SERIES 100 SEALANT INSTALLED TO A 1/2" DEPTH. **
4. MINERAL WOOL BATT, NOMINAL 4PCF. TO FULL THICKNESS RECESSED FROM BOTH SIDES TO ACCOMMODATE FILL MATERIAL.
5. STEEL SLEEVE.

*NOTE: A MINIMUM ANNULAR SPACE OF 1/4" AND A 28 GAUGE STEEL COVER PLATE ARE REQUIRED FOR A 4 HOUR RATING.

**NOTE: AT POINT CONTACT APPLY A 3/8" COVE BEAD OF SEALANT BETWEEN PIPE AND BOTH SURFACES OF WALL.

3 3 HOUR RATED FIRESTOP FOR METALLIC CONDUIT THRU MASONRY — SCALE NONE

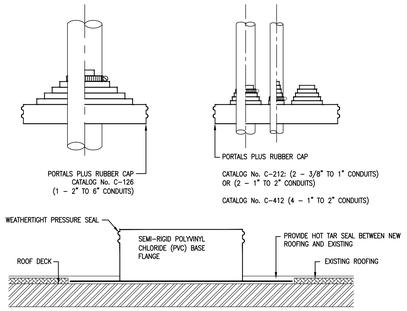



| WIRING |
|---|
| X: EXISTING |
| Y: 2@14 TWCSTD SHIELDED, IN CONDUIT OR MC CABLE. SEE SPECIFICATIONS. |

EXISTING FIRE ALARM SYSTEM MODIFICATION NOTES:

1. TO ENSURE COMPATIBILITY WITH THE EXISTING SYSTEM, AND PROVIDE A SINGLE SOURCE FOR SUPPLY OF PARTS AND MAINTENANCE, PROVIDE PRODUCTS OF THE SAME MANUFACTURERS AS THE EXISTING SYSTEM OR AN APPROVED SUBSTITUTION.
2. ALL WORK SHALL COMPLY WITH THE APPLICABLE BUILDING CODE, LOCAL ORDINANCE AND REGULATION, THE REQUIREMENTS OF THE AUTHORITIES HAVING JURISDICTION AND NFPA 70 AND NFPA 72.
3. MAKE THE NECESSARY ARRANGEMENTS WITH THE OWNER'S SERVICE AGENCY TO SUPERVISE THE NEW FIRE ALARM WORK AND MAKE WIRING CONNECTIONS AND INCLUDE THE SERVICE AGENCY'S CHARGES FOR THIS WORK IN HIS PROPOSAL.
4. TEST THE EXISTING SYSTEM IN THE PRESENCE OF THE OWNER'S REPRESENTATIVE PRIOR TO COMMENCING ANY WORK IN THE BUILDING. INITIATE A FIRE DRILL WITH THE ALARM RECEIVING STATION DISCONNECTED AND OBSERVE THE RESPONSE OF ALL INDICATING AND ANNUNCIATING DEVICES.
5. CHECK THE INTEGRITY OF EXISTING CIRCUITS BEFORE CONNECTING TO THEM. RECORD THE RESULTS AND SUBMIT TO THE ENGINEER. DO NOT MAKE ANY CONNECTION TO THE EXISTING SYSTEM UNTIL ITS OPERATING CONDITION HAS BEEN CONFIRMED.
6. MAINTAIN THE EXISTING SYSTEM OPERATIONAL DURING THE WORK.
7. NEW ALARM INITIATING DEVICES SHALL BE CONNECTED TO ACTIVATE THE EXISTING FIRE ALARM SYSTEM ZONE WHICH SERVES THAT PARTICULAR AREA OF THE EXISTING BUILDING WHERE THE NEW DEVICES IS LOCATED.
8. AFTER THE NEW WORK IS COMPLETE, TEST ALL NEW INITIATING DEVICES TO ENSURE PROPER OPERATION OF THE EXISTING FIRE ALARM SYSTEM. TEST THE EXISTING CIRCUITS TO WHICH THE NEW DEVICES ARE CONNECTED. TEST ALL OF THE EXISTING INITIATING DEVICES IN THE ROOMS AND SPACES IMMEDIATELY ADJACENT TO THE AREA OF WORK. RANDOMLY TEST AT LEAST TEN PERCENT OF THE INITIATING DEVICES THAT ARE NOT DIRECTLY AFFECTED BY THE WORK.
9. PROVIDE A SMOKE DETECTOR AND VISIBLE ALARM SIGNAL MOUNTED ABOVE ALL NEW FIRE ALARM CONTROL PANELS, ANNUNCIATORS AND SIGNAL CIRCUIT EXTENDERS.
10. RUN NEW CONDUITS CONCEALED WHEREVER POSSIBLE.
11. IN GENERAL, ALL REQUIRED FIRE ALARM SYSTEM WIRING IS NOT SHOW ON THE PLAN DRAWINGS. INSTALLATION AND ROUTING OF THESE CIRCUITS AND WIRING SHALL BE DETERMINED BY THE ELECTRICAL CONTRACTOR IN ACCORDANCE WITH FIELD CONDITIONS, FIRE ALARM DIAGRAMS, SPECIFICATIONS AND CODES.
12. LOCATIONS OF FIRE ALARM DEVICES AND EQUIPMENT SHOWN ON THE PLAN DRAWINGS IS DIAGRAMMATIC. EXACT LOCATIONS SHALL BE DETERMINED BY THE ELECTRICAL CONTRACTOR IN ACCORDANCE WITH FIELD CONDITIONS AND THE FOLLOWING:
    12.1. CEILING MOUNTED DEVICES SHALL BE COORDINATED WITH SUSPENDED CEILING, LIGHT FIXTURES, SPEAKERS, DIFFUSERS, DUCTWORK, SPRINKLER HEADS, ETC., AND NFPA REQUIREMENTS.
    12.2. WALL MOUNTED DEVICES SHALL BE COORDINATED WITH ALL OTHER WALL MOUNTED DEVICES. WALL CONSTRUCTION, ETC., AND NFPA AND IBC REQUIREMENTS. WHEREVER POSSIBLE LOCATE WALL MOUNTED DEVICES ON WALLS WHICH WILL PERMIT DEVICES TO BE FLUSH OR SEMI-FLUSH MOUNTED. SURFACE MOUNTED DEVICES WILL BE PERMITTED ONLY IN MECHANICAL ROOMS AND WHERE APPROVED BY THE ENGINEER, ARCHITECT, AND OWNER.
13. SOME DEVICES INDICATED MAY NOT BE USED ON THIS PROJECT. REFER TO PLAN DRAWINGS FOR TYPES OF DEVICES, QUANTITIES AND LOCATIONS.
14. A 100% TOTAL ACCEPTANCE TEST SHALL BE PERFORMED AT THE COMPLETION OF THE NEW FIRE ALARM SYSTEM INSTALLATION ASSOCIATED WITH THE NEW BUILDING ADDITIONS ACCORDING IBC/2006-907.16. SEE SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.
15. INSTALLATION AND/OR MODIFICATION OF FIRE ALARM SYSTEM AND ASSOCIATED COMPONENTS REQUIRE DCA RELEASE OF SHOP DRAWINGS BEFORE STARTING ANY INSTALLATION WORK. FIRE ALARM WORK SHOWN ON THESE DRAWING ARE FOR "REFERENCE ONLY"

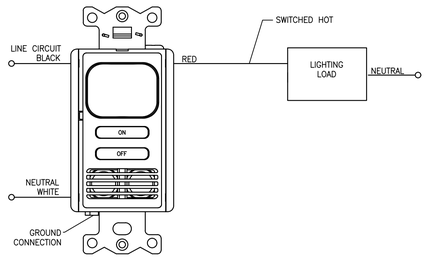
3 TYPICAL FIRE ALARM RISER DIAGRAM — SCALE NONE




NOTES:

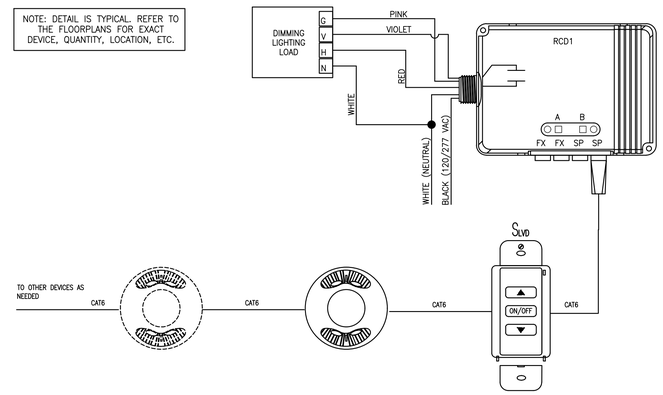
1. REMOVE EXISTING GRAVEL & ROOFING WHERE BASE FLANGES ARE TO BE SET. AFTER SETTING BASE FLANGE PROVIDE NEW ROOFING & REPLACE THE GRAVEL.

4 TYPICAL ROOF PENETRATION DETAIL — SCALE NONE

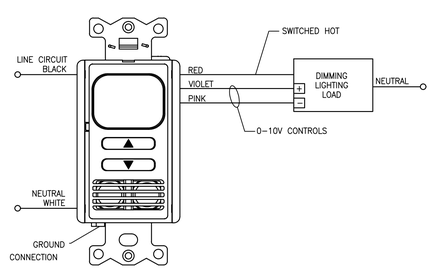



6 TYPICAL LIGHTING CONTROLS WIRING DIAGRAM – SM STORAGE — SCALE NONE

NOTE: DETAIL IS TYPICAL. REFER TO THE FLOORPLANS FOR EXACT DEVICE, QUANTITY, LOCATION, ETC.

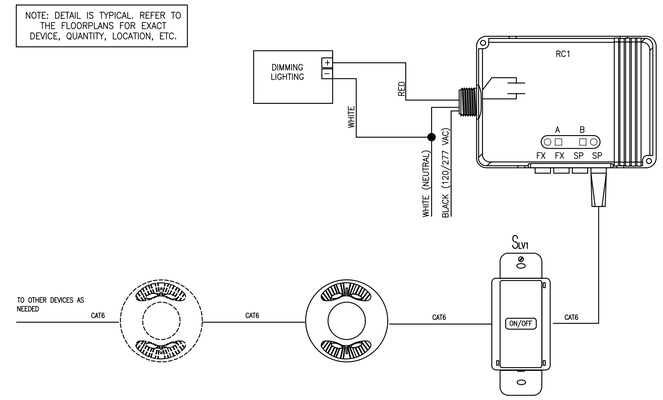



7 TYPICAL LIGHTING CONTROLS WIRING DIAGRAM – OFFICE / CONFERENCE / LOUNGE / ETC — SCALE NONE




10 TYPICAL LIGHTING CONTROLS WIRING DIAGRAM – SMALL OFFICE — SCALE NONE

NOTE: DETAIL IS TYPICAL. REFER TO THE FLOORPLANS FOR EXACT DEVICE, QUANTITY, LOCATION, ETC.




11 TYPICAL LIGHTING CONTROLS WIRING DIAGRAM – CORRIDOR — SCALE NONE

COPPER BRANCH CIRCUIT WIRE SIZING TABLES – 208V – 3% VOLTAGE DROP

| C/B TRIP | | 208V, 3P, 3W 120/208V, 3P, 4W | | | 208V, 2P, 2W 120/208V, 2P, 3W | | | | 120V, 1P, 2W | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 15 | DISTANCE IN FEET | 109 | 173 | 275 | 94 | 150 | 238 | 379 | 54 | 87 | 138 | 219 | 348 | 449 |
| | MINIMUM WIRE SIZE | 12 | 10 | 8 | 12 | 10 | 8 | 6 | 12 | 10 | 8 | 6 | 4 | 3 |
| 20 | DISTANCE IN FEET | 82 | 130 | 207 | 71 | 112 | 179 | 284 | 41 | 65 | 103 | 164 | 261 | 329 |
| | MINIMUM WIRE SIZE | 12 | 10 | 8 | 12 | 10 | 8 | 6 | 12 | 10 | 8 | 6 | 4 | 3 |
| 30 | DISTANCE IN FEET | 87 | 138 | 219 | 75 | 119 | 190 | 301 | 43 | 69 | 109 | 174 | 219 | 277 |
| | MINIMUM WIRE SIZE | 10 | 8 | 6 | 10 | 8 | 6 | 4 | 10 | 8 | 6 | 4 | 3 | 2 |
| 40 | DISTANCE IN FEET | 103 | 164 | 261 | 89 | 142 | 226 | 285 | 52 | 82 | 130 | 164 | 207 | 262 |
| | MINIMUM WIRE SIZE | 8 | 6 | 4 | 8 | 6 | 4 | 3 | 8 | 6 | 4 | 3 | 2 | 1 |
| 50 | DISTANCE IN FEET | 83 | 131 | 209 | 72 | 114 | 181 | 228 | 41 | 66 | 104 | 132 | 166 | 209 |
| | MINIMUM WIRE SIZE | 8 | 6 | 4 | 8 | 6 | 4 | 3 | 8 | 6 | 4 | 3 | 2 | 1 |
| 60 | DISTANCE IN FEET | 109 | 174 | 219 | 95 | 151 | 190 | 240 | 55 | 87 | 110 | 138 | 174 | |
| | MINIMUM WIRE SIZE | 6 | 4 | 3 | 6 | 4 | 3 | 2 | 6 | 4 | 3 | 2 | 1 | |
| 70 | DISTANCE IN FEET | 149 | 188 | 237 | 129 | 163 | 205 | 259 | 75 | 94 | 119 | 149 | | |
| | MINIMUM WIRE SIZE | 4 | 3 | 2 | 4 | 3 | 2 | 1 | 4 | 3 | 2 | 1 | | |
| 80 | DISTANCE IN FEET | 131 | 165 | 208 | 113 | 143 | 180 | 227 | 65 | 82 | 104 | 131 | | |
| | MINIMUM WIRE SIZE | 4 | 3 | 2 | 4 | 3 | 2 | 1 | 4 | 3 | 2 | 1 | | |
| 90 | DISTANCE IN FEET | 146 | 184 | 233 | 127 | 160 | 201 | | 73 | 92 | 116 | | | |
| | MINIMUM WIRE SIZE | 3 | 2 | 1 | 3 | 2 | 1 | | 3 | 2 | 1 | | | |
| 100 | DISTANCE IN FEET | 132 | 166 | 209 | 114 | 144 | 181 | | 66 | 83 | 105 | | | |
| | MINIMUM WIRE SIZE | 3 | 2 | 1 | 3 | 2 | 1 | | 3 | 2 | 1 | | | |

NOTES:

1. READ ACROSS TO THE RIGHT FROM C/B TRIP TO DESIRED VOLTAGE CHARACTERISTICS AND NEXT GREATER DISTANCE THAN CIRCUIT IN QUESTION.
2. READ DOWN TO MINIMUM WIRE SIZE.
3. DISTANCES ARE TO THE CENTER OF CONCENTRATED LOAD SUCH AS CLASSROOM LIGHTING OR THE MIDPOINT OF DISTRIBUTED LOAD SUCH AS CORRIDOR LIGHTING.

8 208V BRANCH CIRCUIT WIRE SIZING TABLE — SCALE NONE

*DESIGN BASED ON ASHRAE 90.1-2019*

| *STAND ALONE ROOM - SEQUENCE OF OPERATION* | GENERAL NOTES |
|---|---|
| SMALL STORAGE<br>*AUTO-ON/AUTO-OFF OPERATION THROUGH WALL SWITCH/SENSOR. FIXTURES SHALL TURN OFF 20 MINS AFTER VACANCY.*<br><br>*SMALL OFFICES*<br>*MANUAL-ON/AUTO-OFF WITH DIMMING THROUGH WALL SWITCH/SENSOR. FIXTURES SHALL TURN OFF AFTER 20 MINUTES OF VACANCY.*<br><br>*OFFICE / CONFERENCE / LOUNGE / ETC*<br>*MANUAL-ON/AUTO-OFF WITH DIMMING THROUGH LOCAL DIGITAL DIMMING SWITCH(ES), ROOM CONTROLLER(S) AND CEILING MOUNTED OCCUPANCY SENSOR(S). FIXTURE SHALL TURN OFF AFTER 20 MINUTES OF VACANCY.*<br><br>CORRIDOR<br>*AUTO-ON/AUTO-OFF OPERATION THROUGH LOCAL ROOM CONTROLLER(S) AND CEILING MOUNTED OCCUPANCY SENSOR(S). FIXTURES SHALL DIM DOWN TO 50% AFTER 20 MINUTES OF VACANCY AND FULL OFF AT END OF THE DAY (TIME TO BE SET BY OWNER). SWITCH SHALL SERVE AS OVERRIDE.* | ALL OCCUPANCY/VACANCY SENSORS SHALL TURN OFF RESPECTIVE LIGHTING FIXTURES 20 MIN AFTER VACANCY.<br><br>AFTERHOUR OVERRIDE CONTROL SHALL HAVE A MAXIMUM OVERRIDE OF NO MORE THAN TWO HOURS PER ACTIVATION DURING SCHEDULED OFF PERIODS.<br><br>CONFIRM THE EXACT DIMMING REQUIREMENTS OF EACH PURCHASED LIGHTING FIXTURE, PRIOR TO ORDERING THE CORRESPONDING DIMMING ROOM CONTROLLER. COMPATIBILITY MUST BE VERIFIED.<br><br>LOWER CASE LETTER (EXAMPLE "A") LOCATED NEXT TO LIGHTING FIXTURE INDICATES THE LOCAL SWITCH ZONE.<br><br>ALL ENGRAVING OF SWITCHES SHALL BE COORDINATED WITH THE OWNER PRIOR TO ORDERING. |
| | EMERGENCY NOTES |
| | EMERGENCY LIGHTING SHALL BE PROVIDED BY INTEGRAL BATTERIES OR LIGHTING INVERTER AS SHOWN ON ELECTRICAL DRAWINGS.<br><br>ALL FIXTURES INDICATED WITH "NL" SHALL HAVE AN INTEGRAL EMERGENCY BATTERY AND BE UNSWITCHED NIGHT LIGHT. |

9 LIGHTING CONTROLS SEQUENCE OF OPERATIONS — SCALE NONE

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**EXTERIOR + INTERIOR RESTORATION & ALTERATION**

AT

**921 ELIZABETH AVENUE**

FOR THE

**COUNTY OF UNION**

PROJECT ADDRESS:

921 ELIZABETH AVENUE
ELIZABETH, NJ 07201

| No. | Date | Issue or Revision |
|---|---|---|
| 1 | 01.17.25 | ISSUED FOR BID |

Drawing Title

ELECTRICAL DETAILS

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|---|---|
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