

**SPECIFICATIONS**  
**IMPROVEMENTS AT BUILDINGS #4 AND #7 AT THE**  
**DESERTED VILLAGE OF FELTVILLE/GLENSIDE PARK**  
**9 CATARACT HOLLOW ROAD,**  
**TOWNSHIP OF BERKELEY HEIGHTS,**  
**COUNTY OF UNION, NEW JERSEY**

**BA#25-2021**

**UNION COUNTY ENGINEERING PROJECT #2019-004**

**MARCH 2021**

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

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**FACILITIES MANAGEMENT**

Joseph A. Graziano, Sr., CPWM  
Director, Department of Engineering, Public Works and  
Facilities Management

**COUNTY ENGINEER**  
**DIVISION OF ENGINEERING**

Thomas O. Mineo, P.E.

**Prepared by:**

Michael Calafati Architect, LLC

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 **April 6, 2021 at 11:30 a.m.**, prevailing time, in the **3<sup>rd</sup> Floor Conference Room**, U.C. Administration Building, 10 Elizabethtown Plaza, Elizabeth, New Jersey for:

**Improvements at Buildings #4 and #7  
at The Deserted Village of Feltville/Glenside Park  
9 Cataract Hollow Road, Township of Berkeley Heights, NJ 07922  
BA# 25-2021  
Union County Engineering Project # 2019-004**

Bids received from bidders that have not been previously prequalified will be rejected. The funding stipulations of the New Jersey Historic Trust and specialized historic preservation aspects of this work require that Bidders must have specific previous verifiable successful experience, acceptable to the County of Union and the New Jersey Historic Trust, in restoration of historic structures, using the Secretary of the Interior's Standards for the Treatment of Historic Properties (rev. 2017). Pursuant to N.J.S.A. 40A:11-25 and the guidelines of the New Jersey Historic Trust, the County of Union has already prequalified bidders for this project.

Bid Packages may be obtained by previously prequalified bidders 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.

Bidders on this project are required to be pre-classified by the State of NJ, Division of Property Management and Construction (DPMC) under classifications #C009 (General Construction (Alterations and Additions), C024 (Historical Restoration) & C047 (Electrical) as well as other documentary requirements in the INSTRUCTION TO BIDDERS found in the bid specification. If the Bidder himself does not have the required classification(s) as stated above, the Bidder must include and identify a subcontractor(s), of any tier, who has the required classification(s) in the List of Subcontractors.

\*\*\*Public access to the County of Union Administration Building is currently restricted during the statewide public health emergency. Accordingly, there will not be an in-person public opening but instead will be conducted live and streamed via the County of Union live streaming platform which will feature both audio and video capabilities. A link will be provided on the day of the opening at <https://ucnj.org/>.

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. Hand delivery of proposals are strongly discouraged due to public restrictions. If delivered by hand, you will not receive confirmation of delivery. **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.

\*\*\*Entire bid packages received will be scanned and available for public inspection on the portal, <http://ucnj.org/itb>, as they would be available for public inspection after an in-person bid opening. Bidders are reminded to review their submissions for any information they consider to be confidential. The County will not be responsible for the release of any information contained in the bid package which may be subject to confidentiality.

MICHELLE HAGOPIAN, ASSISTANT DIRECTOR OF PURCHASING

***Union County Board of County Commissioners***

***We're Connected to You!***

**Improvements at Buildings #4 and #7  
at The Deserted Village of Feltville/Glenside Park  
9 Cataract Hollow Road, Township of Berkeley Heights, NJ 07922  
BA# 25-2021  
Union County Engineering Project # 2019-004**

**TABLE OF CONTENTS**

Cover Sheet: County Officials  
NB-1: Notice to Bidders

**GENERAL SPECIFICATIONS**

Definitions

Section 1: BID FORM  
Section 2: WITHDRAWAL OF BID DUE TO MISTAKE  
Section 3: QUALIFICATIONS OF BIDDERS AND REQUIRED SUBMISSIONS  
Section 4: INTERPRETATIONS AND ADDENDA  
Section 5: OBLIGATION OF BIDDER TO INSPECT SITE AND CONTRACT DOCUMENTS  
Section 6: BID AND PERFORMANCE GUARANTEE  
Section 7: COMMENCEMENT AND COMPLETION  
Section 8: BIDDER AFFIDAVIT  
Section 9: LABOR AND MATERIALS  
Section 10: INSURANCE REQUIREMENTS  
Section 11: INDEMNIFICATION REQUIREMENTS  
Section 12: ROYALTIES AND PATENTS  
Section 13: PLANS AND SPECIFICATIONS  
Section 14: GUARANTEE AGAINST DEFECTIVE WORK  
Section 15: TRAFFIC AND STREET MAINTENANCE  
Section 16: CONTRACTOR'S EMPLOYEES  
Section 17: OWNERSHIP DISCLOSURES REQUIRED  
Section 18: NON-COLLUSION AFFIDAVIT  
Section 19: EQUAL EMPLOYMENT OPPORTUNITY COMPLIANCES  
Section 20: COMPLIANCE WITH NEW JERSEY PREVAILING WAGE ACT  
Section 21: BRAND NAME OR EQUAL  
Section 22: LINES AND GRADES  
Section 23: NUMBER OF WORKING DAYS  
Section 24: PROMPT PAYMENT OF CONSTRUCTION CONTRACTS (NJ Prompt Payment Act)  
Section 25: STOPPING WORK ON ACCOUNT OF BAD WEATHER  
Section 26: ACCESS FOR OTHER CONTRACTORS  
Section 27: CONDEMNED MATERIALS AND WORK  
Section 28: STORAGE  
Section 29: FINAL CLEAN UP  
Section 30: SUB-LETTING OF WORK  
Section 31: SAFETY  
Section 32: QUALITY, SAFETY AND PERFORMANCE STANDARDS  
Section 33: MATTERS NOT MENTIONED IN CONTRACT DOCUMENTS  
Section 34: PERMITS  
Section 35: CONTRACTOR TO PROVIDE PROOF OF PAYMENT  
Section 36: CHANGE ORDERS  
Section 37: SUPPLEMENTAL WORK  
Section 38: FORM OF CONTRACT  
Section 39: PROGRESS PAYMENTS  
Section 40: INSPECTION  
Section 41: DAMAGES  
Section 42: LIQUIDATED DAMAGES  
Section 43: AFFIRMATIVE ACTION REQUIREMENTS  
Section 44: INVESTMENT ACTIVITIES WITH IRAN

## **GENERAL SPECIFICATIONS CONTINUED**

- Section 45: COMPLIANCE WITH THE PUBLIC WORKS CONTRACTOR REGISTRATION ACT  
(N.J.S.A. 34:11-56.48 et. seq.)
- Section 46: UTILITIES
- Section 47: MATERIAL COMPLIANCE AND SHOP DRAWINGS
- Section 48: PRECONSTRUCTION
- Section 49: DISPUTES UNDER THE CONTRACT
- Section 50: CONTRACTOR BUSINESS REGISTRATION CERTIFICATE  
(New Mandatory Requirement – Effective 1/18/2010)
- Section 51: BID PROTEST - LEGAL FEES AND COSTS
- Section 52: AMERICAN GOODS AND PRODUCTS WHERE POSSIBLE
- Section 53: NEW JERSEY PAY-TO-PLAY REQUIREMENTS
- Section 54: STATEMENT OF EQUIPMENT TO BE USED IN CONSTRUCTION
- Section 55: NEW JERSEY SALES AND USE TAX REQUIREMENTS

## **BIDDING DOCUMENTS**

- Bid Document Submission Checklist
- Bidding Documents
- Bid Form
- Consent of Surety
- Bidder Signature Page
- Bidder Disclosure Statement
- Subcontractor Identification Statement: List of Subcontractors
- Subcontractor Identification Certification
- Acknowledgement of Addendum
- Contractor Business Registration Certificate
- Affirmative Action Requirement
- Experience Statement
- Certificate of Bidder Showing Ability to Perform Contract
- Non-Collusion Affidavit
- Contractor Registration Advisement
- Americans with Disabilities Act
- Statement of Bidder's Qualifications
- Contractor Performance Record
- Affidavit Regarding List of Disbarred, Suspended or Disqualified Bidders
- Prior Negative Experience Questionnaire-Certification
- Contractor's Certification of Compliance - New Jersey Prevailing Wage Act
- Uncompleted Contracts Affidavit
- Certificate of Insurance Statement
- Collection of Use Tax on Sales to Local Governments Statement
- Time of Completion
- Disclosure of Investment Activities in Iran

## **NEW JERSEY PREVAILING WAGE DETERMINATION DOCUMENTS**

### **STANDARD FORM OF AGREEMENT BETWEEN OWNER AND CONTRACTOR AIA DOCUMENT A-101/2007**

(Draft form until contract is awarded)

### **GENERAL CONDITIONS OF THE CONTRACT FOR CONSTRUCTION AIA DOCUMENT A-201/2007**

(Draft form until contract is awarded)

## **PROJECT TECHNICAL SPECIFICATIONS**

**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, 6<sup>th</sup> Floor  
10 Elizabethtown Plaza  
Elizabeth, New Jersey 07207

**ADDRESS INQUIRIES TO:**

Union County Division of Purchasing  
UC Administration Building, 3<sup>rd</sup> 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](mailto:ucbids@ucnj.org)

**ADDRESS BIDS AND SUBMIT TO:**

Union County Division of Purchasing  
UC Administration Building, 3<sup>rd</sup> 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](mailto:ucbids@ucnj.org)

**TITLE OF PROJECT: Improvements at Buildings #4 and #7  
at The Deserted Village of Feltville/Glenside Park  
9 Cataract Hollow Road, Township of Berkeley Heights, NJ 07922  
BA# 25-2021 Union County Engineering Project # 2019-004**

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

**ARCHITECT: Michael Calafati Architect,LLC**

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

**COUNTY ENGINEER:**

Thomas O. Mineo, P.E.  
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 Contractor'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 or 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](mailto: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](mailto: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 \$1,000,000 per occurrence/\$2,000,000 aggregate. The County of Union, its Board of Chosen Freeholders, 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 \$1,000,000 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.

Where applicable, a waiver of subrogation in favor of the County of Union, its Board of Chosen Freeholders, 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 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 Chosen Freeholders on May 8, 2014. The resolution is furnished in Section 51 of these General Specifications.

## UNION LABOR IS PREFERRED ON ALL COUNTY WORK

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 statutes 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**

### **EXHIBIT B (Revised 4/10)**

#### **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**

#### **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, up-grading, 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. 17:27-7.2; provided, however, that the Division 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 Division is satisfied that the contractor or subcontractor is employing workers provided by a union which provides evidence, in accordance with standards prescribed by the Division, 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:

(1) To notify the public agency compliance officer, the Division, 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 non-discrimination 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 contractor 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 Division. 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 Division, 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 Division.

(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 Division and submitted promptly to the Division 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 Division an initial project workforce report (Form AA 201) electronically provided to the public agency by the Division, 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 Division 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 Division of Public Contracts Equal Employment Opportunity Compliance as may be requested by the Division 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 Division of Public Contracts Equal Employment Opportunity Compliance for conducting a compliance investigation pursuant to **Subchapter 10 of the Administrative Code (NJAC 17:27)**.

**[REMAINDER OF PAGE INTENTIONALLY LEFT BLANK]**

#### 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. 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.

#### 46. 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.

#### **47. 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.

## **48. 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.

## **49. 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.

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## 50. 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.

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.

## **51. 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.

## **52. 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.

## **53. 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.

## **54. 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.

## **55. 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).

Bidder's Name \_\_\_\_\_

EDWARD T. OATMAN  
COUNTY MANAGER

MICHELLE HAGOPIAN, ASSISTANT DIRECTOR  
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")** may be included with the bids to expedite the contract process because the bidder is required to provide the County of Union with its proof of business registration and that of any named subcontractor(s) prior to contract award or authorization.

Bidder's 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 may be included with the bid as the BRC(s) for each named or listed subcontractors in order to expedite the contract process. 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.

\_\_\_\_\_ 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 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

\_\_\_\_\_ Time of Completion

\_\_\_\_\_ Disclosure of Investment Activities in Iran Certification 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.

\_\_\_\_\_ 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](mailto:ucbids@ucnj.org).**

**BIDDING DOCUMENTS**

The Bidding Documents consist of the following items:

- **ADDENDA, if issued**
- **CLARIFICATIONS, if issued**
- **INSTRUCTION TO BIDDERS**
- **BID FORM**
- **SPECIFICATIONS:**     **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.**

**BID FORM**

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

**Improvements at Buildings #4 and #7  
at The Deserted Village of  
Feltville/Glenside Park  
9 Cataract Hollow Road, Township of Berkeley Heights, NJ 07922  
BA# 25-2021 Union County Engineering Project # 2019-006**

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.

**BASE BID ITEMS:**

NO	BASE BID SUBITEMS	LUMP SUMS
1	Building 7 - General and Supplemental Conditions and General Requirements (Division 01 and applicable sections of Division 02 of the Project Manual) for the Base Bid Subitems listed below.	\$ _____
2	Building 7 - Sitework, including Site Protection, Regrading, and Clearing	\$ _____
3	Building 7 - Archaeological Monitoring ( <b>Owner Provided Allowance</b> )	\$7,500.00
4	Building 7 - Concrete, including Excavation	\$ _____
5	Building 7 - Masonry Restoration	\$ _____
6	Building 7 - Rough Carpentry	\$ _____
7	Building 7 - Finish Carpentry	\$ _____
8	Building 7 – Wood Identification ( <b>Owner Provided Allowance</b> )	\$500.00
9	Building 7 - Thermal and Moisture Protection	\$ _____
10	Building 7 - Openings (Exterior Doors and Windows)	\$ _____
11	Building 7 - Exterior Door & Window Hardware, refurbishment (including removal, cleaning, repairs, re-installation and/or replacement at \$150 per opening ( <b>Owner Provided Allowance</b> ))	\$5,700.00
12	Building 7 - Finishes/Exterior Painting	\$ _____
13	Building 7 - Paint and Mortar Investigation ( <b>Owner Provided Allowance</b> )	\$4,500.00
14	Building 7 - Electrical Systems	\$ _____
	<b>TOTAL BASE BID ITEMS...</b>	\$ _____

Bidder's Name \_\_\_\_\_

**I. TOTAL BASE BID (ITEMS #1 – 14):**

\_\_\_\_\_  
Written

\_\_\_\_\_  
Figures

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

\_\_\_\_\_  
Sixty Five Thousand Dollars

Written

\_\_\_\_\_  
\$65,000.00

Figures

**III. TOTAL BASE BID PLUS BID CONTINGENCY AMOUNT (I + II):**

\_\_\_\_\_  
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.**

**ADD ALTERNATE BID ITEMS**

Figures provided in this part shall include proportionate additional costs for related General Conditions and Requirements.

<b>NO.</b>	<b>ALTERNATE SUBITEMS *</b>	<b>LUMP SUMS IN ADDITION</b>
A-1	Building 4 - Roof Package, including Demolition, Rough Carpentry, New Wood Shingles, Dormer Window Repairs and Gutters/Leaders	\$ _____
A-2	Building 4 – Openings (Exterior Doors and Windows) Package	\$ _____
A-3	Building 4 - Exterior Door & Window Hardware, refurbishment (including removal, cleaning, repairs, re-installation and/or replacement at \$150 per opening ( <b>Owner Provided Allowance</b> ))	\$6,600.00
	* = Include a pro-rated portion of the General Conditions, Supplemental Conditions and General Requirements (Divisions 01 and Division 02 of the Project Manual) for each Alternate Sub item listed above.	



Bidder's Name \_\_\_\_\_

**ALTERNATE NUMBER 1: (ALT SUBITEMS A-1) – PROVIDE A LUMP SUM**

ADD: \$ \_\_\_\_\_ \$ \_\_\_\_\_  
Written Figures

**ALTERNATE NUMBER 2: (ALT SUBITEMS A-1 AND A-2) – PROVIDE A LUMP SUM**

ADD: \$ \_\_\_\_\_ \$ \_\_\_\_\_  
Written Figures

**ALTERNATE NUMBER 3: (ALT SUBITEMS A-1, A-2, AND A-3) – PROVIDE A LUMP SUM**

ADD: \$ \_\_\_\_\_ \$ \_\_\_\_\_  
Written Figures

Alternates may be added to the Total Base Bid Amount. The bid will be awarded and / or alternates will be selected as follows:

1. Award Base Bid (With Bid Contingency) Only
2. Award Base Bid (With Bid Contingency) + Alternate Number 1
3. Award Base Bid (With Bid Contingency) + Alternate Number 2
4. Award Base Bid (With Bid Contingency) + Alternate Number 3

Contractor must propose on the alternates listed below and as further described in Division 01 of these Specifications.

Bidder's 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.**

Bidder's 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.**

**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):

Bidder's Name \_\_\_\_\_

Name of Individual or Business Entity	Home Address (for Individuals) or Business Address

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

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.**

Bidder's Name \_\_\_\_\_

Stockholder/Partner/Member and Corresponding Entity Listed in Part II	Home Address (for Individuals) or Business 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:	

Bidder's 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)

Bidder's 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**



Bidder's 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.

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

**ACKNOWLEDGMENT BY BIDDER:**

**NAME OF BIDDER:** \_\_\_\_\_

**ORIGINAL SIGNATURE:** \_\_\_\_\_

**PRINTED NAME AND TITLE:** \_\_\_\_\_

**DATE:** \_\_\_\_\_

**CONTRACTOR BUSINESS REGISTRATION CERTIFICATE**

New Mandatory Requirement - Effective 1/18/2010

The recently enacted **P.L. 2009, c.315**, requires that effective January 18, 2010; a contracting agency must receive proof of the bidder's business registration prior to the award of a contract. However, the proof 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 subcontractor must be provided prior to the award of bid. 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.

Proof of business registration shall be

- A copy of a Business Registration Certificate issued by the Department of the Treasury, Division of Revenue; or
- A copy of the web version provided by the NJ Division of Revenue, or

Register online at [www.nj.gov/treasury/revenue/taxreg.htm](http://www.nj.gov/treasury/revenue/taxreg.htm). Click the "online" link and then select "Register for Tax and Employer Purposes or call the Division at 609-292-1730.

**Note: A NJ Certificate of Authority is not acceptable.**

**FAILURE** to submit proof of registration of the bidder or any subcontractor named on the bid prior to the award of a contract shall be cause to reject the bids.

**FAILURE** of the bidder or any subcontractor named on the bid to be registered prior to the receipt of bids is cause for a **MANDATORY REJECTION** of bids. (A NON-WAIVABLE DEFECT). This covers construction work as well as non-construction bids.

**IN ADDITION:**

The contractor shall provide written notice to all **subcontractors and suppliers** not specifically named on the bid of the responsibility to register and submit proof of business registration to the contractor. The requirement of proof of business registration extends down through all levels (tiers) of the project.

Before final payment on the contract is made by the contracting agency, the contractor shall submit an accurate list and the proof of business registration of each subcontractor or supplier used in the fulfillment of the contract, or shall attest that no subcontractors were used.

For the term of the contract, the contractor and each of its affiliates and a subcontractor and each of its affiliates [N.J.S.A. 52:32-44(g)(3)] shall collect and remit to the Director, New Jersey Division of Taxation, the use tax due pursuant to the Sales and Use Tax Act on all sales of tangible personal property delivered into this State, regardless of whether the tangible personal property is intended for a contract with a contracting agency.

A business organization that fails to provide a copy of a business registration as required pursuant to section 1 of P.L.2001,c.134 (C.52:32-44 et al.) or subsection e. or f. of section 92 of P.L.1977,c.110 (C.5:12-92), or that provides false business registration information under the requirements of either of those sections, shall be liable for a penalty of \$25 for each day of violation, not to exceed \$50,000 for each business registration copy not properly provided under a contract with a contracting agency.

**BUSINESS REGISTRATION**

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.

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.

Bidder's Name \_\_\_\_\_

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

DEPARTMENT OF TREASURY  
DIVISION OF REVENUE  
10000 BKT  
TRENTON, NJ 08646

TAXPAYER NAME: TAX REGISTRATION TEST ACCOUNT  
TRACE NAME: CLIENT REGISTRATION  
TAXPAYER IDENTIFICATION: 070-007-382/000  
SEQUENCE NUMBER: 0107230  
ADDRESS: 847 ROEBLING AVE  
TRENTON NJ 08611  
ISSUANCE DATE: 07/14/04  
EFFECTIVE DATE: 01/01/04

APPROVED  
*John S. Kelly*  
Acting Director

FORM BRC(06/04)  
This Certificate is NOT assignable or transferable. It must be temporarily displayed at above address.

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:  
20041014112813533

ATTACH BRC HERE

\_\_\_\_\_

\_\_\_\_\_

Bidder's 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

Bidder's 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.**



Bidder's 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 to before me  
this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_.

\_\_\_\_\_  
(Seal) Notary Public of New Jersey/ \_\_\_\_\_  
Specify Other State

My Commission Expires \_\_\_\_\_, 20\_\_.

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



**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 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 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](mailto:contreg@dol.state.nj.us)

**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 U.S.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 thereto, 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 \_\_\_\_\_

**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

**Bidder's Name** \_\_\_\_\_

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.**

Bidder's 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

\* 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.**

Bidder's 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\_\_.

Bidder's 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.**



**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.

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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.

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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.

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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.

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Bidder's 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.**

Bidder's 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 to before me

this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_.

\_\_\_\_\_  
(Seal) Notary Public of New Jersey/ \_\_\_\_\_  
Specify Other State

My Commission Expires \_\_\_\_\_, 20\_\_.

\* 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.

Bidder's 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 \$** \_\_\_\_\_

**BIDDER:**

\_\_\_\_\_  
(Signature)

\_\_\_\_\_  
(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.**

Bidder's 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.**

Bidder's 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.**

Bidder's 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 **two-hundred and ten (210) 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

Bidder's 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.state.nj.us/treasury/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*





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](http://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 not 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**

	03/03/21
Journeyman (Mechanic)	W41.48 B26.57 T68.05

**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**

	01/01/21
Foreman	W52.51 B45.60 T98.11
General Foreman	W54.51 B46.63 T101.14
Journeyman	W47.51 B43.91 T91.42

**Craft: Boilermaker                      APPRENTICE RATE SCHEDULE**

INTERVAL	PERIOD AND RATES									
	65%	70%	75%	80%	85%	90%	95%			
1000 Hours										
Benefit =	37.08	37.99	39.49	39.84	40.78	41.70	42.61			

**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**

APPRENTICE RATE SCHEDULE AS OF 1-1-21:

INTERVAL	PERIOD AND RATES									
1000 Hours	65%	70%	75%	80%	85%	90%	95%			
Benefits	37.72	38.20	39.20	40.14	41.09	42.03	42.96			

**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 7½ 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, holiday 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.

**NEW JERSEY DEPARTMENT OF LABOR AND WORKFORCE DEVELOPMENT  
PREVAILING WAGE RATE DETERMINATION**

**County - UNION**

- 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**

	01/01/21
Foreman	W34.62 B17.57 T52.19
General Foreman	W35.25 B17.57 T52.82
Mechanic	W33.25 B17.57 T50.82

**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**

	10/01/20
Deputy Foreman	W47.45 B33.73 T81.18
Foreman	W50.45 B33.73 T84.18
Journeyman	W44.45 B33.73 T78.18

**Craft: Bricklayer, Stone Mason**

**APPRENTICE RATE SCHEDULE**

INTERVAL	PERIOD AND RATES									
	40%	50%	55%	60%	65%	70%	75%	80%		
6 Months										
Benefits	4.00	5.00	5.50	6.00	22.17	23.66	25.14	26.62		

**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.

**NEW JERSEY DEPARTMENT OF LABOR AND WORKFORCE DEVELOPMENT  
PREVAILING WAGE RATE DETERMINATION**

**County - UNION**

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**

	05/07/20
Foreman	W59.06 B34.29 T93.35
Journeyman	W51.36 B29.90 T81.26

**Craft: Carpenter                      APPRENTICE RATE SCHEDULE**

INTERVAL	PERIOD AND RATES									
Yearly	40%	55%	65%	80%	90%					
Benefit	57% of	Appren	tice	Wage	for all	intervals	+ \$0.63			

**Ratio of Apprentices to Journeymen - 1:3**

**Craft: Carpenter                      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.

**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: Carpenter - Resilient Flooring**

**PREVAILING WAGE RATE**

	05/05/20
Foreman	W59.06 B34.20 T93.26
Journeyman	W51.36 B29.81 T81.17

**Craft: Carpenter - Resilient Flooring**

**APPRENTICE RATE SCHEDULE**

INTERVAL	PERIOD AND RATES									
Yearly	40%	55%	65%	80%	90%					
Benefit	57%	of	Appren	tice	Wage	for all	intervals	+ \$0.54		

**Ratio of Apprentices to Journeymen - \***

\* 1 apprentice shall be allowed to every 2 journeymen or major fraction thereof. No more than 3 apprentices on any one job or project.

**Craft: Carpenter - Resilient Flooring**

**COMMENTS/NOTES**

**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.

**NEW JERSEY DEPARTMENT OF LABOR AND WORKFORCE DEVELOPMENT  
PREVAILING WAGE RATE DETERMINATION**

**County - UNION**

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: 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- New Construction**

**PREVAILING WAGE RATE**

	09/24/20
Foreman	W45.05 B27.06 T72.11
General Foreman	W49.14 B27.55 T76.69
Journeyman	W40.95 B26.56 T67.51

**Craft: Commercial Painter- New Construction**

**APPRENTICE RATE SCHEDULE**

INTERVAL	PERIOD AND RATES									
	40%	45%	55%	65%	70%	75%	80%	80%		
6 Months										
Benefits	8.05	8.05	10.05	10.05	11.05	11.05	14.05	14.05		

**Ratio of Apprentices to Journeymen - 1:4**

**Craft: Commercial Painter- New Construction**

**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,

**NEW JERSEY DEPARTMENT OF LABOR AND WORKFORCE DEVELOPMENT  
PREVAILING WAGE RATE DETERMINATION**

**County - UNION**

Veterans' Day, Thanksgiving Day, Christmas Day.

**NEW JERSEY DEPARTMENT OF LABOR AND WORKFORCE DEVELOPMENT  
PREVAILING WAGE RATE DETERMINATION**

County - UNION

**Craft: Commercial Painter- Repainting**

**PREVAILING WAGE RATE**

	09/24/20
Foreman	W33.11 B20.66 T53.77
General Foreman	W34.61 B20.66 T55.27
Journeyman	W30.10 B20.66 T50.76

**Craft: Commercial Painter- Repainting**

**APPRENTICE RATE SCHEDULE**

INTERVAL	PERIOD AND RATES									
	SEE	COMME R	CIAL	PAINTER	NEW	CONSTR UC	TION			

**Ratio of Apprentices to Journeymen - 1:4**

**Craft: Commercial Painter- Repainting**

**COMMENTS/NOTES**

\* Commercial Painters perform work on all commercial structures such as offices, schools, hotels, shopping malls, restaurants, condominiums, etc.

NOTE: These rates may only be used on jobs where no major alterations (only doing painting and carpeting with nothing else being changed in the commercial building) occur, and where not more than 3 other trades are present on the job, but may NOT, under any circumstances, be used for work on bridges, stacks, tanks, or generating stations.

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.

**OVERTIME:**

- Hours in excess of 8 per day and 40 per week 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.
- Four 10-hour days may be worked, at straight time, Monday through Sunday.

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: Diver**

**PREVAILING WAGE RATE**

	05/05/20
Diver	W60.24 B48.47 T108.71
Tender	W48.50 B48.47 T96.97

**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

**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                      PREVAILING WAGE RATE**

	05/05/20
Foreman	W55.78 B48.47 T104.25
Foreman (Concrete Form Work)	W54.97 B35.36 T90.33
Journeyman	W48.50 B48.47 T96.97
Journeyman (Concrete Form Work)	W47.80 B35.36 T83.16

**Craft: Dockbuilder                      APPRENTICE RATE SCHEDULE**

<u>INTERVAL</u>	<u>PERIOD AND RATES</u>									
Yearly	19.40	24.25	31.53	38.80						
Benefit	32.07	for all	intervals							

**Ratio of Apprentices to Journeymen - \***

\* When there are 4 or fewer Dockbuilders on a job, no more than 1 may be an apprentice. When there are 5 or more Dockbuilders, there may be 1 apprentice for every 5 Dockbuilders.

**Craft: Dockbuilder                      COMMENTS/NOTES**

APPRENTICE RATE SCHEDULE FOR CONCRETE FORM WORK ONLY:

INTERVAL	PERIOD AND RATES			
Yearly	19.12	23.90	31.07	38.24
Benefits	24.16	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 on the job shall be designated a Foreman.

**NEW JERSEY DEPARTMENT OF LABOR AND WORKFORCE DEVELOPMENT  
PREVAILING WAGE RATE DETERMINATION**

**County - UNION**

**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: Drywall Finisher**

**PREVAILING WAGE RATE**

	09/24/20
Foreman	W44.43 B27.06 T71.49
General Foreman	W46.45 B27.06 T73.51
Journeyman	W40.39 B27.06 T67.45

**Craft: Drywall Finisher**

**APPRENTICE RATE SCHEDULE**

INTERVAL	PERIOD AND RATES									
	40%	50%		60%	70%		80%	90%		
6 Months										
Benefits	Intervals	1 to 2 =	10.65	Intervals	3 to 4 =	13.41	Intervals	5 to 6 =	16.63	

**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**

	06/01/20	05/31/21
Cable Splicer	W63.83 B37.99 T101.82	W64.92 B39.29 T104.21
Foreman (11-20 Journeymen)	W67.90 B40.41 T108.31	W69.05 B41.78 T110.83
Foreman (1-3 Journeymen)	W63.83 B37.99 T101.82	W64.92 B39.29 T104.21
Foreman (4-10 Journeymen)	W66.74 B39.72 T106.46	W67.87 B41.07 T108.94
General Foreman (21-30 Journeymen)	W69.64 B41.44 T111.08	W70.82 B42.85 T113.67
General Foreman (31-60 Journeymen)	W75.44 B44.89 T120.33	W76.72 B46.42 T123.14
General Foreman (61+ Journeymen)	W76.60 B45.58 T122.18	W77.90 B47.13 T125.03
Journeyman	W58.03 B34.54 T92.57	W59.02 B35.72 T94.74
Sub-Foreman	W66.16 B39.37 T105.53	W67.28 B40.71 T107.99

**Craft: Electrician**

**APPRENTICE RATE SCHEDULE**

<u>INTERVAL</u>	<u>PERIOD AND RATES</u>									
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**

**NEW JERSEY DEPARTMENT OF LABOR AND WORKFORCE DEVELOPMENT  
PREVAILING WAGE RATE DETERMINATION**

**County - UNION**

**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**

	11/02/20
Master Technician/General Foreman	W57.42 B31.58 T89.00
Senior Technician/Lead Foreman (21-30 Workers on Job)	W52.56 B28.91 T81.47
Technician A/Foreman (11-20 Workers on Job)	W50.35 B27.69 T78.04
Technician B/Working Foreman (4-10 Workers on Job)	W48.15 B26.47 T74.62
Technician C/Journeyman (1-3 Workers on Job)	W44.17 B24.29 T68.46

**Craft: Electrician - Teledata (15 Voice/Data Lines & Less)**

**APPRENTICE RATE SCHEDULE**

<u>INTERVAL</u>	<u>PERIOD AND RATES</u>										
6 Months						66%	72%	79%	86%		
Benefits						11.81	12.89	14.14	15.40		

**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 10-31-14:

INTERVAL	PERIOD AND RATES										
6 Months	35%	35%	40%	43%	48%	54%	61%	67%	74%	81%	
Benefits	6.76	6.76	7.16	7.70	8.59	9.66	10.82	11.99	13.25	14.51	

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 8:00 AM and 4:30 PM.

SHIFT DIFFERENTIALS:

- Shift work must run for a minimum of 5 consecutive workdays.

**NEW JERSEY DEPARTMENT OF LABOR AND WORKFORCE DEVELOPMENT  
PREVAILING WAGE RATE DETERMINATION**

**County - UNION**

- 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 (16 Instruments & More)**

**PREVAILING WAGE RATE**

See "Electrician" Rates

**Craft: Electrician - Teledata (16 Instruments & More)**

**COMMENTS/NOTES**

\*\*\*See ELECTRICIAN Rates\*\*\*



**NEW JERSEY DEPARTMENT OF LABOR AND WORKFORCE DEVELOPMENT  
PREVAILING WAGE RATE DETERMINATION**

**County - UNION**

**Craft: Electrician- Outside Commercial**

**PREVAILING WAGE RATE**

	06/01/20	05/31/21
Cable Splicer	W64.14 B37.69 T101.83	W65.22 B38.97 T104.19
Certified Welder	W61.22 B35.97 T97.19	W62.26 B37.21 T99.47
Equipment Operator	W58.31 B34.26 T92.57	W59.29 B35.43 T94.72
Foreman (1-3 Journeymen workers on job)	W64.14 B37.69 T101.83	W65.22 B38.97 T104.19
Foreman (4-10 Journeymen workers on job)	W67.06 B39.40 T106.46	W68.19 B40.75 T108.94
General Foreman (11-20 Journeymen workers on job)	W68.22 B40.08 T108.30	W69.37 B41.45 T110.82
General Foreman (21-30 Journeymen workers on job)	W69.97 B41.11 T111.08	W71.16 B42.52 T113.68
General Foreman (31-60 Journeymen workers on job)	W75.80 B44.54 T120.34	W77.08 B46.06 T123.14
General Foreman (61+ Journeymen workers on job)	W76.96 B45.22 T122.18	W78.27 B46.77 T125.04
Groundman	W34.99 B20.56 T55.55	W35.58 B21.26 T56.84
Journeyman Lineman/Technician	W58.31 B34.26 T92.57	W59.29 B35.43 T94.72
Sub-Foreman	W66.47 B39.06 T105.53	W67.60 B40.40 T108.00

**NEW JERSEY DEPARTMENT OF LABOR AND WORKFORCE DEVELOPMENT  
PREVAILING WAGE RATE DETERMINATION**

**County - UNION**

**Craft: Electrician- Outside Commercial**

**APPRENTICE RATE SCHEDULE**

<b>INTERVAL</b>	<b>PERIOD AND RATES</b>									
1000 Hours	60%	65%	70%	75%	80%	85%	90%			
Benefits	57.75% of	Journey	man	wage	+	\$.01				

**Craft: Electrician- Outside Commercial**

**COMMENTS/NOTES**

EFFECTIVE 6-1-20- The apprentice benefit rate shall be 58.75% + \$.01.  
EFFECTIVE 5-31-21- The apprentice benefit rate shall be 59.75% + \$.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.

**NEW JERSEY DEPARTMENT OF LABOR AND WORKFORCE DEVELOPMENT  
PREVAILING WAGE RATE DETERMINATION**

**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.

**NEW JERSEY DEPARTMENT OF LABOR AND WORKFORCE DEVELOPMENT  
PREVAILING WAGE RATE DETERMINATION**

**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	29.70	32.18	34.65	37.13	39.60	42.08	44.55			
Benefits	26.19	27.65	29.10	30.58	32.04	33.51	34.95			

**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**

	03/17/20	03/17/21	03/17/22	03/17/23
Journeyman	W69.56	W72.29	W75.14	W77.49
	B41.92	B42.92	B43.91	B45.57
	T111.48	T115.21	T119.05	T123.06

**Craft: Elevator Constructor**

**APPRENTICE RATE SCHEDULE**

INTERVAL	PERIOD AND RATES									
	Yearly	29.85	36.82	43.52	50.21					
Benefits	32.71	33.51	34.80	36.09						

**Ratio of Apprentices to Journeymen - 1:1**

**Craft: Elevator Constructor**

**COMMENTS/NOTES**

APPRENTICE RATE SCHEDULE AS OF 3-17-20:

INTERVAL PERIOD AND RATES

Yearly 31.03 38.26 45.21 52.17

Benefits 33.38 34.20 35.55 36.89

APPRENTICE RATE SCHEDULE AS OF 3-17-21:

INTERVAL PERIOD AND RATES

Yearly 32.27 39.76 46.99 54.22

Benefits 34.05 34.91 36.30 37.70

APPRENTICE RATE SCHEDULE AS OF 3-17-22:

INTERVAL PERIOD AND RATES

Yearly 33.56 41.33 48.84 56.36

Benefits 34.72 35.61 37.05 38.50

APPRENTICE RATE SCHEDULE AS OF 3-17-23:

INTERVAL PERIOD AND RATES

Yearly 34.60 42.62 50.37 58.12

Benefits 36.02 36.94 38.50 39.95

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

**NEW JERSEY DEPARTMENT OF LABOR AND WORKFORCE DEVELOPMENT  
PREVAILING WAGE RATE DETERMINATION**

**County - UNION**

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**

	03/17/20	03/17/21	03/17/22	03/17/23
Journeyman	W54.56	W56.77	W59.09	W60.89
	B40.86	B41.82	B42.79	B44.41
	T95.42	T98.59	T101.88	T105.30

Craft: Elevator Modernization & Service

**APPRENTICE RATE SCHEDULE**

INTERVAL	PERIOD AND RATES									
Yearly	29.85	28.84	34.09	39.33						
Benefits	32.66	33.13	34.36	35.58						

Ratio of Apprentices to Journeymen - 1:1

Craft: Elevator Modernization & Service

**COMMENTS/NOTES**

APPRENTICE RATE SCHEDULE AS OF 3-17-20:

INTERVAL	PERIOD AND RATES			
Yearly	31.03	30.01	35.46	40.92
Benefits	33.33	33.82	35.09	36.36

APPRENTICE RATE SCHEDULE AS OF 3-17-21:

INTERVAL	PERIOD AND RATES			
Yearly	32.27	31.22	36.90	42.58
Benefits	34.00	34.50	35.83	37.15

APPRENTICE RATE SCHEDULE AS OF 3-17-22:

INTERVAL	PERIOD AND RATES			
Yearly	33.56	32.50	38.41	44.32
Benefits	34.67	34.20	35.20	37.94

APPRENTICE RATE SCHEDULE AS OF 3-17-23:

INTERVAL	PERIOD AND RATES			
Yearly	34.60	33.49	39.58	45.67
Benefits	35.97	36.53	37.95	39.38

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.

**NEW JERSEY DEPARTMENT OF LABOR AND WORKFORCE DEVELOPMENT  
PREVAILING WAGE RATE DETERMINATION**

**County - UNION**

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**

	09/24/20
* Leadman	W48.80 B27.31 T76.11
Foreman	W50.80 B27.55 T78.35
General Foreman	W52.80 B27.79 T80.59
Journeyman	W46.80 B27.07 T73.87

**Craft: Glazier                      APPRENTICE RATE SCHEDULE**

<u>INTERVAL</u>	<u>PERIOD AND RATES</u>									
	50%	55%		60%	65%		70%	75%		
6 Months										
Benefits	Intervals	1 to 2 =	9.50	Intervals	3 to 4 =	12.11	Intervals	5 to 6 =	15.60	

**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

**NEW JERSEY DEPARTMENT OF LABOR AND WORKFORCE DEVELOPMENT  
PREVAILING WAGE RATE DETERMINATION**

**County - UNION**

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**

	09/21/20
Foreman	W58.52 B33.42 T91.94
General Foreman	W60.86 B34.53 T95.39
Journeyman	W56.74 B32.86 T89.60

**Craft: Heat & Frost Insulator**

**APPRENTICE RATE SCHEDULE**

INTERVAL	PERIOD AND RATES									
Yearly	26.55	31.49	37.95	44.36						
Benefits	19.44	23.03	25.44	27.76						

**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**

	09/24/19
Asbestos Helper	W36.89
Abatement	B24.92
	T61.81

**Craft: Heat & Frost Insulator - Asbestos Worker**

**APPRENTICE RATE SCHEDULE**

INTERVAL	PERIOD AND RATES									
	SEE	HEAT &	FROST	INSULAT OR						

**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**

	02/11/21
Foreman	W62.18 B31.62 T93.80
General Foreman	W64.18 B31.62 T95.80
Journeyman	W57.18 B31.62 T88.80

**Craft: Industrial Painter- Bridges**

**APPRENTICE RATE SCHEDULE**

INTERVAL	PERIOD AND RATES									
	60%	70%	80%	90%						
6 Months										
Benefits	14.27	14.50	17.73	17.96						

**Ratio of Apprentices to Journeymen - 1:4**

**Craft: Industrial Painter- Bridges**

**COMMENTS/NOTES**

\* Industrial Painters perform work on all industrial structures, such as bridges, water tanks, waste water facilities, refineries, any structural steel work, etc.

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.
- 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, Presidential Election Day, Veterans' Day, Thanksgiving Day, Christmas Day. Saturday holiday observed the preceding Friday. Sunday holiday

**NEW JERSEY DEPARTMENT OF LABOR AND WORKFORCE DEVELOPMENT  
PREVAILING WAGE RATE DETERMINATION**

**County - UNION**

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**

	02/11/21
Foreman	W50.92 B29.27 T80.19
General Foreman	W52.92 B29.27 T82.19
Journeyman	W45.92 B29.27 T75.19

**Craft: Industrial Painter- Structural Steel**

**APPRENTICE RATE SCHEDULE**

INTERVAL	PERIOD AND RATES									
	SEE	INDUST	RIAL	PAINTER	BRIDGES					

**Ratio of Apprentices to Journeymen - 1:4**

**Craft: Industrial Painter- Structural Steel**

**COMMENTS/NOTES**

\* Industrial Painters perform work on all industrial structures, such as bridges, water tanks, waste water facilities, 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.
- 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, 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**

	02/11/21
Foreman	W51.97 B28.92 T80.89
General Foreman	W53.97 B28.92 T82.89
Journeyman	W46.97 B28.92 T75.89

**Craft: Industrial Painter- Water Tanks**

**APPRENTICE RATE SCHEDULE**

INTERVAL	PERIOD AND RATES									
6 Months	50%	70%	90%							
Benefits	11.77	14.50	17.96							

**Ratio of Apprentices to Journeymen - 1:4**

**Craft: Industrial Painter- Water Tanks**

**COMMENTS/NOTES**

\* Industrial Painters perform work on all industrial structures, such as bridges, water tanks, waste water facilities, 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.
- 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, 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-Containment**

**PREVAILING WAGE RATE**

	02/11/21
Journeyman	W38.23 B28.67 T66.90

**Craft: Industrial Painter-Containment**

**COMMENTS/NOTES**

Note: These rates shall require no painting, but used in a supporting capacity only, such as wrapping, boxing, fencing, etc. on tanks.

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.

**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, 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: Ironworker                      PREVAILING WAGE RATE**

	07/24/20
Rod /Fence Foreman	W46.14 B48.12 T94.26
Rod/Fence Journeyman	W43.14 B48.12 T91.26
Structural Foreman	W48.44 B48.12 T96.56
Structural Journeyman	W45.44 B48.12 T93.56

**Craft: Ironworker                      APPRENTICE RATE SCHEDULE**

<u>INTERVAL</u>	<u>PERIOD AND RATES</u>									
6 Months	50%	60%		Yearly	70%	80%	90%			

**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:**

**NEW JERSEY DEPARTMENT OF LABOR AND WORKFORCE DEVELOPMENT  
PREVAILING WAGE RATE DETERMINATION**

**County - UNION**

- 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**

	10/20/20
Journeyman (Handler)	W32.98 B23.66 T56.64

**Craft: Laborer - Asbestos & Hazardous Waste Removal**

**APPRENTICE RATE SCHEDULE**

INTERVAL	PERIOD AND RATES									
Yearly	19.79	23.09	26.38	29.68						
Benefits	21.51	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**

	05/12/20
Class A Journeyman	W34.85 B30.27 T65.12
Class B Journeyman	W34.10 B30.27 T64.37
Class C Journeyman	W28.99 B30.27 T59.26
Foreman	W39.21 B30.27 T69.48
General Foreman	W43.56 B30.27 T73.83

**Craft: Laborer - Building**

**APPRENTICE RATE SCHEDULE**

<u>INTERVAL</u>	<u>PERIOD AND RATES</u>									
	60%	70%	80%	90%						
6 Months										
Benefit	27.02	27.02	27.02	27.02						

**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 nozzle men 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

**NEW JERSEY DEPARTMENT OF LABOR AND WORKFORCE DEVELOPMENT  
PREVAILING WAGE RATE DETERMINATION**

**County - UNION**

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%.

**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	22.48	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.

**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**

	04/01/20
* Skilled Tradesman (only applies to Modular Construction)	W26.55 B5.45 T32.00
Foreman (person directing crew, regardless of his skill classification)	W30.55 B5.45 T36.00
Laborer	W22.55 B5.45 T28.00
Laborer (for single family and stand-alone duplex owned by single owner)	W17.05 B2.95 T20.00

**Craft: Laborer-Residential and Modular Construction**

**APPRENTICE RATE SCHEDULE**

<u>INTERVAL</u>	<u>PERIOD AND RATES</u>									
	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



**NEW JERSEY DEPARTMENT OF LABOR AND WORKFORCE DEVELOPMENT  
PREVAILING WAGE RATE DETERMINATION**

**County - UNION**

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**

	05/01/20
Foreman	W59.32 B35.01 T94.33
Journeyman	W51.58 B30.52 T82.10

**Craft: Millwright**

**APPRENTICE RATE SCHEDULE**

INTERVAL	PERIOD AND RATES									
6 Months	40%	55%	65%	80%	90%					
Benefits	58% of	Appren	tice	Wage	Rate	for all	intervals	+ \$.60		

**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.
- When there are 21 or more Millwrights 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 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

**NEW JERSEY DEPARTMENT OF LABOR AND WORKFORCE DEVELOPMENT  
PREVAILING WAGE RATE DETERMINATION**

**County - UNION**

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**

	12/10/20
Apprentice (1st year)	W27.50 B12.15 T39.65
Apprentice (2nd year)	W31.50 B23.10 T54.60
Foreman (Charge Person)	W40.15 B23.88 T64.03
Journeyman 1 (at least 1 year of working exp. as a journeyman)	W35.38 B23.88 T59.26
Journeyman 2 (at least 2 years of working exp. as a journeyman)	W39.15 B23.88 T63.03

**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 - New Construction**

**PREVAILING WAGE RATE**

	09/24/20
Foreman	W45.05 B26.56 T71.61
Journeyman	W40.95 B26.56 T67.51

**Craft: Paperhanger - New Construction**

**APPRENTICE RATE SCHEDULE**

INTERVAL	PERIOD AND RATES									
	SEE	COMME R	CIAL	PAINTER	NEW	CONSTR UC	TION			

**Ratio of Apprentices to Journeymen - 1:4**

**Craft: Paperhanger - New Construction**

**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: Paperhanger - Renovation**

**PREVAILING WAGE RATE**

	09/24/20
Foreman	W33.94 B20.70 T54.64
Journeyman	W30.86 B20.70 T51.56

**Craft: Paperhanger - Renovation**

**APPRENTICE RATE SCHEDULE**

INTERVAL	PERIOD AND RATES									
		SEE	COMME R	CIAL	PAINTE R	NEW	CONSTR UC	TION		

**Ratio of Apprentices to Journeymen - 1:4**

**Craft: Paperhanger - Renovation**

**COMMENTS/NOTES**

NOTE: These rates may only be used on jobs where no major alterations occur, and where not more than 3 other trades are present on the job, but may NOT, under any circumstances, be used for work on bridges, stacks, elevated tanks, or generating stations.

**FOREMEN REQUIREMENTS:**

- When there are 4 or more Paperhangers on a job, 1 shall be designated a Foreman.

**OVERTIME:**

- Hours in excess of 8 per day and 40 per week shall be paid at time and one-half the regular rate.

- Four 10-hour days may be worked, at straight time, Monday through Sunday.



NEW JERSEY DEPARTMENT OF LABOR AND WORKFORCE DEVELOPMENT  
PREVAILING WAGE RATE DETERMINATION

County - UNION

Craft: Pipefitter                                    PREVAILING WAGE RATE

	05/01/20
Foreman	W54.76 B45.83 T100.59
Journeyman	W51.01 B42.70 T93.71

Craft: Pipefitter                                    APPRENTICE RATE SCHEDULE

INTERVAL	PERIOD AND RATES									
Yearly	35%	45%	55%	65%	75%					
Benefit	21.63	24.20	26.79	29.36	31.94					

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

**NEW JERSEY DEPARTMENT OF LABOR AND WORKFORCE DEVELOPMENT  
PREVAILING WAGE RATE DETERMINATION**

**County - UNION**

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.

**NEW JERSEY DEPARTMENT OF LABOR AND WORKFORCE DEVELOPMENT  
PREVAILING WAGE RATE DETERMINATION**

**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**

	05/01/20
Foreman	W60.69 B37.32 T98.01
General Foreman	W64.62 B37.32 T101.94
Journeyman	W56.19 B37.32 T93.51

**Craft: Plumber                      APPRENTICE RATE SCHEDULE**

INTERVAL	PERIOD AND RATES									
Yearly	30%	45%	55%	65%	75%					
Benefits	14.31	20.83	22.72	24.52	26.50					

**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 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 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**

	06/04/20
Foreman	W42.77 B28.03 T70.80
Journeyman	W39.77 B28.03 T67.80

**Craft: Roofer                      APPRENTICE RATE SCHEDULE**

INTERVAL	PERIOD AND RATES									
6 Months	15.90	19.89	23.86	27.84	31.82	35.79				
Benefits	2.10	2.10	25.28	25.28	25.28	25.28				

**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**

APPRENTICE RATE SCHEDULE FOR THOSE APPRENTICES ENTERING PROGRAM AFTER 4-1-17:

INTERVAL	PERIOD AND RATES								
6 Months	15.90	19.89	23.86	25.85	27.84	29.83	31.82	35.79	
Benefits	2.10	2.10	25.28	25.28	25.28	25.28	25.28	25.28	

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**

	04/16/20
Foreman	W38.29 B35.55 T73.84
Journeyman	W36.79 B35.55 T72.34

**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	12.03	13.71	15.39	17.09	19.21	20.92	22.65	24.38	26.10	27.82

**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 through 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**

	06/09/20
Foreman	W53.62 B46.85 T100.47
General Foreman	W54.62 B46.85 T101.47
Journeyman	W50.12 B46.85 T96.97

**Craft: Sheet Metal Worker**

**APPRENTICE RATE SCHEDULE**

INTERVAL	PERIOD AND RATES									
Yearly	35%	45%	55%	65%	of	Journey	man	Wage	Rate	
Benefit	35%	45%	55%	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**

	01/08/21
Foreman	W66.37 B32.65 T99.02
General Foreman	W69.57 B32.65 T102.22
Journeyman	W62.12 B32.65 T94.77

**Craft: Sprinkler Fitter**

**APPRENTICE RATE SCHEDULE**

INTERVAL	PERIOD AND RATES									
1000 Hours									80%	85%
Benefits							Intervals	9 to 10	Jourymn	Ben.

APPRENTICE RATE SCHEDULE FOR THOSE APPRENTICES REGISTERED AS OF 7-1-13:

INTERVAL	PERIOD AND RATES									
1000 hours	25%	30%	40%	45%	55%	60%	70%	75%	85%	90%
Benefits	12.65	12.65	26.15	26.15	26.15	26.15	Intervals	7 to 10	receive	Journeyman Ben.

**Craft: Sprinkler Fitter**

**COMMENTS/NOTES**

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, 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: Tile Finisher-Marble                      PREVAILING WAGE RATE**

	01/04/21
Finisher	W48.27 B35.40 T83.67

**Craft: Tile Finisher-Marble                      APPRENTICE RATE SCHEDULE**

INTERVAL	PERIOD AND RATES									
750 Hours	40%	45%	50%	55%	60%	65%	70%	75%	85%	95%

**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**

	12/07/20
Finisher	W46.69 B31.56 T78.25
Setter	W60.86 B34.74 T95.60

**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**

	01/04/21
Tile Setter	W60.89 B37.80 T98.69

**Craft: Tile Setter - Marble**

**APPRENTICE RATE SCHEDULE**

INTERVAL	PERIOD AND RATES									
750 Hours	40%	45%	50%	55%	60%	65%	70%	75%	85%	95%

**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**

	01/01/21
Grinder or Assistant	W56.32 B37.76 T94.08
Mechanic	W57.92 B37.78 T95.70
Terrazzo Resinous Worker	W48.55 B30.40 T78.95

**Craft: Tile Setter - Mosaic & Terrazzo**

**APPRENTICE RATE SCHEDULE**

INTERVAL	PERIOD AND RATES									
750 Hours	50%	55%	60%	65%	70%	75%	85%	95%	100%	

**Ratio of Apprentices to Journeymen - 1:5**

**Craft: Tile Setter - Mosaic & Terrazzo**

**COMMENTS/NOTES**

APPRENTICE RATE SCHEDULE FOR THOSE APPRENTICES ENTERING PROGRAM AFTER 7-1-17:

INTERVAL	PERIOD AND RATES						
1500 Hours	35%	45%	60%	70%	80%	90%	100%

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.

**NEW JERSEY DEPARTMENT OF LABOR AND WORKFORCE DEVELOPMENT  
PREVAILING WAGE RATE DETERMINATION**

**County - UNION**

**Craft: Truck Driver**

**PREVAILING WAGE RATE**

	05/01/20
Bucket, Utility, Pick-up, Fuel Delivery trucks	W39.21 B38.05 T77.26
Dump truck, Asphalt Distributor, Tack Spreader	W39.21 B38.05 T77.26
Euclid-type vehicles (large, off-road equipment)	W39.31 B38.05 T77.36
Helper on Asphalt Distributor truck	W39.21 B38.05 T77.26
Slurry Seal, Seeding/Fertilizing/ Mulching truck	W39.21 B38.05 T77.26
Straight 3-axle truck	W39.21 B38.05 T77.26
Tractor Trailer (all types)	W39.31 B38.05 T77.36
Vacuum or Vac-All truck (entire unit)	W39.21 B38.05 T77.26
Winch Trailer	W39.41 B38.05 T77.46

**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.

**NEW JERSEY DEPARTMENT OF LABOR AND WORKFORCE DEVELOPMENT  
PREVAILING WAGE RATE DETERMINATION**

**County - UNION**

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 \$36.80.
- As of 5-1-20, benefits on overtime shall be \$37.80.

**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**

	04/01/20
Driver	W25.60 B15.71 T41.31

**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.

**NEW JERSEY DEPARTMENT OF LABOR AND WORKFORCE DEVELOPMENT  
PREVAILING WAGE RATE DETERMINATION**

**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

**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 4:30 PM.

**SHIFT DIFFERENTIALS:**

- Shift work must run for 5 consecutive workdays.
- When 2 shifts are worked, the second shift shall receive an additional 10% of the regular rate inclusive of benefits, per hour.
- When 3 shifts are worked, the second shift shall receive 8 hours pay for 7.5 hours of work, plus an additional 10% of the regular rate inclusive of benefits, per hour. The third shift shall receive 8 hours pay for 7 hours of work, plus an additional 15% of the regular rate inclusive of benefits, per hour.
- When such hours are mandated by the project owner, a shift that starts between 8:00 PM and midnight and ends by 6:00 AM Saturday, or that starts after 8:00 PM on Sunday, provided there are consecutive hours of work within the shift, shall receive an additional 15% of the regular rate, inclusive of benefits.
- On Highway, Road, Street, and Sewer projects irregular shifts starting between 5:00 PM and 12:00 AM may be worked Monday through Friday, and shall receive an additional 15% of the regular rate, inclusive of benefits. When working with other trades that receive a higher irregular shift rate, the Operating Engineer shall also receive the higher irregular shift 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 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.
- 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 Veteran's Day.

On hazardous waste removal work or asbestos removal work, on a state or federally designated hazardous waste site, where the operating engineer is in direct contact with hazardous material and when personal protective equipment is required for respiratory, skin, and eye protection, the operating engineer shall receive an additional 20% of the hourly wage, per hour.

**OPERATING ENGINEERS**      **Rates Expiration Date :**

**Effective Dates:**

	<b>07/01/2020</b>		<b>07/01/2021</b>	<b>07/01/2022</b>
Rate	Fringe	Total	Total	Total
53.23	34.50	87.73	90.03	92.28

**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 additional \$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:**

	<b>07/01/2020</b>		<b>07/01/2021</b>	<b>07/01/2022</b>
Rate	Fringe	Total	Total	Total
53.23	34.50	87.73	90.03	92.28

**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:**

	<b>07/01/2020</b>		<b>07/01/2021</b>	<b>07/01/2022</b>
Rate	Fringe	Total	Total	Total
51.32	34.50	85.82	88.12	90.37

**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 (Hetzl, Rexomatic & similar types)
- Concrete Vibrator

**OPERATING ENGINEERS**      **Rates Expiration Date :**

**Effective Dates:**

	<b>07/01/2020</b>		<b>07/01/2021</b>	<b>07/01/2022</b>
Rate	Fringe	Total	Total	Total
51.32	34.50	85.82	88.12	90.37

**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:**

	<b>07/01/2020</b>		<b>07/01/2021</b>	<b>07/01/2022</b>
Rate	Fringe	Total	Total	Total
51.32	34.50	85.82	88.12	90.37

**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

Skimmer Machine (boom type)

Steel Cutting Machine (service & maintenance)

Tamrock Drill

Tractor

Transfer Machines

**OPERATING ENGINEERS**      **Rates Expiration Date :**

**Effective Dates:**

<b>07/01/2020</b>			<b>07/01/2021</b>	<b>07/01/2022</b>
Rate	Fringe	Total	Total	Total
51.32	34.50	85.82	88.12	90.37

**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:**

<b>07/01/2020</b>			<b>07/01/2021</b>	<b>07/01/2022</b>
Rate	Fringe	Total	Total	Total
47.98	34.50	82.48	84.78	87.03

**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:**

<b>07/01/2020</b>			<b>07/01/2021</b>	<b>07/01/2022</b>
Rate	Fringe	Total	Total	Total
45.40	34.50	79.90	82.20	84.45

**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:

	07/01/2020		07/01/2021	07/01/2022
Rate	Fringe	Total	Total	Total
55.56	34.50	90.06	92.36	94.61

**CLASSIFICATIONS:**

Lead Engineer, Foreman Engineer, Safety Engineer (minimum)

**OPERATING ENGINEERS**     **Rates Expiration Date :**

**Effective Dates:**

	<b>07/01/2020</b>		<b>07/01/2021</b>	<b>07/01/2022</b>
Rate	Fringe	Total	Total	Total
54.82	34.50	89.32	91.62	93.87

**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

Helicopter Co-Pilot

Helicopter Communications Engineer

Juntann Pile Driver

Locomotive (large)

Mucking Machine

**OPERATING ENGINEERS**      **Rates Expiration Date :**

**Effective Dates:**

	<b>07/01/2020</b>		<b>07/01/2021</b>	<b>07/01/2022</b>
Rate	Fringe	Total	Total	Total
54.82	34.50	89.32	91.62	93.87

**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:**

	<b>07/01/2020</b>		<b>07/01/2021</b>	<b>07/01/2022</b>
Rate	Fringe	Total	Total	Total
49.69	34.50	84.19	86.49	88.74

**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:**

	<b>07/01/2020</b>		<b>07/01/2021</b>	<b>07/01/2022</b>
Rate	Fringe	Total	Total	Total
49.69	34.50	84.19	86.49	88.74

**CLASSIFICATIONS:**

Steam Generator or Boiler

Stone Spreader

Tamping Machine (vibrating ride-on type)

Temporary Heating Plant (Nelson or other type, including propane, 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:**

	<b>07/01/2020</b>		<b>07/01/2021</b>	<b>07/01/2022</b>
Rate	Fringe	Total	Total	Total
56.64	34.50	91.14	93.44	95.69

**CLASSIFICATIONS:**

Helicopter Pilot/Engineer

**Effective Dates:**

	<b>07/01/2020</b>		<b>07/01/2021</b>	<b>07/01/2022</b>
Rate	Fringe	Total	Total	Total
61.32	34.50	95.82	98.12	100.37

**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:**

	<b>07/01/2020</b>		<b>07/01/2021</b>	<b>07/01/2022</b>
Rate	Fringe	Total	Total	Total
60.32	34.50	94.82	97.12	99.37

**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:**

	<b>07/01/2020</b>		<b>07/01/2021</b>	<b>07/01/2022</b>
Rate	Fringe	Total	Total	Total
56.82	34.50	91.32	93.62	95.87

**CLASSIFICATIONS:**

Cranes, Derricks, Pile Driver (all types) , under 100 tons with a boom (including jib and/or leads) 140 ft. and over

**Effective Dates:**

	<b>07/01/2020</b>		<b>07/01/2021</b>	<b>07/01/2022</b>
Rate	Fringe	Total	Total	Total
59.32	34.50	93.82	96.12	98.37

**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:**

	<b>07/01/2020</b>		<b>07/01/2021</b>	<b>07/01/2022</b>
Rate	Fringe	Total	Total	Total
55.82	34.50	90.32	92.62	94.87

**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 4:30 PM.

**SHIFT DIFFERENTIALS:**

- Shift work must run for 5 consecutive workdays.
- When 2 shifts are worked, the second shift shall receive an additional 10% of the regular rate inclusive of benefits, per hour.
- When 3 shifts are worked, the second shift shall receive 8 hours pay for 7.5 hours of work, plus an additional 10% of the regular rate inclusive of benefits, per hour. The third shift shall receive 8 hours pay for 7 hours of work, plus an additional 15% of the regular rate inclusive of benefits, per hour.
- When such hours are mandated by the project owner, a shift that starts between 8:00 PM and midnight and ends by 6:00 AM Saturday, or that starts after 8:00 PM on Sunday, provided there are consecutive hours of work within the shift, shall receive an additional 15% of the regular rate, inclusive of benefits.
- On Highway, Road, Street, and Sewer projects irregular shifts starting between 5:00 PM and 12:00 AM may be worked Monday through Friday, and shall receive an additional 15% of the regular rate, inclusive of benefits. When working with other trades that receive a higher irregular shift rate, the Operating Engineer shall also receive the higher irregular shift 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 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.
- 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 Veteran's Day.

On hazardous waste removal work or asbestos removal work, on a state or federally designated hazardous waste site, where the operating engineer is in direct contact with hazardous material and when personal protective equipment is required for respiratory, skin, and eye protection, the operating engineer shall receive an additional 20% of the hourly wage, per hour.

**Effective Dates:**

	<b>07/01/2020</b>		<b>07/01/2021</b>	<b>07/01/2022</b>
Rate	Fringe	Total	Total	Total
58.45	34.50	92.95	95.25	97.50

**CLASSIFICATIONS:**

Helicopter Co-Pilot & Communications Engineer

TERRITORY  
ENTIRE STATE

NEW JERSEY DEPARTMENT OF LABOR AND WORKFORCE DEVELOPMENT  
PREVAILING WAGE RATE DETERMINATION

**STRUCTURAL STEEL ERECTION**      **Rates Expiration Date :**

**Effective Dates:**

	<b>07/01/2020</b>		<b>07/01/2021</b>	<b>07/01/2022</b>
Rate	Fringe	Total	Total	Total
54.39	34.50	88.89	91.19	93.44

**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



**STRUCTURAL STEEL ERECTION**      **Rates Expiration Date :**

**Effective Dates:**

	<b>07/01/2020</b>		<b>07/01/2021</b>	<b>07/01/2022</b>
Rate	Fringe	Total	Total	Total
51.73	34.50	86.23	88.53	90.78

**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:**

07/01/2020			07/01/2021	07/01/2022
Rate	Fringe	Total	Total	Total
50.20	34.50	84.70	87.00	89.25

**CLASSIFICATIONS:**

Compressor (Single)

Generators

Welding Machines, Gas, Diesel, Or Electric Converters of any type-single

Welding System, Multiple (Rectifier Transformer Type)

**Effective Dates:**

07/01/2020			07/01/2021	07/01/2022
Rate	Fringe	Total	Total	Total
48.44	34.50	82.94	85.24	87.49

**CLASSIFICATIONS:**

Assistant Engineer/Oiler

Drillers Helper

Field Engineer - Transit/Instrument Man

Maintenance Apprentice (Deckhand)

Maintenance Apprentice (Oiler)

Off Road Back Dump

**Effective Dates:**

07/01/2020			07/01/2021	07/01/2022
Rate	Fringe	Total	Total	Total
56.01	34.50	90.51	92.81	95.06

**CLASSIFICATIONS:**

Lead Engineer, Foreman Engineer, Safety Engineer (Minimum)

**Effective Dates:**

07/01/2020			07/01/2021	07/01/2022
Rate	Fringe	Total	Total	Total
45.40	34.50	79.90	82.20	84.45

**CLASSIFICATIONS:**

Field Engineer - Rodman or Chainman

**STRUCTURAL STEEL ERECTION**      **Rates Expiration Date :**

**Effective Dates:**

<b>07/01/2020</b>			<b>07/01/2021</b>	<b>07/01/2022</b>
Rate	Fringe	Total	Total	Total
55.15	34.50	89.65	91.95	94.20

**CLASSIFICATIONS:**

Field Engineer-Chief of Party

Vacuum Truck

**Effective Dates:**

<b>07/01/2020</b>			<b>07/01/2021</b>	<b>07/01/2022</b>
Rate	Fringe	Total	Total	Total
63.34	34.50	97.84	100.14	102.39

**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:**

<b>07/01/2020</b>			<b>07/01/2021</b>	<b>07/01/2022</b>
Rate	Fringe	Total	Total	Total
61.68	34.50	96.18	98.48	100.73

**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), 100 tons and over and Tower Crane.

**Effective Dates:**

<b>07/01/2020</b>			<b>07/01/2021</b>	<b>07/01/2022</b>
Rate	Fringe	Total	Total	Total
58.84	34.50	93.34	95.64	97.89

**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:**

<b>07/01/2020</b>			<b>07/01/2021</b>	<b>07/01/2022</b>
Rate	Fringe	Total	Total	Total
57.18	34.50	91.68	93.98	96.23

**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.

TERRITORY  
ENTIRE STATE

NEW JERSEY DEPARTMENT OF LABOR AND WORKFORCE DEVELOPMENT  
PREVAILING WAGE RATE DETERMINATION

STRUCTURAL STEEL ERECTION      Rates Expiration Date :

Effective Dates:

	07/01/2020		07/01/2021	07/01/2022
Rate	Fringe	Total	Total	Total
58.84	34.50	93.34	95.64	97.89

**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 4:30 PM.

**SHIFT DIFFERENTIALS:**

- Shift work must run for 5 consecutive workdays.
- When 2 shifts are worked, the second shift shall receive an additional 10% of the regular rate inclusive of benefits, per hour.
- When 3 shifts are worked, the second shift shall receive 8 hours pay for 7.5 hours of work, plus an additional 10% of the regular rate inclusive of benefits, per hour. The third shift shall receive 8 hours pay for 7 hours of work, plus an additional 15% of the regular rate inclusive of benefits, per hour.
- When such hours are mandated by the project owner, a shift that starts between 8:00 PM and midnight and ends by 6:00 AM Saturday, or that starts after 8:00 PM on Sunday, provided there are consecutive hours of work within the shift, shall receive an additional 15% of the regular rate, inclusive of benefits.
- On Highway, Road, Street, and Sewer projects irregular shifts starting between 5:00 PM and 12:00 AM may be worked Monday through Friday, and shall receive an additional 15% of the regular rate, inclusive of benefits. When working with other trades that receive a higher irregular shift rate, the Operating Engineer shall also receive the higher irregular shift 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 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.
- 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 Veteran's Day.

On hazardous waste removal work or asbestos removal work, on a state or federally designated hazardous waste site, where the operating engineer is in direct contact with hazardous material and when personal protective equipment is required for respiratory, skin, and eye protection, the operating engineer shall receive an additional 20% of the hourly wage, per hour.

**Effective Dates:**

	07/01/2020		07/01/2021	07/01/2022
Rate	Fringe	Total	Total	Total
54.82	34.50	89.32	91.62	93.87

**CLASSIFICATIONS:**

Driller

**Effective Dates:**

	07/01/2020		07/01/2021	07/01/2022
Rate	Fringe	Total	Total	Total
47.98	34.50	82.48	84.78	87.03

**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: + \$3.00/hr
- other Hazardous Waste site: + \$1.00/hr

**Effective Dates:**

	03/03/2021		09/01/2021	03/01/2022	03/01/2023
Rate	Fringe	Total	Total	Total	Total
46.25	33.23	79.48	80.78	83.53	86.03

**CLASSIFICATIONS:**

Walking Boss & Superintendent

**Effective Dates:**

	03/03/2021		09/01/2021	03/01/2022	03/01/2023
Rate	Fringe	Total	Total	Total	Total
45.95	33.23	79.18	80.48	83.23	85.73

**CLASSIFICATIONS:**

Heading Foreman, Shaft Foreman, Rod Foreman, Electrician Foreman, Rigging Foreman

**FREE AIR TUNNEL JOBS**      **Rates Expiration Date :**

**Effective Dates:**

03/03/2021			09/01/2021	03/01/2022	03/01/2023
Rate	Fringe	Total	Total	Total	Total
45.45	33.23	78.68	79.98	82.73	85.23

**CLASSIFICATIONS:**

Iron Foreman, Caulking Foreman, Form Foreman, Cement Finishing Foreman, Concrete Foreman, Track Foreman, Cleanup Foreman, Grout Foreman

**Effective Dates:**

03/03/2021			09/01/2021	03/01/2022	03/01/2023
Rate	Fringe	Total	Total	Total	Total
47.95	33.23	81.18	82.48	85.23	87.73

**CLASSIFICATIONS:**

Blaster

**Effective Dates:**

03/03/2021			09/01/2021	03/01/2022	03/01/2023
Rate	Fringe	Total	Total	Total	Total
44.90	33.23	78.13	79.43	82.18	84.68

**CLASSIFICATIONS:**

Top Labor Foreman

**Effective Dates:**

03/03/2021			09/01/2021	03/01/2022	03/01/2023
Rate	Fringe	Total	Total	Total	Total
44.55	33.23	77.78	79.08	81.83	84.33

**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:**

03/03/2021			09/01/2021	03/01/2022	03/01/2023
Rate	Fringe	Total	Total	Total	Total
44.40	33.23	77.63	78.93	81.68	84.18

**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:**

	<b>03/03/2021</b>		<b>09/01/2021</b>	<b>03/01/2022</b>	<b>03/01/2023</b>
Rate	Fringe	Total	Total	Total	Total
44.00	33.23	77.23	78.53	81.28	83.78

**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:**

	<b>07/01/2020</b>		<b>07/01/2021</b>	<b>07/01/2022</b>
Rate	Fringe	Total	Total	Total
53.57	34.50	88.07	90.37	92.62

**CLASSIFICATIONS:**

Driller

**Effective Dates:**

	<b>07/01/2020</b>		<b>07/01/2021</b>	<b>07/01/2022</b>
Rate	Fringe	Total	Total	Total
47.33	34.50	81.83	83.53	85.78

**CLASSIFICATIONS:**

Driller's Helper

**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:**

**10/01/2020**

Rate	Fringe	Total
41.42	15.29	56.71

**CLASSIFICATIONS:**

Lead Dredgerman, Operator, Leverman

Licensed Tug Operator (over 1000 HP)

**Effective Dates:**

**10/01/2020**

Rate	Fringe	Total
35.82	14.84	50.66

**CLASSIFICATIONS:**

Derrick Operator, Spider/Spill Barge Operator

Engineer, Electrician, Chief Welder, Chief Mate

Fill Placer, Operator II

Licensed Boat Operator

Maintenance Engineer

**Effective Dates:**

**10/01/2020**

Rate	Fringe	Total
33.72	14.67	48.39

**CLASSIFICATIONS:**

Certified Welder

**OPERATING ENGINEERS MARINE-DREDGING**     **Rates Expiration Date :**

**Effective Dates:**

**10/01/2020**

Rate	Fringe	Total
32.80	14.30	47.10

**CLASSIFICATIONS:**

Mate, Drag Barge Operator, Steward, Assistant Fill Placer

Welder

**Effective Dates:**

**10/01/2020**

Rate	Fringe	Total
31.74	14.21	45.95

**CLASSIFICATIONS:**

Boat Operator

**Effective Dates:**

**10/01/2020**

Rate	Fringe	Total
26.37	13.48	39.85

**CLASSIFICATIONS:**

Shoreman, Deckhand, Rodman, Scowman

**Effective Dates:**

**10/01/2020**

Rate	Fringe	Total
36.91	14.93	51.84

**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

TERRITORY  
ENTIRE STATE

NEW JERSEY DEPARTMENT OF LABOR AND WORKFORCE DEVELOPMENT  
PREVAILING WAGE RATE DETERMINATION

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: + \$3.00/hr
- other Hazardous Waste site: + \$1.00/hr

**Effective Dates:**

**03/01/2020**

Rate	Fringe	Total
45.25	32.53	77.78

**CLASSIFICATIONS:**

Paving Foreman

**Effective Dates:**

**03/01/2020**

Rate	Fringe	Total
43.80	32.53	76.33

**CLASSIFICATIONS:**

Head Raker

**Effective Dates:**

**03/01/2020**

Rate	Fringe	Total
43.65	32.53	76.18

**CLASSIFICATIONS:**

Raker, Screedman, Luteman

TERRITORY  
ENTIRE STATE

NEW JERSEY DEPARTMENT OF LABOR AND WORKFORCE DEVELOPMENT  
PREVAILING WAGE RATE DETERMINATION

ASPHALT LABORERS - SOUTH    Rates Expiration Date :

Effective Dates:

**03/01/2020**

Rate	Fringe	Total
43.40	32.53	75.93

**CLASSIFICATIONS:**

Tampers, Smoothers, Kettlemen,  
Painters, Shovelers, Roller Boys

Effective Dates:

**03/01/2020**

Rate	Fringe	Total
43.50	32.53	76.03

**CLASSIFICATIONS:**

Milling Controller

Effective Dates:

**03/01/2020**

Rate	Fringe	Total
43.70	32.53	76.23

**CLASSIFICATIONS:**

Traffic Control Coordinator

**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:**

10/18/2020			10/18/2021	10/18/2022
Rate	Fringe	Total	Total	Total
32.92	29.50	62.42	64.17	65.92

**CLASSIFICATIONS:**

Helper (4th year helper)

**Effective Dates:**

10/18/2020			10/18/2021	10/18/2022
Rate	Fringe	Total	Total	Total
41.74	29.50	71.24	73.24	75.24

**CLASSIFICATIONS:**

Driller

**Effective Dates:**

10/18/2020			10/18/2021	10/18/2022
Rate	Fringe	Total	Total	Total
47.78	29.50	77.28	79.28	81.28

**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.

**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: + \$3.00/hr
- other Hazardous Waste site: + \$1.00/hr

**Effective Dates:**

03/03/2021			09/01/2021	03/01/2022	03/01/2023
Rate	Fringe	Total	Total	Total	Total
43.50	33.23	76.73	78.03	80.78	83.28

**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:**

03/03/2021			09/01/2021	03/01/2022	03/01/2023
Rate	Fringe	Total	Total	Total	Total
44.20	33.23	77.43	78.73	81.48	83.98

**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; traffic control coordinator; asphalt raker or lute man

**HEAVY & GENERAL LABORERS - NORTH**      **Rates Expiration Date :**

**Effective Dates:**

03/03/2021			09/01/2021	03/01/2022	03/01/2023
Rate	Fringe	Total	Total	Total	Total
44.45	33.23	77.68	78.98	81.73	84.23

**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:**

03/03/2021			09/01/2021	03/01/2022	03/01/2023
Rate	Fringe	Total	Total	Total	Total
48.00	33.23	81.23	82.53	85.28	87.78

**CLASSIFICATIONS:**

"A" Rate:

blaster

**Effective Dates:**

03/03/2021			09/01/2021	03/01/2022	03/01/2023
Rate	Fringe	Total	Total	Total	Total
45.75	33.23	78.98	80.28	84.03	87.53

**CLASSIFICATIONS:**

"FOREMAN" Rate:

labor foreman, asphalt foreman, drill foreman, pipe foreman, grade foreman, finisher foreman, concrete foreman

**Effective Dates:**

03/03/2021			09/01/2021	03/01/2022	03/01/2023
Rate	Fringe	Total	Total	Total	Total
46.75	33.23	79.98	81.28	85.03	88.53

**CLASSIFICATIONS:**

"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.

**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: + \$3.00/hr
- other Hazardous Waste site: + \$1.00/hr

**Effective Dates:**

**03/01/2020**

Rate	Fringe	Total
43.00	32.53	75.53

**CLASSIFICATIONS:**

basic, landscape, or railroad track laborer; utility meter installer; flagman; salamander tender; pitman; dumpman; rakers or tampers on cold patch work; wrappers or coatiers of pipe; waterproofers; tree cutter, timberman

**Effective Dates:**

**03/01/2020**

Rate	Fringe	Total
43.00	32.53	75.53

**CLASSIFICATIONS:**

wagon drill or drill master helper; powder carrier; magazine tender; signal man

**HEAVY & GENERAL LABORERS - SOUTH**     **Rates Expiration Date :**

**Effective Dates:**

**03/01/2020**

Rate	Fringe	Total
43.70	32.53	76.23

**CLASSIFICATIONS:**

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

**Effective Dates:**

**03/01/2020**

Rate	Fringe	Total
43.70	32.53	76.23

**CLASSIFICATIONS:**

wagon or directional drill operator; drill master

**Effective Dates:**

**03/01/2020**

Rate	Fringe	Total
47.50	32.53	80.03

**CLASSIFICATIONS:**

blaster

**Effective Dates:**

**03/01/2020**

Rate	Fringe	Total
45.25	32.53	77.78

**CLASSIFICATIONS:**

labor foreman, drill foreman, pipe foreman, grade foreman, finisher foreman, concrete foreman

**Effective Dates:**

**03/01/2020**

Rate	Fringe	Total
46.25	32.53	78.78

**CLASSIFICATIONS:**

general foreman

TERRITORY  
ENTIRE STATE

NEW JERSEY DEPARTMENT OF LABOR AND WORKFORCE DEVELOPMENT  
PREVAILING WAGE RATE DETERMINATION

HEAVY & GENERAL LABORERS - SOUTH      Rates Expiration Date :

Effective Dates:

**03/01/2020**

Rate	Fringe	Total
43.95	32.53	76.48

**CLASSIFICATIONS:**

concrete finisher; setter of brick or stone pavers; stone cutter; form setter; manhole, catch basin, or inlet builder; rammer; 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:

06/09/2020

Rate	Fringe	Total
54.58	32.80	87.38

CLASSIFICATIONS:

Pipeline Journeyman Welder

TERRITORY  
ENTIRE STATE

NEW JERSEY DEPARTMENT OF LABOR AND WORKFORCE DEVELOPMENT  
PREVAILING WAGE RATE DETERMINATION

PIPELINE - MAINLINE TRANSMISSION      Rates Expiration Date :

**Effective Dates:**

**06/09/2020**

Rate	Fringe	Total
54.58	32.80	87.38

**CLASSIFICATIONS:**

Pipeline Journeyman

**Effective Dates:**

**06/09/2020**

Rate	Fringe	Total
33.27	22.42	55.69

**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:**

	<b>11/02/2020</b>		<b>11/01/2021</b>	<b>11/01/2022</b>
Rate	Fringe	Total	Total	Total
61.50	27.23	88.73	91.23	93.73

**CLASSIFICATIONS:**

Pipeline Journeyman Welder

**Effective Dates:**

	<b>11/02/2020</b>		<b>11/01/2021</b>	<b>11/01/2022</b>
Rate	Fringe	Total	Total	Total
61.50	27.23	88.73	91.23	93.73

**CLASSIFICATIONS:**

Pipeline Journeyman

**Effective Dates:**

	<b>11/02/2020</b>		<b>11/01/2021</b>	<b>11/01/2022</b>
Rate	Fringe	Total	Total	Total
39.46	19.88	59.34	61.01	62.68

**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: + \$3.00/hr
- other Hazardous Waste site: + \$1.00/hr

**Effective Dates:**

	03/03/2021		09/01/2021	03/01/2022	03/01/2023
Rate	Fringe	Total	Total	Total	Total
45.75	33.23	78.98	80.28	84.03	87.53

**CLASSIFICATIONS:**

Asphalt Foreman

**Effective Dates:**

	03/03/2021		09/01/2021	03/01/2022	03/01/2023
Rate	Fringe	Total	Total	Total	Total
44.45	33.23	77.68	78.98	81.73	84.23

**CLASSIFICATIONS:**

Asphalt Screedman

**Effective Dates:**

	03/03/2021		09/01/2021	03/01/2022	03/01/2023
Rate	Fringe	Total	Total	Total	Total
44.20	33.23	77.43	78.73	81.48	83.98

**CLASSIFICATIONS:**

Asphalt Raker or Lute Man

TERRITORY  
ENTIRE STATE

NEW JERSEY DEPARTMENT OF LABOR AND WORKFORCE DEVELOPMENT  
PREVAILING WAGE RATE DETERMINATION

ASPHALT LABORERS- NORTH      Rates Expiration Date :

Effective Dates:

03/03/2021			09/01/2021	03/01/2022	03/01/2023
Rate	Fringe	Total	Total	Total	Total
43.50	33.23	76.73	78.03	80.78	83.28

**CLASSIFICATIONS:**

Asphalt Laborer

**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 workday 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 7:00 AM and 6:30 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:**

**11/29/2020**

Rate	Fringe	Total
57.30	39.54	96.84

**CLASSIFICATIONS:**

Chief Lineman

**Effective Dates:**

**11/29/2020**

Rate	Fringe	Total
54.06	37.30	91.36

**CLASSIFICATIONS:**

Journeyman Lineman

**ELECTRICIAN- UTILITY WORK (NORTH)**      **Rates Expiration Date :**

**Effective Dates:**

**11/29/2020**

Rate	Fringe	Total
54.06	37.30	91.36

**CLASSIFICATIONS:**

Special License Operator

**Effective Dates:**

**11/29/2020**

Rate	Fringe	Total
53.52	36.92	90.44

**CLASSIFICATIONS:**

Transit Man

**Effective Dates:**

**11/29/2020**

Rate	Fringe	Total
51.90	35.80	87.70

**CLASSIFICATIONS:**

Line Equipment Operator

**Effective Dates:**

**11/29/2020**

Rate	Fringe	Total
45.41	31.32	76.73

**CLASSIFICATIONS:**

Dynamite Man

**Effective Dates:**

**11/29/2020**

Rate	Fringe	Total
67.57	46.62	114.19

**CLASSIFICATIONS:**

General Foreman

**Effective Dates:**

**11/29/2020**

Rate	Fringe	Total
62.17	42.88	105.05

**CLASSIFICATIONS:**

Assistant General Foreman

**ELECTRICIAN- UTILITY WORK (NORTH)**      **Rates Expiration Date :**

**Effective Dates:**

**11/29/2020**

Rate	Fringe	Total
60.55	41.77	102.32

**CLASSIFICATIONS:**

Line Foreman

**Effective Dates:**

**11/29/2020**

Rate	Fringe	Total
43.79	30.20	73.99

**CLASSIFICATIONS:**

Street Light Mechanical Leader

**Effective Dates:**

**11/29/2020**

Rate	Fringe	Total
41.63	28.71	70.34

**CLASSIFICATIONS:**

Groundman Winch Operator

**Effective Dates:**

**11/29/2020**

Rate	Fringe	Total
41.63	28.71	70.34

**CLASSIFICATIONS:**

Groundman Truck Operator

**Effective Dates:**

**11/29/2020**

Rate	Fringe	Total
41.08	28.35	69.43

**CLASSIFICATIONS:**

Street Light Mechanic

**Effective Dates:**

**11/29/2020**

Rate	Fringe	Total
41.08	28.35	69.43

**CLASSIFICATIONS:**

Line Equipment Mechanic

TERRITORY  
ENTIRE STATE

NEW JERSEY DEPARTMENT OF LABOR AND WORKFORCE DEVELOPMENT  
PREVAILING WAGE RATE DETERMINATION

ELECTRICIAN- UTILITY WORK (NORTH)      Rates Expiration Date :

Effective Dates:

11/29/2020

Rate	Fringe	Total
35.14	24.24	59.38

**CLASSIFICATIONS:**

Groundman 2nd Year

Effective Dates:

11/29/2020

Rate	Fringe	Total
32.44	22.36	54.80

**CLASSIFICATIONS:**

Groundman 1st Year

Effective Dates:

11/29/2020

Rate	Fringe	Total
53.52	36.92	90.44

**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 workday 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 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:**

**12/02/2020**

Rate	Fringe	Total
63.56	51.00	114.56

**CLASSIFICATIONS:**

General Foreman

**ELECTRICIAN- UTILITY WORK (SOUTH)**      **Rates Expiration Date :**

**Effective Dates:**

**12/02/2020**

Rate	Fringe	Total
56.43	46.88	103.31

**CLASSIFICATIONS:**

Foreman

**Effective Dates:**

**12/02/2020**

Rate	Fringe	Total
53.46	45.13	98.59

**CLASSIFICATIONS:**

Small Job Foreman

**Effective Dates:**

**12/02/2020**

Rate	Fringe	Total
49.50	42.79	92.29

**CLASSIFICATIONS:**

Heavy Equipment Operator

**Effective Dates:**

**12/02/2020**

Rate	Fringe	Total
49.50	42.79	92.29

**CLASSIFICATIONS:**

Cable Splicer

**Effective Dates:**

**12/02/2020**

Rate	Fringe	Total
49.50	42.79	92.29

**CLASSIFICATIONS:**

Journeyman Lineman

**Effective Dates:**

**12/02/2020**

Rate	Fringe	Total
49.50	42.79	92.29

**CLASSIFICATIONS:**

Journeyman Welder



**ELECTRICIAN- UTILITY WORK (SOUTH)**      **Rates Expiration Date :**

**Effective Dates:**

**12/02/2020**

Rate	Fringe	Total
49.50	42.79	92.29

**CLASSIFICATIONS:**

Journeyman Painter

**Effective Dates:**

**12/02/2020**

Rate	Fringe	Total
39.60	36.94	76.54

**CLASSIFICATIONS:**

Light Equipment Operator

**Effective Dates:**

**12/02/2020**

Rate	Fringe	Total
34.65	34.00	68.65

**CLASSIFICATIONS:**

Groundman Truck Driver

**Effective Dates:**

**12/02/2020**

Rate	Fringe	Total
32.18	32.55	64.73

**CLASSIFICATIONS:**

Groundman 3rd Year

**Effective Dates:**

**12/02/2020**

Rate	Fringe	Total
29.70	31.09	60.79

**CLASSIFICATIONS:**

Groundman 2nd Year

**Effective Dates:**

**12/02/2020**

Rate	Fringe	Total
27.23	29.62	56.85

**CLASSIFICATIONS:**

Groundman 1st Year

TERRITORY  
ENTIRE STATE

NEW JERSEY DEPARTMENT OF LABOR AND WORKFORCE DEVELOPMENT  
PREVAILING WAGE RATE DETERMINATION

ELECTRICIAN- UTILITY WORK (SOUTH)      Rates Expiration Date :

Effective Dates:

12/02/2020

Rate	Fringe	Total
21.78	26.40	48.18

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: + \$3.00/hr
- other Hazardous Waste site: + \$1.00/hr

**Effective Dates:**

	03/03/2021		09/01/2021	03/01/2022	03/01/2023
Rate	Fringe	Total	Total	Total	Total
69.38	33.23	102.61	104.31	107.86	111.19

**CLASSIFICATIONS:**

Walking Boss & Superintendent

**Effective Dates:**

	03/03/2021		09/01/2021	03/01/2022	03/01/2023
Rate	Fringe	Total	Total	Total	Total
68.93	33.23	102.16	103.86	107.41	110.74

**CLASSIFICATIONS:**

Heading Foreman, Shaft Foreman, Rod Foreman, Electrical Foreman, Rigging Foreman

**HEAVY & GENERAL LABORERS- NEW TRANS HUDSON TUNNELS**      **Rates Expiration Date :**

**Effective Dates:**

03/03/2021			09/01/2021	03/01/2022	03/01/2023
Rate	Fringe	Total	Total	Total	Total
68.18	33.23	101.41	103.11	106.66	109.99

**CLASSIFICATIONS:**

Iron Foreman, Caulking Foreman, Form Foreman, Cement Finishing Foreman, Concrete Foreman, Track Foreman, Clean-up Foreman, Grout Foreman

**Effective Dates:**

03/03/2021			09/01/2021	03/01/2022	03/01/2023
Rate	Fringe	Total	Total	Total	Total
71.93	33.23	105.16	106.86	110.41	113.74

**CLASSIFICATIONS:**

Blaster

**Effective Dates:**

03/03/2021			09/01/2021	03/01/2022	03/01/2023
Rate	Fringe	Total	Total	Total	Total
67.35	33.23	100.58	102.28	105.83	109.16

**CLASSIFICATIONS:**

Top Labor Foreman

**Effective Dates:**

03/03/2021			09/01/2021	03/01/2022	03/01/2023
Rate	Fringe	Total	Total	Total	Total
66.83	33.23	100.06	101.76	105.31	108.64

**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:**

03/03/2021			09/01/2021	03/01/2022	03/01/2023
Rate	Fringe	Total	Total	Total	Total
66.60	33.23	99.83	101.53	105.08	108.41

**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:

	03/03/2021		09/01/2021	03/01/2022	03/01/2023
Rate	Fringe	Total	Total	Total	Total
66.00	33.23	99.23	100.93	104.48	107.81

**CLASSIFICATIONS:**

All others (including Powder Watchman, Change House Attendant, Top Laborer, Job Steward)

# DRAFT AIA Document A101™ - 2007

## 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 County Engineer or his designee:  
(Name, legal status, address and other information)

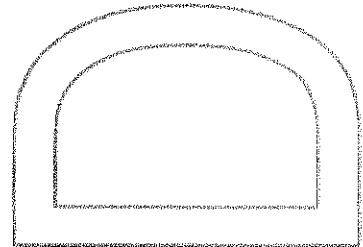
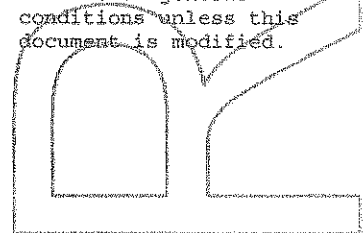
The Owner and Contractor agree as follows.



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

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

AIA Document A201™-2007, 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.



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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
- 10 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. The Contractor will not be compensated for labor or materials outside the scope of work that is not properly authorized.

ARTICLE 3 DATE OF COMMENCEMENT AND SUBSTANTIAL COMPLETION

§ 3.1 The date of commencement of the Work shall be the date of this Agreement unless a different date is stated below or provision is made for the date to be fixed in a Notice to proceed issued by the Owner, which is anticipated to be on or about

( )

If, prior to the commencement of the Work, the Owner requires time to file mortgages and other security interests, the Owner's time requirement shall be as follows: Not applicable.

( )

§ 3.2 The Contract Time shall be measured from the date of commencement.

§ 3.3 The Contractor shall achieve Substantial Completion of the entire Work not later than ( ) days from the date of commencement, or as follows:

(Insert number of calendar days. Alternatively, a calendar date may be used when coordinated with the date of commencement. If appropriate, insert requirements for earlier Substantial Completion of certain portions of the Work.)

Portion of Work

Substantial Completion Date

Entire Work

TBD

, subject to adjustments of this Contract Time as provided in the Contract Documents.  
(Insert provisions, if any, for liquidated damages relating to failure to achieve Substantial Completion on time or for bonus payments for early completion of the Work.)

« » Should the Contractor fail to complete fully, and in conformity with all provisions of the Contract within the Contract Time, the Contractor shall, and hereby agrees to pay the Owner One Thousand Dollars (\$1,000.00) per day for as liquidated damages, for each consecutive calendar day beyond the number of days allowed by the Contract, which sum is agreed upon as reasonable and proper measure of damages that the Owner will sustain per diem by failure of Contractor to complete Work within time as stipulated; it is being recognized by Owner and Contractor that the injury to Owner that could result from a failure of the Contractor to complete on schedule, is uncertain and cannot be computed exactly. In no way shall costs of Liquidated Damages to be construed as a penalty to the Contractor. (See Bid Documents)

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 The Contract Sum is based upon the following alternates, if any, which are described in the Contract Documents and are hereby accepted by the Owner:  
(State the numbers or other identification of accepted alternates. If the bidding or proposal documents permit the Owner to accept other alternates subsequent to the execution of this Agreement, attach a schedule of such other alternates showing the amount for each and the date when that amount expires.)

« »  
§ 4.3 Unit prices, if any:  
(Identify and state the unit price; state quantity limitations, if any, to which the unit price will be applicable.)

Item	Units and Limitations	Price Per Unit (\$0.00)
« »	« »	« »

§ 4.4 Allowances included in the Contract Sum, if any:  
(Identify allowance and state exclusions, if any, from the allowance price.)

Item	Price
« »	« »

ARTICLE 5 PAYMENTS

§ 5.1 PROGRESS PAYMENTS

§ 5.1.1 Based upon Applications for Payment submitted to the County Engineer or his designee by the Contractor and Certificates for Payment issued by the County Engineer or his designee, 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 The Contractor shall submit a Preliminary Payment Request (Pencil Requisition) to the County Engineer or his designee on the twenty-fifth (25<sup>th</sup>) day of any given calendar month for Work performed during that month,



Upon receipt of the Pencil Requisition from the Contractor, the County Engineer or his designee shall review the Pencil Requisition and approve or disapprove of it in whole or in part as set forth hereafter. Within (4) calendar days of receipt of the Pencil Requisition from the Contractor, the County Engineer or his designee shall return the Pencil Requisition to the Contractor, with those charges that are approved or disapproved, if any, by the County Engineer or his designee, for the Contractor's incorporation into an Application for Payment. Within two (2) calendar days of return of the Pencil Requisition from the County Engineer or his designee, the Contractor shall submit a formal application for Payment to the County Engineer or his designee for review and approval by the County Engineer or his designee incorporating any revisions made by the County Engineer or his designee in the Pencil Requisition submission. Within five (5) calendar days of receipt of Contractor's Application for Payment, the County Engineer or his designee shall take any one of the following actions:

- 1) Certify the entire Application for Payment;
- 2) Certify partial payment and provide the Contractor with reasons for withholding the remaining portion of the payment; or
- 3) Withhold certification of the entire Application for Payment and provide the Contractor with reasons for withholding the entire payment,

Once the Application for Payment is certified either in whole or in part, the County Engineer or his designee shall transmit the Certified Payment Application within three (3) calendar days to the Owner for its review and payment. The Owner shall make payment to the Contractor for the Certified Payment Amount by no later than the time period set forth in the New Jersey Prompt Payment Act following receipt of the Certificate for Payment from the County Engineer or his designee. The Owner shall not be obligated to pay any Application for Payment until the Application for Payment is certified by the County Engineer or his designee. Approval of any Application for Payment may be withheld should the Contractor fail to submit Manning Reports in a timely manner.

Pursuant to N.J.S.A. 2A:30A-1 et seq. (the "Prompt Payment Act"), 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, such as the Owner, is excepted from the timing requirements of the Act. Accordingly, the Owner shall not approve the Contractor's Application for Payment until it is certified by the County Engineer or his designee in accordance herewith and shall not approve the Contractor's Certified Payment Application until the next scheduled public meeting of the Owner following the Owner's receipt of the Certified Payment Application from the County Engineer or his designee. The Owner shall not make payment to the Contractor for the Certified Payment Amount until the Owner's subsequent payment cycle following its approval of the Payment Application.

Pursuant to this same Act, if a payment due pursuant to the provisions herein is not made in a timely manner, the Owner shall be liable for the amount of money owed under the contract, plus interest at a rate equal to the prime rate plus one percent (1%), notwithstanding anything to the contrary in the Contract Documents. Interest on amounts due pursuant to the Act shall be paid to the prime contractor for the period beginning on the day after the required payment date and ending on the day on which the check for payment is received by the Contractor.

Pursuant to this same Act, disputes regarding whether a party has failed to make payments required by the Act may be submitted to a process of alternative dispute resolution, notwithstanding anything to the contrary in the contract documents, where the parties agree to same. Alternative dispute resolution permitted by the Act shall not apply to disputes concerning any other matters that may arise under or from this Contract. Any civil action brought to collect payments shall be conducted in Union County, State of New Jersey, and the prevailing party shall be awarded reasonable costs and attorneys' fees.

§5.1.4 The County Engineer or his designee may decide not to certify payment and may withhold a Certificate for Payment, in whole or in part, to the extent reasonably necessary to protect the Owner if, in the County Engineer or his designee's opinion, the representations as described in Section 5.1.5 below cannot be made to the Owner. If the County Engineer or his designee withholds a Certificate for Payment, the County Engineer or his designee will notify the Contractor and Owner as provided in Section 5.1.3 above. If the Contractor and County Engineer or his designee cannot agree on a revised amount, the County Engineer or his designee will issue a Certificate for Payment for the amount for which the County Engineer or his designee is able to make such representations to the Owner as set forth in Section 5.1.3 above. The County Engineer or his designee may also decide to withhold certifying

payment in whole or in part, or, because of subsequently discovered evidence or subsequent observations, to such extent as may be necessary in the County Engineer or his designee's opinion to protect the Owner from loss because of:

- .1 Defective Work not remedied;
- .2 third party claims filed or reasonable evidence indicating probable filing of such claims;
- .3 failure of the Contractor to make payments properly to Subcontractors or for labor, materials, or equipment;
- .4 reasonable evidence that the Work cannot be completed for the unpaid balance of the Contract Sum;
- .5 damage to the Owner or another 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;
- .7 failure to carry out the Work in accordance with the Contract Documents;
- .8 avoidable delay in the progress of the Work;
- .9 deliberate delay in the submission for approval of names of Subcontractors, materialmen, sources of supply, shop drawings, and samples;
- .10 failure to maintain the Project Site in a safe and satisfactory condition in accordance with good construction practices as determined by the County Engineer or his designee; or
- .11 failure to submit updates as required by the General Conditions.

When the foregoing reasons for withholding certification are resolved, certification will be made for amounts previously withheld in the manner set forth in Section 5.1.3 above.

§5.1.5 The issuance of a separate Certificate for Payment will constitute representations made separately by the County Engineer or his designee to the Owner, based on its individual observations at the site and the data comprising the Application for Payment submitted by the Contractor, that the Work has progressed to the point indicated and that, to the best of the County Engineer or his designee's knowledge, information and belief, quality of the Work is in accordance with the Contract Documents.

The foregoing representations are subject to an evaluation of the Work for conformance with the Contract Documents upon Substantial Completion, to results of subsequent tests and inspections, to minor deviations from the Contract Documents correctable prior to completion and to specific qualifications expressed by the County Engineer or his designee. The

issuance of a separate Certificate of Payment will further constitute a representation that the Contractor is entitled to payment in the amount certified. However, the issuance of a separate Certificate for Payment will not be a representation that the County Engineer or his designees has (1) made exhaustive or continuous on-site inspections to check the quality or quantity of the Work; (2) reviewed the Contractor's construction means, methods, techniques, sequences or procedures; (3) reviewed copies of requisitions received from Subcontractor's and materials 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.

§5.1.6 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 County Engineer or his designee may require. This schedule, unless objected to by the County Engineer or his designee, shall be used as a basis for reviewing the Contractor's Applications for Payment.

§5.1.7 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.

§ 5.1.8 Subject to other provisions of the Contract Documents, the amount of each progress payment shall be computed as follows:

- .1 Take that portion of the Contract Sum properly allocable to completed Work as determined by multiplying the percentage completion of each portion of the Work by the share of the Contract Sum allocated to that portion of the Work in the schedule of values, less retainage of  percent (  %). Pending final determination of cost to the Owner of changes in the Work, amounts not in dispute shall be included as provided in Section 7.3.9 of AIA Document A201™-2007, General Conditions of the Contract for Construction;
- .2 Add 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), less retainage of  percent (  %);
- .3 Subtract the aggregate of previous payments made by the Owner; and
- .4 Subtract amounts, if any, for which the County Engineer or his designee has withheld or nullified a Certificate for Payment as provided in Section 9.5 of AIA Document A201-2007.

§5.1.9 The progress payment amount determined in accordance with Section 5.1.8 shall be further modified under the following circumstances:

- .1 Add, upon Substantial Completion of the Work, a sum sufficient to increase the total payments to the full amount of the Contract Sum, less such amounts as the County Engineer or his designee shall determine for incomplete Work, retainage applicable to such work and unsettled claims; and
- .2 Add, if final completion of the Work is thereafter materially delayed through no fault of the Contractor, any additional amounts payable in accordance with Section 9.10.3 of AIA Document A201-2007.

§5.1.10 Retainage shall be determined as follows: Pursuant to N.J.S.A. 40A:11-6.1, the Owner will withhold two percent (2%) of the amount due on each partial payment when the outstanding balance of the Contract exceeds One Hundred Thousand Dollars (\$100,000.00).

§5.1.11 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 Section 12.2.2 of AIA Document A201-2007, and to satisfy other requirements, if any, which extend beyond final payment; and
- .2 a final Certificate for Payment has been issued by the County Engineer or his designee.

§ 5.2.2 The Owner's final payment to the Contractor shall be made no later than 30 days after the issuance of the County Engineer or his designee's final Certificate for Payment, or as follows:

« »

**ARTICLE 6 DISPUTE RESOLUTION**

**§ 6.1 INITIAL DECISION MAKER**

The County Engineer or his designee will serve as Initial Decision Maker pursuant to Section 15.2 of AIA Document A201-2007, unless the parties appoint below another individual, not a party to this Agreement, to serve as 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 County Engineer or his designee.)*

« »  
« »  
« »  
« »

## § 6.2 BINDING DISPUTE RESOLUTION

Except as provided in Section 5.1.3 of the Standard Form of Agreement between the Owner and Contractor, all claims, disputes or other matters in question between the parties to this Contract, arising out of or relating to the Project or to the Contract, or the alleged breach hereof, shall be subject one to mediation, and if not resolved, then same shall be decided in a Court of competent jurisdiction venued in Union County, New Jersey. No party may be compelled to submit any dispute concerning the Project to arbitration. In the event any claim arising from the Project is beyond the jurisdiction of the court, the Contract consents to joinder as a party to such action or alternative dispute proceeding.

## 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 A201-2007.

§ 7.2 The Work may be suspended by the Owner as provided in Article 14 of AIA Document A201-2007.

## ARTICLE 8 MISCELLANEOUS PROVISIONS

§ 8.1 Where reference is made in this Agreement to a provision of AIA Document A201-2007 or another Contract Document, the reference refers to that provision as amended or supplemented by other provisions of the Contract Documents.

§ 8.2 Payments due and unpaid under the Contract shall in no instance bear interest, except as required by law in accordance with Section 5.1.3 hereof.

§ 8.3 The Contractor shall ensure that the Project Site is maintained in a clean and safe condition at all times, based upon Owner's sole discretion. If the Contractor fails to keep the Project Site in a clean and safe condition, said failure shall result in the following:

- .1 all claims resulting from the Contractor's failure shall be the Contractor's responsibility;
- .2 said failure shall constitute an act of default and a substantial breach of the Contract giving the Owner remedies under the contract Documents; and
- .3 the Owner shall have the right to withhold any payments until the Contractor cures its failure.

Failure to do so shall authorize the Owner to withhold any Applications for payment until such time as the Contractor has rectified same. Further, if the Contractor fails to clean up as provided in the Contract Documents, the Owner may do so and the cost thereof shall be charged to the Contractor.

§ 8.4 Indemnification – See Indemnification Requirements in Bid Documents.

§ 8.5 The within contract shall be governed by and interpreted pursuant to the law of the State of New Jersey.

§ 8.6 The Contractor shall comply with the anti-discrimination provisions of N.J.S.A. 10:2-1 et seq., the New Jersey Law Against Discrimination, N.J.S.A. 10:5-1 et seq., N.J.A.C. 17:27-1.1 et seq. and shall guarantee to afford equal opportunity in performance of the Work in accordance with an affirmative action program approved by the State Treasurer. (See Page G-21).

§ 8.7 The Contractor shall submit proof of Business Registration for itself and its subcontractors to the Owner and shall provide written notice to its subcontractors and suppliers of the responsibility to submit proof of business registration to the contractor. The requirement of proof of Business Registration extends down through all levels (tiers) of the Project.

The Contractor agrees to comply with the rules and regulations promulgated pursuant to the Contractor Use Tax Collection Legislation.

For the term of the contract, the Contractor, any subcontractor, and each of their affiliates [N.J.S.A. 52:32-44(g)93], shall collect and remit to the New Jersey Director of the Division of Taxation in the Department of Treasury, the use tax due pursuant to the "Sales and Use Tax Act," P.L. 1966, c. 30 (C.54:32B-1 et seq.) on all of their sales of tangible personal property delivered into the State of New Jersey, regardless of whether the tangible personal property is intended for a contract with a contracting agency. 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.

§8.8 This Standard Form of Agreement and the General Conditions set forth in the Bid Documents shall control in the case of conflict between these documents and the Project Specifications, the Project Manual, and any other exhibits incorporated by reference in this Contract.

#### ARTICLE 9 ENUMERATION OF CONTRACT DOCUMENTS

§ 9.1 The Contract Documents, except for Modifications issued after execution of this Agreement, are enumerated in the sections below, and incorporated herein as if set forth in their entirety.

§ 9.1.1 The Agreement is this executed AIA Document A101-2007, Standard Form of Agreement Between Owner and Contractor.

§ 9.1.2 The General Conditions are AIA Document A201-2007, General Conditions of the Contract for Construction.

§ 9.1.3 The Supplementary and other Conditions of the Contract:

Document	Title	Date	Pages

§ 9.1.4 The Specifications:

*(Either list the Specifications here or refer to an exhibit attached to this Agreement.)*

« See Specifications as referenced by Exhibit B.

Section	Title	Date	Pages

§ 9.1.5 The Drawings:

*(Either list the Drawings here or refer to an exhibit attached to this Agreement.)*

« See List of Drawings, annexed hereto as Exhibit C.

Number	Title	Date

§ 9.1.6 The Addenda, if any:

Number	Date	Pages

Portions of Addenda relating to bidding requirements are not part of the Contract Documents unless the bidding requirements are also enumerated in this Article 9.

§ 9.1.7 Additional documents, if any, forming part of the Contract Documents:

.1 AIA Document E201™-2007, Digital Data Protocol Exhibit, if completed by the parties, or the following:

■

.2 Other documents, if any, listed below:

■

**ARTICLE 10 INSURANCE AND BONDS**

The Contractor shall purchase and maintain insurance and provide bonds as set forth in Article 11 of AIA Document A201-2007.

(State bonding requirements, if any, and limits of liability for insurance required in Article 11 of AIA Document A201-2007.)

Type of insurance or bond

Limit of liability or bond amount (\$0.00)

This Agreement entered into as of the day and year first written above.

OWNER (Signature)

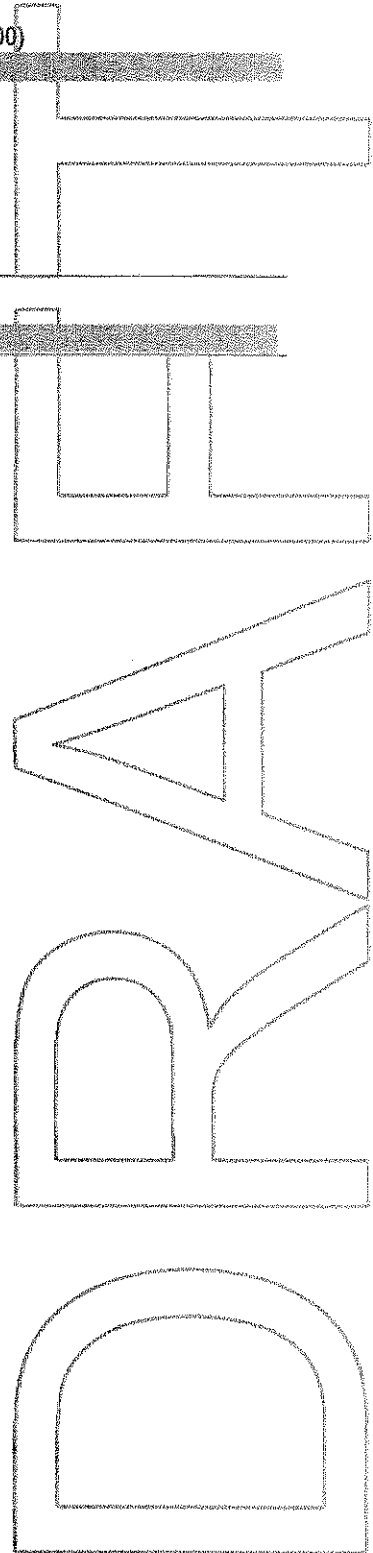
<><>

(Printed name and title)

CONTRACTOR (Signature)

<><>

(Printed name and title)



# DRAFT AIA Document A201™ - 2007

## General Conditions of the Contract for Construction

for the following PROJECT:

(Name and location or address)

«County of Union»

« »

THE OWNER:

(Name, legal status and address)

« »

« »

THE ENGINEER, OR HIS DESIGNEE :

(Name, legal status and address)

« »

« »

### TABLE OF ARTICLES

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

#### ADDITIONS AND DELETIONS:

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

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

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INDEX

(Topics and numbers in bold are section headings.)

Acceptance of Nonconforming Work

9.6.6, 9.9.3, 12.3

Acceptance of Work

9.6.6, 9.8.2, 9.9.3, 9.10.1, 9.10.3, 12.3

Access to Work

3.16, 6.2.1, 12.1

Accident Prevention

10

Acts and Omissions

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

Addenda

1.1.1, 3.11.1

Additional Costs, Claims for

3.7.4, 3.7.5, 6.1.1, 7.3.7.5, 10.3, 15.1.4

Additional Inspections and Testing

9.4.2, 9.8.3, 12.2.1, 13.5

Additional Insured

11.1.4

Additional Time, Claims for

3.2.4, 3.7.4, 3.7.5, 3.10.2, 8.3.2, 15.1.5

Administration of the Contract

3.1.3, 4.2, 9.4, 9.5

Advertisement or Invitation to Bid

1.1.1

Aesthetic Effect

4.2.13

Allowances

3.8, 7.3.8

All-risk Insurance

11.3.1, 11.3.1.1

Applications for Payment

4.2.5, 7.3.9, 9.2, 9.3, 9.4, 9.5.1, 9.6.3, 9.7, 9.10, 11.1.3

Approvals

2.1.1, 2.2.2, 2.4, 3.1.3, 3.10.2, 3.12.8, 3.12.9, 3.12.10, 4.2.7, 9.3.2, 13.5.1

Arbitration

8.3.1, 11.3.10, 13.1.1, 15.3.2, 15.4

ENGINEER, OR HIS DESIGNEE

4

Engineer, or his designee, Definition of

4.1.1

Engineer, or his designee, Extent of Authority

2.4.1, 3.12.7, 4.1, 4.2, 5.2, 6.3, 7.1.2, 7.3.7, 7.4, 9.2, 9.3.1, 9.4, 9.5, 9.6.3, 9.8, 9.10.1, 9.10.3, 12.1, 12.2.1, 13.5.1, 13.5.2, 14.2.2, 14.2.4, 15.1.3, 15.2.1

Engineer, or his designee, Limitations of Authority and Responsibility

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

Engineer, or his designee's Additional Services and Expenses

2.4.1, 11.3.1.1, 12.2.1, 13.5.2, 13.5.3, 14.2.4

Engineer, or his designee's Administration of the Contract

3.1.3, 4.2, 3.7.4, 15.2, 9.4.1, 9.5

Engineer, or his designee's Approvals

2.4.1, 3.1.3, 3.5, 3.10.2, 4.2.7

Engineer, or his designee's Authority to Reject Work

3.5, 4.2.6, 12.1.2, 12.2.1

Engineer, or his designee's Copyright

1.1.7, 1.5

Engineer, or his designee's Decisions

3.7.4, 4.2.6, 4.2.7, 4.2.11, 4.2.12, 4.2.13, 4.2.14, 6.3, 7.3.7, 7.3.9, 8.1.3, 8.3.1, 9.2, 9.4.1, 9.5, 9.8.7, 9.9.1, 13.5.2, 15.2, 15.3

Engineer, or his designee's Inspections

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

Engineer, or his designee's Instructions

3.2.4, 3.3.1, 4.2.6, 4.2.7, 13.5.2

Engineer, or his designee's Interpretations

4.2.11, 4.2.12

Engineer, or his designee's Project Representative

4.2.10

Engineer, or his designee's Relationship with Contractor

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

Engineer, or his designee's Relationship with Subcontractors

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

Engineer, or his designee's Representations

9.4.2, 9.5.1, 9.10.1

Engineer, or his designee's Site Visits

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

Asbestos

10.3.1

Attorneys' Fees

3.18.1, 9.10.2, 10.3.3

Award of Separate Contracts

6.1.1, 6.1.2

Award of Subcontracts and Other Contracts for Portions of the Work

5.2

Basic Definitions

1.1

Bidding Requirements

1.1.1, 5.2.1, 11.4.1

Binding Dispute Resolution

9.7, 11.3.9, 11.3.10, 13.1.1, 15.2.5, 15.2.6.1, 15.3.1, 15.3.2, 15.4.1



**Boiler and Machinery Insurance**  
 11.3.2  
**Bonds, Lien**  
 7.3.7.4, 9.10.2, 9.10.3  
**Bonds, Performance, and Payment**  
 7.3.7.4, 9.6.7, 9.10.3, 11.3.9, 11.4  
**Building Permit**  
 3.7.1  
**Capitalization**  
 1.3  
**Certificate of Substantial Completion**  
 9.8.3, 9.8.4, 9.8.5  
**Certificates for Payment**  
 4.2.1, 4.2.5, 4.2.9, 9.3.3, 9.4, 9.5, 9.6.1, 9.6.6, 9.7,  
 9.10.1, 9.10.3, 14.1.1.3, 14.2.4, 15.1.3  
**Certificates of Inspection, Testing or Approval**  
 13.5.4  
**Certificates of Insurance**  
 9.10.2, 11.1.3  
**Change Orders**  
 1.1.1, 2.4.1, 3.4.2, 3.7.4, 3.8.2.3, 3.11.1, 3.12.8, 4.2.8,  
 5.2.3, 7.1.2, 7.1.3, 7.2, 7.3.2, 7.3.6, 7.3.9, 7.3.10,  
 8.3.1, 9.3.1.1, 9.10.3, 10.3.2, 11.3.1.2, 11.3.4, 11.3.9,  
 12.1.2, 15.1.3  
**Change Orders, Definition of**  
 7.2.1  
**CHANGES IN THE WORK**  
 2.2.1, 3.11, 4.2.8, 7, 7.2.1, 7.3.1, 7.4, 8.3.1, 9.3.1.1,  
 11.3.9  
**Claims, Definition of**  
 15.1.1  
**CLAIMS AND DISPUTES**  
 3.2.4, 6.1.1, 6.3, 7.3.9, 9.3.3, 9.10.4, 10.3.3, 15, 15.4  
**Claims and Timely Assertion of Claims**  
 15.4.1  
**Claims for Additional Cost**  
 3.2.4, 3.7.4, 6.1.1, 7.3.9, 10.3.2, 15.1.4  
**Claims for Additional Time**  
 3.2.4, 3.7.4.6.1.1, 8.3.2, 10.3.2, 15.1.5  
**Concealed or Unknown Conditions, Claims for**  
 3.7.4  
**Claims for Damages**  
 3.2.4, 3.18, 6.1.1, 8.3.3, 9.5.1, 9.6.7, 10.3.3, 11.1.1,  
 11.3.5, 11.3.7, 14.1.3, 14.2.4, 15.1.6  
**Claims Subject to Arbitration**  
 15.3.1, 15.4.1  
**Cleaning Up**  
 3.15, 6.3  
**Commencement of the Work, Conditions Relating to**  
 2.2.1, 3.2.2, 3.4.1, 3.7.1, 3.10.1, 3.12.6, 5.2.1, 5.2.3,  
 6.2.2, 8.1.2, 8.2.2, 8.3.1, 11.1, 11.3.1, 11.3.6, 11.4.1,  
 15.1.4  
**Commencement of the Work, Definition of**  
 8.1.2  
**Communications Facilitating Contract Administration**  
 3.9.1, 4.2.4

**Completion, Conditions Relating to**  
 3.4.1, 3.11, 3.15, 4.2.2, 4.2.9, 8.2, 9.4.2, 9.8, 9.9.1,  
 9.10, 12.2, 13.7, 14.1.2

**COMPLETION, PAYMENTS AND**  
 9

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

**Compliance with Laws**  
 1.6.1, 3.2.3, 3.6, 3.7, 3.12.10, 3.13, 4.1.1, 9.6.4,  
 10.2.2, 11.1, 11.3, 13.1, 13.4, 13.5.1, 13.5.2, 13.6,  
 14.1.1, 14.2.1.3, 15.2.8, 15.4.2, 15.4.3

**Concealed or Unknown Conditions**  
 3.7.4, 4.2.8, 8.3.1, 10.3

**Conditions of the Contract**

1.1.1, 6.1.1, 6.1.4

**Consent, Written**

3.4.2, 3.7.4, 3.12.8, 3.14.2, 4.1.2, 9.3.2, 9.8.5, 9.9.1,  
 9.10.2, 9.10.3, 11.3.1, 13.2, 13.4.2, 15.4.4.2

**Consolidation or Joinder**

15.4.4

**CONSTRUCTION BY OWNER OR BY SEPARATE CONTRACTORS**

1.1.4, 6

**Construction Change Directive, Definition of**  
 7.3.1

**Construction Change Directives**

1.1.1, 3.4.2, 3.12.8, 4.2.8, 7.1.1, 7.1.2, 7.1.3, 7.3,  
 9.3.1.1

**Construction Schedules, Contractor's**

3.10, 3.12.1, 3.12.2, 6.1.3, 15.1.5.2

**Contingent Assignment of Subcontracts**

5.4, 14.2.2.2

**Continuing Contract Performance**

15.1.3

**Contract, Definition of**

1.1.2

**CONTRACT, TERMINATION OR SUSPENSION OF THE**

5.4.1.1, 11.3.9, 14

**Contract Administration**

3.1.3, 4, 9.4, 9.5

**Contract Award and Execution, Conditions Relating to**

3.7.1, 3.10, 5.2, 6.1, 11.1.3, 11.3.6, 11.4.1

**Contract Documents, Copies Furnished and Use of**  
 1.5.2, 2.2.5, 5.3

**Contract Documents, Definition of**

1.1.1

**Contract Sum**

3.7.4, 3.8, 5.2.3, 7.2, 7.3, 7.4, 9.1, 9.4.2, 9.5.1.4,  
 9.6.7, 9.7, 10.3.2, 11.3.1, 14.2.4, 14.3.2, 15.1.4,  
 15.2.5

**Contract Sum, Definition of**

9.1

Contract Time  
3.7.4, 3.7.5, 3.10.2, 5.2.3, 7.2.1.3, 7.3.1, 7.3.5, 7.4,  
8.1.1, 8.2.1, 8.3.1, 9.5.1, 9.7, 10.3.2, 12.1.1, 14.3.2,  
15.1.5.1, 15.2.5

Contract Time, Definition of  
8.1.1

**CONTRACTOR**  
3

Contractor, Definition of  
3.1, 6.1.2

Contractor's Construction Schedules  
3.10, 3.12.1, 3.12.2, 6.1.3, 15.1.5.2

Contractor's Employees  
3.3.2, 3.4.3, 3.8.1, 3.9, 3.18.2, 4.2.3, 4.2.6, 10.2, 10.3,  
11.1.1, 11.3.7, 14.1, 14.2.1.1

Contractor's Liability Insurance  
11.1

Contractor's Relationship with Separate Contractors  
and Owner's Forces  
3.12.5, 3.14.2, 4.2.4, 6, 11.3.7, 12.1.2, 12.2.4

Contractor's Relationship with Subcontractors  
1.2.2, 3.3.2, 3.18.1, 3.18.2, 5, 9.6.2, 9.6.7, 9.10.2,  
11.3.1.2, 11.3.7, 11.3.8

Contractor's Relationship with the Engineer, or his  
designee  
1.1.2, 1.5, 3.1.3, 3.2.2, 3.2.3, 3.2.4, 3.3.1, 3.4.2, 3.5,  
3.7.4, 3.10, 3.11, 3.12, 3.16, 3.18, 4.1.3, 4.2, 5.2,  
6.2.2, 7, 8.3.1, 9.2, 9.3, 9.4, 9.5, 9.7, 9.8, 9.9, 10.2.6,  
10.3, 11.3.7, 12, 13.5, 15.1.2, 15.2.1

Contractor's Representations  
3.2.1, 3.2.2, 3.5, 3.12.6, 6.2.2, 8.2.1, 9.3.3, 9.8.2

Contractor's Responsibility for Those Performing the  
Work  
3.3.2, 3.18, 5.3.1, 6.1.3, 6.2, 9.5.1, 10.2.8

Contractor's Review of Contract Documents  
3.2

Contractor's Right to Stop the Work  
9.7

Contractor's Right to Terminate the Contract  
14.1, 15.1.6

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

Contractor's Superintendent  
3.9, 10.2.6

Contractor's Supervision and Construction  
Procedures  
1.2.2, 3.3, 3.4, 3.12.10, 4.2.2, 4.2.7, 6.1.3, 6.2.4,  
7.1.3, 7.3.5, 7.3.7, 8.2, 10, 12, 14, 15.1.3

Contractual Liability Insurance  
11.1.1.8, 11.2

Coordination and Correlation  
1.2, 3.2.1, 3.3.1, 3.10, 3.12.6, 6.1.3, 6.2.1

Copies Furnished of Drawings and Specifications  
1.5, 2.2.5, 3.11

Copyrights  
1.5, 3.17

Correction of Work  
2.3, 2.4, 3.7.3, 9.4.2, 9.8.2, 9.8.3, 9.9.1, 12.1.2, 12.2

Correlation and Intent of the Contract Documents  
1.2

Cost, Definition of  
7.3.7

Costs  
2.4.1, 3.2.4, 3.7.3, 3.8.2, 3.15.2, 5.4.2, 6.1.1, 6.2.3,  
7.3.3.3, 7.3.7, 7.3.8, 7.3.9, 9.10.2, 10.3.2, 10.3.6,  
11.3, 12.1.2, 12.2.1, 12.2.4, 13.5, 14

Cutting and Patching  
3.14, 6.2.5

Damage to Construction of Owner or Separate  
Contractors  
3.14.2, 6.2.4, 10.2.1.2, 10.2.5, 10.4, 11.1.1, 11.3,  
12.2.4

Damage to the Work  
3.14.2, 9.9.1, 10.2.1.2, 10.2.5, 10.4.1, 11.3.1, 12.2.4

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

Damages for Delay  
6.1.1, 8.3.3, 9.5.1.6, 9.7, 10.3.2

Date of Commencement of the Work, Definition of  
8.1.2

Date of Substantial Completion, Definition of  
8.1.3

Day, Definition of  
8.1.4

Decisions of the Engineer, or his designee  
3.7.4, 4.2.6, 4.2.7, 4.2.11, 4.2.12, 4.2.13, 15.2, 6.3,  
7.3.7, 7.3.9, 8.1.3, 8.3.1, 9.2, 9.4, 9.5.1, 9.8.4, 9.9.1,  
13.5.2, 14.2.2, 14.2.4, 15.1, 15.2

Decisions to Withhold Certification  
9.4.1, 9.5, 9.7, 14.1.1.3

Defective or Nonconforming Work, Acceptance,  
Rejection and Correction of  
2.3.1, 2.4.1, 3.5, 4.2.6, 6.2.5, 9.5.1, 9.5.2, 9.6.6, 9.8.2,  
9.9.3, 9.10.4, 12.2.1

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

Delays and Extensions of Time  
3.2, 3.7.4, 5.2.3, 7.2.1, 7.3.1, 7.4, 8.3, 9.5.1, 9.7,  
10.3.2, 10.4.1, 14.3.2, 15.1.5, 15.2.5

Disputes  
6.3, 7.3.9, 15.1, 15.2

Documents and Samples at the Site  
3.11

Drawings, Definition of  
1.1.5

Drawings and Specifications, Use and Ownership of  
3.11

Effective Date of Insurance  
8.2.2, 11.1.2

Emergencies  
10.4, 14.1.1.2, 15.1.4

Employees, Contractor's  
3.3.2, 3.4.3, 3.8.1, 3.9, 3.18.2, 4.2.3, 4.2.6, 10.2,  
10.3.3, 11.1.1, 11.3.7, 14.1, 14.2.1.1

Equipment, Labor, Materials or  
1.1.3, 1.1.6, 3.4, 3.5, 3.8.2, 3.8.3, 3.12, 3.13.1, 3.15.1,  
4.2.6, 4.2.7, 5.2.1, 6.2.1, 7.3.7, 9.3.2, 9.3.3, 9.5.1.3,  
9.10.2, 10.2.1, 10.2.4, 14.2.1.1, 14.2.1.2

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

Extensions of Time  
3.2.4, 3.7.4, 5.2.3, 7.2.1, 7.3, 7.4, 9.5.1, 9.7, 10.3.2,  
10.4.1, 14.3, 15.1.5, 15.2.5

Failure of Payment  
9.5.1.3, 9.7, 9.10.2, 13.6, 14.1.1.3, 14.2.1.2

Faulty Work  
(See Defective or Nonconforming Work)

Final Completion and Final Payment  
4.2.1, 4.2.9, 9.8.2, 9.10, 11.1.2, 11.1.3, 11.3.1, 11.3.5,  
12.3.1, 14.2.4, 14.4.3

Financial Arrangements, Owner's  
2.2.1, 13.2.2, 14.1.1.4

Fire and Extended Coverage Insurance  
11.3.1.1

**GENERAL PROVISIONS**

**1**

**Governing Law**

**13.1**

Guarantees (See Warranty)

**Hazardous Materials**  
10.2.4, 10.3

Identification of Subcontractors and Suppliers  
5.2.1

**Indemnification**  
3.1.7, 3.18, 9.10.2, 10.3.3, 10.3.5, 10.3.6, 11.3.1.2,  
11.3.7

**Information and Services Required of the Owner**  
2.1.2, 2.2, 3.2.2, 3.12.4, 3.12.10, 6.1.3, 6.1.4, 6.2.5,  
9.6.1, 9.6.4, 9.9.2, 9.10.3, 10.3.3, 11.2, 11.4, 13.5.1,  
13.5.2, 14.1.1.4, 14.1.4, 15.1.3

**Initial Decision**  
15.2

**Initial Decision Maker, Definition of**  
1.1.8

**Initial Decision Maker, Decisions**  
14.2.2, 14.2.4, 15.2.1, 15.2.2, 15.2.3, 15.2.4, 15.2.5

**Initial Decision Maker, Extent of Authority**  
14.2.2, 14.2.4, 15.1.3, 15.2.1, 15.2.2, 15.2.3, 15.2.4,  
15.2.5

**Injury or Damage to Person or Property**  
10.2.8, 10.4.1

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

**Instructions to Bidders**  
1.1.1

**Instructions to the Contractor**  
3.2.4, 3.3.1, 3.8.1, 5.2.1, 7, 8.2.2, 12, 13.5.2

**Instruments of Service, Definition of**  
1.1.7

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

**Insurance, Boiler and Machinery**  
11.3.2

**Insurance, Contractor's Liability**  
11.1

**Insurance, Effective Date of**  
8.2.2, 11.1.2

**Insurance, Loss of Use**  
11.3.3

**Insurance, Owner's Liability**  
11.2

**Insurance, Property**  
10.2.5, 11.3

**Insurance, Stored Materials**  
9.3.2

**INSURANCE AND BONDS**  
11

**Insurance Companies, Consent to Partial Occupancy**  
9.9.1

**Intent of the Contract Documents**  
1.2.1, 4.2.7, 4.2.12, 4.2.13, 7.4

**Interest**  
13.6

**Interpretation**  
1.2.3, 1.4, 4.1.1, 5.1, 6.1.2, 15.1.4

**Interpretations, Written**  
4.2.11, 4.2.12, 15.1.4

**Judgment on Final Award**  
15.4.2

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

**Labor Disputes**  
8.3.1

**Laws and Regulations**  
1.5, 3.2.3, 3.6, 3.7, 3.12.10, 5.13.1, 4.1.1, 9.6.4, 9.9.1,  
10.2.2, 11.1.1, 11.3, 13.1.1, 13.4, 13.5.1, 13.5.2,  
13.6.1, 14, 15.2.8, 15.4

**Liens**  
2.1.2, 9.3.3, 9.10.2, 9.10.4, 15.2.8

**Limitations, Statutes of**  
12.2.5, 13.7, 15.4.1.1

**Limitations of Liability**  
2.3.1, 3.2.2, 3.5, 3.12.10, 3.17, 3.18.1, 4.2.6, 4.2.7,  
4.2.12, 6.2.2, 9.4.2, 9.6.4, 9.6.7, 10.2.5, 10.3.3,  
11.1.2, 11.2, 11.3.7, 12.2.5, 13.4.2

**Limitations of Time**  
2.1.2, 2.2, 2.4, 3.2.2, 3.10, 3.11, 3.12.5, 3.15.1, 4.2.7,  
5.2, 5.3.1, 5.4.1, 6.2.4, 7.3, 7.4, 8.2, 9.2, 9.3.1, 9.3.3,  
9.4.1, 9.5, 9.6, 9.7, 9.8, 9.9, 9.10, 11.1.3, 11.3.1.5,  
11.3.6, 11.3.10, 12.2, 13.5, 13.7, 14, 15

**Loss of Use Insurance**  
 11.3.3  
**Material Suppliers**  
 1.5, 3.12.1, 4.2.4, 4.2.6, 5.2.1, 9.3, 9.4.2, 9.6, 9.10.5  
**Materials, Hazardous**  
 10.2.4, 10.3  
**Materials, Labor, Equipment and**  
 1.1.3, 1.1.6, 1.5.1, 3.4.1, 3.5, 3.8.2, 3.8.3, 3.12,  
 3.13.1, 3.15.1, 4.2.6, 4.2.7, 5.2.1, 6.2.1, 7.3.7, 9.3.2,  
 9.3.3, 9.5.1.3, 9.10.2, 10.2.1.2, 10.2.4, 14.2.1.1,  
 14.2.1.2  
**Means, Methods, Techniques, Sequences and**  
**Procedures of Construction**  
 3.3.1, 3.12.10, 4.2.2, 4.2.7, 9.4.2  
**Mechanic's Lien**  
 2.1.2, 15.2.8  
**Mediation**  
 8.3.1, 10.3.5, 10.3.6, 15.2.1, 15.2.5, 15.2.6, 15.3,  
 15.4.1  
**Minor Changes in the Work**  
 1.1.1, 3.12.8, 4.2.8, 7.1, 7.4  
**MISCELLANEOUS PROVISIONS**  
 13  
**Modifications, Definition of**  
 1.1.1  
**Modifications to the Contract**  
 1.1.1, 1.1.2, 3.11, 4.1.2, 4.2.1, 5.2.3, 7, 8.3.1, 9.7,  
 10.3.2, 11.3.1  
**Mutual Responsibility**  
 6.2  
**Nonconforming Work, Acceptance of**  
 9.6.6, 9.9.3, 12.3  
**Nonconforming Work, Rejection and Correction of**  
 2.3.1, 2.4.1, 3.5, 4.2.6, 6.2.4, 9.5.1, 9.8.2, 9.9.3,  
 9.10.4, 12.2.1  
**Notice**  
 2.2.1, 2.3.1, 2.4.1, 3.2.4, 3.3.1, 3.7.2, 3.12.9, 5.2.1,  
 9.7, 9.10, 10.2.2, 11.1.3, 12.2.2.1, 13.3, 13.5.1,  
 13.5.2, 14.1, 14.2, 15.2.8, 15.4.1  
**Notice, Written**  
 2.3.1, 2.4.1, 3.3.1, 3.9.2, 3.12.9, 3.12.10, 5.2.1, 9.7,  
 9.10, 10.2.2, 10.3, 11.1.3, 11.3.6, 12.2.2.1, 13.3, 14,  
 15.2.8, 15.4.1  
**Notice of Claims**  
 3.7.4, 10.2.8, 15.1.2, 15.4  
**Notice of Testing and Inspections**  
 13.5.1, 13.5.2  
**Observations, Contractor's**  
 3.2, 3.7.4  
**Occupancy**  
 2.2.2, 9.6.6, 9.8, 11.3.1.5  
**Orders, Written**  
 1.1.1, 2.3, 3.9.2, 7, 8.2.2, 11.3.9, 12.1, 12.2.2.1,  
 13.5.2, 14.3.1  
**OWNER**  
 2

**Owner, Definition of**  
 2.1.1  
**Owner, Information and Services Required of the**  
 2.1.2, 2.2, 3.2.2, 3.12.10, 6.1.3, 6.1.4, 6.2.5, 9.3.2,  
 9.6.1, 9.6.4, 9.9.2, 9.10.3, 10.3.3, 11.2, 11.3, 13.5.1,  
 13.5.2, 14.1.1.4, 14.1.4, 15.1.3  
**Owner's Authority**  
 1.5, 2.1.1, 2.3.1, 2.4.1, 3.4.2, 3.8.1, 3.12.10, 3.14.2,  
 4.1.2, 4.1.3, 4.2.4, 4.2.9, 5.2.1, 5.2.4, 5.4.1, 6.1, 6.3,  
 7.2.1, 7.3.1, 8.2.2, 8.3.1, 9.3.1, 9.3.2, 9.3.1, 9.6.4,  
 9.9.1, 9.10.2, 10.3.2, 11.1.3, 11.3.3, 11.3.10, 12.2.2,  
 12.3.1, 13.2.2, 14.3, 14.4, 15.2.7  
**Owner's Financial Capability**  
 2.2.1, 13.2.2, 14.1.1.4  
**Owner's Liability Insurance**  
 11.2  
**Owner's Relationship with Subcontractors**  
 1.1.2, 5.2, 5.3, 5.4, 9.6.4, 9.10.2, 14.2.2  
**Owner's Right to Carry Out the Work**  
 2.4, 14.2.2  
**Owner's Right to Clean Up**  
 6.3  
**Owner's Right to Perform Construction and to**  
**Award Separate Contracts**  
 6.1  
**Owner's Right to Stop the Work**  
 2.3  
**Owner's Right to Suspend the Work**  
 14.3  
**Owner's Right to Terminate the Contract**  
 14.2  
**Ownership and Use of Drawings, Specifications**  
**and Other Instruments of Service**  
 1.1.1, 1.1.6, 1.1.7, 1.5, 2.2.5, 3.2.2, 3.11.1, 3.17,  
 4.2.12, 5.3.1  
**Partial Occupancy or Use**  
 9.6.6, 9.9, 11.3.1.5  
**Patching, Cutting and**  
 3.14, 6.2.5  
**Patents**  
 3.17  
**Payment, Applications for**  
 4.2.5, 7.3.9, 9.2, 9.3, 9.4, 9.5, 9.6.3, 9.7, 9.8.5, 9.10.1,  
 14.2.3, 14.2.4, 14.4.3  
**Payment, Certificates for**  
 4.2.5, 4.2.9, 9.3.3, 9.4, 9.5, 9.6.1, 9.6.6, 9.7, 9.10.1,  
 9.10.3, 13.7, 14.1.1.3, 14.2.4  
**Payment, Failure of**  
 9.5.1.3, 9.7, 9.10.2, 13.6, 14.1.1.3, 14.2.1.2  
**Payment, Final**  
 4.2.1, 4.2.9, 9.8.2, 9.10, 11.1.2, 11.1.3, 11.4.1, 12.3.1,  
 13.7, 14.2.4, 14.4.3  
**Payment Bond, Performance Bond and**  
 7.3.7.4, 9.6.7, 9.10.3, 11.4  
**Payments, Progress**  
 9.3, 9.6, 9.8.5, 9.10.3, 13.6, 14.2.3, 15.1.3

## PAYMENTS AND COMPLETION

9

Payments to Subcontractors

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

PCB

10.3.1

Performance Bond and Payment Bond

7.3.7.4, 9.6.7, 9.10.3, 11.4

Permits, Fees, Notices and Compliance with Laws

2.2.2, 3.7, 3.13, 7.3.7.4, 10.2.2

## PERSONS AND PROPERTY, PROTECTION OF

10

Polychlorinated Biphenyl

10.3.1

Product Data, Definition of

3.12.2

Product Data and Samples, Shop Drawings

3.11, 3.12, 4.2.7

Progress and Completion

4.2.2, 8.2, 9.8, 9.9.1, 14.1.4, 15.1.3

Progress Payments

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

Project, Definition of

1.1.4

Project Representatives

4.2.10

Property Insurance

10.2.5, 11.3

## PROTECTION OF PERSONS AND PROPERTY

10

Regulations and Laws

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

Rejection of Work

3.5, 4.2.6, 12.2.1

Releases and Waivers of Liens

9.10.2

Representations

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

Representatives

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

Responsibility for Those Performing the Work

3.3.2, 3.18, 4.2.3, 5.3.1, 6.1.3, 6.2, 6.3, 9.5.1, 10

Retainage

9.3.1, 9.6.2, 9.8.5, 9.9.1, 9.10.2, 9.10.3

Review of Contract Documents and Field

Conditions by Contractor

3.2, 3.12.7, 6.1.3

Review of Contractor's Submittals by Owner and

Engineer, or his designee

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

Review of Shop Drawings, Product Data and

Samples by Contractor

3.12

Rights and Remedies

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

Royalties, Patents and Copyrights

3.17

Rules and Notices for Arbitration

15.4.1

Safety of Persons and Property

10.2, 10.4

Safety Precautions and Programs

3.3.1, 4.2.2, 4.2.7, 5.3.1, 10.1, 10.2, 10.4

Samples, Definition of

3.12.3

Samples, Shop Drawings, Product Data and

3.11, 3.12, 4.2.7

Samples at the Site, Documents and

3.11

Schedule of Values

9.2, 9.3.1

Schedules, Construction

3.10, 3.12.1, 3.12.2, 6.1.3, 15.1.5.2

Separate Contracts and Contractors

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

Shop Drawings, Definition of

3.12.1

Shop Drawings, Product Data and Samples

3.11, 3.12, 4.2.7

Site, Use of

3.13, 6.1.1, 6.2.1

Site Inspections

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

Site Visits, Engineer, or his designee's

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

Special Inspections and Testing

4.2.6, 12.2.1, 13.5

Specifications, Definition of

1.1.6

Specifications

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

Statute of Limitations

13.7, 15.4.1.1

Stopping the Work

2.3, 9.7, 10.3, 14.1

Stored Materials

6.2.1, 9.3.2, 10.2.1.2, 10.2.4

Subcontractor, Definition of

5.1.1

## SUBCONTRACTORS

5

Subcontractors, Work by

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

9.6.7

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

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

**Submittal Schedule**  
3.10.2, 3.12.5, 4.2.7

**Subrogation, Waivers of**  
6.1.1, 11.3.7

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

**Substantial Completion, Definition of**  
9.8.1

**Substitution of Subcontractors**  
5.2.3, 5.2.4

**Substitution of Engineer, or his designee**  
4.1.3

**Substitutions of Materials**  
3.4.2, 3.5, 7.3.8

**Sub-subcontractor, Definition of**  
5.1.2

**Subsurface Conditions**  
3.7.4

**Successors and Assigns**  
13.2

**Superintendent**  
3.9, 10.2.6

**Supervision and Construction Procedures**  
1.2.2, 3.3, 3.4, 3.12.10, 4.2.2, 4.2.7, 6.1.3, 6.2.4,  
7.1.3, 7.3.7, 8.2, 8.3.1, 9.4.2, 10, 12, 14, 15.1.3

**Surety**  
5.4.1.2, 9.8.5, 9.10.2, 9.10.3, 14.2.2, 15.2.7

**Surety, Consent of**  
9.10.2, 9.10.3

**Surveys**  
2.2.3

**Suspension by the Owner for Convenience**  
14.3

**Suspension of the Work**  
5.4.2, 14.3

**Suspension or Termination of the Contract**  
5.4.1.1, 14

**Taxes**  
3.6, 3.8.2.1, 7.3.7.4

**Termination by the Contractor**  
14.1, 15.1.6

**Termination by the Owner for Cause**  
5.4.1.1, 14.2, 15.1.6

**Termination by the Owner for Convenience**  
14.4

**Termination of the Engineer, or his designee**  
4.1.3

**Termination of the Contractor**  
14.2.2

**TERMINATION OR SUSPENSION OF THE CONTRACT**

14

**Tests and Inspections**  
3.1.3, 3.3.3, 4.2.2, 4.2.6, 4.2.9, 9.4.2, 9.8.3, 9.9.2,  
9.10.1, 10.3.2, 11.4.1.1, 12.2.1, 13.5

**TIME**  
8

**Time, Delays and Extensions of**  
3.2.4, 3.7.4, 5.2.3, 7.2.1, 7.3.1, 7.4, 8.3, 9.5.1, 9.7,  
10.3.2, 10.4.1, 14.3.2, 15.1.5, 15.2.5

**Time Limits**  
2.1.2, 2.2, 2.4, 3.2.2, 3.10, 3.11, 3.12.5, 3.15.1, 4.2,  
5.2, 5.3, 5.4, 6.2.4, 7.3, 7.4, 8.2, 9.2, 9.3.1, 9.3.3,  
9.4.1, 9.5, 9.6, 9.7, 9.8, 9.9, 9.10, 11.1.3, 12.2, 13.5,  
13.7, 14, 15.1.2, 15.4

**Time Limits on Claims**  
3.7.4, 10.2.8, 13.7, 15.1.2

**Title to Work**  
9.3.2, 9.3.3

**Transmission of Data in Digital Form**  
1.6

**UNCOVERING AND CORRECTION OF WORK**  
12

**Uncovering of Work**  
12.1

**Unforeseen Conditions, Concealed or Unknown**  
3.7.4, 8.3.1, 10.3

**Unit Prices**  
7.3.3.2, 7.3.4

**Use of Documents**  
1.1.1, 1.5, 2.2.5, 3.12.6, 5.3

**Use of Site**  
3.13, 6.1.1, 6.2.1

**Values, Schedule of**  
9.2, 9.3.1

**Waiver of Claims by the Engineer, or his designee**  
13.4.2

**Waiver of Claims by the Contractor**  
9.10.5, 13.4.2, 15.1.6

**Waiver of Claims by the Owner**  
9.9.3, 9.10.3, 9.10.4, 12.2.2.1, 13.4.2, 14.2.4, 15.1.6

**Waiver of Consequential Damages**  
14.2.4, 15.1.6

**Waiver of Liens**  
9.10.2, 9.10.4

**Waivers of Subrogation**  
6.1.1, 11.3.7

**Warranty**  
3.5, 4.2.9, 9.3.3, 9.8.4, 9.9.1, 9.10.4, 12.2.2, 13.7

**Weather Delays**  
15.1.5.2

**Work, Definition of**  
1.1.3

Use of Site

Written Consent

1.5.2, 3.4.2, 3.7.4, 3.12.8, 3.14.2, 4.1.2, 9.3.2, 9.8.5, 9.9.1, 9.10.2, 9.10.3, 11.4.1, 13.2, 13.4.2, 15.4.4.2

Written Interpretations

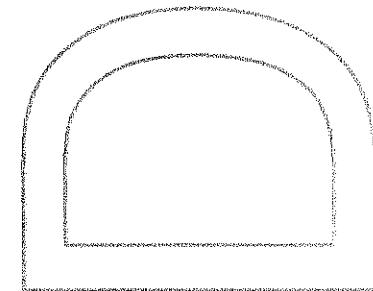
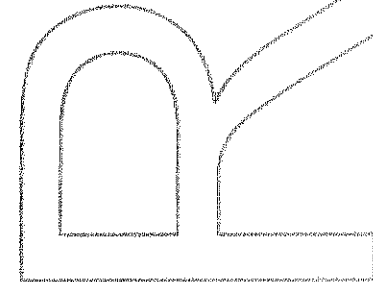
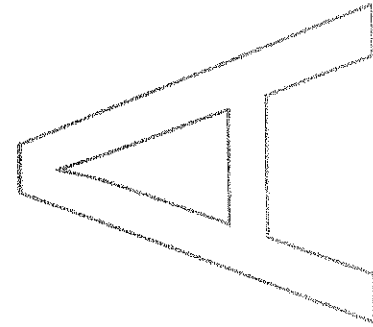
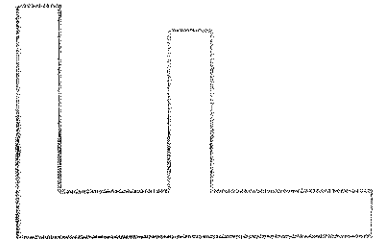
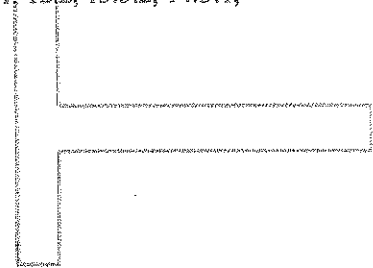
4.2.11, 4.2.12

Written Notice

2.3, 2.4, 3.3.1, 3.9, 3.12.9, 3.12.10, 5.2.1, 8.2.2, 9.7, 9.10, 10.2.2, 10.3, 11.1.3, 12.2.2, 12.2.4, 13.3, 14, 15.4.1

Written Orders

1.1.1, 2.3, 3.9, 7, 8.2.2, 12.1, 12.2, 13.5.2, 14.3.1, 15.1.2



## ARTICLE 1 GENERAL PROVISIONS

### § 1.1 BASIC DEFINITIONS

#### § 1.1.1 THE CONTRACT DOCUMENTS

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

#### § 1.1.2 THE CONTRACT

The Contract Documents form the Contract for Construction. The Contract represents the entire and integrated agreement between the parties hereto and supersedes prior negotiations, representations or agreements, either written or oral. The Contract may be amended or modified only by a Modification. The Contract Documents shall not be construed to create a contractual relationship of any kind (1) between the Contractor and the Engineer, or his designee or the Engineer, or his designee's consultants, (2) between the Owner and a Subcontractor or a Sub-subcontractor, (3) between the Owner and the Engineer, or his designee or the Engineer, or his designee's consultants or (4) between any persons or entities other than the Owner and the Contractor. The Engineer, or his designee's shall, however, be entitled to performance and enforcement of obligations under the Contract intended to facilitate performance of the Engineer, or his designee'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 Engineer, or his designee and the Engineer, or his designee's consultants under their respective professional services agreements. Instruments of Service may include, without limitation, studies, surveys, models, sketches, drawings, specifications, and other similar materials.

#### § 1.1.8 INITIAL DECISION MAKER

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

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

§ 1.2.1 The intent of the Contract Documents is to include all items necessary for the proper execution and completion of the Work by the Contractor. The Contract Documents are complementary, and what is required by one shall be as binding as if required by all; performance by the Contractor shall be required only to the extent



consistent with the Contract Documents and reasonably inferable from them as being necessary to produce the indicated results.

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

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

### § 1.3 CAPITALIZATION

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

### § 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 Engineer, or his designee and the Engineer, or his designee 's consultants shall be deemed the authors and Owners of their respective Instruments of Service, including the Drawings and Specifications. The Contractor, Subcontractors, Sub-subcontractors, and material or equipment suppliers shall not own or claim a copyright in the Instruments of Service. Submittal or distribution to meet official regulatory requirements or for other purposes in connection with this Project is not to be construed as publication in derogation of the Engineer, or his designee or Engineer, or his designee 's consultants' reserved rights.

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

### § 1.6 TRANSMISSION OF DATA IN DIGITAL FORM

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

## ARTICLE 2 OWNER

### § 2.1 GENERAL

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

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

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

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

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

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

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

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

If the Contractor fails to correct Work that is not in accordance with the requirements of the Contract Documents as required by Article 12 or 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. Owner shall in no way be responsible for any delays or claims arising from delays for enforcement of this Section.

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

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

## ARTICLE 3 CONTRACTOR

### § 3.1 GENERAL

§ 3.1.1 The Contractor is the person or entity identified as such in the Agreement and is referred to throughout the Contract Documents as if singular in number. The Contractor shall be lawfully licensed, if required in the jurisdiction where the Project is located and shall maintain as current any approvals or certifications that may be required to perform the Work. The term "Contractor" means the Contractor or the Contractor's authorized representative.

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

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

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

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

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

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

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

### § 3.3 SUPERVISION AND CONSTRUCTION PROCEDURES

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

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

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

### § 3.4 LABOR AND MATERIALS

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

§ 3.4.2 Except in the case of minor changes in the Work authorized by the Engineer, or his designee in accordance with Sections 3.12.8 or 7.4, the Contractor may make substitutions only with the consent of the Owner, after

evaluation by the Engineer, or his designee and in accordance with a Change Order or Construction Change Directive.

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

### § 3.5 WARRANTY

The Contractor warrants to the Owner and Engineer, or his designee that materials and equipment furnished under the Contract will be of good quality and new unless the Contract Documents require or permit otherwise. The Contractor further warrants that the Work will conform to the requirements of the Contract Documents and will be free from defects, except for those inherent in the quality of the Work the Contract Documents require or permit. Work, materials, or equipment not conforming to these requirements may be considered defective. The Contractor's warranty excludes remedy for damage or defect caused by abuse, alterations to the Work not executed by the Contractor, improper or insufficient maintenance, improper operation, or normal wear and tear and normal usage. If required by the Engineer, or his designee, the Contractor shall furnish satisfactory evidence as to the kind and quality of materials and equipment. Such warranty shall continue for a period of one (1) year from the date of Substantial Completion of the Work. Under this warranty, the Contractor shall remedy at his expense any such failure for the Work to be conforming to the requirement of the Contract, or any other defect appearing in the Work. In addition, the Contractor shall remedy at his own expense, any damage to Owner's owned, controlled, real or personal property, when that damage is the result of the Contractor's failure to provide conforming Work as it relates to the Contract Documents or any other defect of equipment, material, workmanship or design. The Contractor shall also restore any Work damaged in fulfilling its obligations under the terms of this provision. The Contractor's warranty with respect to the Work repaired or replaced hereunder will run for a period of one (1) year from the date of repair or replacement.

### § 3.6 TAXES

The Contractor shall pay 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 Engineer, or his designee before conditions are disturbed and in no event later than 21 days after first observance of the conditions. The Engineer, or his designee will promptly investigate such conditions and, if the Engineer, or his designee determines that they differ materially and cause an increase or decrease in the Contractor's cost of, or time required for, performance of any part of the Work, will recommend an equitable adjustment in the Contract Sum or Contract Time, or both. If the Engineer, or his designee 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 Engineer, or his designee shall promptly notify the Owner and Contractor in writing, stating the reasons. If either party disputes the Engineer, or his designee's determination or recommendation, that party may proceed as provided in Article 15.

§ 3.7.5 If, in the course of the Work, the Contractor encounters human remains or recognizes the existence of burial markers, archaeological sites or wetlands not indicated in the Contract Documents, the Contractor shall immediately suspend any operations that would affect them and shall notify the Owner and Engineer, or his designee. 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.

§ 3.8.2 Unless otherwise provided in the Contract Documents,

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

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

### § 3.9 SUPERINTENDENT

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

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

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

### § 3.10 CONTRACTOR'S CONSTRUCTION SCHEDULES

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

§ 3.10.2 The Contractor shall prepare a submittal schedule, promptly after being awarded the Contract and thereafter as necessary to maintain a current submittal schedule, and shall submit the schedule(s) for the Engineer, or his designee's approval. The Engineer, or his designee's approval shall not unreasonably be delayed or withheld. The submittal schedule shall (1) be coordinated with the Contractor's construction schedule, and (2) allow the Engineer, or his designee reasonable time to review submittals. If the Contractor fails to submit a submittal

schedule, the Contractor shall not be entitled to any increase in Contract Sum or extension of Contract Time based on the time required for review of submittals.

§ 3.10.3 The Contractor shall perform the Work in general accordance with the most recent schedules submitted to the Owner and Engineer, or his designee .

§3.10.4 Should the Contractor responsible for the scheduling requirements of Article 3 herein fail to comply with said scheduling requirements, said failure shall result in the following:

- 1 all claims resulting from the Contractor's failure to prepare or submit a schedule shall be the Contractor's responsibility;
- 2 shall constitute an act of default and a substantial breach of the Contract giving the Owner remedies under the Contract Documents; and
- 3 the Owner shall have the right to withhold any payments until the Contractor complies with the scheduling requirements of Article 3 herein.

§3.10.5 In the event of a Five Prime Contract, the General Contractor shall be responsible for the preparation and submittal of the schedule.

### § 3.11 DOCUMENTS AND SAMPLES AT THE SITE

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

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

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

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

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

§ 3.12.4 Shop Drawings, Product Data, Samples and similar submittals are not Contract Documents. Their purpose is to demonstrate the way by which the Contractor proposes to conform to the information given and the design concept expressed in the Contract Documents for those portions of the Work for which the Contract Documents require submittals. Review by the Engineer, or his designee is subject to the limitations of Section 4.2.7. Informational submittals upon which the Engineer, or his designee 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 Engineer, or his designee without action.

§ 3.12.5 The Contractor shall review for compliance with the Contract Documents, approve and submit to the Engineer, or his designee Shop Drawings, Product Data, Samples and similar submittals required by the Contract Documents in accordance with the submittal schedule approved by the Engineer, or his designee 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 Engineer, or his designee 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 Engineer, or his designee .

§ 3.12.8 The Work shall be in accordance with approved submittals except that the Contractor shall not be relieved of responsibility for deviations from requirements of the Contract Documents by the Engineer or his designee 's approval of Shop Drawings, Product Data, Samples or similar submittals unless the Contractor has specifically informed the Engineer, or his designee in writing of such deviation at the time of submittal and (1) the Engineer, or his designee 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 Engineer, or his designee '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 Engineer, or his designee on previous submittals. In the absence of such written notice, the Engineer, or his designee '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 Engineer, or his designee ure or engineering unless such services are specifically required by the Contract Documents for a portion of the Work or unless the Contractor needs to provide such services in order to carry out the Contractor's responsibilities for construction means, methods, techniques, sequences and procedures. The Contractor shall not be required to provide professional services in violation of applicable law. If professional design services or certifications by a design professional related to systems, materials or equipment are specifically required of the Contractor by the Contract Documents, the Owner and the Engineer, or his designee will specify all performance and design criteria that such services must satisfy. The Contractor shall cause such services or certifications to be provided by a properly licensed design professional, whose signature and seal shall appear on all drawings, calculations, specifications, certifications, Shop Drawings and other submittals prepared by such professional. Shop Drawings and other submittals related to the Work designed or certified by such professional, if prepared by others, shall bear such professional's written approval when submitted to the Engineer or his designee . The Owner and the Engineer, or his designee shall be entitled to rely upon the adequacy, accuracy and completeness of the services, certifications and approvals performed or provided by such design professionals, provided the Owner and Engineer, or his designee have specified to the Contractor all performance and design criteria that such services must satisfy. Pursuant to this Section 3.12.10, the Engineer, or his designee will review, approve or take other appropriate action on submittals only for the limited purpose of checking for conformance with information given and the design concept expressed in the Contract Documents. The Contractor shall not be responsible for the adequacy of the performance and design criteria specified in the Contract Documents.

### § 3.13 USE OF SITE

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

§ 3.13.2 The Contractor shall coordinate the Contractor's operations with, and secure the approval of, the Owner before using any portion of the Site.

§ 3.13.3 The Contractor shall store its apparatuses, materials, supplies, and equipment in such orderly fashion at the Site of the Work, if permitted, as will not unduly interfere with the progress of the Work or ongoing operations. The Contractor shall provide protective fencing around the designated storage areas.

§ 3.13.4 The Contractor shall see that stockpiles of materials and storage of equipment are kept to a minimum and neatly stored where directed by the Owner and the Engineer, or his designee .

§ 3.13.5 If the Work is to be executed in areas occupied by the Owner, the Contractor shall inform the Owner in advance of the areas scheduled to be worked on, so that the Owner's personnel may make proper preparations to protect equipment and records.

§3.13.6 The Contractor understands that some or all the Work of the Contract may be performed while the facilities are occupied by personnel, and accordingly shall make all reasonable and necessary provisions to ensure that the contract Work will be of minimal disruption to the environment.

§3.13.7 Materials and equipment that are to be used only directly in the Work, shall be brought to and stored on the Project site by the Contractor. After equipment is no longer required for the Work, it shall be promptly removed from the Project Site. Protection of construction materials and equipment stored at the Project Site from weather, theft, damage and all other adversity is solely the Contractor's responsibility. The Contractor shall bear the responsibility to replace all such materials that may be lost, damaged, or stolen at its expense, whether such materials or equipment have been entirely or partially paid for by the Owner.

§3.13.8 The Contractor and any entity for whom the Contractor is responsibility, shall not erect any sign on the Project Site without the prior written consent of the Owner, which may be withheld in the sole discretion of the Owner.

§3.13.9 Contractor shall ensure that the Work is performed at all times in a manner that affords reasonable access, both vehicular and pedestrian, to the Site of the Work and all adjacent areas. The Work shall be performed, to the fullest extent reasonably possible, in such a manner that public areas adjacent to the Site of the Work shall be free from all debris, building materials, and equipment likely to cause hazardous conditions.

§3.13.10 Without prior approval of the Owner, the Contractor shall not permit any workers to use any existing facilities at the Project Site, including, without limitation, the lavatories, toilets, entrances, and parking areas, other than those designated by the Owner. Without limitation of any other provision of the Contract Documents, the Contractor shall use its best efforts to comply with all rules and regulations promulgated by the Owner in connection with the use and occupancy of the Project Site and the Building, as amended from time to time. The Contractor shall immediately notify the Owner in writing, if during the performance of the Work, the Contractor finds compliance with any portion of such rules and regulations to be impracticable. This notification shall set forth the problems of such compliance and shall suggest alternatives through which the same results intended by such portions of the rules and regulations can be achieved. The Owner may, in the Owner's sole discretion, adopt such suggestions, develop new alternatives or require compliance with the existing requirements of the rules and regulations. The Contractor shall also comply with all insurance requirements and collective bargaining agreements applicable to use and occupancy of the Project Site and the Building.

### § 3.14 CUTTING AND PATCHING

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

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

### § 3.15 CLEANING UP

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

§ 3.15.2 If the Contractor fails to clean up as provided in the Contract Documents, the Owner may do so and Owner shall be entitled to reimbursement from the Contractor, or shall be entitled to reduce the Contract Amount in an amount equal to the Owner's cost to clean up.



§3.15.3 The Contractor shall, on a daily basis, clean debris resulting from its Work, and protect construction in progress and maintain adjoining materials in place during handling and installation, and provide protective covering where required to assure protection from damage or deterioration until Substantial Completion.

§3.15.4 The Contractor shall clean and provide maintenance on completed construction, after installation, as frequently as necessary through the remainder of the construction period.

§3.15.5 The Contractor shall supervise its construction operations to assure that no part of the construction, completed or in progress, is subject to harmful, dangerous, damaging, or otherwise deleterious exposure during the construction period. The term "clean" shall include the removal of debris from the work area to dumpsters furnished by the Prime General Work Contractor or the Contractor for Single Overall Contract Work, whichever contracting method shall apply.

### § 3.16 ACCESS TO WORK

The Contractor shall provide the Owner and Engineer, or his designee 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 Engineer, or his designee harmless from loss on account thereof, but shall not be responsible for such defense or loss when a particular design, process or product of a particular manufacturer or manufacturers is required by the Contract Documents, or where the copyright violations are contained in Drawings, Specifications or other documents prepared by the Owner or Engineer, or his designee. However, if the Contractor has reason to believe that the required design, process or product is an infringement of a copyright or a patent, the Contractor shall be responsible for such loss unless such information is promptly furnished to the Engineer, or his designee.

### § 3.18 INDEMNIFICATION

§ 3.18.1 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 and hold harmless the Owner and Owner's consultants, agents, representatives, and employees from and against any and all claims, damages, losses, costs, and expenses, including, but not limited to attorney's 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 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 Owner and the Owner'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 claims, damage, loss, cost, or expense is attributable to bodily injury, sickness, disease or death, or to injury to destruction of tangible property (other than work itself) caused or alleged to be caused by the negligent acts, negligent omissions, and/or fault of the Owner or the Owner'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."

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

## ARTICLE 4 ENGINEER, OR HIS DESIGNEE OR ENGINEER

### § 4.1 GENERAL

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

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

### § 4.2 ADMINISTRATION OF THE CONTRACT

§ 4.2.1 The Engineer, or his designee will provide administration of the Contract as set forth in its respective Agreements with the Owner and as described in the Contract Documents.

§ 4.2.2 The Engineer, or his designee 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.

§ 4.2.3 On the basis of the site visits, the Engineer, or his designee will keep the Owner reasonably informed about the progress and quality of the portion of the Work completed, and report to the Owner (1) known deviations from the Contract Documents and from the most recent construction schedule submitted by the Contractor, and (2) defects and deficiencies observed in the Work.

### § 4.2.4 COMMUNICATIONS FACILITATING CONTRACT ADMINISTRATION

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

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

§ 4.2.6 The Engineer, or his designee has authority to reject Work that does not conform to the Contract Documents. Whenever the Engineer, or his designee considers it necessary or advisable, the Engineer, or his designee will have authority to require inspection or testing of the Work in accordance with Sections 13.5.2 and 13.5.3, whether or not such Work is fabricated, installed or completed. However, neither this authority of the Engineer, or his designee 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 Engineer, or his designee to the Contractor, Subcontractors, material and equipment suppliers, their agents or employees, or other persons or entities performing portions of the Work.

§ 4.2.7 The Engineer, or his designee 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 Engineer, or his designee's action will be taken in accordance with the submittal schedule approved by the Engineer, or his designee or, in the absence of an approved submittal schedule, with reasonable promptness while allowing sufficient time in the Engineer, or his designee'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 Engineer, or his designee's review of the Contractor's submittals shall not relieve the Contractor of the obligations under Sections 3.3, 3.5 and 3.12. The Engineer, or his designee's review shall not constitute

approval of safety precautions or, unless otherwise specifically stated by the Engineer, or his designee, of any construction means, methods, techniques, sequences or procedures. The Engineer, or his designee's approval of a specific item shall not indicate approval of an assembly of which the item is a component.

§ 4.2.8 The Engineer, or his designee will prepare Change Orders and Construction Change Directives, and may authorize minor changes in the Work as provided in Section 7. The Engineer, or his designee will investigate and make determinations and recommendations regarding concealed and unknown conditions as provided in Section 3.7.4.

§ 4.2.9 The Engineer, or his designee 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 Engineer, or his designee agree, the Engineer, or his designee will provide one or more project representatives to assist in carrying out the Engineer, or his designee's responsibilities at the site. The duties, responsibilities and limitations of authority of such project representatives shall be as set forth in the Owner's Agreement with the Engineer, or his designee.

§ 4.2.11 The Engineer, or his designee will interpret and decide matters concerning performance under, and requirements of, the Contract Documents on written request of either the Owner or Contractor. The Engineer, or his designee'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 Engineer, or his designee 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 Engineer, or his designee will endeavor to secure faithful performance by both Owner and Contractor and will not show partiality.

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

## ARTICLE 5 SUBCONTRACTORS

### § 5.1 DEFINITIONS

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

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

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

§ 5.2.1 Identification of Subcontractors required by N.J.S.A. 40A:11-16 shall be provided with the bid submission in accordance with the requirements of that statute. Names of persons or entities for any Subcontractor not covered by N.J.S.A. 18A-18 shall be furnished within thirty (30) thirty days of notification of Award of Contract. The Engineer, or his designee will notify the Contractor in writing if the Owner or Engineer, or his designee, after due investigation, has reasonable objection to any such proposed person or entity. The list of proposed Subcontractors shall include a description of the materials and equipment each proposes to furnish and install in the Work. The description shall be insufficient detail to allow the Engineer, or his designee to determine general conformance to Contract requirements. Approval of the submittals as required under this Article shall not relieve the Contractor from conformance to Contract requirements.

§5.2.2 Subcontractors shall comply with the statutory requirements of N.J.S.A. 34:11-56.25 and N.J.S.A. 34:11-56.48. Any subcontractors who fail to comply with those statutory provisions shall be rejected.

§5.2.3 Written confirmation of award of each major subcontract shall be submitted to the Owner by the Contractor, in form subject to his approval, within seven (7) days after receipt of Owner's approval of proposed Subcontractor list as provided under this Article. Every subcontract shall be in writing, shall be submitted to Owner for review and approval prior to execution, and shall specifically provide that the Owner is an intended third (3<sup>rd</sup>) party beneficiary of such subcontract.

§ 5.2.4 The Contractor shall not contract with a proposed person or entity to whom the Owner or Engineer, or his designee has made reasonable and timely objection. The Contractor shall not be required to contract with anyone to whom the Contractor has made reasonable objection.

§ 5.2.5 If the Owner or Engineer, or his designee has reasonable objection to a person or entity proposed by the Contractor, the Contractor shall propose another to whom the Owner or Engineer, or his designee 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.

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

### § 5.3 SUBCONTRACTUAL RELATIONS

§5.3.1 By appropriate agreement, written where legally required for validity, the Contractor shall require each Subcontractor, to the extent of the Work to be performed by the Subcontractor, to be bound to the Contractor by terms of the Contract Documents, and to assume toward the Contractor all the obligations and responsibilities, including the responsibility for safety of the Subcontractor's Work, which the Contractor, by these Documents, assumes toward the Owner and Engineer, or his designee. Each subcontract agreement shall preserve and protect the rights of the Owner and Engineer, or his designee under the Contract Documents and at law. No Subcontract shall diminish in any way any rights or benefits conferred upon the Owner by these Contract Documents. The Contractor shall make all Contract Documents available to the Subcontractors.

§5.3.2 Where the Contractor sublets portions of the Work, the entire responsibility for the subdividing of Work rests with the Contractor. The Owner and the Engineer, or his designee are not responsible for the manner of the subdivision of the Work, nor will they enter into or settle disagreements or disputes between Contractor and Subcontractors. The Contractor is, and will be held, responsible for the proper execution of the Work of all Subcontractors.

### § 5.4 CONTINGENT ASSIGNMENT OF SUBCONTRACTS

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

- 1 assignment is effective only after termination of the Contract by the Owner for cause pursuant to Section 14.2 and only for those subcontract agreements that the Owner accepts by notifying the Subcontractor and Contractor in writing.

§ 5.4.2 Upon such assignment to the Owner under this Section 5.4, the Owner may further assign the subcontract to a successor Contractor or other entity.

## ARTICLE 6 CONSTRUCTION BY OWNER OR BY SEPARATE CONTRACTORS

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

§ 6.1.1 The Owner reserves the right to perform construction or operations related to the Project with the Owner's own forces, and to award separate contracts in connection with other portions of the Project or other construction or operations on the site.

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

## § 6.2 MUTUAL RESPONSIBILITY

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

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

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

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

§ 6.2.4.1 Should the Contractor cause damage to the Work or property of any separate Contractor on the Project, the Contractor shall promptly settle with such other Contractor by agreement, or otherwise resolve the dispute. If such separate Contractor institutes any legal proceeding against the Owner on account of any damage alleged to have been so sustained, the Contractor shall, indemnify, defend, or bear the cost of defense as the Owner shall in its own discretion determine, and hold the Owner's harmless. Said Indemnification shall be governed by Section 13, Page G7 of the Instructions to Bidders.

§ 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 Engineer, or his designee will allocate the cost among those responsible, which amounts the Owner shall be entitled to reduce the Contract Amounts of the various contracts of 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. Change Orders and Construction Change Directives shall be subject to and processed in accordance with N.J.A.C. 6A:23-7 and N.J.A.C. 6A:26-4.9, where applicable.

§ 7.1.2 A Change Order shall be based upon agreement among the Owner, Contractor and Engineer, or his designee; a Construction Change Directive requires a written agreement by the Owner and Engineer, or his designee and may or may not be agreed to by the Contractor; an order for a minor change in the Work which does not extend the Contract Time, increase the Contract Sum or change the Project Scope may be issued by the Engineer, or his designee alone.

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

§ 7.1.4 In order to facilitate checking of quotations for extras or credits, all proposals shall be accompanied by a complete itemization of costs including labor, materials and subcontracts. Labor and materials shall be itemized in the manner prescribed above. Where major cost items are subcontracts, they shall be itemized also. In no case will a change be approved without such itemization.

## § 7.2 CHANGE ORDERS

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

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

A Change Order shall not require consent of the Owner if the Owner has provided an allowance for such a change.

§ 7.2.2 Methods used in determining adjustments to the Contract Sum shall be those listed in Section 7.3.3.

§ 7.2.3 Agreement on any Change Order shall constitute a final settlement of all matters relating to the change in the Work that is the subject of the Change Order, including, but not limited to, all direct and indirect costs associated with such change, and any and all adjustments to the Contract Sum and the construction schedule. In the event a Change Order increases the Contract Sum, Contractor shall include the Work covered by such Change Orders in Applications for Payment as if such Work were originally part of the Contract Documents.

## § 7.3 CONSTRUCTION CHANGE DIRECTIVES

§ 7.3.1 A Construction Change Directive is a written order prepared by the Engineer, or his designee and signed by the Owner and Engineer, or his designee, directing a change in the Work prior to agreement on adjustment, if any, in the Contract Sum or Contract Time, or both. A Construction Change Directive shall not require the Agreement of the Engineer, or his designee if the Owner specifically waives their consent in writing. 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 7.3.6.

§ 7.3.4 Upon receipt of a Construction Change Directive, the Contractor shall promptly proceed with the change in the Work involved and advise the Engineer, or his designee 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. The Contractor's failure to comply with a Construction Change Directive shall constitute an incident of default and cause for termination by the Owner.

§ 7.3.5 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.

§ 7.3.6 If the Contractor does not respond promptly or disagrees with the method for adjustment in the Contract Sum, the Engineer, or his designee shall determine the method and the adjustment on the basis of reasonable expenditures and savings of those performing the Work attributable to the change, including, in case of an increase in the Contract Sum, an amount for overhead and profit as set forth in the Agreement, or if no such amount is set forth in the Agreement, a reasonable amount. In such case, and also under Section 7.3.3.3, the Contractor shall keep and present, in such form as the Engineer, or his designee may prescribe, an itemized accounting together with appropriate supporting data. Unless otherwise provided in the Contract Documents, costs for the purposes of this Section 7.3.6 shall be limited to the following:

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

§ 7.3.7 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 Engineer, or his designee. 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.

§ 7.3.8 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 Engineer, or his designee will make an interim determination for purposes of monthly certification for payment for those costs and certify for payment the amount that the Engineer, or his designee determines, in the Engineer, or his designee's professional judgment, to be reasonably justified. The Engineer, or his designee'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.

§ 7.3.9 When the Owner and Contractor agree with a determination made by the Engineer, or his designee 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 Engineer, or his designee will prepare a Change Order. Change Orders may be issued for all or any part of a Construction Change Directive.

§ 7.3.10 In subparagraphs 7.3.3 and 7.3.6, the allowance for overhead and profit combined shall be based upon the following schedule:

- .1 For the Contractor, for work performed by his own forces, 10% of cost.
- .2 For each Subcontractor, for the work performed by his own forces, 10% of cost.
- .3 For the Contractor, for work performed by a subcontractor, 5% of cost.

§ 7.3.11 Lump sum quotations for changes in the Work will not be accepted. Proposals shall be completely itemized and broken down. They shall be accompanied by such supporting data as the Engineer, or his designee may require, such as copies of subcontractor's or vendor's quotations, quantity take-off sheets, or other similar information.

#### § 7.4 MINOR CHANGES IN THE WORK

The Engineer, or his designee has authority to order minor changes in the Work not involving adjustment in the Contract Sum or extension of the Contract Time and not inconsistent with the intent of the Contract Documents. Such changes will be effected by written order signed by the Engineer, or his designee and shall be binding on the Owner and Contractor. The Contractor shall carry out such written orders promptly.

#### 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 and services as required by the Contract

Documents, Substantial Completion of the Work shall be accomplished within the period of consecutive calendar days (or by the date), as stated in the Agreement, plus any authorized extension(s) of time as approved by written agreement. Final Completion of the Work shall be no later than thirty (30) consecutive calendar days from the date of Substantial Completion of the Work, unless otherwise set forth in Article 3.2 of the Owner/Contractor Agreement.

§ 8.1.2 Intentionally omitted

§ 8.1.3 Intentionally omitted.

§ 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. There will be no bonus or incentives paid, should the Work, or any portion thereof, be completed in advance of the specified activity milestone dates.

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

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

## § 8.3 DELAYS AND EXTENSIONS OF TIME

§ 8.3.1 Intentionally omitted

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

§ 8.3.3 Intentionally omitted

§ 8.3.4 No payment, compensation, or adjustment of any kind shall be made to the Contractor by the Owner for damages resulting from hindrances or delays caused by the delays of other contractors, or from foreseeable circumstances not attributable to the Owner's conduct. The Contractor agrees that it will make no claim against the Owner for payment, compensation, damages, mitigation of Liquidated Damages, or adjustment of any kind for such hindrances or delays, and will accept such extensions of time as may be granted by the Owner in the Owner's sole discretion in full satisfaction for any and all alleged claims against the Owner for any and all such hindrances or delays. For purposes of this Agreement, disputes arising between contractors before or during construction, adverse weather conditions, and delays on the part of local authorities issuing permits shall be considered foreseeable circumstances. Notwithstanding the foregoing, nothing herein shall limit the Contractor's remedies for Owner's negligence, bad faith, active interference, tortious conduct, or other reasons unanticipated by the parties that delay expenditures paid by the Owner to the Engineer, or his designee, other individual or entity, or to any inspector or inspectors necessarily employed by it on the Work, for any number of days in excess of the Contract Time, shall be deducted for the Contract Sum.

§ 8.3.5 The provisions of this Article shall not be so interpreted or construed as to preclude or prevent the Contractor from making and prosecuting any claim against any separate Contractor engaged or employed by the Owner for damages alleged to have been caused or occasioned by any such separate Contractor.

§ 8.3.6 To the extent permitted by law, the Owner may suspend the whole or any part of the Work, if it shall deem it for the best interest of the Owner to do so, without compensation to the Contractor for such suspension, other than extending the time for completion of the Work as much as it may have been delayed by such suspension. During such suspension, all materials delivered upon, but not placed in the Work shall be neatly piled by the Contractor so as not to obstruct public travel, or shall be removed from the line of Work at the direction of the Owner and, unless the



materials be moved by the Contractor upon such direction, the materials shall be removed by the Owner and expense thereof will be charged to the Contractor.

§8.4.1 Should the Contractor fail to complete fully, and in conformity with all provisions of the Contract within the Contract Time, the Contractor shall, and hereby agrees to, pay the Owner one thousand dollars (\$1,000.00) per day, for each consecutive calendar day beyond the number of days allowed by the Contract, which sum is agreed upon as reasonable and proper measure of damages that the Owner will sustain per diem by failure of Contractor to complete Work within time as stipulated; it being recognized by Owner and Contractor that the injury to Owner that could result from a failure of the Contractor to complete on schedule, is uncertain and cannot be computed exactly. In no way shall costs of Liquidated Damages be construed as a penalty to the Contractor.

§8.4.2 It is expressly understood and agreed by and between the Contractor and Owner that the Contract Time prescribed herein is a reasonable time for the completion of the Work.

## ARTICLE 9 PAYMENTS AND COMPLETION

### § 9.1 CONTRACT SUM

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

### § 9.2 SCHEDULE OF VALUES

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

### § 9.3 APPLICATIONS FOR PAYMENT

§ 9.3.1 See Article 5 of Standard Form of Agreement between Owner/Contractor.

§ 9.3.1.1 Applications for Payment may include requests for payment on account of changes in the Work which have been properly authorized by Construction Change Directives but not yet included in Change Orders.

§ 9.3.1.2 Such applications may not include requests for payment of amounts the Contractor does not intend to pay to a Subcontractor or material supplier because of a dispute or other reason.

§ 9.3.1.3 All applications for payment shall be accompanied by the Application and Certificate of Payment, AIA Document G702, and the Continuation Sheet, AIA Document G703, fully completed as required or such other application for Payment as the Owner's representative shall use.

§9.3.1.4 In cases where the work is awarded on a Single Overall Contract basis, payments shall be made in accordance with applicable State of New Jersey statutes.

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

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

§9.3.3.1 All municipal mechanic's liens filed by a lien claimant shall be governed by N.J.S.A. 2A:44-125 et seq. In the event a municipal mechanic's lien is filed, the Owner reserves the right to withhold the full amount of the lien. The Owner may release the funds to the party against whose account the lien is claimed, only after that party files with the Owner's financial officer, a bond in an amount double of all sums claimed ("Double Bond") under the lien, and such bond's form has been approved by the Owner's chief law officer and financial officer, per N.J.S.A. 2A:44-130 or if an acceptable release of liens is filed by the lien claimant.

#### § 9.4 CERTIFICATES FOR PAYMENT

§ 9.4.1 See Article 5 of Standard Form of Agreement between Owner and Contractor.

§ 9.4.2 See Article 5 of Standard Form of Agreement between Owner and Contractor

§9.4.3 See Article 5 of Standard Form of Agreement between Owner and Contractor.

#### § 9.5 DECISIONS TO WITHHOLD CERTIFICATION

§ 9.5.1 See Article 5 of Standard Form of Agreement between Owner and Contractor

§ 9.5.2 See Article 5 if Standard Form of Agreement between Owner and Contractor.

#### § 9.6 PROGRESS PAYMENTS

§ 9.6.1 After the Engineer, or his designee 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 Engineer, or his designee .

§ 9.6.2 The Contractor shall promptly pay each Subcontractor, upon receipt of payment from the Owner, out of the amount paid to the Contractor on account of such Subcontractor's portion of the Work, 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 and shall certify same to Owner. 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 Engineer, or his designee 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 Owner and Engineer, or his designee on account of portions of the Work done by such Subcontractor.

§ 9.6.4 Neither the Owner nor Engineer, or his designee shall have an obligation to pay or to see to the payment of money to a Subcontractor except as may otherwise be required by law.

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

#### § 9.7 FAILURE OF PAYMENT

If the Engineer, or his designee 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 Engineer, or his designee or awarded by binding dispute resolution, then the Contractor may, upon seven additional days' written notice to the Owner and Engineer, or his designee , stop the Work until payment of the amount owing has been received. The Contract Time shall be extended appropriately and the Contract Sum shall be increased by the amount of the Contractor's reasonable costs of shut-down, delay and start-up, plus interest as provided for in the Contract Documents.

#### §9.7 REIMBURSEMENT TO OWNER

§9.7.1 If the Owner is entitled to any reimbursement or payment from the Contractor under, or pursuant to, the Contract Documents, such payment shall be made promptly upon demand by the Owner. Notwithstanding anything contained in the Contract Documents to the contrary, if the Contractor fails to promptly make any payment due the Owner, or the Owner incurs any costs and expenses to cure any default of the Contractor or to correct defective Work, the Owner shall have an absolute right to offset such amount against the Contract Sum and may, in the Owner's sole discretion, elect either to: (1) deduct an amount equal to that which the Owner is entitled from any

payment then, or thereafter, due the Contractor from the Owner; or (2) issue a written notice to the Contractor reducing the Contract Sum by an amount equal to that which the Owner is entitled.

**§ 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; provided, however, that a condition precedent to Substantial Completion shall be the Owner's receipt of all certificates of occupancy (permanent or temporary) and any other permits, approvals, licenses, and other documents from any governmental authority having jurisdiction thereof necessary for the occupancy of the Project. The Owner may withhold a certification of Substantial Completion if temporary installations or temporary construction exists in areas requesting certification, or if certificates of occupancy are temporary or conditional.

§ 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 Engineer, or his designee shall prepare a comprehensive list of items to be completed or corrected ("Punch List"). The Contractor shall proceed immediately and correct items on the list. 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. Upon receipt of the list, the Engineer, or his designee, will make an inspection to determine whether the Work or designated portion thereof is substantially complete. If the Engineer, or his designee's inspection discloses any item, whether or not included on the list, which is not in accordance with the requirements of the Contract Documents, the Contractor shall, before issuance of the Certificate of Substantial Completion, complete or correct such item upon notification by the Engineer, or his designee. The Contractor shall then submit a request for another inspection by the Engineer, or his designee to determine Substantial Completion. When the Work or designated portion thereof is substantially complete, the Engineer, or his designee will prepare a Certificate of Substantial Completion which shall establish the date of Substantial Completion, shall establish responsibilities of the Contractor for security, maintenance, heat, utilities, damage to the Work and insurance, and shall fix the time within which the Contractor shall finish all items on the List accompanying the Certificate. Warranties required by the Contract Documents shall commence on the date of Substantial Completion of the Work or designated portion thereof unless otherwise provided in the Certificate of Substantial Completion. The Certificate of Substantial Completion shall be submitted to the Contractor for its written acceptance and to the Owner for its approval and acceptance as required by Section 9.8.1. No Certificate of Substantial Completion shall be deemed effective unless executed by both Owner and Contractor.

**§ 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, who shall obtain all necessary modifications to its insurance coverage to permit such occupancy or use. In addition, Contractor shall obtain consent of those public authorities having jurisdiction over the Work. Such partial occupancy or use may commence whether or not the portion is substantially complete pursuant to the terms of that Agreement. When the Contractor considers a portion substantially complete, the Engineer, or his designee shall prepare a Punch List as provided under Section 9.8.2. Consent of the Contractor to partial occupancy or use shall not be unreasonably withheld.

§ 9.9.2 Immediately prior to such partial occupancy or use, the Owner, Contractor and Engineer, or his designee 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.

§ 9.9.4 The occupancy of any portion of the Work shall not constitute acceptance of any Work, except as hereinafter stated, nor does it waive the Owner's right to Liquidated Damages. Final Acceptance of the Work shall be for the whole Work only and not part.

§ 9.9.5 Occupancy by the Owner shall not be deemed to constitute a waiver of existing claims on behalf of the Owner or Contractor against each other.

**§ 9.10 FINAL COMPLETION AND FINAL PAYMENT**

**§ 9.10.1** Upon completion of the Work, the Contractor shall forward to the Engineer, or his designee a written notice that the Work is ready for final inspection and acceptance and shall also forward to the Engineer, or his designee a final Contractor's Application for Payment. The Engineer, or his designee will promptly make such inspection. When the Engineer, or his designee finds the Work acceptable under the Contract Documents and the Contract fully performed, the Engineer, or his designee will promptly issue a final Certificate for Payment stating that to the best of their knowledge, information and belief, and on the basis of their observations and inspections, the Work has been completed in accordance with terms and conditions of the Contract Documents and that the entire balance found to be due the Contractor and noted in the final Certificate is due and payable. The Engineer, or his designee'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 complies with all requirements set forth in Section 6 of the Standard Form of Agreement between Owner and Contractor and the Contractor submits to the Engineer, or his designee (1) an affidavit that payrolls, bills for materials and equipment, and other indebtedness connected with the Work for which the Owner or the Owner's property might be responsible or encumbered (less amounts withheld by Owner) have been paid or otherwise satisfied, (2) a certificate evidencing that insurance required by the Contract Documents to remain in force after final payment is currently in effect and will not be canceled or allowed to expire until at least 30 days' prior written notice has been given to the Owner, (3) a written statement that the Contractor knows of no substantial reason that the insurance will not be renewable to cover the period required by the Contract Documents, (4) consent of surety, if any, to final payment and (5), if required by the Owner, other data establishing payment or satisfaction of obligations, such as receipts, releases and waivers of liens, claims, security interests or encumbrances arising out of the Contract, to the extent and in such form as may be designated by the Owner. If a Subcontractor refuses to furnish a release or waiver required by the Owner, the Contractor may furnish a bond satisfactory to the Owner to indemnify the Owner against such lien. If such lien remains unsatisfied after payments are made, the Contractor shall refund to the Owner all money that the Owner may be compelled to pay in discharging such lien, including all costs and reasonable attorneys' fees.

**§ 9.10.3** Intentionally omitted

**§ 9.10.4** Acceptance of final payment by the Contractor, a Subcontractor or material supplier shall constitute a waiver of claims by that payee

**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. The Contractor shall submit the Contractor's safety program to the Engineer, or his designee for review and coordination with the safety programs of other Contractors.

**§ 10.2 SAFETY OF PERSONS AND PROPERTY**

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

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

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

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

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

§ 10.2.5 The Contractor shall promptly remedy damage and loss (other than damage or loss insured under property insurance required by the Contract Documents) to property referred to in Sections 10.2.1.2, 10.2.1.3 and 10.2.1.4 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, 10.2.1.3 and 10.2.1.4, except damage or loss attributable to acts or omissions of the Owner or Engineer, or his designee 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 Engineer, or his designee.

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

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

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

#### § 10.3 HAZARDOUS MATERIALS

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

§ 10.3.2 Upon receipt of the Contractor's written notice, the Owner shall obtain the services of a licensed laboratory to verify the presence or absence of the material or substance reported by the Contractor and, in the event such material or substance is found to be present, to cause it to be rendered harmless. Unless otherwise required by the Contract Documents, the Owner shall furnish in writing to the Contractor and Engineer, or his designee the names and qualifications of persons or entities who are to perform tests verifying the presence or absence of such material or substance or who are to perform the task of removal or safe containment of such material or substance.

#### § 10.3.3 Intentionally omitted

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

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

§ 10.3.6 Intentionally omitted

§ 10.4 EMERGENCIES

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

ARTICLE 11 INSURANCE AND BONDS

§ 11.1 CONTRACTOR'S LIABILITY INSURANCE

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

1. Automobile Liability Insurance in any amount of not less than \$1,000,000.00 combined single limits for Bodily Injury and Property Damage Liability. A certificate of such current insurance will be provided to the County and will reflect the provision of at least thirty (30) days notice to the County before any major cancellation or major change may be made the policy.

2. Workers Compensation Insurance insuring the obligations of the Contractor and all Subcontractors under the New Jersey Workers Compensation and Occupational Disability Laws as respects to Work performed under the Contract. Insurance will be extended to include any obligations under the United States Longshoremen's and Harbor Workers Act or any maritime act, when applicable.

3. General Liability Insurance will be provided on a Comprehensive General Liability form with a combined single limit of \$3,000,000.00 per occurrence for Bodily Injury Liability and Property Damage Liability and will include the interest of the County with respect to Work emanating from the Contract with the County. The insurance will include the following:

- a) Personal Injury Liability
- b) Blanket Contractual Liability applies to assumption of liability under any written Contract
- c) Coverage for A, X, C, U exposures, relating to excavation, blasting underground damage
- d) Broad Form Property Damage Liability
- e) Products and/or Completed Operations Liability

A Certificate of Insurance will be filed with the County prior to commencement of any Work. This certificate will contain a provision that insurance afforded under the policies will not be canceled without at least (30) days prior written notice being given to the County.

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§ 11.1.2 The insurance required by Section 11.1.1 shall remain in effect for the duration of the project, i.e., from beginning of construction until final payment and closeout.

§ 11.1.3 All insurance required by Section 11.1.1 shall be issued by insurance companies authorized to do business in the State of New Jersey and rated as "A" or better as determined by A.M. Best Company.

§ 11.1.4 The Contractor waives all rights against the Owner for damages caused by fire or other perils to the extent covered by insurance provided under this Article. Any deductibles, co-insurance, or contribution to the loss will be borne solely by the Contractor.

§ 11.1.5 A certificate of insurance evidencing the coverages required by Section 11.1.1 shall be submitted to the Owner's attorney for approval and transmittal to the Owner and Engineer, or his designee prior to the commencement of the Work. The certificate must be submitted on the ACORD form Certificate of Insurance. These certificates and the insurance policies required by this Section 11.1 shall contain a provision that coverages afforded under the policies will not be canceled or allowed to expire until at least thirty (30) days written notice has been given to the Owner. If requested by the Owner, the Contractor shall provide complete copies of any policies of insurance required by this Contract to be obtained by the Contractor and Subcontractor(s). Information concerning any reduction of coverage shall be furnished by the Contractor with reasonable promptness in accordance with the Contractor's information and belief.

§ 11.2 PROPERTY INSURANCE

§ 11.2.1 Unless otherwise provided, the Owner shall purchase and maintain, in a company or companies lawfully authorized to do business in the jurisdiction in which the Project is located, property insurance in the amount of the initial Contract Sum as well as subsequent modifications thereto for the entire Work at the site on a replacement cost

basis without voluntary deductibles. Such property insurance shall be maintained, unless otherwise provided in the Contract Documents or otherwise agreed in writing by all persons and entities who are beneficiaries of such insurance, until final payment has been made as provided in Section 9.10 or until no person or entity other than the Owner has an insurance interest in the property required by this Section 11.2 to be covered, whichever is earlier. This insurance shall include the interest of the Owner, Contractor, Subcontractor(s), and Sub-Contractor(s) in the Work.

§ 11.2.1.1 Property insurance shall be on an "all-risk" policy form and shall be against the perils of fire and extended coverage and physical loss or damage including, without duplication of coverage, theft, vandalism, malicious mischief, collapse, falsework, temporary buildings and debris removal including demolition occasioned by enforcement of any applicable legal requirements, and shall cover reasonable compensation for Engineer, or his designee's services and expenses required as a result of such insured loss. Coverage for all other perils shall not be required unless otherwise provided in the Contract Documents.

§ 11.2.1.2 If the Owner does not intend to purchase such property insurance required by the Contract and with all of the coverages in the amount described above, the Owner shall so inform the Contractor in writing prior to commencement of the Work. The Contractor may then effect insurance which will protect the interests of the Contractor, Subcontractor(s) and Sub-subcontractor(s) in the Work. If the Contractor is damaged by the failure or neglect of the Owner to purchase or maintain insurance as described above, without so notifying the Contractor, then the Owner shall bear all reasonable costs properly attributable thereto.

§ 11.2.1.3 If the property insurance requires minimum deductibles, and such deductibles are identified in the Contract Documents, the Contractor shall pay costs not covered because of such deductibles. If the Owner or insurer increases the required minimum deductibles over the amounts so identified or if the Owner elects to purchase this insurance with voluntary deductible amounts, the Owner shall be responsible for payment of the additional costs not covered because of such increased or voluntary deductibles.

§ 11.2.1.4 Unless otherwise provided in the Contract documents, this property insurance shall cover portions of the Work stored off the site after written approval of the Owner at the value established in the approval, and also portions of the Work in transit.

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

#### § 11.2.2 BOILER AND MACHINERY INSURANCE

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

#### § 11.2.3 LOSS OF USE INSURANCE

The Owner, at the Owner's option, may purchase and maintain such insurance as will insure the Owner against loss of use of the Owner's property due to fire or other hazards, however caused.

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

#### § 11.3 PERFORMANCE BOND, PAYMENT BOND AND MAINTENANCE BOND

§ 11.3.1 Contractor, at its sole expense, shall furnish bonds covering faithful performance of the contract and payment of obligations arising thereunder as stipulated in bidding requirements or specifically required in the Contract Documents on the date of execution of the Contract, including material and labor..

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

§ 11.3.3 The Contractor shall file with the Owner, as a condition of final acceptance, a statement from the Surety of its Performance Bond and Payment Bond, that the Surety is satisfied that all claims for labor and material supplied under its contract have been satisfactorily settled.

§ 11.3.4 As a condition of Substantial Completion of the Work, the Contractor shall provide an acceptable Maintenance Bond in accordance with section 16, page G-9 of the Instructions to Bidders.

## ARTICLE 12 UNCOVERING AND CORRECTION OF WORK

### § 12.1 UNCOVERING OF WORK

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

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

### § 12.2 CORRECTION OF WORK

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

§ 12.2.2.1 In addition to the Contractor's obligations under Section 3.5, if, within one year after the date of Substantial Completion of the Work or designated portion thereof or after the date for commencement of warranties established under Section 9.9.1, or by terms of an applicable special warranty required by the Contract Documents any of the Work is found to be not in accordance with the requirements of the Contract Documents, the Contractor shall correct it promptly after receipt of written notice from the Owner to do so unless the Owner has previously given the Contractor a written acceptance of such condition. The Owner shall give such notice promptly after discovery of the condition. The Contractor shall give such notice promptly after discovery of the non-conforming work. If the Contractor fails to correct nonconforming Work within a reasonable time during that period after the receipt of notice from the Owner or Engineer, or his designee, the Owner may correct it in accordance with Section 2.4. This obligation under Section 12.2.2 shall survive acceptance of the Work under the Contract and termination of the Contract.

§ 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 Intentionally omitted.

§ 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 work, whether completed or partially completed, of the Owner or separate contractors caused by the Contractor's correction or removal of Work that is not in accordance with the requirements of the Contract Documents.

§ 12.2.5 Nothing contained in this Section 12.2 shall be construed to establish a period of limitation with respect to other obligations the Contractor has under the Contract Documents. Establishment of the one-year period for correction of Work as described in Section 12.2.2 relates only to the specific obligation of the Contractor to correct the Work, and has no relationship to the time within which the obligation to comply with the Contract Documents may be sought to be enforced, nor to the time within which proceedings may be commenced to establish the Contractor's liability with respect to the Contractor's obligations other than specifically to correct the Work, nor to any deficient Work discovered after the one-year period that could not have readily been discovered.

### § 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. However, there shall be no implied or expressed acceptance of Work not in compliance with applicable law. The amount of said reduction will be within the exclusive determination of the Owner as its representative.

## ARTICLE 13 MISCELLANEOUS PROVISIONS

### § 13.1 GOVERNING LAW

§ 13.1.1 The Contract shall be governed by the laws of the State of New Jersey.

§ 13.1.2 Nothing in the Contract Documents shall be construed to permit deviation from the governing law.

§ 13.1.3 In accordance with N.J.S.A. 40A:11-18, American manufactured products or materials shall be used in the Work, wherever possible.

### 13.1.4 RATE OF WAGES

Where the Project is not subject to a Project Labor Agreement, wage notes shall be paid pursuant to the New Jersey Prevailing Wage Act, N.J.S.A. 34:11-56.25 et seq, the Contractor and Subcontractor are required to do the following:

§ 13.1.4.1 Pay to all workmen engaged in the performance of services, directly upon a public work, the prevailing rate of wages, which shall be those in effect for the Project site(s) on the Contract Date and such rates shall remain in effect for (2) years, unless superseded by a subsequent determination.

§ 13.1.4.2 Before final payment, furnish Owner with an affidavit stating that all workmen have been paid the prevailing rate of wages specified in the contract.

§ 13.1.4.3 Keep an accurate record showing the name, craft, or trade and actual hourly rate of wages paid to each workman employed by it in connection with any public work. Records shall be preserved for two (2) years from date of payment.

§ 13.1.4.4 Post the prevailing wage rated 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, and at such place or places as are used by them to pay workmen their wages.

§ 13.1.4.5 Submit the Owner, certified payroll records for each payroll period within ten (10) days of the date of the payment of wages. A certified payroll record is defined as "a payroll record that is attested by the employer or the Owner of the company doing business as the employer, or a corporate officer of such company, or an authorized agent of the employer". A copy of the certified payroll form for submission of the payroll records may be obtained by contacting the Department of Labor, Division of Workplace Standards at 609.292.2259.

§ 13.1.4.6 In the event the Owner finds that any workers employed by the Contractor or Subcontractor, covered by the said contract, have been paid a rate of wages less than the prevailing wage required to be paid by such contract, the Owner may terminate the Contractor's or Subcontractor's right to proceed with the Work, or such part of the

Work as to where there has been a failure to pay required wages, and to prosecute the Work to completion or otherwise, the Contractor and its sureties shall be liable to the Owner for any excess costs occasioned thereby,

§ 13.1.4.7 a current wage rate determination is on file at the offices of the Owner for inspection and Contractor's use.

### § 13.1.5 SAFETY AND HEALTH REGULATIONS (OSHA)

§ 13.1.5.1 The Contractor shall comply with the laws, rules, regulations and codes dealing with occupational safety and health, including, but not limited to, the latest amendments of the following:

§ 13.1.5.2 Williams – Steiger Occupational Safety and Health Act of 1970, Public Law 91-595

§ 13.1.5.3 Part 1910 – Occupational Safety and Health Standards Chapter XVII of Title 29, Code of Federal Regulations.

§ 13.1.5.4 Part 126 – Safety and Health Regulations for Construction, Chapter XVII of Title 29, Code of Federal Regulations.

§ 13.1.5.3 N.J.A.C. 8:59-5.1-5.109 requirements properly label any substances stored in containers) of the Worker and Community Right to Know Act, P.L. 1983, c.315.

### § 13.1.6 ENVIRONMENTAL REGULATIONS

§ 13.1.6.1 The Contractor shall comply with laws, rules, regulations, and codes dealing with the prevention of environmental pollution and the preservation of public natural resources, including but not limited to, the latest amendments of the following:

§ 13.1.6.2 Chapter 251, public Law of 1975 of the State of New Jersey, "soil Erosion and Sediment Control Act."

### § 13.1.7 AFFIRMATION ACTION EMPLOYMENT LAW

Contractor agrees to comply with the terms of the Mandatory Equal Employment Opportunity Language, a copy of which is annexed to the Contract Documents as Exhibit F and incorporated as if set forth herein.

§ 13.1.7.1 Contractor shall submit a copy of the 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 Owner

§ 13.1.7.2 Contractor shall complete and submit to the Owner an Initial Project Workforce Report, New Jersey Department of Treasury Form AA 201, upon notification of award and no later than the execution of this Agreement. Failure to submit this completed form may result in this Agreement being terminated.

### § 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, neither party to the Contract shall assign the Contract as a whole without written consent of the other, unless as may be provided for elsewhere in the Contract Documents. If either party attempts to make such an assignment without such consent, that party shall nevertheless remain legally responsible for all obligations under the Contract.

### § 13.3 WRITTEN NOTICE

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

### § 13.4 RIGHTS AND REMEDIES

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

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

### § 13.5 TESTS AND INSPECTIONS

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

§ 13.5.2 If the Engineer, or his designee, Owner or public authorities having jurisdiction determine that portions of the Work require additional testing, inspection or approval not included under Section 13.5.1, the Engineer, or his designee 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 Engineer, or his designee of when and where tests and inspections are to be made so that the Engineer, or his designee may be present for such procedures. Such costs, except as provided in Section 13.5.3, shall be at the Owner's expense.

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

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

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

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

### § 13.6 INTEREST

Except as required by Section 5.1.3 of the Owner Contractor Agreement and notwithstanding anything to the contrary contained in the Contract Documents and related documents, the Owner will pay no interest whatsoever for any payments due.

### § 13.7 TIME LIMITS ON CLAIMS

Intentionally deleted.

## ARTICLE 14 TERMINATION OR SUSPENSION OF THE CONTRACT

### § 14.1 TERMINATION BY THE CONTRACTOR

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

- .1 Issuance of an order of a court or other public authority having jurisdiction that requires all Work to be stopped;
- .2 An act of government, such as a declaration of national emergency that requires all Work to be stopped;

§ 14.1.2 Intentionally deleted

§ 14.1.3 If one of the reasons described in Section 14.1.1 exists, the Contractor may, upon thirty (30) days' written notice to the Owner and Engineer, or his designee, terminate the Contract

§ 14.1.4 Intentionally deleted.

#### § 14.2 TERMINATION BY THE OWNER FOR CAUSE

§ 14.2.1 The Owner may terminate the Contract if the Contractor after Notice and an opportunity to cure.

- .1 refuses or fails to supply enough properly skilled workers or proper materials;
- .2 fails to make payment to Subcontractors for materials or labor in accordance with the respective agreements between the Contractor and the Subcontractors;
- .3 disregards laws, ordinances, rules or regulations, or orders of a public authority having jurisdiction;
- .4 fails to furnish the Owner with assurances satisfactory to the Owner, evidencing the Contractor's ability to complete the Work in compliance with all requirements of the Contract Documents;
- .5 fails after commencement of the Work, to proceed continuously with the construction and completion of the Work, for more than three (3) days, except as permitted by the Contract Documents;
- .6 disregards orders of the Owner or Engineer, or his designee;
- .7 fails to maintain the Site in a clean, safe and orderly manner;
- .8 fails to comply with a Construction Change Directive; or
- .9 otherwise is guilty of any breach of a provision of the Contract Documents.

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

- .1 Exclude the Contractor from the site and take possession of all materials, equipment, tools, and construction equipment and machinery thereon owned by the Contractor;
- .2 Accept assignment of subcontracts pursuant to Section 5.4; and
- .3 Finish the Work by whatever reasonable method the Owner may deem expedient. And charge the costs incurred against the Contractor's Contract balance

§ 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. The Engineer, or his designee's certification issued pursuant to Section 14.2.2 shall be given a presumption of correctness.

§ 14.2.4 If the unpaid balance of the Contract Sum exceeds costs of finishing the Work, including compensation for the Engineer, or his designee'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 Engineer, or his designee, 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 Intentionally deleted.

#### § 14.4 TERMINATION BY THE OWNER FOR CONVENIENCE

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

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

- .1 cease operations as directed by the Owner in the notice;

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

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

## ARTICLE 15 CLAIMS AND DISPUTES

### § 15.1 CLAIMS

#### § 15.1.1 DEFINITION

A Claim is a demand or assertion by one of the parties seeking adjustment or interpretation of Contract terms, payment of money, extension of time, or other relief with respect to the terms of the Contract. Any Contractor Claim seeking the payment of money shall not include consequential damages, which Contractor hereby waives, and shall be calculated in accordance with Section 7.3.6 and Section 7.3.10 hereof.

#### § 15.1.2 DECISION OF ENGINEER, OR HIS DESIGNEE

Owner and Contractor agree that the Engineer, or his designee shall be the initial arbiter of all Claims, including those alleging error or omission by the Engineer, or his designee. All claims, shall be referred, initially to the Engineer, or his designee for action as provided in Article 4 and shall be required as a condition precedent to litigation of a Claim between the Contractor and Owner to all such matters arising prior to the date final payment is due, regardless of: (1) whether such matters relate to execution and progress of the Work; or (2) the extent to which the work has been completed. The decision by the Engineer, or his designee in response to a Claim shall not be a condition precedent to litigation in the event: (1) the position of the Engineer, or his designee is vacant; (2) the Engineer, or his designee has not received evidence or has failed to render a decision within agreed time limits; (3) the Engineer, or his designee has failed to take action required under Article 4 within thirty (30) days after the Claim is made; (4) forty-five (45) days have passed after the Claim has been referred to the Engineer, or his designee; or, (5) the claim relates to a mechanic's lien.

#### § 15.1.3 TIME LIMITS ON CLAIMS

Claims must be within twenty one (21) calendar days after the occurrence of the event giving rise to the Claim or within twenty-one (21) calendar days after the claimant first becomes aware of the condition giving rise to the Claim, whichever is later. There shall be no time limitation upon any Claims made by the Owner. Claims must be made by written notice to the Engineer, or his designee. An additional Claim made after the initial Claim has been implemented by Change Order will not be considered unless submitted pursuant to the requirements of this Paragraph. Notice shall be deemed effective upon the Engineer, or his designee's receipt of the Notice.

#### § 15.1.4 CONTINUING CONTRACT PERFORMANCE

Pending final resolution of a Claim, unless otherwise agreed in writing, the Contractor shall proceed diligently with performance of the Contract and the Owner shall continue to make payments to the extent required by the Contract Documents.

#### § 15.1.5 CLAIMS FOR CONCEALED OR UNKNOWN CONDITIONS

If conditions are encountered at the Site which are: (1) subsurface or otherwise concealed physical conditions which differ materially from those indicated in the Contract Documents; or (2) unknown physical conditions of an unusual nature, which differ materially from those ordinarily found to exist and generally recognized as inherent in construction activities of the character provided for the Contract Documents, the Owner and Contractor mutually agree to give written notice to each other; including the Engineer, or his designee and any affected Contractor or subcontractor, upon the observation of the condition within twenty-four (24) hours of first observation of the condition. The Engineer, or his designee will investigate such conditions within seventy-two (72) hours and will diligently process and render a recommendation within twenty-one (21) days unless otherwise agreed in writing. If the Engineer, or his designee determines that the condition 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 Engineer, or his designee shall so notify the Owner and Contractor in writing, stating the reasons. Claims by either party in

opposition to such determination must be made within seven (7) days after the Engineer, or his designee has given notice of the decision.

#### § 15.1.6 CLAIMS FOR ADDITIONAL COST

If the Contractor wishes to make a Claim for an increase in the Contract Sum written notice as provided herein shall be given before proceeding to execute the Work. All documentation in support of the Contractor's request shall, likewise be provided at the time said written request is made. Prior notice is not required for Claims relating to an emergency endangering life or property arising under Section 10.3 or elsewhere in the Contract Documents.

#### § 15.2 CLAIMS FOR ADDITIONAL TIME

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

§ 15.2.2 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. The term "abnormal" as used here shall be construed according to the following formula: average rainfall (or snow, low temperature, etc) for the past five (5) years for the month in question, plus ten percent (10%). Accordingly, weather is not deemed to be abnormal unless it is ten percent (10%) worse than the average for the month over the past five (5) years. Claims relating to weather must be submitted within seven (7) calendar days of the occurrence of any such delays.

§ 15.3 CLAIMS FOR INJURY OR DAMAGE TO PERSON OR PROPERTY. If either Party to the Contract suffers injury or damage to person or property because of an act or omission of the other party, of any of the other party's employees or agents, or of others for whose acts such party is legally liable, written notice of such injury or damage, whether or not insured, shall be given to the other party, including the Engineer, or his designee , within a reasonable time not exceeding twenty-one (21) days after first occurrence, unless another time period is required by law. The notice shall provide sufficient detail to enable the other party to investigate the matter. If a Claim for additional cost or time related to this Claim is to be asserted, it shall be filed as provided for in Article 15.

§ 15.3.2 The Owner is not required to institute a claim under this section in order to terminate this Agreement.

#### § 15.4 RESOLUTION OF CLAIMS AND DISPUTES

The Engineer, or his designee will review Claims and take one or more of the following preliminary actions with ten (10) days of receipt of a Claim: (1) request additional supporting data from the claimant; (2) reject the Claim in who or in part, stating reasons for rejection ; (3) recommend approval of the Claim by other party; or (4) suggest a compromise.

§ 15.4.2 If a Claim has been resolved, the Engineer, or his designee will prepare or obtain appropriate documentation in consultation with Owner's counsel as circumstances dictate.

§ 15.4.3 If a Claim has not been resolved after consideration of the foregoing and of further evidence presented by the parties or requested by the Engineer, or his designee , the Engineer, or his designee will notify the parties in writing that the Engineer, or his designee 's decision will be made within seven (7) days, which decision shall be final. Upon expiration of such time period, the Engineer, or his designee will render to the parties the Engineer, or his designee 's written decision relative to the Claim, including any change in the Contract Sum or Contract Time or both.

#### § 15.5. CLAIMS FORUM

Unless otherwise required by Section 5.1.3 of the Standard Form of Agreement between the Owner and Contractor, claims, disputes, or other matters in question between the parties to this Contract arising out of or relating to the Project or to this Contract, or the alleges breach thereof, shall be subject in the first instance to mediation and failing that, there in, a Court of competent jurisdiction venued in Union County, New Jersey. The Owner may not be compelled to submit any dispute concerning the Project to arbitration. By accepting award of the Contract and executing the Agreement, the Contractor consents to its joinder as a party in any litigation, mediation, arbitration or any other legal proceeding involving the Project and any references in the Contract documents.

§ 16.1 INTERPRETATIONS IN WRITING

§ 16.1.1 Neither the price bid for the work of any Contract, nor the Contract Sum, shall be based in any manner upon oral opinions, or real or alleged instructions of an oral nature, regardless if whether such opinions or instructions are expressed by the Owner, the Engineer, or his designee or its Consultants, the Contractor, or agents or representative of any of them and no such oral communication shall form the basis of a Claim.

§ 16.1.2 These provisions do not intend to deny, on an oral basis, normal discussion, recommendations, explanations, suggestions, approvals, rejections, and similar activity in pursuit of the work of the Project, such as at job conferences and otherwise at the Site. In such instances, the written minutes, correspondence, shop drawing records, written field orders, and other written data shall govern over personal claims regarding statements made contrary to the written data.

§ 17.1 JOB SITE MEETINGS

§ 17.1.1 Job site meetings, when called by the Engineer, or his designee, shall be held at a location and time convenient to the Owner's representatives, the Engineer, or his designee, and Contractor(s). Each Contractor shall attend such meeting, or be represented by a person in authority who is thoroughly familiar with the Project and who can speak and make decisions for the Contractor. In the instance of a Single Overall Contract, each of the major Subcontractors-Structural Steel, and ornamental iron work, plumbing, gas fitting and all kindered work and steam power plants, steam, and hot water heating and ventilating apparatus and Electrical-shall have a person in authority who is thoroughly familiar with the Project attend the meetings.

§ 18.1 MANDATORY LAW AGAINST DISCRIMINATION LANGUAGE  
PROCUREMENT, PROFESSIONAL AND SERVICE CONTRACTS  
(N.J.A.C. 13:6-1.3)

§ 18.1.1 The parties of this contract do hereby agree that the provision of N.J.S.A. 10:2-1 through N.J.S.A. 10:2-4 dealing with discrimination in employment on public contracts, and the rules and regulations promulgated pursuant thereto, are hereby made a part of this contract and are binding upon them.

§ 18.1.1 Pursuant to the provision of N.J.S.A. 10:2-1 through N.J.S.A. 10:2-4, during the performance of this contract, the Contractor agrees as follows:

§ 18.2.1.1 In the hiring of persons for the performance of work under this contract or any subcontract hereunder, or for the procurement, manufacture, assembling or furnishing of any such materials, equipment, supplies or services to be acquired under this contract, no Contractor, including without limitation, the Contractor, nor any person acting on behalf of such Contractor or subcontractor, shall by reason of race, creed, color national origin, ancestry, Marital status, gender identity or expression, affectional or sexual orientation, or sex, discriminate against any person who is qualified and available to perform the Work, to which the employment relates;

§ 18.2.1.2 No Contractor, including, without limitation, the Contractor, Subcontractor, nor any person acting on its behalf shall, in any manner, discriminate against or intimidate any employee engaged in the performance of work under this Contract or any subcontract hereunder, or engaged in the procurement, manufacture, assembling or furnishing of any such materials, equipment, supplies or services to be acquired under such Contract, on account of race, creed, color, national origin, ancestry, marital status, gender identity or expression, affectional or sexual orientation, or sex;

§ 18.2.1.3 There may be deducted from the amount payable to the Contractor by the Owner, under the Contract, a penalty of \$50.00 (fifty dollars) for each person for each calendar day during which such person is discriminated against or intimidated in violation of the provisions of the Contract; and

§ 18.2.1.4 This contract may be canceled or terminated by the Owner, and all the money due or to become due hereunder may be forfeited, for any violation of this section of the Contract occurring after notice to the Contractor from the contracting public agency or any prior violation of this section of the Contract.

§ 19.1 CONTRACTOR AND SUBCONTRACTOR COLLECTION OF USE TAX TO LOCAL GOVERNMENTS

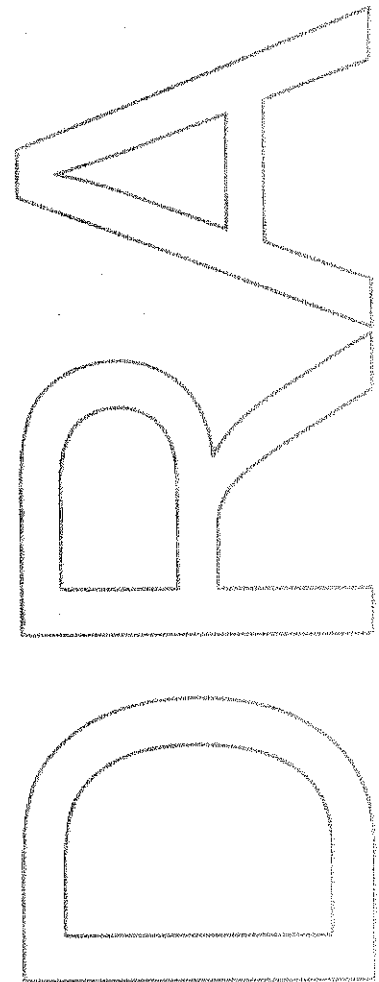
§ 19.1.1 The Contractor acknowledges and agrees that pursuant to P.L. 2004, c. 57, enacted by the State of New Jersey on June 29, 2004, contractors or contractors with subcontractors, or their affiliates, who enter into contracts

with New Jersey local government entities, including without limitation, boards of education, are, effective as of September 1, 2004, required to collect and remit to the New Jersey Director of Taxation in the Department of the Treasury the use tax pursuant to the "sales and Use Tax Act," P.L. 1966, c. 30 (C.54:32B-1 et. seq.) on all their sales of tangible personal property delivered into the State of New Jersey (hereinafter referred to as the "Contractor Use Tax Collection Legislation").

§ 19.2.1 The Contractor hereby covenants and agrees that the Contractor, any subcontractor and each of their affiliates, shall collect and remit to the New Jersey Director of the Division of Taxation in the Department of Treasury, the use tax due pursuant to the "Sales and Use Tax Act," P.L. 1966, c. 30 (C.54:32B-1 et. seq.) on all their sales of tangible personal property delivered into the State of New Jersey. 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.

§ 19.3.1 The parties intend that this Article 19 shall comply with the rules and regulations promulgated pursuant to the Contractor Use Tax Collection Legislation and shall be interpreted consistent therewith.

§ 19.4 Notwithstanding anything contained in the Agreement to the contrary, the Contractor hereby agrees to indemnify and hold the Owner harmless from and against any and all fines, taxes, penalties, interest, claims, losses. Costs, expenses, liabilities, or damages arising out of or in connection with the Contractor's failure to comply with the terms and condition of Sections 19.1 and 19.2 to the fullest extent permitted by law and public policy.





## Technical Specifications

**Improvements at Buildings #4 and #7 at  
The Deserted Village of Feltville/Glenside Park**  
9 Cataract Hollow Road, Berkeley Heights, NJ 07922  
The County of Union, Owner



Prepared for:

**The Union County Office of Cultural & Heritage Affairs**  
633 Pearl Street, Elizabeth, NJ 07202

Partial Project Funding:

Garden State Historic Preservation Trust Fund – Capital Level II Grant  
Administered by the

**New Jersey Historic Trust**

Department of Community Affairs

P.O. Box 457, Trenton, NJ 08625

Prepared by:



**Michael Calafati Architect, LLC**  
510 Bank Street, P.O. Box 2363  
Cape May, NJ 08204

Michael Calafati, R.A.

NJ Registration No. AI-09029

Certificate of Authorization No. AC-845 / Expires 01/2022

March 2021

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**IMPROVEMENTS AT BUILDINGS #4 AND #7 AT THE  
DESERTED VILLAGE OF FELTVILLE/GLENSIDE PARK  
9 Cataract Hollow Road, Berkeley Heights, New Jersey 07922**

**TITLE PAGE**

**TECHNICAL SPECIFICATIONS**

**OWNER:** The County of Union  
10 Elizabethtown Plaza  
Elizabeth, NJ 07202

**MANAGED BY:** The Union County Office of Cultural & Heritage Affairs  
633 Pearl Street  
Elizabeth, NJ 07202

**PROJECT FUNDING:** Capital Level II Grant  
Administered by the  
New Jersey Historic Trust  
Department of Community Affairs  
P.O. Box 457  
Trenton, NJ 08625  
Tel 609 984 0473  
[www.njht.org](http://www.njht.org)

**ARCHITECT:** Michael Calafati Architect, LLC  
510 Bank Street, P.O. Box 2363  
Cape May, NJ 08204  
Attention: Michael Calafati, AIA  
Tel 609 884 4922  
[michael@calafati.com](mailto:michael@calafati.com)

**M/E/P ENGINEERS:** KSi Consulting Engineers, LLC  
149 Yellowbrook Road, P.O. Box 628  
Farmingdale, NJ 07727  
Attention: James Sarno, PE  
Tel 732 938 2666

March 9, 2021

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# TECHNICAL SPECIFICATIONS

## IMPROVEMENTS AT BUILDINGS #4 AND #7 AT THE DESERTED VILLAGE OF FELTVILLE/GLENSIDE PARK

### TABLE OF CONTENTS

	<i>Sequence/ Page No.</i>
Cover	<i>i</i>
Title Page	<i>ii</i>
Technical Specifications Table of Contents	<i>iii</i>

### Technical Specifications

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#### **Division 01 – General Requirements**

011000	Summary of Work
012100	Allowances
012200	Unit Prices
012300	Alternates
012600	Contract Modification Procedures
012900	Payment Procedures
013100	Project Management and Coordination
013200	Construction Progress Documentation
013233	Photographic Documentation
013300	Submittal Procedures
013500	Special Procedures for Historic Treatment
014000	Quality Requirements
014200	References
015000	Temporary Facilities and Controls
016000	Product Requirements
017000	Execution Requirements
017100	Housekeeping and Cleaning
017329	Cutting and Patching
017700	Closeout Procedures
017839	Project Record Documents

#### **Division 02 – Site Work**

020344	Shoring and Bracing
022300	Site Clearing
024119	Selective Demolition
029900	Archaeological Monitoring

#### **Division 03 – Concrete**

033000	Cast-in-Place Concrete
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**Division 04 – Masonry**

042000 Masonry Restoration

**Division 06 – Wood and Plastics**

061000 Rough Carpentry

062000 Finish Carpentry

**Division 07 – Thermal and Moisture Protection**

073100 Wood Shingles

074623 Wood Siding

076100 Terne-Coated Stainless Steel Sheetmetal Roofs

076200 Sheet Metal Flashing and Trim

079200 Joint Sealants

**Division 08 – Openings**

085920 Historic Treatment of Exterior Wood Doors and Windows

**Division 09 – Finishes**

099000 Painting

099000A Lead Safe Practices

**Division 23 – Electrical Systems**

Refer to notes on the E-Series Drawings.

**Architectural and Engineering Drawings, 11” x 17” Format (Bound Separately)**

**Addenda (Issued during the Bid Period).**

## SECTION 011000 - SUMMARY OF WORK

### PART 1 - GENERAL

#### 1.1 SUMMARY

A. Section includes:

1. Project Description.
2. Historic Designation and Architectural Significance.
3. Work covered by Contract.
4. Definitions.
5. Regulatory Requirements.
6. Access to the site and the Contractor's use of the premises.
7. Preconstruction Meeting.
8. Coordination Requirements.

#### 1.2 PROJECT DESCRIPTION

A. The Project is:

Improvements at Buildings #4 and #7 at the Deserted Village of Feltville/Glenside Park

B. The Owner is the County of Union.

C. The Owner's Representative and contact person is:

Ronald Zuber, Director, Parks and Recreation  
The County of Union  
633 Pearl Street  
Elizabeth, NJ 07202  
Tel 908-527-4900  
Email rzuber@ucnj.org

D. Project funding has been made possible by:

The County of Union

-and-

Matching Project Funding provided by a *Capital Level II Grant* awarded in 2019 administered by the New Jersey Historic Trust, Department of Community Affairs, P.O. Box 457, Trenton, NJ 08625.

E. The Architect is:

Michael Calafati, AIA, Principal-in-Charge  
Michael Calafati Architect, LLC  
510 Bank Street, P.O. Box 2363  
Cape May, NJ 08204  
Phone 609-884-4922  
Email michael@calafati.com

- F. The designation of “Client” and “Owner” may be used and/or appear herein interchangeably.
- G. Review authority:

In addition to the usual oversight for a project of this nature, the project is subject to the review and approval by:

- a) The New Jersey Historic Trust (NJ Department of Community Affairs, Building, PO Box 457, Trenton, NJ 08625) as the Administrator of the Garden State Historic Preservation Trust Fund’s Capital Level II Grant Program.
- b) The New Jersey Historic Preservation Office (NJ Department of Environmental Protection, P.O. Box 420, Trenton, NJ 08625) in accordance with 36 CFR Part 8002 Protection of Historic Properties, as published in the Federal Register on December 12, 2000 (65 FR 77725-77739) and amended on July 6, 2004 (69 FR 40553-40555).

### 1.3 HISTORIC AND ARCHITECTURAL SIGNIFICANCE AND STATUS

- A. The buildings were constructed in 1845 as workers housing for Feltville, and modified in 1882 for vacation cottage use in Glenside Park. The goals of this project are to return the selected buildings’ exteriors to their appearance during the Glenside Park period through preservation with limited restoration and reconstruction of lost features and to re-introduce limited occupancy to small groups of visitors (with a docent or other trained guide) for purposes of interpretation and instruction to the first floor of Building #7 and to reduce the list of outstanding requirements necessary to eventually re-open the first floor of Building #4.
- B. Building #7’s distinctive features include murals by Roberto de la Selva, an artist of Nicaraguan birth and a student of Mexican artist Diego Rivera. The murals cover walls of three first floor rooms of the house and depict themes of Hispanic culture and religion. While the house dates to the mid 19<sup>th</sup> century, the murals were painted directly on the plaster walls in 1927. Initial conservation efforts began in 2018 and are expected to continue later this year. In addition, this building affords those with limited mobility a special opportunity to view and appreciate the former Factory Site and Blue Brook below to the south as the covered porch extends from the front around to the east and south (slightly more than half of the house’s exterior perimeter). Therefore, like Building #4, the restoration and reconstruction of the porch would be included.



## 1.4 WORK COVERED BY CONTRACT DOCUMENTS

### A. The project would entail a number of improvements:

The work on Buildings #4 and #7 addresses the roofs, exterior walls, exterior architectural trim, exterior doors and windows. Interior improvements would involve permanent structural repairs of the wood frame and the introduction of limited electrical service for illuminated exit signs with emergency egress lighting, to provide convenience outlets and outlets for electrical resistance heating units (within Building #7 to keep it above freezing temperatures during the winter months). Reconstruction would be limited to the exterior porches. Accessibility under the Americans with Disabilities Act (ADA) would be limited to the porches and the first floor interior level of Building #7. As these buildings are listed on the New Jersey State and National Registers of Historic Places as part of the Feltville Historic District, improvements would be minimally invasive to surviving historic building fabric and be reversible where necessary.

### B. Work is to be carried out to respect and conform to the Secretary of the Interior's Standards for the Treatment of Historic Properties (Revised 2017).

### C. Consult the Bid Proposal Form for the division of work items between the basic scope (Base Bid) and additional work (Alternates).

### D. The contractor's Scope of Work for this project include the following aspects:

#### 00 & 01 - OWNERS' REQUIREMENTS AND GENERAL REQUIREMENTS

- Requirements including, but not limited to, prevailing wages, regular certified payroll reporting, regularly scheduled project meetings during the construction period (or standing meetings, assumed to be held once every two weeks at the same time), architect's approvals of submittals (mock-ups, shop drawings, product literature) and monthly applications for payment.
- All typical aspects of facilities and temporary controls for a project of this type subject to public bidding requirements after prequalification.
- Project Closeout. Typical aspects for a project of this type, including the timely completion of punchlist items and submission of closeout paperwork.

#### 02 - EXISTING CONDITIONS AND SITEWORK

- Selective and workman removals and demolition.
- All necessary shoring of existing framing and temporary supports to complete the project.
- Excavation to place new electric line(s) and new reinforced concrete footings and foundations and related archaeological monitoring at all ground disturbances. [Note: The contractor would retain a qualified archaeologist directly for such monitoring during the course of the work. Such cost shall be built into the construction contract amount as an

allowance.]

- Salvage, tagging and bagging of all surviving building fabric, especially wooden porch components and door and window hardware, for re-use in this and future phases.
- Regrading at the front entrance of Building #7 to provide Barrier-Free/ADA Access to the porch and first floor level.

#### 03 - CONCRETE

- New reinforced concrete footings and foundations.

#### 04 - MASONRY RESTORATION

- Cleaning, patching, raking and repointing of the buildings' masonry foundations (brick and stone).

#### 06 - CARPENTRY

- Rough carpentry to repair, reinforce, and replace the buildings' structural framing, including porches and rafters (especially where main roof rafters meet exterior wall plates along existing gutters lines).
- Exterior finish carpentry to repair, reinforce, and replace clapboard siding, trim, cased door and window openings, roofline features, porch decks and porch components, including *rustic* or *Adirondack-style* posts, brackets, balustrades and related porch elements.

#### 07 - THERMAL AND MOISTURE PROTECTION

- New main roof wood shingles and related flashings.
- New replacement flat pan metal porch roofs and related flashings.
- New gutters, downspouts and accessories.

#### 08 - OPENINGS (DOORS AND WINDOWS)

- Restoration of existing exterior doors.
- Restoration of existing windows.
- Repair and reinstallation of all existing wood louvered vents previously fitted to promote ventilations.
- Repair and reinstallation of existing shutters where existing units and locations are readily identified.

#### 09 - FINISHES

- Preparation and painting of all exterior wood elements at Building #7.
- Preparation and painting of all exterior wood elements at Building #4.

#### 10 - SPECIALTIES

- Fabrication and installation of a project sign as required by the New Jersey Historic Trust, the final location of which is subject to approval by the Owner.

#### 23 - ELECTRICAL

- New backers with meters and cut-off switches and new underground lines

to new panel locations in the respective basements.

- New electrical service for illuminated exit signs with emergency egress lighting (limited to the first floors).
- New convenience outlets for light duty service, such as lighting, on the first floors.
- New receptacles for use by portable electrical resistance heating units to provide minimal heat during the winter months at Building #7 only. [Note: Such receptacles are limited to the first floor of Building #7 for the protection of the de la Selva murals. The purchase of the portable units is not included.]

## 1.5 DEFINITIONS

- A. Contractor: The term "Contractor" shall mean the General Contractor responsible for administering the contract.
- B. Owner-Client: Unless specifically stated otherwise, the general use of "Owner" within this project manual shall signify the County of Union, also known as the "Client."
- C. Furnish: Purchase a product together with its accessories and fastenings, deliver it, store and protect it before installation, and replace it if defective.
- D. Install: Assemble, mix, erect, apply, fasten, put in working order, repair, clean, protect, and otherwise incorporate in the Work as a complete, secure, and functioning item. Surface preparation, bracing, cutting, patching, curing, wiring, piping, energizing, testing, adjusting, finishing, and other work customarily associated with a product shall be part of installing it.
- E. Provide: To furnish and install.
- F. Indicated: Shown, drawn, noted, scheduled, specified, or otherwise included in the Contract Documents.

## 1.6 REGULATORY REQUIREMENTS

- A. Permits and Licenses:
  1. Obtain all permits and licenses required by regulations including local municipal building permits.
  2. Submit copies of all permits, licenses and similar permissions obtained, and receipts for fees paid, to the Owner directly.
  3. The cost of permits from Berkeley Heights Township will not be waived. The process of filing for and obtaining permit will be included as part of the General Contractors' base bid.

4. The General Contractors shall be required to closeout permits and produce proof of same as a condition of final payment.

## 1.7 ACCESS TO THE SITE AND USE OF THE PREMISES

- A. The space available to the Contractor for performance of the work and storage is the work area as indicated in the Contract Documents.
  1. Fence sections will be installed by the contractor around the work areas.
  2. The contractor will be responsible for submitting a Construction Staging Plan to Owner and Architect prior to commencing construction. This plan will be submitted at the Pre-Construction Meeting.
  3. Contractor parking and access is to be determined by the Owner.
- B. Restricted access to the site only along those routes designated by the owner.
- C. Security Procedures:
  1. Limit access to the site to persons involved in the work.
  2. Keep clear access to site at all times for emergency vehicles.
  3. Provide secure on-site storage for new and salvaged materials.
  4. Secure completed work as required to prevent loss.
- D. Signs: All signs must be submitted for review and acceptance by the Architect and the Director of Parks and Recreation prior to posting.
  1. Do not install, or allow to be installed, signs other than accepted signs.
- E. Condition of Existing Building: Maintain portions of existing building affected by construction operations in a weather tight condition throughout construction period. Repair damage caused by construction operations. Protect building and its site surroundings during construction period.

## PART 2 - PRODUCTS (NOT USED)

## PART 3 - EXECUTION

### 3.1 PRE-CONSTRUCTION MEETING

- A. A pre-construction meeting will be held at a time and place designated by the Architect, for the purpose of identifying responsibilities of the Owner's, Architect's personnel and explanation of the administrative procedures.
- B. The Contractor shall also use this meeting for the following minimum agenda:
  1. Designation of responsible personnel.
  2. Working hours.

3. Construction schedule.
4. Use of areas of the site.
5. Protection and preservation procedures.
6. Delivery and storage.
7. Safety.
8. Security.
9. Cleaning up.
10. Procedures relating to:
  - a. Submittals.
  - b. Applications for payment.
  - c. Record documents.
11. Submittals of Construction Staging Plan.

C. Attendees shall include:

1. The Owner.
2. The Architect, and any consultants.
3. The Contractor and superintendent.
4. Subcontractors, major suppliers and fabricators.

### 3.2 COORDINATION OF WORK

- A. General: Coordinate all administrative, demolition, and construction activities including temporary facilities and services required for performance of the work.
- B. Inform each party involved, in writing, of procedures required for coordination; include requirements for giving notice, submitting reports, and attending meetings.
- C. Coordinate all submittals required by the contract documents.
- D. Coordination Drawings: Prepare coordination drawings where space is limited, showing plan and cross-section dimensions of space available, including structural obstructions and finish elements.
  1. Show installation sequence when necessary for proper installation.

END OF SECTION 011000

## SECTION 012100 - ALLOWANCES

### PART 1 - GENERAL

#### 1.1 SUMMARY

- A. This Section includes administrative and procedural requirements governing allowances.
  - 1. Certain items are specified in the Contract Documents by allowances. Allowances have been established in lieu of additional requirements and to defer selection of actual materials and equipment to a later date when additional information is available for evaluation. If necessary, additional requirements will be issued by Change Order.
- B. Types of allowances include the following:
  - 1. Lump sum and Contingency Allowances.
  - 2. Unit Cost Allowance.
  - 3. Quantity Allowance.
  - 4. Contingency Allowance.
  - 5. Testing and Inspecting Agency Allowances.
- C. Related Sections include the following:
  - 1. The Bid Proposal form includes Base Bid Sub Items and Alternate Sub Items.
  - 2. Division 01 Section "Contract Modification Procedures" for procedures for submitting and handling Change Orders for allowances.
  - 3. Division 01 Section "Unit Prices" for procedures for using unit prices.
  - 4. Division 01 Section "Quality Requirements" for procedure governing the use of allowances for testing and inspecting.
  - 5. Divisions 02 and higher for Work items covered by allowances.

#### 1.2 SELECTION AND PURCHASE

- A. At the earliest practical date after award of the Contract, advise Architect of the date when final selection and purchase of each product or system described by an allowance must be completed to avoid delaying the Work.
- B. At Architect's request, obtain proposals for each allowance for use in making final selections. Include recommendations that are relevant to performing the Work.
- C. Purchase products and systems selected by Architect from the designated supplier.

#### 1.3 SUBMITTALS

- A. Submit proposals for purchase of products or systems included in allowances, in the form

specified for Change Orders.

- B. Submit invoices or delivery slips to show actual quantities of materials delivered to the site for use in fulfillment of each allowance.
- C. Submit time sheets and other documentation to show labor time and cost for installation of allowance items that include installation as part of the allowance.
- D. Coordinate and process submittals for allowance items in same manner as for other portions of the Work.

#### 1.4 COORDINATION

- A. Coordinate allowance items with other portions of the Work. Furnish templates as required to coordinate installation.

#### 1.5 LUMP SUM, QUANTITY AND CONTINGENCY ALLOWANCES

- A. Allowance shall include cost to Contractor of specific products and materials selected by Architect under allowance and shall include taxes, freight, and delivery to Project site.
- B. Unless otherwise indicated, Contractor's costs for receiving and handling at Project site, labor, installation, overhead and profit, and similar costs related to products and materials selected by Architect under allowance shall be included as part of the Contract Sum and not part of the allowance.
- C. Use the contingency allowance, if any, only as directed by Architect for Owner's purposes and only by Change Orders that indicate amounts to be charged to the allowance.
- D. Contractor's overhead, profit, and related costs for products and equipment ordered by Owner under the contingency allowance are included in the allowance and are not part of the Contract Sum. These costs include delivery, installation, taxes, insurance, equipment rental, and similar costs.
- E. Change Orders authorizing use of funds from the contingency allowance will include Contractor's related costs and reasonable overhead and profit margins.
- F. At Project closeout, credit unused amounts remaining in the contingency allowance to Owner by Change Order.

#### 1.6 TESTING AND INSPECTING ALLOWANCES

- A. Testing and inspecting allowances include the cost of engaging testing agencies, actual tests and inspections, and reporting results.
- B. The allowance does not include incidental labor required to assist the testing agency or costs for retesting if previous tests and inspections result in failure. The cost for incidental labor to assist the testing agency shall be included in the Contract Sum.

- C. Costs of services not required by the Contract Documents are not included in the allowance.
- D. At Project closeout, credit unused amounts remaining in the testing and inspecting allowance to Owner by Change Order.

#### 1.7 UNUSED MATERIALS

- A. Return unused materials purchased under an allowance to manufacturer or supplier for credit to Owner, after installation has been completed and accepted.
  - 1. If requested by Architect, prepare unused material for storage by Owner when it is not economically practical to return the material for credit. If directed by Architect, deliver unused material to Owner's storage space. Otherwise, the disposal of unused material is Contractor's responsibility.

### PART 2 - PRODUCTS (Not Used)

### PART 3 - EXECUTION

#### 3.1 EXAMINATION

- A. Examine products covered by an allowance promptly on delivery for damage or defects. Return damaged or defective products to manufacturer for replacement.

#### 3.2 PREPARATION

- A. Coordinate materials and their installation for each allowance with related materials and installations to ensure that each allowance item is completely integrated and interfaced with related work.

#### 3.3 SCHEDULE OF ALLOWANCES

- A. Refer to the Bid Proposal Form.

END OF SECTION 012100



## SECTION 012200 - UNIT PRICES

### PART 1 - GENERAL

#### 1.1 SUMMARY

- A. This Section includes administrative and procedural requirements for unit prices.
- B. Related Sections include the following:
  - 1. 012100 - "Allowances" for procedures for using unit prices to adjust quantity allowances.
  - 2. 014000 - "Quality Requirements" for general testing and inspecting requirements.

#### 1.2 DEFINITIONS

- A. Unit price is an amount proposed by bidders and stated on the Bid Form. A unit price is a price per unit measurement of materials or services added to or deducted from the Contract Sum by appropriate modification, if estimated quantities of Work required by the Contract Documents are increased or decreased.

#### 1.3 PROCEDURES

- A. Unit prices include all necessary material, plus cost for delivery, installation, insurance, applicable taxes, overhead, and profit.
- B. Measurement and Payment: Refer to the drawings and individual Specification Sections for work that requires establishment of unit prices.
- C. Owner reserves the right to reject Contractor's measurement of work-in-place that involves use of established unit prices and to have this work measured, at Owner's expense, by an independent surveyor acceptable to Contractor.
- D. List of Unit Prices: A list of unit prices is included on the Bid Proposal Form. Specification Sections referenced in the schedule contain requirements for materials described under each unit price.

### PART 2 - PRODUCTS (Not Used)

### PART 3 - EXECUTION

#### 3.1 LIST OF UNIT PRICES

- A. See Bid Proposal Form for Unit Prices as they may apply to this project.

END OF SECTION 012200

## SECTION 012300 - ALTERNATES

### PART 1 - GENERAL

#### 1.1 SUMMARY

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

#### 1.2 DEFINITIONS

- A. Alternate: An amount proposed by bidders and stated on the Bid Proposal Form for certain work defined in the Bidding Requirements that may be added to (or deducted from) the Base Bid amount if Owner decides to accept a corresponding change either in the amount of construction to be completed or in the products, materials, equipment, systems, or installation methods described in the Contract Documents.
  - 1. Alternates described in this Section are part of the Work only if enumerated in the Agreement.
  - 2. The cost or credit for each alternate is the net addition to or deduction from the Contract Sum to incorporate alternate into the Work. No other adjustments are made to the Contract Sum.

#### 1.3 PROCEDURES

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

### PART 2 - PRODUCTS (Not Used)

### PART 3 - EXECUTION

3.1 SCHEDULE OF ALTERNATES

- A. See Bid Proposal Form for the Alternates as they apply to this project.

END OF SECTION 012300

## SECTION 012600 - CONTRACT MODIFICATION PROCEDURES

### PART 1 - GENERAL

#### 1.1 SUMMARY

- A. This Section specifies administrative and procedural requirements for handling and processing Contract modifications.
- B. Related Sections include the following:
  - 1. 012100 - "Allowances" for procedural requirements for handling and processing allowances.
  - 2. 012200 - "Unit Prices" for administrative requirements for using unit prices.
  - 3. 016000 - "Product Requirements" for administrative procedures for handling requests for substitutions made after Contract award.

#### 1.2 MINOR CHANGES IN THE WORK

- A. Architect will issue supplemental instructions authorizing Minor Changes in the Work, not involving adjustment to the Contract Sum or the Contract Time, on AIA Document G710, "Architect's Supplemental Instructions."
- B. Change orders may be authorized only in accordance with N.J.A.C. 5:30-11. The governing body must authorize all change orders "except that minor field (site) modifications (for example, additional fill stone needed, modifications of footings, additional rock blasting) may be authorized, provided they do not affect the overall scope of work of the contract by the designated representative of the governing body. These change orders shall result only on minor price increases to the originally awarded contract price. All other change orders must be approved by prior resolution of the Owner.

#### 1.3 PROPOSAL REQUESTS

- A. Owner-Initiated Proposal Requests: Architect will issue a detailed description of proposed changes in the Work that may require adjustment to the Contract Sum or the Contract Time. If necessary, the description will include supplemental or revised Drawings and Specifications.
  - 1. Proposal Requests issued by Architect are for information only. Do not consider them instructions either to stop work in progress or to execute the proposed change.
  - 2. Within time specified in Proposal Request or if none indicated within 20 calendar days after receipt of Proposal Request, submit a quotation estimating cost adjustments to the Contract Sum and the Contract Time necessary to execute the change.
    - a. Include a list of quantities of products required or eliminated and unit costs, with total amount of purchases and credits to be made. If requested, furnish survey data to substantiate quantities.

- b. Indicate applicable taxes, delivery charges, equipment rental and amounts of trade discounts.
  - c. Include costs of labor and supervision directly attributable to the change.
  - d. Include an updated Contractor's Construction Schedule that indicates the effect of the change, including, but not limited to, changes in activity duration, start and finish times and activity relationship. Use available total float before requesting an extension of the Contract Time.
- B. Contractor-Initiated Proposals: If latent or unforeseen conditions require modifications to the Contract, Contractor may propose changes by submitting a request for a change to the Architect.
  - 1. Include a statement outlining reasons for the change and the effect of the change on the Work. Provide a complete description of the proposed change. Indicate the effect of the proposed change on the Contract Sum and the Contract Time.
  - 2. Include a list of quantities of products required or eliminated and unit costs, with total amount of purchases and credits to be made. If requested, furnish survey data to substantiate quantities.
  - 3. Indicate applicable taxes, delivery charges, equipment rental and amounts of trade discounts.
  - 4. Include costs of labor and supervision directly attributable to the change. For materials, include the cost given by supplier on supplier's letterhead paper.
  - 5. Include an updated Contractor's Construction Schedule that indicates the effect of the change, including, but not limited to, changes in activity duration, start and finish times, and activity relationship. Use available total float before requesting an extension of the Contract Time.
  - 6. Comply with requirements in Division 01 Section "Product Requirements" if the proposed change requires substitution of one product or system for product or system specified.
- C. Proposal Request Form: Use only **original** AIA Document G709 for Proposal Requests. Facsimiles or copies will not be accepted.

#### 1.4 ADMINISTRATIVE

- A. Unit Price Adjustment: Refer to Division 01 Section "Unit Prices" for administrative procedures for preparation of Change Order Proposal for adjusting the Contract Sum to reflect measured scope of unit price work.

#### 1.5 ALLOWANCES

- A. Allowance Adjustment: To adjust allowance amounts, base each Change Order proposal on the difference between purchase amount and the allowance, multiplied by final measurement of work-in-place. If applicable, include reasonable allowances for cutting losses, tolerances, mixing wastes, normal product imperfections and similar margins.

1. Include installation costs in purchase amount only where indicated as part of the allowance.
  2. If requested, prepare explanation and documentation to substantiate distribution of overhead costs and other margins claimed.
  3. Submit substantiation of a change in scope of work, if any, claimed in Change Orders related to unit-cost allowances.
  4. Owner reserves the right to establish the quantity of work-in-place by independent quantity survey, measure, or count.
- B. Submit claims for increased costs because of a change in scope or nature of the allowance described in the Contract Documents, whether for the Purchase Order amount or Contractor's handling, labor, installation, overhead and profit. Submit claims within 5 days of receipt of the Change Order or Construction Change Directive authorizing work to proceed. Owner will reject claims submitted later than 5 calendar days after such authorization.
1. Do not include Contractor's or Subcontractor's indirect expense in the Change Order cost.
  2. No change to Contractor's indirect expense is permitted for selection of higher- or lower-priced materials or systems of the same scope and nature as originally indicated.

## 1.6 CHANGE ORDER PROCEDURES

- A. On Owner's acceptance of a Proposal Request, Architect will issue a Change Order for signatures of Owner and Contractor on **original** AIA Document G701.
- B. Change orders may be authorized only in accordance with N.J.A.C. 5:30-11. The Mayor and Council must authorize all change orders "except that minor field (site) modifications (for example, additional fill stone needed, modifications of footings, additional rock blasting) may be authorized, provided they do not affect the overall scope of work of the contract by the designated representative of the governing body. These change orders shall result only on minor price increases to the originally awarded contract price. All other change orders must be approved by prior resolution of the Owner.
- C. See "General Instructions & Conditions for City Contracts" for allowable markups.

## 1.7 CONSTRUCTION CHANGE DIRECTIVE

- A. Construction Work Change Directive: Architect may issue a Construction Work Change Directive on AIA Document G714. Construction Work Change Directive instructs Contractor to proceed with a change in the Work, for subsequent inclusion in a Change Order.
1. Construction Work Change Directive contains a complete description of change in the Work. It also designates method to be followed to determine change in the Contract Sum or the Contract Time.

- B. Documentation: Maintain detailed records on a time and material basis of work required by the Construction Work Change Directive.
1. After completion of change, submit an itemized account and supporting data necessary to substantiate cost and time adjustments to the Contract.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 012600

## SECTION 012900 - PAYMENT PROCEDURES

### PART 1 - GENERAL

#### 1.1 SUMMARY

- A. This Section specifies administrative and procedural requirements necessary to prepare and process Applications for Payment.
- B. Related Sections include the following:
  - 1. 012100 – “Allowances” for procedural requirements governing handling and processing of allowances.
  - 2. 012600 – “Contract Modification Procedures” for administrative procedures for handling changes to the Contract.
  - 3. 012200– “Unit Prices” for administrative requirements governing use of unit prices.
  - 4. 013200 – “Construction Progress Documentation” for administrative requirements governing, preparation, and submittal of Contactor’s Construction Schedule and Submittals.
  - 5. 013233 – “Photographic Documentation” for photographic requirements showing intermediate work completed.

#### 1.2 DEFINITIONS

- A. Schedule of Values: A statement furnished by Contractor to the Architect prior to the first project meeting allocating portions of the Contract Sum to various portions of the Work and used as the basis for reviewing Contractor's Applications for Payment. Employ only **original** AIA Documents G702 and G703 using the current 50 Division CSI format. Facsimiles or copies will not be accepted. Additional values, as needed, may be required. For example, list all Add Alternates separately and subdivide major CSI divisions as (if) necessary.

#### 1.3 SCHEDULE OF VALUES

- A. Coordination: Coordinate preparation of the Schedule of Values with preparation of Contractor's Construction Schedule.
  - 1. Correlate line items in the Schedule of Values with other required administrative forms and schedules, including the following:
    - a. Application for Payment forms with Continuation Sheets.
    - b. Submittals Schedule.
    - c. Items required to be indicated as separate activities in Contractor’s construction schedule.
    - d. Contactor’s Construction Schedule.



2. Submit the Schedule of Values to Architect at earliest possible date but no later than seven (7) days before the date scheduled for submittal of first Applications for Payment.
  3. Sub-schedules for Phased Work: Where the work is separated into phases requiring separately phased payments, provide sub-schedules showing values correlated with each phase of payment.
- B. Format and Content: Use the Project Manual table of contents as a guide to establish line items for the Schedule of Values. Provide at least one line item for each CSI Division and/or Specification Section.
1. Identification: Include the following Project identification on the schedule of values:
    - a. Project name and location.
    - b. Name of Architect.
    - c. Architect's project number.
    - d. Contractor's name and address.
    - e. Date of submittal.
  2. Arrange schedule of values consistent with format of AIA Document G703 continuation sheets. Only original documents will be accepted. Facsimiles or copies will not be accepted.
  3. Provide a breakdown of the Contract Sum in enough detail to facilitate continued evaluation of Applications for Payment and progress reports. Coordinate with the Project Manual table of contents. Provide several line items for principal subcontract amounts, where appropriate.
  4. Round amounts to nearest whole dollar; total shall equal the Contract Sum.
  5. Provide a separate line item in the Schedule of Values for each part of the Work where Applications for Payment may include materials or equipment purchased or fabricated and stored, but not yet installed.
    - a. Differentiate between items stored on-site and items stored off-site. Items stored off-site or not yet delivered, are not subject for payment unless evidence of insurance or bonded warehousing is provided.
  6. Allowances: Provide a separate line item in the Schedule of Values for each allowance. Show line-item value of unit-cost allowances, as a product of the unit cost, multiplied by measured quantity. Use information indicated in the Contract Documents to determine quantities.
  7. Each item in the Schedule of Values and Applications for Payment shall be complete. Include total cost and proportionate share of General Conditions/Requirements and contractor's overhead and profit for each item.
    - a. Option: At contractor's discretion, temporary facilities and other major cost items that are not direct cost of actual work-in-place may be shown either as

separate line items in the Schedule of Values or distributed as general overhead expense.

8. Schedule Updating: Update and resubmit the Schedule of Values before the next Applications for Payment when Change Orders or Construction Change Directives result in a change in the Contract Sum.

#### 1.4 APPLICATIONS FOR PAYMENT

- A. Each Application for Payment shall be consistent with previous applications and payments as certified by Architect and Construction Manager and paid for by Owner.
  1. Initial Application for Payment, Application for Payment at time of Substantial Completion and final Application for Payment involve additional requirements.
- B. Payment Application Times: The date for each progress payment is indicated in the Agreement between Owner and Contractor. The period of construction Work covered by each Application for Payment is the period indicated in the Agreement.
- C. Payment Application Times: The date for each progress payment is the Monday following the 15th day of each month. The period covered by each Application for Payment starts on the day following the end of the preceding period and ends on the 15<sup>th</sup> day of the month (before the date for each progress payment).
- D. Payment Application Forms: Use only **original** AIA Document G702 and AIA Document G703 Continuation Sheets as form for Applications for Payment. Facsimiles or copies will not be accepted. Payments will be made to the Contractor on a monthly basis upon submission of properly executed vouchers in accordance with established the Owner's procedures.
- E. Application Preparation: Complete every entry on form. Notarize and execute by a person authorized to sign legal documents on behalf of Contractor. Architect will return incomplete applications without action.
  1. Entries shall match data on the Schedule of Values and Contractor's Construction Schedule. Use updated schedules if revisions were made.
  2. Include amounts of Change Orders and Construction Change Directives issued before last day of construction period covered by application.
- F. Transmittal: **Submit 3 signed and notarized original copies of each Application for Payment to Architect by a method ensuring receipt within 72 hours. One copy shall include waivers of lien using all original AIA Documents G706 and G706A (as applicable) and similar attachments.**
  1. Transmit each copy with a transmittal form listing attachments and recording appropriate information about application.
- G. Photographs: Provide high resolution color images documenting progress during the period covered by the application for payment. Unless directed otherwise, provide 24 to

48 views (duplicates not included), which depict all aspects of the work in progress. Images may be submitted as jpg files on a Compact Disk.

- H. Waivers of Mechanic's Lien: With each Application for Payment, submit waivers of mechanic's liens from subcontractors, subcontractors, and suppliers for construction period covered by the previous application. Use original AIA Documents 706 and 706A-1994. Facsimiles or copies will not be accepted.
1. Submit partial waivers on each item for amount requested in previous application, after deduction for retainage, on each item.
  2. When an application shows completion of an item, submit conditional final or full waivers.
  3. Owner reserves the right to designate which entities involved in the Work must submit waivers.
  4. Submit final Application for Payment with or preceded by conditional final waivers from every entity involved with performance of the Work covered by the application who is lawfully entitled to a lien.
  5. Waiver Forms: Submit waivers of lien on AIA forms, as described and executed in a manner acceptable to Owner.
- I. Initial Application for Payment: Administrative actions and submittals that must precede or coincide with submittal of first Application for Payment include the following:
1. List of subcontractors (list shall not deviate from previous acceptances).
  2. Schedule of Values.
  3. Contractor's Construction Schedule (bar-graph format).
  4. Products list.
  5. Schedule of unit prices.
  6. Submittals Schedule.
  7. List of Contractor's staff assignments.
  8. List of Contractor's principal consultants.
  9. Copies of building permits.
  10. Copies of authorizations and licenses from authorities having jurisdiction for performance of the Work.
  11. Initial progress summary (outline form addresses all aspects of the project).
  12. Certificates of insurance and insurance policies.
  13. Performance and payment bonds.
  14. Data needed to acquire Owner's insurance.
  15. Comprehensive photographs to show preconstruction conditions.
- J. Application for Payment at Substantial Completion: After issuing the Certificate of Substantial Completion, submit an Application for Payment showing 100 percent completion for portion of the Work claimed as substantially complete.
1. Include documentation, including photographs, supporting claim that the Work is

substantially complete and a statement showing an accounting of changes to the Contract Sum.

2. This application shall reflect Certificates of Partial Substantial Completion issued previously for Owner occupancy of designated portions of the Work.
- K. Final Payment Application: Submit final Application for Payment with releases and supporting documentation not previously submitted and accepted, including, but not limited, to the following:
1. Evidence of completion of Project closeout requirements.
  2. Insurance certificates for products and completed operations where required and proof that taxes, fees, and similar obligations were paid.
  3. Updated final statement, accounting for final changes to the Contract Sum.
  4. AIA Document G706, "Contractor's Affidavit of Payment of Debts and Claims."
  5. AIA Document G706A, "Contractor's Affidavit of Release of Liens."
  6. AIA Document G707, "Consent of Surety to Final Payment."
  7. Evidence that claims have been settled.
  8. Final meter readings for utilities, a measured record of stored fuel, and similar data as of date of Substantial Completion or when Owner took possession of and assumed responsibility for corresponding elements of the Work.
  9. Final liquidated damages settlement statement, if required.

## PART 2 - PRODUCTS

### 2.1 USE OF AIA DOCUMENTS

- A. Only original AIA Documents, whether or not specifically cited herein, may be used. Photocopies, replicas or facsimiles will not be accepted.

## PART 3 - EXECUTION (Not Used)

END OF SECTION 012900

## SECTION 013100 - PROJECT MANAGEMENT AND COORDINATION

### PART 1 - GENERAL

#### 1.1 SUMMARY

- A. Section includes administrative provisions for coordinating construction operations on Project including, but not limited to, the following:
  - 1. Coordination drawings.
  - 2. Administrative and supervisory personnel.
  - 3. Requests for Information (RFIs).
  - 4. Project meetings.
- B. General Contractor shall be responsible for coordination requirements. Subcontractors shall participate in coordination.
- C. Related Sections:
  - 1. Division 01 Section "Construction Progress Documentation" for preparing and submitting Contractor's Construction Schedule.
  - 2. Division 01 Section "Closeout Procedures" for coordinating closeout of the Contract.
  - 3. Divisions 02 and higher for coordination of all trades.

#### 1.2 DEFINITIONS

- A. RFI: Request for interpretation or clarification of the Contract Documents.

#### 1.3 COORDINATION

- A. Coordination: Coordinate construction operations included in different Sections of the Specifications to ensure efficient and orderly installation of each part of the Work. Coordinate construction operations, included in different Sections that depend on each other for proper installation, connection, and operation.
  - 1. Schedule construction operations in sequence required to obtain the best results where installation of one part of the Work depends on installation of other components, before or after its own installation.
  - 2. Coordinate installation of different components to ensure maximum performance and accessibility for required maintenance, service, and repair.
  - 3. Make adequate provisions to accommodate items scheduled for later installation.
- B. Prepare memoranda for distribution to each party involved, outlining special procedures required for coordination. Include such items as required notices, reports, and list of attendees at meetings.

1. Prepare similar memoranda for Owner and separate subcontractors.
- C. Administrative Procedures: Coordinate scheduling and timing of required administrative procedures with other construction activities and activities of subcontractors to avoid conflicts and to ensure orderly progress of the Work. Such administrative activities include, but are not limited to, the following:
1. Preparation of Contractor's construction schedule.
  2. Preparation of the schedule of values.
  3. Installation and removal of temporary facilities and controls.
  4. Delivery and processing of submittals.
  5. Progress meetings.
  6. Startup and adjustment of systems.
  7. Project closeout activities.

#### 1.4 COORDINATION DRAWINGS

- A. Coordination Drawings: Prepare coordination drawings in accordance with requirements in individual Sections, where installation is not completely shown on Shop Drawings, where limited space availability necessitates coordination and to facilitate integration of products and materials fabricated or installed by more than one entity.
1. Content: Project-specific information, drawn accurately to a scale large enough to indicate and resolve conflicts. Do not base coordination drawings on reproductions of the Contract Documents or standard printed data. Include the following information, as applicable:
    - a. Indicate functional and spatial relationships of components of architectural, mechanical, electrical systems and plumbing.
    - b. Indicate required installation sequences.
- B. Coordination Drawing Organization: Organize coordination drawings as follows:
1. Floor Plans, Reflected Ceiling Plans and Sections as needed to show: architectural, structural, and mechanical, plumbing, and electrical work.
  2. Review: Architect will review coordination drawings to confirm that the Work is being coordinated, but not for the details of the coordination, which are the Contractor's responsibility.

#### 1.5 REQUESTS FOR INFORMATION (RFIs)

- A. General: Immediately on discovery of the need for additional information or interpretation of the Contract Documents, Contractor shall prepare and submit an RFI in the form specified.
1. Architect will return RFIs submitted to Architect by other entities controlled by Contractor with no response.
  2. Coordinate and submit RFIs in a prompt manner so as to avoid delays in Contractor's work or work of subcontractors.

- B. Content of the RFI: Include a detailed, legible description of item needing information or interpretation and the following:
1. Project name.
  2. Project number.
  3. Date.
  4. Name of Contractor.
  5. Name of Architect.
  6. RFI number, numbered sequentially.
  7. RFI subject.
  8. Specification Section number and title and related paragraphs, as appropriate.
  9. Drawing number and detail references, as appropriate.
  10. Field dimensions and conditions, as appropriate.
  11. Contractor's suggested resolution. If Contractor's solution(s) impacts the Contract Time or the Contract Sum, Contractor shall state impact in the RFI.
  12. Contractor's signature.
  13. Attachments: Include sketches, descriptions, measurements, photos, Product Data, Shop Drawings, coordination drawings, and other information necessary to fully describe items needing interpretation.
- C. RFI Forms: AIA Document G716 originals only or similar format.
- D. Architect's Action: Architect will review each RFI, determine action required, and respond. Allow ten working days for Architect's response for each RFI, fifteen days when a Consultant is required. RFIs received by Architect after 1:00 p.m. will be considered as received the following working day.
1. The following RFIs will be returned without action:
    - a. Requests for acceptance of submittals.
    - b. Requests for acceptance of substitutions.
    - c. Requests for coordination information already indicated in the Contract Documents.
    - d. Requests for adjustments in the Contract Time or the Contract Sum.
    - e. Requests for interpretation of Architect's actions on submittals.
    - f. Incomplete RFIs or inaccurately prepared RFIs.
  2. Architect's action may include a request for additional information, in which case Architect's time for response will date from time of receipt of additional information.
  3. Architect's action on RFIs that may result in a change to the Contract Time or the Contract Sum may be eligible for Contractor to submit Change Proposal according to Division 01 Section "Contract Modification Procedures."
    - a. If Contractor believes the RFI response warrants change in the Contract Time or the Contract Sum, notify Architect in writing within five days of receipt of the RFI response.
- E. On receipt of Architect's action, update the RFI log and immediately distribute the RFI

response to affected parties. Review response and notify Architect within seven days if Contractor disagrees with response.

- F. RFI Log: Architect will prepare RFI log. Log will be updated and returned with the response to each RFI.

## 1.6 PROJECT MEETINGS

- A. General: Schedule and conduct meetings and conferences at Project site, unless otherwise indicated.

1. Attendees: The Architect will inform participants and others involved, and individuals whose presence is required, of date and time of each meeting.
2. Agenda: The Architect will prepare the meeting agenda and distribute the agenda to all invited attendees.
3. Minutes: The Architect will record significant discussions and agreements achieved and will distribute the meeting minutes to everyone concerned.

- B. Preconstruction Conference: The Architect will schedule and conduct a preconstruction conference before starting construction at a time convenient to all parties but no later than 15 days after execution of the Agreement. The meeting will be held at the Project site. The meeting will review responsibilities and personnel assignments.

1. Attendees: Authorized representatives of Owner, Architect, and their consultants; Contractor and its superintendent; major subcontractors; suppliers; and other concerned parties shall attend the conference. Participants at the conference shall be familiar with Project and authorized to conclude matters relating to the Work.
2. Agenda: Discuss items of significance that could affect progress, including the following:
  - a. Tentative construction schedule.
  - b. Phasing.
  - c. Critical work sequencing and long-lead items.
  - d. Designation of key personnel and their duties.
  - e. Procedures for processing field decisions and Change Orders.
  - f. Procedures for RFIs.
  - g. Procedures for testing and inspecting.
  - h. Procedures for processing Applications for Payment.
  - i. Distribution of the Contract Documents.
  - j. Submittal procedures.
  - k. Preparation of record documents and photographs.
  - l. Use of the premise and existing building.
  - m. Work restrictions.
  - n. Working hours.
  - o. Owner's occupancy requirements.
  - p. Responsibility for temporary facilities and controls.
  - q. Procedures for moisture and mold control.
  - r. Procedures for disruptions and shutdowns.
  - s. Construction waste management and recycling.



- t. Parking availability.
- u. Office, work, and storage areas.
- v. Equipment deliveries and priorities.
- w. First aid.
- x. Security.
- y. Progress cleaning.

3. Minutes: The Architect will record and distribute Meeting Minutes.

C. Preinstallation Conferences: Conduct a preinstallation conference at Project site before each construction activity that requires coordination with other construction. Such Preinstallation Conferences, when necessary, shall be timed by the General Contractor to coincide with a regular progress meeting.

1. Attendees: Installer and representatives of manufacturers and fabricators involved in or affected by the installation and its coordination or integration with other materials and installations that have preceded or will follow, shall attend the meeting. Advise Architect of scheduled meeting dates.

2. Agenda: Review progress of other construction activities and preparations for the particular activity under consideration, including requirements for the following:

- a. Contract Documents.
- b. Options.
- c. Related RFIs.
- d. Related Change Orders.
- e. Purchases.
- f. Deliveries.
- g. Submittals.
- h. Review of mockups.
- i. Possible conflicts.
- j. Compatibility problems.
- k. Time schedules.
- l. Weather limitations.
- m. Manufacturer's written recommendations.
- n. Warranty requirements.
- o. Compatibility of materials.
- p. Acceptability of substrates.
- q. Temporary facilities and controls.
- r. Space and access limitations.
- s. Regulations of authorities having jurisdiction.
- t. Testing and inspecting requirements.
- u. Installation procedures.
- v. Coordination with other work.
- w. Required performance results.
- x. Protection of adjacent work.
- y. Protection of construction and personnel.

3. Record significant conference discussions, agreements, and disagreements,

- including required corrective measures and actions.
4. Reporting: Distribute minutes of the meeting to each party present and to other parties requiring information.
  5. Do not proceed with installation if the conference cannot be successfully concluded. Initiate whatever actions are necessary to resolve impediments to performance of the Work and reconvene the conference at earliest feasible date.
- D. Progress Meetings: The Architect will conduct progress meetings monthly or at necessary intervals.
1. Attendees: In addition to representatives of Owner and Architect, each contractor, subcontractor, supplier, and other entity concerned with current progress or involved in planning, coordination, or performance of future activities shall be represented at these meetings. All participants at the meeting shall be familiar with Project and authorized to conclude matters relating to the Work.
  2. Agenda: Review and correct or accept minutes of previous progress meeting. Review other items of significance that could affect progress. Include topics for discussion as appropriate to status of Project.
    - a. Contractor's Construction Schedule: Review progress since the last meeting. Determine whether each activity is on time, ahead of schedule, or behind schedule, in relation to Contractor's construction schedule. Determine how construction that is behind schedule will be expedited; secure commitments from parties involved to do so. Discuss whether schedule revisions are required to ensure that current and subsequent activities will be completed within the Contract Time.
      - 1) Review schedule for next period.
    - b. Review present and future needs of each entity present, including the following:
      - 1) Interface requirements.
      - 2) Sequence of operations.
      - 3) Status of submittals.
      - 4) Deliveries.
      - 5) Off-site fabrication.
      - 6) Access.
      - 7) Site utilization.
      - 8) Temporary facilities and controls.
      - 9) Work hours.
      - 10) Hazards and risks.
      - 11) Progress cleaning.
      - 12) Quality and work standards.
      - 13) Status of correction of deficient items.
      - 14) Field observations.
      - 15) Status of RFIs.
      - 16) Status of proposal requests.

- 17) Pending changes.
  - 18) Status of Change Orders.
  - 19) Pending claims and disputes.
  - 20) Documentation of information for payment requests.
3. Reporting of Meeting Minutes: The Architect will record and distribute meeting minutes to the Contractor and to each party present and to parties who should have been present.
    - a. Schedule Updating: Revise Contractor's construction schedule after each progress meeting where revisions to the schedule have been made or recognized. Issue revised schedule concurrently with the report of each meeting.
- E. Coordination Meetings: Conduct Project coordination meetings on an as needed basis. Project coordination meetings are in addition to specific meetings held for other purposes, such as progress meetings and preinstallation conferences.
1. Attendees: In addition to representatives of Owner and Architect, each contractor, subcontractor, supplier, and other entity concerned with current progress or involved in planning, coordination, or performance of future activities shall be represented at these meetings. All participants at the conference shall be familiar with Project and authorized to conclude matters relating to the Work.
  2. Agenda: Review and correct or approve minutes of the previous coordination meeting. Review other items of significance that could affect progress. Include topics for discussion as appropriate to status of Project.
    - a. Combined Contractor's Construction Schedule: Review progress since the last coordination meeting. Determine whether each contract is on time, ahead of schedule, or behind schedule, in relation to Combined Contractor's Construction Schedule. Determine how construction that is behind schedule will be expedited; secure commitments from parties involved to do so. Discuss whether schedule revisions are required to ensure that current and subsequent activities will be completed within the Contract Time.
    - b. Schedule Updating: Revise Combined Contractor's Construction Schedule after each coordination meeting where revisions to the schedule have been made or recognized. Issue revised schedule concurrently with report of each meeting.
    - c. Review present and future needs of each contractor and subcontractor present, including the following:
      - 1) Interface requirements.
      - 2) Sequence of operations.
      - 3) Status of submittals.
      - 4) Deliveries.
      - 5) Off-site fabrication.
      - 6) Access.

- 7) Site utilization.
  - 8) Temporary facilities and controls.
  - 9) Work hours.
  - 10) Hazards and risks.
  - 11) Progress cleaning.
  - 12) Quality and work standards.
  - 13) Change Orders.
3. Reporting: Record meeting results and distribute copies to everyone in attendance and to others affected by decisions or actions resulting from each meeting.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 013100

## SECTION 013200 - CONSTRUCTION PROGRESS DOCUMENTATION

### PART 1 - GENERAL

#### 1.1 SUMMARY

- A. This Section includes administrative and procedural requirements for documenting the progress of construction during performance of the Work, including the following:
1. Contractor's Construction Schedule.
  2. Submittals Schedule.
  3. Periodic construction reports.
  4. Material location reports.
  5. Field condition reports.
  6. Special reports.
  7. Construction photographs.
- B. Related Sections include the following:
1. 012900 – "Payment Procedures" for submitting the Schedule of Values.
  2. 013300 - "Submittal Procedures" for submitting schedules and reports.
  3. 013233 – "Photographic Documentation" for submitting construction photographs.
  4. 014000 – "Quality Requirements" for submitting a schedule of tests and inspections.
  5. 017700 - "Closeout Procedures" for submitting photographs as Project Record Documents at Project Closeout.

#### 1.2 DEFINITIONS

- A. Activity: A discrete part of a project that can be identified for planning, scheduling, monitoring, and controlling the construction project. Activities included in a construction schedule consume time and resources.
1. Critical Activity: An activity on the critical path that must start and finish on the planned early start and finish times.
  2. Predecessor Activity: An activity that precedes another activity in the network.
  3. Successor Activity: An activity that follows another activity in the network.
- B. Cost Loading: The allocation of the Schedule of Values for the completion of an activity, as scheduled. The sum of costs for all activities must equal the total Contract Sum, unless otherwise approved by Architect.
- C. Critical Path: The longest connected chain of interdependent activities through the network schedule that establishes the minimum overall Project duration and contains no float.
- D. Event: The start or ending point of an activity.

- E. Float: The measure of leeway in starting and completing an activity.
  - 1. Float time is not for the exclusive use or benefit of either Owner or Contractor, but is a jointly owned, expiring Project resource available to both parties as needed to meet schedule milestones and Contract completion date.
  - 2. Free float is the amount of time an activity can be delayed without adversely affecting the early start of the successor activity.
  - 3. Total float is the measure of leeway in starting or completing an activity without adversely affecting the planned Project completion date.
- F. Fragment: A partial or fragmentary network that breaks down activities into smaller activities for greater detail.
- G. Major Area: A story of construction, a separate building, or a similar significant construction element.
- H. Milestone: A key or critical point in time for reference or measurement.
- I. Network Diagram: A graphic diagram of a network schedule, showing activities and activity relationships.
- J. Resource Loading: The allocation of manpower and equipment necessary for the completion of an activity as scheduled.

### 1.3 SUBMITTALS

- A. Qualification Data: For firms and persons specified in "Quality Assurance" Article to demonstrate their capabilities and experience. Include lists of completed projects with project names and addresses, names and addresses of architects and owners and other information specified. Also refer to technical specification for qualification requirements.
- B. Submittals Schedule: Submit four copies of schedule. Arrange the following information in a tabular format:
  - 1. Scheduled date for first submittal.
  - 2. Specification Section number and title.
  - 3. Submittal category (action or informational).
  - 4. Name of subcontractor.
  - 5. Description of the Work covered.
  - 6. Scheduled date for Architect's final release or acceptance.
- C. Contractor's Construction Schedule: Submit three printed copies of bar-graph schedule, maximum size 11" x 17". Schedule subject to weekly revisions during the course of the contract for construction.
- D. Period Construction Reports and Material Location Reports: Submit two copies at each project meeting or when requested by Architect.

- E. Field Condition Reports: Submit two copies at time of discovery of differing conditions (within one-day of discovery).

#### 1.4 QUALITY ASSURANCE

- A. Photographer Qualifications: The general contractor may take the photographs, provided that the quality of the photographs are considered acceptable by the Architect and are submitted in a timely manner at each project meeting, properly labeled and submitted on CD and hard copy.

#### 1.5 COORDINATION

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

### PART 2 - PRODUCTS

#### 2.1 SUBMITTALS SCHEDULE

- A. Preparation: Submit a schedule of submittals, arranged in chronological order by dates required by construction schedule. Include time required for review, resubmit, ordering, manufacturing, fabrication and delivery when establishing dates.
  - 1. Coordinate submittals schedule with list of subcontracts, the Schedule of Values, and Contractor's Construction Schedule.
  - 2. Initial Submittal: At the first project meeting, provide schedule of submittals required during construction. List those required to maintain orderly progress of the Work and those required early because of long lead-time for manufacture or fabrication.
    - a. Coordinate submittals with the Preliminary Construction Schedule.
  - 3. Interim Submittals: Provide updated submittals schedule at each project meeting, as required.

#### 2.2 CONTRACTOR'S CONSTRUCTION SCHEDULE, GENERAL

- A. Procedures: Comply with procedures contained in AGC's "Construction Planning & Scheduling."
- B. Time Frame: Extend schedule from date established for the Notice to Proceed to date of Substantial Completion.
  - 1. Contract completion date shall not be changed by submission of a schedule that shows an early completion date, unless specifically authorized by Change Order.
- C. Constraints: Include constraints and work restrictions indicated in the Contract Documents and as follows in schedule, and show how the sequence of the Work is affected.
  - 1. Phasing: Arrange list of activities on schedule by phase.
  - 2. Work under More Than One Contract: Include a separate activity for each contract.
  - 3. Work by Owner: Include a separate activity for each portion of the Work performed by Owner.
  - 4. Products Ordered in Advance: Include a separate activity for each product. Include delivery date indicated in Division 1 Section "Summary." Delivery dates indicated stipulate the earliest possible delivery date.
  - 5. Owner-Furnished Products: Include a separate activity for each product. Include delivery date indicated in Division 1 Section "Summary." Delivery dates indicated stipulate the earliest possible delivery date.
  - 6. Work Restrictions: Show the effect of the following items on the schedule:
    - a. Coordination with existing construction.
    - b. Uninterruptible services.
    - c. Partial occupancy before Substantial Completion.
    - d. Use of premises restrictions.
    - e. Provisions for future construction.
    - f. Seasonal variations.
    - g. Environmental control.
  - 7. Work Stages: Indicate important stages of construction as necessary for each major portion of the Work, including, but not limited to, the following:
    - a. Subcontract awards.
    - b. Submittals.
    - c. Purchases.
    - d. Mockups.
    - e. Fabrication.
    - f. Sample testing.
    - g. Deliveries.
    - h. Installation.
    - i. Tests and inspections.
    - j. Adjusting.
    - k. Curing.
    - l. Startup and placement into final use and operation.



- D. Milestones: Include milestones indicated in the Contract Documents in schedule, including, but not limited to, the Notice to Proceed, Substantial Completion and Final Completion.

### 2.3 CONTRACTOR'S CONSTRUCTION SCHEDULE

- A. Submit a comprehensive, fully developed, horizontal bar-graph type, Contractor's Construction Schedule within 7 days after the execution of the contract. Base schedule on the Preliminary Construction Schedule and whatever updating and feedback was received since the start of Project.
- B. Preparation: Indicate each significant construction activity separately. Identify first workday of each week with a continuous vertical line.
  - 1. Indicate an estimated completion percentage in 10 percent increments within time bar.

### 2.4 REPORTS

- A. Job Meeting Construction Reports: Prepare a construction report recording the following information concerning events at Project site in time for each job meeting:
  - 1. List of subcontractors at Project site.
  - 2. List of separate contractors at Project site.
  - 3. Approximate count of personnel at Project site.
  - 4. Equipment at Project site.
  - 5. Materials delivery.
  - 6. High and low temperatures and general weather conditions.
  - 7. Accidents.
  - 8. Meetings and significant decisions.
  - 9. Unusual events (refer to special reports).
  - 10. Stoppages, delays, shortages and losses.
  - 11. Meter readings and similar recordings.
  - 12. Emergency procedures.
  - 13. Orders and requests of authorities having jurisdiction.
  - 14. Change Orders received and implemented.
  - 15. Construction Change Directives received and implemented.
  - 16. Services connected and disconnected.
  - 17. Equipment or system tests and startups.
  - 18. Partial Completions and occupancies.
  - 19. Substantial Completions authorized.
- B. Material Location Reports: At monthly intervals, prepare a comprehensive list of materials delivered to and stored at Project site. List shall be cumulative, showing materials previously reported plus items recently delivered. Include with list a statement of progress on and delivery dates for materials or items of equipment fabricated or stored away from Project site.

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

## PART 3 - EXECUTION

### 3.1 CONTRACTOR'S CONSTRUCTION SCHEDULE UPDATING

- A. Contractor's Construction Schedule Updating: Update schedule to reflect actual construction progress and activities. Submit schedule to the architect, owner, separate contractors, testing and inspecting agencies, and other parties on a need-to-know basis at each regularly scheduled progress meeting.
  1. Post copies in the field, as appropriate.
  2. When revisions are made, distribute updated schedules to the same parties and post in the same locations. Delete parties from distribution when they have completed their assigned portion of the Work and are no longer involved in performance of construction activities.

END OF SECTION 013200

## SECTION 013233 - PHOTOGRAPHIC DOCUMENTATION

### PART 1 - GENERAL

#### 1.1 SUMMARY

A. This Section includes administrative and procedural requirements for the following:

1. Preconstruction photographs.
2. Periodic construction progress photographs.
3. Final completion photographs.
4. Division 01 Section "Closeout Procedures" for submitting digital media as Project Record Documents at Project Closeout.

B. Related Sections include:

1. Division 01 Section "Submittal Procedures" for submitting photographic documentation.
2. Division 01 Section "Construction Progress Documentation" for submitting Progress Reports.
3. Division 02 Section "Selective Demolition" for photographic documentation before selective demolition.

#### 1.2 SUBMITTALS

A. Key Plan: Submit key plan of project site and building with notation of vantage points marked for location and direction of each photograph. Indicate elevation or story of construction. Include same label information as corresponding set of photographs.

B. Construction Photographs: Submit a "flash drive" or CD with photographs in .JPG format with each Application for Payment.

1. Required information:

- a. Name of Project.
- b. Dates photographs were taken if not date stamped by camera.
- c. Description of vantage point, indicating location, direction (by compass point), and elevation or story of construction.
- d. Unique sequential identifier or JPG number cross-referenced to printout.

2. Digital Images: Submit a complete set of high-resolution digital image electronic files with each submittal of prints on a "flash drive" or CD. Identify electronic media with date photographs were taken. Submit images that have same aspect ratio as the sensor, uncropped.

#### 1.3 QUALITY ASSURANCE

- A. Photographer Qualifications: Photographs may be taken by field supervisor, provided he has regularly photographed construction projects for not less than three years.

#### 1.4 COORDINATION

- A. Auxiliary Services: Cooperate with photographer and provide auxiliary services requested, including access to Project site and use of temporary facilities, including temporary lighting required to produce clear, well-lit photographs without obscuring shadows.

#### 1.5 USAGE RIGHTS

- A. Obtain and transfer copyright usage rights from photographer to Owner for unlimited reproduction of photographic documentation.

### PART 2 - PRODUCTS

#### 2.1 PHOTOGRAPHIC MEDIA

- A. Digital Images: Provide images in uncompressed JPG format, produced by a digital camera with minimum sensor size of 4.0 megapixels, and at an image resolution of not less than 1600 by 1200 pixels.

### PART 3 - EXECUTION

#### 3.1 CONSTRUCTION PHOTOGRAPHS

- A. General: Take photographs using the maximum range of depth of field, and that are in focus, to clearly show the Work. Photographs with blurry or out-of-focus areas will not be accepted.
  - 1. Maintain key plan with each set of construction photographs that identifies each photographic location.
- B. Digital Images: Submit digital images exactly as originally recorded in the digital camera, without alteration, manipulation, editing, or modifications using image-editing software.
  - 1. Date and Time: Include date, time and description in filename for each image.
  - 2. Field Office Images: Maintain one set of images on a “flash drive” in the field office at Project site, available at all times for reference. Identify images same as for those submitted to Architect.
- C. Preconstruction Photographs: Before commencement of excavation or demolition and before starting construction, take color digital photographs of Project site and surrounding

properties, including existing items to remain during construction, from different vantage points, as directed by Architect.

1. Flag excavation areas before taking construction photographs.
  2. Take a minimum of 30 photographs to show existing conditions adjacent to property before starting the Work.
  3. Take 50 to 100 photographs of existing building and property conditions to accurately record physical conditions at start of construction.
- D. Periodic Construction Photographs: Take 25 to 50 color digital photographs monthly with the cutoff date associated with each Application for Payment. Select vantage points to show status of construction and progress since last photographs were taken. Provide a “flash drive” and two sets of printouts.
- E. Additional Photographs: Architect may issue requests for additional photographs, in addition to periodic photographs specified.
1. Three days' notice will be given, where feasible.
  2. In emergency situations, take additional photographs within 24 hours of request.
  3. Circumstances that could require additional photographs include, but are not limited to, the following:
    - a. Special events planned at Project site.
    - b. Immediate follow-up when on-site events result in construction damage or losses.
    - c. Photographs to be taken at fabrication locations away from Project site. These photographs are not subject to unit prices or unit-cost allowances.
    - d. Substantial Completion of a major phase or component of the Work.
    - e. Extra record photographs at time of final acceptance.
    - f. Owner's request for special publicity photographs.
- F. Time-Lapse Sequence Construction Photographs: Take five color, digital photographs, as indicated to show status of construction and progress since last photographs were taken.
1. Frequency: Take photographs monthly, coinciding with the cutoff date associated with each Application for Payment.
  2. Vantage Points: Following suggestions by Architect, select vantage points. Take not less than 5 of the required shots from same vantage point each time to create a time-lapse sequence as follows:
    - a. Commencement of the Work.
    - b. Foundation excavation and restoration.
    - c. Structural work.
    - d. Masonry restoration.
    - e. Wood flooring demolition and restoration.
    - f. Architectural work (especially carpentry and finishes) through Substantial Completion.
    - g. Mechanical/Electrical work.

- G. Final Completion Photographs: Provide two sets of final photographs. Locations of photographs to be provided on a Key Plan. Allow for at least 60 closeout photographs per building. Provide in digital format on two “flash drives” or CDs.

END OF SECTION 013233

## SECTION 013300 - SUBMITTAL PROCEDURES

### PART 1 - GENERAL

#### 1.1 SUMMARY

- A. Section includes requirements for the submittal schedule and administrative and procedural requirements for submitting Shop Drawings, Product Data, Samples, and other submittals.
- B. Related Sections:
  - 1. Division 01 Sections “Construction Progress Documentation” for submitting schedules and reports, including Contractor’s construction schedule.
  - 2. Division 01 Section “Photographic Documentation” for submitting progress photos.
  - 3. Division 01 Section “Payment Procedures” for submitting applications for payment.
  - 4. Division 01 Section “Quality Requirements” for submitting test and inspection reports and for erecting mockups.
  - 5. Division 01 Section “Closeout Procedures” for submitting warranties, project record documents and operation and maintenance manuals.

#### 1.2 DEFINITIONS

- A. Action Submittals: Written and graphic information and physical samples (mock-ups) that require Architect’s responsive action.
- B. Informational Submittals: Written and graphic information and physical samples that do not require Architect's responsive action. Submittals may be rejected for not complying with requirements.

#### 1.3 ACTION SUBMITTALS

- A. Submittal Schedule: Submit a schedule of submittals, arranged in chronological order by dates required by construction schedule. Include time required for review, ordering, manufacturing, fabrication, and delivery when establishing dates. Include additional time required for making corrections or modifications to submittals noted by the Architect and additional time for handling and reviewing submittals required by those corrections.

#### 1.4 SUBMITTAL ADMINISTRATIVE REQUIREMENTS

- A. Architect's Digital Data Files: Electronic copies of CAD Drawings of the Contract Drawings will not be provided by Architect for Contractor's use in preparing submittals. PDFs files of the drawings are available.

- B. Coordination: Coordinate preparation and processing of submittals with performance of construction activities.
1. Coordinate each submittal with fabrication, purchasing, testing, delivery, other submittals, and related activities that require sequential activity.
  2. Coordinate transmittal of different types of submittals for related parts of the Work so processing will not be delayed because of need to review submittals concurrently for coordination.
    - a. Architect reserves the right to withhold action on a submittal requiring coordination with other submittals until related submittals are received.
- C. Processing Time: Allow time for submittal review, including time for resubmittals, as follows. Time for review shall commence on Architect's receipt of submittal. No extension of the Contract Time will be authorized because of failure to transmit submittals enough in advance of the Work to permit processing, including resubmittals.
1. Initial Review: Allow 10 calendar days for initial review of each submittal. Allow additional time if coordination with subsequent submittals is required. Architect will advise Contractor when a submittal being processed must be delayed for coordination.
  2. Intermediate Review: If intermediate submittal is necessary, process it in same manner as initial submittal.
  3. Resubmittal Review: Allow 10 calendar days for review of each resubmittal.
- D. Identification and Information: Place a permanent label or title block on each paper copy submittal item for identification.
1. Indicate name of firm or entity that prepared each submittal on label or title block.
  2. Provide a space approximately 6 by 8 inches on label or beside title block to record Contractor's review and approval markings and action taken by Architect.
  3. Include the following information for processing and recording action taken:
    - a. Project name.
    - b. Date.
    - c. Name of Architect.
    - d. Name of Construction Manager.
    - e. Name of Contractor.
    - f. Name of subcontractor.
    - g. Name of supplier.
    - h. Name of manufacturer.
    - i. Submittal number or other unique identifier, including revision identifier.
      - 1) Submittal number shall use Specification Section number followed by a decimal point and then a sequential number (e.g., 061000.01). Resubmittals shall include an alphabetic suffix after another decimal point (e.g., 061000.01.A).
    - j. Number and title of appropriate Specification Section.
    - k. Drawing number and detail references, as appropriate.



- l. Location(s) where product is to be installed, as appropriate.
  - m. Other necessary identification.
- E. Deviations: Identify deviations from the Contract Documents on submittals.
- F. Additional Paper Copies: Unless additional copies are required for final submittal, and unless Architect observes noncompliance with provisions in the Contract Documents, initial submittal may serve as final submittal.
  - 1. Submit one copy of submittal to concurrent reviewer in addition to specified number of copies to Architect.
- G. Transmittal: Assemble each submittal individually and appropriately for transmittal and handling. Transmit each submittal using a transmittal form. Architect will discard submittals received from sources other than Contractor.
  - 1. Transmittal Form: Use AIA Document or similar document.
  - 2. On an attached separate sheet, prepared on Contractor's letterhead, record relevant information, requests for data, revisions other than those requested by Architect on previous submittals, and deviations from requirements in the Contract Documents, including minor variations and limitations. Include same identification information as related submittal.
- H. Resubmittals: Make resubmittals in same form and number of copies as initial submittal.
  - 1. Note date and content of previous submittal.
  - 2. Note date and content of revision in label or title block and clearly indicate extent of revision.
  - 3. Resubmit submittals until they are marked with accept or accept as corrected notation from Architect's action stamp.
- I. Distribution: Furnish copies of final submittals to manufacturers, subcontractors, suppliers, fabricators, installers, authorities having jurisdiction, and others as necessary for performance of construction activities. Show distribution on transmittal forms.
- J. Use for Construction: Use only final submittals that are marked with accept notation from Architect's action stamp.

<input type="checkbox"/>	<b>ACCEPTED</b>	Fabrication/installation may be undertaken. Approval does not authorize changes in the
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<input type="checkbox"/>	ACCEPTED AS CORRECTED	Contract Sum or Contract Time unless stated by Change Order or Construction Change Directive.
<input type="checkbox"/>	REVISE AND SUBMIT	Fabrication/installation MAY NOT be undertaken. In resubmitting, limit corrections to the items marked.
<input type="checkbox"/>	REJECTED	
<input type="checkbox"/>	REVIEWED	Received and Acknowledged.
<input type="checkbox"/>	REMARKS	<i>If required, additional commentary would be provided in this box, such as pending approved field mock-ups and/or submission of an approved sample.</i>
<p>This review is limited to checking for general conformance with the design concept, and for general compliance with information given in the Construction Documents. Corrections or comments made on these shop drawings do not relieve the contractor from the obligation to comply with the requirements of the drawings and specifications. Approval of a specific item shall not constitute approval of an assembly in which the item is a component. Contractor is responsible for: confirming and correlating all dimensions and quantities; information that pertains solely to the fabrication processes; the means, methods, techniques, sequences and procedures of construction; performing work in a safe and satisfactory manner; and coordinating work with that of all other trades.</p>		

## PART 2 - PRODUCTS

### 2.1 SUBMITTAL PROCEDURES

#### A. General Submittal Procedure Requirements:

1. Action Submittals: Submit two paper copies of each submittal, unless otherwise indicated. Architect will return one copy. For submittals that are not 8.5 x 11 inches in black and white, submit extra copies.
2. Informational Submittals: Submit two paper copies of each submittal, unless otherwise indicated. Architect will not return copies.
3. Closeout Submittals and Maintenance Material Submittals: Comply with requirements specified in Division 01 Section "Closeout Procedures."
4. Certificates and Certifications Submittals: Provide a statement that includes signature of entity responsible for preparing certification. Certificates and certifications shall be signed by an officer or other individual authorized to sign documents on behalf of that entity.
  - a. Provide a digital signature with digital certificate on electronically-submitted certificates and certifications where indicated.
  - b. Provide a notarized statement on original paper copy certificates and certifications where indicated.
5. Test and Inspection Reports Submittals: Comply with requirements specified in Division 01 Section "Quality Requirements."

#### B. Product Data: Collect information into a single submittal for each element of construction

SUBMITTAL PROCEDURES

Improvements at Buildings #4 and #7 at the Deserted Village of Feltville/Glenside Park

03/09/21

013300 - 4

and type of product or equipment.

1. If information must be specially prepared for submittal because standard published data are not suitable for use, submit as Shop Drawings, not as Product Data.
  2. Mark each copy of each submittal to show which products and options are applicable.
  3. Include the following information, as applicable:
    - a. Manufacturer's catalog cuts.
    - b. Manufacturer's product specifications.
    - c. Standard color charts.
    - d. Statement of compliance with specified referenced standards.
    - e. Testing by recognized testing agency.
    - f. Application of testing agency labels and seals.
    - g. Notation of coordination requirements.
    - h. Availability and delivery time information.
  4. For equipment, include the following in addition to the above, as applicable:
    - a. Wiring diagrams showing factory-installed wiring.
    - b. Printed performance curves.
    - c. Operational range diagrams.
    - d. Clearances required to other construction, if not indicated on accompanying Shop Drawings.
  5. Submit Product Data before or concurrent with Samples.
  6. Retain subparagraph below unless default submittal format specified elsewhere in this article applies.
  7. Submit Product Data in the following format:
    - a. Two paper copies of Product Data, unless otherwise indicated. Architect will return one copy.
- C. Shop Drawings: Prepare Project-specific information, drawn accurately to scale. Do not base Shop Drawings on reproductions of the Contract Documents or standard printed data.
1. Preparation: Fully illustrate requirements in the Contract Documents. Include the following information, as applicable:
    - a. Seal and signature of contractor, subcontractor, manufacturer, or other provider of drawings.
    - b. Identification of products.
    - c. Schedules.
    - d. Compliance with specified standards.
    - e. Notation of coordination requirements.

- f. Notation of dimensions established by field measurement.
    - g. Relationship and attachment to adjoining construction clearly indicated.
    - h. Seal and signature of professional engineer if specified.
  2. Sheet Size: Except for templates, patterns, and similar full-size drawings, submit Shop Drawings on sheets at least 8.5 by 11 inches but no larger than 11 by 17 inches.
  3. Submit Shop Drawings in the following format:
    - a. Six opaque (bond) copies of each submittal. Architect will return one copy and retain one copy. Additional copies will be distributed to Owner and Subcontractors or Consultants, if applicable.
- D. Samples: Submit Samples for review of kind, color, pattern, and texture for a check of these characteristics with other elements and for a comparison of these characteristics between submittal and actual component as delivered and installed.
  1. Transmit Samples that contain multiple, related components such as accessories together in one submittal package.
  2. Identification: Attach label on unexposed side of Samples that includes the following:
    - a. Generic description of Sample.
    - b. Product name and name of manufacturer.
    - c. Sample source.
    - d. Number and title of applicable Specification Section.
  3. Disposition: Maintain sets of approved Samples at Project site, available for quality-control comparisons throughout the course of construction activity. Sample sets may be used to determine final acceptance of construction associated with each set.
    - a. Samples that may be incorporated into the Work are indicated in individual Specification Sections. Such Samples must be in an undamaged condition at time of use.
    - b. Samples not incorporated into the Work, or otherwise designated as Owner's property, are the property of Contractor.
  4. Samples for Initial Selection: Submit manufacturer's color charts consisting of units or sections of units showing the full range of colors, textures, and patterns available.
    - a. Number of Samples: Submit one full set of available choices where color, pattern, texture, or similar characteristics are required to be selected from manufacturer's product line. Architect will return submittal with options selected.
  5. Samples for Verification: Submit full-size units or Samples of size indicated, prepared from same material to be used for the Work, cured and finished in manner

specified, and physically identical with material or product proposed for use, and that show full range of color and texture variations expected. Samples include, but are not limited to, the following: partial sections of manufactured or fabricated components; small cuts or containers of materials; complete units of repetitively used materials; swatches showing color, texture, and pattern; color range sets; and components used for independent testing and inspection.

- a. Number of Samples: Submit three sets of Samples. Architect will retain two Sample sets; remainder will be returned. Mark up and retain one returned Sample set as a Project record sample.
  - 1) If variation in color, pattern, texture, or other characteristic is inherent in material or product represented by a Sample, submit at least three sets of paired units that show approximate limits of variations.
- E. Product Schedule: As required in individual Specification Sections, prepare a written summary indicating types of products required for the Work and their intended location. Include the following information in tabular form:
  1. Submit product schedule in the following format:
    - a. Three paper copies of product schedule or list, unless otherwise indicated. Architect will return two copies.
    - b. Mark up and retain one returned copy as Project Record Document.
- F. Contractor's Construction Schedule: Comply with requirements specified in Division 01 Section "Construction Progress Documentation."
- G. Application for Payment: Comply with requirements specified in Division 01 Section "Payment Procedures."
- H. Schedule of Values: Comply with requirements specified in Division 01 Section "Payment Procedures."
- I. Subcontract List: Prepare a written summary identifying individuals or firms proposed for each portion of the Work, including those who are to furnish products or equipment fabricated to a special design. Use CSI Form 1.5A or similar document in tabular form. Include the following information:
  - a. Name, address and telephone number of entity performing subcontract or supplying products.
  - b. Number and title of Specification Section(s) covered by subcontract.
  - c. Drawing number and detail references, as appropriate, covered by subcontract.
  - d. Number of copies: Submit three copies of subcontractor list unless otherwise indicated.

## 2.2 INFORMATIONAL SUBMITTALS

- A. General: Prepare and submit informational submittals required by the Specification Sections:
  - 1. Number of Copies: Submit two copies of each submittal, unless otherwise indicated. Architect will not return copies.
- B. Coordination Drawings: Comply with requirements specified in Division 01 Section "Project Management and Coordination."
- C. Qualification Data: Prepare written information that demonstrates capabilities and experience of firm or person. Include lists of completed projects with project names and addresses, contact information of architects and owners, and other information specified.
- D. Welding Certificates: No open flame welding is allowed on site. For off site welding, prepare written certification that welding procedures and personnel comply with requirements in the Contract Documents. Submit record of Welding Procedure Specification and Procedure Qualification Record on American Welding Society (AWS) forms. Include names of firms and personnel certified.
- E. Installer Certificates: Submit written statements on manufacturer's letterhead certifying that Installer complies with requirements in the Contract Documents and, where required, is authorized by manufacturer for this specific Project.
- F. Manufacturer Certificates: Submit written statements on manufacturer's letterhead certifying that manufacturer complies with requirements in the Contract Documents. Include evidence of manufacturing experience where required.
- G. Product Certificates: Submit written statements on manufacturer's letterhead certifying that product complies with requirements in the Contract Documents.
- H. Material Certificates: Submit written statements on manufacturer's letterhead certifying that material complies with requirements in the Contract Documents.
- I. Material Test Reports: Submit reports written by a qualified testing agency, on testing agency's standard form, indicating and interpreting test results of material for compliance with requirements in the Contract Documents.
- J. Product Test Reports: Submit written reports indicating current product produced by manufacturer complies with requirements in the Contract Documents. Base reports on evaluation of tests performed by manufacturer and witnessed by a qualified testing agency, or on comprehensive tests performed by a qualified testing agency.
- K. Research Reports: Submit written evidence, from a model code organization acceptable to authorities having jurisdiction, that product complies with building code in effect for Project.
- L. Schedule of Tests and Inspections: Comply with requirements specified in Division 01 Section "Quality Requirements."
- M. Preconstruction Test Reports: Submit reports written by a qualified testing agency, on

testing agency's standard form, indicating and interpreting results of tests performed before installation of product, for compliance with performance requirements in the Contract Documents.

- N. Compatibility Test Reports: Submit reports written by a qualified testing agency, on testing agency's standard form, indicating and interpreting results of compatibility tests performed before installation of product. Include written recommendations for primers and substrate preparation needed for adhesion.
- O. Field Test Reports: Submit reports indicating and interpreting results of field tests performed either during installation of product or after product is installed in its final location, for compliance with requirements in the Contract Documents.
- P. Maintenance Data: Comply with requirements specified in Division 01 Section "Operation and Maintenance Data."
- Q. Design Data: Prepare and submit written and graphic information, including, but not limited to, performance and design criteria, list of applicable codes and regulations, and calculations. Include list of assumptions and other performance and design criteria and a summary of loads. Include load diagrams if applicable. Provide name and version of software, if any, used for calculations. Include page numbers.
- R. Manufacturer's Instructions: Prepare written or published information that documents manufacturer's recommendations, guidelines, and procedures for installing or operating a product or equipment. Include name of product and name, address, and telephone number of manufacturer. Include the following, as applicable:
  - 1. Preparation of substrates.
  - 2. Required substrate tolerances.
  - 3. Sequence of installation or erection.
  - 4. Required installation tolerances.
  - 5. Required adjustments.
  - 6. Recommendations for cleaning and protection.
- S. Manufacturer's Field Reports: Prepare written information documenting factory-authorized service representative's tests and inspections. Include the following, as applicable:
  - 1. Name, address, and telephone number of factory-authorized service representative making report.
  - 2. Statement on condition of substrates and their acceptability for installation of product.
  - 3. Statement that products at Project site comply with requirements.
  - 4. Summary of installation procedures being followed, whether they comply with requirements and, if not, what corrective action was taken.
  - 5. Results of operational and other tests and a statement of whether observed performance complies with requirements.
  - 6. Statement whether conditions, products, and installation will affect warranty.
  - 7. Other required items indicated in individual Specification Sections.

- T. Insurance Certificates and Bonds: Prepare written information indicating current status of insurance or bonding coverage. Include name of entity covered by insurance or bond, limits of coverage, amounts of deductibles, if any, and term of the coverage.
- U. Construction Photographs: Comply with requirements specified in Division 1 Section "Photographic Documentation."
- V. Material Safety Data Sheets (MSDSs): Submit information to Architect.

## 2.3 DELEGATED-DESIGN SERVICES

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

## PART 3 - EXECUTION

### 3.1 CONTRACTOR'S REVIEW

- A. Action and Informational Submittals: Review each submittal and check for coordination with other Work of the Contract and for compliance with the Contract Documents. Note corrections and field dimensions. Mark with approval stamp before submitting to Architect.
- B. Project Closeout and Maintenance/Material Submittals: Refer to requirements in Division 01 Section "Closeout Procedures."
- C. Approval Stamp: Stamp each submittal with a uniform, approval stamp. Include Project name and location, submittal number, Specification Section title and number, name of reviewer, date of Contractor's approval, and statement certifying that submittal has been reviewed, checked, and approved for compliance with the Contract Documents.

### 3.2 ARCHITECT'S ACTION



- A. General: Architect will not review submittals that do not bear Contractor's approval stamp and will return them without action.
- B. Action Submittals: Architect will review each submittal, make marks to indicate corrections or modifications required, and return it. Architect will stamp each submittal with an action stamp and will mark stamp appropriately to indicate action taken.
- C. Informational Submittals: Architect will review each submittal and will not return it, or will return it if it does not comply with requirements. Architect will forward each submittal to appropriate party.
- D. Incomplete submittals are not acceptable, will be considered nonresponsive, and will be returned without review.
- E. Submittals not required by the Contract Documents may not be reviewed and may be discarded.

END OF SECTION 013300

## SECTION 013500 - SPECIAL PROCEDURES FOR HISTORIC TREATMENT

### PART 1 - GENERAL

#### 1.1 SUMMARY

- A. This Section includes special procedures for Historic Treatment on Project including, but not limited to, the following:
  - 1. Storage and protection of existing historic materials.
  - 2. Temporary protection of historic materials during construction.
  - 3. Protection of historic materials during application of chemicals.
  - 4. Protection of historic materials during use of heat-generating equipment.
  - 5. Historic treatment procedures.
- B. Related Sections include the following:
  - 1. Division 01 Section "Construction Progress Documentation" for preconstruction photographs taken before historic treatment.
  - 2. Division 01 Section "Photographic Documentation" for preconstruction photographs taken before historic treatment.

#### 1.2 REFERENCES

- A. Work shall conform to The Secretary of the Interior's *Standards for the Treatment of Historic Properties (Rev. 2017)*. <https://www.nps.gov/tps/standards.htm>

#### 1.3 DEFINITIONS

- A. "Preservation": To apply measures necessary to sustain the existing form, integrity, and materials of a historic property. Work may include preliminary measures to protect and stabilize the property.
- B. "Rehabilitation": To make possible a compatible use for a property through repair, alterations, and additions while preserving those portions or features that convey its historical, cultural, or architectural values.
- C. "Restoration": To accurately depict the form, features, and character of a property as it appeared at a particular period of time by means of the removal of features from other periods in its history and the reconstruction of missing features from the restoration period.
- D. "Reconstruction": To reproduce in the exact form and detail a building, structure, or artifact as it appeared at a specific period in time.
- E. "Stabilize": To apply measures designed to reestablish a weather-resistant enclosure and the structural reinforcement of an item or portion of the building while maintaining the essential form, as it exists at present.

- F. "Protect and Maintain": To remove deteriorating corrosion, reapply protective coatings, and install protective measures such as temporary guards; to provide the least degree of intervention.
  - G. "Repair": To stabilize, consolidate, or conserve; to retain existing materials and features while employing as little new material as possible. Repair includes patching, piecing-in, splicing, consolidating, or otherwise reinforcing or upgrading materials. Within restoration, repair also includes limited replacement in kind, rehabilitation, and reconstruction, with compatible substitute materials for deteriorated or missing parts of features when there are surviving prototypes.
  - H. "Replace": To duplicate and replace entire features with new material in kind. Replacement includes the following conditions:
    - 1. Duplication: Includes replacing elements damaged beyond repair or missing. Original material is indicated as the pattern for creating new duplicated elements.
    - 2. Replacement with New Materials: Includes replacement with new material when original material is not available as patterns for creating new duplicated elements.
    - 3. Replacement with Substitute Materials: Includes replacement with compatible substitute materials. Substitute materials are not allowed, unless otherwise indicated.
  - I. "Remove": To detach items from existing construction and legally dispose of them off-site unless indicated to be removed and salvaged, or removed and reinstalled.
  - J. "Remove and Salvage": To detach items from existing construction and deliver them to Owner.
  - K. "Remove and Reinstall": To detach items from existing construction, repair and clean them for reuse, and reinstall them where indicated.
  - L. "Existing to Remain" or "Retain": Existing items of construction that are not to be removed and that are not otherwise indicated to be removed and salvaged, or removed and reinstalled.
  - M. "Material in Kind": Material that matches existing materials, as much as possible, in species, cut, color, grain, and finish.
- 1.4 MATERIAL OWNERSHIP
- A. Historic items, relics, and similar objects including, but not limited to, cornerstones and their contents, commemorative plaques and tablets, antiques, and other items of interest or value to Owner that may be encountered during removal and dismantling work remain Owner's property. Carefully dismantle and salvage each item or object.
  - B. Coordinate with Architect who will establish special procedures for dismantling and salvage.

## 1.5 SUBMITTALS

- A. Historic Treatment Program: Submit a written plan for each phase or process including protection of surrounding materials during operations. Describe in detail materials, methods, and equipment to be used for each phase of work.
- B. Alternative Methods and Materials: If alternative methods and materials to those indicated are proposed for any phase of work, provide a written description including evidence of successful use on other, comparable projects, and program of testing to demonstrate effectiveness for use on this Project.
- C. Qualification Data: For historic treatment specialists and supervisory personnel. Include list of completed projects with the scope of work and budget for each. All work must be completed within the last five years. Provide at least two previous project references.
- D. Photographs: Show existing conditions of adjoining construction and site improvements, including finish surfaces that might be misconstrued as damage caused by historic treatment operations. Submit before work begins.
- E. Record Documents: Include modifications to manufacturers written instructions and procedures, as documented in the historic treatment preconstruction conference and as the Work progresses.

## 1.6 QUALITY ASSURANCE

- A. Historic Treatment Specialist Qualifications: A firm that employs personnel, including supervisory personnel, experienced and skilled in the processes and operations indicated.
- B. Historic Treatment Preconstruction Conference: Conduct conference at Project site to comply with requirements in Division 01 Section "Project Management and Coordination."
- C. Review manufacturer's written instructions for precautions and effects of products and procedures on building materials, components, and vegetation.
  - a. Record procedures established as a result of the review and distribute to affected parties.

## 1.7 STORAGE AND PROTECTION OF HISTORIC MATERIALS

- A. Removed and Salvaged Historic Materials:
  - 1. Clean salvaged historic items by the gentlest means possible.
  - 2. Pack or crate items after cleaning. Identify contents of containers.
  - 3. Store items in a secure area until delivery to Owner.
  - 4. Transport items to Owner's storage area on or off site.
  - 5. Protect items from damage during transport and storage.
  - 6. Do not dispose of items removed from existing construction without prior written consent of Owner.

- B. Removed and Reinstalled Historic Materials:
  - 1. Clean and repair historic items to functional condition adequate for intended reuse.
  - 2. Pack or crate items after cleaning and repairing. Identify contents of containers.
  - 3. Protect items from damage during transport and storage.
  - 4. Reinstall items in locations indicated. Comply with installation requirements for new materials and equipment. Provide connections, supports, and miscellaneous materials necessary to make item functional for use indicated.
  
- C. Existing Historic Materials to Remain: Protect construction indicated to remain against damage and soiling during historic treatment. When permitted by Architect, items may be removed to a suitable, protected storage location during historic treatment and reinstalled in their original locations after historic treatment operations are complete.
  
- D. Storage and Protection: When removed from their existing location, store historic materials within a weather tight enclosure where they are protected from wetting by rain, snow, or ground water, and temperature variations. Secure stored materials to protect from theft.
  - 1. Identify removed items with an inconspicuous mark indicating their original location. Indicate original locations on plans, elevations, sections or photographs, by annotating the identifying parts.

## 1.8 PROJECT-SITE CONDITIONS

- A. Exterior Cleaning and Repairing:
  - 1. Proceed with the work only when forecasted weather conditions are favorable.
    - a. Wet Weather: Do not attempt repairs during rainy or foggy weather. Do not apply primer, paint, putty, or epoxy when the relative humidity is above 80%. Do not remove exterior elements of structures when rain is forecast or in progress.
    - b. Do not perform exterior wet work when the air temperature is below 45° F. Do not begin cleaning, patching or repairing when there is any likelihood of frost or freezing.
    - c. Do not begin cleaning when either the air or the surface temperature is below 45° F. unless approved means are provided for maintaining a 45° F. temperature of the air and materials during and for 48 hours subject to cleaning.

## PART 2 - PRODUCTS - (Not Used)

## PART 3 - EXECUTION

### 3.1 PROTECTION, GENERAL

- A. Prior to cleaning salvaged historic items, confer with the Architect regarding the best means and methods to accomplish this. In general, the following procedure will suffice:
  - 1. Gentle dry cleaning of accumulated dirt and dust by lightly brushing or using a soft cloth.
  - 2. Store items in an appropriate location, typically dry and away from direct sunlight.

- B. Comply with manufacturer's written instructions for precautions and effects of products and procedures on adjacent building materials, components, and vegetation.
- C. Ensure that supervisory personnel are present when work begins and during its progress.
- D. Temporary Protection of Historic Materials during Construction:
  - 1. Protect existing materials during installation of temporary protections and construction. Do not deface or remove existing materials.
  - 2. Architect shall review attachment of temporary protection to existing construction prior to installation. All temporary attachments must be stainless steel.
  - 3. Set scaffolding and ladder legs away from masonry and provide impact buffers.
- E. Protect landscape work adjacent to or within work areas as follows:
  - 1. Provide barriers to protect tree trunks.
  - 2. Bind spreading shrubs.
  - 3. Use coverings that allow plants to breathe and remove coverings at the end of each day. Do not cover plant material with a waterproof membrane for more than 8 hours at a time.
  - 4. Set scaffolding and ladder legs away from plants.
- F. Utility and Communications Services:
  - 1. Notify the Owner, Architect, and authorities having jurisdiction, owning or controlling wires, conduits, pipes, and other services affected by the historic treatment work before commencing operations.
  - 2. Disconnect and cap pipes and services, as required by authorities having jurisdiction, as required for the historic treatment work.
  - 3. Maintain existing services unless otherwise indicated; keep in service and protect against damage during operations. Provide temporary services during interruptions to existing utilities.
- G. Existing Drains: Prior to the start of work or any cleaning operations, test drains and other water removal systems to ensure that drains and systems are functioning properly. Notify Architect immediately of drains or systems that are stopped or blocked. Do not begin Work of this Section until the drains are in working order.
  - 1. Provide a method to prevent solids including stone or mortar residue from entering the drains or drain lines. Clean out drains and drain lines that become blocked or filled by sand or any other solids because of work performed under this Contract.
  - 2. Protect storm drains from pollutants. Block drains or filter out sediments, allowing only clean water to pass.
- H. Doors and Openings: Provide temporary protection including temporary operational and lockable doors, where doors and windows are removed for restoration work.

### 3.2 PROTECTION DURING APPLICATION OF CHEMICALS

- A. Protect persons, motor vehicles, surrounding surfaces of building being restored, building site, plants, and surrounding buildings from harm or damage resulting from applications of chemical cleaners and paint removers.

- B. Comply with requirements in Division 01 Section "Temporary Facilities and Controls."
- C. Cover adjacent surfaces with materials that are proven to resist chemical cleaners selected for Project unless chemicals being used will not damage adjacent surfaces. Use covering materials that contain only waterproof, UV-resistant adhesives. Apply masking agents to comply with manufacturer's written instructions. Do not apply liquid masking agent to painted or porous surfaces. When no longer needed, promptly remove masking to prevent adhesive staining.
- D. Do not clean surfaces during winds of sufficient force to spread cleaning solutions to unprotected surfaces.
- E. Neutralize and collect alkaline and acid wastes and dispose of off Owner's property.
- F. Dispose of runoff from chemical operations by legal means and in a manner that prevents soil erosion, undermining of paving and foundations, damage to landscaping, and water penetration into building interiors.

### 3.3 HISTORIC TREATMENT PROCEDURES

- A. The principal aim of preservation work is to halt the process of deterioration and stabilize the item's condition, unless otherwise indicated. Repair is required where specifically indicated. The following procedures shall be followed:
  1. Retain as much existing material as possible; repair and consolidate rather than replace.
  2. Use additional material or structure to reinforce, strengthen, prop, tie, and support existing material or structure.
  3. Use reversible processes wherever possible.
  4. Use traditional replacement materials and techniques. New work shall be distinguishable to the trained eye, on close inspection, from old work.
  5. Record the work before the procedure with preconstruction photos and during the work with periodic construction photos. Photographic documentation is specified in Division 01 Section "Photographic Documentation."
- B. Prohibit smoking by personnel performing work on or near historic structures.
- C. All open flame and welding on site is NOT permitted. Fire extinguishers are required in all areas during construction.
- D. Obtain Architect's review and written acceptance in the form of a Constructive Change Directive or Supplemental Instruction before making changes or additions to construction or removing historic materials.
- E. Notify Architect of visible changes in the integrity of material or components whether due to environmental causes including biological attack, UV degradation, freezing, or thawing; or due to structural defects including cracks, movement, or distortion.
  1. Do not proceed with the work in question until directed by Architect.

- F. Where missing features are indicated to be repaired or replaced, provide features whose designs are based on accurate duplications rather than on conjectural designs, subject to the review and acceptance of Architect and Preservation Specialist.
- G. Where Work requires existing features to be removed, cleaned, and reused, perform these operations without damage to the material itself, to adjacent materials, or to the substrate.
- H. Identify new or replacement materials and features with inconspicuous, permanent marks to distinguish them from original materials. Record the legend of identification marks and the locations of these marks on Record Drawings.
- I. When cleaning, match samples of existing materials that have been cleaned and identified for acceptable cleaning levels. Avoid over cleaning to prevent damage to existing materials during cleaning.

END OF SECTION 013500



## SECTION 014000 - QUALITY REQUIREMENTS

### PART 1 - GENERAL

#### 1.1 SUMMARY

- A. Section includes administrative and procedural requirements for quality assurance and quality control.
- B. Testing and inspecting services are required to verify compliance with requirements specified or indicated. These services do not relieve Contractor of responsibility for compliance with the Contract Document requirements.
  - 1. Specific quality assurance and control services for individual construction activities are specified in the sections that specify that activity. Requirements in those sections may also cover production of standard products.
  - 2. Specified tests, inspections, and related actions do not limit Contractor's other quality-assurance and -control procedures that facilitate compliance with the Contract Document requirements.
  - 3. Requirements for Contractor to provide quality-assurance and -control services required by Architect, Owner, or authorities having jurisdiction are not limited by provisions of this Section.
- C. Related Sections include the following:
  - 1. Division 01 Section "Construction Progress Documentation" for developing a schedule of required tests and inspections.
  - 2. Division 01 Section "Allowances" for testing and inspecting allowances.
  - 3. Division 01 Section "Cutting and Patching" for repair and restoration of construction disturbed by testing and inspecting activities.
  - 4. Division 02 and higher for specific test and inspection requirements.

#### 1.2 DEFINITIONS

- A. Quality-Assurance Services: Activities, actions, and procedures performed before and during execution of the Work to guard against defects and deficiencies and substantiate that proposed construction will comply with requirements.
- B. Quality-Control Services: Tests, inspections, procedures, and related actions during and after execution of the Work to evaluate that actual products incorporated into the Work and completed construction comply with requirements. Services do not include contract enforcement activities performed by Architect.
- C. Mock-ups: Full size physical assemblies that are constructed on-site. Mock-ups are constructed to verify selections made under sample submittals; to demonstrate aesthetic effects and, where indicated, qualities of materials and execution; to review coordination,

testing, or operation; to show interface between dissimilar materials; and to demonstrate compliance with specified installation tolerances. Mock-ups are not Samples. Unless otherwise indicated, approved mockups establish the standard by which the Work will be judged. Mock-ups shall remain on site in safekeeping (undisturbed and unaltered) until the project's completion.

1. Laboratory Mockups: Full-size, physical assemblies constructed at testing facility to verify performance characteristics.
- D. Preconstruction Testing: Tests and inspections performed specifically for the Project before products and materials are incorporated into the Work to verify performance or compliance with specified criteria.
- E. Product Testing: Tests and inspections that are performed by an NRTL, an NVLAP, or a testing agency qualified to conduct product testing and acceptable to authorities having jurisdiction, to establish product performance and compliance with specified requirements.
- F. Source Quality-Control Testing: Tests and inspections that are performed at the source, i.e., plant, mill, factory, or shop.
- G. Field Quality-Control Testing: Tests and inspections that are performed on-site for installation of the Work and for completed Work.
- H. Testing Agency: An entity engaged to perform specific tests, inspections, or both. Testing laboratory shall mean the same as testing agency.
- I. Installer/Applicator/Erector: Contractor or another entity engaged by Contractor as an employee, Subcontractor, or Sub-subcontractor, to perform a particular construction operation, including installation, erection, application, and similar operations.
  1. Use of trade-specific terminology in referring to a trade or entity does not require that certain construction activities be performed by accredited or unionized individuals, or that requirements specified apply exclusively to specific trade or trades.
- J. Experienced: When used with an entity or individual, "experienced" means having successfully completed a minimum of previous projects similar in nature, size, and extent to this Project; being familiar with special requirements indicated; and having complied with requirements of authorities having jurisdiction.

### 1.3 CONFLICTING REQUIREMENTS

- A. Referenced Standards: If compliance with two or more standards is specified and the standards establish different or conflicting requirements for minimum quantities or quality levels, comply with the most stringent requirement. Refer conflicting requirements that are different, but apparently equal, to Architect for review before proceeding.

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

#### 1.4 SUBMITTALS

- A. Testing Agency Qualifications: For testing agencies specified in "Quality Assurance" Article to demonstrate their capabilities and experience. Include proof of qualifications in the form of a recent report on the inspection of the testing agency by a recognized authority.
- B. Schedule of Tests and Inspections: Prepare in tabular form and include the following:
  - 1. Specification Section number and title.
  - 2. Description of test and inspection.
  - 3. Identification of applicable standards.
  - 4. Identification of test and inspection methods.
  - 5. Number of tests and inspections required.
  - 6. Time schedule and time span for tests and inspections.
  - 7. Entity responsible for performing test and inspections.
  - 8. Requirements for obtaining samples.
  - 9. Unique characteristics of each quality-control service.

#### 1.5 REPORTS AND DOCUMENTS

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

- B. **Manufacturer's Field Reports:** Prepare written information documenting tests and inspections specified in other Sections. Include the following:
1. Name, address, and telephone number of representative making report.
  2. Statement on condition of substrates and their acceptability for installation of product.
  3. Summary of installation procedures being followed, whether they comply with requirements and, if not, what corrective action was taken.
  4. Results of operational and other tests and a statement of whether observed performance complies with requirements.
  5. Other required items indicated in individual Specification Sections.
- C. **Permits, Licenses, and Certificates:** For Owner's records, submit copies of permits, licenses, certifications, inspection reports, releases, jurisdictional settlements, notices, receipts for fee payments, judgments, correspondence, records, and similar documents, established for compliance with standards and regulations bearing on performance of the Work.

## 1.6 QUALITY ASSURANCE

- A. **General:** Qualifications paragraphs in this article establish the minimum qualification levels required; individual Specification Sections specify additional requirements.
- B. **Manufacturer Qualifications:** A firm experienced in manufacturing products or systems similar to those indicated for this Project and with a record of successful in-service performance, as well as sufficient production capacity to produce required units.
- C. **Fabricator Qualifications:** A firm experienced in producing products similar to those indicated for this Project and with a record of successful in-service performance, as well as sufficient production capacity to produce required units.
- D. **Installer Qualifications:** A firm or individual experienced in installing, erecting, or assembling work similar in material, design, and extent to that indicated for this Project, whose work has resulted in construction with a record of successful in-service performance.
- E. **Professional Engineer Qualifications:** A professional engineer who is legally qualified to practice in jurisdiction where Project is located and who is experienced in providing engineering services of the kind indicated. Engineering services are defined as those performed for installations of the system, assembly, or product that are similar to those indicated for this Project in material, design, and extent.
- F. **Specialists:** Certain Specification Sections require that specific construction activities shall be performed by entities who are recognized experts in those operations. Specialists shall satisfy qualification requirements indicated and shall be engaged for the activities indicated.
1. Requirements of authorities having jurisdiction shall supersede requirements for specialists.

- G. Testing Agency Qualifications: An NRTL, an NVLAP, or an independent agency with the experience and capability to conduct testing and inspecting indicated, as documented according to ASTM E 329; and with additional qualifications specified in individual Sections; and where required by authorities having jurisdiction, that is acceptable to authorities.
1. NRTL: A nationally recognized testing laboratory according to 29 CFR 1910.7.
  2. NVLAP: A testing agency accredited according to NIST's National Voluntary Laboratory Accreditation Program.
- H. Manufacturer's Representative Qualifications: An authorized representative of manufacturer who is trained and approved by manufacturer to observe and inspect installation of manufacturer's products that are similar in material, design, and extent to those indicated for this Project.
- I. Preconstruction Testing: Where testing agency is indicated to perform preconstruction testing for compliance with specified requirements for performance and test methods, comply with the following:
1. Contractor responsibilities include the following:
    - a. Provide test specimens representative of proposed products and construction.
    - b. Submit specimens in a timely manner with sufficient time for testing and analyzing results to prevent delaying the Work.
    - c. Build laboratory mockups at testing facility using personnel, products, and methods of construction indicated for the completed Work.
    - d. When testing is complete, remove test specimens, assemblies, mockups, and laboratory mockups; do not reuse products on Project.
  2. Testing Agency Responsibilities: Submit a certified written report of each test, inspection, and similar quality-assurance service to Architect with copy to Contractor. Interpret tests and inspections and state in each report whether tested and inspected work complies with or deviates from the Contract Documents.
- J. Mockups: Before installing portions of the Work requiring mockups, build mockups for each form of construction and finish required to comply with the following requirements, using materials indicated for the completed Work:
1. Build mockups in location and of size indicated or, if not indicated, as directed by Architect.
  2. Notify Architect seven days in advance of dates and times when mockups will be constructed.
  3. Demonstrate the proposed range of aesthetic effects and workmanship.
  4. Obtain Architect's acceptance of mockups before starting work, fabrication, or construction.
    - a. Allow seven days for initial review and each re-review of each mockup.
  5. Maintain mockups during construction in an undisturbed condition as a standard for judging the completed Work.

6. Demolish and remove mockups when directed, unless otherwise indicated.
- K. Laboratory Mockups: Comply with requirements of preconstruction testing and those specified in individual Specification Sections in Divisions 02 and higher.

## 1.7 QUALITY CONTROL

- A. Contractor Responsibilities: Tests and inspections not explicitly assigned to Owner are Contractor's responsibility. Perform additional quality-control activities required to verify that the Work complies with requirements, whether specified or not.
  1. Where services are indicated as Contractor's responsibility, engage a qualified testing agency to perform these quality-control services.
    - a. Contractor shall not employ same entity engaged by Owner, unless agreed to in writing by Owner.
  2. Notify testing agencies at least 24 hours in advance of time when Work that requires testing or inspecting will be performed.
  3. Where quality-control services are indicated as Contractor's responsibility, submit a certified written report, in duplicate, of each quality-control service.
  4. Testing and inspecting requested by Contractor and not required by the Contract Documents are Contractor's responsibility.
  5. Submit additional copies of each written report directly to authorities having jurisdiction, when they so direct.
- B. Manufacturer's Field Services: Where indicated, engage a manufacturer's representative to observe and inspect the Work. Manufacturer's representative's services include examination of substrates and conditions, verification of materials, inspection of completed portions of the Work, and submittal of written reports.
- C. Retesting/Reinspecting: Regardless of whether original tests or inspections were Contractor's responsibility, provide quality-control services, including retesting and reinspecting, for construction that replaced Work that failed to comply with the Contract Documents.
- D. Testing Agency Responsibilities: Cooperate with Architect and Contractor in performance of duties. Provide qualified personnel to perform required tests and inspections.
  1. Notify Architect and Contractor promptly of irregularities or deficiencies observed in the Work during performance of its services.
  2. Determine the location from which test samples will be taken and in which in-situ tests are conducted.
  3. Conduct and interpret tests and inspections and state in each report whether tested and inspected work complies with or deviates from requirements.
  4. Submit a certified written report, in duplicate, of each test, inspection, and similar quality-control service through Contractor.
  5. Do not release, revoke, alter, or increase the Contract Document requirements or approve or accept any portion of the Work.

6. Do not perform any duties of Contractor.
- E. Associated Services: Cooperate with agencies performing required tests, inspections, and similar quality-control services, and provide reasonable auxiliary services as requested. Notify agency sufficiently in advance of operations to permit assignment of personnel. Provide the following:
1. Access to the Work.
  2. Incidental labor and facilities necessary to facilitate tests and inspections.
  3. Adequate quantities of representative samples of materials that require testing and inspecting. Assist agency in obtaining samples.
  4. Facilities for storage and field curing of test samples.
  5. Delivery of samples to testing agencies.
  6. Preliminary design mix proposed for use for material mixes that require control by testing agency.
  7. Security and protection for samples and for testing and inspecting equipment at Project site.
- F. Coordination: Coordinate sequence of activities to accommodate required quality-assurance and -control services with a minimum of delay and to avoid necessity of removing and replacing construction to accommodate testing and inspecting.
1. Schedule times for tests, inspections, obtaining samples, and similar activities.
- G. Schedule of Tests and Inspections: Prepare a schedule of tests, inspections, and similar quality-control services required by Contract Documents. Submit Schedule within 30 days of date established for commencement of work.
1. Distribution: Distribute Schedule to Owner, Architect, testing agencies, and each party involved in performance of portions of the work where tests and inspections are required.

## 1.8 SPECIAL TESTS AND INSPECTIONS

- A. Special Tests and Inspections: Conducted by a qualified testing agency as required by authorities having jurisdiction, as indicated in individual Specification Sections, and as follows:
1. Verifying that manufacturer maintains detailed fabrication and quality-control procedures and reviewing the completeness and adequacy of those procedures to perform the Work.
  2. Notifying Architect and Contractor promptly of irregularities and deficiencies observed in the Work during performance of its services.
  3. Submitting a certified written report of each test, inspection, and similar quality-control service to Architect with copy to Contractor and to authorities having jurisdiction.
  4. Submitting a final report of special tests and inspections at Substantial Completion, which includes a list of unresolved deficiencies.

5. Interpreting tests and inspections and stating in each report whether tested and inspected work complies with or deviates from the Contract Documents.
6. Retesting and reinspecting corrected work.

## PART 2 - PRODUCTS (Not Used)

## PART 3 - EXECUTION

### 3.1 REPAIR AND PROTECTION

- A. General: On completion of testing, inspecting, sample taking, and similar services, repair damaged construction and restore substrates and finishes.
  1. Provide materials and comply with installation requirements specified in other Specification Sections or matching existing substrates and finishes. Restore patched areas and extend restoration into adjoining areas with durable seams that are as invisible as possible. Comply with the Contract Document requirements for cutting and patching in Division 01 Section "Cutting and Patching."
- B. Protect construction exposed by or for quality-control service activities.
- C. Repair and protection are Contractor's responsibility, regardless of the assignment of responsibility for quality-control services.

END OF SECTION 014000



## SECTION 014200 - REFERENCES

### PART 1 - GENERAL

#### 1.1 RELATED DOCUMENTS

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

#### 1.2 DEFINITIONS

- A. General: Basic Contract definitions are included in the Conditions of the Contract.
- B. "Accepted": The term "accepted," when used in conjunction with Architect's action on Contractor's submittals, applications and requests, is limited to Architect's duties and responsibilities as stated in the Conditions of the Contract.
- C. "ACM": Asbestos Containing Materials.
- D. "Contractor": Unless specifically noted otherwise, "Contractor" shall mean the General Contractors (and vice versa).
- E. "Directed": Terms such as "directed," "requested," "authorized," "selected," "accepted," "required" and "permitted" mean directed by Architect, requested by Architect and similar phrases.
- F. "Indicated": The term "indicated" refers to graphic representations, notes, or schedules on Drawings; or to other paragraphs or schedules in Specifications and similar requirements in the Contract Documents. Terms such as "shown," "noted," "scheduled" and "specified" are used to help the user locate the reference.
- G. "In-kind": Shall mean to replicate and replace exactly as constructed.
- H. "Regulations": The term "regulations" includes laws, ordinances, statutes and lawful orders issued by authorities having jurisdiction, as well as rules, conventions and agreements within the construction industry that control performance of the Work.
- I. "Furnish": The term "furnish" means to supply and deliver to Project site, ready for unloading, unpacking, assembly, installation and similar operations.
- J. "Install": The term "install" describes operations at Project site including unloading, temporary storage, unpacking, assembling, erecting, placing, anchoring, applying, working to dimension, finishing, curing, protecting, cleaning and similar operations.
- K. "Provide": The term "provide" means to furnish and install, complete and ready for the intended use.
- L. "Installer": An installer is Contractor or another entity engaged by Contractor, as an

employee, subcontractor, or contractor of lower tier, to perform a particular construction operation, including installation, erection, application and similar operations.

- M. The term "experienced," when used with the term "installer," means having successfully completed a minimum of five previous projects similar in size and scope to this Project within the past five years; being familiar with the special requirements indicated; and having complied with requirements of authorities having jurisdiction.
  - 1. Using a term such as "carpentry" does not imply that certain construction activities must be performed by accredited or unionized individuals of a corresponding generic name, such as "carpenter." It also does not imply that requirements specified apply exclusively to trades-people of the corresponding generic name.
- N. "Project site" is the space available for performing construction activities, either exclusively or in conjunction with others performing other work as part of Project. The extent of Project site is shown on the Drawings and may or may not be identical with the description of the land on which Project is to be built.

### 1.3 INDUSTRY STANDARDS

- A. Applicability of Standards: Unless the Contract Documents include more stringent requirements, applicable construction industry standards have the same force and effect as if bound or copied directly into the Contract Documents to the extent referenced. Such standards are made a part of the Contract Documents by reference.
- B. Publication Dates: Comply with standards in effect as of the date of the Contract Documents, unless otherwise indicated.
- C. Conflicting Requirements: Where compliance with two or more standards is specified and the standards establish different or conflicting requirements for minimum quantities or quality levels, comply with the most stringent requirement. Refer uncertainties and requirements that are different, but apparently equal, to Architect for a decision before proceeding.
  - 1. Minimum Quantity or Quality Levels: The quantity or quality level shown or specified shall be the minimum provided or performed. The actual installation may comply exactly with the minimum quantity or quality specified, or it may exceed the minimum within reasonable limits. To comply with these requirements, indicated numeric values are minimum or maximum, as appropriate, for the context of the requirements. Refer uncertainties to Architect for a decision before proceeding.
- D. Abbreviations and Names: Abbreviations and acronyms are frequently used in the Specifications and other Contract Documents to represent the name of a trade association, standards-developing organization, authorities having jurisdiction, or other entity in the context of referencing a standard or publication. Abbreviations and acronyms, as referenced in the Contract Documents, mean the typical associated names. When in doubt, request clarification from Architect.

END OF SECTION 014200

## SECTION 015000 - TEMPORARY FACILITIES AND CONTROLS

### PART 1 - GENERAL

#### 1.1 SUMMARY

- A. This Section includes requirements for temporary facilities and controls, including temporary utilities, support facilities and security and protection facilities.
- B. Unless amended in the Addenda, Temporary utilities include, but are not limited to, the following:
  - 1. Electric power service.
  - 2. Lighting.
  - 3. Telephone service.
  - 4. Egress routes to remain fully operational.
  - 5. Temporary signage.
  - 6. Daily maintenance clean-up of building exterior.
- C. Support facilities include, but are not limited to, the following:
  - 1. Temporary protection of existing facilities.
  - 2. Project identification and temporary signs.
  - 3. Waste disposal facilities.
  - 4. Temporary portable restroom facilities.
  - 5. Field offices.
  - 6. Storage and fabrication sheds.
  - 7. Lifts and hoists.
  - 8. Construction aids and miscellaneous services and facilities.
- D. Security and protection facilities include, but are not limited to, the following:
  - 1. Environmental protection.
  - 2. Storm water control, including necessary temporary protection to prevent the ingress of water during the work.
  - 3. Security enclosure and lockup.
  - 4. Barricades, warning signs and lights.
  - 5. Temporary enclosures.
  - 6. Fire protection.
- E. Related Sections include the following:

1. 013300 - "Submittal Procedures" for procedures for submitting copies of implementation and termination schedule and reports.
2. Division 02 and higher for other requirements.

## 1.2 USE CHARGES

- A. General: Cost or use charges for temporary facilities are not chargeable to Owner or Architect and shall be included in the Contract Sum. Allow other entities to use temporary services and facilities without cost, including, but not limited to, the following:
  1. Owner's construction forces.
  2. Occupants of Project.
  3. Architect.
  4. Testing agencies.
  5. Personnel of authorities having jurisdiction.
- B. Sewer Service: N/A – Contractor shall provide portable toilet.
- C. Water Service: N/A – Contractor shall provide potable water.
- D. Electric Power Service: Use of owner's electric power service, without metering and without payment of use for electricity is permitted, but not guaranteed, by all entities engaged in construction activities at Project site.

## 1.3 SUBMITTALS

- A. Within 15 days of date established for submittal of Contractor's Construction Schedule, submit a schedule indicating implementation and termination of each temporary utility.
- B. Submit a Site Set-Up Plan showing temporary facilities, utility hook-ups, staging areas, and parking areas for construction personnel, prior to the start of work.
- C. Submit a protection plan, prior to the start of work for the following:
  1. Protection for any neighboring building from the dust and debris created by work of this contract.
  2. Provide safe public access from the dust and debris created by work of this contract.

## 1.4 QUALITY ASSURANCE

- A. Standards: Comply with ANSI A10.6, NECA's "Temporary Electrical Facilities" and NFPA 241.
  1. Trade Jurisdictions: Assigned responsibilities for installation and operation of

temporary utilities are not intended to interfere with trade regulations and union jurisdictions.

2. Electric Service: Comply with NECA, NEMA and UL standards and regulations for temporary electric service. Install service to comply with NFPA 70.
- B. Tests and Inspections: Arrange for authorities having jurisdiction to test and inspect each temporary utility before use. Obtain required certifications and permits.

## 1.5 PROJECT CONDITIONS

- A. Conditions of Use: The following conditions apply to use of temporary services and facilities by all parties engaged in the Work:
1. Keep temporary services and facilities clean and neat.
  2. Relocate temporary services and facilities as required by progress of the Work.

## PART 2 - PRODUCTS

### 2.1 MATERIALS

- A. General: Provide new materials. Undamaged, previously used materials in serviceable condition may be used if approved by Architect. Provide materials suitable for use intended.
- B. Portable Fencing: Provide flexible “safety orange” mesh fencing at all sensitive work areas.
- C. Tarpaulins: Fire-resistive labeled with flame-spread rating of 15 or less.
- D. Water: Potable.

### 2.2 TEMPORARY FACILITIES AND EQUIPMENT

- A. General: Provide equipment suitable for use intended.
- B. Field Offices: Prefabricated or mobile units with serviceable finishes, temperature controls, and foundations adequate for normal loading.
- C. Storage and Fabrication Shed: Provide sheds sized and equipped to accommodate materials and equipment for construction operations.
1. Store combustible materials apart from building.
- D. Fire Extinguishers: Hand carried, portable, UL rated. Provide class and extinguishing agent as required by location and classes of exposure and that comply with NFPA 10 and NFPA 241.

1. No open flames on site.
  2. At least two fire extinguishers to be located at entrances at all times.
  3. Fire extinguishers to be clearly visible to all active construction work.
- E. Self-Contained Toilet Units: Single-occupant units of chemical, aerated re-circulation or combustion type; vented; fully enclosed with a glass-fiber-reinforced polyester shell or similar nonabsorbent material.
- F. Heating and Cooling: Provide temporary heating and cooling required by construction activities for curing or drying of completed installations or for protecting installed construction from adverse effects of low temperatures or high humidity. Select equipment that will not have a harmful effect on completed installations or elements being installed. The building interior must be kept at 55 degrees F minimum at all times.
- G. Electrical Outlets: Properly configured, NEMA-polarized outlets to prevent insertion of 110- to 120-V plugs into higher-voltage outlets; equipped with ground-fault circuit interrupters, reset button and pilot light.
- H. Power Distribution System Circuits: None permitted.
- I. Ventilation and Humidity Control: Provide temporary ventilation required by construction activities for curing or drying of completed installations or for protecting installed construction from adverse effects of high humidity. Select equipment that will not have a harmful effect on completed installations or elements being installed. Coordinate ventilation requirements to produce ambient condition required and minimize energy consumption.
- J. Lighting: Provide temporary lighting with local switching that provides adequate illumination for construction operations, observations, inspections, and traffic conditions.
1. Install and operate temporary lighting that fulfills security and protection requirements without operating entire system.
  2. Install lighting for Project identification sign.
- K. Telephone Service: Provide temporary telephone service in common-use facilities for use by all construction personnel. Install one telephone line(s) for each field office.
1. Provide additional telephone lines for the following:
    - a. Provide a dedicated telephone line for each facsimile machine and computer in each field office.
- L. Sewers and Drainage: Provide temporary utilities to remove effluent lawfully.
- M. Water Service: Use of Owner's existing water service facilities will be permitted, as long as facilities are cleaned and maintained in a condition acceptable to Owner. At Substantial Completion, restore these facilities to condition existing before initial use.
1. Where installations below an outlet might be damaged by spilling or leakage,

provide a drip pan of suitable size to minimize water damage. Drain accumulated water promptly from pans.

## PART 3 - EXECUTION

### 3.1 INSTALLATION, GENERAL

- A. Locate temporary facilities where they will serve Project adequately and result in minimum interference with performance of the Work. Relocate and modify facilities as required. To be marked on site set-up plan and reviewed with owner. An area designated by the Owner will be provided for site set up and temporary facilities.

### 3.2 TEMPORARY UTILITY INSTALLATION

- A. General: Engage appropriate local utility company to install temporary service or connect to existing service. Where utility company provides only part of the service, provide the remainder with matching, compatible materials and equipment. Comply with utility company recommendations.

1. Arrange with utility company, Owner and existing users for time when service can be interrupted, if necessary, to make connections for temporary services.

- B. Water Service: Use of Owner's existing water service facilities will be permitted, as long as facilities are cleaned and maintained in a condition acceptable to Owner. At Substantial Completion, restore these facilities to condition existing before initial use.

- C. Sanitary Facilities: Provide temporary toilets, wash facilities and drinking-water fixtures. Comply with regulations and health codes for type, number, location, operation and maintenance of fixtures and facilities.

1. Disposable Supplies: Provide toilet tissue, paper towels, paper cups and similar disposable materials for each facility. Maintain adequate supply. Provide covered waste containers for disposal of used material.

2. Toilets: Install self-contained toilet units. Shield toilets to ensure privacy.

3. Drinking-Water Facilities: Provide bottled-water, drinking-water units. Usually retain subparagraph below.

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

- E. Electric Power Service: Use of Owner's existing electric power service will be permitted,



as long as equipment is maintained in a condition acceptable to Owner.

- F. Electric Distribution: Provide receptacle outlets adequate for connection of power tools and equipment.
1. Provide waterproof connectors to connect separate lengths of electrical power cords if single lengths will not reach areas where construction activities are in progress. Do not exceed safe length-voltage ratio.
  2. Provide warning signs at power outlets other than 110 to 120 V.
  3. Provide metal conduit, tubing, or metallic cable for wiring exposed to possible damage. Provide rigid steel conduits for wiring exposed on grades, floors, decks or other traffic areas.
  4. Provide metal conduit enclosures or boxes for wiring devices.
  5. Provide 4-gang outlets, spaced so 100-foot extension cord can reach each area for power hand tools and task lighting. Provide a separate 125-V ac, 20-A circuit for each outlet.
- G. Lighting: Provide temporary lighting with local switching that provides adequate illumination for construction operations and traffic conditions. Install and operate temporary lighting that fulfills security and protection requirements without operating entire system.
- H. Telephone Service:
1. Post a list of important telephone numbers.
    - a. Police and fire departments.
    - b. Ambulance service.
    - c. Contractor's home office.
    - d. Architect's office.
    - e. Engineers' offices.
    - f. Owner's office.
    - g. Principal subcontractors' field and home offices.
  2. Provide a portable cellular telephone for superintendent's use in making and receiving telephone calls when away from field office. Provide voice-mail service on superintendent's cellular telephone.

### 3.3 SUPPORT FACILITIES INSTALLATION

- A. General: Comply with the following:
1. Locate field offices, storage sheds, sanitary facilities and other temporary construction and support facilities for easy access.
  2. A room within the house itself may be used as a field office with the prior approval

of the Owner and Architect.

3. Provide incombustible construction for offices and shops. Comply with NFPA 241.
4. Maintain support facilities until near Substantial Completion. Remove before Substantial Completion. Personnel remaining after Substantial Completion will be permitted to use permanent facilities, under conditions acceptable to Owner.

### 3.4 SECURITY AND PROTECTION FACILITIES INSTALLATION

- A. The interior of the building is to be protected to insure no damage from unnecessary water or soiling.
- B. Environmental Protection: Provide protection, operate temporary facilities and conduct construction in ways and by methods that comply with environmental regulations and that minimize possible air, waterway and subsoil contamination or pollution or other undesirable effects. Avoid using tools and equipment that produce harmful noise. Restrict use of noisemaking tools and equipment to hours that will minimize complaints from persons or firms near Project site.
- C. Security Enclosure and Lockup: Install substantial temporary enclosure around partially completed areas of construction. Provide lockable entrances to prevent unauthorized entrance, vandalism, theft and similar violations of security.
- D. Temporary Fire Protection: Install and maintain temporary fire-protection facilities of types needed to protect against reasonably predictable and controllable fire losses. Comply with NFPA 241.
  1. Provide fire extinguishers, installed on walls on mounting brackets, visible and accessible from space being served, with sign mounted above.
    - a. Field Offices: Class A stored-pressure water-type extinguishers.
    - b. Locate fire extinguishers where convenient and effective for their intended purpose; provide not less than one extinguisher on each floor at or near each usable stairwell.
  2. Store combustible materials in containers in fire-safe locations.
  3. Maintain unobstructed access to fire extinguishers, fire hydrants, temporary fire-protection facilities, stairways and other access routes for firefighting. Prohibit smoking in hazardous fire-exposure areas. No smoking is permitted on site.
  4. Supervise welding operations, combustion-type temporary heating units and similar sources of fire ignition. Note: no open flame welding is permitted on site.
  5. Permanent Fire Protection: At earliest feasible date in each area of Project, complete installation of permanent fire-protection facility, including connected services and place into operation and use. Instruct key personnel on use of facilities.
  6. Develop and supervise an overall fire-prevention and first-aid fire-protection program for personnel at Project site. Review needs with local fire department and

establish procedures to be followed. Instruct personnel in methods and procedures. Post warnings and information.

7. Provide hoses for fire protection of sufficient length to reach construction areas. Hang hoses with a warning sign stating that hoses are for fire-protection purposes only and are not to be removed. Match hose size with outlet size and equip with suitable nozzles.
8. Provide temporary standpipes and hoses for fire protection. Hang hoses with a warning sign stating that hoses are for fire-protection purposes only and are not to be removed. Match hose size with outlet size and equip with suitable nozzles.

### 3.5 OPERATION, TERMINATION AND REMOVAL

- A. Supervision: Enforce strict discipline in use of temporary facilities. To minimize waste and abuse, limit availability of temporary facilities to essential and intended uses.
- B. Maintenance: Maintain facilities in good operating condition until removal. Protect from damage caused by freezing temperatures and similar elements.
  1. Maintain operation of temporary enclosures, heating, cooling, humidity control, ventilation and similar facilities on a 24-hour basis where required to achieve indicated results and to avoid possibility of damage.
- C. Termination and Removal: Remove each temporary facility when need for its service has ended, when it has been replaced by authorized use of a permanent facility or no later than Substantial Completion. Complete or, if necessary, restore permanent construction that may have been delayed because of interference with temporary facility. Repair damaged Work, clean exposed surfaces, and replace construction that cannot be satisfactorily repaired.
  1. Materials and facilities that constitute temporary facilities are the property of Contractor. Owner reserves right to take possession of Project identification signs.
  2. At Substantial Completion, clean and renovate permanent facilities used during construction period. Comply with final cleaning requirements in Division 01 Section "Closeout Procedures."

### 3.6 TEMPORARY SIGNAGE

- A. No signage advertising the contractor, subcontractor or suppliers is permitted without prior approval and arrangement.

### 3.7 INTERIOR AND EXTERIOR WEEKLY MAINTENANCE

- A. Supervision: At the end of each week of construction work the supervisor will meet with the Owner Representative to inspect the interior to insure that no undue damage has occurred.

1. Maintenance: The contractor is responsible at the end of each day for complete and thorough professional cleaning of both the exterior and interior work areas of the building. Construction waste is to be disposed of properly. Other waste produced by the workers on site is to be disposed of in covered waste receptacles.

END OF SECTION 015000

## SECTION 016000 - PRODUCT REQUIREMENTS

### PART 1 - GENERAL

#### 1.1 SUMMARY

- A. Section includes administrative and procedural requirements for selection of products for use in Project; product delivery, storage, and handling; manufacturers' standard warranties on products; special warranties; and comparable products.
- B. Related Section:
  - 1. Division 01 Section "Contract Modification Procedures" for requests for product changes to the Contract Documents.
  - 2. Division 01 Section "Alternates" for products selected under an alternate.
  - 3. Division 01 Section "Closeout Procedures" for submitting warranties for contract closeout.

#### 1.2 DEFINITIONS

- A. Products: Items obtained for incorporating into the Work, whether purchased for Project or taken from previously purchased stock. The term "product" includes the terms "material," "equipment," "system," and terms of similar intent.
  - 1. Named Products: Items identified by manufacturer's product name, including make or model number or other designation shown or listed in manufacturer's published product literature, that is current as of date of the Contract Documents.
  - 2. New Products: Items that have not previously been incorporated into another project or facility. Products salvaged or recycled from other projects are not considered new products.
  - 3. Comparable Product: Product that is demonstrated and approved through submittal process to have the indicated qualities related to type, function, dimension, in-service performance, physical properties, appearance, and other characteristics that equal or exceed those of specified product.
- B. Substitutions: Changes in products, materials, equipment, and methods of construction from those required by the Contract Documents and proposed by the contractors.
- C. Basis-of-Design Product Specification: A specification in which a specific manufacturer's product is named and accompanied by the words "basis-of-design product," including make or model number or other designation, to establish the significant qualities related to type, function, dimension, in-service performance, physical properties, appearance, and other characteristics for purposes of evaluating comparable

products of additional manufacturers named in the specification.

### 1.3 SUBMITTALS

- A. Product List: Submit a list, in tabular form, showing specified products. Include generic names of products required. Include manufacturer's name and proprietary product names for each product.
1. Coordinate product list with Contractor's Construction Schedule and the Submittals Schedule.
  2. Form: Tabulate information for each product under the following column headings:
    - a. Specification Section number and title.
    - b. Generic name used in the Contract Documents.
    - c. Proprietary name, model number, and similar designations.
    - d. Manufacturer's name and address.
    - e. Supplier's name and address.
    - f. Installer's name and address.
    - g. Projected delivery date or time span of delivery period.
    - h. Identification of items that require early submittal approval for scheduled delivery date.
  3. Initial Submittal: Within 15 calendar days after the execution of the contract for construction, submit 3 copies of initial product list. Include a written explanation for omissions of data and for variations from Contract requirements.
    - a. At Contractor's option, initial submittal may be limited to product selections and designations that must be established early in Contract period.
  4. Completed List: Within 30 calendar days after the execution of the contract for construction, submit 3 copies of completed product list. Include a written explanation for omissions of data and for variations from Contract requirements.
  5. Architect's Action: Architect will respond in writing to Contractor within 15 calendar days of receipt of completed product list. Architect's response will include a list of unacceptable product selections and a brief explanation of reasons for this action. Architect's response, or lack of response, does not constitute a waiver of requirement to comply with the Contract Documents.
- B. Substitution Requests: Submit three copies of each request for consideration. Identify product or fabrication or installation method to be replaced. Include Specification Section number and title and Drawing numbers and titles.
1. Documentation: Show compliance with requirements for substitutions and the following, as applicable:
    - a. Statement indicating why specified material or product cannot be provided.

- b. Coordination information, including a list of changes or modifications needed to other parts of the Work and to construction performed by Owner and separate contractors that will be necessary to accommodate proposed substitution.
  - c. Detailed comparison of significant qualities of proposed substitution with those of the Work specified. Significant qualities may include attributes such as performance, weight, size, durability, visual effect, and specific features and requirements indicated.
  - d. Product Data, including drawings and descriptions of products and fabrication and installation procedures.
  - e. Samples, where applicable or requested.
  - f. List of similar installations for completed projects with project names and addresses and names and addresses of architects and owners.
  - g. Material test reports from a qualified testing agency indicating and interpreting test results for compliance with requirements indicated.
  - h. Research/evaluation reports evidencing compliance with building code in effect for Project, from a model code organization acceptable to authorities having jurisdiction.
  - i. Detailed comparison of Contractor's Construction Schedule using proposed substitution with products specified for the Work, including effect on the overall Contract Time. If specified product or method of construction cannot be provided within the Contract Time, include letter from manufacturer, on manufacturer's letterhead, stating lack of availability or delays in delivery.
  - j. Cost information, including a proposal of change, if any, in the Contract Sum.
  - k. Contractor's certification that proposed substitution complies with requirements in the Contract Documents and is appropriate for applications indicated.
  - l. Contractor's waiver of rights to additional payment or time that may subsequently become necessary because of failure of proposed substitution to produce indicated results.
2. Architect's Action: If necessary, Architect will request additional information or documentation for evaluation within 7 calendar days of receipt of a request for substitution. Architect will notify Contractor of acceptance or rejection of proposed substitution within 14 calendar days of receipt of request, or 7 calendar days of receipt of additional information or documentation, whichever is later.
- C. Comparable Product Requests: Submit request for consideration of each comparable product. Identify product or fabrication or installation method to be replaced. Include Specification Section number and title and Drawing numbers and titles.
1. Architect's Action: If necessary, Architect will request additional information or documentation for evaluation within one week of receipt of a comparable product request. Architect will notify Contractor of acceptance or rejection of proposed comparable product request within 15 days of receipt of request, or seven days of receipt of additional information or documentation, whichever is later.

- a. Form of Acceptance: As specified in Division 01 Section "Submittal Procedures."
  - b. Use product specified if Architect does not issue a decision on use of a comparable product request within time allocated.
- D. Basis-of-Design Product Specification Submittal: Comply with requirements in Division 01 Section "Submittal Procedures." Show compliance with requirements.

#### 1.4 QUALITY ASSURANCE

- A. Compatibility of Options: If Contractor is given option of selecting between two or more products for use on Project, select product compatible with products previously selected, even if previously selected products were also options.
- 1. Each contractor is responsible for providing products and construction methods compatible with products and construction methods of other contractors.
  - 2. If a dispute arises between contractors over concurrently selectable but incompatible products, Architect will determine which products shall be used.

#### 1.5 PRODUCT DELIVERY, STORAGE, AND HANDLING

- A. Deliver, store, and handle products using means and methods that will prevent damage, deterioration, and loss, including theft and vandalism. Comply with manufacturer's written instructions.
- B. Delivery and Handling:
- 1. Schedule delivery to minimize long-term storage at Project site and to prevent overcrowding of construction spaces.
  - 2. Coordinate delivery with installation time to ensure minimum holding time for items that are flammable, hazardous, easily damaged, or sensitive to deterioration, theft, and other losses.
  - 3. Deliver products to Project site in an undamaged condition in manufacturer's original sealed container or other packaging system, complete with labels and instructions for handling, storing, unpacking, protecting, and installing.
  - 4. Inspect products on delivery to determine compliance with the Contract Documents and to determine that products are undamaged and properly protected.
- C. Storage:
- 1. Store products to allow for inspection and measurement of quantity or counting of units.
  - 2. Store materials in a manner that will not endanger Project structure.
  - 3. Store products that are subject to damage by the elements, under cover in a weathertight enclosure above ground, with ventilation adequate to prevent condensation.



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

## 1.6 PRODUCT WARRANTIES

- A. Warranties specified in other Sections shall be in addition to, and run concurrent with, other warranties required by the Contract Documents. Manufacturer's disclaimers and limitations on product warranties do not relieve Contractor of obligations under requirements of the Contract Documents.
  1. Manufacturer's Warranty: Written warranty furnished by individual manufacturer for a particular product and specifically endorsed by manufacturer to Owner.
  2. Special Warranty: Written warranty required by the Contract Documents to provide specific rights for Owner.
- B. Special Warranties: Prepare a written document that contains appropriate terms and identification, ready for execution.
  1. Manufacturer's Standard Form: Modified to include Project-specific information and properly executed.
  2. Specified Form: When specified forms are included with the Specifications, prepare a written document using indicated form properly executed.
  3. Refer to Divisions 02 and higher for specific content requirements and particular requirements for submitting special warranties.
- C. Submittal Time: Comply with requirements in Division 01 Section "Closeout Procedures."

## PART 2 - PRODUCTS

### 2.1 PRODUCT SELECTION PROCEDURES

- A. General Product Requirements: Provide products that comply with the Contract Documents, are undamaged and, unless otherwise indicated, are new at time of installation.
  1. Provide products complete with accessories, trim, finish, fasteners, and other items needed for a complete installation and indicated use and effect.
  2. Standard Products: If available, and unless custom products or nonstandard options are specified, provide standard products of types that have been produced and used successfully in similar situations on other projects.

3. Owner reserves the right to limit selection to products with warranties not in conflict with requirements of the Contract Documents.
4. Where products are accompanied by the term "as selected," Architect will make selection.
5. Where products are accompanied by the term "match sample," sample to be matched is Architect's.
6. Descriptive, performance, and reference standard requirements in the Specifications establish salient characteristics of products.
7. Or Equal: Where products are specified by name and accompanied by the term "or equal" or "or approved equal" or "or approved," comply with provisions in "Comparable Products" Article to obtain approval for use of an unnamed product.

B. Product Selection Procedures:

1. Product: Where Specifications name a single manufacturer and product, provide the named product that complies with requirements. Comparable products or substitutions for Contractor's convenience will not be considered.
2. Manufacturer/Source: Where Specifications name a single manufacturer or source, provide a product by the named manufacturer or source that complies with requirements. Comparable products or substitutions for Contractor's convenience will not be considered.
3. Products:
  - a. Restricted List: Where Specifications include a list of names of both manufacturers and products, provide one of the products listed that complies with requirements. Comparable products or substitutions for Contractor's convenience will not be considered.
  - b. Nonrestricted List: Where Specifications include a list of names of both available manufacturers and products, provide one of the products listed, or an unnamed product, that complies with requirements. Comply with requirements in "Comparable Products" Article for consideration of an unnamed product.
4. Manufacturers:
  - a. Restricted List: Where Specifications include a list of manufacturers' names, provide a product by one of the manufacturers listed that complies with requirements. Comparable products or substitutions for Contractor's convenience will not be considered.
  - b. Nonrestricted List: Where Specifications include a list of available manufacturers, provide a product by one of the manufacturers listed, or a product by an unnamed manufacturer, that complies with requirements. Comply with requirements in "Comparable Products" Article for consideration of an unnamed manufacturer's product.
5. Basis-of-Design Product: Where Specifications name a product, or refer to a

product indicated on Drawings, and include a list of manufacturers, provide the specified or indicated product or a comparable product by one of the other named manufacturers. Drawings and Specifications indicate sizes, profiles, dimensions, and other characteristics that are based on the product named. Comply with requirements in "Comparable Products" Article for consideration of an unnamed product by one of the other named manufacturers.

- C. Visual Matching Specification: Where Specifications require "match Architect's sample", provide a product that complies with requirements and matches Architect's sample. Architect's decision will be final on whether a proposed product matches.
  - 1. If no product available within specified category matches and complies with other specified requirements, comply with requirements in Division 01 Section "Substitution Procedures" for proposal of product.
- D. Visual Selection Specification: Where Specifications include the phrase "as selected by Architect from manufacturer's full range" or similar phrase, select a product that complies with requirements. Architect will select color, gloss, pattern, density, or texture from manufacturer's product line that includes both standard and premium items.

## 2.2 PRODUCT SUBSTITUTIONS

- A. Timing: Architect will consider requests for substitution if received within 60 days after commencement of the Work. Requests received after that time may be considered or rejected at discretion of Architect.
- B. Conditions: Architect will consider Contractor's request for substitution when the following conditions are satisfied. If the following conditions are not satisfied, Architect will return requests without action, except to record noncompliance with these requirements:
  - 1. Requested substitution offers Owner a substantial advantage in cost, time, energy conservation, or other considerations, after deducting additional responsibilities Owner must assume. Owner's additional responsibilities may include compensation to Architect for redesign and evaluation services, increased cost of other construction by Owner, and similar considerations.
  - 2. Requested substitution does not require extensive revisions to the Contract Documents.
  - 3. Requested substitution is consistent with the Contract Documents and will produce indicated results.
  - 4. Substitution request is fully documented and properly submitted.
  - 5. Requested substitution will not adversely affect Contractor's Construction Schedule.
  - 6. Requested substitution has received necessary approvals of authorities having jurisdiction.
  - 7. Requested substitution is compatible with other portions of the Work.
  - 8. Requested substitution has been coordinated with other portions of the Work.

9. Requested substitution provides specified warranty.
10. If requested substitution involves more than one contractor, requested substitution has been coordinated with other portions of the Work, is uniform and consistent, is compatible with other products, and is acceptable to all contractors involved.

## 2.3 COMPARABLE PRODUCTS

- A. Conditions for Consideration: Architect will consider Contractor's request for comparable product when the following conditions are satisfied. If the following conditions are not satisfied, Architect may return requests without action, except to record noncompliance with these requirements:
1. Evidence that the proposed product does not require revisions to the Contract Documents, that it is consistent with the Contract Documents and will produce the indicated results, and that it is compatible with other portions of the Work.
  2. Detailed comparison of significant qualities of proposed product with those named in the Specifications. Significant qualities include attributes such as performance, weight, size, durability, visual effect, and specific features and requirements indicated.
  3. Evidence that proposed product provides specified warranty.
  4. List of similar installations for completed projects with project names and addresses and names and addresses of architects and owners, if requested.
  5. Samples, if requested.

PART 3 - EXECUTION (Not Used)

END OF SECTION 016000

## SECTION 017000 - EXECUTION REQUIREMENTS

### PART 1 - GENERAL

#### 1.1 SUMMARY

- A. This Section includes general procedural requirements governing execution of the Work including, but not limited to, the following:
  - 1. Construction layout.
  - 2. Field Engineering and Surveying
  - 3. General installation of products.
  - 4. Cutting and Patching.
  - 5. Coordination of Owner-installed products.
  - 6. Progress cleaning.
  - 7. Starting and adjusting.
  - 8. Protection of installed construction.
  - 9. Correction of the Work.
  
- B. Related Sections include the following:
  - 1. Division 01 Section "Submittal Procedures" for submitting surveys.
  - 2. Division 01 Section "Cutting and Patching" for procedural requirements for cutting and patching necessary for the installation or performance of other components of the Work.
  - 3. Division 01 Section "Closeout Procedures" for submitting final property survey with Project Record Documents, recording of Owner-accepted deviations from indicated lines and levels, and final cleaning.

#### 1.2 SUBMITTALS

- A. Qualification Data: For professional engineer to demonstrate their capabilities and experience. Include lists of completed projects with project names and addresses, names and addresses of architects and owners, and other information specified.
  
- B. Certificates: Submit certificate signed by professional engineer certifying that location and elevation of improvements comply with requirements.

### PART 2 - PRODUCTS (Not Used)

### PART 3 - EXECUTION

#### 3.1 EXAMINATION

- A. Existing Conditions: The existence and location of site improvements, utilities, and other construction indicated as existing are not guaranteed. Before beginning work, investigate and verify the existence and location of mechanical and electrical systems and other construction affecting the Work.
  - 1. Before construction, verify the location and points of connection of utility services.
- B. Existing Utilities: The existence and location of underground and other utilities and construction indicated as existing are not guaranteed. Before beginning site work, investigate and verify the existence and location of underground utilities and other construction affecting the Work.
  - 1. Before construction, verify the location and invert elevation at points of connection of sanitary sewer, storm sewer, and water-service piping; and underground electrical services.
  - 2. Furnish location data for work related to Project that must be performed by public utilities serving Project site.
- C. Acceptance of Conditions: Examine substrates, areas, and conditions, with Installer or Applicator present where indicated, for compliance with requirements for installation tolerances and other conditions affecting performance. Record observations.
  - 1. Written Report: Where a written report listing conditions detrimental to performance of the Work is required by other Sections, include the following:
    - a. Description of the Work.
    - b. List of detrimental conditions, including substrates.
    - c. List of unacceptable installation tolerances.
    - d. Recommended corrections.
  - 2. Verify compatibility with and suitability of substrates, including compatibility with existing finishes or primers.
  - 3. Examine roughing-in for mechanical and electrical systems to verify actual locations of connections before equipment and fixture installation.
  - 4. Examine walls, floors, and roofs for suitable conditions where products and systems are to be installed.
  - 5. Proceed with installation only after unsatisfactory conditions have been corrected. Proceeding with the Work indicates acceptance of surfaces and conditions.

### 3.2 PREPARATION

- A. Existing Utility Information: Furnish information to local utility and Owner that is necessary to adjust, move, or relocate existing utility structures, utility poles, lines, services, or other utility appurtenances located in or affected by construction. Coordinate with authorities having jurisdiction.

- B. Existing Utility Interruptions: Do not interrupt utilities serving facilities occupied by Owner unless permitted under the following conditions and then only after arranging to provide temporary utility services according to requirements indicated:
  - 1. Notify Owner not less than five days in advance of proposed utility interruptions.
  - 2. Do not proceed with utility interruptions without Owner's written permission.
- C. Field Measurements: Take field measurements as required to fit the Work properly. Recheck measurements before installing each product. Where portions of the Work are indicated to fit to other construction, verify dimensions of other construction by field measurements before fabrication. Coordinate fabrication schedule with construction progress to avoid delaying the Work.
- D. Space Requirements: Verify space requirements and dimensions of items shown diagrammatically on Drawings.
- E. Review of Contract Documents and Field Conditions: Immediately on discovery of the need for clarification of the Contract Documents, submit a request for information to Architect. Include a detailed description of problem encountered, together with recommendations for changing the Contract Documents.
- F. Scaffolding and Utilities: Insure that existing overhead wires and proposed scaffolding meet all safety requirements. Contractor responsible for all necessary temporary relocation of utilities and all necessary permits.

### 3.3 INSTALLATION

- A. General: Locate the Work and components of the Work accurately, in correct alignment and elevation, as indicated.
  - 1. Make vertical work plumb and make horizontal work level.
  - 2. Where space is limited, install components to maximize space available for maintenance and ease of removal for replacement.
  - 3. Conceal pipes, ducts, and wiring in finished areas, unless otherwise indicated.
- B. Comply with manufacturer's written instructions and recommendations for installing products in applications indicated.
- C. Install products at the time and under conditions that will ensure the best possible results. Maintain conditions required for product performance until Substantial Completion.
- D. Conduct construction operations so no part of the Work is subjected to damaging operations or loading in excess of that expected during normal conditions of occupancy.
- E. Tools and Equipment: Do not use tools or equipment that produce harmful noise levels.
- F. Anchors and Fasteners: Provide anchors and fasteners as required to anchor each component securely in place, accurately located and aligned with other portions of the

Work. All scaffolding anchors to be stainless steel and locations noted on elevations. Holes created for anchor fasteners will be filled and repainted.

1. Mounting Heights: Where mounting heights are not indicated, mount components at heights directed by Architect.
  2. Allow for building movement, including thermal expansion and contraction.
- G. Joints: Make joints of uniform width. Where joint locations in exposed work are not indicated, arrange joints for the best visual effect. Fit exposed connections together to form hairline joints.
- H. Hazardous Materials: Use products, cleaners, and installation materials that are not considered hazardous.

### 3.4 PROGRESS CLEANING

- A. General: Clean Project site and work areas daily, including common areas. Coordinate progress cleaning for joint-use areas where more than one installer has worked. Enforce requirements strictly. Dispose of materials lawfully.
1. Comply with requirements in NFPA 241 for removal of combustible waste materials and debris.
  2. Do not hold materials more than 7 days during normal weather or 3 days if the temperature is expected to rise above 80° F.
  3. Containerize hazardous and unsanitary waste materials separately from other waste. Mark containers appropriately and dispose of legally, according to regulations.
- B. Site: Maintain Project site free of waste materials and debris.
- C. Work Areas: Clean areas where work is in progress to the level of cleanliness necessary for proper execution of the Work.
1. Remove liquid spills promptly.
  2. Where dust would impair proper execution of the Work, broom-clean or vacuum the entire work area, as appropriate.
- D. Installed Work: Keep installed work clean. Clean installed surfaces according to written instructions of manufacturer or fabricator of product installed, using only cleaning materials specifically recommended. If specific cleaning materials are not recommended, use cleaning materials that are not hazardous to health or property and that will not damage exposed surfaces.
- E. Concealed Spaces: Remove debris from concealed spaces before enclosing the space.
- F. Exposed Surfaces: Clean exposed surfaces and protect as necessary to ensure freedom from damage and deterioration at time of Substantial Completion.
- G. Cutting and Patching: Clean areas and spaces where cutting and patching are performed.



Completely remove paint, mortar, oils, putty, and similar materials.

1. Thoroughly clean piping, conduit, and similar features before applying paint or other finishing materials. Restore damaged pipe covering to its original condition.
- H. Waste Disposal: Burying or burning waste materials on-site will not be permitted. Washing waste materials down sewers or into waterways will not be permitted.
- I. During handling and installation, clean and protect construction in progress and adjoining materials already in place. Apply protective covering where required to ensure protection from damage or deterioration at Substantial Completion.
- J. Clean and provide maintenance on completed construction as frequently as necessary through the remainder of the construction period. Adjust and lubricate operable components to ensure operability without damaging effects.
- K. Limiting Exposures: Supervise construction operations to assure that no part of the construction, completed or in progress, is subject to harmful, dangerous, damaging, or otherwise deleterious exposure during the construction period.

### 3.5 PROTECTION OF INSTALLED CONSTRUCTION

- A. Provide final protection and maintain conditions that ensure installed Work is without damage or deterioration at time of Substantial Completion.
- B. Comply with manufacturer's written instructions for temperature and relative humidity.

### 3.6 CORRECTION OF THE WORK

- A. Repair or remove and replace defective construction. Restore damaged substrates and finishes. Comply with requirements in Division 01 Section "Cutting and Patching."
1. Repairing includes replacing defective parts, refinishing damaged surfaces, touching up with matching materials, and properly adjusting operating equipment.
- B. Restore permanent facilities used during construction to their specified condition.
- C. Remove and replace damaged surfaces that are exposed to view if surfaces cannot be repaired without visible evidence of repair.
- D. Repair components that do not operate properly. Remove and replace operating components that cannot be repaired.

END OF SECTION 017000

## SECTION 017100 - HOUSEKEEPING AND CLEANING

### PART 1 - GENERAL

#### 1.1 DESCRIPTION

- A. Work included: Maintain the structure and site in a standard of cleanliness as described in this Section.
- B. Related work:
  - 1. Owner's Requirements;
  - 2. Division 01 Documents;
  - 3. Cleaning requirements in Divisions 02 and higher.

#### 1.2 QUALITY ASSURANCE

- A. Daily verify that requirements for cleanliness are being met.
- B. Comply with pertinent requirements of governmental agencies having jurisdiction.

### PART 2 - PRODUCTS

#### 2.1 CLEANING MATERIALS AND EQUIPMENT

- A. Provide personnel, equipment, and materials needed to maintain the specified standard of cleanliness.

#### 2.2 COMPATIBILITY

- A. Use cleaning materials and equipment which are compatible with the surface or finish being cleaned, as recommended by the manufacturer of the material.

### PART 3 - EXECUTION

#### 3.1 PROGRESS HOUSEKEEPING AND CLEANING

- A. General:
  - 1. Store items in orderly arrangement allowing maximum access, not impeding traffic or drainage, and providing required protection of materials;
  - 2. Completely remove all scrap, debris, and waste material generated by the work of this Contract from the site daily;
  - 3. Store materials in the marshaling yard or storage trailer;
  - 4. Do not store materials within the building.
- B. Site and marshaling yard:

1. Daily, inspect the site and remove all scrap, debris, and waste material;
2. Weekly, inspect all arrangements of stored materials. Restack, tidy, or rearrange to meet the requirements above;
3. Maintain in a neat and orderly condition at all times.

C. Structure:

1. Daily, inspect the structure and remove all scrap, debris, and waste material.

### 3.2 FINAL HOUSEKEEPING AND CLEANING

A. Immediately prior to Final Acceptance Inspection, remove from the site and marshaling yard all tools, surplus materials, equipment, scrap, debris, and waste. Conduct final progress cleaning.

B. Structure, interior and exterior:

- a. Inspect surfaces and carefully remove all traces of soil, paints, mortar droppings, paint drips, sealants, waste materials, smudges, handprints, markings and other foreign matter;
- b. In the event of stubborn stains not removable with water, the A/E may require alternative cleaning at no additional cost to the Owner;
- c. Glass: Clean inside and outside;
- d. Polished surfaces: Apply the polish recommended by the manufacturer of the polished item;
- e. Vacuum clean floors in areas of work or transit.

C. Site:

- a. Broom clean pavements;
- b. Rake clean soil and established grass areas, and completely remove resultant debris.

END OF SECTION 017100

## SECTION 017329 - CUTTING AND PATCHING

### PART 1 - GENERAL

#### 1.1 REQUIREMENTS

- A. The General Contractor shall take ultimate responsibility for the coordination and execution of cutting and patching. Sufficient surveying is required in order to avoid unnecessary disturbances.

#### 1.2 SUMMARY

- A. This Section includes procedural requirements for cutting and patching. The General Contractor shall be responsible for the acceptability of all cutting and patching.
- B. Related Sections include the following:
  - 1. Division 02 Section Selective Demolition: for demolition of selected portions of the building.
  - 2. Divisions 02 and higher for specific requirements and limitations applicable to cutting and patching individual parts of the Work.

#### 1.3 DEFINITIONS

- A. Cutting: Removal of in-place construction necessary to permit installation or performance of other Work.
- B. Patching: Fitting and repair work required to restore surfaces to original conditions after installation of other Work.

#### 1.4 SUBMITTALS

- A. Cutting and Patching Proposal: Submit a proposal describing procedures at least 10 days before the time cutting and patching will be performed, requesting approval to proceed. Include the following information:
  - 1. Extent: Describe cutting and patching, show how they will be performed, and indicate why they cannot be avoided.
  - 2. Changes to In-Place Construction: Describe anticipated results. Include changes to structural elements and operating components as well as changes in building's appearance and other significant visual elements.
  - 3. Products: List products to be used and firms or entities that will perform the Work.
  - 4. Dates: Indicate when cutting and patching will be performed.
  - 5. Utility Services and Mechanical/Electrical Systems: List services/systems that cutting and patching procedures will disturb or affect. List services/systems that will be relocated and those that will be temporarily out of service. Indicate how

- long services/systems will be disrupted.
6. Structural Elements: Where cutting and patching involve adding reinforcement to structural elements, submit details and engineering calculations showing integration of reinforcement with original structure.
  7. Architect's Acceptance: Obtain acceptance of cutting and patching proposal **before** cutting and patching. Acceptance does not waive right to later require removal and replacement of unsatisfactory work.

## 1.5 QUALITY ASSURANCE

- A. Structural Elements: Do not cut and patch structural elements in a manner that could change their load-carrying capacity or load-deflection ratio.
- B. Operational Elements: Do not cut and patch operating elements and related components in a manner that results in reducing their capacity to perform as intended or that results in increased maintenance or decreased operational life or safety. Operating elements include the following:
  1. ~~Primary operating systems and equipment.~~ N/A
  2. ~~Plumbing systems.~~ N/A
  3. Electrical systems.
- C. Miscellaneous Elements: Do not cut and patch miscellaneous elements or related components in a manner that could change their load-carrying capacity, that results in reducing their capacity to perform as intended, or that results in increased maintenance or decreased operational life or safety. Miscellaneous elements include the following:
  1. Water, moisture or vapor barriers.
  2. Membranes and flashings.
  3. Piping, ductwork, vessels and equipment.
  4. Flooring.
- D. Visual Requirements: Do not cut and patch construction in a manner that results in visual evidence of cutting and patching. Do not cut and patch construction exposed on the exterior or in occupied spaces in a manner that would, in Architect's opinion, reduce the building's aesthetic qualities. Remove and replace construction that has been cut and patched in a visually unsatisfactory manner.
- E. Cutting and Patching Conference: Before proceeding, meet at Project site with parties involved in cutting and patching, including mechanical and electrical trades. Review areas of potential interference and conflict. Coordinate procedures and resolve potential conflicts before proceeding.

## 1.6 WARRANTY

- A. Existing Warranties: Remove, replace, patch, and repair materials and surfaces cut or damaged during cutting and patching operations, by methods and with materials so as not

to void existing warranties.

## PART 2 - PRODUCTS

### 2.1 MATERIALS

- A. General: Comply with requirements specified in other Sections of these Specifications.
- B. In-Place Materials: Use materials identical to in-place materials. For exposed surfaces, use materials that visually match in-place adjacent surfaces to the fullest extent possible.
  - 1. If identical materials are unavailable or cannot be used, use materials that, when installed, will match the visual and functional performance of in-place materials.

## PART 3 - EXECUTION

### 3.1 EXAMINATION

- A. Examine surfaces to be cut and patched and conditions under which cutting and patching are to be performed.
  - 1. Compatibility: Before patching, verify compatibility with and suitability of substrates, including compatibility with in-place finishes or primers.
  - 2. Proceed with installation only after unsafe or unsatisfactory conditions have been corrected.

### 3.2 PREPARATION

- A. Temporary Support: Provide temporary support of Work to be cut.
- B. Protection: Protect in-place construction during cutting and patching to prevent damage. Provide protection from adverse weather conditions for portions of Project that might be exposed during cutting and patching operations.
- C. Adjoining Areas: Avoid interference with use of adjoining areas or interruption of free passage to adjoining areas.
- D. Existing Utility Services and Mechanical/Electrical Systems: Where existing services/systems are required to be removed, relocated, or abandoned, bypass such services/systems before cutting to prevent interruption to occupied areas.

### 3.3 PERFORMANCE

- A. General: Employ skilled workers to perform cutting and patching. Proceed with cutting and patching at the earliest feasible time, and complete without delay.

1. Cut existing construction to provide for installation of other components or performance of other construction, and subsequently patch as required to restore surfaces to their original condition.
- B. Cutting: Cut existing construction by sawing, drilling, breaking, chipping, grinding, and similar operations, including excavation, using methods least likely to damage elements retained or adjoining construction. If possible, review proposed procedures with original Installer; comply with original Installer's written recommendations.
1. In general, use hand or small power tools designed for sawing and grinding, not hammering and chopping. Cut holes and slots as small as possible, neatly to size required, and with minimum disturbance of adjacent surfaces. Temporarily cover openings when not in use.
  2. Existing Finished Surfaces: Cut or drill from the exposed or finished side into concealed surfaces.
  3. Concrete or Masonry: Cut using a cutting machine, such as an abrasive saw or a diamond-core drill. Procedures to be reviewed with Architect prior to commencement at regularly scheduled Project Meeting.
  4. Excavating and Backfilling: Comply with requirements in applicable Division 02 Sections where required by cutting and patching operations.
  5. Mechanical and Electrical Services: Cut off pipe or conduit in walls or partitions to be removed. Cap, valve, or plug and seal remaining portion of pipe or conduit to prevent entrance of moisture or other foreign matter after cutting.
  6. Proceed with patching after construction operations requiring cutting are complete.
- C. Patching: Patch construction by filling, repairing, refinishing, closing up, and similar operations following performance of other Work. Patch with durable seams that are as invisible as possible. Provide materials and comply with installation requirements specified in other Sections.
1. Inspection: Where feasible, test and inspect patched areas after completion to demonstrate integrity of installation.
  2. Exposed Finishes: Restore exposed finishes of patched areas and extend finish restoration into retained adjoining construction in a manner that will eliminate evidence of patching and refinishing.
  3. Floors and Walls: Where walls or partitions that are removed extend one finished area into another, patch and repair floor and wall surfaces in the new space. Provide an even surface of uniform finish, color, texture, and appearance. Remove existing floor and wall coverings and replace with new materials, if specified, to achieve uniform color and appearance.
    - a. Where patching occurs in a painted surface, apply primer and intermediate paint coats over the patch and apply final paint coat over entire unbroken surface containing the patch. Provide additional coats until patch blends with adjacent surfaces.
  4. Ceilings: Patch, repair, or rehang existing ceilings as necessary to provide an even-plane surface of uniform appearance.

- a. Where patching occurs in a painted surface, apply primer and intermediate paint coats over the patch and apply final paint coat over entire unbroken surface containing the patch. Provide additional coats until patch blends with adjacent surfaces.
- 5. Exterior Building Enclosure: Patch components in a manner that restores enclosure to a weathertight condition.
- D. Cleaning: Clean areas and spaces where cutting and patching are performed. Completely remove paint, mortar, oils, putty, and similar materials.

END OF SECTION 017329



## SECTION 017700 - CLOSEOUT PROCEDURES

### PART 1 - GENERAL

#### 1.1 SUMMARY

- A. Section includes administrative and procedural requirements for contract closeout, including, but not limited to, the following:
1. Inspection procedures.
  2. Substantial Completion procedures.
  3. Final completion procedures.
  4. Project Record Documents, including "As-Built" drawings and specifications.
  5. Warranties.
  6. Final cleaning.
- B. Related Sections:
1. Division 01 Section "Payment Procedure" for requirements for Application of Payments.
  2. Division 01 Section "Photographic Documentation" for submitting final completion construction photographic documentation.
  3. Division 01 Section "Executions Requirements" for progress cleaning of project site.
  4. Division 01 Section "Project Record Documents" for submitting Record Drawings, Record Specifications, and Record Product Data.
  5. Divisions 02 and higher for specific closeout and special cleaning requirements for the Work in those Sections.

#### 1.2 SUBSTANTIAL COMPLETION

- A. Preliminary Procedures: Before requesting inspection for determining date of Substantial Completion, complete the following. List items below that are incomplete with request.
1. Prepare a list of items to be completed and corrected (punch list), the value of items on the list, and reasons why the Work is not complete.
  2. Advise Owner of pending insurance changeover requirements.
  3. Submit specific warranties, workmanship bonds, maintenance service agreements, final certifications, and similar documents.
  4. Obtain and submit releases permitting Owner unrestricted use of the Work and access to services and utilities. Include occupancy permits, operating certificates, and similar releases.
  5. Prepare and submit Project Record Documents, operation and maintenance manuals, final completion construction photographic documentation, damage or settlement surveys, property surveys, and similar final record information.
  6. Deliver tools, spare parts, extra materials, and similar items to location designated by Owner. Label with manufacturer's name and model number where applicable.
  7. Make final changeover of permanent locks and deliver keys to Owner. Advise

- Owner's personnel of changeover in security provisions.
  - 8. Complete startup testing of systems.
  - 9. Submit test/adjust/balance records.
  - 10. Terminate and remove temporary facilities from Project site, along with mockups, construction tools, and similar elements.
  - 11. Advise Owner of changeover in heat and other utilities.
  - 12. Submit changeover information related to Owner's occupancy, use, operation, and maintenance.
  - 13. Complete final cleaning requirements, including touchup painting.
  - 14. Touch up and otherwise repair and restore marred exposed finishes to eliminate visual defects.
- B. Inspection: Submit a written request for inspection for Substantial Completion. On receipt of request, Architect will either proceed with inspection or notify Contractor of unfulfilled requirements. Architect will prepare the Certificate of Substantial Completion after inspection or will notify Contractor of items, either on Contractor's list or additional items identified by Architect, that must be completed or corrected before certificate will be issued.
- 1. Reinspection: Request reinspection when the Work identified in previous inspections as incomplete is completed or corrected.
  - 2. Results of completed inspection will form the basis of requirements for final completion.

### 1.3 FINAL COMPLETION

- A. Preliminary Procedures: Before requesting final inspection for determining final completion, complete the following:
- 1. Submit a final Application for Payment according to Division 01 Section "Payment Procedures."
  - 2. Submit certified copy of Architect's Substantial Completion inspection list of items to be completed or corrected (punch list), endorsed and dated by Architect. The certified copy of the list shall state that each item has been completed or otherwise resolved for acceptance.
  - 3. Submit evidence of final, continuing insurance coverage complying with insurance requirements.
  - 4. Submit pest-control final inspection report and warranty.
  - 5. Instruct Owner's personnel in operation, adjustment, and maintenance of products, equipment, and systems.
- B. Inspection: Submit a written request for final inspection for acceptance. On receipt of request, Architect will either proceed with inspection or notify Contractor of unfulfilled requirements. Architect will prepare a final Certificate for Payment after inspection or will notify Contractor of construction that must be completed or corrected before certificate will be issued.
- 1. Reinspection: Request reinspection when the Work identified in previous

inspections as incomplete is completed or corrected.

#### 1.4 LIST OF INCOMPLETE ITEMS (PUNCH LIST)

- A. The contractor shall prepare and submit the initial Punch List for the review and approval by the Architect.
- B. Organization of List: Include name and identification of each space and area affected by construction operations for incomplete items and items needing correction including, if necessary, areas disturbed by Contractor that are outside the limits of construction. Use CSI Form 14.1A.
  - 1. Organize list of spaces in sequential order, starting with exterior areas first and proceeding from lowest floor to highest floor.
  - 2. Organize items applying to each space by major element, including categories for ceiling, individual walls, floors, equipment, and building systems.
  - 3. Include the following information at the top of each page:
    - a. Project name.
    - b. Date.
    - c. Name of Architect.
    - d. Name of Contractor.
    - e. Page #
  - 4. Submit list of incomplete items in the following format:
    - a. PDF electronic file.
    - b. Three paper copies.

#### 1.5 WARRANTIES

- A. Submittal Time: Submit written warranties on request of Architect for designated portions of the Work where commencement of warranties other than date of Substantial Completion is indicated.
- B. Organize warranty documents into an orderly sequence based on the table of contents of the Project Manual.
  - 1. Bind warranties and bonds in heavy-duty, 3-ring, vinyl-covered, loose-leaf binders, thickness as necessary to accommodate contents, and sized to receive 8.5" by 11" paper.
  - 2. Provide heavy paper dividers with plastic-covered tabs for each separate warranty. Mark tab to identify the product or installation. Provide a typed description of the product or installation, including the name of the product and the name, address, and telephone number of Installer.
  - 3. Identify each binder on the front and spine with the typed or printed title "WARRANTIES," Project name, and name of Contractor.
  - 4. Scan warranties and bonds and assemble complete warranty and bond submittal

package into a single indexed electronic PDF file with links enabling navigation to each item. Provide table of contents at beginning of document.

- C. Provide additional copies of each warranty to include in operation and maintenance manuals.

## 1.6 CLOSEOUT OF PERMIT(S)

- A. Submit proof of closeout of all municipal building permits and acceptance by the local Construction Official.

## PART 2 - PRODUCTS

### 2.1 MATERIALS

- A. Cleaning Agents: Use cleaning materials and agents recommended by manufacturer or fabricator of the surface to be cleaned. Do not use cleaning agents that are potentially hazardous to health or property or that might damage finished surfaces.
- B. Required Number of Copies: Submit two equal copies of Closeout Documentation required by this Section. In addition, provide an electronic version of all closeout documents, including As-Built Drawings, as indexed PDF files on a CDs (two equivalents disks).

## PART 3 - EXECUTION

### 3.1 FINAL CLEANING

- A. General: Perform final cleaning. Conduct cleaning and waste-removal operations to comply with local laws and ordinances and Federal and local environmental and antipollution regulations.
- B. Cleaning: Employ experienced workers or professional cleaners for final cleaning. Clean each surface or unit to condition expected in an average commercial building cleaning and maintenance program. Comply with manufacturer's written instructions.
  - 1. Complete the following cleaning operations before requesting inspection for certification of Substantial Completion for entire Project or for a portion of Project:
    - a. Clean Project site, yard, and grounds, in areas disturbed by construction activities, including landscape development areas, of rubbish, waste material, litter, and other foreign substances.
    - b. Sweep paved areas broom clean. Remove petrochemical spills, stains, and other foreign deposits.
    - c. Rake grounds that are neither planted nor paved to a smooth, even-textured surface.

- d. Remove tools, construction equipment, machinery, and surplus material from Project site.
- e. Remove snow and ice to provide safe access to building.
- f. Clean exposed exterior and interior hard-surfaced finishes to a dirt-free condition, free of stains, films, and similar foreign substances. Avoid disturbing natural weathering of exterior surfaces. Restore reflective surfaces to their original condition.
- g. Remove debris and surface dust from limited access spaces, including roofs, plenums, shafts, trenches, equipment vaults, manholes, attics, and similar spaces.
- h. Sweep floors broom clean in all spaces, include unoccupied areas.
- i. Vacuum carpet and similar soft surfaces, removing debris and excess nap; shampoo if visible soil or stains remain.
- j. Clean transparent materials, including mirrors and glass in doors and windows. Remove glazing compounds and other noticeable, vision-obscuring materials. Replace chipped or broken glass and other damaged transparent materials. Polish mirrors and glass, taking care not to scratch surfaces.
- k. Remove labels that are not permanent.
- l. Touch up and otherwise repair and restore marred, exposed finishes and surfaces. Replace finishes and surfaces that cannot be satisfactorily repaired or restored or that already show evidence of repair or restoration.
  - 1) Do not paint over "UL" and other required labels and identification, including mechanical and electrical nameplates.
- m. Wipe surfaces of mechanical and electrical equipment and similar equipment. Remove excess lubrication, paint and mortar droppings, and other foreign substances.
- n. Replace parts subject to operating conditions during construction that may impede operation or reduce longevity.
- o. Clean plumbing fixtures to a sanitary condition, free of stains, including stains resulting from water exposure.
- p. Replace disposable air filters and clean permanent air filters. Clean exposed surfaces of diffusers, registers, and grills.
- q. Clean ducts, blowers, and coils if units were operated without filters during construction or that display contamination with particulate matter upon inspection.
- r. Clean light fixtures, lamps, globes, and reflectors to function with full efficiency. Replace burned-out bulbs, and those noticeably dimmed by hours of use, and defective and noisy starters in fluorescent and mercury vapor fixtures to comply with requirements for new fixtures.
- s. Leave Project clean and ready for occupancy.

C. Comply with safety standards for cleaning. Do not burn waste materials. Do not bury debris or excess material or excess material into drainage systems. Remove waste materials from project site and dispose of lawfully.

END OF SECTION 017700

## SECTION 017839 - PROJECT RECORD DOCUMENTS

### PART 1 - GENERAL

#### 1.1 SUMMARY

- A. This Section includes administrative and procedural requirements for Project Record Documents, including the following:
  - 1. Record Drawings.
  - 2. Record Specifications.
  - 3. Record Product Data.
- B. Related Sections include the following:
  - 1. Division 01 Section "Closeout Procedures" for general closeout procedures.
  - 2. Division 01 Section "Photographic Documentation" for requirements for recording work photographically.
  - 3. Divisions 02 and higher for specific requirements for Project Record Documents of the Work in those Sections.

#### 1.2 SUBMITTALS

- A. Record Drawings: Comply with the following:
  - 1. Number of Copies: Submit copies of Record Drawings as follows:
    - a. Initial Submittal: Submit one set of marked-up Record Prints. Architect will initial and date each print and mark whether general scope of changes, additional information recorded, and quality of drafting are acceptable. Architect will return drawings for organizing into sets, printing, binding, and final submittal.
    - b. Final Submittal: Submit two sets of marked-up Record Prints.
- B. Record Specifications: Submit one copy of Project's Specifications, including addenda and contract modifications.
- C. Record Product Data: Submit one copy of each Product Data submittal.
  - 1. Where Record Product Data is required as part of operation and maintenance manuals, submit marked up Product Data as an insert in Manual instead of submittal as Record Product "Data."
- D. The contractor shall have the record drawings, specifications and data described in this section in her/his possession at all regular Project Meetings for the routine review by the Owner and/or Architect.

## PART 2 - PRODUCTS

### 2.1 RECORD DRAWINGS

#### A. Record Prints: Maintain one set of blackline white prints of the Contract Drawings and Shop Drawings.

1. Preparation: Mark Record Prints to show the actual installation where installation varies from that shown originally. Require individual or entity who obtained record data, whether individual or entity is Installer, subcontractor, or similar entity, to prepare the marked-up Record Prints.
  - a. Give particular attention to information on concealed elements that would be difficult to identify or measure and record later.
  - b. Record data as soon as possible after obtaining it. Record and check the markup before enclosing concealed installations.
2. Content: Types of items requiring marking include, but are not limited to, the following:
  - a. Dimensional changes to Drawings.
  - b. Revisions to details shown on Drawings.
  - c. Depths of foundations below first floor.
  - d. Locations and depths of underground utilities.
  - e. Revisions to routing of piping and conduits.
  - f. Revisions to electrical circuitry.
  - g. Actual equipment locations.
  - h. Duct size and routing.
  - i. Locations of concealed internal utilities.
  - j. Changes made by Change Order or Change Directive.
  - k. Changes made following Architect's written orders.
  - l. Details not on the original Contract Drawings.
  - m. Field records for variable and concealed conditions.
  - n. Record information on the Work that is shown only schematically.
3. Mark the Contract Drawings or Shop Drawings, whichever is most capable of showing actual physical conditions, completely and accurately. If Shop Drawings are marked, show cross-reference on the Contract Drawings.
4. Mark record sets with erasable, red-colored pencil. Use other colors to distinguish between changes for different categories of the Work at same location.
5. Mark important additional information that was either shown schematically or omitted from original drawings.
6. Note Construction Change Directive numbers, alternate numbers, Change Order numbers, and similar identification, where applicable.

#### B. Format: Identify and date each Record Drawing; include the designation "PROJECT RECORD DRAWING" in a prominent location.

1. Record Prints: Organize Record Prints and newly prepared Record Drawings into



manageable sets. Bind each set with durable paper cover sheets. Include identification on cover sheets, as follows:

- a. Project name.
- b. Date.
- c. Designation "PROJECT RECORD DRAWINGS."
- d. Name of Architect.
- e. Name of Contractor.

## 2.2 RECORD SPECIFICATIONS

- A. Preparation: Mark Specifications to indicate the actual product installation where installation varies from that indicated in Specifications, addenda, and contract modifications.
  1. Give particular attention to information on concealed products and installations that cannot be readily identified and recorded later.
  2. Mark copy with the proprietary name and model number of products, materials, and equipment furnished, including substitutions and product options selected.
  3. Record the name of manufacturer, supplier, Installer, and other information necessary to provide a record of selections made.
  4. For each principal product, indicate whether Record Product Data has been submitted in operation and maintenance manuals instead of submitted as Record Product Data.
  5. Note related Change Orders, Record Product Data, and Record Drawings where applicable.

## 2.3 RECORD PRODUCT DATA

- A. Preparation: Mark Product Data to indicate the actual product installation where installation varies substantially from that indicated in Product Data submittal.
  1. Give particular attention to information on concealed products and installations that cannot be readily identified and recorded later.
  2. Include significant changes in the product delivered to Project site and changes in manufacturer's written instructions for installation.
  3. Note related Change Orders, Record Specifications, and Record Drawings where applicable.

## 2.4 MISCELLANEOUS RECORD SUBMITTALS

- A. Assemble miscellaneous records required by other Specification Sections for miscellaneous record keeping and submittal in connection with actual performance of the Work. Bind or file miscellaneous records and identify each, ready for continued use and reference.

2.5 Required Number of Copies:

- A. Submit two equal copies of Closeout Documents required by this Section.

PART 3 - EXECUTION

3.1 RECORDING AND MAINTENANCE

- A. Recording: Maintain one copy of each submittal during the construction period for Project Record Document purposes. Post changes and modifications to Project Record Documents as they occur; do not wait until the end of the Project.
- B. Maintenance of Record Documents and Samples: Store Record Documents and Samples in the field office apart from the Contract Documents used for construction. Do not use Project Record Documents for construction purposes. Maintain Record Documents in good order and in a clean, dry, legible condition, protected from deterioration and loss. Provide access to Project Record Documents for Architect's reference during normal working hours.

END OF SECTION 017839

## SECTION 020344 - SHORING AND BRACING

### PART 1 - GENERAL

#### 1.1 DESCRIPTION

- A. Extent of shoring, bracing and cribbing work includes, but is not limited to, the following:
  - 1. Shoring, bracing and cribbing necessary to protect existing building components and other surrounding buildings during demolition, selective removals and construction. Especially where:
    - a. Sheathing and structural members are removed and replaced.
    - b. At areas of selective demolition.
  - 2. Maintenance of all shoring, bracing and cribbing.
  - 3. Removal of shoring, bracing, and cribbing as or when required.
- B. The installation and maintenance of adequate shoring and bracing is expected in order to maintain the stability of existing construction and to allow for work under this contract.
- C. Related Sections: The following sections contain requirement that relate to this section:
  - 1. Section 024119 for Selective Demolition.
  - 2. Section 061000 for Rough Carpentry.

#### 1.2 SUBMITTALS

- A. Layout Drawings: Provide accurate layout drawings for shoring, bracing and cribbing and other relevant data prepared by a NJ Professional Engineer. The layout is subject to the Architect's review.

#### 1.3 QUALITY ASSURANCE

- A. Regulations: Comply with the Uniform Construction Code of the State of New Jersey and ordinances of governing authorities having jurisdiction.

#### 1.4 JOB CONDITIONS

- A. Before starting work, check and verify governing dimensions and elevations. Survey condition of adjoining properties. Take photographs to record any prior settlement or cracking of structures, pavements, and other improvements. Prepare a list of such damages, verified by dated photographs, and signed by Contractor.
- B. Survey adjacent structures and improvements, establishing exact elevations at fixed points to act as benchmarks. Clearly identify benchmarks and record existing elevations. Locate datum level used to establish benchmark elevations sufficiently distant so as not to be affected by movement resulting from operations.
- C. Resurvey benchmarks daily or as required by progress.

## 1.5 EXISTING UTILITIES

- A. Survey and protect existing active sewer, water, gas, electricity and other utility services and structures.
- B. Notify municipal agencies and service utility companies having jurisdiction. Comply with requirements of the local building department and governing agencies for protection, relocation, removal and discontinuing of services, as affected by this work.

## PART 2 - PRODUCTS

### 2.1 MATERIALS

- A. General: Provide suitable shoring, bracing and cribbing materials, which will support loads imposed.

## PART 3 – EXECUTION

### 3.1 SHORING

- A. Wherever shoring is necessary, locate the system to clear permanent construction and to allow for construction activities. Provide shoring system adequately anchored and braced to resist earth and hydrostatic pressures. Egress must not be interrupted by shoring.
- B. Shoring systems retaining earth on which the support or stability of existing structures is dependent must be left in place at completion of work.

### 3.2 BRACING

- A. Locate bracing to clear columns, floor framing construction, and other permanent work. If necessary to move a brace, install new bracing prior to removal of original brace. Egress and construction operations must not be interrupted by bracing.
- B. Do not place bracing where it will be incorporated into permanent construction, except as otherwise acceptable to Owner.
- C. Install internal bracing, if required, to prevent spreading or distortion to braced frames.
- D. Maintain bracing until structural elements are re-braced by other bracing or until permanent construction is able to withstand lateral earth and hydrostatic pressures.
- E. Remove sheeting, shoring and bracing in stages to avoid disturbance to underlying soils and damage to structures, pavements, facilities, and utilities.
- F. Repair or replace, as acceptable to Owner, adjacent work damaged or displaced through installation or removal of shoring and bracing work.

### 3.3 CRIBBING

- A. Provide cribbing that has proper bearing and is adequately anchored and braced to resist earth and hydrostatic pressures. Egress and construction operations must not be interrupted by cribbing.
- B. Survey and maintain cribbing at regular intervals until scaffolding is removed.

- C. Install and remove cribbing in stages to avoid disturbance to underlying soils and damage to structures, pavements, facilities, and utilities.
- D. Repair or replace, as acceptable to Owner, adjacent work displaced, crushed or otherwise damaged through installation or removal of cribbing.

END OF SECTION 020344

## SECTION 022300 – SITE CLEARING

### PART 1 – GENERAL

#### 1.1 SUMMARY

- A. Site clearing removal and eradication to include, but not limited to, the following in specific locations shown on the drawings:
  - 1. Vegetation, including trees, shrubs, vines, ivy, climbers, ground cover, thickets and invasive species (especially Poison Ivy and Multiflora Rose).
  - 2. Overhanging trees limbs within 16 feet of any building surface.
- B. Related Sections: The following Sections contain requirements that relate to this aspect of the project:
  - 1. Bid Proposal Form, as work under this section falls under the Base Bid and Alternate Bid Items.
  - 2. Section 024119 for Selective Demolition.
  - 3. Section 029900 for Archaeological Monitoring.

#### 1.2 DEFINITIONS

- A. Mechanical Removal: Removal using manual labor with or with hand (non-powered) tools.
- B. Assisted Mechanical Removal: Removal assisted with powered tools and equipment.
- C. Herbicide Treatment: Using a commercially available chemical to assist with site clearing.
- D. Controlled Burn: Removal by use of flames or fire. Such measures are prohibited for this work.

#### 1.3 REFERENCES

- A. Poison Ivy information:
  - 1. [njaes.rutgers.edu/pubs/publication.asp?pid=FS1019](http://njaes.rutgers.edu/pubs/publication.asp?pid=FS1019)
  - 2. [store.extension.iastate.edu/Product/pm773-pdf](http://store.extension.iastate.edu/Product/pm773-pdf)
  - 3. [tnstate.edu/extension/documents/Poison%20ivy%20Fact%20sheet%20ANR-7.pdf](http://tnstate.edu/extension/documents/Poison%20ivy%20Fact%20sheet%20ANR-7.pdf)
- B. Multiflora Rose information:
  - 1. [http://www.nyis.info/index.php?action=invasive\\_detail&id=33](http://www.nyis.info/index.php?action=invasive_detail&id=33)

#### 1.4 SUBMITTALS

- A. General: Submit a concise Eradication and Erosion Control Plan to address the removal of vegetation included herein and how existing grade levels will be maintained.

- B. Scheduling:
  - 1. Comprehensive sequence of activities, include start, duration and ending dates for each.
  - 2. Take the timeframe of the overall project into consideration when preparing the Eradication and Erosion Control Plan (i.e. a project that begins in November and ends in May would have a different approach from a project that begins in April and ends in October).
- C. Photographs or video record, sufficiently detailed, of conditions before and after site clearing.

## 1.5 QUALITY ASSURANCE

- A. Landscaping Firm Qualifications: Use only subcontractors qualified to execute this aspect of the work.
- B. Protection: In the Eradication and Erosion Control Plan, indicate how workers will be protected from the negative consequences when dealing with poison ivy and other toxic vegetation.
  - a. Provide adequate personal protective equipment (PPE) such as protective clothing, helmets, goggles, or other garments or equipment designed to protect the wearer's body from injury or ingestion, especially chemicals, biohazards, and airborne particulate matter.

## 1.6 PROJECT CONDITIONS

- A. Owner assumes no responsibility for actual condition of site elements to be selectively cleared.
  - 1. Conditions existing at time of inspection for bidding purpose will be maintained by Owner as far as practical.
- B. Storage or sale of removed items or materials on-site will not be permitted.

## 1.7 SCHEDULING

- A. Arrange selective site clearing schedule so as not to interfere with Owner's on-site operations.

## PART 2 - PRODUCTS

### 2.1 MATERIALS

SITE CLEARING

Improvements at Buildings #4 and #7 at the Deserted Village of Feltville/Glenside Park

03/09/21

022300 - 2

- A. Use herbicides as sparingly as possible to achieve desired results.
  - 1. Selective Herbicides: EPA registered and approved, of type recommended by manufacturer for application.

## PART 3 - EXECUTION

### 3.1 EXAMINATION

- A. Survey existing conditions and correlate with requirements indicated to determine extent of site clearing required being sure to discern between Base Bid and Alternative item(s).
- B. Photograph or videotape, inventory and record the condition of areas to be cleared before and after clearing.
- C. Inspect for unanticipated mechanical, electrical or structural elements that conflict with the intended site clearing, investigate to determine the nature and extent of any conflict. Promptly inform the Architect in writing.

### 3.2 UTILITY SERVICES

- A. Active Services:
  - 1. When encountered in the work, existing active sewer, water, gas, electric and other utility services and structures shall be protected at all times and, where required for the proper execution of the work, shall be relocated as directed. The Architect shall be notified as soon as possible.
  - 2. If active lines are encountered, and are not shown on the drawings or otherwise made known to the Architect, promptly take necessary steps to assure that service is not interrupted.
  - 3. If an active utility is damaged as a result of the work done under this section, the Contractor shall repair such damaged utility to the satisfaction of the Owner and utility company and/or local municipal bodies having jurisdiction.
- B. Maintain all existing utilities in service. Do not interrupt existing utilities serving occupied or operating facilities, except when authorized in writing by Owner and authorities having jurisdiction. Provide temporary services during interruptions to existing utilities, as acceptable to Owner and to governing authorities.
  - 1. Provide not less than one week's notice to Owner if shut down of service is required.

END OF SECTION 022300



## SECTION 024119 - SELECTIVE DEMOLITION

### PART 1 - GENERAL

#### 1.1 SUMMARY

- A. Section Includes:
  - 1. Demolition and removal of existing shingles (multiple layers, as necessary).
  - 2. Demolition and removal of selected portions of building or structure.
  - 3. Demolition and removal of selected site elements.
  - 4. Salvage of existing items to be reused or recycled.
  - 5. Partial demolition of finishes to facilitate repair.
- B. Related Sections:
  - 1. 015000 - Temporary Facilities and Controls
  - 2. 017329 – Cutting and Patching
- C. Do not remove any building fabric, which is not in the way of work described in the Contract Documents.

#### 1.2 DEFINITIONS

- A. Remove: Detach items from existing construction and legally dispose of them off-site unless indicated to be removed and salvaged or removed and reinstalled.
- B. Remove and Salvage: Carefully detach from existing construction, in a manner to prevent damage, and deliver to Owner.
- C. Remove and Reinstall: Detach items from existing construction, prepare for reuse, and reinstall where indicated.
- D. Remove and Clean: Remove extraneous materials and leave original surfaces as clean as possible.
- E. Existing to Remain: Existing items of construction that are not to be permanently removed and that are not otherwise indicated to be removed, removed and salvaged, or removed and reinstalled.

### 1.3 PREINSTALLATION MEETINGS

- A. Pre-demolition Conference: Conduct conference at Project site, as part of a regularly scheduled Project Meeting.

### 1.4 INFORMATIONAL SUBMITTALS

- A. Pre-demolition Photographs and Video: Submit before Work begins.

### 1.5 FIELD CONDITIONS

- A. Conditions existing at time of inspection for bidding purpose will be maintained by Owner as far as practical.
  - 1. Before selective demolition, Owner will remove items chosen to be salvage, and store as directed by the Owner for potential reuse.
- B. Notify Architect of discrepancies between existing conditions and Drawings before proceeding with selective demolition.
- C. Storage or sale of removed items or materials on-site is not permitted.

### 1.6 WARRANTY

- A. Existing Warranties: Remove, replace, patch, and repair materials and surfaces cut or damaged during selective demolition, by methods and with materials so as not to void existing warranties.

## PART 2 - PRODUCTS

### 2.1 PERFORMANCE REQUIREMENTS

- A. Regulatory Requirements: Comply with governing EPA notification regulations before beginning selective demolition. Comply with hauling and disposal regulations of authorities having jurisdiction.
- B. Standards: Comply with ANSI/ASSEA10.6 and NFPA241.

## PART 3 - EXECUTION

### 3.1 EXAMINATION

- A. Verify that affected utilities have been disconnected and capped before starting selective demolition operations.
- B. Survey existing conditions and correlate with requirements indicated to determine extent of selective demolition required.
- C. When unanticipated mechanical, electrical, or structural elements that conflict with intended function or design are encountered, investigate and measure the nature and extent of conflict. Promptly submit a written report to Architect.
- D. Perform an engineering survey of condition of building to determine whether removing any element might result in structural deficiency or unplanned collapse of any portion of structure or adjacent structures during selective building demolition operations.
- E. Survey of Existing Conditions: Record existing conditions by use of measured drawings, preconstruction photographs, preconstruction videotapes, or templates.

### 3.2 UTILITY SERVICES AND MECHANICAL/ELECTRICAL SYSTEMS

- A. Existing Services/Systems to Remain: Maintain services/systems indicated to remain and protect them against damage.
  - 1. Comply with requirements for existing services/systems interruptions specified in Section 011000 – Summary of Work.
- B. Existing Services/Systems to Be Removed, Relocated, or Abandoned: Locate, identify, disconnect, and seal or cap off indicated utility services and mechanical/electrical systems serving areas to be selectively demolished.
  - 1. Arrange to shut off indicated utilities with Owner, when required.
  - 2. If services/systems are required to be removed, relocated, or abandoned, provide temporary services/systems that bypass area of selective demolition and that maintain continuity of services/systems to other parts of building.

### 3.3 PREPARATION

- A. Site Access and Temporary Controls: Conduct selective demolition and debris-removal operations to ensure minimum interference with roads, streets, walks, walkways, and

other adjacent occupied and used facilities.

1. Comply with requirements for access and protection specified in Section 015000 - Temporary Facilities and Controls.
- B. Temporary Facilities: Provide temporary barricades and other protection required to prevent injury to people and damage to adjacent buildings and facilities to remain.
- C. Temporary Shoring: Provide and maintain shoring, bracing, and structural supports as required to preserve stability and prevent movement, settlement, or collapse of construction and finishes to remain, and to prevent unexpected or uncontrolled movement or collapse of construction being demolished.

### 3.4 SELECTIVE DEMOLITION, GENERAL

- A. General: Demolish and remove existing construction only to the extent required by new construction and as indicated. Use methods required to complete the Work within limitations of governing regulations and as follows:
1. Neatly cut openings and holes plumb, square, and true to dimensions required. Use cutting methods least likely to damage construction to remain or adjoining construction. Use hand tools or small power tools designed for sawing or grinding, not hammering and chopping, to minimize disturbance of adjacent surfaces. Temporarily cover openings to remain.
  2. Cut or drill from the exposed or finished side into concealed surfaces to avoid marring existing finished surfaces.
  3. Do not use cutting torches until work area is cleared of flammable materials. At concealed spaces, such as duct and pipe interiors, verify condition and contents of hidden space before starting flame-cutting operations. Maintain fire watch and portable fire-suppression devices during flame-cutting operations.
  4. Locate selective demolition equipment and remove debris and materials so as not to impose excessive loads on supporting walls, floors, or framing.
  5. Dispose of demolished items and materials promptly.
- B. Reuse of Building Elements: Project has been designed to result in end-of-Project rates for reuse of building elements as follows. Do not demolish building elements beyond what is indicated on Drawings without Architect's approval.
- C. Removed and Salvaged Items:
1. Clean salvaged items.
  2. Pack or crate items after cleaning. Identify contents of containers.
  3. Store items in a secure area until delivery to Owner.
  4. Transport items to Owner's storage area designated by Owner.

5. Protect items from damage during transport and storage.

D. Removed and Reinstalled Items:

1. Clean and repair items to functional condition adequate for intended reuse.
2. Pack or crate items after cleaning and repairing. Identify contents of containers.
3. Protect items from damage during transport and storage.
4. Reinstall items in locations indicated. Comply with installation requirements for new materials and equipment. Provide connections, supports, and miscellaneous materials necessary to make item functional for use indicated.

E. Existing Items to Remain: Protect construction indicated to remain against damage and soiling during selective demolition. When permitted by Architect, items may be removed to a suitable, protected storage location during selective demolition and cleaned and reinstalled in their original locations after selective demolition operations are complete.

### 3.5 DISPOSAL OF DEMOLISHED MATERIALS

A. General: Except for items or materials indicated to be recycled, reused, salvaged, reinstalled, or otherwise indicated to remain Owner's property, remove demolished materials from Project site and legally dispose of them in an EPA-approved landfill.

1. Do not allow demolished materials to accumulate on-site.
2. Remove and transport debris in a manner that will prevent spillage on adjacent surfaces and areas.

B. Burning: Do not burn demolished materials.

C. Disposal: Transport demolished materials off Owner's property and legally dispose of them.

### 3.6 CLEANING

A. Clean adjacent structures and improvements of dust, dirt, and debris caused by selective demolition operations. Return adjacent areas to condition existing before selective demolition operations began.

END OF SECTION 024119

## SECTION 029900 - ARCHAEOLOGICAL MONITORING

### PART 1 - GENERAL

#### 1.1 SUMMARY

- A. Section includes archaeological investigations for the following:
  - 1. All excavations related to the placement of underground utilities.
  - 2. All excavations related to the placement of concrete footings and foundations.
  - 3. All ground disturbances greater than 8 inches in depth at existing grades shall be monitored, including all changes in grade and point and linear excavations to place underground utilities and footing/foundations.

#### 1.2 REFERENCES

- A. New Jersey Historic Preservation Office Guidelines for Phase I Archaeological Investigations: Identification of Archaeological Resources. Refer to: [www.nj.gov/dep/hpo/1identify/arkeoguide1.htm](http://www.nj.gov/dep/hpo/1identify/arkeoguide1.htm)
- B. Previous archaeological Phase IA study prepared for the site provided as supplemental information. The Phase IA Report recently prepared by Ian Burrow, Ph.D., RPA is available as a PDF file from the Architect upon request.

#### 1.3 SUBMITTALS

- A. The Project Director's qualifications for archaeological monitoring meet the minimum NJ State and Federal requirements.
- B. Final report produced by the Project Director detailing the outcome of the investigation.
- C. Monitoring shall be in the form of an investigation report performed and documented by a qualified archaeologist sufficient to result in an Addendum to the existing Phase IA Report.
- D. The above referenced report shall be submitted within a month of the completion of field work. Submit three bound copies of the report in color and three CDs (or flashdrives) containing the report as a PDF file.

#### 1.4 QUALITY ASSURANCE

- A. The Project Director for the Phase I archaeological survey must be a trained professional archaeologist who meets the minimum qualification standards of the

National Park Service as defined in the Secretary of Interior's *Standards and Guidelines for Archaeology and Historic Preservation*.

## PART 2 - MATERIALS

Not applicable.

## PART 3 - EXECUTION

### 3.1 PREPARATION

- A. All areas designated to be excavated must be excavated using only hand tools. No power tools are to be used for the investigation.

END OF SECTION 029900

## SECTION 033000 - CAST-IN-PLACE CONCRETE

### PART 1 – GENERAL

#### 1.1 DESCRIPTION

A. Work included: Cast-in-place concrete, including:

1. Footings and foundation.
2. Anchors and miscellaneous cast-in fasteners.

B. Related work:

1. Division 01 Documents;
2. Section 020344 - Shoring and Bracing;
3. Section 022000 - Earthwork;
4. Section 029900 – Archaeological Monitoring;
5. Section 055000 - Metal Fabrications;
6. Section 061000 - Rough Carpentry;
7. Section 060500 - Fasteners and Fastening.

#### 1.2 QUALITY ASSURANCE

- A. Comply with American Concrete Institute (ACI) Standard 318-19 *Building Code Requirements for Structural Concrete*, as adopted by the prevailing NJ UCC.
- B. Comply with American Concrete Institute (ACI) Standard 301 *Specifications for Structural Concrete for Buildings*.
- C. Comply with American Concrete Institute (ACI) Standard 306 *Specifications for Cold Weather Concreting*.
- D. Comply with American Concrete Institute (ACI) Standard 305 *Specifications for Hot Weather Concreting*.

#### 1.3 SUBMITTALS

- A. Comply with Section 013300.



- B. Concrete data: 14 days after award of the contract, submit:
  - 1. Name of producer batch plant.
  - 2. Submit mix design;
  - 3. Submit laboratory test results for proposed mix designs.
- C. Certifications: Within 3 calendar days after each concrete placement submit Certificate of Conformance:
  - 1. Signed by Concrete Producer and Contractor;
  - 2. Certifying the materials and the concrete produced and placed meets the approved mix design.

## PART 2 – PRODUCTS

### 2.1 FORMS

- A. Design, erect, support, brace and maintain formwork so it will safely support vertical and lateral loads which might be applied until such loads can be supported safely by the concrete itself.
- B. Construct forms to the sizes, shapes, lines, and dimensions shown, and as required to obtain accurate alignment, location, grades, and level and plumb work in the finished structure.

### 2.2 REINFORCEMENT

- A. Provide:
  - 1. Bars: ASTM A615, grade 60; deformed bars for #3 and larger;
  - 2. Welded wire fabric: ASTM A185 or A497, grade 60, sized per drawings;
  - 3. Tie Wire: ASTM A82, plain cold drawn steel;
  - 4. Chairs and supports: per CRSI.
- B. Fabricate in accordance with the Drawings and:
  - 1. CRSI Manual of Standard Practices;
  - 2. Bending: ACI 318;

3. Fabricate bar from longest length possible, minimizing splices and laps.

C. Reject reinforcement with the following defects:

1. Misshapen or poorly fabricated;
2. Unnecessary bends or kinks;
3. Reduced cross-section due to rust or other causes.

## 2.3 CONCRETE

A. Provide:

1. Portland cement: ASTM C150, type I or II, low alkali;
2. Aggregate, general: ASTM C33, uniformly graded and clean. Do not use aggregate known to cause excessive shrinkage;
3. Aggregate, coarse: Crushed rock or washed gravel, 3/4" (max.), passing number 4 (min.);
4. Aggregate, fine: Natural washed sand of hard and durable particles passing 3/8" screen (100%), passing 50-mesh screen (12%);
5. Water: Clean and potable;
6. Admixtures: Use of admixtures require the specific approval of A/E;
7. Calcium chloride admixtures are prohibited.

B. Design concrete mix in accordance with ACI 301 to provide normal weight concrete of the following strengths:

1. 4000 psi at 28 days;
2. Max. cement content: 590 lbs/cy;
3. Maximum water/cement ratio: 0.35;
4. Air entrainment: 4% to 6%;
5. Slump at discharge: 1" min, 3" max.

C. Provide and deliver in accordance with ASTM C94. Where ASTM C94 is in

conflict with ACI 301, ACI 301 shall govern.

## 2.4 NON-SHRINK GROUT

### A. Non-Shrink Grout:

1. High strength, non-catalyzed, natural aggregate, cementitious non-shrink grout;;
2. MasterFlow 713, as manufactured by Master Builders Solutions ([www.master-builders-solutions.com](http://www.master-builders-solutions.com)), Tel 866-628-3491, or equal as approved by the A/E.

## 2.5 ANCHOR BOLTS

### A. Provide mechanical masonry anchors as a complete and integral system of components supplied from a single manufacturer and consisting of:

1. Anchor body: AISI 304 stainless steel (ASTM A493) with collar, wedge, expansion cone and threads;
2. Nuts: AISI 304 stainless steel (ASTM F594);
3. Washers: AISI 304 stainless steel (ASTM A240).

### B. 304 Stainless Steel Kwik Bolt II, as manufactured by Hilti, Inc., PO Box 21148, Tulsa OK 74121; Tel 800-879-8000;

### C. At the diameter and length indicated on the drawings;

### D. Or equal as approved by the A/E.

## 2.6 OTHER MATERIALS

### A. Provide other materials, not specifically described but required for complete and proper installations, as selected by the Contractor subject to the approval of A/E.

## PART 3 – EXECUTION

### 3.1 GENERAL

#### A. Comply with Section 011000.

#### B. Verify that the site preparation has been completed and has been accepted by the AHJ prior to the placing of footings or slabs.

#### C. Coordinate with Section 020344 - Shoring and Bracing.

D. Prior to concrete placement, verify:

1. Embeds and reinforcement have been set and inspected;
2. Embeds have been secured against flotation and movement;
3. Forms have been set;
4. Required concrete cover is provided;
5. Footings are at the required depth below finish grade.

### 3.2 EMBEDDED ITEMS

A. Set bolts, inserts and other required items as seen on the Drawings in the concrete, accurately secured so they will not be displaced and in the precise locations needed.

### 3.3 ENVIRONMENTAL CONDITIONS

A. Concrete temperature:

1. A range within 50° F to 85° F max. at point of placement;
2. 90° F at any time during production or transport if produced with heated aggregates or hot water.

B. Monitor weather conditions.

C. Cold weather concreting:

1. Ambient low temperature at ground is 32° F to 40° F;
2. Provide protection and temporary heat;
3. Comply with ACI 306.

D. Subfreezing concreting:

1. Ambient low temperature at ground is less than 32° F;
2. Requires the specific written approval of A/E.

E. Hot weather concreting:

1. Ambient high temperature exceeds 90° F;

2. Comply with ACI 305.

### 3.3 REINFORCING

#### A. Clean reinforcement, removing:

1. Loose rust and mill scale;
2. Earth;
3. Other materials which reduce bond with concrete.

#### B. Bend rebar as shown in drawings and per CRSI.

#### C. Position, support, and secure reinforcement to:

1. Provide required concrete coverage;
2. Prevent displacement by concrete operations.

#### D. Rebar splices:

1. Lap 30 diameters minimum;
2. Wire tie.

### 3.4 FORMWORK

#### A. Erect forms over reinforcing.

#### B. Secure and brace, with tight joints, ready to receive concrete

### 3.5 MIXING AND PLACING CONCRETE

#### A. Batching Concrete:

1. Comply with ASTM C94;
2. Reject concrete over 30 minutes after leaving mixer;
3. Reject concrete over 60 minutes after initial batching with water.

#### B. Placement preparation:

1. Clean tools and placement area;

2. Remove debris from the placement area;
3. Moisten surfaces to receive concrete.

C. Conveying concrete:

1. Continuously deposit concrete in layers;
2. Integrate fresh concrete with plastic concrete without seam formation;
3. Deposit concrete near final location to avoid segregation;
4. Do not use non-plastic, segregated, contaminated, or unworkable concrete;
5. Verify required concrete cover is maintained during concrete placement;
6. Remove rejected, waste, and surplus concrete completely from site and dispose of properly.

D. Placing concrete in forms:

1. Continuously deposit and consolidate until placement of each section is complete;
2. Bring slab surfaces to the correct level with a straightedge, and then strike off;
3. Horizontal construction joints are not permitted;
4. Vibrate concrete to ensure even distribution throughout forms and around embedded reinforcement;
5. Place without honeycombs, rock pockets or voids;
6. Fill expansion joints full depth with expansion joint material specified.

### 3.6 JOINTS

- A. Obtain A/E's approval of construction joints other than those shown on the Drawings.
- B. Provide doweled, cut and troweled joints as shown on the Drawings.
- C. Cut joints when concrete has sufficiently set to avoid damage from cutting, but before shrinkage stresses have developed to induce cracking.

### 3.7 FINISHING UNFORMED SURFACES

- A. Use steel or magnesium floats and trowels.
- B. Provide finishes as shown on the Drawings.
- C. Finishing unformed surfaces:
  - 1. Float when water sheen has disappeared and when surface has stiffened sufficiently;
  - 2. Cut down high spots and fill low spots;
  - 3. Refloat the surface immediately to a uniform sandy texture.

### 3.8 CURING AND PROTECTION

- A. Protect concrete from:
  - 1. Premature drying and desiccation by wind or sun;
  - 2. Extreme temperatures.
- B. Cure concrete immediately after finishing or placement by:
  - 1. Continuous sprinkling of forms and concrete with water;
  - 2. Waterproof sheet materials around and over moistened forms and concrete;
  - 3. Curing agent compatible with specified surface finishes and coatings.
- C. Protect curing concrete from mechanical injury.
- D. Continuously maintain concrete curing operations for at least 7 days after placement.

### 3.9 REMOVAL OF FORMS

- A. Do not disturb or remove forms until:
  - 1. Concrete has hardened sufficiently;
  - 2. At least 7 days from date of concrete placement.
- B. Remove forms:
  - 1. Do not mar or gouge flat surfaces;

2. Do not crack or chip corners.

### 3.10 FINISHING FORMED SURFACES

- A. Within 1 day of removal of formwork neatly remove all fins and flashes from formed surfaces to be exposed.

### 3.11 REMEDIAL WORK

- A. After form removal, secure A/E's inspection.
- B. Repair or replace deficient work as directed by A/E, using materials selected and approved by A/E, and at no additional cost to Owner.

### 3.12 GROUTING

- A. Verify that space to receive grout is clean, free of debris and excess mortar, droppings, etc.
- B. Solidly fill vertical cells with as shown on the Drawings. Consolidate grout at time of pour by puddling with a rod, filling all cells of the masonry, and then reconsolidating later by puddling before the plasticity is lost.
- C. Perform grouting in accordance with ACI 531.
- D. Do not place grout in lifts exceeding 4' high.

### 3.13 TESTING

- A. Comply with Section 014000.
- B. Provide sampling and inspection of concrete during delivery and placement, complying with:
  1. Slump: ASTM C143;
  2. Air entrainment: ASTM C260;
  3. Temperature.
- C. Provide sample cylinders complying with ASTM C172:
  1. 3 cylinders (min.), for each day of concrete placement;
  2. 1 cylinder, field cured, for each day of concrete placement.



D. Perform 3 compression tests for each group of cylinders:

1. Test 1 cylinder at 7 days;
2. Test 1 cylinder at 28 days;
3. Reserve third for test when directed by A/E.

END OF SECTION 033000

## SECTION 04200 – MASONRY RESTORATION

### PART 1 - GENERAL

#### 1.1 RELATED DOCUMENTS

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

#### 1.2 SUMMARY

- A. Work under this section includes:

1. Raking and repointing of mortar joints of exposed exterior stonework at the buildings' foundations.
2. Raking and repointing of mortar joints of brickwork exposed to the weather.
3. Setting of new bluestone caps at existing chimneystacks.

- B. Related Sections:

1. Section 012100 for Allowances (Mortar Analysis).
2. Section 020344 for Shoring and Bracing.
3. Section 076200 for Sheet Metal Flashing and Trim.

#### 1.3 SUBMITTALS

- A. Product Data/Shop Drawings:

1. For each type of product indicated.
2. Masonry Units:
  - a. Replacement stone. Stone salvaged from the site as a first choice.
  - b. New brick at reconstructed piers in terms of color, size, finish and mortar joint coursing.
  - c. New bluestone caps at chimneystacks (2 inches thick by custom length and width to match field conditions).
3. Each type of mortar for pointing:

- a. Formulas/Mix designs. Minimum of (3) three for each condition based on an analysis prepared by a qualified Architectural Materials Conservator.
- b. Form of 6" long by 1/2" wide sample strips of mortar set in aluminum or plastic channel.

#### 1.4 QUALITY ASSURANCE

- A. Architectural Materials Conservator Qualifications: Submit records of experienced, qualifying firm as specialist in masonry restoration, specifically mortar analysis. A qualified conservator must have five years experience in similar masonry projects.
- B. Contractor Qualifications: Submit records of experienced, qualifying firm as specialist in masonry restoration. Submit written record indicating projects on which specialist has worked, with name, address and telephone number of purchaser of service and location of work personnel. Include last three projects. A qualified contractor must have five years experience in similar masonry projects.
- C. Product Data: Submit manufacturer's technical data for each product indicated including recommendations for their application and use. Include test reports and certifications substantiating that products comply with requirements.
- D. Restoration Program: Submit a written program for each phase of restoration process including protection of surrounding materials on building and site during operations. Describe in detail materials, methods and equipment to be used for each phase of restoration work.
- E. Source Limitations for Masonry Units: Obtain exposed masonry units of a uniform texture and color, or a uniform blend within the ranges accepted for these characteristics, from single source from single manufacturer for each product required.
- F. Source Limitations for Mortar Materials: Obtain mortar ingredients of a uniform quality, including color for exposed masonry, from single manufacturer for each cementitious component and from single source or producer for each aggregate.
- G. Mockups: Build mockups to verify selections made under sample submittals and to demonstrate aesthetic effects and set quality standards for materials and execution.
  1. Build mockups for each type of exposed unit masonry construction.
  2. Where masonry is to match existing, erect mockups adjacent and parallel to existing surface.
  3. Clean one-half exposed faces of mockups with masonry cleaner as indicated.
  4. Protect accepted mockups from the elements with weather-resistant membrane.
  5. Approval of mockups is for color, texture, and blending of masonry units; relationship of mortar and sealant colors to masonry unit colors; tooling of joints; and aesthetic qualities of workmanship.
  6. Approval of mockups does not constitute approval of deviations from the Contract Documents contained in mockups unless such deviations are specifically approved

by Architect in writing.

7. Approved mockups may become part of the completed Work if undisturbed at time of Substantial Completion.
8. Preinstallation Conference: Conduct conference at Project site to comply with requirements in Division 01 Section "Project Management and Coordination."

#### 1.5 DELIVERY, STORAGE, AND HANDLING

- A. Store masonry units on elevated platforms in a dry location. If units are not stored in an enclosed location, cover tops and sides of stacks with waterproof sheeting, securely tied. If units become wet, do not install until they are dry.
- B. Store cementitious materials on elevated platforms, under cover, and in a dry location. Do not use cementitious materials that have become damp.
- C. Store aggregates where grading and other required characteristics can be maintained and contamination avoided.
- D. Store masonry accessories, including metal items, to prevent corrosion and accumulation of dirt and oil.

#### 1.6 PROJECT CONDITIONS

- A. Protection of Masonry: During construction, cover tops of walls, projections, and sills with waterproof sheeting at end of each day's work. Cover partially completed masonry when construction is not in progress.
- B. Stain Prevention: Prevent grout, mortar, and soil from staining the face of masonry to be left exposed. Immediately remove grout, mortar, and soil that come in contact with such masonry.
- C. Protect base of walls from mortar splatter by spreading coverings on ground and over wall surface.
- D. Protect projections from mortar droppings.
- E. Turn scaffold boards near the wall on edge at the end of each day to prevent rain from splashing mortar and dirt onto completed masonry.
- F. Cold-Weather Requirements: Do not use frozen materials or materials mixed or coated with ice or frost. Do not build on frozen substrates. Remove and replace unit masonry damaged by frost or by freezing conditions. Comply with cold-weather construction requirements contained in ACI 530.1/ASCE 6/TMS 602.
  1. Cold-Weather Cleaning: Use liquid cleaning methods only when air temperature is 40 deg F (4 deg C) and higher and will remain so until masonry has dried, but not less than seven days after completing cleaning. Comply with cleaning product manufacturer's direction.
- F. Hot-Weather Requirements: Comply with hot-weather construction requirements contained in ACI 530.1/ASCE 6/TMS 602.

## PART 2 – PRODUCTS

### 2.1 MASONRY UNITS, GENERAL

- A. Defective Units: Referenced masonry unit standards may allow a certain percentage of units to contain chips, cracks, or other defects exceeding limits stated in the standard. Do not use units where such defects will be exposed in the completed Work.

### 2.2 MORTAR AND GROUT MATERIALS

- A. Portland Cement: ASTM C 150, Type I. Provide white cement.
- B. Hydrated Lime: ASTM C 207, Type S.
- C. Water: Clean, potable and free of oils, acids, alkalis and organic material.
- D. Aggregate: TBD

### 2.3 MORTAR MIX

- A. General:
  - 1. Follow specifications for all work. Instructions herein as they pertain to mortar mix are for pricing purposes and are subject to the final recommendations and analysis of the Architectural Materials Conservator.
  - 2. Measurement and Mixing: Measure cementitious and aggregate material in a dry condition by volume or equivalent weight. Do not measure by shovel, use known measure. Mix materials in a clean mechanical batch mixer.
    - a. Mixing Pointing Mortar: Thoroughly mix cementitious and aggregate materials together before adding any water. Then mix again adding only enough water to produce a damp, unworkable mix, which will retain its form when pressed into a ball. Maintain mortar in this dampened condition for 1-to-2 hours. Add remaining water in small portions until mortar of desired consistency is reached. Use mortar within 30 minutes of final mixing; do not re-temper or use partially hardened material.
    - b. Mortar Color: Produce mortar of color required by use of selected ingredients, namely aggregates (colorants not permitted).
    - c. All cement and lime must be sieved prior to use.
    - d. Only one person is permitted to mix mortar, to insure consistent quality control. Name of mixer and experience must be submitted to architect.
    - e. A small control sample of the accepted mortar must be submitted to the architect and kept on site to verify color and texture consistency.
- B. Mortar Proportions:
  - a. Mortar: Add aggregate to dry cement and lime and mix thoroughly.

- b. Do not use admixtures of any kind in mortar, unless otherwise indicated.
- c. Contractor to allow for 3 mock up samples to be reviewed by the Architect

#### Cementitious Materials

- 1 part white Portland cement
- 1 part Hydrated lime, Type S

Aggregate: TBD

### PART 3 – EXECUTION

#### 3.1 EXAMINATION

- A. Examine conditions for compliance with requirements for installation tolerances and other conditions affecting performance of the Work.
- B. Proceed with installation only after unsatisfactory conditions have been corrected.

#### 3.2 INSTALLATION, GENERAL

- A. Thickness: Build walls to match existing full dimensions.
- B. Build chases and recesses to accommodate items specified in this and other Sections.
- C. Use full-size units without cutting if possible.
- D. Select and arrange units for exposed unit masonry to produce a uniform blend of colors and textures.

#### 3.3 MORTAR BEDDING AND JOINTING

- A. Lay solid masonry units with completely filled bed and head joints; butter ends with sufficient mortar to fill head joints and shove into place. Do not deeply furrow bed joints or slush head joints.

#### 3.4 RAKING, REPAIRING, POINTING, AND CLEANING

- A. Use only hand tools to remove existing mortar.
- B. Remove and replace masonry units that are loose, chipped, broken, stained, or otherwise damaged or that do not match adjoining units. Install new units to match adjoining units; install in fresh mortar, pointed to eliminate evidence of replacement.
- C. Pointing: During the tooling of joints, enlarge voids and holes, except weep holes, and completely fill with mortar. Point up joints, including corners, openings, and adjacent construction, to provide a neat, uniform appearance. Prepare joints for sealant application, where indicated.

- D. In-Progress Cleaning: Clean unit masonry as work progresses by dry brushing to remove mortar fins and smears before tooling joints.
- E. Final Cleaning: After mortar is thoroughly set and cured, clean exposed masonry as follows:
  - 1. Remove large mortar particles by hand with wooden paddles and nonmetallic scrape hoes or chisels.
  - 2. Test cleaning methods on sample wall panel; leave one-half of panel uncleaned for comparison purposes. Obtain Architect's acceptance of sample cleaning before proceeding with cleaning of masonry.
  - 3. Protect adjacent stone and non-masonry surfaces from contact with cleaner by covering them with liquid strippable masking agent or polyethylene film and waterproof masking tape.
  - 4. Wet wall surfaces with water before applying cleaners; remove cleaners promptly by rinsing surfaces thoroughly with clear water.
  - 5. Clean brick by bucket-and-brush hand-cleaning method described in BIA Technical Notes 20.

### 3.5 MASONRY WASTE DISPOSAL

- A. Salvageable Materials: Unless otherwise indicated, excess masonry materials are Contractor's property. At completion of unit masonry work, remove from Project site.
- B. Excess Masonry Waste: Remove excess clean masonry waste that cannot be used as fill, as described above, and other masonry waste, and legally dispose of off Owner's property.

END OF SECTION 042000

## SECTION 061000 - ROUGH CARPENTRY

### PART 1 – GENERAL

#### 1.1 DESCRIPTION

##### A. Work includes:

1. Blocking and framing.
2. Temporary shoring.
3. Temporary protection.
4. Restoration, reinforcement and repair of the structural frame, including areas of replication and reconstruction.
  - a. Reconstruction of open porches at Building #4, including posts, floor framing, decks and roof framing.
  - b. Reconstruction of the bay at grade level at Building #4's south elevation.
  - c. Repair and reinforcement of main roof rafters, including plate, at Building #4.
  - d. Reconstruction of porch porches at Building #7, including posts, floor framing, decks and roof framing.
  - e. Substantial reconstruction of the north exterior wall and related shoring at Building #7.
  - f. Repair and reinforcement of main roof rafters, including plate, at Building #7.
  - g. Repair and reinforcement of first floor framing and related shoring, at Building #7.

##### B. Related work:

1. Division 01 - General Requirements.
2. Section 020344 - Shoring and Bracing.
3. Section 024119 - Selective Demolition.
4. Section 042000 – Masonry Restoration.
5. Section 055500 - Fabricated Metals.
6. Section 060500 - Fasteners and Fastening.
7. Section 062000 - Finish Carpentry.
8. Section 073100 – Wood Roofing Shingles.
9. Section 073180 - Roofing Underlayment.
10. Section 074623 - Wood Siding.
11. Section 076200 - Flashing and Sheet Metal.

#### 1.2 QUALITY ASSURANCE

- A. Comply with Section 013500 - Special Procedures for Historic Treatment.

#### 1.3 SUBMITTALS

- A. Comply with Section 013300 - Submittal Procedures.

- B. Product data: 7 days after notification to proceed in accordance with the Contract, submit:

1. Manufacturer's specifications and product data.



C. Samples: 21 days after award of the contract submit:

1. Sample of each grade stamp and material.

#### 1.4 PRODUCT HANDLING

A. Comply with Section 016000 - Product Requirements.

B. Protection:

1. Elevate new, replacement and salvaged wood on shoring at least one (1) foot above the ground.
2. Place a vapor barrier on the bare soil.
3. Cover the wood with a breathable waterproof covering until installed. Secure cover to avoid exposure caused by wind.

### PART 2 – PRODUCTS

#### 2.1 SOFTWOOD DIMENSIONAL LUMBER

B. Work dimension lumber stock to conform with drawings or match original material in:

1. Dimension.
2. Shape.
3. Profile.

C. Identify each piece of dimension lumber stock by stamp, brand, mark or tag showing, at a minimum:

1. Recognized grading bureau: SPIB, WCLIB, etc.
2. Mill.
3. Grade and species.
4. Moisture content.

D. Softwood lumber: Dimension lumber:

1. Species: Southern Pine.
2. Grade: Select Structural.
3. Surface finish: S4S.
4. Moisture content: KD, 15% maximum.
5. Length: Full lengths for all runs. Shorter lengths subject to prior approval by the Architect.
6. Preservative treatment: Alkaline Copper Quat, ACQ-D.

#### 2.2 HARDWOOD LUMBER

A. Provide hardwood lumber for framing where noted:

1. Species: Douglas Fir.
2. Grade: WWPA Structural Grade.

3. Surface finish: Sawn.
4. Moisture content: KD, 15% maximum.
5. Size: Per Drawings.
6. Quality: Full lengths and without splices, free from warp, cup, bow, checks or other dimensional defect or variation which will affect fit-up and alignment.

## 2.3 PLYWOOD

### A. Identify each piece of plywood by stamp, brand, mark or tag showing at a minimum:

1. Registered Trademark: APA.
2. Mill.
3. Panel Grade.
4. Span Rating and Thickness.
5. Exposure Classification.
6. Veneer Grade.

### B. Plywood for exterior wall infill:

1. Product: APA RATED.
2. Span rating: 16".
3. Thickness: Match adjacent diagonal sheathing.
4. Exposure: Exterior.
5. Veneer Grade: C - C Plugged.

### C. Plywood for floor sheathing:

1. Product: APA RATED.
2. Span rating: In accordance with the drawings.
3. Thickness: 3/4".
4. Exposure: Exterior.
5. Veneer Grade: A/BB.

### D. Plywood for wall sheathing:

1. Product: APA RATED.
2. Span rating: Structural 1.
3. Thickness: 15/32".
4. Exposure: Exterior.
5. Veneer Grade: BB.

### E. Plywood for interior paneling:

1. Product: APA RATED.
2. Span rating: 16".
3. Thickness: 1/2".
4. Exposure: Exterior.
5. Veneer Grade: A/BB.

### F. Plywood for roof sheathing:

1. Product: APA RATED.
2. Span rating: 16".

3. Thickness: 5/8".
4. Exposure: Exterior MDO.
5. Veneer Grade: A/BB.

## PART 3 - EXECUTION

### 3.1 ENVIRONMENTAL CONDITIONS

- A. Verify moisture content of wood is less than 15% at the time of installation:
  1. Do not install wood with moisture content exceeding 15%.

### 3.2 GENERAL

- A. Comply with Section 013500 - Special Procedures for Historic Treatment.
- B. Fit and scribe pieces to match existing and original installation for:
  1. Height and width.
  2. Thickness.
  3. Shapes.
  4. Finish.
- C. Select and position pieces so knots, defects and repairs do not interfere with locations of fasteners, joints or connections:
  1. Set loose knots with epoxy.
  2. Cut out and discard sections with knotholes or defects such as waney edges.

### 3.3 FIELD TREATMENT OF WOOD FOR DURABILITY

- A. Saturate the surface of all field cuts in preservative treated members after trial fit-up but before assembly or fastening.

### 3.4 JOINTS

- A. Framing lumber: Make joints true, tight, and well nailed.
- B. Roof deck joints: Make joints true, tight and well nailed, with square edges:
  1. Butt joints.
  2. Span: three span minimum.

END OF SECTION 061000

## SECTION 062000 - FINISH CARPENTRY

### PART 1 - GENERAL

#### 1.1 RELATED DOCUMENTS

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

#### 1.2 SUMMARY

- A. This Section includes the following:
  - 1. Exterior trim, including but not limited to running trim, cladding, etc. at exterior door and window openings, rakes, soffits and corner boards.
  - 2. Exterior lumber soffit, fascia, cornice boards and returns at the rooflines.
- B. Related Sections include the following:
  - 1. Section 061000 "Rough Carpentry" for furring, blocking, and other carpentry work not typically exposed to view, except open porches.
  - 2. Section 099000 "Painting" for priming and back priming of wooden components.

#### 1.3 DEFINITIONS

- A. Inspection agencies, and the abbreviations used to reference them, include the following:
  - 1. NELMA - Northeastern Lumber Manufacturers Association.
  - 2. NHLA - National Hardwood Lumber Association.
  - 3. NLGA - National Lumber Grades Authority.
  - 4. RIS - Redwood Inspection Service.
  - 5. SCMA - Southern Cypress Manufacturers Association.
  - 6. SPIB - Southern Pine Inspection Bureau.
  - 7. WCLIB - West Coast Lumber Inspection Bureau.
  - 8. WWPA - Western Wood Products Association.

#### 1.4 SUBMITTALS

- A. Product Data: For each type of process and factory-fabricated product. Include construction details, material descriptions, dimensions of individual components and profiles, textures, and colors.
- B. Samples for Verification:

1. Wood identification - obtain identification of existing wooden elements from:
  - a. Alden Identification Service  
3560 Brookside Drive  
Chesapeake Beach, MD 20732  
Tel 443-624-5712  
aldenid@comcast.net  
<https://wood-identification.com/wood-types/>
  - b. Or Architect-approved equal.
2. For each species and cut of lumber and panel products with non-factory-applied finish, with 1/2 of exposed surface finished, 50 sq. in for lumber. Submit the following samples of wood:
  - a. Clapboard: wood type Eastern White Pine (pinus strobus)
  - b. Soffit boards: wood type Eastern White Pine (pinus strobus)
  - c. Window & door trim: wood type Eastern White Pine (pinus strobus)
  - d. Running trim: wood type Poplar (populus deltoids)

#### 1.5 QUALITY ASSURANCE

- A. Installer Qualifications: A qualified installer with written references upon request.

#### 1.6 DELIVERY, STORAGE, AND HANDLING

- A. Protect materials against weather and contact with damp or wet surfaces. Stack lumber, plywood, and other panels. Provide for air circulation within and around stacks and under temporary coverings.

#### 1.7 PROJECT CONDITIONS

- A. Weather Limitations: Proceed with installation only when existing and forecasted weather conditions permit work to be performed according to manufacturer's written instructions and warranty requirements and at least one coat of specified finish to be applied without exposure to rain, snow, or dampness.

### PART 2 - PRODUCTS

#### 2.1 MATERIALS, GENERAL

- A. Lumber: DOC PS 20 and applicable grading rules of inspection agencies certified by the American Lumber Standards' Committee Board of Review.
  1. Factory mark each piece of lumber with grade stamp of inspection agency indicating grade, species, moisture content at time of surfacing, and mill.

2. For exposed lumber, mark grade stamp on end or back of each piece, or omit grade stamp and provide certificates of grade compliance issued by inspection agency.

## 2.2 EXTERIOR STANDING AND RUNNING TRIM

- A. Lumber Trim for Painted Applications: Solid lumber with smooth face and of the following species and grade:
  1. C Grade Select: Eastern White Pine (*pinus strobus*), NELMA, NLGA, WCLIB, or WWPA.
- B. Moldings: Wood moldings made from kiln-dried stock and graded under WMMPA WM 4. Profiles to be custom
  1. Moldings for Opaque Finish (Painted): C-grade Select: Eastern White Pine (*pinus strobus*).
- C. Minimum Standards:
  1. Finger jointed (or *comb jointed*) members are not permitted.
  2. The longest continuous lengths possible shall be used. No length of a wood member shall be less than 16 linear feet.
  3. Replicated members may require custom profiles.

## 2.3 MISCELLANEOUS MATERIALS

- A. Fasteners for Exterior Finish Carpentry: Provide stainless steel nails or screws in sufficient length to penetrate minimum of 1-1/2 inches into substrate, unless otherwise recommended by manufacturer:
- B. Glue: Aliphatic- or phenolic-resin wood glue recommended by manufacturer for general carpentry use.
- C. Flashing: Comply with requirements in Division 07 Section "Sheet Metal Flashing and Trim" for flashing materials installed in finish carpentry.
- D. Sealants: Comply with requirements in Division 07 Section "Joint Sealants" for materials required for sealing siding work.

## 2.4 FABRICATION

- A. Wood Moisture Content: Comply with requirements of specified inspection agencies and with manufacturer's written recommendations for moisture content of finish carpentry at relative humidity conditions existing during time of fabrication and in installation areas.
- B. Back out or kerf backs of the following members, except members with ends exposed in finished work:

1. Exterior standing and running trim wider than 5 inches.
  2. Interior standing and running trim, except shoe and crown molds.
  3. Wood beaded board paneling.
- C. Ease edges of lumber less than 1 inch in nominal thickness to 1/16-inch radius and edges of lumber 1 inch or more in nominal thickness to 1/8-inch radius.

## PART 3 - EXECUTION

### 3.1 EXAMINATION

- A. Examine substrates, with Installer present, for compliance with requirements for installation tolerances and other conditions affecting performance. Proceed with installation only after unsatisfactory conditions have been corrected.

### 3.2 PREPARATION

- A. Clean substrates of projections and substances detrimental to application.
- B. Before installing finish carpentry, condition materials to average prevailing humidity in installation areas for a minimum of 24 hours.
- C. Prime lumber for exterior applications to be painted, including both faces and edges. Cut to required lengths and prime ends. Comply with requirements in Division 09 Section "Painting."

### 3.3 INSTALLATION, GENERAL

- A. Do not use materials that are unsound, warped, improperly treated or finished, inadequately seasoned, or too small to fabricate with proper jointing arrangements.
1. Do not use manufactured units with defective surfaces, sizes, or patterns.
- B. Install finish carpentry level, plumb, true, and aligned with adjacent materials. Use concealed shims where necessary for alignment.
1. Scribe and cut finish carpentry to fit adjoining work. Refinish and seal cuts as recommended by manufacturer.
  2. Countersink fasteners, fill surface flush, and sand where face fastening is unavoidable.
  3. Install to tolerance of 1/8 inch in 96 for level and plumb. Install adjoining finish carpentry with 1/32-inch maximum offset for flush installation and 1/16-inch maximum offset for reveal installation.
  4. Install stairs with no more than 3/16-inch variation between adjacent treads and risers and with no more than 3/8-inch variation between largest and smallest treads

and risers within each flight.

5. Coordinate finish carpentry with materials and systems in or adjacent to it. Provide cutouts for mechanical and electrical items that penetrate finish carpentry.

### 3.4 STANDING AND RUNNING TRIM INSTALLATION

- A. Install with minimum number of joints practical, using full-length pieces from maximum lengths of lumber available. Do not use pieces less than 24 inches long, except where necessary. Stagger joints in adjacent and related standing and running trim. Cope at returns and miter at corners to produce tight-fitting joints with full-surface contact throughout length of joint. Use scarf joints for end-to-end joints. Plane backs of casings to provide uniform thickness across joints, where necessary for alignment.
  1. Match color and grain pattern across joints.
  2. Install trim after gypsum board joint finishing operations are completed.
  3. Drill pilot holes in hardwood before fastening to prevent splitting. Fasten to prevent movement or warping. Countersink fastener heads on exposed carpentry work and fill holes.
  4. Fit exterior joints to exclude water. Apply flat grain lumber with bark side exposed to weather.

### 3.5 SIDING INSTALLATION

- A. Horizontal Lumber Siding: Apply starter strip along bottom edge of sheathing or sill. Install first course of siding with lower edge at least 1/8 inch below starter strip and subsequent courses lapped to match existing laps. Nail at each stud. Do not allow nails to penetrate more than one thickness of siding.
  1. Butt joints only over framing or blocking, nailing top and bottom on each side and staggering joints in subsequent courses.
- B. Flashing: Install metal flashing as indicated on drawings.
- C. Procedure below is recommended to prevent sun and weather damage to siding.
- D. Finish: Apply finish within two weeks of installation.

### 3.6 ADJUSTING

- A. Replace finish carpentry that is damaged or does not comply with requirements. Finish carpentry may be repaired or refinished if work complies with requirements and shows no evidence of repair or refinishing. Adjust joinery for uniform appearance.

### 3.7 CLEANING



- A. Clean finish carpentry on exposed and semi-exposed surfaces. Touch up factory-applied finishes to restore damaged or soiled areas.

END OF SECTION 062000

## SECTION 073100 - WOOD SHINGLES

### PART 1 - GENERAL

#### 1.1 RELATED DOCUMENTS

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

#### 1.2 SUMMARY

- A. This Section includes the following:
  - 1. Cedar shingle roofing, all slopes except over the open porches (and where noted otherwise).
  - 2. Installation accessories including underlayment materials, slip-sheets, fasteners and other items required for a complete roofing and siding installation.
- B. Related Sections include the following:
  - 1. 061000 - "Rough Carpentry" for wood deck, sheathing, and framing.
  - 2. 076100 – "Terne-Coated Stainless Steel Sheetmetal Roofs"
  - 3. 076200 - "Sheet Metal Flashing and Trim" for gutters, downspouts, flashing, and other sheet metal work not included in this Section.
  - 4. 079200 - "Joint Sealants" for field-applied sealants.
  - 5. 099000 - "Painting" for field-applied finishes.

#### 1.3 SUBMITTALS

- A. Product Data: For each type of product specified. Include manufacturers' product specifications, standard details, dimensions, and general recommendations, as applicable to materials and installation.
- B. Shop Drawings: Submit layout drawings showing specific roofing and siding details.
  - 1. Show relationships with adjacent construction and flashing details at roof perimeter, ridges, hips, valleys and penetrations.
  - 2. Show relationships with adjacent construction for installation of wall shingles.
- C. Samples for Verification: Submit full-size samples of the following:
  - 1. Cedar Shingles – ranging from the narrowest to the widest.

2. 8-inch- square Samples of LCC flashing.
- D. Research/Evaluation Reports: Evidence of shingle and shake manufacturer's and grading agency's compliance with building code in effect for Project, from a model code organization acceptable to authorities having jurisdiction.
- E. Prepare and submit test results and mock-up for ice and water underlayment exposed to heat from soldering above.
- F. Research/Evaluation Reports: Evidence of shake manufacturer's and grading agency's compliance with building code in effect for Project, from a model code organization acceptable to authorities having jurisdiction.
- G. Warranties: Special warranties specified in this Section.

#### 1.4 QUALITY ASSURANCE

- A. Grading Agency Qualifications: An independent testing and inspecting agency recognized by authorities having jurisdiction as qualified to label shakes for compliance with referenced wood shingle and shake grading rules.
- B. Source Limitations: Obtain shakes through one source from a single manufacturer.
- C. Samples for Verification: Submit full-size samples of new roofing shakes and siding shingle.
- D. Mockups: Before installing, construct mockups for each form of construction and finish required to verify selections made under Sample submittals and to demonstrate aesthetic effects and qualities of materials and execution. Build mockups to comply with the following requirements, using materials indicated for completed Work.
  1. Locate mockups in the location and of the size indicated or, if not indicated, as directed by Architect.
  2. Notify Architect 7 days in advance of the dates and times when mockups will be constructed.
  3. Demonstrate the proposed range of aesthetic effects and workmanship.
  4. Obtain Architect's approval of mockups before proceeding with construction.
  5. Maintain mockups during construction in an undisturbed condition as a standard for judging the completed Work.
  6. When directed, remove mockups from Project site.
  7. Approved mockups in an undisturbed condition at the time of Substantial Completion may become part of the completed Work.

## 1.5 DELIVERY, STORAGE AND HANDLING

- A. Deliver materials to Project site in manufacturer's unopened bundles or containers with labels intact.
- B. Handle and store materials at Project site to prevent water damage, staining, or other physical damage. Comply with manufacturer's written instructions for Project site storage, handling, and protection.

## 1.6 PROJECT CONDITIONS

- A. Proceed with roofing installation only after substrate construction, vent stacks and other roof penetrating work has been completed.
- B. Substrate shall be smooth, dry, securely anchored, and free of construction debris.
- C. Weather Limitations: Proceed with roofing installation only when existing and forecasted weather conditions will permit work to be performed and when substrate is completely dry.

## 1.7 WARRANTY

- A. General Warranty: The special warranties specified in this Article shall not deprive the Owner of other rights the Owner may have under other provisions of the Contract Documents and shall be in addition to, and run concurrent with, other warranties made by the Contractor under requirements of the Contract Documents.
- B. Special Product-Defect Warranty: Submit a written warranty, signed by shingle and/or shake manufacturer, ensuring that shingles and/or shakes, when installed according to manufacturer's written instructions, will remain free of leaks and agreeing to furnish replacement shingles and/or shakes or refund a pro-rata portion of the amount originally paid for the defective shingles and/or shakes due to original product defects, for the specified warranty period.
  - 1. Warranty Period: 25 years from date of Substantial Completion.

## 1.8 EXTRA MATERIALS

- A. Deliver extra materials to Owner. Furnish extra materials described below that match products installed, are packaged with protective covering for storage, and are identified with labels describing contents.
  - 1. Furnish shingles equal to 2 percent of amount installed, but not less than 1 square (100 sq. ft.) identical to those installed in unbroken bundles.

## PART 2 - PRODUCTS

### 2.1 PRODUCTS, GENERAL

- A. Grading Standards for Wood Shakes: Comply with the following:
  - 1. U.B.C. Standard 15-3.
  - 2. CSSB's "Grading Rules for Certi-Split Tapersplit Red Cedar Shakes."
- B. Identification: Attach a label to each bundle of shakes; identify manufacturer, references to model code approval, type of product, grade, dimensions, and approved grading agency.
  - 1. Where applicable, include chemical treatment, method of application, purpose of treatment, and warranties available.

### 2.2 ROOFING

- A. No. 1 (highest grade) clear heartwood, edge grain with no defects:
  - 1. 24" Royals Alaskan Yellow Cedar Roofing Shingles, The premium grade.

### 2.3 UNDERLAYMENT

- A. Felt Underlayment: Asphalt-saturated organic felt, unperforated, complying with ASTM D 226, Type II, No. 30, unless Type I, No. 15, is required by code.
- B. Perimeter Underlayment: Polyethylene-sheet-backed, self-adhering, polymer-modified, bituminous sheet underlayment; complying with ASTM D 1970; minimum 40 mils thick. Provide primer when recommended by underlayment manufacturer.
  - 1. Membrane properties:
    - a. Tensile strength (ASTM D 412, modified): 250 psi minimum.
    - b. Elongation (ASTM D 412, modified): 250 percent minimum.
    - c. Pliability (ASTM D 146; 1-inch mandrel, 180 degree bend, minus 25 degrees F): No cracks.
    - d. Puncture resistance (ASTM E 154): 40 pounds, minimum.
    - e. Peel resistance: 5 pounds per inch, minimum.
  - 2. Primer: Fast-drying, water-based primer, made by manufacturer of membrane, specifically intended for use with membrane.

- a. TCA-based formulations shall not be permitted.
- 3. Detailing Mastic: Solvent-based rubberized asphalt mastic, made by manufacturer of self-adhesive rubberized asphalt sheet membrane for sealing of edges and penetrations.
- 4. Products: Provide one of the following:
  - a. WinterGuard; Certain Teed Corporation.
  - b. Weather Watch; GAF Building Materials Corporation.
  - c. Bituthene Ice and Water Shield; Grace: W.R. Grace & Co.
  - d. Ice Guard Membrane No. 108-AG; Royston Laboratories, Inc.
- C. Slip Sheet: Rosin-sized paper, 5 pound nominal weight.
- D. Sheet Metal Flashing: Provide materials specified in Section 076200.
- E. Vent Pipe Flashing: Lead conforming to ASTM B 749, Type L51121, at least 1/16 inch thick, unless otherwise indicated. Provide lead sleeve sized to slip over and turn down into pipe, soldered to skirt at slope of roof extending at least 4 inches from pipe onto roof.

## 2.4 FASTENERS

- A. Nails: Stainless-steel Type 304 or 316 nails of sufficient length to penetrate through or at least 3/4 inch into sheathing. Copper, bright steel, or blue-steeled nails are unacceptable.
  - 1. Shingle Nails: Provide stainless steel shingle-type nails at wood shingles.

## 2.5 SHEET METAL FLASHING

- A. Metals: Provide flashing fabricated from the following materials:
  - 1. Lead-Coated Copper Sheet: ASTM B 101, cold-rolled copper sheet of minimum weight indicated, both sides coated with lead weighing not less than 12 nor more than 15 pounds per 100 square feet, unless otherwise indicated.

## PART 3 - EXECUTION

### 3.1 EXAMINATION

- A. Examine lath for compliance with requirements for lath, installation tolerances and other conditions affecting performance of Work specified in this Section. Do not proceed with installation until unsatisfactory conditions have been corrected.

### 3.2 PREPARATION

- A. Clean lath of projections and substances detrimental to application.
- B. Coordinate installation with flashing and other adjoining work to ensure proper sequencing.
  - 1. Do not install roofing materials until all vent stacks and other penetrations through roof sheathing have been installed and are securely fastened against movement.

### 3.3 INSTALLATION, GENERAL

- A. Comply with manufacturer's written installation instructions and the following:
  - 1. CSSB's "Design and Application Manual for New Roof Construction."
  - 2. NRCA's "The NRCA Roofing and Waterproofing Manual": Section "The NRCA Steep Roofing Manual," Chapter "Wood Shingle and Wood Shake Roofing."
  - 3. CSSB's "Design and Application Manual for Exterior and Interior Walls."

### 3.4 WOOD SHINGLE ROOFING INSTALLATION

- A. Perimeter Underlayment: Apply minimum 36-inch wide layer of perimeter underlayment along entire perimeter of surface to receive wood shingles, including at eaves, ridges, hips, valleys, skylights, dormers, and edges, and around projections through roof. Extend perimeter underlayment a minimum of 24 inches inside exterior wall line at edges.
- B. Install wood shingles, beginning at lower end, with a double-layer starter course, projecting shingles 1.5 inches beyond fascia, but only 1 inch at gutters. Space adjoining shingles 0.25 inch apart, attach each shingle with 2 fasteners spaced 0.75 to 1 inch from edge of shingle and 1-1/2 to 2 inches above butt line of subsequent course. Achieve a triple lap installation. Stagger edge joints a minimum of 1.5 inches in succeeding courses. Prevent alignment of vertical joints in every third course. Drive fasteners tight to top surface of shingles without crushing wood (avoid excessive driving).
  - 1. Weather Exposure: 8 inches for 24-inch-long shingles.
  - 2. Ridges and Edges: Cut and fit shingles at ridges and edges to provide maximum weather protection. Install fasteners at ridges of sufficient length to penetrate sheathing as specified.
- C. Flashing: Install metal flashing as indicated and according to details and recommendations of NRCA's "The NRCA Roofing and Waterproofing Manual": Section "The NRCA Steep Roofing Manual," Chapter "Wood Shingle and Wood Shake Roofing."

END OF SECTION 073100



## SECTION 074623 - WOOD SIDING

### PART 1 - GENERAL

#### 1.1 DESCRIPTION

##### A. Summary:

1. Retain, repair and re-use existing original wood clapboard siding (assume 2/3rds of the exterior wall areas).
2. Replace damaged existing original wood clapboard siding in-kind (assume 1/3rd of the exterior wall areas).
3. Retain, repair, re-use and in-fill decorative fancy cut wood shingles (second floor bay on the east elevation of Building #7 only);
4. Stainless steel fasteners.

##### B. Related work:

1. Division 01 for General Requirements.
2. Section 024119 for Selective Demolition.
3. Section 062000 for Finished Carpentry.
4. Section 099000 for Painting.

#### 1.2 QUALITY REQUIREMENTS

##### A. Comply with Section 014000.

##### B. Obtain identification of existing clapboard from:

1. Alden Identification Service  
3560 Brookeside Drive  
Chesapeake Beach, MD 20732  
Tel 443-624-5712  
aldenid@comcast.net  
<https://wood-identification.com/wood-types/>
2. Or Architect-approved equal.

#### 1.3 SUBMITTALS

##### A. Comply with Section 013300.

##### B. Product data: 14 days after award of the Contract, submit:

1. Manufacturer's specifications and product data;
2. For:
  - a. Wood clapboard siding;
  - b. Wood decorative fancy cut shingle;

C. Samples: 28 days after award of the Contract, submit:

1. Three (3) samples each of:
  - a. Wood clapboard siding;
  - b. Wood decorative cut shingle;
  - c. Fasteners.

D. Mock-ups: prior to start of this Work:

1. Provide mock-up installation of:
  - a. Wood clapboard siding;
  - b. Wood decorative fancy cut shingle;
  - c. Fasteners.

E. Certifications:

1. Certificate of conformance that shingles delivered comply with specified standard and grade, with testing laboratory results attached;

#### 1.4 PRODUCT HANGLING

A. Comply with Section 016000.

B. Protection:

1. Store all wood siding and related materials such that it is elevated at least one (1) foot above the ground;
2. Place a vapor barrier on the bare soil;
3. Cover the wood with a breathable waterproof covering until installed.

### PART 2 - PRODUCTS

#### 2.1 WOOD DECORATIVE FANCY CUT SHINGLES

A. Wood Shingles: Comply with The Cedar Shingle and Shake Bureau

1. Material: Western Red Cedar, 100% clear, 100% edge grain, 100% heartwood;
2. Quality: Equivalent to No. 1 Blue Label, Premium (minimum);
3. Length: 16" (6 ½ " exposure);
4. Width: 6" avg., 7" max., 5 ½ " min., square butt;
5. Thickness: Tapered, 3/4" butt thickness, + 1/8" after dressing;
6. Fabrication: Smooth surface; field cut as required;
7. Treatment: UL Class C, each bundle labeled.

#### 2.2 REPLACEMENT WOOD SIDING

A. Construct from dimensional select lumber, worked to match the existing siding in:

1. Dimension;
  2. Shape;
  3. Profile.
- B. Identify each piece of new wood lumber by stamp, brand, mark or tag showing, at a minimum:
1. Recognized grading bureau: WWPA or WCLIB;
  2. Mill;
  3. Grade and species;
  4. Moisture content.
- C. Board lumber siding:
1. Species: Eastern White Pine;
  2. Grade: D & Better Select per NELMA.org;
  3. Surface finish: Rough;
  4. Moisture content: Kiln-dried, comply with DOC PS 20 (6 to 8% moisture);
  5. Size: To match existing siding in terms of thickness, profile and exposure;
  6. Special: Shop primed, including back primed, prior to arriving on the job site.

## 2.2 FASTNERS

- A. Comply with Section 060500.

## 2.3 SIDING UNDERLAYMENT

- A. Breathable underlayment:
1. Type: 30 lb. felt underlayment.

## 2.4 OTHER MATERIALS

- A. Provide other materials, not specifically described but required for a complete and proper installation.

## PART 3 – EXECUTION

### 3.1 GENERAL

- A. Comply with Section 011000.
- B. With careful study of the Contract Documents and the Site:
1. Clearly identify the limits of this Work;
  2. With the Architect, confirm the limits of Work.
- C. Coordinate and sequence disassembly, temporary protection and residing to provide full and secure protection of the building from the entry of moisture of all forms during the Work.

### 3.2 SHINGLES INSTALLATION

- A. Comply with application instructions of:
  - 1. Cedar Shingle & Shake Bureau.
- B. Install shingles:
  - 1. Straight horizontal coursing pattern;
  - 2. Construct weather exposure per existing conditions;
  - 3. Stagger/offset end joints, each joint broken across two courses;
  - 4. Nail without splitting;
  - 5. Place nails to avoid puncturing sheet metal work underneath;
  - 6. Provide shingle cover on all nails;
  - 7. Do not overdrive nails;
  - 8. Remove and replace any shingle split during application.

### 3.3 WOOD SIDING INSTALLATION

- A. Verify framing repairs are complete and secure.
- B. Treatment for durability:
  - 1. Construct preservative treatment of salvaged and replacement wood siding in accordance with Section 063100;
  - 2. Comply with Section 099000.
- C. Install wood siding:
  - 1. Match original coursing and spacing exactly;
  - 2. Stagger or offset end joints in adjacent courses of siding boards;
  - 3. Securely fasten with specified fasteners;
  - 4. Remove and repair any salvaged or replacement siding board which has split.

END OF SECTION 074623

## 076100 - TERNE-COATED STAINLESS STEEL SHEETMETAL ROOFS

### PART 1 - GENERAL

#### 1.01 SUMMARY

A. This section includes guidance the application of “flat” seam metal interlocking pans in terne-coated stainless steel sheetmetal roof over open porches, except as noted otherwise.

B. The roof decks shall be new wood board sheathing to match original.

C. The type of seams used shall be “flat” seam (also called flat locked seam): A seam between adjacent metal sheets, formed by turning up both edges, folding them over, and then flattening. In a flat seam roof, and at valleys, all seams are soldered.

D. Historic and regional roofing craftsmanship and details which are characteristic of the structure are to be treated with sensitivity. Such details are to be preserved and copied.

E. Replacement roofing work shall be equal to original workmanship. The appearance of the new roof shall match the existing roof in exposure, bay size, pattern and material.

#### F. Safety Precautions

1. Wear proper rubber-soled shoes that have non-slip or grid type tread with good ankle support. Avoid wearing loose clothing.
2. There should be no unnecessary walking over roof. The roof shall not be used as a storage area for other materials.
3. Wear a safety belt or harness and secure it to a substantial chimney or to a window on the opposite side of the house. Leave only enough slack so you can work comfortably in one area, and adjust the slack as you work on other sections of the roof.
4. Keep the deck clear of waste material as the work proceeds. Sweep the deck clean after all old roofing has been removed.
5. Use scaffolding, ladders, and working platforms as required to execute the work. Scaffolding legs shall be planked to distribute load to not exceed the specified pounds per square foot on roofs as directed by applicable regulations and codes, including OSHA. Ladders shall not be supported on hanging gutters. They may be distorted which can affect the slope to drain.

G. See Division 01 for general project guidelines to be reviewed along with this procedure. These guidelines cover the following sections:

1. Safety Precautions
2. Historic Structures Precautions
3. Submittals
4. Quality Assurance
5. Delivery, Storage and Handling

6. Project/Site Conditions
7. Sequencing and Scheduling
8. General Protection (Surface and Surrounding)
9. These guidelines should be reviewed prior to performing this procedure and should be followed, when applicable, along with recommendations from the NJ State Historic Preservation Office (SHPO).

#### 1.02 DEFINITIONS

- A. Bay—a unit of sheet covering as laid between seams.
- B. Capping—a strip, covering the top of a batten roll, welted to the edges of the sheets which are dressed up the side of the roll.
- C. Cleats or Clips—strips, cut to specified length according to the type of seam being used, placed at intervals directed by roofing manufacturer. Cleats are securely nailed to the roof deck and the ends are welted in with the edges of the sheets to hold the roofing sheets in position.
- D. Drip edge—formed metal sheets at roof edges which prevent water from dripping down vertical surfaces. One edge is welted to roof sheeting to form weather-tight seam.
- E. Expansion cleats—additional cleats which accommodate the thermal movement of the metal covering when a single length of metal exceeds 30'.
- F. Lock joint—a single or double welted joint.
- G. Saddle End—the completion of a batten roll covering or a standing seam against an abutment.
- H. Solder—metal or metallic alloy of tin and lead used to join metallic surfaces.
- I. Welting—joining metal sheets at their edges by folding together. Welting may be by single or double folds, such joints being termed single or double welts respectively.

#### 1.03 SUBMITTALS

- A. Provide three (3) samples, each min. 12" by 12" with edge and interlock details executed.
- B. Shop Drawings: Before replacing roofing, prepare layout drawings showing bay width and length between seams. Prepare typical and unusual seam details, valley details, and fastening patterns for review and approval, include expansion joints running parallel to slope spaced equally and no further than 20 ft. to 30 ft. apart.

#### 1.04 PROJECT/SITE CONDITIONS

- A. Wet weather: Do not apply new metal roof in misty or rainy weather. Do not apply metal roofing to wet roof sheathing.

#### 1.05 QUALITY ASSURANCE

- A. Fabricator's Qualifications: Company specializing in metal sheet metal roofing work with three years experience in similar size and type of installations.
- B. Installer: A firm with 3 years of successful experience with installation of metal roofing of type and scope equivalent to Work of this Section.
- C. Industry Standard: Except as otherwise shown or specified, comply with applicable recommendations and industry standard details.
- D. Wind Uplift: Provide roof assemblies meeting wind uplift ratings as required by code.
- E. Mock-Up: Before proceeding with final purchase of materials and fabrication of metal roofing components, prepare a mock-up of work. Incorporate materials and methods of fabrication and installation identical with project requirements. Install mock-up at roof area location directed by Architect. Retain accepted mock-up as quality standard for acceptance of completed metal roofing. If accepted, mock-up may be incorporated as part of metal roofing work.
  - a. Provide mock-up of sufficient size and scope to show typical pattern of seams, fastening details, edge construction, and finish texture and color.

#### 1.06 DELIVERY, STORAGE, AND HANDLING

- 1. Packing, Shipping, Handling, and Unloading: Protect finish panel faces.
- 2. Acceptance at Site: Examine each panel and accessory as delivered and confirm that finish is undamaged. Do not accept or install damaged panels.
- 3. Storage and Protection:
  - a. Stack pre-formed material to prevent twisting, bending, and abrasions.
  - b. Provide ventilation.
  - c. Prevent contact with materials which may cause discoloration or staining.

#### 1.07 WARRANTY

- A. Warrant installed system and components to be free from defects in material and workmanship for period of 2 years.
- B. Include coverage against leakage and damages to finishes.

### PART 2 - PRODUCTS

#### 2.01 MANUFACTURERS

- A. Fine Metal Roof Tech [www.finemetalrooftech.com](http://www.finemetalrooftech.com)
- B. Or Architect-approved equal.

## 2.02 MATERIALS

### A. Fasteners

1. Nails—7/8" minimum length, flat head, stainless steel roofing nails.
2. Screws—Stainless steel screws, long enough to securely fasten batten to roof deck.

B. Terne-coated stainless steel cleats—2" wide, length as required by type of seam being used. Consult roofing manufacturer. Use pre-formed cleats when available.

C. Terne-coated stainless steel sheetmetal—to match or exceed the gauge of existing roof, .018" nominal thickness (26 ga.).

D. Solder—50% tin, 50% lead

E. Rosin soldering flux

F. 15-lb. felt underlayment

G. Rosin Paper

H. Paint —red iron oxide, linseed oil; especially formulated to be used on terne metal:

1. Tin-O-Lin as manufactured by Calbar ([www.calbarinc.com](http://www.calbarinc.com));
2. Architect-approved equal.

## 2.03 EQUIPMENT

A. Chicken ladder, safety belt or harness

B. Protective gloves and gear

C. Straight snips for cutting straight or slightly curved lines in sheet metal

D. Soldering copper, soldering iron

E. Tongs for bending the edges of the solder

F. Metal seamer

G. The application of sheet-metal roofing requires a full range of metal-working tools and shop equipment, plus special handling, hoisting equipment, and machinery for long lengths.

## PART 3 - EXECUTION



### 3.01 PREPARATION

#### A. Surface Preparation

1. Prior to installation, remove all oil, dirt, and other debris from the roof deck. All surfaces shall be dry and free from frost.
2. Carefully examine, measure, and record existing sheetmetal patterns at edges, hips, ridges, and other special conditions.
3. Be careful not to damage old metal wall and vent flashings that may be used as a pattern for cutting templates. If metal cap flashings at the chimney and other vertical masonry wall intersections have not deteriorated, bend them up out of the way so that they may be used again. Be especially careful roofing in these areas to avoid damaging reusable base flashing.
4. At this point, inspect the deck to determine whether it is sound.
  - a. Remove loose or protruding nails or hammer them down.
  - b. Replace rotted, damaged, or warped sheathing or delaminated plywood. Spacing between boards shall be no more than 2". Plywood shall have a minimum thickness of 1/2".
5. Make whatever repairs are necessary to the existing roof framing to strengthen it and to level and true the deck.
6. Lay down one layer of 15-lb felt underlayment. Secure as required. Cover underlayment with rosin paper. DO NOT secure to deck. This paper serves as a slip sheet between the sheetmetal and the underlayment.

### 3.02 ERECTION, INSTALLATION, APPLICATION

#### A. Flat Seam Applications

1. Terne-coated stainless steel shall be 14" x 20" or 20" x 28" sheets. All sheets shall be uniform. Maximum sheet size is 20" x 28".
2. Form sheets on a brake as indicated by roofing manufacturer.
  - a. Mark folds 3/4" from edge on all four edges. Clip corners at 45° angle at intersections of markings.
  - b. Fold two adjacent edges up and over and the opposite adjacent edges down and under the sheet.
3. Before beginning the first course, be governed by proper application at ridge, drip edge, end or side wall, gutters, valleys, etc. Consult roofing manufacturer. All roof perimeters shall have appropriate terne-coated stainless steel metal drip edge.
4. Place first sheet into position at the lowest point of roof slope. Top edge must be one of the edges which is folded up and over. Hook one end of cleat into edge formed on sheet and nail free end of cleat to deck. Place nail close to the fold but DO NOT NAIL THROUGH ROOFING SHEET. Bend end of cleat up and over nail head. Attach each sheet with two cleats per side.
5. Continue laying roofing sheets in this manner. Align horizontal joints, stagger all vertical joints. Lay individual sheets so that the fold of the sheet higher on the roof hooks onto and is over the fold of the lower adjoining pan.

6. At valleys, edges of individual roofing sheets will require custom fitting to provide proper flat lock seam. Sheet metal used for valleys should be as long as possible to reduce the number of cross seams.
7. All seams must be soldered. Use solder that is 50% tin and 50% lead only. Use rosin only as a flux. Remove excess rosin before painting. *Note: Do NOT use any flux containing any acid.*
8. Paint surface as directed below.

B. Painting terne-coated stainless steel roof after completion of installation.

1. All surfaces must be clean and dry. Note: Do not paint over condensation.
2. Painting shall be done on a warm, dry day, when both the roof surface and air temperature is approximately 50°F.
3. Apply one coat of primer made especially for terne. Paint shall be brushed on to allow oil to adequately penetrate and adhere to metal. Allow to dry before applying finish coat.
4. Apply one topcoat, using finish paint which has been made to be used with selected primer. Topcoat shall be brush applied.

E. Protection and Roof Maintenance Until Final Acceptance (Final Payment)

1. Periodically make inspection from above (not from grade).
2. Inspect ridge details and eaves for metal punctures, and broken joints or seams. Inspect for rust, excessive weathering or exposure, erosion, or staining indicating overall deterioration.
3. Inspect the underside of the roof deck from the attic to detect leaks. Flashings are the most vulnerable points. Therefore, inspect the underside carefully at all flashing points for evidence of leakage such as water stains.
4. In addition to scheduled inspections, inspect after each exposure to unusually severe weather conditions such as strong winds, hail, or long continuous rains.
5. Rinse dirt with water.
6. Keep the roof clear of debris, and trim all overhanging branches that might cause mechanical damage.
7. Inspect for and eliminate ant hills and/or bird droppings which can corrode sheet metals.
8. Inspect the secureness of cleats and fasteners and the condition of the sheet metal after particularly heavy storms.

END OF SECTION 076100

## SECTION 076110 – METAL ROOFING

### PART 1 - GENERAL

#### 1.1 SUMMARY

##### A. Section Includes:

1. Flat locked and soldered (flat seam soldered) roofing.
2. Flat and slopes up to 3:12 – Fully solder seams.

##### B. Related Requirements:

1. Drawings and general provisions of Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.
2. Roofing Finishes: Refer to the Division 09 "Painting" Sections for requirements for priming and finishing installed copper roofing; not work of this Section.
3. Division 05 Sections for structural and light-gauge framing.
4. Section 076210 - Metal Roofing Specialties: Accessories on roof other than mechanical and structural items.
5. Section 076215 - Metal Flashing and Trim: Flashing and other trim not part of roofing.
6. Section 076220 – Metal gutters and downspouts associated with roofing.
7. Section 079514 – Metal Expansion Joint Cover Assemblies.
8. Division 07 Section "Joint Sealants" for field-applied panel sealants.
9. Wood framing and decking is specified in a Division 06 Section.

#### 1.2 COORDINATION

- ##### A. Coordinate copper roofing with rain drainage work, flashing, gutters, downspouts, trim and construction of decks, parapets, walls, and other adjoining work to provide permanently watertight, secure, and noncorrosive installation.

#### 1.3 PERFORMANCE REQUIREMENTS

**DESIGN PROFESSIONAL IS RESPONSIBLE FOR DESIGNING SYSTEM, INCLUDING ANCHORAGE, FASTENER SIZE, AND SPACING.**

- ##### A. Installation Requirements: Fabricator is responsible for installing system, including anchorage to substrate and necessary modifications to meet specified and drawn requirements and maintain visual design concepts in accordance with Contract Documents and following installation methods as stipulated in the "Copper in Architecture" handbook published by the Copper Development Association Inc. (CDA)
1. Drawings are diagrammatic and are intended to establish basic dimension of units, sight lines, and profiles of units.
  2. Make modifications only to meet field conditions and to ensure fitting of system components.
  3. Obtain Architect's approval of modifications.
  4. Provide concealed fastening wherever possible.
  5. Attachment considerations: Account for site peculiarities and expansion and contraction movements so there is no possibility of loosening, weakening and fracturing connection between units and building structure or between components themselves.
  6. Obtain Architect's approval for connections to building elements at locations other than indicated in Drawings.
  7. Accommodate building structure deflections in system connections to structure.

- B. Performance Requirements:
  - 1. System shall accommodate movement of components without buckling, failure of joint seals, undue stress on fasteners, or other detrimental effects when subjected to seasonal temperature changes and live loads.
  - 2. Design system capable of withstanding building code requirements for negative wind pressure.
- C. Interface With Adjacent Systems:
  - 1. Integrate design and connections with adjacent construction.
  - 2. Accommodate allowable tolerances and deflections for structural members in installation.

#### 1.4 SUBMITTALS

- A. General: Submit the following in accordance with Conditions of Contract and Division 01 Specification Sections.
- B. Product data including metal manufacturer's specifications, installation instructions, and general recommendations for roofing applications. Include certification or other data substantiating that materials comply with requirements.
- C. Shop drawings showing manner of forming, joining, and securing copper roofing, and pattern of seams. Show expansion joint details and waterproof connections to adjoining work and at obstructions and penetrations.
- D. Samples consisting of 6-inch or 12-inch square specimens of specified metal roofing material.
- E. Certificates: Fabricator's certification that products furnished for Project meets or exceeds specified requirements.

#### 1.5 CLOSEOUT SUBMITTALS

- A. Provide maintenance data in Operations and Maintenance manual for maintaining applied coatings on metal panels.

#### 1.6 QUALITY ASSURANCE

- A. Fabricator's Qualifications: Company specializing in metal sheet metal roofing work with three years experience in similar size and type of installations.
- B. Installer: A firm with 3 years of successful experience with installation of metal roofing of type and scope equivalent to Work of this Section.
- C. Industry Standard: Except as otherwise shown or specified, comply with applicable recommendations and details of the "Copper in Architecture" handbook published by the Copper Development Association (CDA). Conform to dimensions and profiles shown.
- D. Wind Uplift: Provide roof assemblies meeting wind uplift ratings as required by code.

DELETE ENTIRE MOCK-UP PROVISION BELOW UNLESS THE EXPENDITURE IS JUSTIFIED BY AN EXTENSIVE, UNUSUAL, OR CRUCIAL APPLICATION OF METAL ROOFING.

- E. Mock-Up: Before proceeding with final purchase of materials and fabrication of metal roofing components, prepare a mock-up of work. Incorporate materials and methods of fabrication and installation identical with project requirements. Install mock-up at roof area location directed by Architect. Retain accepted mock-up as quality standard for acceptance of completed metal roofing. If accepted, mock-up may be incorporated as part of metal roofing work.
  - 1. Provide mock-up of sufficient size and scope to show typical pattern of seams, fastening details, edge construction, and finish texture and color.

#### 1.7 DELIVERY, STORAGE, AND HANDLING

- A. Packing, Shipping, Handling, and Unloading: Protect finish panel faces.
- B. Acceptance at Site: Examine each panel and accessory as delivered and confirm that finish is undamaged. Do not accept or install damaged panels.
- C. Storage and Protection:
  - 1. Stack pre-formed material to prevent twisting, bending, and abrasions.
  - 2. Provide ventilation.
  - 3. Prevent contact with materials which may cause discoloration or staining.

#### 1.8 WARRANTY

- A. Warrant installed system and components to be free from defects in material and workmanship for period of 2 years.
- B. Include coverage against leakage and damages to finishes.

### PART 2 - PRODUCTS

#### 2.1 MANUFACTURERS

- A. Available Manufacturers: Subject to compliance with requirements, manufacturers offering materials that may be incorporated in the Work include, but are not limited to, the following:
- B. Manufacturers: Subject to compliance with requirements, provide materials by one of the following:
  - 1. Hussey Copper, Ltd.
  - 2. KME America
  - 3. Aurubis Buffalo, Inc.
  - 4. PMX Industries Inc.
  - 5. Revere Copper Products, Inc.

#### 2.2 MATERIALS

- A. Copper Roofing Sheets: Cold-rolled copper sheet complying with ASTM B370 temper H00, unless otherwise indicated, and as follows:
  - 1. Weight: 16 oz. per sq. ft. (0.0216-inch thick) unless otherwise indicated.
  - 2. Weight: 20 oz. per sq. ft. (0.0270-inch thick) unless otherwise indicated.
- B. Miscellaneous Materials: Provide materials and types of fasteners, solder, protective coatings, separators, sealants and accessory items as recommended by metal sheet manufacturer for metal roofing work, except as otherwise indicated.

REVISE BELOW WITH SPECIFIC REQUIREMENTS WHERE DESIRED FOR PROJECT.

- C. Accessories: Except as indicated as work of another specification Section, provide components required for a complete roof system, including trim, copings, fascias, ridge closures, cleats, seam covers, battens, flashings, gutters, louvers, sealants, gaskets, and closure strips. Match materials and finishes of roof.
  - 1. Sealing Tape: Pressure-sensitive 100 percent solids polyisobutylene compound sealing tape with release paper backing. Provide permanently elastic, nonsag, nontoxic, nonstaining tape.
  - 2. Joint Sealant: One-part, metal compatible elastomeric polyurethane, polysulfide, butyl or silicone rubber sealant as tested by sealant manufacturer for metal substrates. Refer to Division 07.
  - 3. Cleats
    - a. Concealed type as indicated in the "Copper in Architecture" handbook published by the Copper Development Association (CDA) for flat-seam [flat lock seam] [standing seam], [and batten seam] spaced on 12 inch centers.
    - b. Fabricate cleats to allow thermal movement of metal roof panels while preventing metal panel distortion due to wind uplift forces.
  - 4. Trim, Closure Pieces, and Accessories:
    - a. Same material, thickness [heavier weight], and finish as adjacent metal roof panels, brake formed to required profiles.
    - b. Comply with standards conforming to recognized industry standard sheet metal practice.
- D. Bituminous Coating: SSPC - Paint 12, Cold-Applied Asphalt Mastic (Extra Thick Film), nominally free of sulfur, compounded for 15-mil dry film thickness per coat.
- E. Roofing Felt Underlayment: Asphalt saturated felt weighing not less than 30 lbs per 100 square feet.
- F. Paper Slip Sheet: Minimum 4-lb. red rosin-sized building paper.
- G. Nails for Wood Substrates: Copper or hardware bronze, 0.109 inch minimum not less than 7/8-inch long barbed with large head.
- H. Screws & Bolts: Copper, bronze, brass, or passivated stainless steel (300 Series) of sufficient size and length to sustain imposed stresses.
- I. Cleats: 16 or 20 oz ounce cold rolled copper, as required to sustain loads 2-inch wide x 3-inch long.
- J. Solder: ASTM B32; Provide 50-50 tin/lead or lead free alternative of similar or greater strength solder. Killed acid flux.
- K. Flux: Muriatic acid neutralized with zinc or approved brand of soldering flux.
- L. Rivets:
  - 1. Pop Rivets: 1/8-inch to 3/16-inch diameter, with solid brass mandrels.
  - 2. Provide solid copper rivet (tinner's rivets) where structural integrity of seam is required.

## 2.3 FABRICATION

- A. General Metal Fabrication: Shop-fabricate work to greatest extent possible. Comply with details shown and with applicable requirements of the "Copper in Architecture" handbook published by the Copper Development Association (CDA) and other recognized industry practices. Fabricate for waterproof and weather-resistant performance with expansion provisions for running work, sufficient to permanently prevent leakage, damage, or deterioration of the work. Form work to fit substrate. Comply with material manufacturer's instructions and recommendations for forming material. Form exposed metal work without excessive oil-canning, buckling, and tool marks, true to line and levels indicated, with exposed edges folded back to form hems.
  - 1. Fabricate to allow for adjustments in field for proper anchoring and joining.
  - 2. Form sections true to shape, accurate in size, square, free from distortion and defects.
  - 3. Cleats: Fabricate cleats and starter strips of same material as sheet, interlockable with sheet in accordance with CDA recommendations.
  - 4. Tin edges of metal sheets and cleats at soldered joints for flat lock and soldered system.
    - a. Fabricate flat seams for loose lock [sealant in] [dry] joints.
    - b. Fabricate seams for panels to be installed in overlapped, interlocking shingle manner.
    - c. Fold two adjacent edges over 180 degrees for width of 3/4 inch and other two adjacent edges under 3/4 inch. Refer to CDA "Copper in Architecture" handbook.
    - d. Fabricate flat seam roofing from pans 18 inches by 24 inches in size.
  - 5. Flat Locked and Soldered (Flat Seam Soldered) Panel Seams:
    - a. Fabricate flat seams for solid soldered joints.
    - b. Fabricate flat seam roofing from pans 18 inches by 24 inches in size.
    - c. Fold two adjacent edges over 180 degrees for width of 3/4 inch and other two adjacent edges under 3/4 inch. Refer to CDA "Copper in Architecture Handbook".
    - d. Tin edges of panels at least 1.5 inch prior to forming seams, and as soon as possible prior to installation.
    - e. Fabricate seams for panels to be installed in overlapped, interlocking shingle manner for locked down engaged seams.
- B. Seams: Fabricate nonmoving seams in metal sheet with flat-lock seams. Tin edges and cleats to be soldered, form seams, and solder.
- C. Expansion Provisions: Where lapped or bayonet-type expansion provisions in work cannot be used, or would not be sufficiently water/weatherproof, form expansion joints of intermeshing hooked flanges, not less than 1-inch deep, filled with mastic sealant (concealed within joints).
- D. Sealant Joints: Where movable, non-expansion-type joints are indicated or required for proper performance of work, form metal to provide for proper installation of elastomeric sealant, in compliance with the "Copper in Architecture" handbook published by the Copper Development Association (CDA).
- E. Separations: Provide for separation of metal from noncompatible metal or corrosive substrate by coating concealed surfaces at locations of contact, with bituminous coating or other permanent separation as recommended by manufacturer/fabricator.
- F. Solder:
  - 1. Solder and seal non-moving metal joints on slopes up to 3:12, except those indicated or required to be expansive type joints.

2. After soldering, remove flux. Wipe and wash solder joints clean. Refer to CLEANING Article in PART 3.

## 2.4 FINISHES

- A. Natural weathering mill finished metal. No applied finish.

\*\*\*\*\* OR \*\*\*\*\*

REVIEW PAINT SELECTION WITH COATINGS MANUFACTURER, REFER TO DIVISION 09.

- B. To retard natural weathering, apply a uniform coating of high grade paraffin oil.

## PART 3 - EXECUTION

### 3.1 EXAMINATION

- A. General: Examine conditions and proceed with work when substrates are ready.
- B. Confirm that substrate system is even, smooth, sound, clean, dry, and free from defects.
- C. Verify roof openings, pipes, sleeves, ducts, and vents through roof are solidly set, cant strips and reglets in place, and nailing strips located.

### 3.2 PREPARATION

- A. Clean surfaces to receive metal roofing. Substrate to be smooth and free of defects. Drive all projecting nails or other fasteners flush with substrate.
- C. Roofing Felt Underlayment:
  1. Install underlayment over solid substrates with horizontal overlaps and endlaps staggered.
  2. Lay parallel to ridge line with 2-1/2 inch sidelaps and 6 inch endlaps.
  3. Start application at low point, working up deck laying plies in shingle fashion.
  4. Fasten underlayment with metal roofing nails spaced on 12 inch centers maximum.
- D. Install underlayment and paper slip sheet on substrate under metal roofing to greatest extent possible unless otherwise recommended by manufacturer of sheet metal. Paper slip sheets must be installed over the underlayment. Use adhesive for temporary anchorage, where possible, to minimize use of mechanical fasteners under metal roofing. Lap joints 2 inch minimum.

### 3.3 INSTALLATION

- A. Manufacturer's Recommendations: Except as otherwise shown or specified, comply with recommendations and instructions of manufacturer of metal being fabricated and installed.
- B. General:
  1. Separate dissimilar metals by painting each metal surface in area of contact with a bituminous coating, by applying rubberized asphalt or butyl underlayment to each metal surface, or by other permanent separation as recommended by manufacturers of dissimilar metals.



2. Form and fabricate sheets, seams, strips, cleats, valleys, ridges, edge treatments, integral flashings, and other components of metal roofing to profiles, patterns, and drainage arrangements shown and as required for permanently leakproof construction. Provide for thermal expansion and contraction of the work, as indicated. Seal joints as shown and as required for leakproof construction. Shop-fabricate materials to greatest extent possible.
3. Sealant-Type Joints: Where sealant-filled joints are used, embed hooked flanges of joint members not less than 1-inch into sealant. Form joints to conceal sealant completely. When ambient temperature is moderate at time of installation, 40 degrees to 70 degrees F (4 degrees to 21 degrees C), set joint members for 50 percent movement either way. Adjust setting proportionately for installation at higher or lower ambient temperatures. Do not install sealant-type joints at temperatures below 40 degrees F (4 degrees C). Comply with requirements of Division 07 "Joint Sealant" Sections for handling and installing sealants.
4. Fabricate and install work with lines and corners of exposed units true and accurate. Form exposed faces flat and free of buckles, excessive waves, and avoidable tool marks considering temper and reflectivity of metal. Provide uniform, neat seams with minimum exposure of solder, and sealant. Except as otherwise shown, fold back sheet metal to form a hem on concealed side of exposed edges.
5. Conceal fasteners and expansion provisions where possible in exposed work, and locate so as to minimize possibility of leakage. Cover and seal fasteners and anchors as required for a tight installation.
6. Tin uncoated copper surfaces and cleats at edges of flat seam panel sheets to be soldered, for a width of 1-1/2 inch, using solder recommended for metal work.

C. Flat Lock Soldered ("Flat Seam Soldered") Seam Roofing:

1. Install metal work in accordance with CDA "Copper in Architecture Handbook".
2. Flat Seam Metal Roof Panels: Fasten system to substrate with concealed metal cleats and screws at spacings required by fabricator to resist code required wind uplift.
3. Align, level, and plumb system with structure.
4. Fasten cleats or nails using cleats mated to folded flat seams and fastener pattern to resist design loads with screws or barbed nails of sufficient length to penetrate substrate.
5. Tin and prepare panels as described in specification Section 2.3 "Fabrication".
6. Only install the number of panels in a day that can be field soldered before the end of the day's work. Install overnight protection on the unsoldered tinned edges of panel seams to prevent contamination before the start of the next workday.
7. Fully seat adjacent panel to on two sides to achieve continuous engagement of seam joint.
8. Mallet or dress down engaged seams.
9. Apply flux and fully sweat seams with solder to achieve watertight installation.
10. Install expansion battens at 25 to 30 feet in both directions.

D. Coordinate installation of panels with adjacent construction to ensure watertight enclosure.

3.4 CLEANING

- A. Remove protective film (if any) from exposed surfaces of metal roofing promptly upon installation. Strip with care to avoid damage to finishes.

- B. Upon completion of each area of soldering, carefully remove flux and other residue from surfaces. Neutralize acid flux by washing with baking soda solution, and then flushing clear water rinse. Use special care to neutralize and clean crevices.
- C. Clean exposed metal surfaces of substances that would interfere with uniform oxidation and weathering.

### 3.5 PROTECTION

- A. Provide final protection in a manner acceptable to installer that ensures that metal roofing is without damage or deterioration at time of Substantial Completion.

END OF SECTION

## SECTION 076200 - SHEET METAL FLASHING AND TRIM

### PART 1 - GENERAL

#### 1.1 RELATED DOCUMENTS

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

#### 1.2 SUMMARY

- A. This Section includes the following sheet metal flashing and trim:
  - 1. Traditional flashing details at all edges and junctions of exterior walls and surfaces with roofs, masonry, and clapboard adjacent and near the roof replaced until this contract.
  - 2. Gutters and leaders.
- B. Related Sections include the following:
  - 1. Section 042000 - Masonry for installing through-wall flashing, reglets, and other sheet metal flashing and trim.
  - 2. Section 061000 - Rough Carpentry for wood nailers, curbs, and blocking.
  - 3. Section 079200 – Joint Sealants.

#### 1.3 PERFORMANCE REQUIREMENTS

- A. General: Install sheet metal flashing and trim to withstand wind loads, structural movement, thermally induced movement, and exposure to weather without failing, rattling, leaking, and fastener disengagement.
- B. Fabricate and install roof edge flashing and copings capable of resisting the following forces according to recommendations in FMG Loss Prevention Data Sheet 1-49:
  - 1. Wind Zone 1: For velocity pressures of 21 to 30 lbf/sq. ft.: 60-lbf/sq. ft. perimeter uplift force, 90-lbf/sq. ft. corner uplift force, and 30-lbf/sq. ft. outward force.
- C. Thermal Movements: Provide sheet metal flashing and trim that allow for thermal movements resulting from the following maximum change (200° F) in ambient and surface temperatures by preventing buckling, opening of joints, hole elongation, overstressing of components, failure of joint sealants, failure of connections, and other detrimental effects. Provide clips that resist rotation and avoid shear stress as a result of sheet metal and trim thermal movements. Base engineering calculation on surface temperatures of materials due to both solar heat gain and nighttime-sky heat loss.
- D. Water Infiltration: Provide sheet metal flashing and trim that do not allow water infiltration to building interior.

#### 1.4 SUBMITTALS

- A. Product Data: For each type of product indicated. Include construction details, material descriptions, dimensions of individual components and profiles, and finishes.
- B. Shop Drawings: Show layouts of sheet metal flashing and trim, including plans and elevations. Distinguish between shop- and field-assembled work. Include the following:
  - 1. Identify material, thickness, weight, and finish for each item and location in Project.
  - 2. Details for forming sheet metal flashing and trim, including profiles, shapes, seams, and dimensions.
  - 3. Details for fastening, joining, supporting, and anchoring sheet metal flashing and trim, including fasteners, clips, cleats, and attachments to adjoining work.
  - 4. Details of expansion-joint covers, including showing direction of expansion and contraction.
- C. Samples for Verification: For each type of exposed finish required, prepared on Samples of size indicated below:
  - 1. Sheet Metal Flashing: 12 inches long. Include fasteners, cleats, clips, closures, and other attachments.
  - 2. Trim: 12 inches long. Include fasteners and other exposed accessories.
  - 3. Accessories: Full-size Sample.

## 1.5 QUALITY ASSURANCE

- A. Sheet Metal Flashing and Trim Standard: Comply with SMACNA's "Architectural Sheet Metal Manual." Conform to dimensions and profiles shown unless more stringent requirements are indicated.
  - 1. Copper Standard: Comply with CDA's "Copper in Architecture Handbook." Note: For copper materials the specification standard override SMACNA.
- B. Mock-ups: Build mockups to demonstrate aesthetic effects and set quality standards for fabrication and installation.
  - 1. Build mockup of typical roof eave, including built-in gutter, fascia, fascia trim, apron flashing, approximately 48 inches long, including supporting construction cleats, seams, attachments, underlayment, and accessories.
- C. Preinstallation Conference: Conduct conference at Project site to comply with requirements in Division 1 Section "Project Management and Coordination."
  - 1. Meet with Owner, Architect, Owner's insurer if applicable, Installer, and installers whose work interfaces with or affects sheet metal flashing and trim including installers of chimneys, roofing materials, roof accessories, and roof-mounted equipment.
  - 2. Review methods and procedures related to sheet metal flashing and trim.
  - 3. Examine substrate conditions for compliance with requirements, including flatness and attachment to structural members.

4. Document proceedings, including corrective measures and actions required, and furnish copy of record to each participant.

## 1.6 DELIVERY, STORAGE, AND HANDLING

- A. Deliver sheet metal flashing materials and fabrications undamaged. Protect sheet metal flashing and trim materials and fabrications during transportation and handling.
- B. Unload, store, and install sheet metal flashing materials and fabrications in a manner to prevent bending, warping, twisting, and surface damage.
- C. Stack materials on platforms or pallets, covered with suitable weathertight and ventilated covering. Do not store sheet metal flashing and trim materials in contact with other materials that might cause staining, denting, or other surface damage.

## 1.7 COORDINATION

- A. Coordinate installation of sheet metal flashing and trim with interfacing and adjoining construction to provide a leakproof, secure, and noncorrosive installation.

## PART 2 - PRODUCTS

### 2.1 SHEET METALS

- A. Lead-Coated Copper Sheet: ASTM B 101, Temper H00 and H01, cold-rolled copper sheet, of weight indicated below in Section 2.5 and 2.6, coated both sides with lead weighing not less than 12 lb/100 sq. ft. nor more than 15 lb/100 sq. ft. of copper sheet (total weight of lead applied equally to both sides).
- B. Terne Coated Stainless Steel: TCS II Commercial Grade manufactured by Follansbee, Tel (304) 527-1260. Note all weights to be adjusted to match lead coated copper weight shown in this specification section.

### 2.2 UNDERLAYMENT MATERIALS

- A. Felts: ASTM D 226, Type II (No. 30), asphalt-saturated organic felt, nonperforated.
- B. Slip Sheet: Rosin-sized paper, minimum 3 lb/100 sq. ft.

### 2.3 MISCELLANEOUS MATERIALS

- A. General: Provide materials and types of fasteners, solder, welding rods, protective coatings, separators, sealants, and other miscellaneous items as required for complete sheet metal flashing and trim installation.
- B. Fasteners: Wood screws, annular threaded nails, self-tapping screws, self-locking rivets and bolts, and other suitable fasteners designed to withstand design loads.
  1. Passive Stainless Steel for all attachments.

- C. Solder for Lead-Coated Copper: ASTM B 32, Grade Sn60, 60 percent tin and 40 percent lead.
- D. Sealing Tape: Pressure-sensitive, 100 percent solids, polyisobutylene compound sealing tape with release-paper backing. Provide permanently elastic, nonsag, nontoxic, nonstaining tape.
- E. Elastomeric Sealant: ASTM C 920, elastomeric polymer sealant; of type, grade, class, and use classifications required to seal joints in sheet metal flashing and trim and remain watertight. Verify all information with sealant manufacturer prior to installation.
- F. Butyl Sealant: ASTM C 1311, single-component, solvent-release butyl rubber sealant, polyisobutylene plasticized, heavy bodied for hooked-type expansion joints with limited movement.
- G. Asphalt Roofing Cement: ASTM D 4586, asbestos free, of consistency required for application.

## 2.4 FABRICATION, GENERAL

- A. General: Custom fabricate sheet metal flashing and trim to comply with recommendations in SMACNA's "Architectural Sheet Metal Manual" and CDA's copper in Architecture Handbook that apply to design, dimensions, metal, and other characteristics of item indicated. Shop fabricate items where practicable. Obtain field measurements for accurate fit before shop fabrication.
- B. Fabricate sheet metal flashing and trim in thickness or weight needed to comply with performance requirements, but not less than that specified for each application and metal. See below.
- C. Fabricate sheet metal flashing and trim without excessive oil canning, buckling, and tool marks and true to line and levels indicated, with exposed edges folded back to form hems.
  - 1. Fabricate nonmoving seams in accessories with flat-lock seams. Tin edges to be seamed, pretin cleats, form seams, and solder.
- D. Sealed Joints: Form nonexpansion but movable joints in metal to accommodate elastomeric sealant to comply with SMACNA recommendations.
- E. Expansion Provisions: Where lapped or bayonet-type expansion provisions in the Work cannot be used, form expansion joints of intermeshing hooked flanges, not less than 1 inch deep, filled with elastomeric sealant concealed within joints.
- F. Conceal fasteners and expansion provisions where possible on exposed-to-view sheet metal flashing and trim, unless otherwise indicated.
- G. Fabricate cleats and attachment devices from same material as accessory being anchored or from compatible, noncorrosive metal.

1. Thickness: As recommended by SMACNA's "Architectural Sheet Metal Manual for application but not less than thickness of metal being secured.

## 2.5 ROOF DRAINAGE SHEET METAL FABRICATIONS

- A. Half Round Gutters: Manufactured by Berger Building Products, 805 Pennsylvania Blvd., Feasterville, PA 19053, (P) 800-523-8852, or approved equal.

1. Accessories: Brass heavy duty grade wire ball downspout strainer.

- B. Downspouts: Custom fabricate round downspouts complete with mitered elbows. Furnish with metal hangers, from same material as downspouts, and anchors. See drawings for details of custom fabrication.

1. Fabricate downspouts from the following material:
  - a. Aluminum: Painted in 0.32”.

Note: Consult Bid Proposal Form for which items are part of the Base Bid and which are Add Alternates.

## 2.6 LOW-SLOPE ROOF SHEET METAL FABRICATIONS

- A. Roof Edge Flashing: Fabricate in minimum 96-inch- long, but not exceeding 10-foot- long, sections. Furnish with 6-inch- wide joint cover plates.

1. Joint Style: Lap, 4 inches wide.
2. Fabricate with gutters placed as noted on Drawings.
3. Fabricate from the following material:
  - a. Lead-Coated Copper: 21.2 oz./sq. ft.
  - b. TCS II: 26 gauge.

- B. Base Flashing: Fabricate from the following material:

1. Lead-Coated Copper: 21.2 oz./sq. ft.
2. TCS II: 26 gauge.

- C. Counterflashing: Fabricate from the following material:

1. Lead-Coated Copper: 21.2 oz./sq. ft.
2. TCS II: 26 gauge.

- D. Flashing Receivers: Fabricate from the following material:

1. Lead-Coated Copper: 20 oz./sq. ft.
2. TCS II: 26 gauge.

- E. Roof-Penetration Flashing: Fabricate from the following material:

1. Lead-Coated Copper: 21.2 oz./sq. ft.
2. TCS II: 26 gauge.

- F. Curb Flashing: Fabricate from the following material:

1. Lead-Coated Copper: 21.2 oz./sq. ft.

2. TCS II: 26 gauge.

## 2.7 STEEP-SLOPE ROOF SHEET METAL FABRICATIONS

- A. Apron, Step, Cricket, and Backer Flashing: Fabricate from the following material:
  1. Lead-Coated Copper: 21.2 oz./sq. ft.
  2. TCS II: 26 gauge.
- B. Valley Flashing: Fabricate from the following material:
  1. Lead-Coated Copper: 21.2 oz./sq. ft.
  2. TCS II: 26 gauge.
- C. Drip Edges: Fabricate from the following material:
  1. Lead-Coated Copper: 21.2 oz./sq. ft.
  2. TCS II: 26 gauge.
- D. Eave, Rake, Ridge, and Hip Flashing: Fabricate from the following material:
  1. Lead-Coated Copper: 21.2 oz./sq. ft.
  2. TCS II: 26 gauge.
- E. Base Flashing: Fabricate from the following material:
  1. Lead-Coated Copper: 21.2 oz./sq. ft.
  2. TCS II: 26 gauge.
- F. Counterflashing: Fabricate from the following material:
  1. Lead-Coated Copper: 21.2 oz./sq. ft.
  2. TCS II: 26 gauge.
- G. Flashing Receivers: Fabricate from the following material:
  1. Lead-Coated Copper: 21.2 oz./sq. ft.
  2. TCS II: 26 gauge.
- H. Roof-Penetration Flashing: Fabricate from the following material:
  1. Lead: where noted on Drawings only.
  2. Lead-Coated Copper: 21.2 oz./sq. ft.
  3. TCS II: 26 gauge.
- I. Wind Locks:
  1. Lead coated copper: 32 oz./sq. ft.
  2. TCS II 24 gauge.

## 2.8 WALL SHEET METAL FABRICATIONS

- A. Through-Wall Flashing: Fabricate continuous flashings in minimum 96-inch- long, but not exceeding 12 foot long, sections, under copings, at shelf angles, and where indicated. Fabricate discontinuous lintel, sill, and similar flashings to extend 6 inches beyond each side of wall openings. Form with 2-inch- high end dams. Fabricate from the following material:



1. Lead-Coated Copper: 21.2 oz./sq. ft.
2. TCS II: 26 gauge.

## 2.9 FINISHES

- A. Comply with NAAMM's "Metal Finishes Manual for Architectural and Metal Products" for recommendations for applying and designating finishes.
- B. Protect mechanical and painted finishes on exposed surfaces from damage by applying a strippable, temporary protective covering before shipping.
- C. Appearance of Finished Work: Variations in appearance of abutting or adjacent pieces are acceptable if they are within one-half of the range of approved Samples. Noticeable variations in the same piece are not acceptable. Variations in appearance of other components are acceptable if they are within the range of approved Samples and are assembled or installed to minimize contrast.

## PART 3 - EXECUTION

### 3.1 EXAMINATION

- A. Examine substrates, areas, and conditions, with Installer present, to verify actual locations, dimensions and other conditions affecting performance of work.
  1. Verify that substrate is sound, dry, smooth, clean, sloped for drainage, and securely anchored.
  2. Proceed with installation only after unsatisfactory conditions have been corrected.

### 3.2 INSTALLATION, GENERAL

- A. General: Anchor sheet metal flashing and trim and other components of the Work securely in place, with provisions for thermal and structural movement. Use fasteners, solder, welding rods, protective coatings, separators, sealants, and other miscellaneous items as required to complete sheet metal flashing and trim system.
  1. Torch cutting of sheet metal flashing and trim is not permitted.
- B. Metal Protection: Where dissimilar metals will contact each other or corrosive substrates, protect against galvanic action by painting contact surfaces with bituminous coating or by other permanent separation as recommended by fabricator or manufacturers of dissimilar metals.
  1. Underlayment: Where installing metal flashing directly on cementitious or wood substrates, install a course of felt underlayment and cover with a slip sheet or install a course of polyethylene underlayment.
- C. Install exposed sheet metal flashing and trim without excessive oil canning, buckling, and tool marks.

- D. Install sheet metal flashing and trim true to line and levels indicated. Provide uniform, neat seams with minimum exposure of solder, welds, and elastomeric sealant.
- E. Install sheet metal flashing and trim to fit substrates and to result in watertight performance. Verify shapes and dimensions of surfaces to be covered before fabricating sheet metal.
  - 1. Space cleats not more than 12 inches apart. Anchor each cleat with a minimum of two fasteners. Bend tabs over fasteners.
- F. Expansion Provisions: Provide for thermal expansion of exposed flashing and trim. Space movement joints at a maximum of 10 feet with no joints allowed within 24 inches of corner or intersection. Where lapped or bayonet-type expansion provisions cannot be used or would not be sufficiently watertight, form expansion joints of intermeshing hooked flanges, not less than 1 inch deep, filled with elastomeric sealant concealed within joints or as noted on Drawings.
- G. Fasteners: Use fasteners of sizes that will penetrate substrate not less than 1-1/4 inches for nails and not less than 3/4 inch for wood screws.
  - 1. Use stainless-steel fasteners.
- H. Seal joints with elastomeric sealant as required for watertight construction.
  - 1. Where sealant-filled joints are used, embed hooked flanges of joint members not less than 1 inch into sealant. Form joints to completely conceal sealant. When ambient temperature at time of installation is moderate, between 40 and 70 deg F, set joint members for 50 percent movement either way. Adjust setting proportionately for installation at higher ambient temperatures. Do not install sealant-type joints at temperatures below 40 deg F.
  - 2. Only use joint adhesive for nonmoving joints specified not to be soldered. Locations must be submitted on shop drawings and reviewed by architect prior to installation.
  - 3. Prepare joints and apply sealants to comply with requirements in Division 7 Section "Joint Sealants."
- I. Soldered Joints: Clean surfaces to be soldered, removing oils and foreign matter. Pretin edges of sheets to be soldered to a width of 1-1/2 inches except where pretinned surface would show in finished Work.
  - 1. Lead-Coated Copper Soldering: Wire brush edges of sheets before soldering.
  - 2. Do not use open-flame torches for soldering. Heat surfaces to receive solder and flow solder into joints. Fill joints completely. Completely remove flux and spatter from exposed surfaces.
  - 3. Seams: Fabricate nonmoving seams in sheet metal with flat-lock seams. Clean all edges to be soldered, then tin edges, form seams, flux and finally solder to full penetration of continuous solder at all seams. Finished seam to be smooth and even. Contractor will be required to open up at least 2 completed seams to confirm they have been fully back soldered. Clean edges prior. Prior flux all edges to be

seamed. Pre-tin form seam bend and then flux.

4. Fire Watch: All soldering to be completed 30 minutes before end of workday. Provide 30 minute fire watch before closing site for day.

### 3.3 ROOF DRAINAGE SYSTEM INSTALLATION

- A. General: Install sheet metal roof drainage items to produce complete roof drainage system according to SMACNA recommendations and as indicated. Coordinate installation of roof perimeter flashing with installation of roof drainage system.
- B. Hanging Gutters: Join sections with soldered joints. Provide for thermal expansion. Attach gutters at eave or fascia to firmly anchored gutter brackets and straps spaced not more than 30 inches apart, or as noted on Drawings. Provide end closures and solder to create a watertight seal. Slope to downspouts.
- C. Downspouts: Join sections with 1-1/2-inch telescoping joints. Provide fasteners designed to hold downspouts securely 1 inch away from walls – Refer to Drawings for attachment. Locate fasteners at top and bottom and no greater than 60 inches o.c. in between.
  1. Provide elbows at base of downspout to direct water away from building.
  2. Connect downspouts to underground drainage system indicated.
- D. Expansion-Joint Covers: Install expansion-joint covers at locations and of configuration indicated. Lap joints a minimum of 4 inches in direction of water flow.

### 3.4 ROOF FLASHING INSTALLATION

- A. General: Install sheet metal roof flashing and trim to comply with performance requirements, sheet metal manufacturer's written installation instructions, and SMACNA's "Architectural Sheet Metal Manual." Provide concealed fasteners where possible, set units true to line, and level as indicated. Install work with laps, joints, and seams that will be permanently watertight.
- B. Roof Edge Flashing: Anchor to resist uplift and outward forces according to recommendations in FMG Loss Prevention Data Sheet 1-49 for specified wind zone and as indicated.
  1. Interlock bottom edge of roof edge flashing with continuous cleats anchored to substrate at 12 inch centers.
- C. Copings: Anchor to resist uplift and outward forces according to recommendations in FMG Loss Prevention Data Sheet 1-49 for specified wind zone and as indicated.
  1. Interlock exterior bottom edge of coping with continuous cleats anchored to substrate at 12 inch centers.
  2. All fasteners to be installed 3" o.c.

- D. Pipe or Post Counterflashing: Install counterflashing umbrella with close-fitting collar with top edge flared for elastomeric sealant, extending a minimum of 4 inches over base flashing. Install stainless steel draw band and tighten.
- E. Counterflashing: Coordinate installation of counterflashing with installation of base flashing. Insert counterflashing in reglets and fit tightly to base flashing using lead wedges. Set reglet in a compressed mortar joint. Extend counterflashing 4 inches over base flashing. Lap counterflashing joints a minimum of 4 inches.
- F. Roof-Penetration Flashing: Coordinate installation of roof-penetration flashing with installation of roofing and other items penetrating roof. Install flashing as follows:
  - 1. Turn lead flashing down inside vent piping, being careful not to block vent piping with flashing.
  - 2. Seal with elastomeric sealant and clamp flashing to pipes penetrating roof except for lead flashing on vent piping.

### 3.5 WALL FLASHING INSTALLATION

- A. General: Install sheet metal wall flashing to intercept and exclude penetrating moisture according to SMACNA recommendations and as indicated. Coordinate installation of wall flashing with installation of wall-opening components such as windows, doors, and louvers.
- B. Through-Wall Flashing: Installation of manufactured through-wall flashing is specified in Division 4 Section "Masonry Restoration and Cleaning."
- C. Reglets: Installation of reglets as shown on drawings, using mortar specified in Division 4.

### 3.6 CLEANING AND PROTECTION

- A. Clean exposed metal surfaces of substances that interfere with uniform oxidation and weathering.
- B. Clean and neutralize flux materials. Clean off excess solder and sealants.
- C. Remove temporary protective coverings and strippable films as sheet metal flashing and trim are installed. On completion of installation, clean finished surfaces, including removing unused fasteners, metal filings, pop rivet stems, and pieces of flashing. Maintain in a clean condition during construction.
- D. Replace sheet metal flashing and trim that have been damaged or that have deteriorated beyond successful repair by finish touchup or similar minor repair procedures.

END OF SECTION 076200

## SECTION 079200 - JOINT SEALANTS

### PART 1 - GENERAL

#### 1.1 SUMMARY

- A. This Section includes joint sealants for the following applications, including those specified by reference to this Section:
  - 1. Exterior joints in vertical surfaces and horizontal non-traffic surfaces, especially between dissimilar materials.

#### 1.2 PERFORMANCE REQUIREMENTS

- A. Provide elastomeric joint sealants that establish and maintain watertight and airtight continuous joint seals without staining or deteriorating joint substrates.

#### 1.3 SUBMITTALS

- A. Product Data: For each joint-sealant product indicated.
- B. Samples: For each type and color of joint sealant required, provide Samples with joint sealants in 1/2-inch- wide joints formed between two 6-inch- long strips of material matching the appearance of exposed surfaces adjacent to joint sealants.
- C. Compatibility and adhesion test reports.
- D. Product certificates test reports.

#### 1.4 QUALITY ASSURANCE

- A. Preconstruction Compatibility and Adhesion Testing: Submit samples of materials that will contact or affect joint sealants to joint-sealant manufacturers for testing according to ASTM C 1087 to determine whether priming and other specific joint preparation techniques are required to obtain rapid, optimum adhesion of joint sealants to joint substrates.
- B. Preconstruction Field-Adhesion Testing: Before installing elastomeric sealants, field test their adhesion to Project joint substrates according to the method in ASTM C 1193 that is appropriate for the types of Project joints.
- C. Mockups: Build mockups incorporating sealant joints, as follows, to verify selections made under sample submittals and to demonstrate aesthetic effects and set quality standards for materials and execution.

## 1.5 WARRANTY

- A. Special Installer's Warranty: Installer's standard form in which Installer agrees to repair or replace elastomeric joint sealants that do not comply with performance and other requirements specified in this Section within specified warranty period.
  - 1. Warranty Period: Two years from date of Substantial Completion.

## PART 2 - PRODUCTS

### 2.1 MATERIALS, GENERAL

- A. Compatibility: Provide joint sealants, backings, and other related materials that are compatible with one another and with joint substrates under conditions of service and application, as demonstrated by sealant manufacturer, based on testing and field experience.
- B. VOC Content of Interior Sealants: Provide interior sealants and sealant primers that comply with the following limits for VOC content when calculated according to 40 CFR 59, Subpart D (EPA Method 24):
  - 1. Sealants: 250 g/L.
  - 2. Sealant Primers for Nonporous Substrates: 250 g/L.
  - 3. Sealant Primers for Porous Substrates: 775 g/L.
- C. Colors of Exposed Joint Sealants: As selected by Architect from manufacturer's full range.

### 2.2 ELASTOMERIC JOINT SEALANTS

- A. Elastomeric Sealants: Comply with ASTM C 920 and other requirements indicated for each liquid-applied chemically curing sealant specified, including those referencing ASTM C 920 classifications for type, grade, class, and uses related to exposure and joint substrates.
- B. Stain-Test-Response Characteristics: Where elastomeric sealants are specified to be nonstaining to porous substrates, provide products that have undergone testing according to ASTM C 1248 and have not stained porous joint substrates indicated for Project.
- C. Suitability for Immersion in Liquids. Where elastomeric sealants are indicated for Use I for joints that will be continuously immersed in liquids, provide products that have undergone testing according to ASTM C 1247 and qualify for the length of exposure indicated by reference to ASTM C 920 for Class 1 or 2. Liquid used for testing sealants is deionized water, unless otherwise indicated.

## 2.3 ELASTOMERIC JOINT SEALANTS

- A. Elastomeric Sealant Standard: Comply with ASTM C 920 and other requirements indicated for each liquid-applied chemically curing sealant, including those referencing ASTM C 920 classifications for type, grade, class, and uses.
- B. Additional Movement Capability: Where additional movement capability is specified in the Elastomeric Joint-Sealant Schedule, provide products with the capability, when tested for adhesion and cohesion under maximum cyclic movement per ASTM C 719, to withstand the specified percentage change in the joint width existing at the time of installation and remain in compliance with other requirements of ASTM C 920 for uses indicated.
- C. Stain-Test-Response Characteristics: Where elastomeric sealants are specified in the Elastomeric Joint-Sealant Schedule to be non-staining to porous substrates, provide products that have undergone testing according to ASTM C 1248 and have not stained porous joint substrates indicated for Project.
- D. Low-Modulus Nonacid-Curing Silicone Sealant:
  - 1. Products: Provide one of the following:
    - a. 790; Dow Corning.
    - b. Silpruf; GE Silicones.
    - c. 890; Pecora Corporation.
  - 2. Type and Grade: S (single component) and NS (nonsag).
  - 3. Class: 25.
  - 4. Additional Movement Capability: 100 percent movement in extension and 50 percent movement in compression for a total of 150 percent movement.
  - 5. Use Related to Exposure: NT (non-traffic).
  - 6. Uses Related to Joint Substrates: M, G, A, and, as applicable to joint substrates indicated, 0.
  - 7. Stain-Test-Response Characteristics: Non-staining to porous substrates per ASTM C 1248.

## 2.4 SOLVENT-RELEASE JOINT SEALANTS

- A. Butyl Sealant: Non-curing, nondrying, nonhardening, nonskinning, non-staining, gunnable, synthetic rubber sealant.

1. Products: Provide one of the following:

- a. "BA-98"; Pecora Corporation.
- b. "Tremco Acoustical Sealant"; Tremco, Inc.

B. Butyl Polyisobutylene Sealant: Non-curing, nondrying, solvent-release; complying with 809.2, as described in AAMA 800.

C. Butyl-Rubber-Based Solvent-Release Joint-Sealant:

1. Products: Provide one of the following:

- a. Bostik 300; Bostik Inc.
- b. BC-158; Pecora Corporation.
- c. Tremco Butyl Sealant; Tremco.

2. Comply with ASTM C 1085.

## 2.5 LATEX JOINT SEALANTS

A. Latex Sealant:

1. Products: Provide one of the following:

- a. Chem-Calk 600; Bostik Inc.
- b. AC-20 + Silicone; Pecora Corporation.
- c. Sonolac; Sonneborn Building Products Div., ChemRex, Inc.
- d. Tremflex 834; Tremco.

2. Comply with ASTM C 834.

## 2.6 JOINT-SEALANT BACKING

A. General: Provide sealant backings of material and type that are nonstaining; are compatible with joint substrates, sealants, primers, and other joint fillers; and are approved for applications indicated by sealant manufacturer based on field experience and laboratory testing.

B. Cylindrical Sealant Backings: ASTM C 1330, Type [C (closed-cell material with a surface skin)] [O (open-cell material)] [B (bicellular material with a surface skin)] [ or any of the preceding types, as approved in writing by joint-sealant manufacturer for joint application indicated], and of size and density to control sealant depth and otherwise contribute to producing optimum sealant performance.

## 2.7 MISCELLANEOUS MATERIALS



- A. Primer: Material recommended by joint-sealant manufacturer where required for adhesion of sealant to joint substrates indicated, as determined from preconstruction joint-sealant-substrate tests and field tests.
- B. Masking Tape: Nonstaining, nonabsorbent material compatible with joint sealants and surfaces adjacent to joints.

## PART 3 - EXECUTION

### 3.1 PREPARATION

- A. Surface Cleaning of Joints: Clean out joints immediately before installing joint sealants.
  - 1. Remove all foreign material from joint substrates that could interfere with adhesion of joint sealant.
    - a. Clean porous joint substrate surfaces by brushing, grinding, blast cleaning, mechanical abrading, or a combination of these methods to produce a clean, sound substrate capable of developing optimum bond with joint sealants. Remove loose particles remaining after cleaning operations above by vacuuming or blowing out joints with oil-free compressed air.
  - 2. Remove laitance and form-release agents from concrete.
    - a. Clean nonporous surfaces with chemical cleaners or other means that do not stain, harm substrates, or leave residues capable of interfering with adhesion of joint sealants.
- B. Joint Priming: Prime joint substrates based on preconstruction joint-sealant-substrate tests or prior experience. Apply primer to comply with joint-sealant manufacturer's written instructions. Confine primers to areas of joint-sealant bond; do not allow spillage or migration onto adjoining surfaces.
- C. Masking Tape: Use masking tape where required to prevent contact of sealant with adjoining surfaces that otherwise would be permanently stained or damaged by such contact or by cleaning methods required to remove sealant smears. Remove tape immediately after tooling without disturbing joint seal.

### 3.2 INSTALLATION

- A. Sealant Installation Standard: Comply with recommendations in ASTM C 1193 for use of joint sealants as applicable to materials, applications, and conditions indicated.
- B. Install sealant backings of type indicated to support sealants during application and at position required to produce cross-sectional shapes and depths of installed sealants relative

to joint widths that allow optimum sealant movement capability.

1. Do not leave gaps between ends of sealant backings.
  2. Do not stretch, twist, puncture, or tear sealant backings.
  3. Remove absorbent sealant backings that have become wet before sealant application and replace them with dry materials.
- C. Install bond-breaker tape behind sealants where sealant backings are not used between sealants and backs of joints.
- D. Install sealants using proven techniques that comply with the following and at the same time backings are installed:
1. Place sealants so they directly contact and fully wet joint substrates.
  2. Completely fill recesses in each joint configuration.
  3. Produce uniform, cross-sectional shapes and depths relative to joint widths that allow optimum sealant movement capability.
- E. Tooling of Nonsag Sealants: Immediately after sealant application and before skinning or curing begins, tool sealants according to requirements specified below to form smooth, uniform beads of configuration indicated; to eliminate air pockets; and to ensure contact and adhesion of sealant with sides of joint.
1. Remove excess sealant from surfaces adjacent to joints.
  2. Use tooling agents that are approved in writing by sealant manufacturer and that do not discolor sealants or adjacent surfaces.
  3. Provide concave joint configuration per Figure 5A in ASTM C 1193, unless otherwise indicated.
- F. Installation of Preformed Silicone-Sealant System: Comply with manufacturer's written instructions.
- G. Clean off excess sealant or sealant smears adjacent to joints as the Work progresses by methods and with cleaning materials approved in writing by manufacturers of joint sealants and of products in which joints occur.

### 3.3 JOINT SEALANT SCHEDULE

#### A. General:

1. All joint sealant materials and locations shall be approved by the Architect prior to commencement of work.
2. Joints of a nature similar to that of joints indicated on the schedule shall be sealed with same sealer, whether indicated on drawings to be sealed or not.

B. Exterior Building Joints:

1. Sealant: Low-modulus silicone sealant.
2. Backer: Plastic foam joint backer.
3. Joint shape: Concave joint configuration.
4. Color: To be selected by Architect.

C. Concealed Metal Flashing Joints:

1. Acceptable sealants:
  - a. Butyl sealant.
  - b. Butyl polyisobutylene sealant.
  - c. Butyl-rubber-based solvent-release joint sealant.

D. Interior Building Joints:

1. Sealant: Acrylic-latex emulsion sealant.
2. Backer: Plastic foam joint backer.
3. Joint shape: Concave joint configuration.

END OF SECTION 079200

## SECTION 085920 - HISTORIC TREATMENT OF WOOD DOORS AND WINDOWS

### PART 1 - GENERAL

#### 1.1 RELATED DOCUMENTS

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

#### 1.2 SUMMARY

- A. The scope of work includes the following:
  - 1. Doors
    - a. Repair and restoration (including shop restoration) of all existing wood exterior doors.
    - b. Fabrication of one (1) new wood exterior entrance door.
  - 2. Windows
    - a. Repair and restoration of all existing wood windows (all floors, all locations).
  - 3. Shutters
    - a. Repair or replication and installation of new wood operable shutters.
  - 4. Hardware
    - a. Removal, repair, cleaning, lubrication and re-installation of (all) existing hardware for reuse.
    - b. New shutter rings, pintels, straps, and dogs.
- B. Specific work related to this section includes:
  - 1. Existing and new existing doors and windows as noted on drawings.
- C. Related Sections include the following:
  - 1. Division 01 Section "Allowances" for door and window hardware.
  - 2. Division 06 Section "Exterior Architectural Woodwork".
  - 3. Division 07 Section "Sheet Metal Flashing and Trim" for concealed metal flashing.
  - 4. Division 07 Section "Joint Sealants" for sealing joints in restored wood doors and windows.
  - 5. Division 09 Section "Painting" for paint removal, surface preparation, and refinishing of interior doors and the interior face of wood doors and windows.

#### 1.3 DOOR AND WINDOW SYSTEM DESCRIPTIONS

- A. Wood components for historic treatment work include the following:
  - 1. Frame Components: Head, jamb, and sill.
  - 2. Sash Components: Stile and rails, parting bead, stop, and muntins.
  - 3. Exterior Trim: Exterior casing, and brick mould.
  - 4. Interior Trim: Excluded.

## 1.4 SUBMITTALS

- A. Product Data: For each type of product indicated.
- B. Replacement Member Shop Drawings: Show fabrication and installation of replacement wood door and window members. Indicate materials and profiles of each replacement member, joinery, finish, and method of splicing or attaching to existing wood door and window.
- C. Samples for Verification: For each type of wood door and window replacement component required, prepared on Samples of size indicated below.
  - 1. Main Frame Member: 12-inch- long, full-size sections with applied finish.
  - 2. Replacement Members: Architect reserves the right to require additional Samples of replacement members that show fabrication techniques, materials, and finish.
  - 3. Replacement Members: 12 inches long for each replacement member; including frame parts, sash parts, and exterior trim parts.
    - a. Use historic original material as the model to create new duplicate replacement members, provide Samples of duplicate replacement wood door and window member matching the original member.
  - 4. Repaired and Refinished Wood Door and Window Member: Prepare Samples using existing wood door and window members removed from site, repaired with patching compound, and refinished.
  - 5. Hardware: Full-size units with factory-applied finish.
  - 6. Weather Stripping: 12-inch- long sections.
- D. Qualification Data: For historic treatment specialists. The wood window restoration sub-contractor must complete a pre-qualification form.
- E. Historic Treatment Program: For each phase of historic treatment process, including protection of surrounding materials on the building and Project site during operations. Describe in detail the materials, methods, equipment, and sequence of operations to be used for each phase of historic treatment work.
  - 1. If materials and methods alternative to those indicated are proposed for any phase of historic treatment work, provide a written description, including evidence of successful use on other comparable projects, and a testing program to demonstrate their effectiveness for this Project.

## 1.5 QUALITY ASSURANCE

- A. Historic Treatment Specialist Qualifications: A firm or individual experienced in historic treatment of doors and windows similar in material, design, and extent to that indicated for this Project, whose work has resulted in construction with a record of successful in-service performance.

1. Field Supervision: Require that an experienced full-time supervisor be at Project site during times that historic treatment of wood doors and windows is in progress.
- B. Mockups: Prepare existing doors and windows to serve as mockups to demonstrate historic treatment methods and procedures for aesthetic effects and qualities of materials and execution. Use materials and methods proposed for completed Work and prepare mockups under same weather conditions to be expected during remainder of Work. Only mockup the repairs that will be necessary in historic wood window repair.
  1. Wood Window Repair: Prepare one entire window unit to serve as mockup to demonstrate sample repair of wood window members including frame, sash, glazing, and hardware.
  2. Approved mockups shall become part of the completed Work if undisturbed at time of Substantial Completion.
- C. AWI Quality Standard: Comply with applicable requirements in AWI's "Architectural Woodwork Quality Standards" for construction, finishes, grades of wood doors and windows, and other requirements.

#### 1.6 DELIVERY, STORAGE, AND HANDLING

- A. Deliver patching and repair compounds to Project site in manufacturer's original and unopened containers, labeled with description of contents and name of manufacturer.
- B. Comply with manufacturer's written instructions for minimum and maximum temperature requirements for storage of patching materials.

#### 1.7 SEQUENCING AND SCHEDULING

- A. Perform historic treatment of wood doors and windows in the following sequence:
  1. Remove glazing.
  2. Install protection where glass has been removed. Protection mockup is required.
  3. Assume wood doors and windows will be restored in place unless otherwise agreed to with architect.
  4. Repair deteriorated and damaged wood members.
  5. Replace damaged and missing wood window members.
  6. Prime and paint all frames and wood sash prior to glass installation.
  7. Reinstallation of glass.
  8. Refinish existing wood doors and windows.
  9. Repair or replace existing window hardware.
  10. Install new weather stripping.

## PART 2 - PRODUCTS

## 2.1 REPLACEMENT WOOD MATERIALS

- A. Wood: Clear fine-grained lumber; kiln dried to a moisture content of 6 to 12 percent at time of fabrication; free of visible finger joints, blue stain, knots, pitch pockets, and surface checks larger than 1/32 inch deep by 2 inches wide; and with a minimum of 12 growth rings per inch.
  - 1. Species: Provide 2 samples of existing wood to architect for identification. Allow 2 weeks for identification process. Replace wood with new to match species, grain and quality. Assume quality set out above.

## 2.2 WOOD PATCHING MATERIALS

- A. Wood Pretreatment: Ready-to-use product designed for hardening and sealing soft fibers of wood materials that have deteriorated due to weathering and exposure and designed specifically to enhance the bond of wood patching compound to existing wood.
  - 1. Products:
    - a. Abatron, Inc.; Liquidwood.
- B. Wood Patching Compound: 2-part epoxy-resin wood compound with a 10- to 15-minute cure at 70 deg F, in knife grade formulation and recommended by manufacturer for type of wood repair indicated. Compound shall be designed for filling damaged wood materials that have deteriorated due to weathering and exposure. Compound shall be capable of filling deep holes and capable of spreading to feather edge.
  - 1. Products:
    - a. Abatron, Inc.; Liquidwood with WoodEpox.
    - b. Gougeon Brothers, Inc.; West System.

## 2.3 REPLACEMENT WINDOW HARDWARE

- A. General: Provide complete sets of window hardware consisting of sash balances, hinges, pulls, latches, and accessories indicated for each window. Replacement window hardware shall be designed to smoothly operate, tightly close, and securely lock wood doors and windows and be sized to accommodate sash or ventilator weight and dimensions.
- B. Repair and Refinish Existing Hardware: Remove window hardware and repair and refinish to match samples.
- C. Replacement Hardware: Replace existing damaged or missing window hardware with custom-fabricated replacement hardware manufactured to replicate the existing hardware by one of the following:

1. Manufacturers:
  - a. Ball and Ball.
  - b. Bronze Craft Corporation (The).
  - c. Craftsmen Hardware Co., Ltd.
  - d. Phelps Company Architectural Specialties.
  
- D. Window Hardware:
  1. Material: Solid bronze of alloy indicated.
  2. Design: Provide custom hardware to replicate existing hardware.
  
- E. Window Hardware Finishes: Comply with BHMA A156.18 for base material and finish requirements indicated by the following:
  1. Match existing to be reviewed by Architect.

## 2.4 REPLACEMENT/REPLICATION WOOD DOORS AND WINDOWS

- A. Replacement/Replication Wood Window Frames and Sashes: Custom-fabricated replacement wood doors and windows to match existing materials and profiles, with operating and latching hardware.
  1. Provide replacement wood doors and windows fabricated to comply with AWI Section 1000 requirements for Custom grade.
  2. Wood Species: Match wood species of exterior window trim and frame parts.
  3. Wood Window Members: Match wood profiles of existing exterior window trim frame and adjacent similar sash parts.
  4. Exposed Hardware: Match existing exposed adjacent window hardware.
  
- B. Available Manufacturers:
  1. Allegheny Restoration & Builders Inc.
  2. WOODSTONE Company (The).
  3. Woodward Thomsen Company.
  4. Wood Window Workshop.
  5. Approved equal.

## 2.5 REPLACEMENT WEATHER STRIPPING

- A. Available Manufacturers:
  1. National Guard Products, Inc.
  2. Pemko Manufacturing Co., Inc.
  
- B. Replacement Compression-Type Weather Stripping: Provide compressible weather stripping designed for permanently resilient sealing under bumper or wiper action and to be completely concealed when wood window is closed.
  1. Weather-Stripping Material: Elastomeric cellular preformed gaskets complying with ASTM C 509.
  2. Weather-Stripping Material: Dense elastomeric gaskets complying with ASTM C 864.



## 2.6 MISCELLANEOUS MATERIALS

- A. Cleaning Materials:
  - 1. Detergent Solution: Solution prepared by mixing 2 cups of tetrasodium polyphosphate (TSPP), 1/2 cup of laundry detergent, 5 quarts of 5 percent sodium hypochlorite bleach, and 15 quarts of warm water for each 5 gal. of solution required.
  - 2. Mildewcide: Provide commercial proprietary mildewcide or a solution prepared by mixing 1/3 cup of household detergent, 1 quart of 5 percent sodium hypochlorite bleach, and 3 quarts of warm water.
- B. Adhesive: Wood adhesive with a 15- to 45-minute cure at 70 deg F, in gunnable formulation and recommended by adhesive manufacturer for exterior wood repair.
- C. Fasteners: Provide aluminum or stainless-steel fasteners compatible with window members, trim, hardware, anchors and other components.
- D. Fasteners: Provide bronze or brass fasteners compatible with window members, trim, hardware, anchors and other components.
  - 1. Exposed Fasteners: If exposed fasteners are used, match existing fasteners.
- E. Anchors, Clips, and Accessories: Fabricate anchors, clips, and window accessories of aluminum, nonmagnetic stainless steel, or hot-dip zinc-coated steel complying with requirements in ASTM B 633 for SC 3 (Severe) service condition.

## 2.7 DOOR AND WOOD WINDOW FINISHES

- A. Prime and paint wood doors and windows, per Specification 09900.

## PART 3 - EXECUTION

### 3.1 HISTORIC TREATMENT SPECIALIST

- A. Available Historic Treatment Specialists: Subject to compliance with requirements, historic treatment specialists that may perform the Work include, but are not limited to, the following.

### 3.2 PREPARATION

- A. Protect adjacent materials from damage caused by historic treatment of wood doors and windows.
- B. Clean existing wood doors and windows of mildew, algae, moss, plant material, loose paint, grease, dirt, and other debris. Use bristle brush and mildewcide to kill mildew.

After cleaning, rinse thoroughly with fresh water. Allow to dry before patching, repairing, or painting.

- C. Treat existing wood window members to remain in place with water-repellent preservative treatment; apply liberally by brush to all lap and butt joints, edges and ends of wood members, and bottoms of window frames. Apply treatment after wood members are patched and filled.
- D. Condition replacement wood members and replacement wood doors and windows to prevailing conditions at installation areas before installing.

### 3.3 HISTORIC TREATMENT PROCEDURES, GENERAL

- A. Window Removal: Where sashes or doors and windows or window components are indicated for removal, cover resultant openings with temporary enclosures so that openings are weathertight during repair period.
- B. Identify removed doors and windows, sashes, and members with numbering system to ensure reinstallation in same location. Key doors and windows, sashes, and members to Drawings showing location of each removed unit. Mark units in a location that will be concealed after reinstallation.

### 3.4 WOOD WINDOW MEMBER PATCHING

- A. Patch wood members that have been damaged and exhibit depressions, holes, or similar voids, and that have limited rotted or decayed wood. Remove rotted or decayed wood down to sound wood.
  - 1. Treat wood members with wood pretreatment prior to application of patching compound according to repair and patching material manufacturer's written instructions.
- B. Apply patching compound to fill depressions, nicks, cracks, and other voids. Apply compound in layers as recommended by manufacturer until the void is completely filled. Sand patching compound smooth and flush, matching contour of existing wood member.
- C. Clean spilled compound from adjacent materials immediately.

### 3.5 WOOD WINDOW MEMBER REPAIR

- A. Window Schedule: Repair wood members at locations indicated in the Historic Treatment of Wood Window Schedule shown on the Drawings A5.0 series.
  - 1. Repair wood members by pretreating and filling with patching compounds or by replacing with new members spliced into existing wood members as indicated in the schedule.
  - 2. Repair doors and windows by splicing in replacement wood sections where deterioration is structural, including at meeting points of rails and meeting points

of true muntins.

- B. Repair by Pretreatment and Patching Compound:
  - 1. Clean wood surfaces prior to consolidation treatment and patching.
  - 2. If rotted or soft wood remains, remove down to sound wood according to patching manufacturer's written instructions.
  - 3. Apply wood pretreatment to soft wood fibers to remain, complying with manufacturer's written instructions. Coat surface of wood with consolidation treatment by brushing, applying multiple coats until wood is saturated. Allow treatment to harden before filling void with patching compound.
  - 4. Mix only as much patching compound as can be applied according to manufacturer's written instructions.
  - 5. Apply patching compound to fill depressions, nicks, cracks, and other voids created by removed or missing wood. Apply compound in layers as recommended in writing by manufacturer until the void is completely filled. Sand patching compound smooth and flush and matching contour of existing wood member.
  - 6. Clean spilled compound from adjacent materials immediately.
- C. Repair by Wood Member Replacement: Custom fabricate new wood members to replace missing members or members deteriorated beyond repair. Either replace entire wood member or splice new wood member into existing member.
- D. Cut out deteriorated or damaged sections of wood members and replace them by splicing replacement wood members into existing remaining wood members.
  - 1. Anchor new wood members by nailing and adhesive.
  - 2. Install wood members with concealed fasteners. Fill nail holes and touch up the finish to match surrounding wood finish.
- E. Repair by Removing Window Units: Where entire units, either sashes or complete window, are indicated to be removed and restored, completely remove unit and restore off-site. Repair entire doors and windows by patching or repairing members as specified for wood window member patching.
  - 1. Reglaze sash units.

### 3.6 WOOD WINDOW UNIT REPLICATION/REPLACEMENT

- A. Window Unit Replacement: Where scheduled, replace existing wood doors and windows with new custom-fabricated wood doors and windows to match existing doors and windows.
- B. Comply with manufacturer's written instructions for installing doors and windows, hardware, accessories, and other components.
- C. Install doors and windows level, plumb, square, true to line, without distortion or impeding thermal movement, anchored securely in place to structural support, and in proper relation to wall flashing and other adjacent construction.
- D. Set sill members in bed of sealant or with gaskets, as indicated, for weathertight

construction.

### 3.7 ADJUSTMENT

- A. Adjust existing and replacement operating sashes and hardware to provide a tight fit at contact points and with weather stripping, and to provide smooth operation and a weathertight closure. Lubricate hardware and moving parts as necessary.

### 3.8 CLEANING AND PROTECTION

- A. Protect restored window surfaces from contact with contaminating substances resulting from construction operations.
- B. Monitor restored window surfaces adjacent to and below exterior concrete and masonry surfaces during construction for presence of dirt, scum, alkaline deposits, stains, or other contaminants. If contaminating substances contact window surfaces, remove contaminants immediately according to glass manufacturer's written recommendations.
- C. Clean exposed surfaces immediately after historic treatment of wood doors and windows. Avoid damaging coatings and finishes. Remove excess sealants, glazing and patching materials, dirt, and other substances.
- D. Remove and replace glass that has been broken, chipped, cracked, abraded, or damaged during construction period.

END OF SECTION 08592

## SECTION 099000 – PAINTING

### PART 1 - GENERAL

#### 1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.
- B. Refer to Division 01 for Allowances (Paint Investigation).
- C. Refer to Division 06 for Carpentry.
- D. Refer to Division 08 for Doors and Windows.
- E. Refer to Division 09 for Finishes.

#### 1.2 SUMMARY

- A. This Section includes surface preparation and field painting of the following:
  - 1. Building #4 – All exterior wood components.
  - 2. Building #7 – All exterior wood components.
- B. Paint, stain or otherwise coat all exposed exterior wood surfaces. However:
  - 1. Do not paint the roof shingles;
  - 2. Do not paint the rustic or *Adirondack* style components of the porches, namely posts, handrails, bottomrails, balustrade sections and brackets.
- C. If the drawings do not specifically mention an item or a surface, paint the item or surface the same as similar adjacent materials or surfaces whether or not schedules indicate colors. If the drawings do not indicate color or finish, the Architect will select from standard colors and finishes available.
- D. Do not paint pre-finished items, concealed surfaces, finished metal surfaces, operating parts, and labels.

#### 1.3 REFERENCES

- A. Green Seal Standard GS-11; May 20, 1993.
- B. MPI (APL) - Master Painters Institute.
- C. SCAQMD 1168 - South Coast Air Quality Management District Rule #1168; October 3, 2003.
- D. SSPC (PM1) - Steel Structures Painting Manual, Vol. 1, Good Painting Practice; Society for Protective Coatings; 1993, Third Edition.

- E. SSPC (PM2) - Steel Structures Painting Manual, Vol. 2, Systems and Specifications; Society for Protective Coatings; 1995, Seventh Edition.
- F. 40 CFR 59, Subpart D - National Volatile Organic Compound Emission Standards for Architectural Coatings; U.S. Environmental Protection Agency; current edition.

#### 1.4 DEFINITIONS

- A. General: Standard coating terms defined in ASTM D 16 apply to this Section.
  - 1. Flat refers to a lusterless or matte finish with a gloss range below 15 when measured at an 85-degree meter.
  - 2. Eggshell refers to low-sheen finish with a gloss range between 5 and 20 when measured at a 60-degree meter.
  - 3. Satin refers to low-sheen finish with a gloss range between 15 and 35 when measured at a 60-degree meter.
  - 4. Semi-gloss refers to medium-sheen finish with a gloss range between 30 and 65 when measured at a 60-degree meter.
  - 5. Full gloss refers to high-sheen finish with a gloss range more than 65 when measured at a 60-degree meter.

#### 1.5 SUBMITTALS

- A. Product Data: For each paint system specified. Include block fillers and primers.
  - 1. Material List: Provide an inclusive list of required coating materials. Indicate each material and cross-reference specific coating, finish system, and application. Identify each material by manufacturer's catalog number and general classification.
  - 2. Manufacturer's Information: Provide manufacturer's technical information, including label analysis and instructions for handling, storing, and applying each coating material proposed for use.
  - 3. Certification by the manufacturer that products supplied complies with local regulations controlling use of volatile organic compounds (VOCs).
- B. Samples for Initial Selection: Manufacturer's color charts showing the full range of colors available for each type of finish-coat material indicated.
  - 1. After color selection, contractor to furnish color chips for surfaces to be coated.
- C. Samples for Verification: Of each color and material to be applied, with texture to simulate actual conditions, on representative Samples of the actual substrate.
  - 1. Provide stepped Samples, defining each separate coat, including block fillers and primers. Use representative colors when preparing Samples for review. Resubmit until required sheen, color, and texture are achieved.

2. Provide a list of materials and applications for each coat of each sample. Label each sample for location and application.
  3. Submit Samples on the following substrates for the Architect's review of color and texture only:
    - a. Wood.
    - b. Plaster.
    - c. Other/Miscellaneous.
- D. Select sample Submittals from list below to suit substrates in the Project. Add other substrates or special requirements to suit the Project.
- a. Painted Wood: Provide two 12-inch- (300-mm-) square samples of each color and material on hardboard.
  - b. Putty: Pure linseed oil. Provide sample.
- E. Qualification Data: For firms and persons, demonstrate their capabilities and experience. Include lists of completed projects with project names and addresses, names and addresses of architects and owners, and other information specified.

## 1.6 QUALITY ASSURANCE

- A. Applicator Qualifications: Engage an experienced applicator that has completed painting system applications similar in material and extent to that indicated for this Project with a record of successful in-service performance.
- B. Source Limitations: Obtain block fillers, primers, and undercoat materials for each coating system from the same manufacturer as the finish coats.
- C. Paint Removal Sample and Surface Preparation Sample: Contractor to provide at least four paint removal samples and wood surface preparation samples for review by architect prior to commencing any work. The location and size of samples are to be selected by the architect.
- D. Benchmark Samples (Mock-ups): Provide a full-coat benchmark finish sample of each type of coating and substrate required on the Project. Comply with procedures specified in PDCA P5. Duplicate finish of approved prepared samples.
  1. The Architect will select surface to represent surfaces and conditions for each type of coating and substrate to be painted.
    - a. Small Areas and Items: The Architect will designate an item or area as required.
  2. Final approval of colors will be from job-applied samples.

## 1.7 DELIVERY, STORAGE, AND HANDLING

- A. Deliver materials to the Project Site in manufacturer's original, unopened packages and containers bearing manufacturer's name and label, and the following information:
  - 1. Product name or title of material.
  - 2. Product description (generic classification or binder type).
  - 3. Manufacturer's stock number and date of manufacture.
  - 4. Contents by volume, for pigment and vehicle constituents.
  - 5. Thinning instructions.
  - 6. Application instructions.
  - 7. Color name and number.
  - 8. VOC content.
  
- B. Store materials not in use in tightly covered containers in a well-ventilated area at a minimum ambient temperature of 45° F. Maintain containers used in storage in a clean condition, free of foreign materials and residue.
  - 1. Protect from freezing. Keep storage area neat and orderly. Remove oily rags and waste daily. Take necessary measures to ensure that workers and work areas are protected from fire and health hazards resulting from handling, mixing, and application.

#### 1.8 PROJECT CONDITIONS

- A. Apply water-based paints only when the temperature of surfaces to be painted and surrounding air temperatures are between 50° and 90° F
- B. Apply solvent-thinned paints only when the temperature of surfaces to be painted and surrounding air temperatures are between 45° and 95° F
- C. Do not apply paint in snow, rain, fog, or mist; or when the relative humidity exceeds 85 percent; or at temperatures less than 5° F above the dew point; or to damp or wet surfaces.
- D. Apply putty only when the temperature of surfaces to be painted and surrounding air temperatures are between 45° and 95° F.
- E. Apply paint to putty after allowing a minimum of one (1) week for product to cure.

#### 1.9 EXTRA MATERIALS, AKA “ATTIC STOCK”

- A. Furnish extra paint materials from the same production run as the materials applied in the quantities described below. Package paint materials in unopened, factory-sealed containers for storage and identify with labels describing contents. Deliver extra materials to the Owner.



1. Quantity: Furnish the Owner with extra paint materials in the quantities indicated below:
  - a. 2 gallons of each color and type of paint applied properly labels as to source and to which wood components the contents have been applied.

## PART 2 - PRODUCTS

### 2.1 MANUFACTURERS

- A. Acceptable Manufacturer: Benjamin Moore & Co., which is located at: 101 Paragon Dr., Montvale, NJ 07645; Toll Free Tel: 866-708-9181; Tel: 201-573-9600; Fax: 201-573-6675; Email: request info; Web: www.benjaminmoore.com
- B. Requests for substitutions will be considered in accordance with provisions of Section 016000.

### 2.2 MATERIALS - GENERAL

- A. Volatile Organic Compound (VOC) Content:
  1. Provide coatings that comply with the most stringent requirements specified in the following:
    - a. 40 CFR 59, Subpart D--National Volatile Organic Compound Emission Standards for Architectural Coatings.
    - b. 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.
  - B. Compatibility: 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.

### 2.3 MIXING AND TINTING

- A. Except where specifically noted in this section, all paint shall be ready-mixed and pre-tinted. Agitate all paint prior to and during application to ensure uniform color, gloss, and consistency.
- B. Thinner addition shall not exceed manufacturer's printed recommendations. Do not use kerosene or other organic solvents to thin water-based paints.
- C. Where paint is to be sprayed, thin according to manufacturer's current guidelines.

## 2.4 PRIMERS

### A. Wood:

#### 1. Alkyd:

- a. One (1) Coat - Fresh Start All Purpose Alkyd Primer #024 (MPI Listed Product, Category 45).

## 2.5 FINISH COATS

### A. Wood:

#### 1. Gloss/Luster:

- a. Latex: Two (2) Coats – W096 MoorGlo Soft Gloss Finish

## 2.6 PORCH WALKING SURFACES

### A. Wood Tongue and Groove Porch Decking:

1. Cabot Premium Woodcare - Clear Wood Protector for protecting unstained wood.

## 2.7 OBTAIN RECONFIRMATION OF PRIMERS AND FINISH COATS: From the Architect prior to shop drawing/product literature submission. Use the materials specified above for pricing purposes.

## PART 3 - EXECUTION

### 3.1 EXAMINATION

#### A. Examine substrates, areas, and conditions, with the Applicator present, under which painting will be performed for compliance with paint application requirements.

1. Do not begin to apply paint until unsatisfactory conditions have been corrected and surfaces receiving paint are thoroughly dry.
2. Do not begin painting of putty for a minimum of one (1) week following installation to allow for curing time.
3. Start of painting will be construed as the Applicator's acceptance of surfaces and conditions within a particular area.

#### B. Coordination of Work: Review other Sections in which primers are provided to ensure compatibility of the total system for various substrates. On request, furnish information on characteristics of finish materials to ensure use of compatible primers.

1. Notify the Architect about anticipated problems using the materials specified over

substrates primed by others.

### 3.2 PAINT REMOVAL

- A. No power washing or sandblasting is permitted in the paint removal process.
- B. Remove all paint using a pH neutral poultice or gel. Follow manufacturer's instructions and comply with all VOC requirements.
- C. Properly test all wood after paint removal for pH neutrality. The architect will request a minimum of 5 random core tests during the work, in order to maintain quality control.
- D. All surfaces are to be sanded smooth and cleaned of all uneven surfaces such as dried paint removal products.
- E. Treat all existing wood with a fungicide repellent.

### 3.3 PREPARATION

- A. General: Remove hardware and hardware accessories, plates, machined surfaces, lighting fixtures and similar items already installed that are not to be painted.
  - 1. After completing painting operations in each space or area, reinstall items removed using workers skilled in the trades involved.
  - 2. No power washing or sandblasting is permitted in the paint preparation process.
- B. Cleaning: Before applying paint or other surface treatments, clean the substrates of substances that could impair the bond of the various coatings. Remove oil and grease before cleaning.
  - 1. Schedule cleaning and painting so dust and other contaminants from the cleaning process will not fall on wet, newly painted surfaces.
- C. Surface Preparation: Clean and prepare surfaces to be painted according to manufacturer's written instructions for each particular substrate condition and as specified.
  - 1. Provide barrier coats over incompatible primers or remove and re-prime.
  - 2. Wood: Clean surfaces of dirt, oil, and other foreign substances with scrapers, mineral spirits, and sandpaper, as required. Sand surfaces exposed to view smooth and dust off.
    - (a) Scrape and clean small, dry, seasoned knots, and apply a thin coat of white shellac or other recommended knot sealer before applying primer. After priming, fill holes and imperfections in finish surfaces with putty or plastic wood filler. Sand smooth when dried.
    - (b) Prime, stain, or seal wood to be painted immediately on delivery. Prime edges, ends, faces, undersides, and backsides of wood, including cabinets, counters, cases, and paneling.
    - (c) When transparent finish is required, back prime with spar varnish.

- (d) Back prime paneling on partitions where masonry, plaster, or other wet wall construction occurs on backside.
3. General: Apply paint according to manufacturer's written instructions. Use applicators and techniques best suited for substrate and type of material being applied.
- (a) Paint colors, surface treatments, and finishes are indicated in the schedules.
  - (b) Do not paint over dirt, rust, scale, grease, moisture, scuffed surfaces, or conditions detrimental to formation of a durable paint film.
  - (c) Provide finish coats that are compatible with primers used.
  - (d) The term "exposed surfaces" includes areas visible when permanent or built-in fixtures, convector covers, covers for finned-tube radiation, grilles, and similar components are in place. Extend coatings in these areas, as required, to maintain the system integrity and provide desired protection.
  - (e) Paint surfaces behind movable equipment and furniture the same as similar exposed surfaces. Before the final installation of equipment, paint surfaces behind permanently fixed equipment or furniture with prime coat only.
  - (f) Sand lightly between each succeeding enamel or varnish coat.
4. Scheduling Painting: Apply first coat to surfaces that have been cleaned, pretreated, or otherwise prepared for painting as soon as practicable after preparation and before subsequent surface deterioration.
- (a) The number of coats and the film thickness required are the same regardless of application method. Do not apply succeeding coats until the previous coat has cured as recommended by the manufacturer. If sanding is required to produce a smooth, even surface according to manufacturer's written instructions, sand between applications.
  - (b) If undercoats, stains, or other conditions show through final coat of paint, apply additional coats until paint film is of uniform finish, color, and appearance. Give special attention to ensure edges, corners, crevices, welds, and exposed fasteners receive a dry film thickness equivalent to that of flat surfaces.
  - (c) Allow sufficient time between successive coats to permit proper drying. Typical minimum time is 24 hours. Do not recoat surfaces until paint has dried to where it feels firm, does not deform or feel sticky under moderate thumb pressure, and where application of another coat of paint does not cause the undercoat to lift or lose adhesion.
5. Application Procedures: Apply paints and coatings by brush, roller, spray, or other applicators according to manufacturer's written instructions.
- (a) Brushes: Use brushes best suited for the type of material applied. Use brush

of appropriate size for the surface or item being painted.

- (b) Rollers: Use rollers of carpet, velvet back, or high-pile sheep's wool as recommended by the manufacturer for the material and texture required.
- (c) Spray Equipment: Not permitted.
- (d) Minimum Coating Thickness: Apply paint materials no thinner than manufacturer's recommended spreading rate. Provide the total dry film thickness of the entire system as recommended by the manufacturer.
- (e) Prime Coats: Before applying finish coats, apply a prime coat of material, as recommended by the manufacturer, to material that is required to be painted or finished and that has not been prime coated by others. Recoat primed and sealed surfaces where evidence of suction spots or unsealed areas in first coat appears, to ensure a finish coat with no burn through or other defects due to insufficient sealing.
- (f) Pigmented (Opaque) Finishes: Completely cover surfaces as necessary to provide a smooth, opaque surface of uniform finish, color, appearance, and coverage. Cloudiness, spotting, holidays, laps, brush marks, runs, sags, ropiness, or other surface imperfections will not be acceptable.
- (g) Completed Work: Match approved samples for color, texture, and coverage. Remove, refinish, or repaint work not complying with requirements.

### 3.4 FIELD QUALITY CONTROL

- A. The Owner reserves the right to invoke the following test procedure at any time and as often as the Owner deems necessary during the period when paint is being applied.
- B. The Owner will engage the services of an independent testing agency to sample the paint material being used. Samples of material delivered to the Project will be taken, identified, sealed and certified in the presence of the Contractor.
  - 1. The testing agency will perform appropriate tests for the following characteristics as required by the Owner:
    - a. Quantitative material analysis.
    - b. Abrasion resistance.
    - c. Apparent reflectivity.
    - d. Flexibility.
    - e. Washability.
    - f. Absorption.
    - g. Accelerated weathering.
    - h. Dry opacity.
    - i. Accelerated yellowness.

- j. Recoating.
  - k. Skinning.
  - l. Color retention.
  - m. Alkali and mildew resistance.
2. The Owner may direct the Contractor to stop painting if test results show material being used does not comply with specified requirements. The Contractor shall remove non-complying paint from the site, pay for testing, and repaint surfaces previously coated with the rejected paint. If necessary, the Contractor may be required to remove rejected paint from previously painted surfaces if, on repainting with specified paint, the 2 coatings are incompatible.

### 3.5 CLEANING

- A. Cleanup: At the end of each workday, remove empty cans, rags, rubbish and other discarded paint materials from the site.
- 1. After completing painting, clean glass and paint-spattered surfaces. Remove spattered paint by washing and scraping. Be careful not to scratch or damage adjacent finished surfaces.

### 3.6 PROTECTION

- 1. Protect work of other trades, whether being painted or not, against damage by painting. Correct damage by cleaning, repairing or replacing, and repainting, as approved by Architect.
  - 2. Provide "Wet Paint" signs to protect newly painted finishes. Remove temporary protective wrappings provided by others to protect their work after completing painting operations.
    - a. At completion of construction activities of other trades, touch up and restore damaged or defaced painted surfaces. Comply with procedures specified in PDCA P1.
1. All colors to be selected by Architect from standard color palette.

END OF SECTION 099000

## LEAD SAFE PRACTICES

- I. *Lead Safe Practices* are safe ways of working with leaded paint. Lead safe practices are used as part of activities when paint will be disturbed as part of the work.
- II. The EPA Guidelines as posted at [www.epa.gov](http://www.epa.gov), especially as they pertain to *The Lead-Safe Certified Guide to Renovate Right*.
- III. Lead Safe Practices include the following goals:
  1. To minimize dust during construction activity.
  2. To clean the work areas using lead specific cleaning methods.
  3. To keep the painted surfaces of the construction area intact. Intact leaded paint is not a lead hazard.
  4. To protect those executing the work and others nearby by providing the appropriate PPE (Personal Protective Equipment), tools and equipment.
- IV. This section is intended to provide the minimum requirements for lead-safe work practices.
- V. Prohibited activities. When disturbing paint in the construction area do not:
  1. Dry scrape painted surfaces.
  2. Dry sand painted surfaces.
  3. Use a high temperature heat gun or open flame to remove paint.
  4. Use a grinder to remove paint.
  5. Use painters' masks, as they do not protect one from lead dust.
  6. Power-wash the construction area as this can spread lead paint chips into the surrounding ground area.
  7. Open flame burning.
  8. Power sanding without HEPA dust collection.
  9. Sand blasting.
- VI. Lead safe practices require the following:
  1. Wet scraping of paint (use a spray bottle with water to pre-wet the surface).
  2. Wet sand the surface (use a spray bottle with water to pre-wet the surface).
  3. Use plastic sheeting to seal off area outside the construction area.
  4. Use plastic sheeting to seal furnace vents.
  5. Use a standard garden hose to wet down large areas before scraping/sanding.
  6. Use drop cloths to catch paint chips and throw the paint chips in the trash.
  7. Do not let children or pregnant women in the work areas until cleaned.
  8. Use a HEPA filtered vacuum to clean the work area. Due to the requirement to work in wet areas, all electric circuits must be protected by GFCI with integral test buttons.
  9. Maintain all paint not to be disturbed in an intact condition.
  10. Instruct all workers in these lead safe practices.

11. Limited access to minimize the spread of lead dust by only allowing trained workers and supervisors to enter a work area until it has undergone specialized lead dust cleaning.
  12. Use HEPA filtered sanding/grinding equipment.
  13. Wash work clothes separately from the other clothing.
- VII. Exterior work area protection. Secure a 6 mil. polyethylene sheet to the horizontal ground plane (flooring or grade) 6 ft. minimum out from the work area. At the end of a task mist, remove and dispose of plastic.
- VIII. Interior work area protection.
1. Pre-clean with vacuum. Cover the entire floor of the work area with 2 layers of 6-mil polythene taped at edges with 2” wide easy-release masking tape. Or, tape a 6-mil polyethylene sheet to the floor 6 ft. out from the work area. Tape 6-mil. plastic over all HVAC registers and returns. At the end of a task mist, remove and dispose of plastic.
  2. Isolate workspace. Because the work area may be subject to occupancy, it is necessary to work in isolated sections. Each section shall be structurally sealed with 6-mil plastic and duct tape during work and only opened for re-occupancy after a final cleaning and clearance.
  3. Wrap furnishings. All exposed furniture, fixtures and furnishings must be protected from exposure to lead dust with at least one layer of polyethylene taped to the floor containment to create an airtight seal. At the end of a task mist, remove and dispose of plastic.
  4. Seal closets & cabinets. All closets and cabinets in a work area must be protected from lead dust penetration with polyethylene and extended-release masking tape at all seams to create an airtight seal. At the completion of work mist, remove and dispose of plastic.
- IX. Worker protection. To minimize the potential for worker exposure to lead dust, the following activities are never permitted in any work area:
1. No eating.
  2. No drinking.
  3. No chewing gum or tobacco.
  4. No smoking.
  5. No applying cosmetics.
- X. Conclusion of activity. After completion of lead activities, and removal of containment, the following cleaning procedures must be followed:
1. Reposition all furnishings. HEPA vacuum all visible surfaces including clothing, furniture, walls, floors, windowsills, window troughs, ceilings, etc. Wet wipe all surfaces with detergent and rinse. Mop all floors. After surface is dry, HEPA vacuum all visible surfaces except ceiling.



2. For vinyl floors the contractor may strip wax buildup with a 10% solution of ammonia and water. Rinse. Apply two coats of liquid acrylic floor wax in accordance with manufacturer's specification.
3. If carpeting is present, HEPA vacuum carpeting twice very slowly to remove existing lead dust.

REFER TO THE INFORMATION BELOW FOR IMPORTANT BACKGROUND INFORMATION IN WHY LEAD REQUIRES SPECIAL HANDLING.

**Lead is a naturally occurring, heavy, gray metal.** When absorbed into the body, lead can have highly toxic effects. Lead exposure affects all the systems in the body. A small amount of lead exposure does more damage to children than adults. Lead can damage a child under 6 years old physically, behaviorally, and mentally. Once a child has been exposed to lead, the effects of exposure cannot be reversed.

Physical damage caused by lead exposure includes, but is not limited to, central nervous system problems, headaches, stomachaches, joint pains, and sleep disorders. Behavioral damage caused by lead exposure includes, but is not limited to, short attention span, irritability, aggressive and violent behavior, and hyperactivity. Mental damage caused by lead exposure includes, but is not limited to, lowered IQ points, lowered reading scores in school, and learning disabilities.

The only way to know if a child has been lead poisoned is to have a blood test performed by your physician. Once a child has been poisoned the damage cannot be reversed, but you can stop further damage from happening.

Lead has been used extensively in the United States for several centuries. As a result lead can be found in paint, soil, water, air and food. The most common way children are exposed to lead is through lead dust. The leaded dust comes from lead-based paint. Lead-based paint becomes a hazard and causes lead dust when the paint is in poor condition, is painted on friction or impact surfaces, and or is disturbed during a renovation.

Lead-based paint chips and dust then mix with household dust and build up in window troughs, on floors, and flat surfaces. Children are put at risk when lead in paint chips and dust gets on their hands and toys, which they may put in their mouths. If paint is kept intact and surfaces are kept clean, children can live safely in a home painted with lead-based paint. Homes built before 1940 have a 98% chance of containing lead-based paint. Homes built before 1960 have a 70% chance of containing lead based paint. Homes built before 1978 have a 20% chance of containing lead-based paint. Homes built after 1978 are unlikely to contain lead-based paint. Homes built before 1950 also used paint that had higher concentrations of lead. Paint kept in good condition that remains undisturbed is not a hazard.

Lead-based paint is usually not a hazard if it is good condition. Children are most commonly exposed to lead poisoning through lead in household dust caused by lead-based paint in the following situations:

- a. In poorly maintained, older houses, lead-based paint, which may be several layers

down, flakes and peels off and creates lead dust. Paint failure is usually caused by moisture problems.

- b. On friction or impact surfaces. For example, windows painted with lead-based paint rub (friction) together when the window is opened and closed, releasing lead dust. When a door painted with lead-based paint closes (impact) on a doorstop, the impact damages the paint and releases lead dust.
- c. On chewable surfaces, such as, windows and windowsills, doors and door frames, stairs railings, banisters, and porches. The lead in the paint gets directly into a child's mouth.

Uncontrolled or uncontained dust and debris from repainting and/or renovation that disturbs lead-based paint in a well-maintained home can also expose children to unsafe lead levels.

Lead-based paint chips and dust then mix with household dust and build up in window troughs, on floors, and flat surfaces. Children are endangered when lead in paint chips and dust gets on their hands and toys, which they may put in their mouths. If paint is kept intact and surfaces are kept clean, children can live safely in a home painted with lead-based paint.

The second most common way that children are exposed to lead is through soil. Soil around the buildings may have old lead-based paint chips from the exterior paint or lead from previous leaded gasoline deposits. Sanding and power washing can cause fine particles of lead-based paint to deposit in the soil. Children then play in the dirt and are at risk of ingesting lead or tracking lead into their homes on their shoes. Exposure can be decreased by covering bare soil with grass, sod, wood chips, concrete, or asphalt, or by making bare soil inaccessible to children.

Additional sources of lead exposure to children include water, parents whose jobs or hobbies expose them to lead, leaded crystal, lead soldered cans, lead glazed ceramics, and some home remedies or foreign cosmetics.

END OF LEAD SAFE PRACTICES (ATTACHMENT TO SPECIFICATION SECTION 099000)

PROJECT: **Improvements at Buildings #4 and #7 at  
The Deserted Village of Feltville/Glenside Park**

ADDRESS: 9 Cataract Hollow Road  
Berkeley Heights, New Jersey 07922

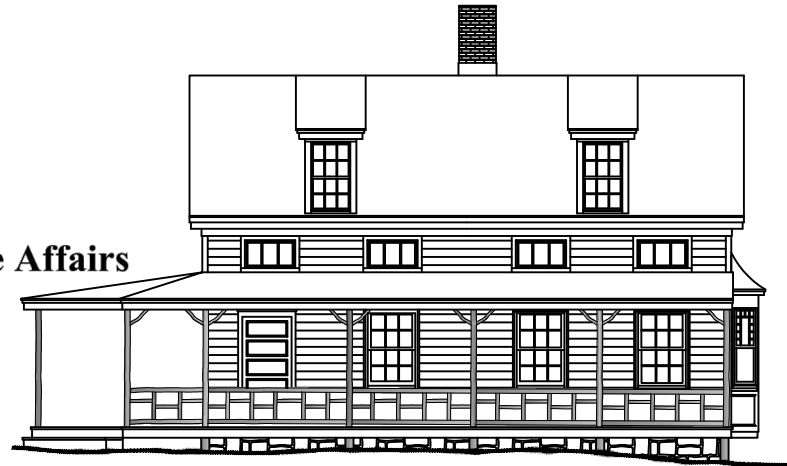
OWNER: **The County of Union**  
10 Elizabethtown Plaza  
Elizabeth, NJ 07202

MANAGED BY: **The Union County Office of Cultural & Heritage Affairs**  
633 Pearl Street  
Elizabeth, NJ 07202

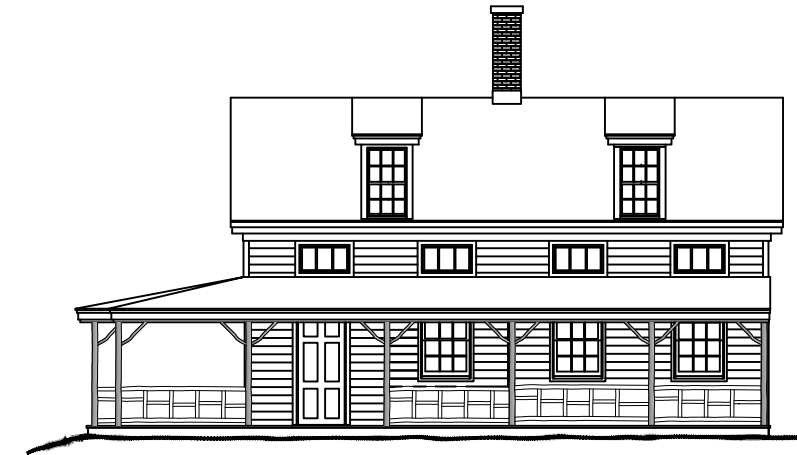
PROJECT **Capital Level II Grant**  
FUNDING: Administered by the  
**New Jersey Historic Trust**  
Department of Community Affairs  
P.O. Box 457  
Trenton, NJ 08625  
Tel 609 984 0473  
www.njht.org

ARCHITECT: **Michael Calafati Architect, LLC**  
510 Bank Street, P.O. Box 2363  
Cape May, NJ 08204  
Attention: Michael Calafati, AIA  
Tel 609 884 4922  
michael@calafati.com

M/E/P ENGINEERS: **KSi Consulting Engineers, LLC**  
149 Yellowbrook Road, P.O. Box 628  
Farmingdale, NJ 07727  
Attention: James Sarno, PE  
Tel 732 938 2666  
jsarno@ksi-pe.com



BUILDING 4



BUILDING 7

DRAWING LIST

- A000 COVERSHEET
- A001 DIAGRAMMATIC SITE PLAN
- A001.1 SITE PROTECTION PLAN AND PROJECT SIGN
- A002 BUILDING DATA AND NOTES

- A400 BLDG 4 BASEMENT PLAN
- A401 BLDG 4 FIRST FLOOR PLAN
- A402 BLDG 4 SECOND FLOOR / PORCH ROOF PLAN
- A403 BLDG 4 MAIN ROOF PLAN
- A411 BLDG 4 NORTH ELEVATION
- A412 BLDG 4 EAST ELEVATION
- A413 BLDG 4 SOUTH ELEVATION
- A414 BLDG 4 WEST ELEVATION

- A700 BLDG 7 BASEMENT PLAN
- A701 BLDG 7 FIRST FLOOR PLAN
- A702 BLDG 7 SECOND FLOOR / PORCH ROOF PLAN
- A703 BLDG 7 MAIN ROOF PLAN
- A711 BLDG 7 NORTH ELEVATION
- A712 BLDG 7 EAST ELEVATION
- A713 BLDG 7 SOUTH ELEVATION
- A714 BLDG 7 WEST ELEVATION

- A800 SECTION AT EAVES
- A801 WOOD SHINGLE DETAILS / RIDGE DETAILS 1
- A802 RIDGE DETAILS 2

- A803 EXPANSION JOINT & DOWNSPOUT DETAILS
- A804 STEPPED CHIMNEY FLASHING
- A805 ROOF SECTION DETAIL
- A806 FLAT METAL ROOF DETAILS
- A850 BUILDING 4 OPENING SCHEDULE
- A850.1 BUILDING 7 OPENING SCHEDULE
- A851 EXTERIOR DOOR TYPES
- A852 WINDOW TYPES
- A900 BUILDING 4 SOUTH DECKS
- A901 PORCH DETAILS 1
- A902 PORCH DETAILS 2
- A903 PORCH DETAILS 3
- A904 PORCH DETAILS 4
- A905 FRAMING REPAIRS
- A906 BLDG 4 SOUTH BAY FTG & BLDG 7 SHORT-RUN RAMP
- A907 BLDG 7 SOUTH WALL SHORING DIAGRAM

ELECTRICAL

- E0.1 GENERAL NOTES
- E0.2 GENERAL NOTES
- E0.3 GENERAL NOTES
- E0.4 ELECTRICAL RISER DIAGRAM
- E0.5 ELECTRICAL GROUNDING DIAGRAM & SCHEDULES
- SU1.1 ELECTRICAL SITE PLAN
- E1.00 BLDG 4 ELECTRICAL BASEMENT FLOOR PLAN
- E1.01 BLDG 4 ELECTRICAL FIRST FLOOR PLAN
- E1.10 BLDG 7 ELECTRICAL BASEMENT FLOOR PLAN
- E1.11 BLDG 7 ELECTRICAL FIRST FLOOR PLAN

IMPROVEMENTS AT  
BUILDINGS #4 AND #7 AT THE  
**DESERTED VILLAGE  
OF FELTVILLE /  
GLENSIDE PARK**  
9 CATARACT HOLLOW ROAD  
BERKELEY HEIGHTS, NEW JERSEY 07922  
COUNTY OF UNION, OWNER

MICHAEL CALAFATI, RA NJ#21A100902900  
Certificate of Authorization  
#21AC00084500 / Expires 01/2022

**MCA**

Michael Calafati Architect, LLC  
510 Bank Street, PO Box 2363, Cape May, NJ 08204  
609 884 4922 www.calafati.com

03/09/21 ISSUED FOR RE-BID  
12/02/20 ISSUED FOR BID  
10/02/20 ISSUED FOR REVIEW  
DATE REVISION

DRAWN BY: BD

DATE 09/10/20

SCALE: NA

COVER SHEET

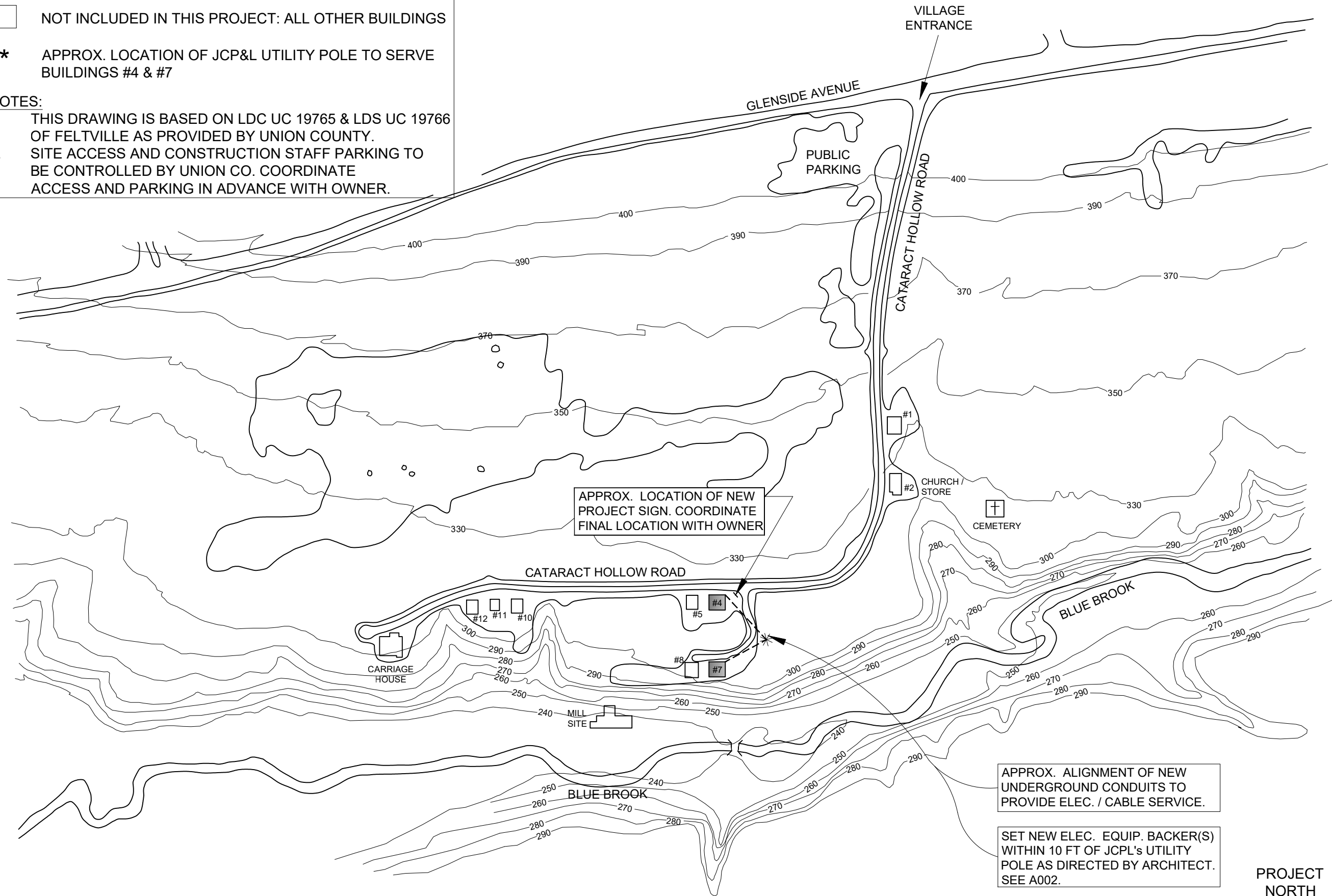
**A000**

**KEY**

- INCLUDED IN THIS PHASE: BUILDINGS #4 & #7
- NOT INCLUDED IN THIS PROJECT: ALL OTHER BUILDINGS
- \* APPROX. LOCATION OF JCP&L UTILITY POLE TO SERVE BUILDINGS #4 & #7

**NOTES:**

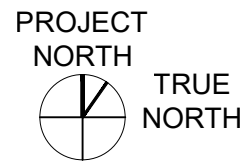
1. THIS DRAWING IS BASED ON LDC UC 19765 & LDS UC 19766 OF FELTVILLE AS PROVIDED BY UNION COUNTY.
2. SITE ACCESS AND CONSTRUCTION STAFF PARKING TO BE CONTROLLED BY UNION CO. COORDINATE ACCESS AND PARKING IN ADVANCE WITH OWNER.



APPROX. LOCATION OF NEW PROJECT SIGN. COORDINATE FINAL LOCATION WITH OWNER

APPROX. ALIGNMENT OF NEW UNDERGROUND CONDUITS TO PROVIDE ELEC. / CABLE SERVICE.

SET NEW ELEC. EQUIP. BACKER(S) WITHIN 10 FT OF JCPL'S UTILITY POLE AS DIRECTED BY ARCHITECT. SEE A002.



IMPROVEMENTS AT BUILDINGS #4 AND #7 AT THE  
**DESERTED VILLAGE OF FELTVILLE / GLENSIDE PARK**  
 9 CATARACT HOLLOW ROAD  
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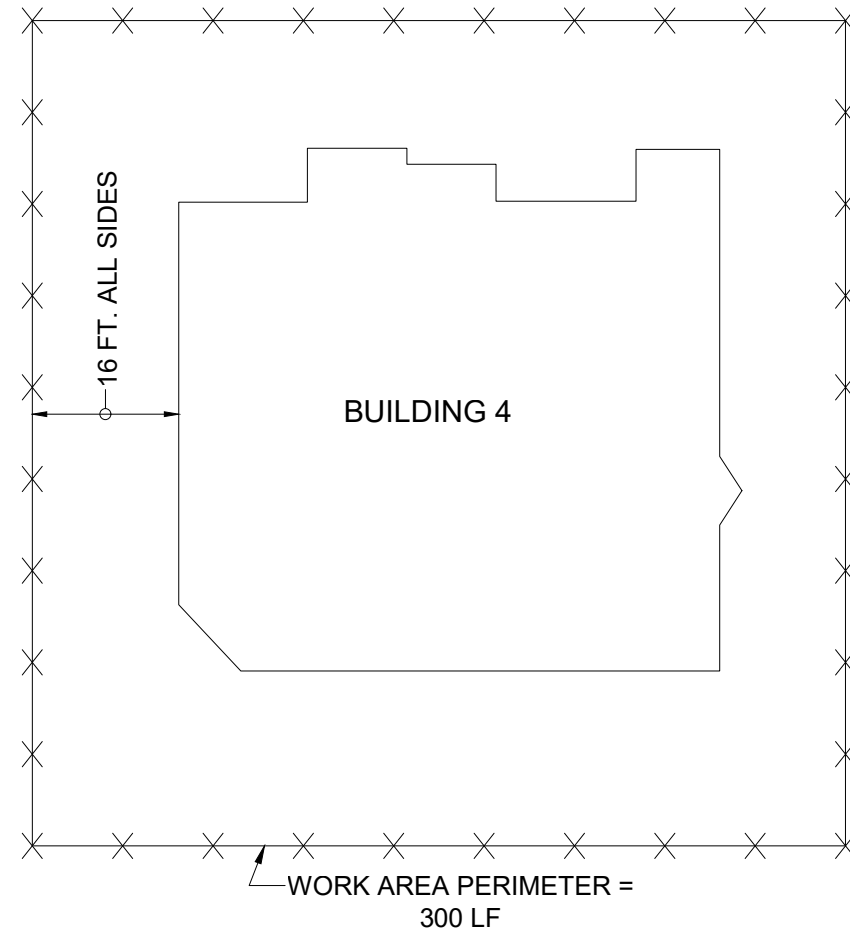
SCALE: 1" = 250'

DIAGRAMMATIC SITE PLAN

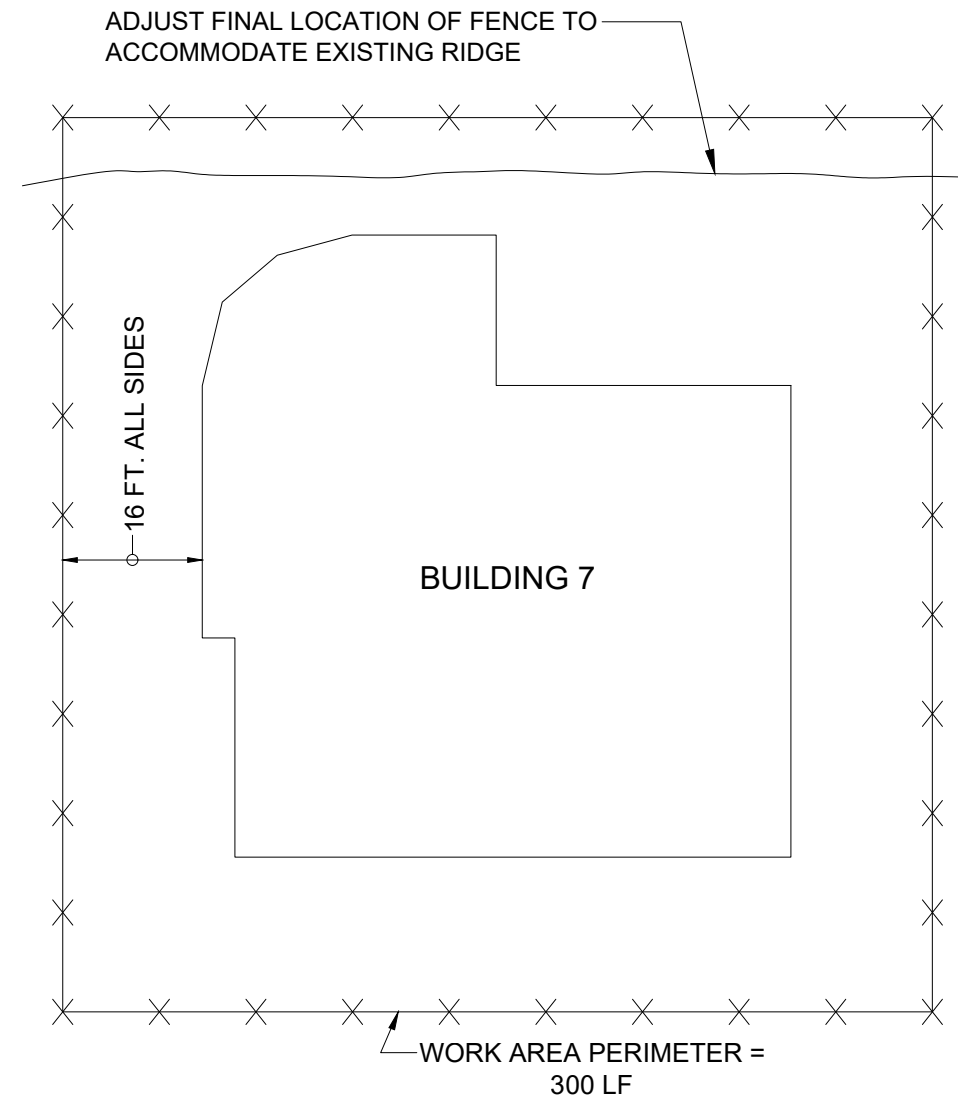
**A001**

**TYPICAL NOTES:**

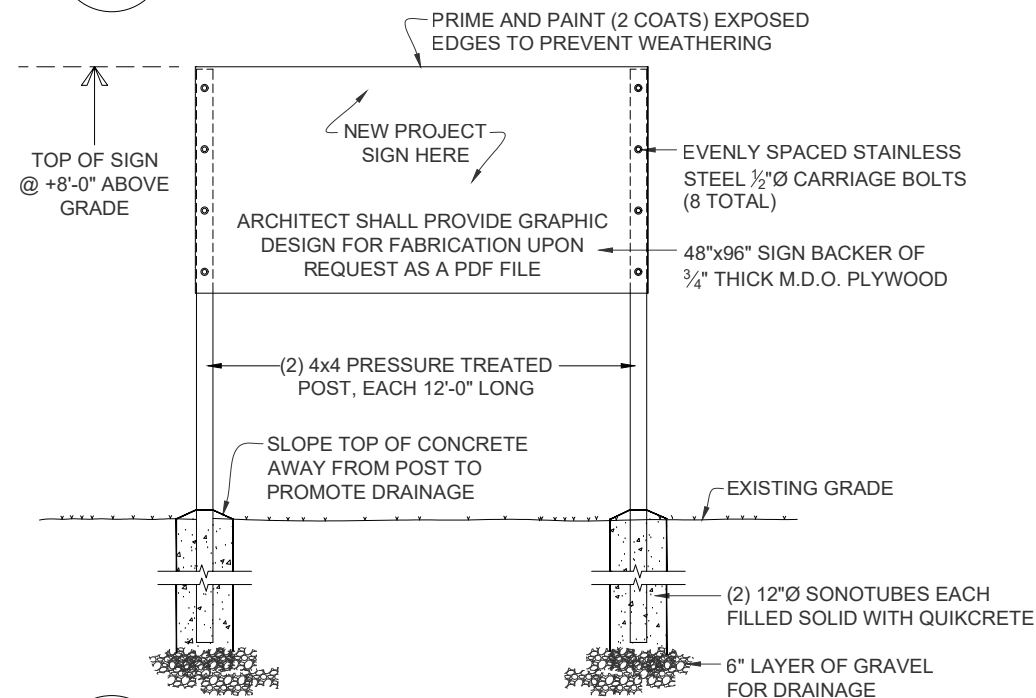
1. THE INFORMATION HEREIN IS DIAGRAMMATIC.
2. THE GENERAL CONTRACTOR SHALL SUBMIT A LAYOUT DRAWING AND MATERIALS SUBMISSION TO THE ARCHITECT FOR APPROVAL OF TEMPORARY FENCING MATERIALS AND ARRANGEMENTS.
3. FENCE SHALL ACCOMMODATE THE CONTOUR OF THE EXISTING SLOPE, WITH THE BOTTOM OF FENCE FABRIC NOT MORE THAN 3 INCHES FROM THE GROUND SURFACE. BOTH SITES SLOPE TO THE SOUTH.
4. THE WORK COVERED BY THIS DRAWING CONSISTS OF FURNISHING, ERECTING, MAINTAINING AND REMOVING 5. TEMPORARY CHAIN LINK FENCING AND METAL GATES FOR CONSTRUCTION ACCESS AND SITE SECURITY DURING THE COURSE OF THE WORK.
5. TEMPORARY FENCE TO BE GALVANIZED STEEL CHAIN LINK ON DRIVEN T-POSTS.
6. FABRIC SHALL BE GALVANIZED STEEL, 7'-0" HIGH (MINIMUM), #9 GAUGE WIRE WOVEN IN A 2" MESH.
7. POSTS FOR DRIVEN T-POSTS SHALL BE STUDDED TYPE WITH ANCHOR PLATE. DRIVEN HEIGHT SHALL BE 7'-0" ABOVE GRADE. THE OVERALL HEIGHT OF THE TEMPORARY FENCE SHALL BE A MINIMUM OF 7'-0".
8. TOP RAIL SHALL BE GALVANIZED STEEL, 1.625" O.D. SCHEDULE 40. TOP RAILS WILL NOT BE REQUIRED BUT ARE ACCEPTABLE IF BUILT IN AS PART OF FENCING PANEL.
9. TENSION WIRE SHALL BE #9 GAUGE WIRE.
10. THE GENERAL CONTRACTOR WILL CLEAR THE AREA WITHIN THE PERIMETER OF ALL VEGETATION AND SHALL KEEP THE AREA FREE OF NEW GROWTH.
11. POSTS SHALL BE LOCATED AT A MAXIMUM DIMENSION OF 10'-0" APART.
12. BOTTOM SUPPORT SHALL BE PROVIDED FOR THE TEMPORARY FENCE FABRIC BY USE OF EITHER A PIPE RAIL OR TENSION WIRE.
13. CHAINLINK SHALL BE FIRMLY ATTACHED TO THE POSTS AND BRACES WITH 14" MAXIMUM SPACING USING #9 GAUGE TIE WIRES.
14. ALL FENCE FABRIC SHALL BE STRETCHED TAUT AND INSTALLED TO THE REQUIRED ELEVATIONS.
15. TWO TEMPORARY GATES SHALL BE PROVIDED PER BUILDING AS NEEDED TO EXECUTE THE WORK. THE GATES SHALL BE A MINIMUM 7'-0" TALL AND CONSTRUCTED OF THE SAME MATERIAL AS THE TEMPORARY FENCING USING GALVANIZED PIPE AND #9 GAUGE WIRE ON A 2" MESH FABRIC.
16. AT LEAST ONE GATE SHALL BE LOCATED NEAREST THE FRONT DOOR OF EACH HOUSE.



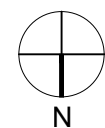
**1 BLDG. #4 PERIMETER**  
A001.1 SCALE: N.T.S.



**2 BLDG. #7 PERIMETER**  
A001.1 SCALE: N.T.S.



**3 NJHT PROJECT SIGN**  
A001.1 SCALE: N.T.S.



IMPROVEMENTS AT  
BUILDINGS #4 AND #7 AT THE  
**DESERTED VILLAGE  
OF FELTVILLE /  
GLENDSIDE PARK**  
9 CATARACT HOLLOW ROAD  
BERKELEY HEIGHTS, NEW JERSEY 07922  
COUNTY OF UNION, OWNER

MICHAEL CALAFATI, RA NJ#21A100902900  
Certificate of Authorization  
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DATE 09/10/20

SCALE: NTS

SITE PROTECTION PLAN  
AND PROJECT SIGN

**A001.1**

USE GROUP, CONSTRUCTION TYPE, AND OCCUPANCY LIMIT PER BUILDING				
BLDG	USE GROUP <sup>1</sup>	CONSTRUCTION TYPE <sup>2</sup>	MAXIMUM OCCUPANCY <sup>3</sup>	REMARKS
4	B BUSINESS	TYPE V (A & B)	24	Based on an area of 2,490 SF (3 levels).
7	B BUSINESS	TYPE V (A & B)	23	Based on an area of 2,367 SF (3 levels).

APPLICABLE CODES:

- The New Jersey Uniform Construction Code (N.J.A.C. 5:23).
- International Building Code/2018, NJ Edition.
- The New Jersey Rehabilitation Subcode (NJUCC, Subchapter 6)
- Barrier Free Subcode (Chapter 11 of IBC/2015 & N.J.A.C 5:23-7), ICC/ANSI A117.1-2009

NOTES:

- Single-Family Residential Occupancy (R-3), not exceeding three stories in height (IBC 2018 NJ Edition 310.5); Buildings used for assembly purposes with an occupant load of less than 50 persons shall be classified as a Group B Occupancy (IBC 2018 NJ Edition 303.1.1).
- As combustible building components have no or little protection against fire, Type V is selected (IBC 2018 NJ Edition Table 601 - Fire-Resistance Rating Requirements for Building Elements). Where wood elements are protected by plaster, for example, Type VA would apply. Where such elements are exposed and not protected by finishes, Type VB would apply.
- Based on an area of 100 SF Gross/Person (IBC 2018 NJ Edition Table 1004.1.2 - Maximum Floor Area Allowances Per Occupant).

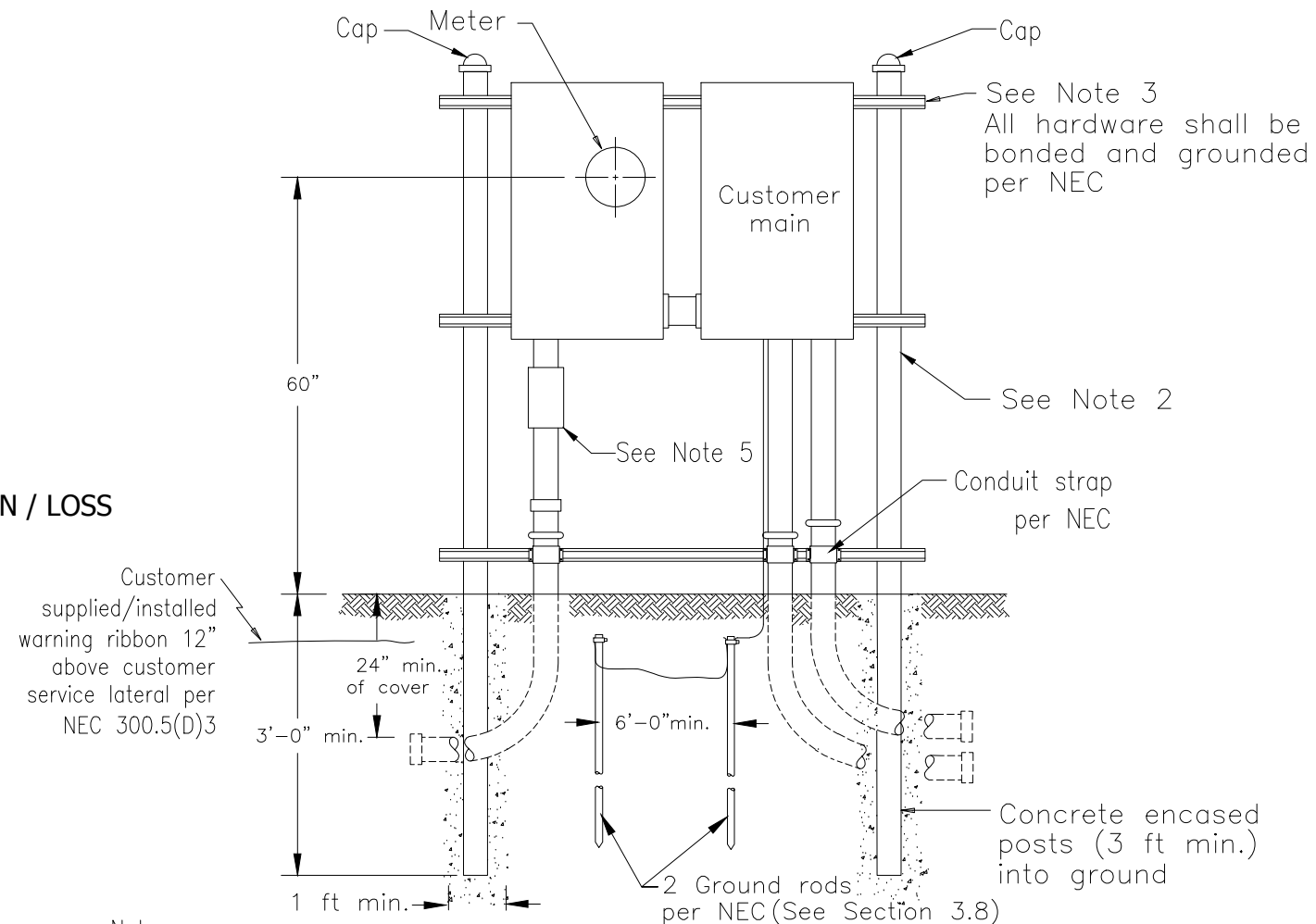
BUILDING NUMBER	FLOOR LEVEL	GROSS AREA - SQUARE FEET			REMARKS/NOTES
		INTERIOR	OPEN PORCH	ROOFS	
4	Basement	782			
	First	854	598		
	Second	854			
	Porch Roof(s)	n/a		1200	Over 1st Floor; Mult. of 1.1577
	Main Roof	n/a		1300	Mult. of 1.4240
Total SF		2490	598	2500	
7	Basement	817			
	First	775	726		
	Second	775			
	Porch Roof(s)	n/a		1300	Over 1st Floor; Mult. of 1.4240
	Main Roof	n/a		1150	Mult. of 1.1577
Total SF		2367	726	2450	
ALL BUILDINGS		TOTAL INTERIOR	TOTAL PORCHES	TOTAL ROOFS	
GRAND TOTALS SF		4857	1324	4950	

ABBREVIATIONS / DEFINITIONS BUT ARE NOT LIMITED

@	AT
ACT.	ACTUAL SIZE / DIMENSION (INCHES)
D.N.D.	DO NOT DISTURB
IN-KIND	REBUILD TO REPLICATE ORIGINAL ASSEMBLY PRIOR TO DETERIORATION / LOSS
N/A	NOT APPLICABLE
N.I.C.	NOT IN CONTRACT
NOM.	NOMINAL OR APPROX. SIZE / DIMENSION (INCHES)
N.T.S.	NO TRESPASSING SIGN
O.C.	ON CENTER
R.R.R.	REMOVE, REPAIR & REINSTALL
U.N.O.	UNLESS NOTED OTHERWISE
V.I.F.	VERIFY IN FIELD

TYPICAL CONDITIONS NOTES:

- ALL DIMENSIONS SHOWN ARE ACTUAL, UNLESS NOTED OTHERWISE.
- FUNGICIDE TREATMENT TO ALL BARE WOOD ADIRONDACK COMPONENTS (ESP. PORCH COLUMNS AND RACKETS) TO REMOVE GREEN COLOR.
- NEW GUTTERS & DOWNSPOUTS ARE NOT SHOWN ON ALL DRAWINGS. SEE A400, A403, A700 AND A703.



Notes:

- For customer/Company responsibilities, see Exhibit 1
- Support post (customer-owned): use two 3-inch min. galvanized rigid metal conduit (RMC) - steel (min. 0.205" thick) capped and concrete encased in ground.
- Mounting hardware: use three 12 gauge 1-5/8" x 1-5/8" continuous slot hot dipped galvanized channel (e.g., unistrut) complete with 1-1/4" x 5/16" dia. 13 thd. spring nut (2 per channel), 5/16" hex nut, and lock washer securely mounted to support posts.
- Supply-side conduit shall be rigid galvanized or IMC steel, or Schedule 80 PVC (electrical grade).
- The customer shall provide ground movement protection per NEC 300.5 (J) to prevent damage due to settling.
- This Exhibit can also be used for stand-alone, self-contained metering.

TYPICAL UNDERGROUND SERVICE STAND-ALONE METERING/CENTRAL DISTRIBUTION INSTALLATION

<b>FirstEnergy</b>	
Service Guide	REV.
EXHIBIT 12	DATE
	12/17

NOTE:  
TYPICAL OF TWO LOCATIONS.  
(BASE BID ONE LOCATION).

IMPROVEMENTS AT BUILDINGS #4 AND #7 AT THE  
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9 CATARACT HOLLOW ROAD  
BERKELEY HEIGHTS, NEW JERSEY 07922  
COUNTY OF UNION, OWNER

MICHAEL CALAFATI, RA NJ#21A10092900  
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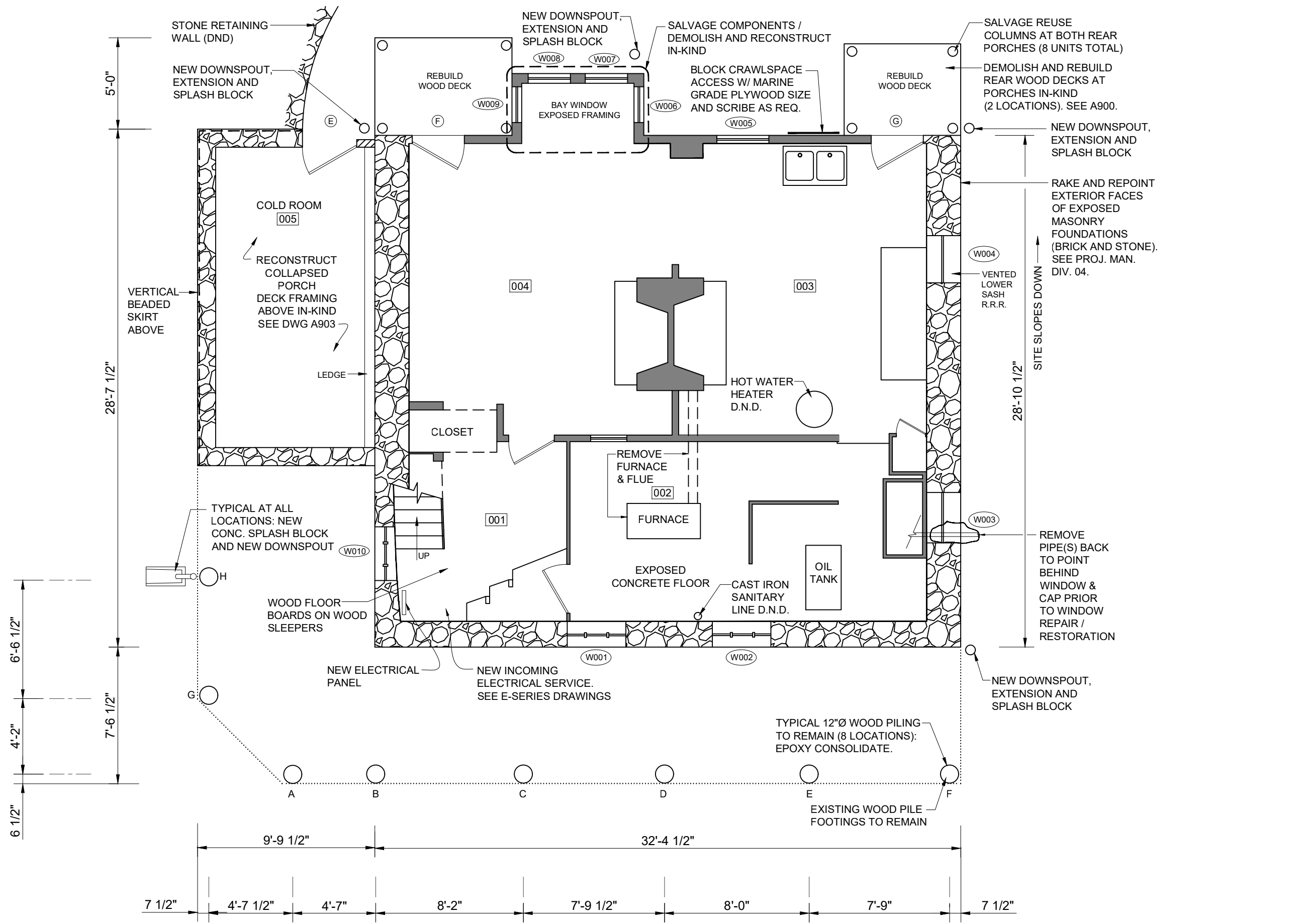
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DATE 09/10/20

SCALE: NTS

BUILDING DATA AND NOTES

A002



IMPROVEMENTS AT BUILDINGS #4 AND #7 AT THE  
**DESERTED VILLAGE OF FELTVILLE / GLENSIDE PARK**  
 9 CATARACT HOLLOW ROAD  
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 COUNTY OF UNION, OWNER

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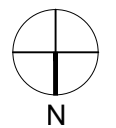
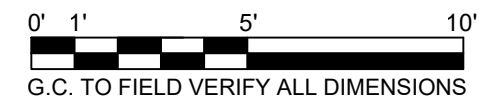
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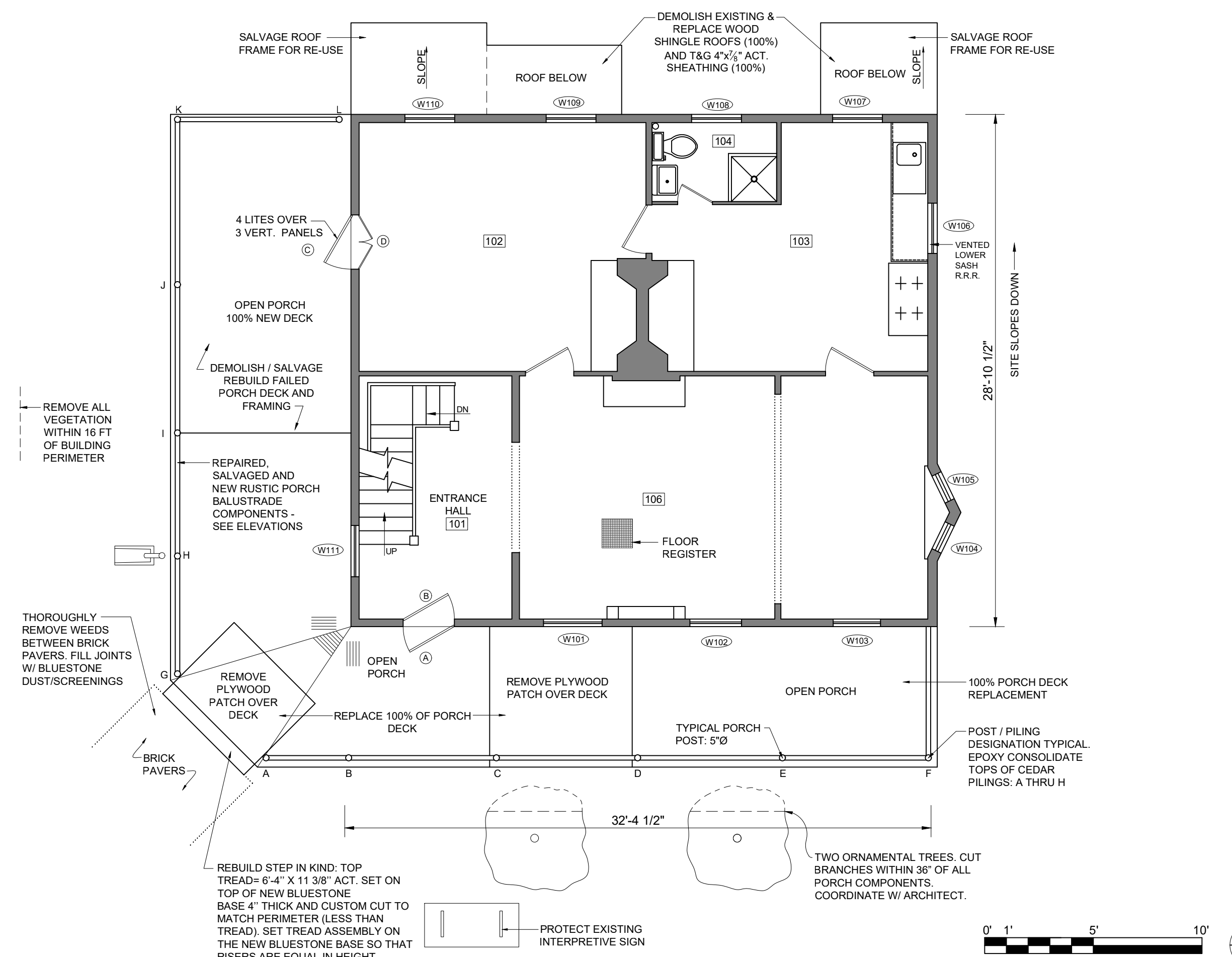
DATE 09/10/20

SCALE: 3/16" = 1'-0"

BUILDING 4 - BASEMENT PLAN

**A400**





IMPROVEMENTS AT BUILDINGS #4 AND #7 AT THE  
**DESERTED VILLAGE OF FELTVILLE / GLENSIDE PARK**  
 9 CATARACT HOLLOW ROAD  
 BERKELEY HEIGHTS, NEW JERSEY 07922  
 COUNTY OF UNION, OWNER

MICHAEL CALAFATI, RA NJ#21AI00902900  
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**MCA**

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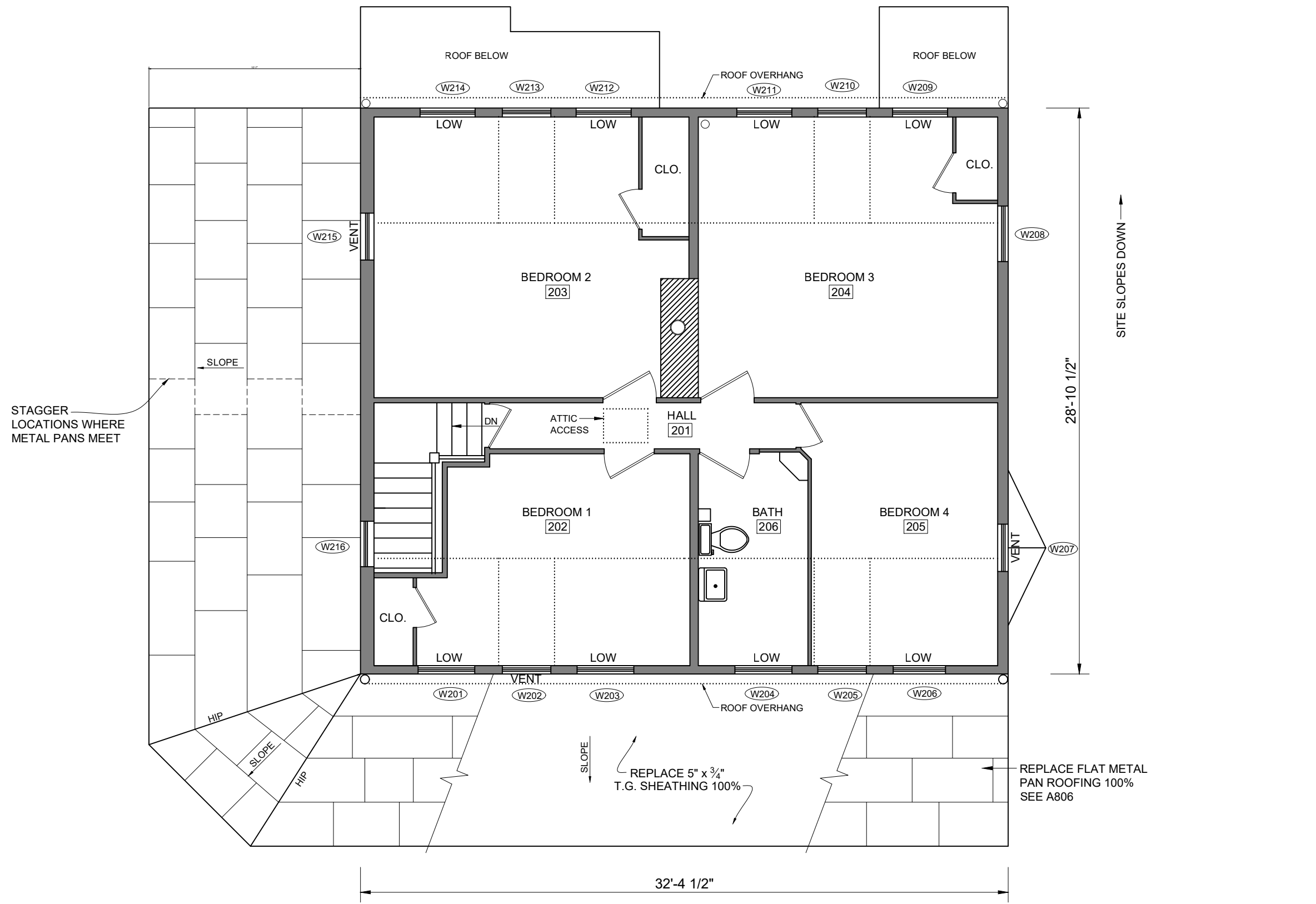
DATE 09/10/20

SCALE: 3/16" = 1'-0"

BUILDING 4 - FIRST FLOOR PLAN

**A401**





IMPROVEMENTS AT  
 BUILDINGS #4 AND #7 AT THE  
**DESERTED VILLAGE  
 OF FELTVILLE /  
 GLENSIDE PARK**  
 9 CATARACT HOLLOW ROAD  
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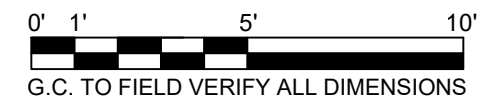
DRAWN BY: BD

DATE 09/10/20

SCALE: 3/16" = 1'-0"

BUILDING 4 -  
 SECOND FLOOR /  
 PORCH ROOF PLAN

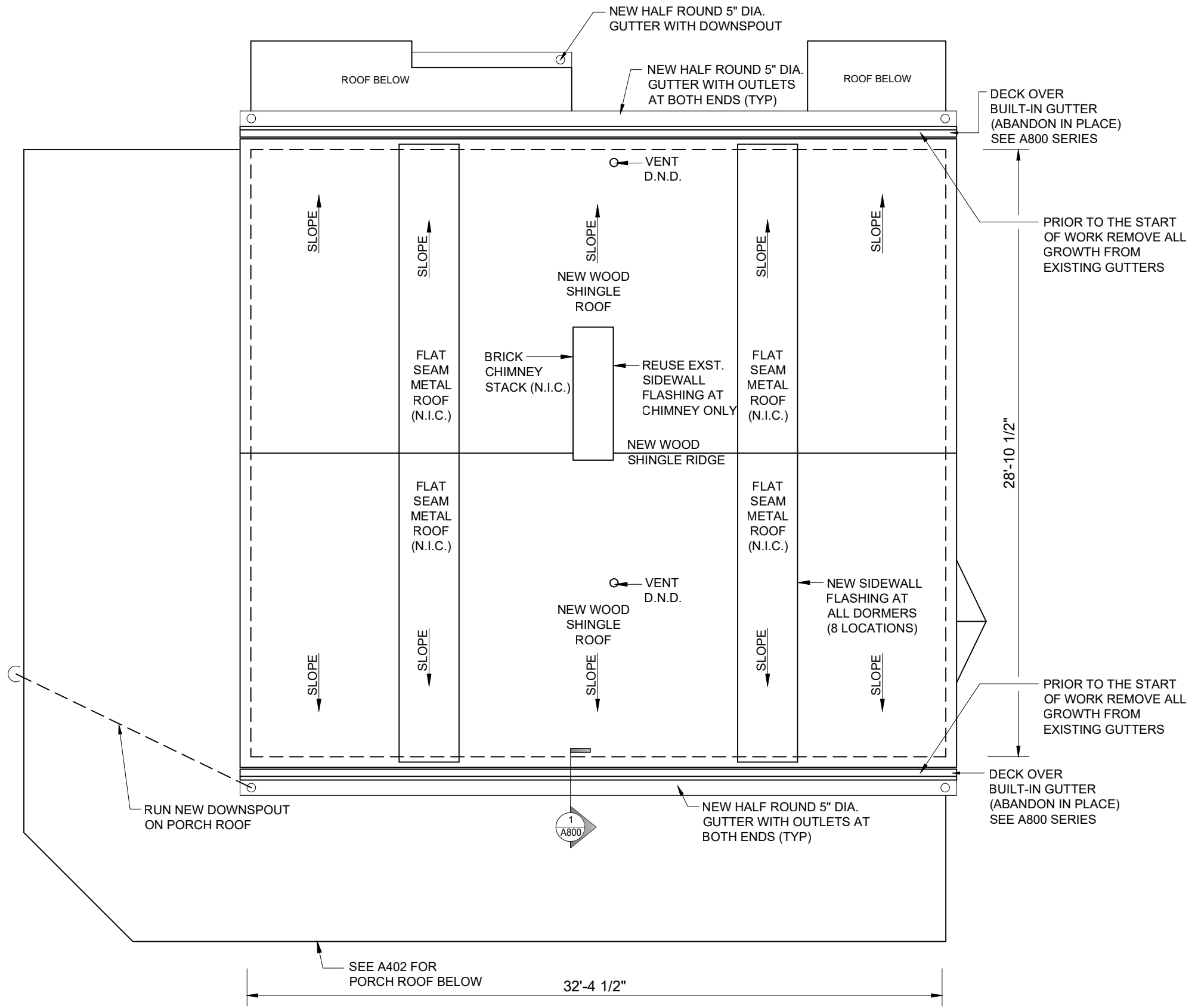
A402



SITE SLOPES DOWN

28'-10 1/2"

32'-4 1/2"



IMPROVEMENTS AT BUILDINGS #4 AND #7 AT THE  
**DESERTED VILLAGE OF FELTVILLE / GLENSIDE PARK**  
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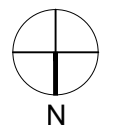
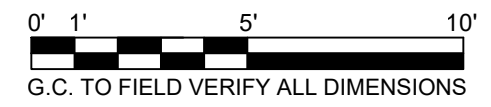
DRAWN BY: BD

DATE 09/10/20

SCALE: 3/16" = 1'-0"

BUILDING 4 - ROOF PLAN

**A403**




TYPICAL NOTES (ALL ELEVATIONS):

1. REPLACE LEXAN PANE W/ NEW GLASS AND LINSEED OIL GLAZING PUTTY.
2. BAG & TAG: DOOR BELL, ALL MISC. HARDWARE.
3. LEAVE EXISTING SHUTTER HARDWARE IN-PLACE (D.N.D.).
4. ALL EXISTING NO TRESPASSING SIGNS (NTS): REMOVE AND RE-MOUNT ONTO AZEK 1/2" THICK PANEL OF EQUAL SIZE & REATTACH W/ STAINLESS STEEL SCREWS.
5. ALL EXISTING WOOD LOWER SASH VENTS SHOWN SHALL BE REMOVED, REPAIRED & REINSTALLED.
6. ASSUME ALL MISSING / DETERIORATED ADIRONDACK COMPONENT ARE ON SITE AND MAY BE REPLACED W/ SURVIVING COMPONENTS ON SITE W/ SOME SAWING AND REFASHIONING.
7. WHEREVER NAILS ARE REMOVED (ALL LOCATIONS): FILL (PUTTY), PRIME & PAINT.
8. ALL EXPOSED FOUNDATION MASONRY (STONE AND BRICK) SHALL BE RAKED & REPOINTED WHEREVER EXPOSED AND OVERHANG ABOVE IS 36" OR LESS.
9. SEE A400, A403, 700 AND A703 FOR LOCATIONS OF GUTTERS AND DOWNSPOUTS

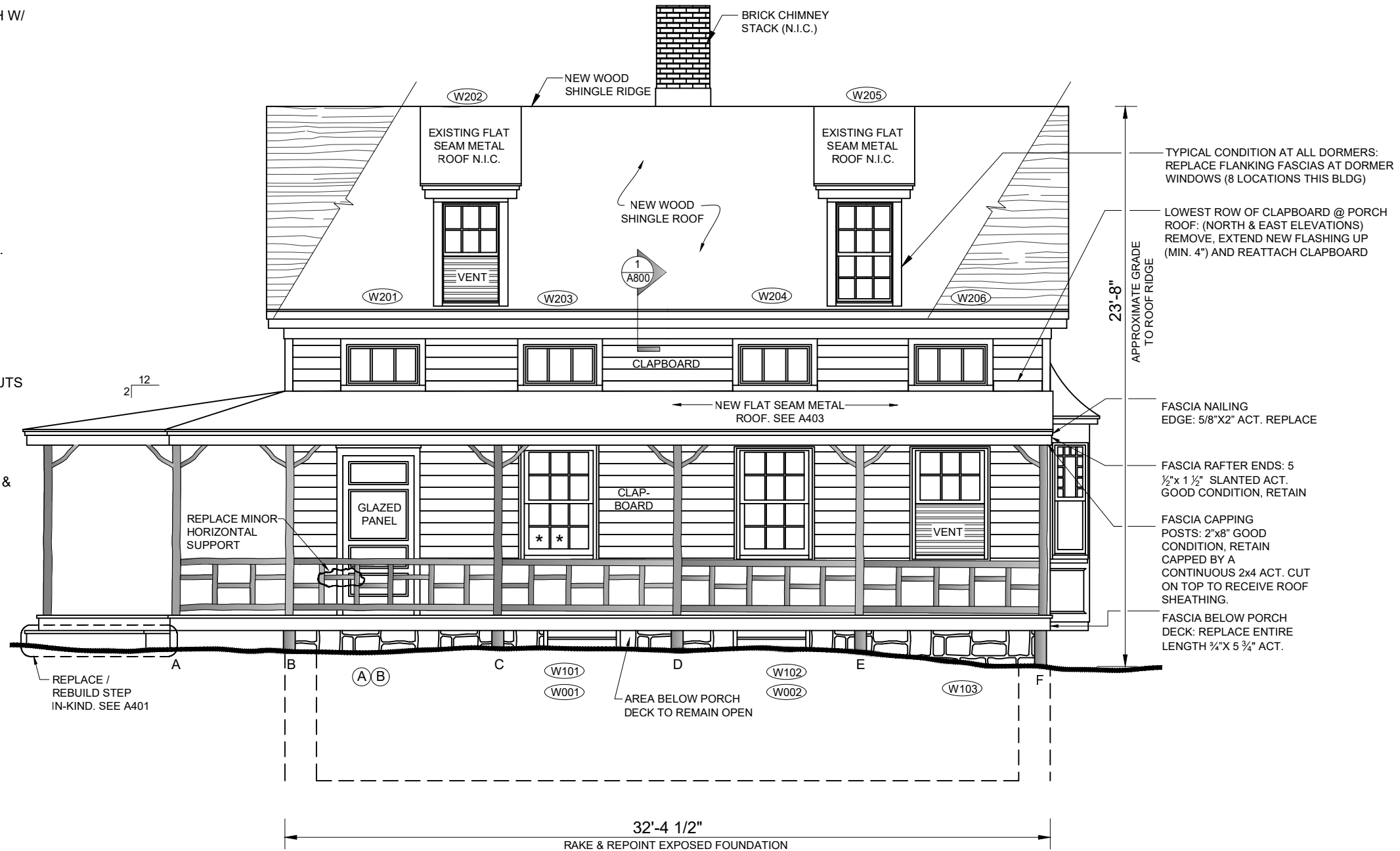
KEY

- \* PANES TO BE REPLACED. SEE ALSO OPENING SCHEDULES ON A850 & A850.1

 INTERSECTION OR WHOLE SECTION OF RUSTIC BALUSTRADE ELEMENT TO BE REPLACED OR RE-ATTACHED

SPECIAL

- A. POSTS I, J, K & L SET ON 8"X8" PIERS TO BE REPLACED IN-KIND. (BLDG #7 ONLY)



IMPROVEMENTS AT BUILDINGS #4 AND #7 AT THE  
**DESERTED VILLAGE OF FELTVILLE / GLENSIDE PARK**  
 9 CATARACT HOLLOW ROAD  
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SCALE: 3/16" = 1'-0"

BUILDING 4 - NORTH ELEVATION


**A411**

TYPICAL NOTES (ALL ELEVATIONS):

1. REPLACE LEXAN PANE W/ NEW GLASS AND LINSEED OIL GLAZING PUTTY.
2. BAG & TAG: DOOR BELL, ALL MISC. HARDWARE.
3. LEAVE EXISTING SHUTTER HARDWARE IN-PLACE (D.N.D.).
4. ALL EXISTING NO TRESPASSING SIGNS (NTS): REMOVE AND RE-MOUNT ONTO AZEK 1/2" THICK PANEL OF EQUAL SIZE & REATTACH W/ STAINLESS STEEL SCREWS.
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6. ASSUME ALL MISSING / DETERIORATED ADIRONDACK COMPONENT ARE ON SITE AND MAY BE REPLACED W/ SURVIVING COMPONENTS ON SITE W/ SOME SAWING AND REFASHIONING.
7. WHEREVER NAILS ARE REMOVED (ALL LOCATIONS): FILL (PUTTY), PRIME & PAINT.
8. ALL EXPOSED FOUNDATION MASONRY (STONE AND BRICK) SHALL BE RAKED & REPOINTED WHEREVER EXPOSED AND OVERHANG ABOVE IS 36" OR LESS.
9. SEE A400, A403, 700 AND A703 FOR LOCATIONS OF GUTTERS AND DOWNSPOUTS

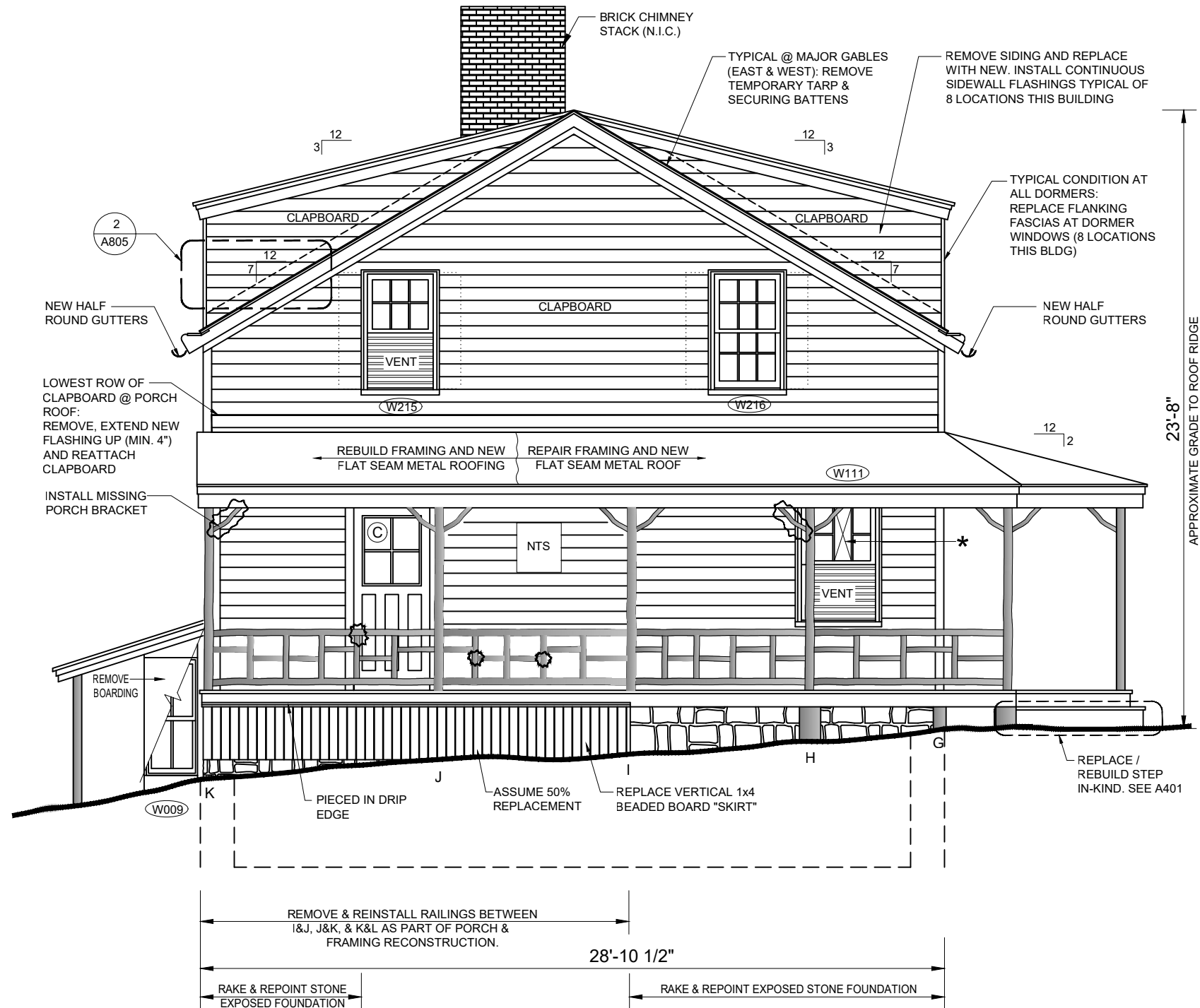
KEY

- \* PANES TO BE REPLACED. SEE ALSO OPENING SCHEDULES ON A850 & A850.1

 INTERSECTION OR WHOLE SECTION OF RUSTIC BALUSTRADE ELEMENT TO BE REPLACED OR RE-ATTACHED

SPECIAL

- A. POSTS I, J, K & L SET ON 8"x8" PIERS TO BE REPLACED IN-KIND. (BLDG #7 ONLY)



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SCALE: 3/16" = 1'-0"

BUILDING 4 - EAST ELEVATION

A412



TYPICAL NOTES (ALL ELEVATIONS):

1. REPLACE LEXAN PANE W/ NEW GLASS AND LINSEED OIL GLAZING PUTTY.
2. BAG & TAG: DOOR BELL, ALL MISC. HARDWARE.
3. LEAVE EXISTING SHUTTER HARDWARE IN-PLACE (D.N.D.).
4. ALL EXISTING NO TRESPASSING SIGNS (NTS): REMOVE AND RE-MOUNT ONTO AZEK 1/2" THICK PANEL OF EQUAL SIZE & REATTACH W/ STAINLESS STEEL SCREWS.
5. ALL EXISTING WOOD LOWER SASH VENTS SHOWN SHALL BE REMOVED, REPAIRED & REINSTALLED.
6. ASSUME ALL MISSING / DETERIORATED ADIRONDACK COMPONENT ARE ON SITE AND MAY BE REPLACED W/ SURVIVING COMPONENTS ON SITE W/ SOME SAWING AND REFASHIONING.
7. WHEREVER NAILS ARE REMOVED (ALL LOCATIONS): FILL (PUTTY), PRIME & PAINT.
8. ALL EXPOSED FOUNDATION MASONRY (STONE AND BRICK) SHALL BE RAKED & REPOINTED WHEREVER EXPOSED AND OVERHANG ABOVE IS 36" OR LESS.
9. SEE A400, A403, 700 AND A703 FOR LOCATIONS OF GUTTERS AND DOWNSPOUTS

KEY

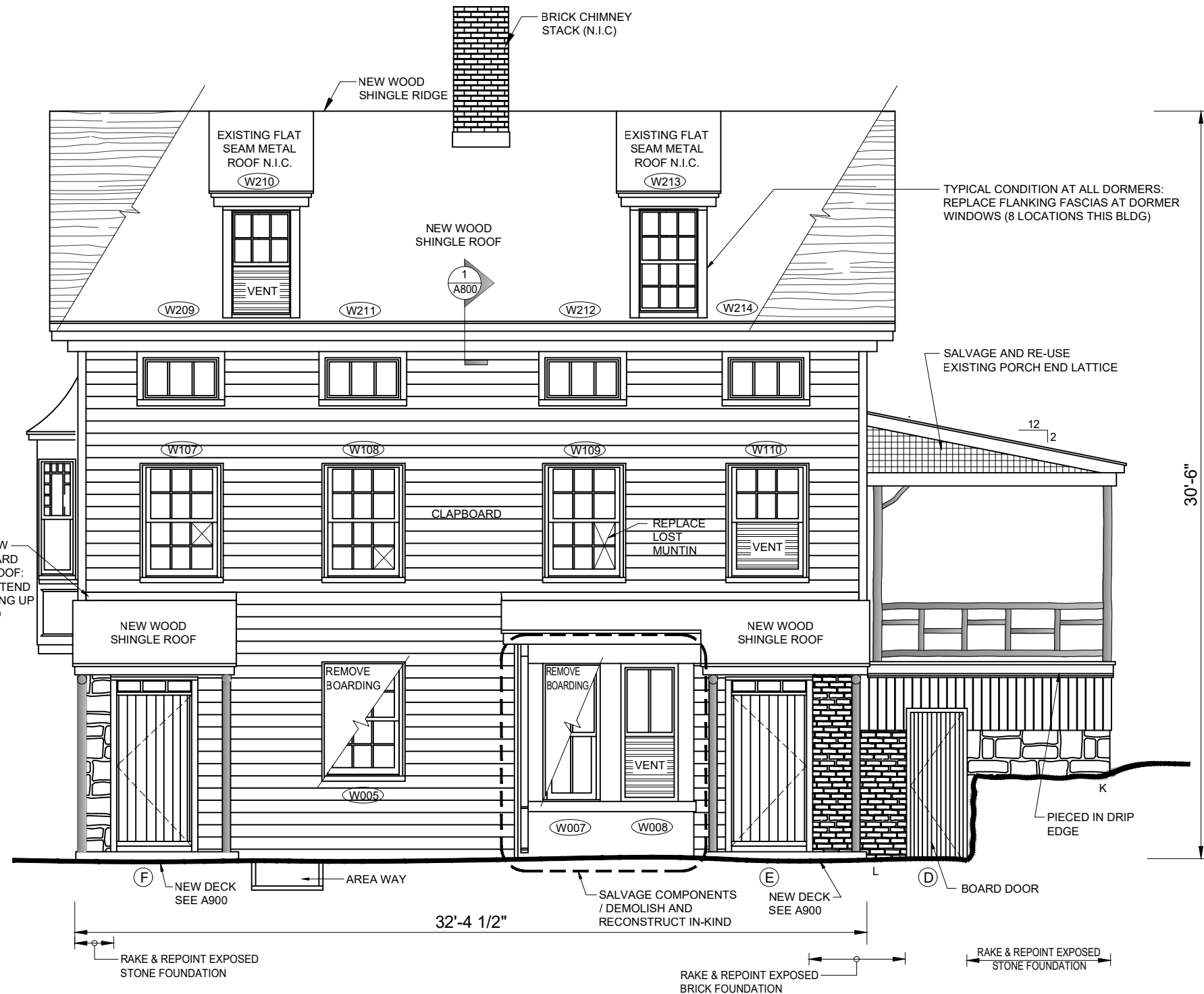
- \* PANES TO BE REPLACED. SEE ALSO OPENING SCHEDULES ON A850 & A850.1

INTERSECTION OR WHOLE SECTION OF RUSTIC BALUSTRADE ELEMENT TO BE REPLACED OR RE-ATTACHED

LOWEST ROW OF CLAPBOARD @ PORCH ROOF: REMOVE, EXTEND NEW FLASHING UP (MIN. 4") AND REATTACH

SPECIAL

- A. POSTS I, J, K & L SET ON 8"X8" PIERS TO BE REPLACED IN-KIND. (BLDG #7 ONLY)



IMPROVEMENTS AT BUILDINGS #4 AND #7 AT THE  
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DRAWN BY: BD

DATE 09/10/20

SCALE: 3/16" = 1'-0"

BUILDING 4 - SOUTH ELEVATION


A413

TYPICAL NOTES (ALL ELEVATIONS):

1. REPLACE LEXAN PANE W/ NEW GLASS AND LINSEED OIL GLAZING PUTTY.
2. BAG & TAG: DOOR BELL, ALL MISC. HARDWARE.
3. LEAVE EXISTING SHUTTER HARDWARE IN-PLACE (D.N.D.).
4. ALL EXISTING NO TRESPASSING SIGNS (NTS): REMOVE AND RE-MOUNT ONTO AZEK 1/2" THICK PANEL OF EQUAL SIZE & REATTACH W/ STAINLESS STEEL SCREWS.
5. ALL EXISTING WOOD LOWER SASH VENTS SHOWN SHALL BE REMOVED, REPAIRED & REINSTALLED.
6. ASSUME ALL MISSING / DETERIORATED ADIRONDACK COMPONENT ARE ON SITE AND MAY BE REPLACED W/ SURVIVING COMPONENTS ON SITE W/ SOME SAWING AND REFASHIONING.
7. WHEREVER NAILS ARE REMOVED (ALL LOCATIONS): FILL (PUTTY), PRIME & PAINT.
8. ALL EXPOSED FOUNDATION MASONRY (STONE AND BRICK) SHALL BE RAKED & REPOINTED WHEREVER EXPOSED AND OVERHANG ABOVE IS 36" OR LESS.
9. SEE A400, A403, 700 AND A703 FOR LOCATIONS OF GUTTERS AND DOWNSPOUTS

KEY

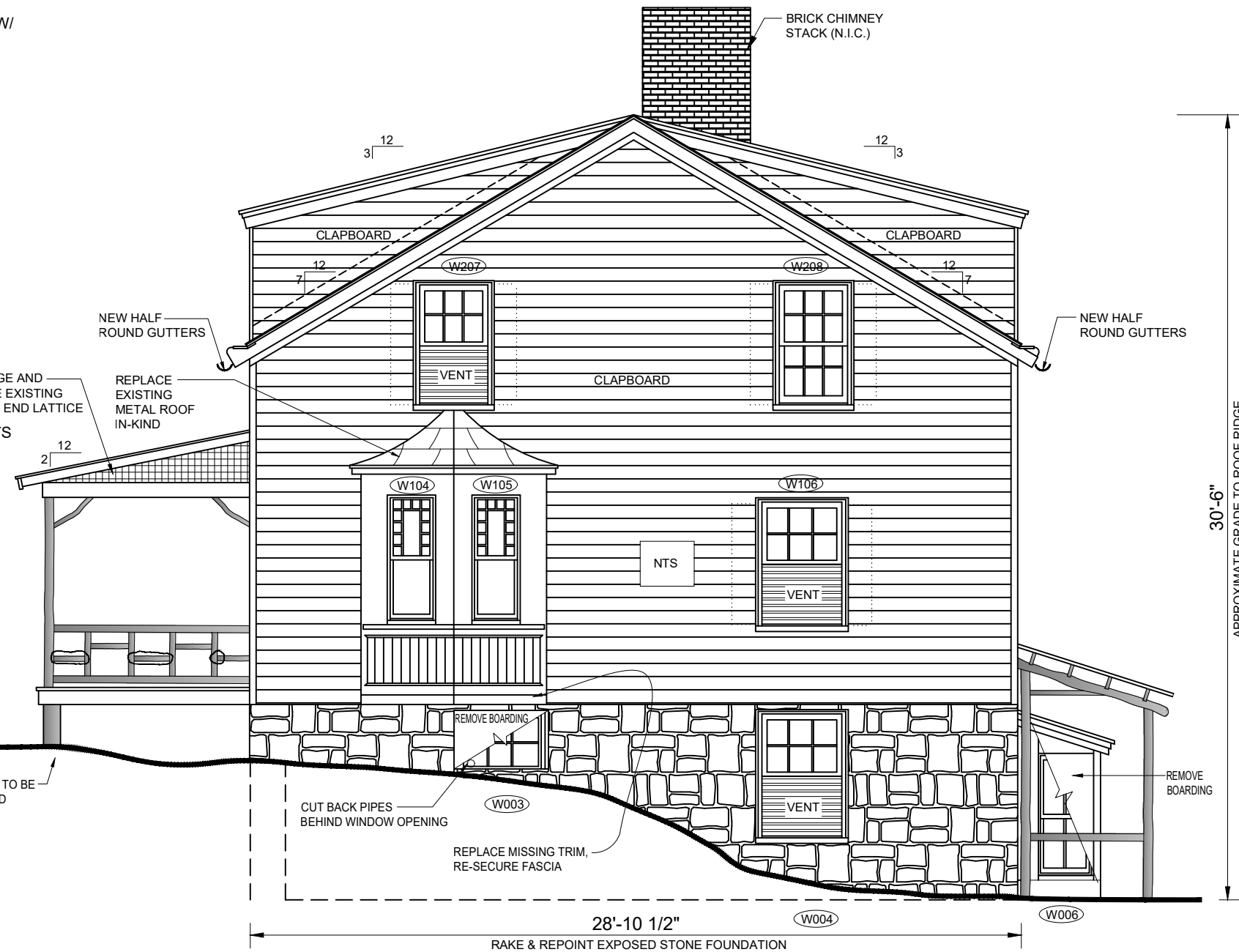
- \* PANES TO BE REPLACED. SEE ALSO OPENING SCHEDULES ON A850 & A850.1

 INTERSECTION OR WHOLE SECTION OF RUSTIC BALUSTRADE ELEMENT TO BE REPLACED OR RE-ATTACHED

SPECIAL

- A. POSTS I, J, K & L SET ON 8"X8" PIERS TO BE REPLACED IN-KIND. (BLDG #7 ONLY)

2 MISSING 1 TO BE RE-SECURED



IMPROVEMENTS AT BUILDINGS #4 AND #7 AT THE  
**DESERTED VILLAGE OF FELTVILLE / GLENSIDE PARK**  
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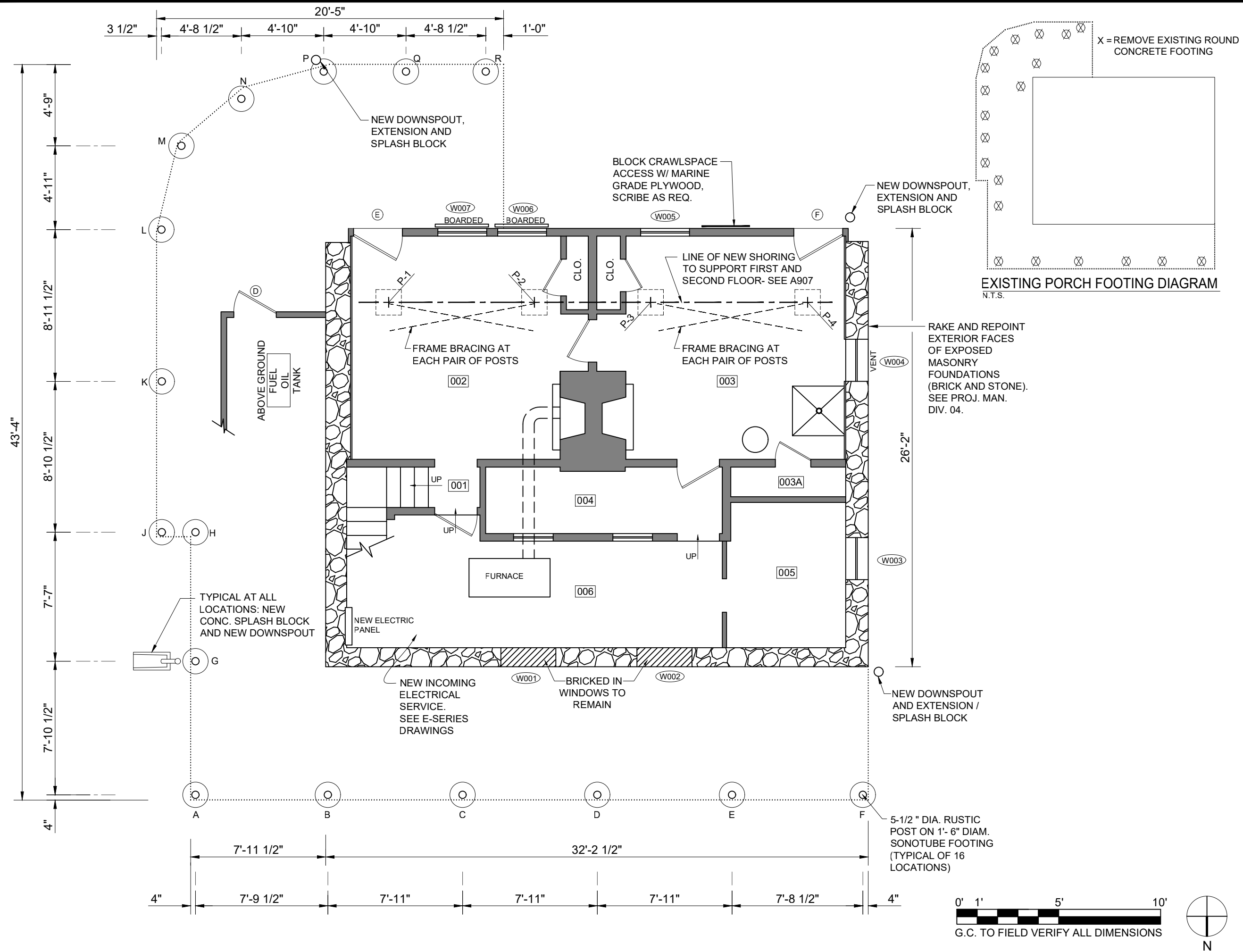
DATE 09/10/20

SCALE: 3/16" = 1'-0"

BUILDING #4 - WEST ELEVATION

**A414**





IMPROVEMENTS AT BUILDINGS #4 AND #7 AT THE  
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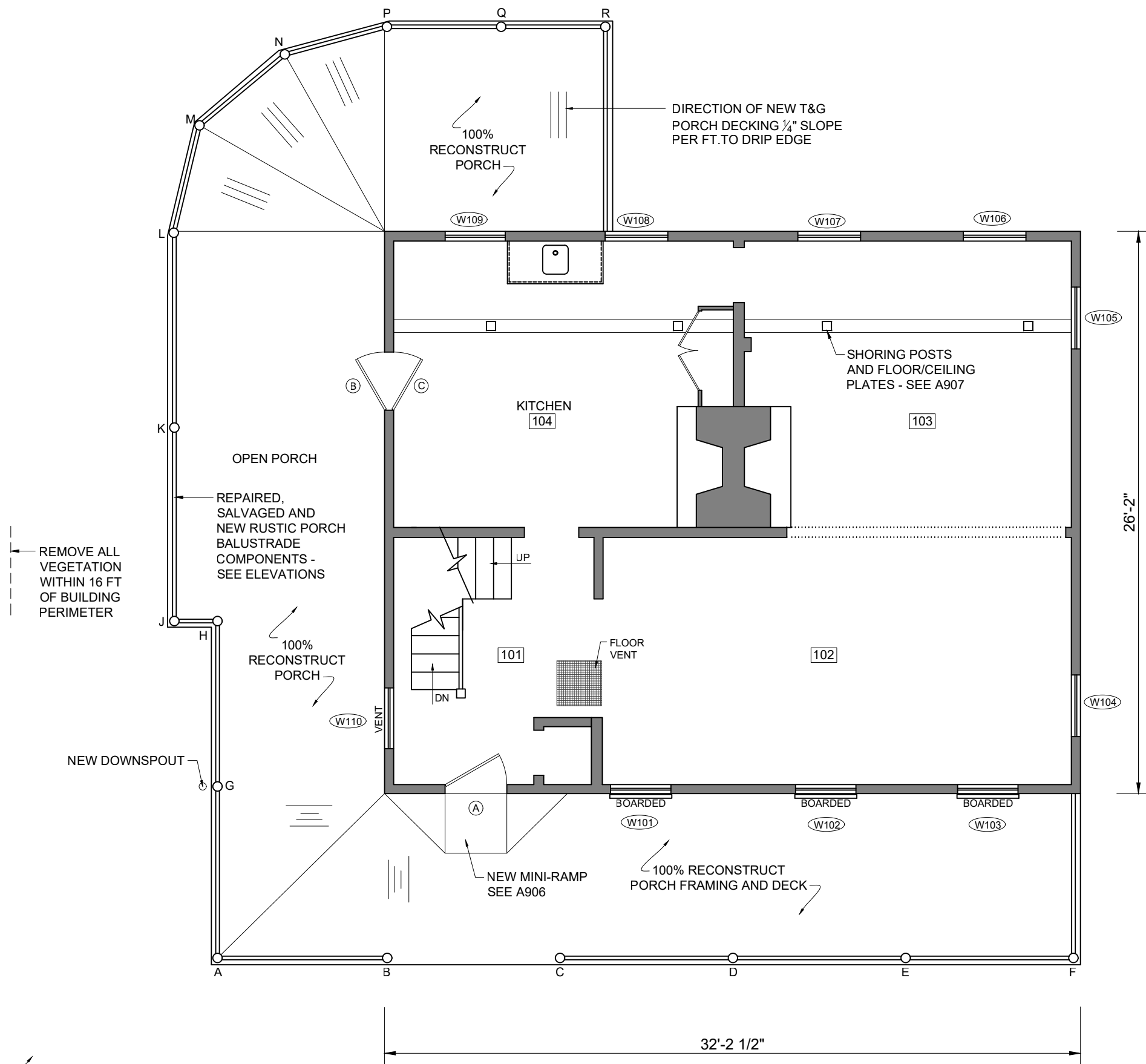
DRAWN BY: BD

DATE 09/10/20

SCALE: 3/16" = 1'-0"

BUILDING 7 - BASEMENT PLAN

A700



IMPROVEMENTS AT  
BUILDINGS #4 AND #7 AT THE  
**DESERTED VILLAGE  
OF FELTVILLE /  
GLENDSIDE PARK**  
9 CATARACT HOLLOW ROAD  
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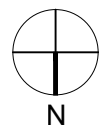
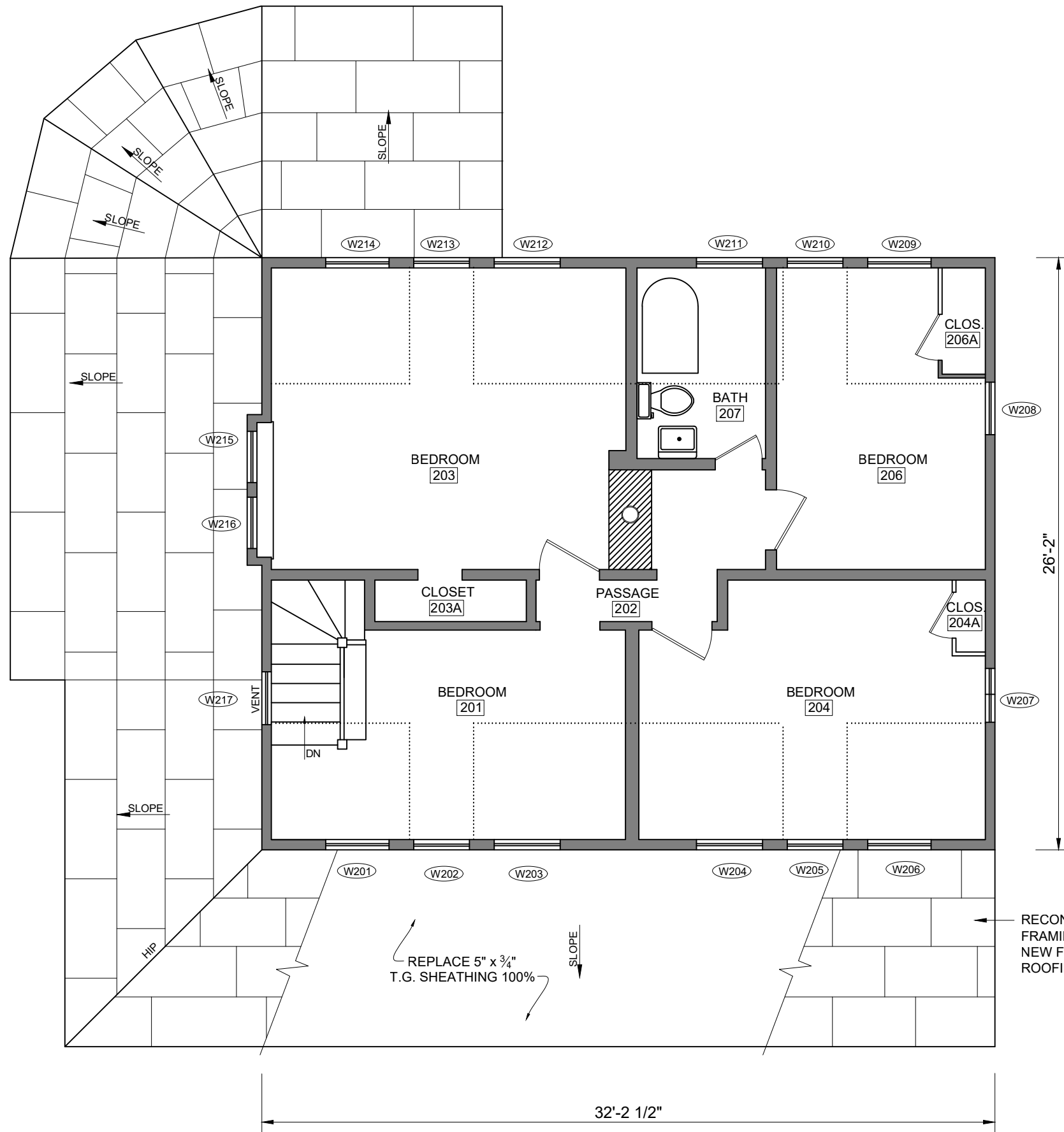
DATE 09/10/20

SCALE: 3/16" = 1'-0"

BUILDING 7 -  
FIRST FLOOR PLAN

**A701**





IMPROVEMENTS AT  
BUILDINGS #4 AND #7 AT THE  
**DESERTED VILLAGE  
OF FELTVILLE /  
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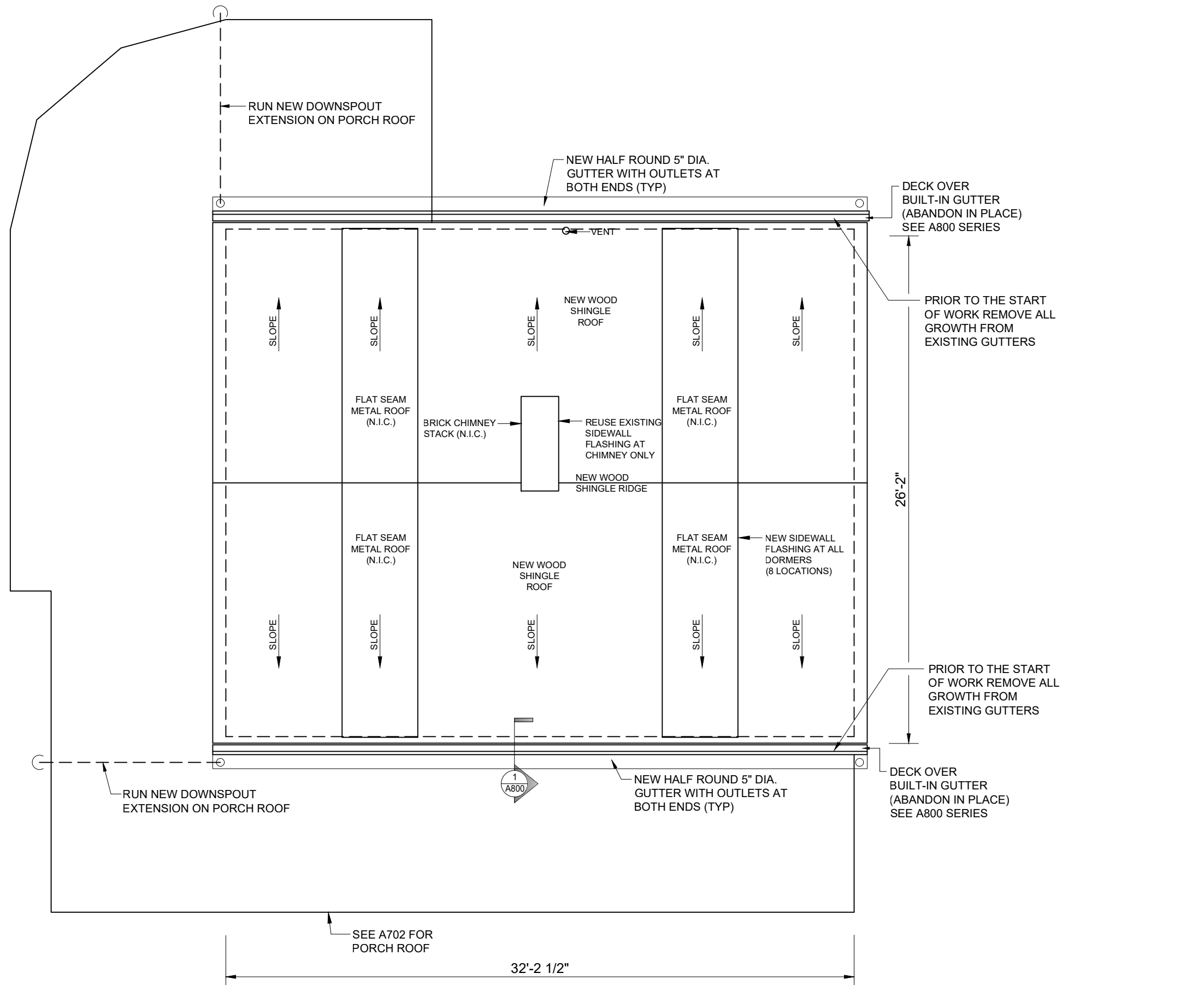
DRAWN BY: BD

DATE 09/10/20

SCALE: 3/16" = 1'-0"

BUILDING 7 -  
SECOND FLOOR /  
PORCH ROOF PLAN

**A702**



IMPROVEMENTS AT BUILDINGS #4 AND #7 AT THE  
**DESERTED VILLAGE OF FELTVILLE / GLENSIDE PARK**  
 9 CATARACT HOLLOW ROAD  
 BERKELEY HEIGHTS, NEW JERSEY 07922  
 COUNTY OF UNION, OWNER

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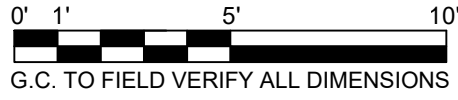
DRAWN BY: BD

DATE 09/10/20

SCALE: 3/16" = 1'-0"

BUILDING 7 - ROOF PLAN

A703



TYPICAL NOTES (ALL ELEVATIONS):

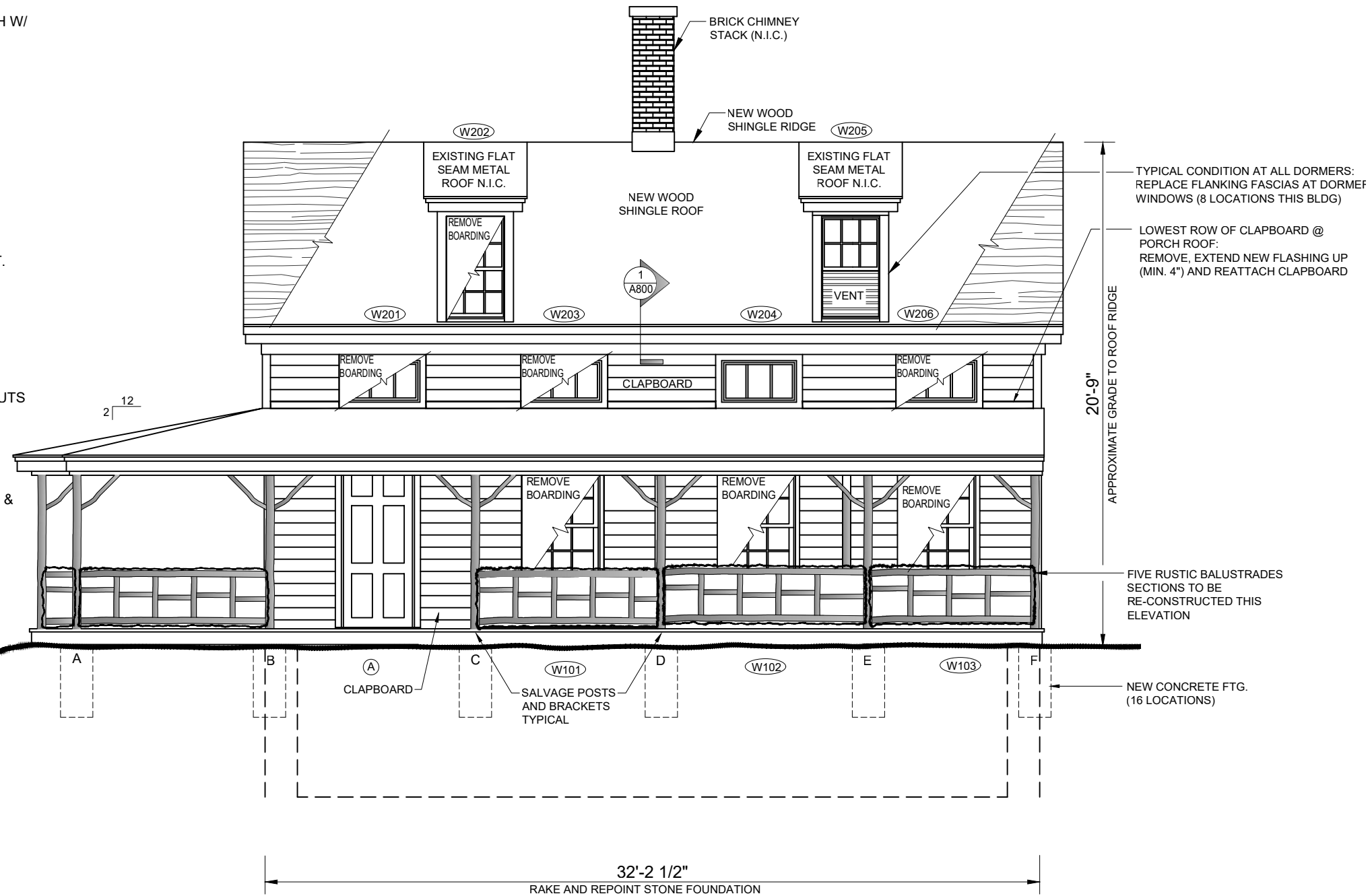
1. REPLACE LEXAN PANE W/ NEW GLASS AND LINSEED OIL GLAZING PUTTY.
2. BAG & TAG: DOOR BELL, ALL MISC. HARDWARE.
3. LEAVE EXISTING SHUTTER HARDWARE IN-PLACE (D.N.D.).
4. ALL EXISTING NO TRESPASSING SIGNS (NTS): REMOVE AND RE-MOUNT ONTO AZEK 1/2" THICK PANEL OF EQUAL SIZE & REATTACH W/ STAINLESS STEEL SCREWS.
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9. SEE A400, A403, 700 AND A703 FOR LOCATIONS OF GUTTERS AND DOWNSPOUTS

KEY

- \* PANES TO BE REPLACED. SEE ALSO OPENING SCHEDULES ON A850 & A850.1
- INTERSECTION OR WHOLE SECTION OF RUSTIC BALUSTRADE ELEMENT TO BE REPLACED OR RE-ATTACHED

SPECIAL

- A. POSTS I, J, K & L SET ON 8"X8" PIERS TO BE REPLACED IN-KIND. (BLDG #7 ONLY)



TYPICAL CONDITION AT ALL DORMERS:  
REPLACE FLANKING FASCIAS AT DORMER  
WINDOWS (8 LOCATIONS THIS BLDG)

LOWEST ROW OF CLAPBOARD @  
PORCH ROOF:  
REMOVE, EXTEND NEW FLASHING UP  
(MIN. 4") AND REATTACH CLAPBOARD

20'-9"  
APPROXIMATE GRADE TO ROOF RIDGE

FIVE RUSTIC BALUSTRADES  
SECTIONS TO BE  
RE-CONSTRUCTED THIS  
ELEVATION

NEW CONCRETE FTG.  
(16 LOCATIONS)

32'-2 1/2"  
RAKE AND REPOINT STONE FOUNDATION



G.C. TO FIELD VERIFY ALL DIMENSIONS

IMPROVEMENTS AT  
BUILDINGS #4 AND #7 AT THE  
**DESERTED VILLAGE  
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SCALE: 3/16" = 1'-0"

BUILDING 7 -  
NORTH ELEVATION


**A711**

TYPICAL NOTES (ALL ELEVATIONS):

1. REPLACE LEXAN PANE W/ NEW GLASS AND LINSEED OIL GLAZING PUTTY.
2. BAG & TAG: DOOR BELL, ALL MISC. HARDWARE.
3. LEAVE EXISTING SHUTTER HARDWARE IN-PLACE (D.N.D.).
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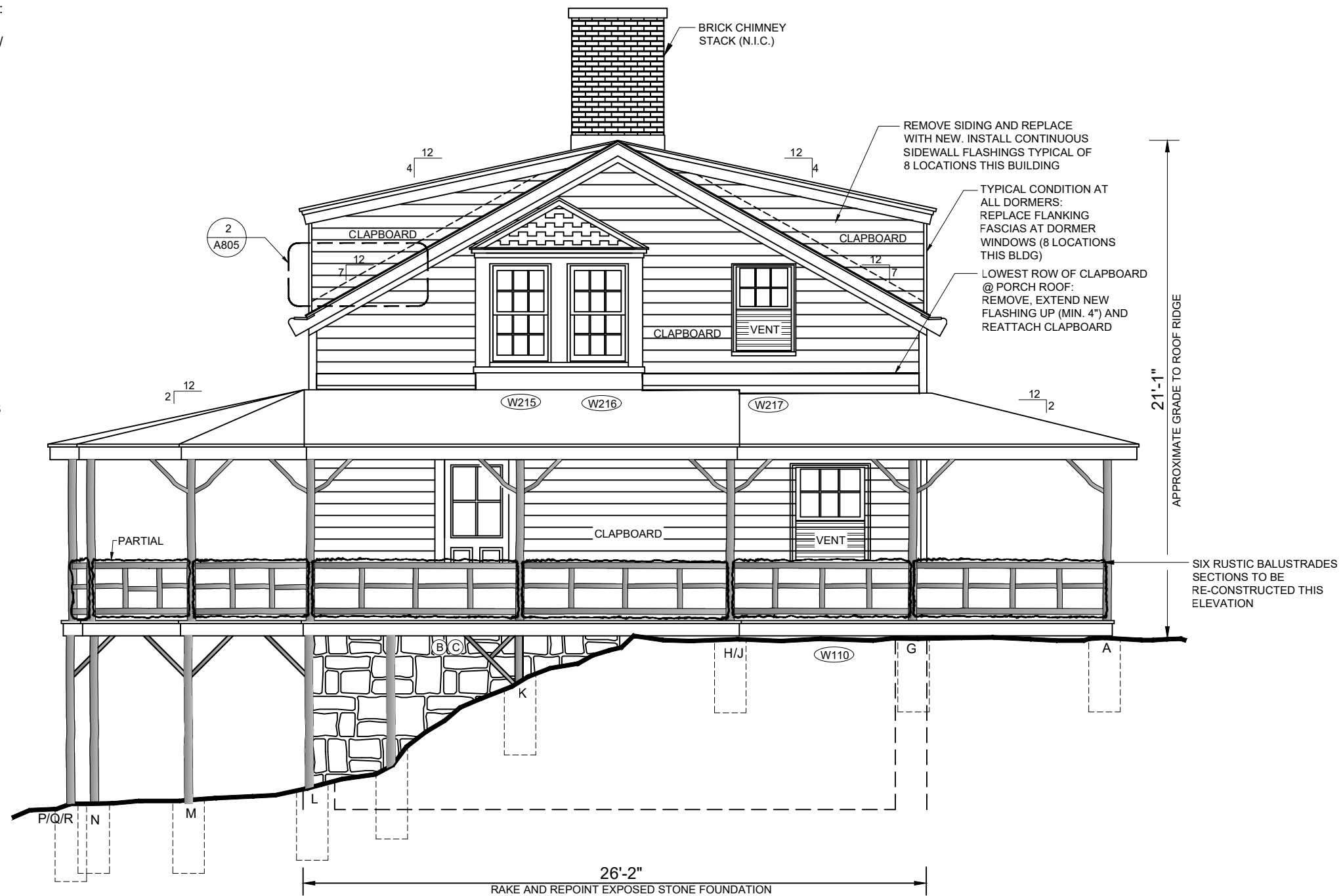
KEY

- \* PANES TO BE REPLACED. SEE ALSO OPENING SCHEDULES ON A850 & A850.1

 INTERSECTION OR WHOLE SECTION OF RUSTIC BALUSTRADE ELEMENT TO BE REPLACED OR RE-ATTACHED

SPECIAL

- A. POSTS I, J, K & L SET ON 8"X8" PIERS TO BE REPLACED IN-KIND. (BLDG #7 ONLY)



IMPROVEMENTS AT BUILDINGS #4 AND #7 AT THE  
**DESERTED VILLAGE OF FELTVILLE / GLENSIDE PARK**  
 9 CATARACT HOLLOW ROAD  
 BERKELEY HEIGHTS, NEW JERSEY 07922  
 COUNTY OF UNION, OWNER

MICHAEL CALAFATI, RA NJ#21A100902900  
 Certificate of Authorization  
 #21AC00084500 / Expires 01/2022

**MCA**

Michael Calafati Architect, LLC  
 510 Bank Street, PO Box 2363, Cape May, NJ 08204  
 609 884 4922 www.calafati.com

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DRAWN BY: BD

DATE 09/10/20

SCALE: 3/16" = 1'-0"

BUILDING 7 - EAST ELEVATION

A712


0' 1' 5' 10'  
 G.C. TO FIELD VERIFY ALL DIMENSIONS

TYPICAL NOTES (ALL ELEVATIONS):

1. REPLACE LEXAN PANE W/ NEW GLASS AND LINSEED OIL GLAZING PUTTY.
2. BAG & TAG: DOOR BELL, ALL MISC. HARDWARE.
3. LEAVE EXISTING SHUTTER HARDWARE IN-PLACE (D.N.D.).
4. ALL EXISTING NO TRESPASSING SIGNS (NTS): REMOVE AND RE-MOUNT ONTO AZEK 1/2" THICK PANEL OF EQUAL SIZE & REATTACH W/ STAINLESS STEEL SCREWS.
5. ALL EXISTING WOOD LOWER SASH VENTS SHOWN SHALL BE REMOVED, REPAIRED & REINSTALLED.
6. ASSUME ALL MISSING / DETERIORATED ADIRONDACK COMPONENT ARE ON SITE AND MAY BE REPLACED W/ SURVIVING COMPONENTS ON SITE W/ SOME SAWING AND REFASHIONING.
7. WHEREVER NAILS ARE REMOVED (ALL LOCATIONS): FILL (PUTTY), PRIME & PAINT.
8. ALL EXPOSED FOUNDATION MASONRY (STONE AND BRICK) SHALL BE RAKED & REPOINTED WHEREVER EXPOSED AND OVERHANG ABOVE IS 36" OR LESS.
9. SEE A400, A403, 700 AND A703 FOR LOCATIONS OF GUTTERS AND DOWNSPOUTS

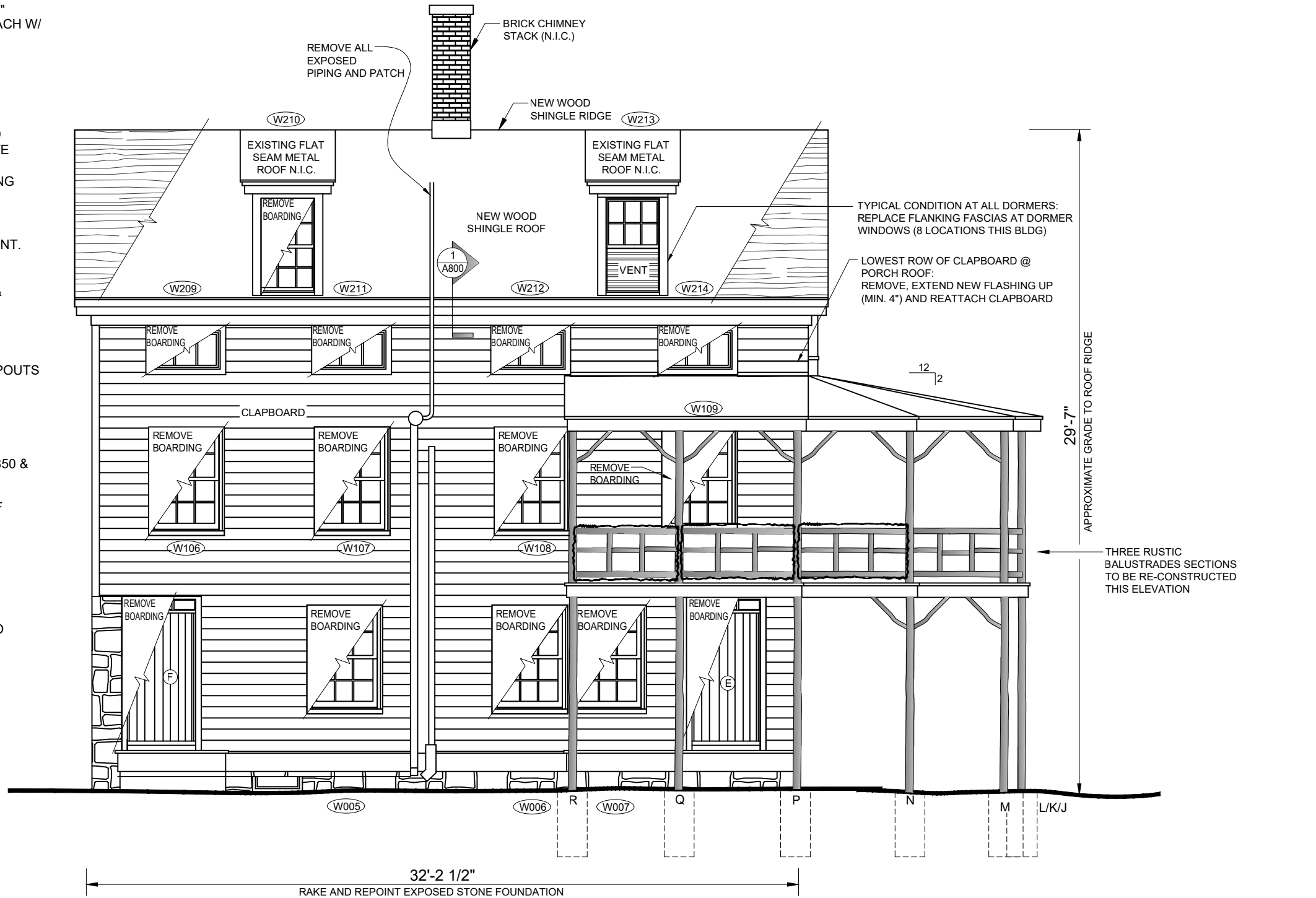
KEY

- \* PANES TO BE REPLACED. SEE ALSO OPENING SCHEDULES ON A850 & A850.1

 INTERSECTION OR WHOLE SECTION OF RUSTIC BALUSTRADE ELEMENT TO BE REPLACED OR RE-ATTACHED

SPECIAL

- A. POSTS I, J, K & L SET ON 8"X8" PIERS TO BE REPLACED IN-KIND. (BLDG #7 ONLY)



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SCALE: 3/16" = 1'-0"

BUILDING 7 - SOUTH ELEVATION


**A713**

TYPICAL NOTES (ALL ELEVATIONS):

1. REPLACE LEXAN PANE W/ NEW GLASS AND LINSEED OIL GLAZING PUTTY.
2. BAG & TAG:  
DOOR BELL, ALL MISC. HARDWARE.
3. LEAVE EXISTING SHUTTER HARDWARE IN-PLACE (D.N.D.).
4. ALL EXISTING NO TRESPASSING SIGNS (NTS): REMOVE AND RE-MOUNT ONTO AZEK 1/2" THICK PANEL OF EQUAL SIZE & REATTACH W/ STAINLESS STEEL SCREWS.
5. ALL EXISTING WOOD LOWER SASH VENTS SHOWN SHALL BE REMOVED, REPAIRED & REINSTALLED.
6. ASSUME ALL MISSING / DETERIORATED ADIRONDACK COMPONENT ARE ON SITE AND MAY BE REPLACED W/ SURVIVING COMPONENTS ON SITE W/ SOME SAWING AND REFASHIONING.
7. WHEREVER NAILS ARE REMOVED (ALL LOCATIONS): FILL (PUTTY), PRIME & PAINT.
8. ALL EXPOSED FOUNDATION MASONRY (STONE AND BRICK) SHALL BE RAKED & REPOINTED WHEREVER EXPOSED AND OVERHANG ABOVE IS 36" OR LESS.
9. SEE A400, A403, 700 AND A703 FOR LOCATIONS OF GUTTERS AND DOWNSPOUTS

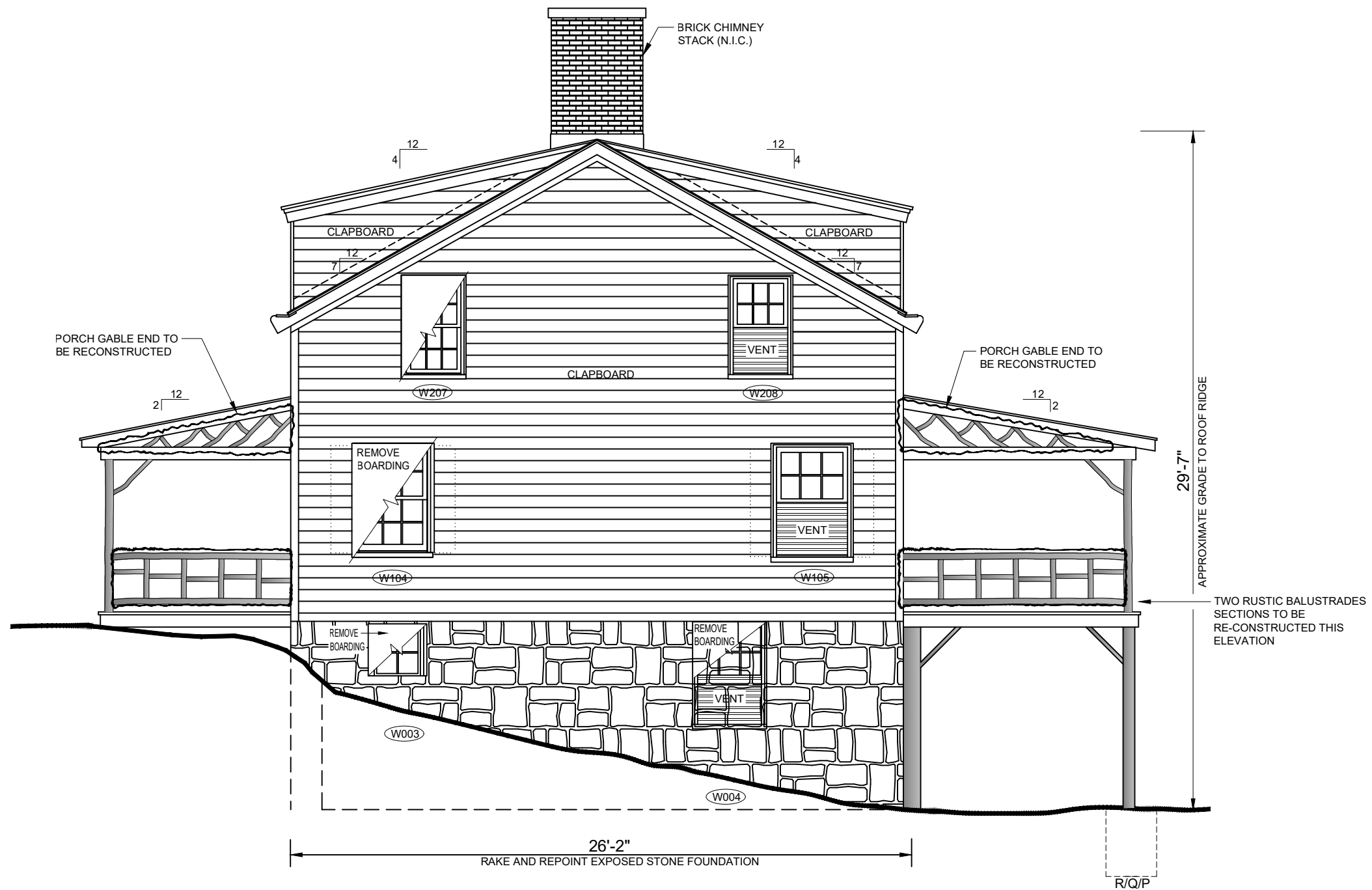
KEY

- \* PANES TO BE REPLACED.  
SEE ALSO OPENING SCHEDULES ON A850 & A850.1

 INTERSECTION OR WHOLE SECTION OF RUSTIC BALUSTRADE ELEMENT TO BE REPLACED OR RE-ATTACHED

SPECIAL

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SCALE: 3/16" = 1'-0"

BUILDING 7 -  
WEST ELEVATION

**A714**

LAP ICE AND WATERSHIELD OVER LCC STRAP AND FLASHING AND EXTEND 6" ABOVE.

6" LAP OF ICE AND WATERSHIELD OVER LCC GUTTER

INSTALL MIN. 8" CONTINUOUS CLEARCOATED LCC FLASHING UNDER NEW WOOD SHAKE. INTEGRAL CANT TO BE MIN. 5" BELOW TOP HEMMED EDGE OF LCC FLASHING. FLASHING TO BE LOOSE LOCKED INTO GUTTER.

OVERHANG SHAKES 1" @ GUTTER.

1-1/4" X 1/4" LCC STRAP INSTALLED APPROX. 30" O.C. TWIST TO PROVIDE DRIP

1" MIN.

2.75" MIN.

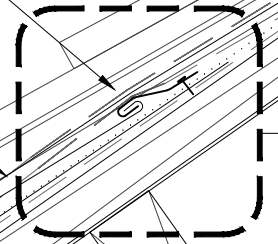
2  
A802

1-1/4" X 1/4" LCC GUTTER HANGER ATTACHED TO GUTTER STRAP IN LOOSE LOCK SEAM. SEE 3/A800

LINE OF LCC END CAP BEYOND

NEW DOWNSPOUTS, PER SECTION 076200

1 SECTION AT EAVES  
A800 SCALE: 3" = 1'-0"



3  
A802

NEW 3'-0" SOLID PLYWOOD DECKING. SHIM TO MATCH EXISTING BATTENS THICKNESS

3'-0" ICE AND WATER UNDERLAYMENT ALONG EAVES SEPARATED FROM LCC WITH ROSIN PAPER.

SECURE HANGER AND STRAP INTO SOLID WOOD ROOF FRAMING WITH PROPERLY SIZED SS ATTACHMENTS

316 S.S. THRU BOLT WITH HEX NUT (TYP.) TO ATTACH GUTTER HANGER AND STRAP TO WOOD DECK

CANT TO RAISE LOWEST SHAKE OFF ROOF. MUST INSTALL WITH POSITIVE WATER FLOW. CANT SHOULD BE POSITIONED 2" FROM EDGE OF ROOF.

NEW DFL #2 2X6 BLOCKING

EXISTING SILL PLATE

INSTALL ADDITIONAL CONCEALED PT BLOCKING AS NECESSARY TO SUPPORT GUTTER AND PROTECT EAVES. AT ROOF A PROVIDE A NEW FASCIA BOARD AT EAVE TO COVER OPENING CREATED BY BUILDING UP ROOF. MATCH EXISTING FASCIA. PAINT COLOR TO BE PROVIDED BY ARCHITECT.

- LCC FLASHING
- ..... ROSIN PAPER
- - - - ICE AND WATER UNDERLAYMENT
- ~~~~~ 30# BUILDING FELT

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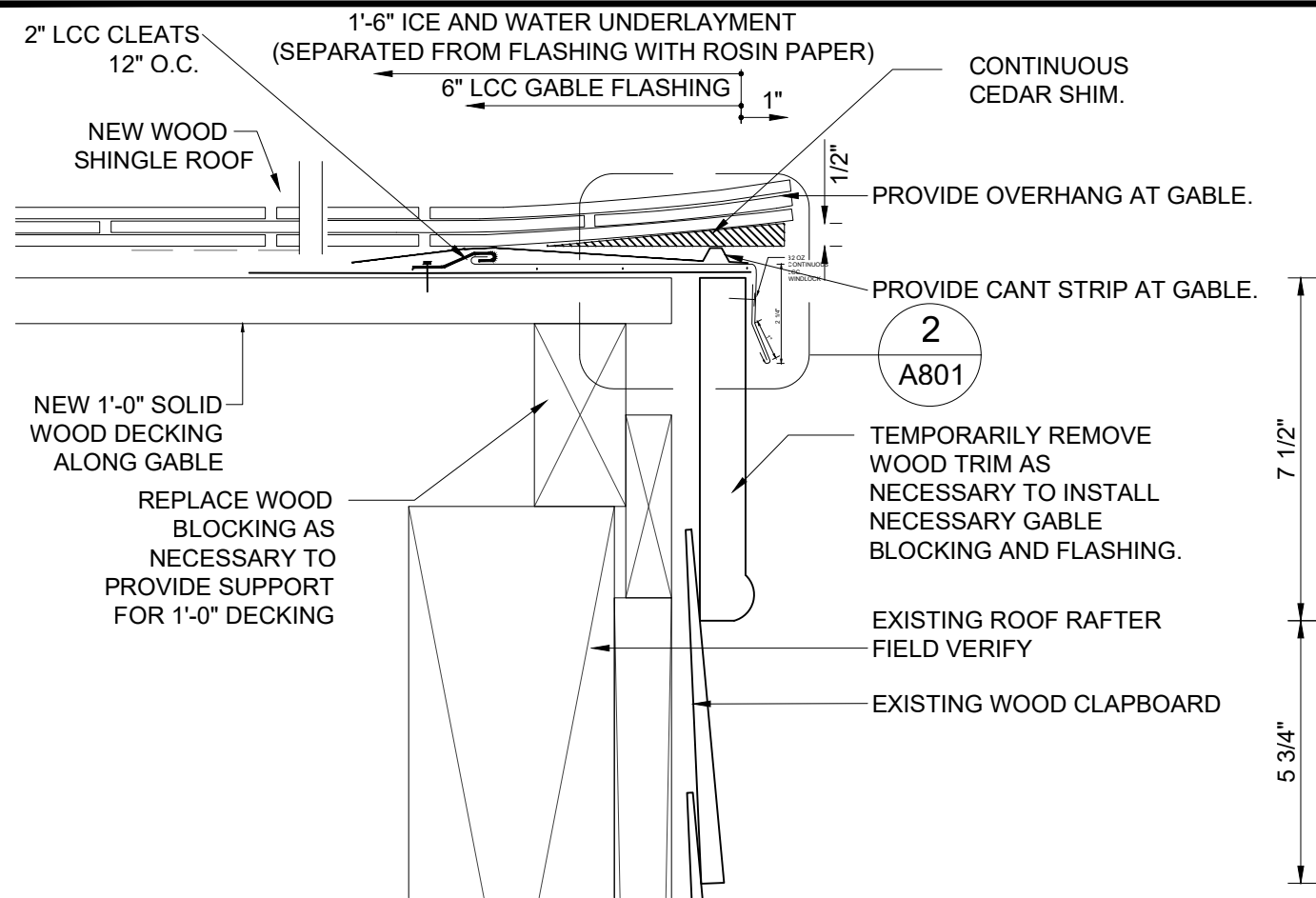
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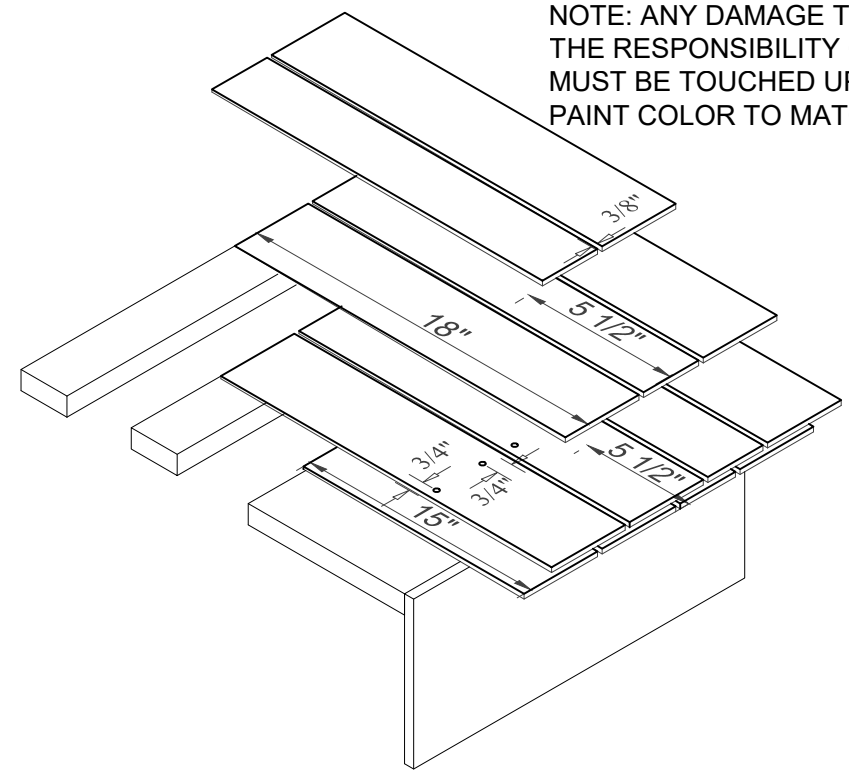
SCALE: AS NOTED

SECTION AT EAVES

A800



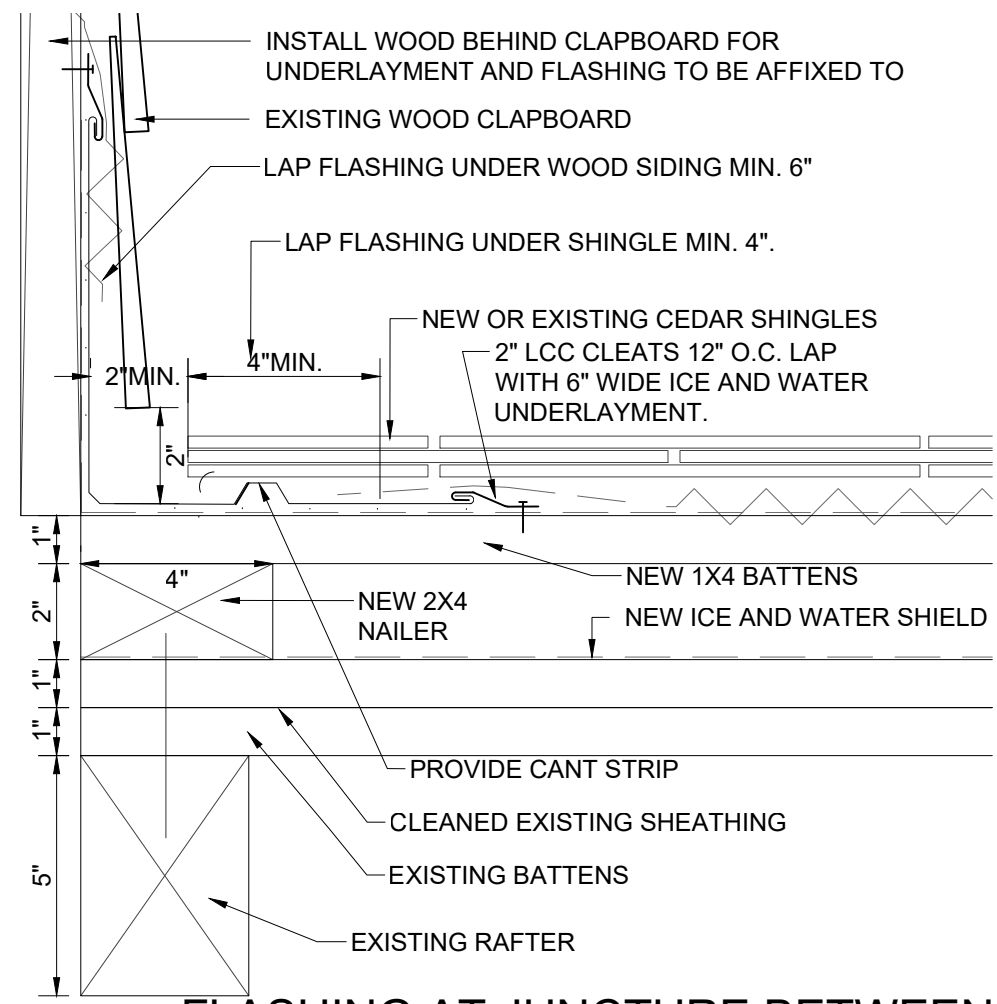
**1 SECTION AT GABLE**  
A801 SCALE: 3" = 1'-0"



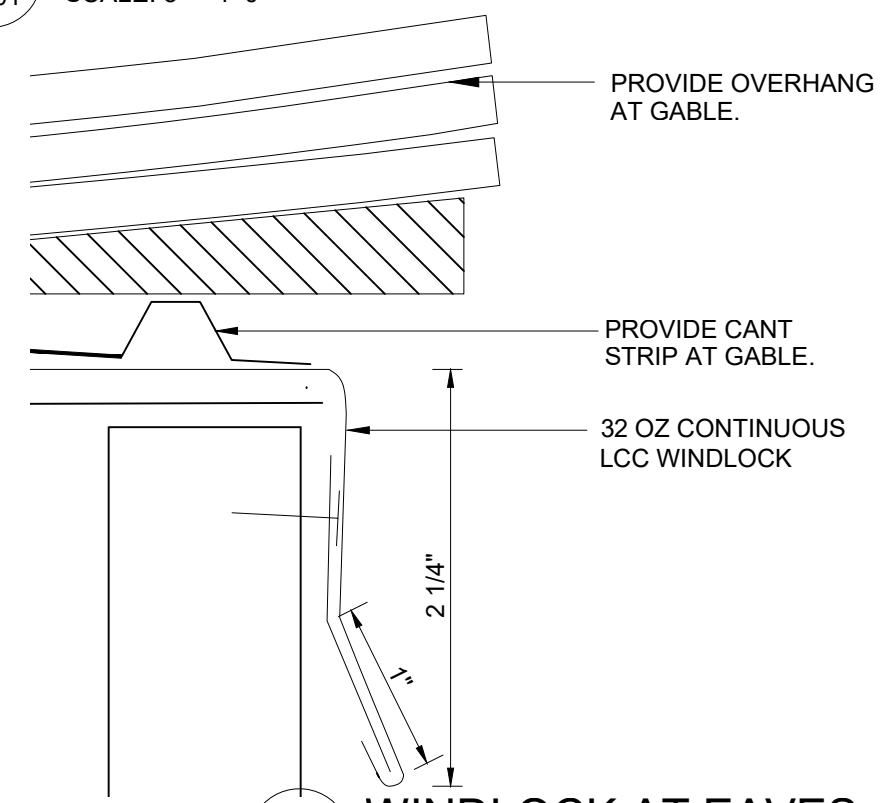
**3 WOOD SHINGLE INSTALLATION**  
A801 SCALE: N.T.S.

NOTE: ANY DAMAGE TO PAINTED WOOD TRIM IS THE RESPONSIBILITY OF THE CONTRACTOR AND MUST BE TOUCHED UP USING THE HISTORIC PAINT COLOR TO MATCH EXISTING.

WOOD SHINGLE: NEW 18" PREMIUM GRADE (100% EDGE GRAIN) CERTI-SAWN TAPERSAWN WESTERN RED CEDAR SHINGLES WITH A CLASS B CERTIGUARD PRESSURE IMPREGNATED FIRE RETARDANT ROOF WIDTH: FROM 4" TO 8" STARTER SHAKE: 15" LONG



**5 FLASHING AT JUNCTURE BETWEEN EAST AND WEST WINGS AT ROOF A**  
A801 SCALE: 3" = 1'-0"



**2 WINDLOCK AT EAVES**  
A801 SCALE: 1'-0" = 1'-0"

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SCALE: AS NOTED

WOOD SHINGLE DETAILS / RIDGE DETAILS 1

**A801**



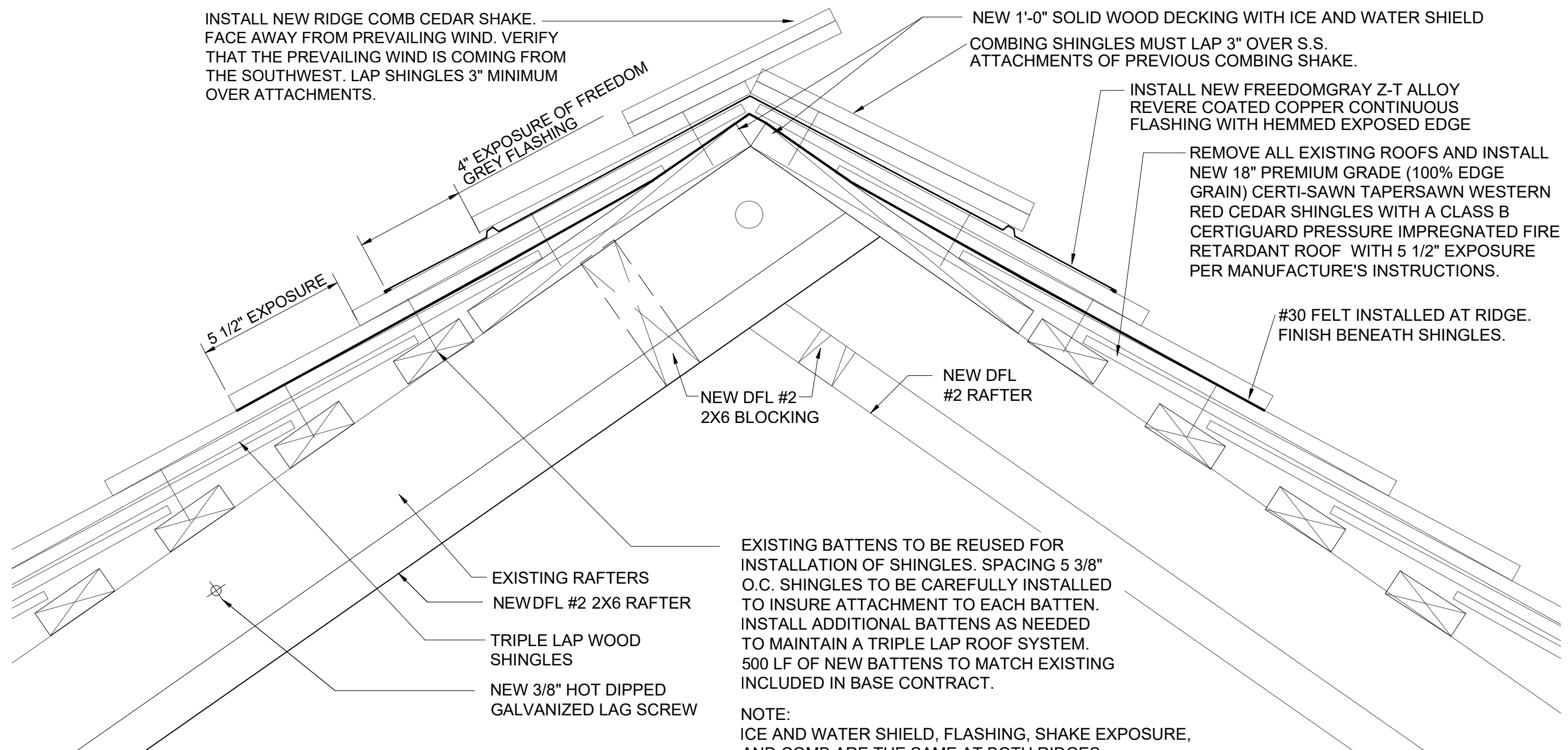
INSTALL NEW RIDGE COMB CEDAR SHAKE. FACE AWAY FROM PREVAILING WIND. VERIFY THAT THE PREVAILING WIND IS COMING FROM THE SOUTHWEST. LAP SHINGLES 3" MINIMUM OVER ATTACHMENTS.

NEW 1'-0" SOLID WOOD DECKING WITH ICE AND WATER SHIELD  
COMBING SHINGLES MUST LAP 3" OVER S.S. ATTACHMENTS OF PREVIOUS COMBING SHAKE.

INSTALL NEW FREEDOMGRAY Z-T ALLOY REVERE COATED COPPER CONTINUOUS FLASHING WITH HEMMED EXPOSED EDGE

REMOVE ALL EXISTING ROOFS AND INSTALL NEW 18" PREMIUM GRADE (100% EDGE GRAIN) CERTI-SAWN TAPERSAWN WESTERN RED CEDAR SHINGLES WITH A CLASS B CERTIGUARD PRESSURE IMPREGNATED FIRE RETARDANT ROOF WITH 5 1/2" EXPOSURE PER MANUFACTURE'S INSTRUCTIONS.

#30 FELT INSTALLED AT RIDGE. FINISH BENEATH SHINGLES.

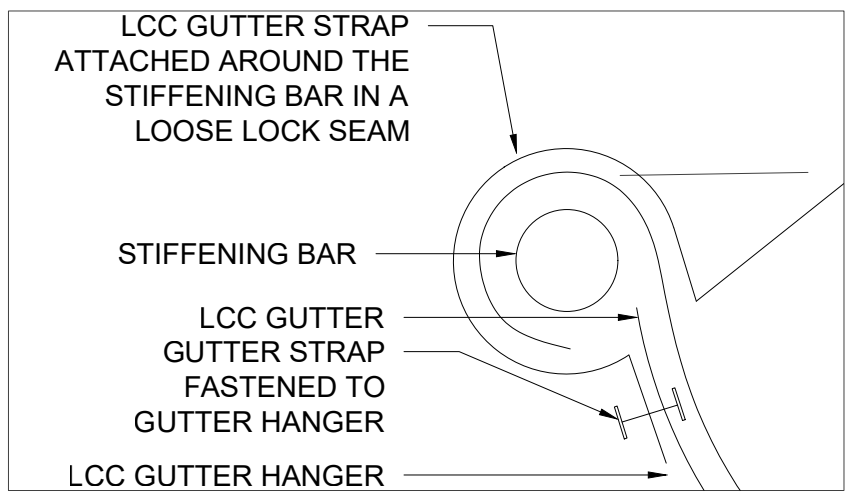


EXISTING BATTENS TO BE REUSED FOR INSTALLATION OF SHINGLES. SPACING 5 3/8" O.C. SHINGLES TO BE CAREFULLY INSTALLED TO INSURE ATTACHMENT TO EACH BATTEN. INSTALL ADDITIONAL BATTENS AS NEEDED TO MAINTAIN A TRIPLE LAP ROOF SYSTEM. 500 LF OF NEW BATTENS TO MATCH EXISTING INCLUDED IN BASE CONTRACT.

NOTE:  
ICE AND WATER SHIELD, FLASHING, SHAKE EXPOSURE, AND COMB ARE THE SAME AT BOTH RIDGES

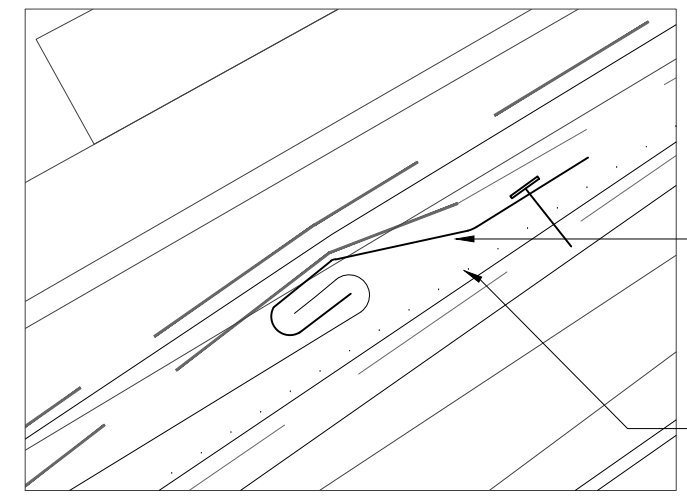
**1 WOOD SHINGLE & RIDGE COMB DETAIL**  
SCALE: 3" = 1'-0"

1  
A802



**2 GUTTER STRAP ATTACHMENT**  
SCALE: 1'-0" = 1'-0"

2  
A802



**3 LCC CLEATS**  
SCALE: 1'-0" = 1'-0"

3  
A802

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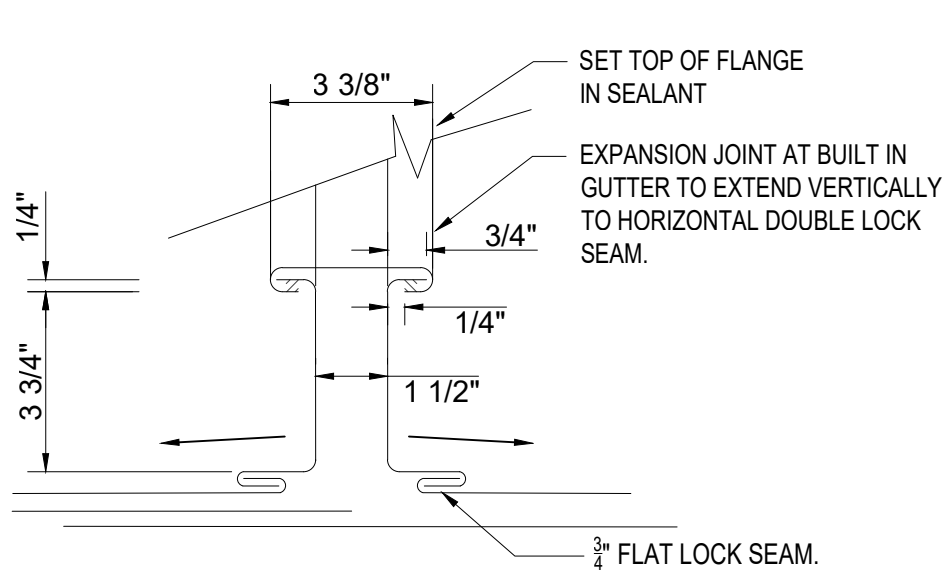
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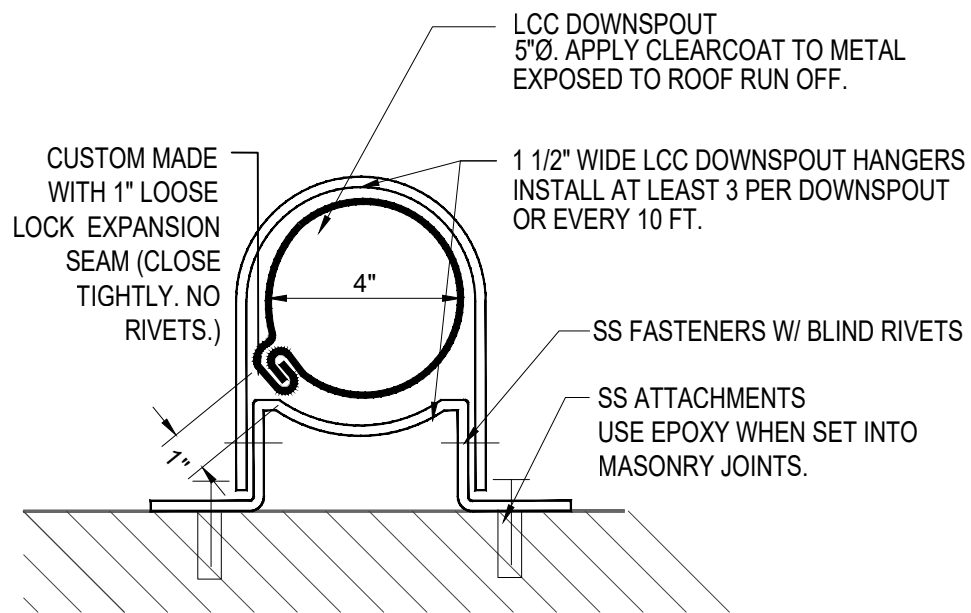
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RIDGE DETAILS 2

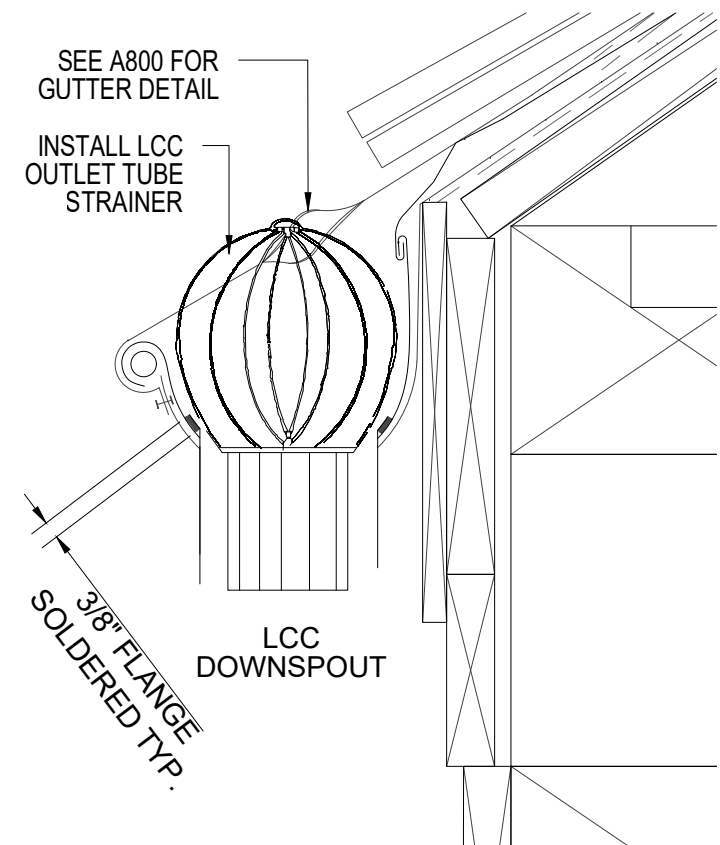
**A802**



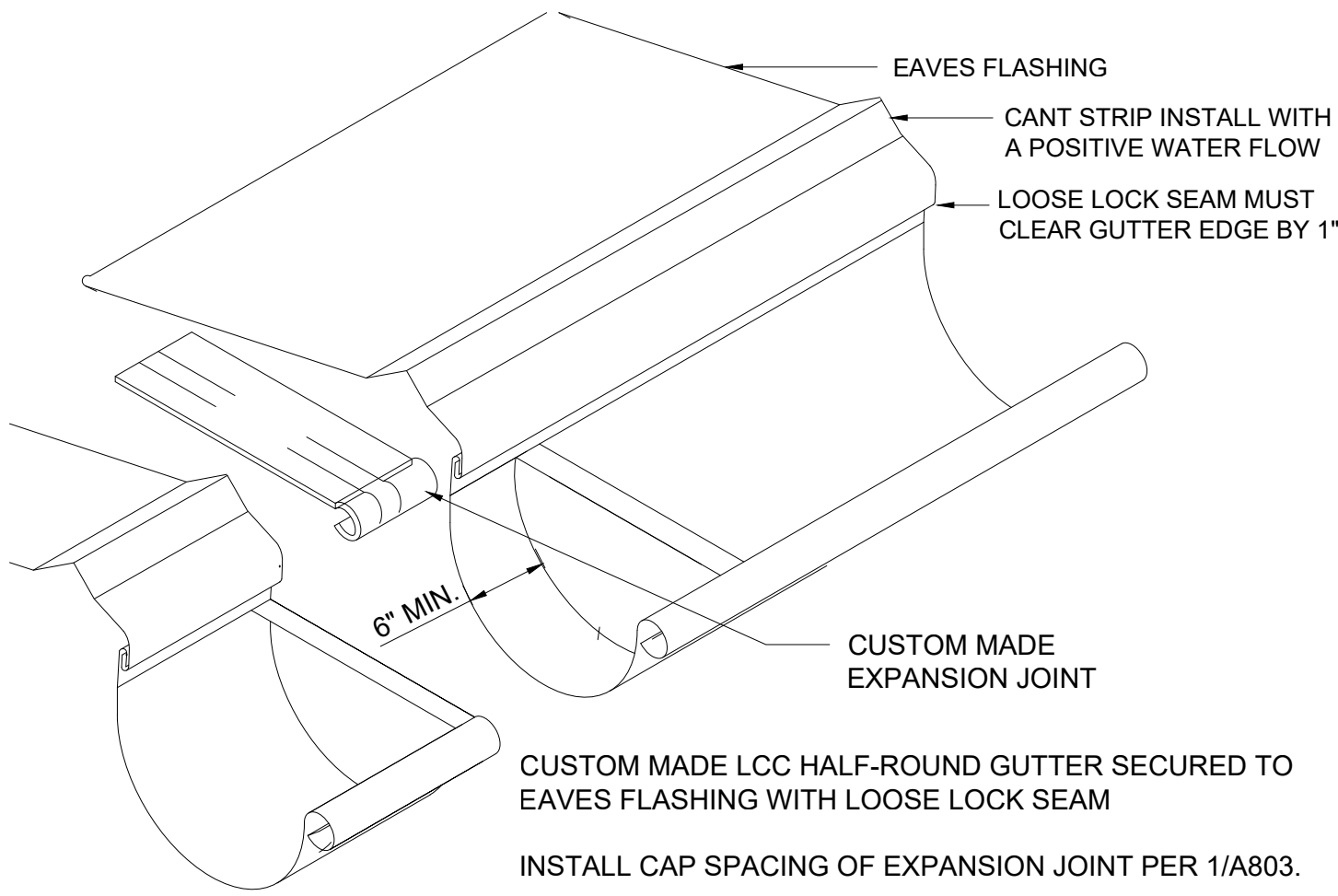
**1 GUTTER EXPANSION JOINT DETAIL**  
A803 SCALE: 3" = 1'-0"



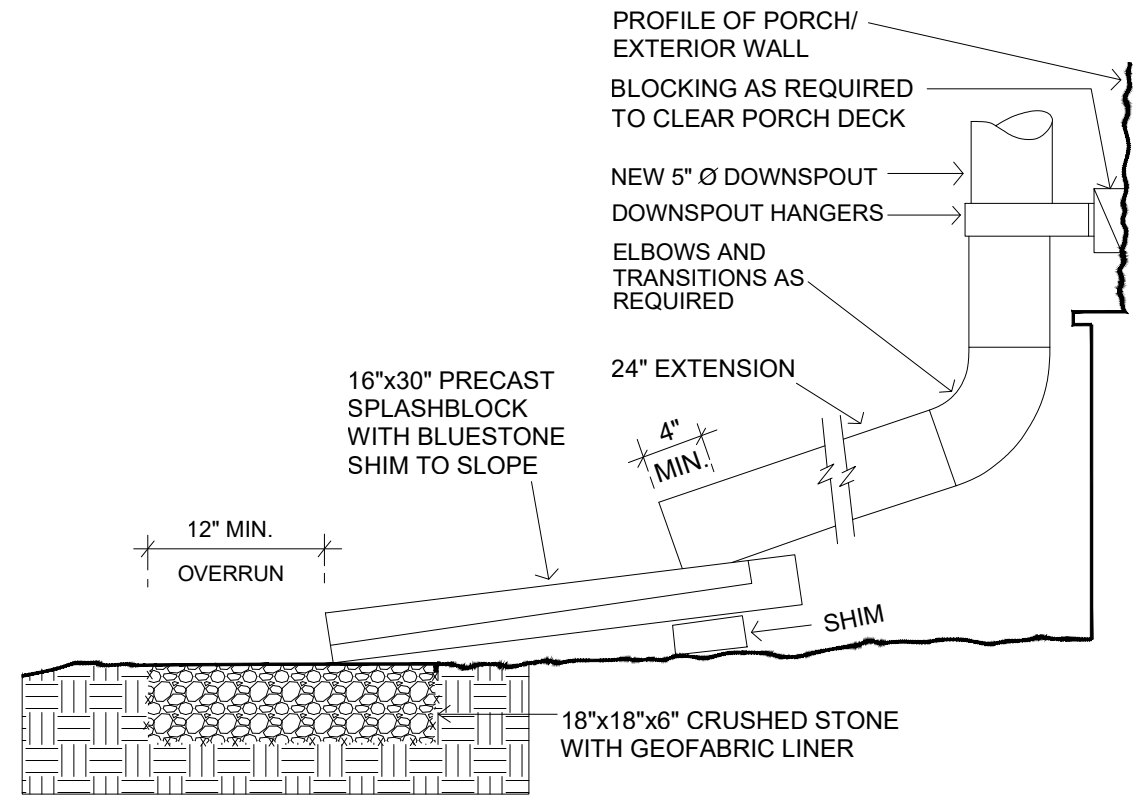
**2 ROUND LEADER SECTION**  
A803 SCALE: 3" = 1'-0"



**3 DOWNSPOUT BASKET**  
A803 SCALE: 3" = 1'-0"



**4 1/2 ROUND EXPANSION JOINT DETAIL**  
A803 SCALE: 3" = 1'-0"



**5 TYPICAL SPLASH BLOCK / LEADER TERMINUS**  
A803 SCALE: 1" = 1'-0"

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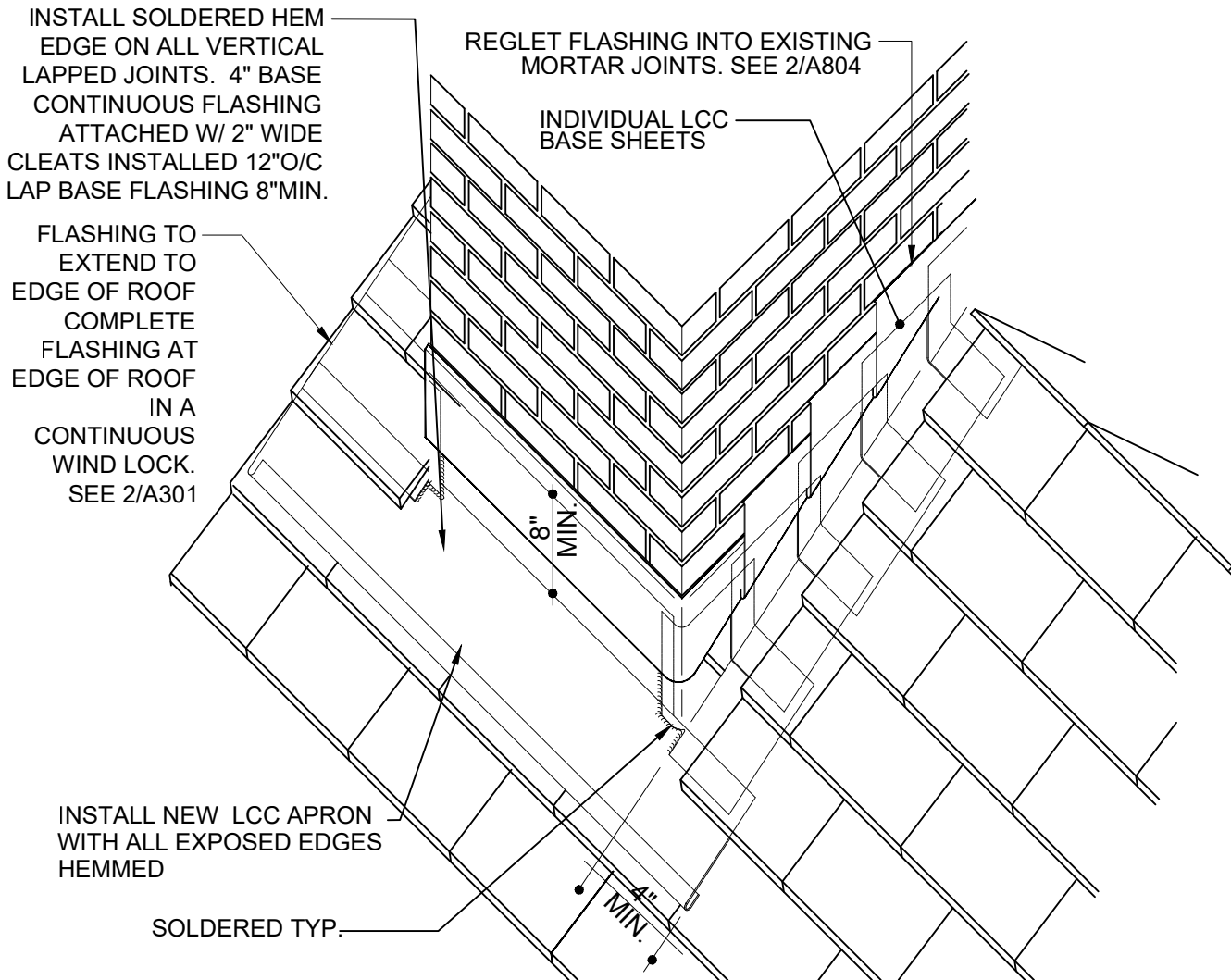
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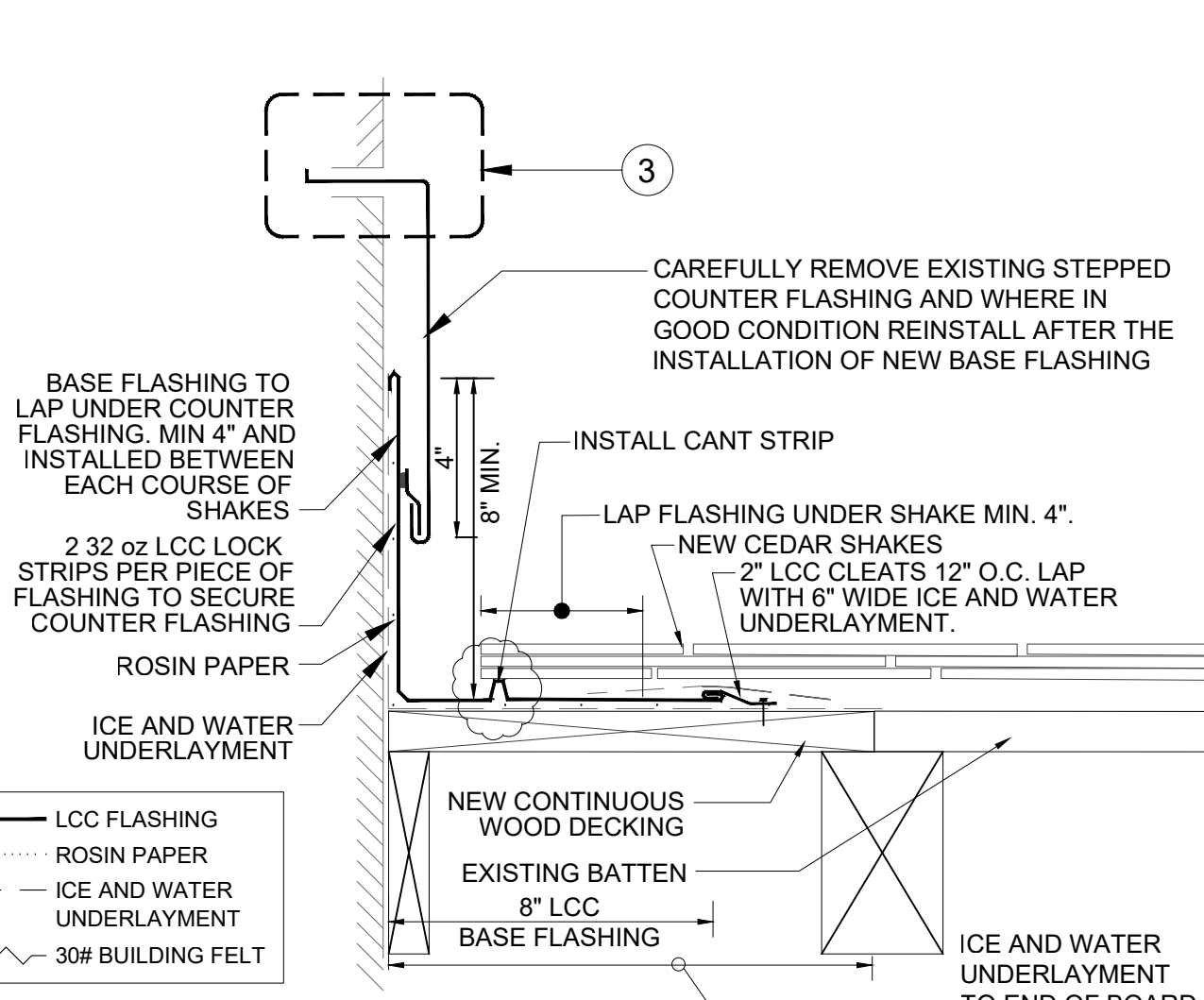
EXPANSION JOINT &  
DOWNSPOUT  
DETAILS

**A803**

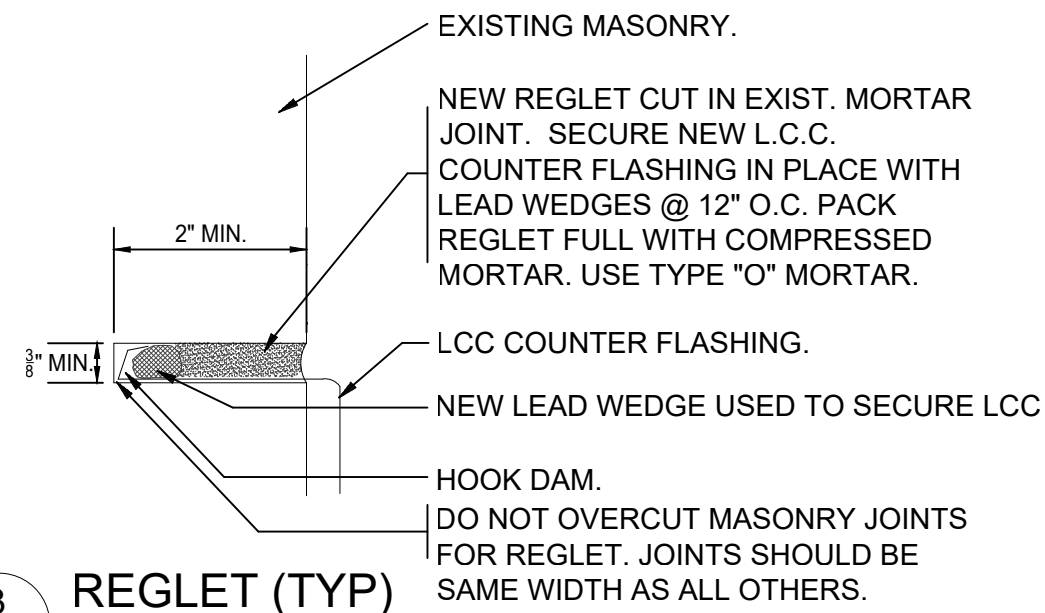
NOTE:  
CHIMNEYS HAVE NEW LCC COUNTER FLASHING. REUSE OR REPLACE WITH NEW



1 STEP FLASHING (TYP)  
A804 SCALE: NTS



2 STEP FLASHING DETAIL  
A804 SCALE: NTS



3 REGLET (TYP)  
A804 SCALE: NTS

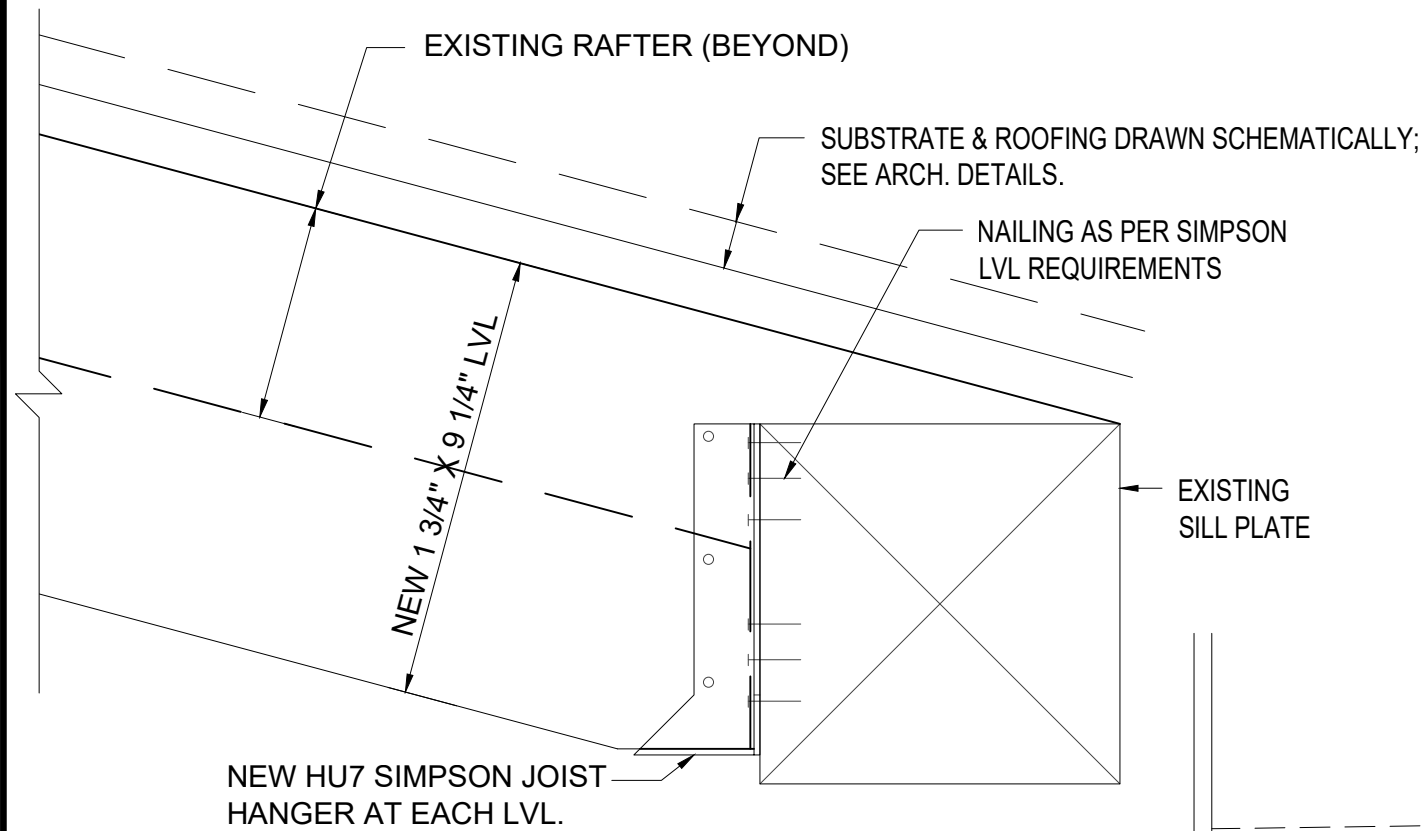
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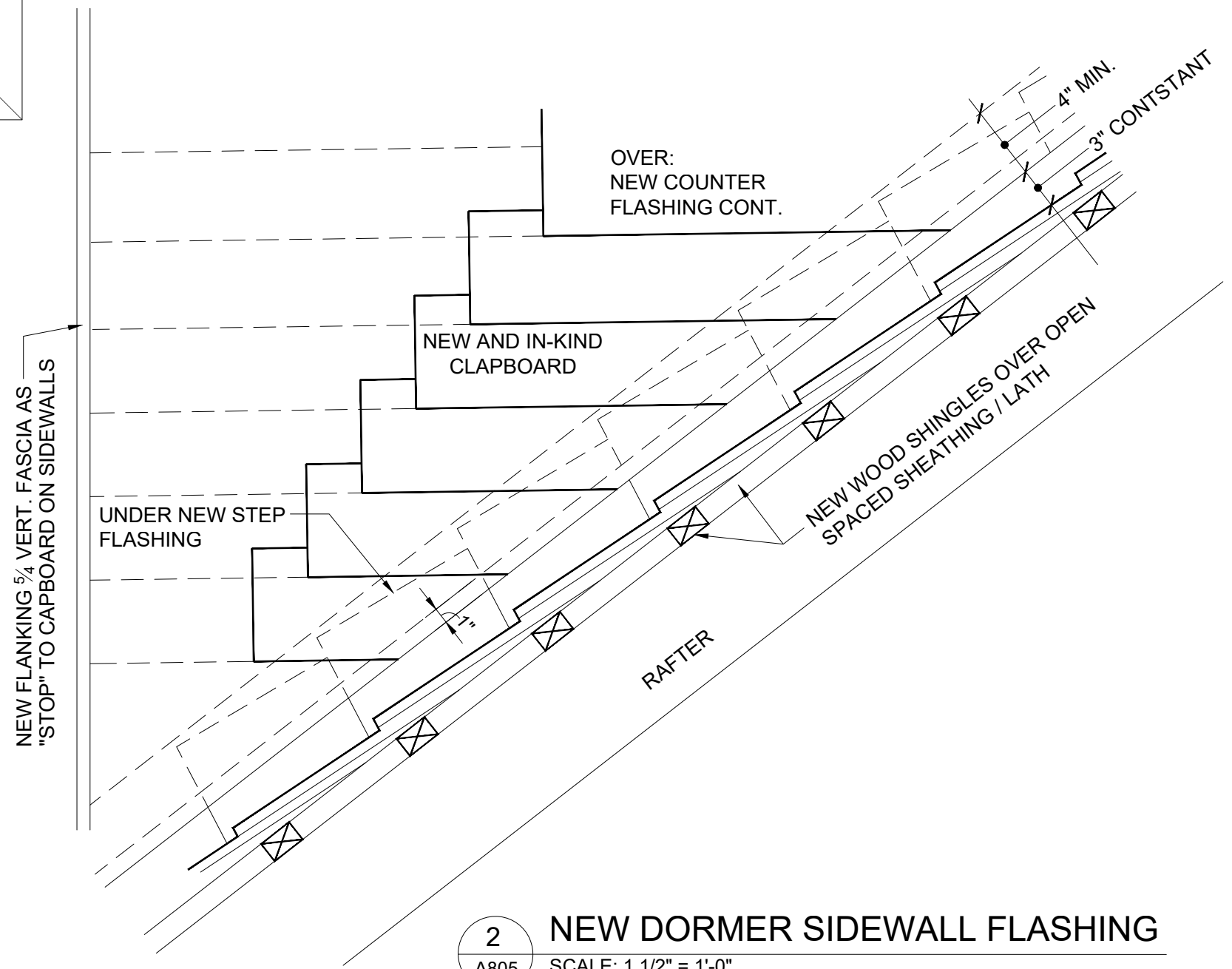
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STEPPED CHIMNEY  
FLASHING  
**A804**



**1 SECTION AT NEW RAFTER END**  
 A805 SCALE: 3" = 1'-0"



**2 NEW DORMER SIDEWALL FLASHING**  
 A805 SCALE: 1 1/2" = 1'-0"

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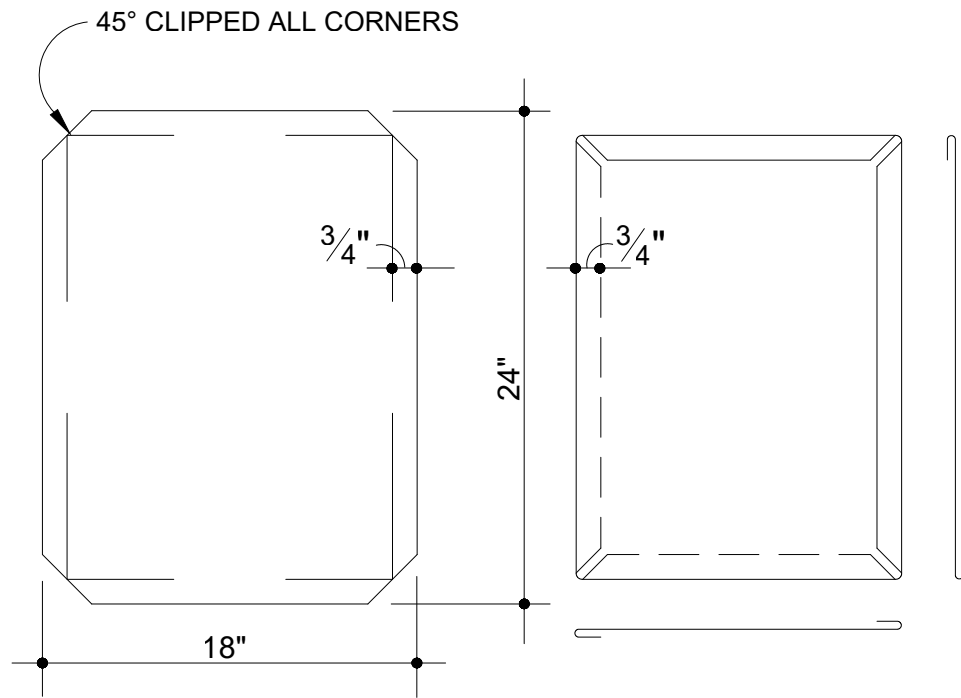
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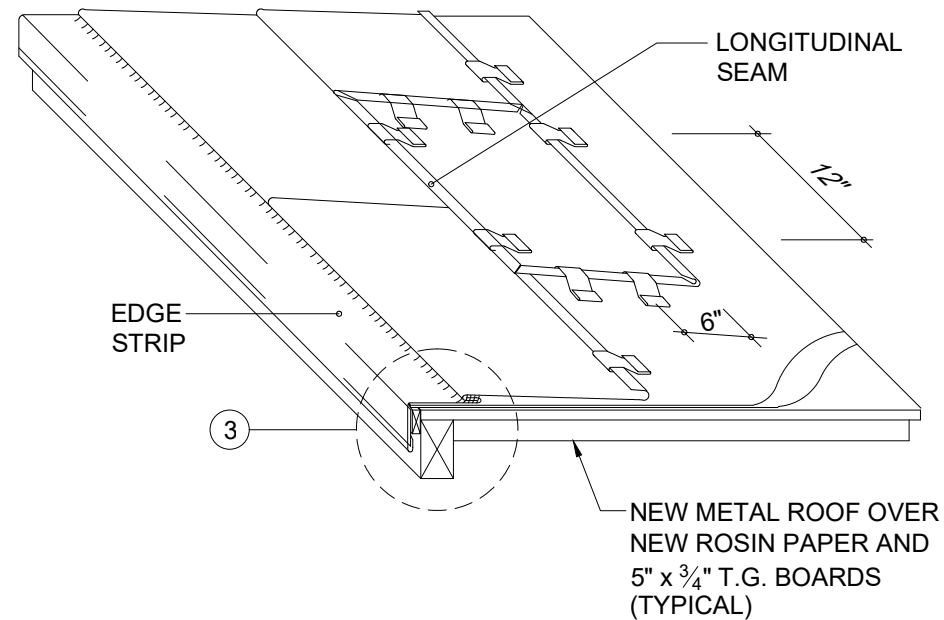
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ROOF SECTION  
 DETAIL

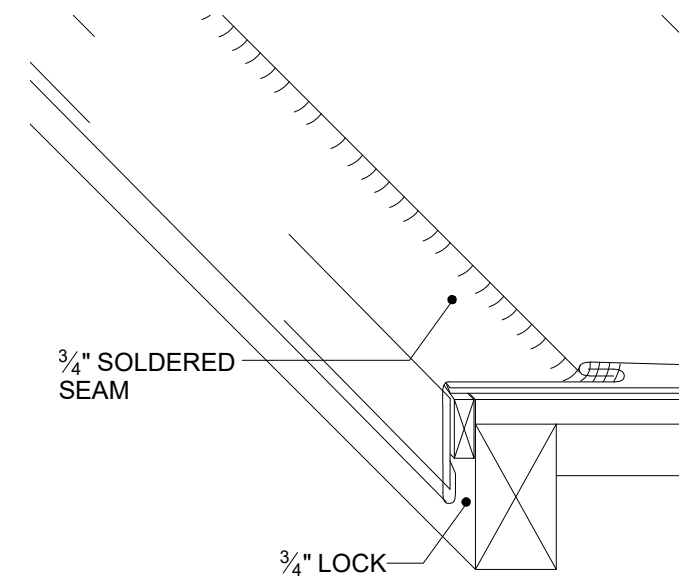
**A805**



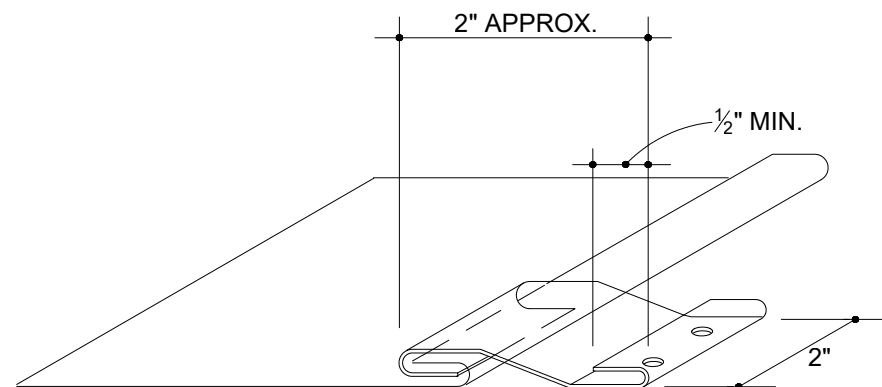
1 TYPICAL METAL PAN  
A806



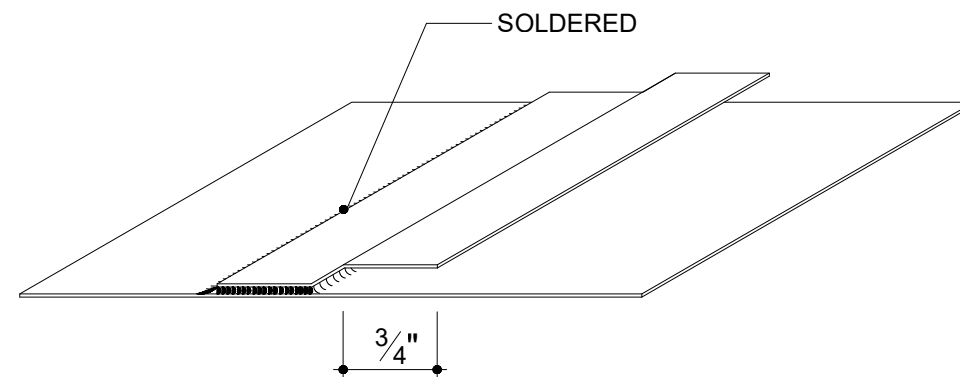
2 TYPICAL FLAT SEAM  
A806



3 EDGE DETAIL  
A806



4 TYPICAL CLEAT HEMMED EDGE  
A806



5 LOCK STRIP  
A806

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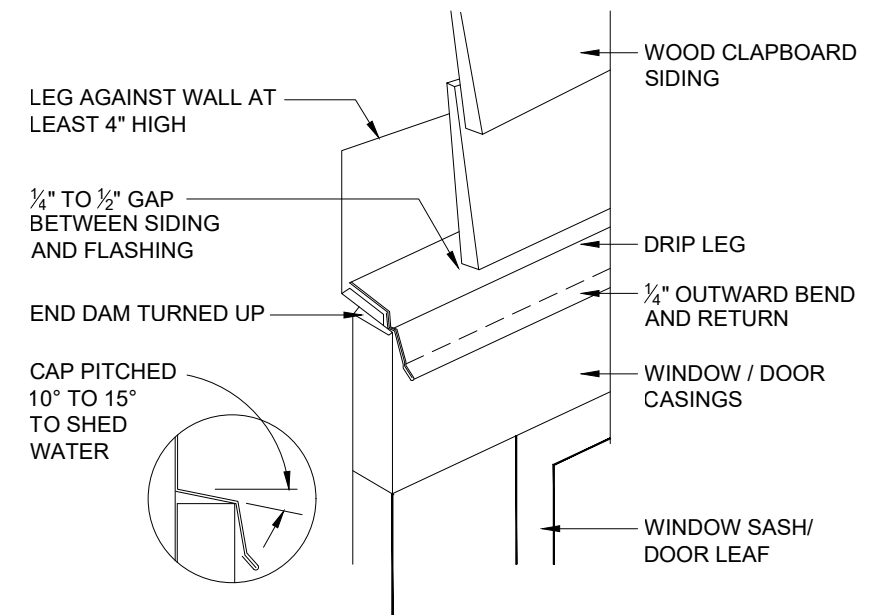
FLAT METAL ROOF DETAILS

A806

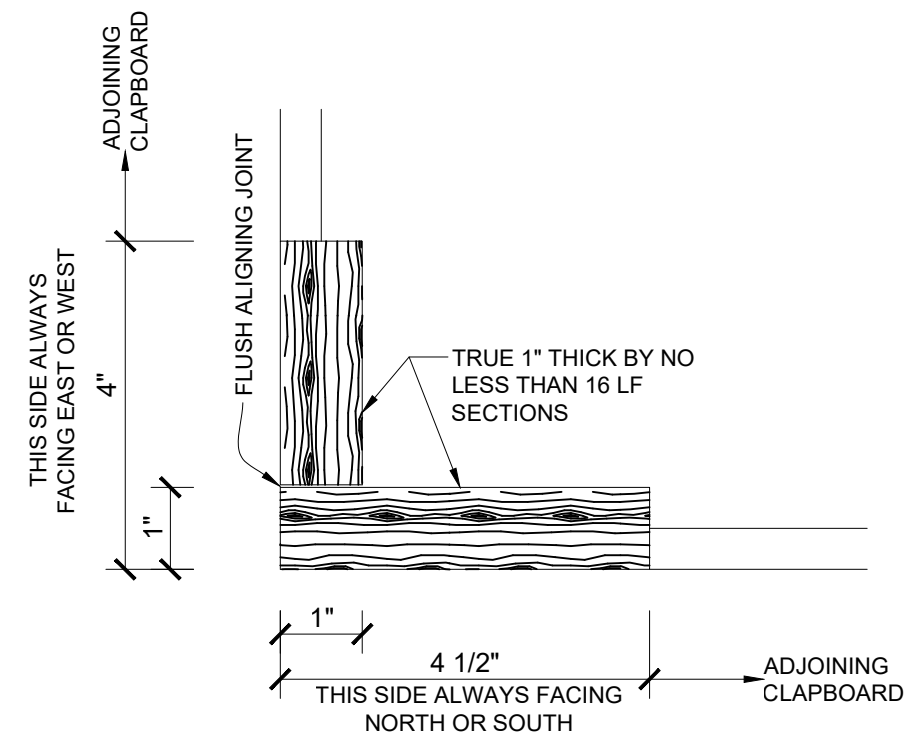
BUILDING 4 - EXTERIOR DOOR SCHEDULE						
#	FLOOR	DESCRIPTION	DOOR TYPE A851	ACTION PER SPEC SECTION 085920	REMOVE PLYWD	REMARKS
A	1ST FL	OUTER DOOR: 4 PANELS (1 HIGH & 3 LOW HORIZ) SCREEN INSERT	1	✓	✓	SHARED OPENING W/ DOOR B; REPLACE MISSING SCREEN PANEL
B	1ST FL	INNER MAIN DOOR: 4 HORIZ PANELS	3	✓		SHARED OPENING W/ DOOR A; REMOVE SIGN
C	1ST FL	OUTER DOOR: 4 LITES (2/2) OVER 3 VERTICAL PANELS	4	✓		SHARED OPENING W/ DOOR D
D	1ST FL	INNER PAIRED DOORS: 3 VERT LITES EA. LEAF	5	✓		SHARED OPENING W/ DOOR C
E	BASEMENT	VERTICAL T&G BOARD DOOR	6	✓		ENTRY TO AREA BELOW PORCH DECK
F	BASEMENT	T&G VERTICAL BOARD W/ 3 INTERIOR HORIZ RAILS W/ 3L TRANSOM	7	✓		2X4 BAR BARRICADE HOLDER BRACKETS, IN BLACK, BY SECUREBARHOLDER.COM; 3 PAIRS PER DOOR
G	BASEMENT	T&G VERTICAL BOARD W/ 3 INTERIOR HORIZONTAL RAILS W/ 3L TRANSOM	7	✓		2X4 BAR BARRICADE HOLDER BRACKETS, IN BLACK, BY SECUREBARHOLDER.COM; 3 PAIRS PER DOOR

BUILDING 4 - WINDOW SCHEDULE							
#	FLOOR	DESCRIPTION	SASH TYPE A852	ACTION PER SPEC SECTION 085920	REPAIR WOOD VENT	REMOVE PLYWD	REMARKS
W001	BASEMENT	3L SS WINDOW	B	✓			OPNG IN STONE FOUNDATION WALL
W002	BASEMENT	3L SS WINDOW	B	✓			OPNG IN STONE FOUNDATION WALL
W003	BASEMENT	3/3 DH WINDOW	D	✓		✓	OPNG IN STONE FOUNDATION WALL; REMOVE PIPES/PATCH LOWER SASH RAIL
W004	BASEMENT	6/6 DH WINDOW	A	✓	✓	✓	OPNG IN STONE FOUNDATION WALL
W005	BASEMENT	6/6 DH WINDOW	A	✓		✓	OPNG IN FRAME CONSTRUCTION
W006	BASEMENT	2/2 DH WINDOW	F	✓		✓	OPNG IN FRAME CONSTRUCTION (BAY)
W007	BASEMENT	2/2 DH WINDOW	F	✓		✓	OPNG IN FRAME CONSTRUCTION (BAY)
W008	BASEMENT	2/2 DH WINDOW	F	✓	✓		OPNG IN FRAME CONSTRUCTION (BAY)
W009	BASEMENT	2/2 DH WINDOW	F	✓		✓	OPNG IN FRAME CONSTRUCTION (BAY)
W010	BASEMENT	3L SS WINDOW	B	✓			OPNG IN STONE FOUNDATION WALL
W101	1ST FL	6/6 DH WINDOW	A	✓			REPLACE PANES
W102	1ST FL	6/6 DH WINDOW	A	✓			
W103	1ST FL	6/6 DH WINDOW	A	✓	✓		
W104	1ST FL	MULTIPLE PANES/1 DH	E	✓			TRIANGULAR BAY EXTENSION W/ W105
W105	1ST FL	MULTIPLE PANES/1 DH	E	✓			TRIANGULAR BAY EXTENSION W/ W104
W106	1ST FL	6/6 DH WINDOW	A	✓	✓		
W107	1ST FL	6/6 DH WINDOW	A	✓			1 BROKEN PANE
W108	1ST FL	6/6 DH WINDOW	A	✓			1 BROKEN PANE
W109	1ST FL	6/6 DH WINDOW	A	✓			2 BROKEN PANES
W110	1ST FL	6/6 DH WINDOW	A	✓	✓		
W111	1ST FL	6/6 DH WINDOW	A	✓	✓		REPLACE MISSING MUNTIN; 2 BROKEN PANES
W201	2ND FL	3L SS WINDOW	B	✓			KNEE WALL; 2 BROKEN PANES
W202	2ND FL	6/6 DH WINDOW	A	✓	✓		DORMER WINDOW
W203	2ND FL	3L SS WINDOW	B	✓			KNEE WALL
W204	2ND FL	3L SS WINDOW	B	✓			KNEE WALL
W205	2ND FL	6/6 DH WINDOW	A	✓			DORMER WINDOW
W206	2ND FL	3L SS WINDOW	B	✓			KNEE WALL
W207	2ND FL	6/6 DH WINDOW	A	✓	✓		GABLE WINDOW
W208	2ND FL	6/6 DH WINDOW	A	✓			GABLE WINDOW
W209	2ND FL	3L SS WINDOW	B	✓			KNEE WALL
W210	2ND FL	6/6 DH WINDOW	A	✓	✓		DORMER WINDOW
W211	2ND FL	3L SS WINDOW	B	✓			KNEE WALL
W212	2ND FL	3L SS WINDOW	B	✓			KNEE WALL
W213	2ND FL	6/6 DH WINDOW	A	✓			DORMER WINDOW
W214	2ND FL	3L SS WINDOW	B	✓			KNEE WALL
W215	2ND FL	6/6 DH WINDOW	A	✓	✓		GABLE WINDOW
W216	2ND FL	6/6 DH WINDOW	A	✓			GABLE WINDOW

SEE DWG # A852 FOR KEY TO ABBREVIATIONS



1 **OPENING CAP FLASHING, TYP.**  
A850 N.T.S. (ISOMETRIC VIEW)



2 **TYPICAL CORNER TRIM**  
A850 N.T.S.

IMPROVEMENTS AT BUILDINGS #4 AND #7 AT THE  
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SCALE: NA

BUILDING 4  
OPENING SCHEDULE

A850

BUILDING 7 - EXTERIOR DOOR SCHEDULE							
#	FLOOR	DESCRIPTION	DOOR TYPE A851	ACTION PER SPEC SECTION 085920	REMOVE PLYWD	REMARKS	
A	1ST FL	MAIN DOOR: 4 HORIZONTAL PANELS	3	√	√	REMOVE OUTER TEMPORARY PLYWD DOOR; REPLICATE NEW LEAF TO MATCH DOOR B	
B	1ST FL	OUTER DOOR: SCREEN DOOR, 1 HORIZONTAL PANEL	1	√		SHARED OPENING W/ DOOR C; REPLICATE BADLY DAMAGED DOOR TO MATCH EXISTING	
C	1ST FL	INNER SIDE DOOR: 4 LITES (2/2) OVER 2 VERTICAL PANELS	4	√	√	SHARED OPENING W/ DOOR B	
D	BASEMENT	VERTICAL T&G BOARD	6	√		TO AREA BELOW PORCH DECK	
E	BASEMENT	T&G VERTICAL BOARD W/ 3 INTERIOR HORIZ RAILS W/ 3L TRANSOM	7	√	√	2X4 BAR BARRICADE HOLDER BRACKETS, IN BLACK, BY SECUREBARHOLDER.COM; 3 PAIRS PER DOOR	
F	BASEMENT	T&G VERTICAL BOARD W/ 3 INTERIOR HORIZ RAILS W/ 3L TRANSOM	7	√	√	2X4 BAR BARRICADE HOLDER BRACKETS, IN BLACK, BY SECUREBARHOLDER.COM; 3 PAIRS PER DOOR	
BUILDING 7 - WINDOW SCHEDULE							
#	FLOOR	DESCRIPTION	SASH TYPE A852	ACTION PER SPEC SECTION 085920	REPAIR WOOD VENT	REMOVE PLYWD	REMARKS
W001	BASEMENT	BLOCKED UP WINDOW	-	BRICK FILLED			N.I.C./NO CHANGE
W002	BASEMENT	BLOCKED UP WINDOW	-	BRICK FILLED			N.I.C./NO CHANGE
W003	BASEMENT	4 LITE (2/2)	C	√		√	
W004	BASEMENT	6/6 DH WINDOW	A	√	√	√	
W005	BASEMENT	6/6 DH WINDOW	A	√		√	
W006	BASEMENT	6/6 DH WINDOW	A	√		√	
W007	BASEMENT	6/6 DH WINDOW	A	√		√	
W101	1ST FL	6/6 DH WINDOW	A	√		√	BOTTOM SASH: REPLACE MISSING MUNTINS (4 LITES)
W102	1ST FL	6/6 DH WINDOW	A	√		√	REPLACE ALL PANES
W103	1ST FL	6/6 DH WINDOW	A	√		√	REPLACE ALL PANES
W104	1ST FL	6/6 DH WINDOW	A	√	√		
W105	1ST FL	6/6 DH WINDOW	A	√		√	
W106	1ST FL	6/6 DH WINDOW	A	√		√	
W107	1ST FL	6/6 DH WINDOW	A	√		√	
W108	1ST FL	6/6 DH WINDOW	A	√		√	
W109	1ST FL	6/6 DH WINDOW	A	√		√	
W110	1ST FL	6/6 DH WINDOW	A	√	√		
W201	2ND FL	3L SS WINDOW	B	√		√	KNEE WALL
W202	2ND FL	6/6 DH WINDOW	A	√		√	DORMER WINDOW
W203	2ND FL	3L SS WINDOW	B	√		√	KNEE WALL
W204	2ND FL	3L SS WINDOW	B	√		√	INSIDE BOARD
W205	2ND FL	6/6 DH WINDOW	A	√	√		DORMER WINDOW
W206	2ND FL	3L SS WINDOW	B	√		√	KNEE WALL
W207	2ND FL	6/6 DH WINDOW	A	√		√	GABLE WINDOW
W208	2ND FL	6/6 DH WINDOW	A	√	√	√	GABLE WINDOW; INSIDE BOARD, BROKEN PANES
W209	2ND FL	3L SS WINDOW	B	√		√	KNEE WALL
W210	2ND FL	6/6 DH WINDOW	A	√		√	GABLE WINDOW
W211	2ND FL	3L SS WINDOW	B	√		√	KNEE WALL
W212	2ND FL	3L SS WINDOW	B	√		√	KNEE WALL
W213	2ND FL	6/6 DH WINDOW	A	√	√	√	GABLE WINDOW; BOARD ON TOP SASH
W214	2ND FL	3L SS WINDOW	B	√		√	KNEE WALL
W215	2ND FL	6/6 DH WINDOW	A	√		√	PROJECTING PAIRED BAY WINDOWS, BOARDED FROM INSIDE, BROKEN PANES
W216	2ND FL	6/6 DH WINDOW	A	√		√	BROKEN PANES, BOARDED INSIDE TOP SASH
W217	2ND FL	6/6 DH WINDOW	A	√	√	√	BROKEN PANES, BOARDED INSIDE TOP SASH
SEE DWG # A852 FOR KEY TO ABBREVIATIONS							

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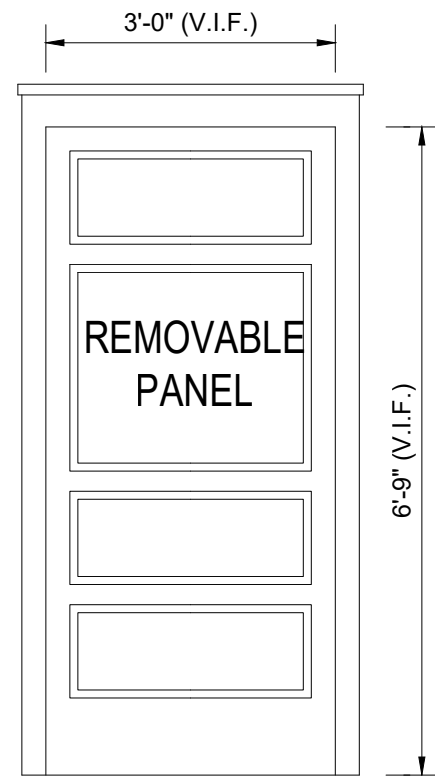
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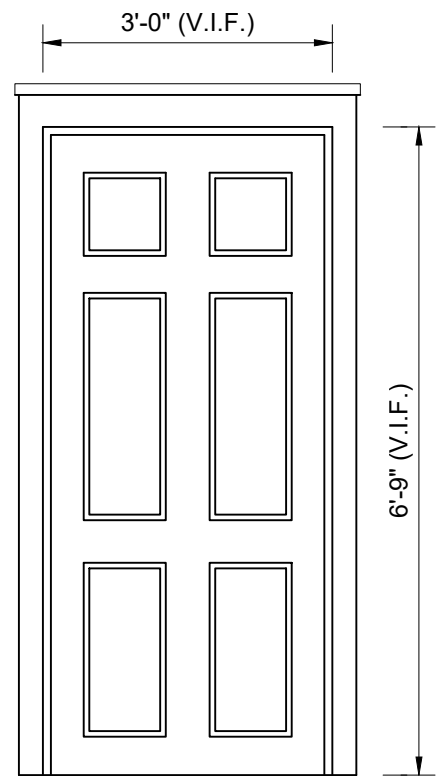
SCALE: NA

BUILDING 7  
 OPENING SCHEDULE

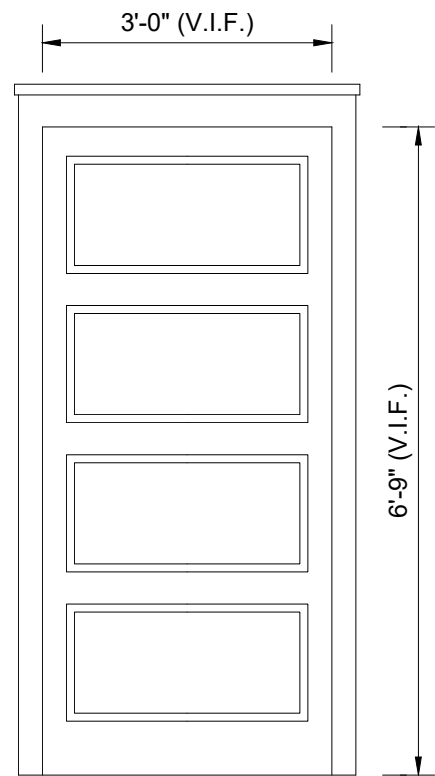
**A850.1**



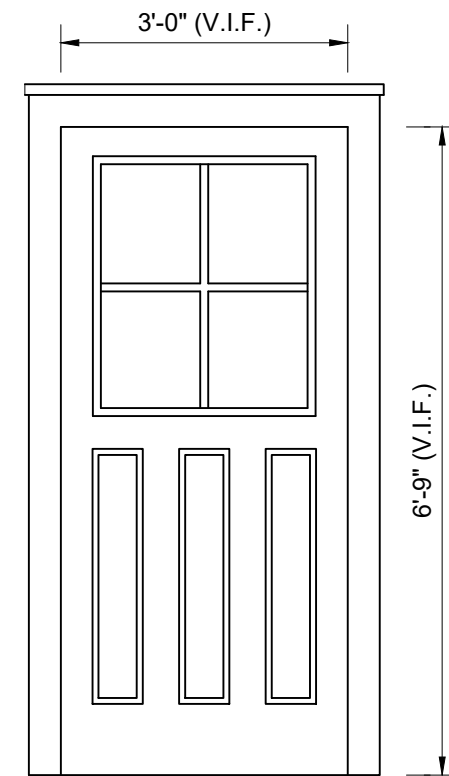
DOOR TYPE #1



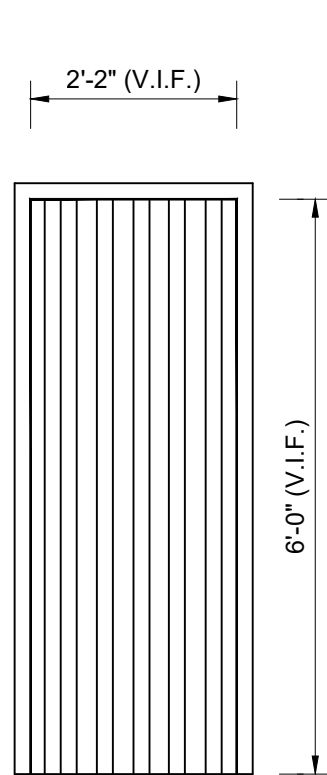
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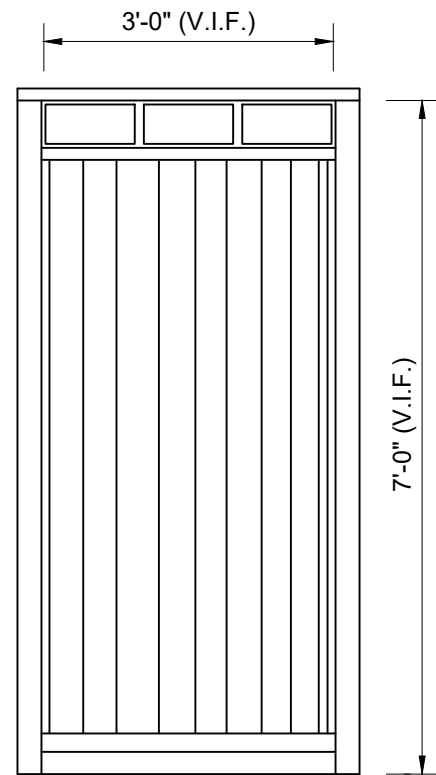
DOOR TYPE #3



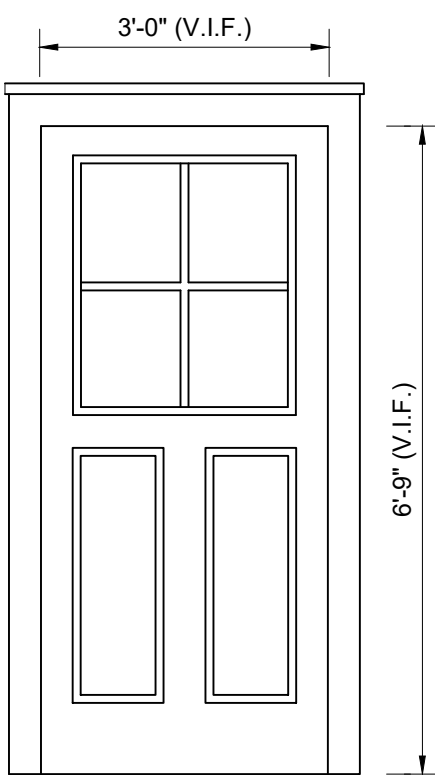
DOOR TYPE #4



DOOR TYPE #6



DOOR TYPE #7



DOOR TYPE #8



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SCALE: 1/2" = 1'-0"

DOOR TYPES

**A851**

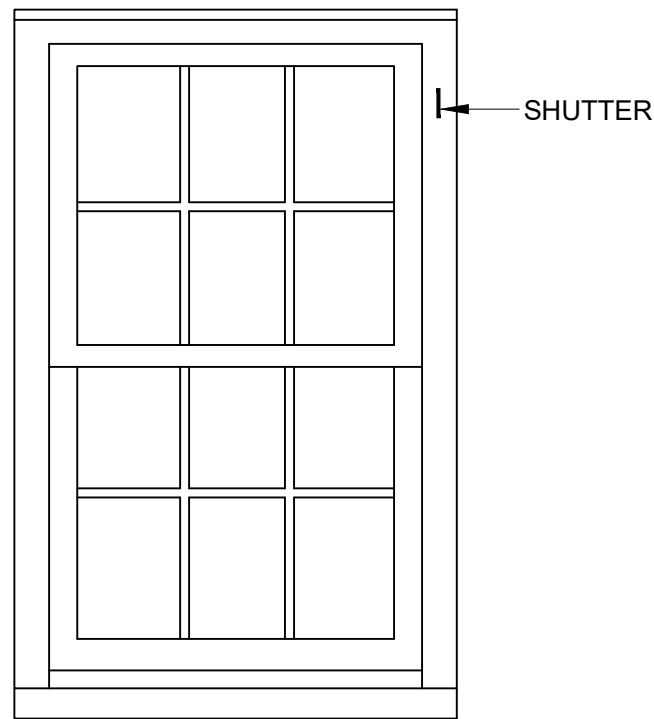


**LEGEND:**

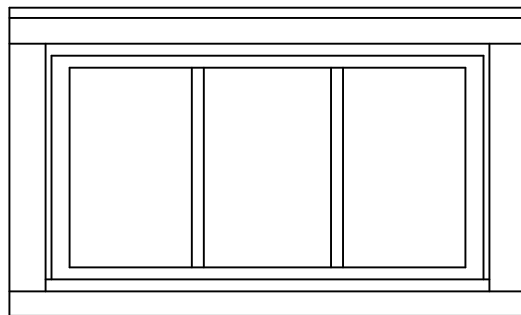
- DH DOUBLE HUNG WINDOW
- SS SINGLE SASH
- L LITE
- 6/6 6 LITES OVER 6 LITES. [3/3 = 3 PANES OVER 3 PANES, ETC.]

**TYPICAL NOTES:**

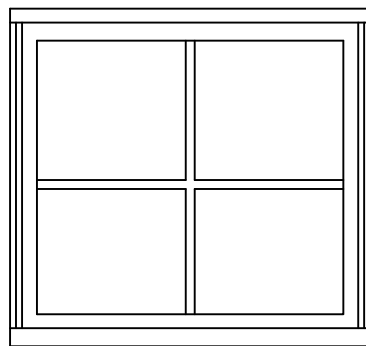
1. CONTRACTOR SHALL FIELD VERIFY ALL DIMENSIONS.
2. MINIMUM WORK AT EACH OPENING...
  - A. REMOVE COVERS (INTERIOR AND EXTERIOR PLYWOOD, BOARDING, ETC.) AT ALL WINDOWS/EXTERIOR DOORS. AS PART OF PAINTING PREPARATION, FILL ALL HOLES IN WOOD CREATED BY REMOVED FASTENERS. STORE OR DISCARD SALVAGED COVERS VERTICALLY IN BASEMENTS AS DIRECTED BY THE OWNER/ARCHITECT.
  - B. REMOVE ALL WINDOW SASH/DOOR LEAF FROM OPENING FOR OFF-SITE OR SHOP RESTORATION IN ACCORDANCE WITH ARCHITECT-APPROVED WORK PLAN.
  - C. PROVIDE TEMPORARY PROTECTION TO PROVIDE SECURE ENCLOSURES AT VACATED OPENINGS. REMOVED COVERS (ITEM "A") ABOVE MAY BE USED FOR THIS PURPOSE.
  - D. DRY SCRAPE ALL LOOSE PAINT FROM EACH WINDOW SASH/DOOR LEAF AND THEIR FRAMES AND CASINGS (INTERIOR & EXTERIOR). COLLECT AND CONTAIN (BAG) ALL PAINT CHIPS AND DISCARD WITH WASTE PROPERLY.
  - E. CLEAN ALL COMPONENTS AND DEGLOSS WELL ADHERED PAINT WITH BORAX.
  - F. CAREFULLY SALVAGE, REMOVE, BAG AND TAG (IDENTIFY) ALL EXISTING HARDWARE ATTACHED TO MOVING COMPONENTS AND FRAMES AND CASINGS (INTERIOR & EXTERIOR) FOR REPAIR, RESTORATION AND RE-INSTALLATION.
3. ALL DOOR AND WINDOW HEADS REQUIRE NEW HEAD FLASHINGS (EXCEPT WHERE PROTECTED BY A FULL PORCH OVERHANG).
4. ALL EXISTING WOOD LOUVER VENTS SHALL BE REMOVED, REPAIRED AND REINSTALLED. ASSUME CLEANING, REPLACEMENT OF INSECT SCREENING AND 0.25 IN. SQ. WIRE CLOTH (BIRD SCREEN), TOUCH UP PAINTING AT ALL UNITS. SHIM UNITS AS REQUIRED FOR REINSTALLATION. SCREW IN PLACE.



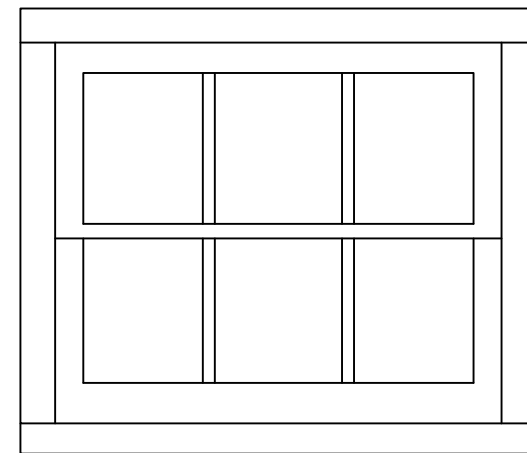
**WINDOW TYPE 'A'**



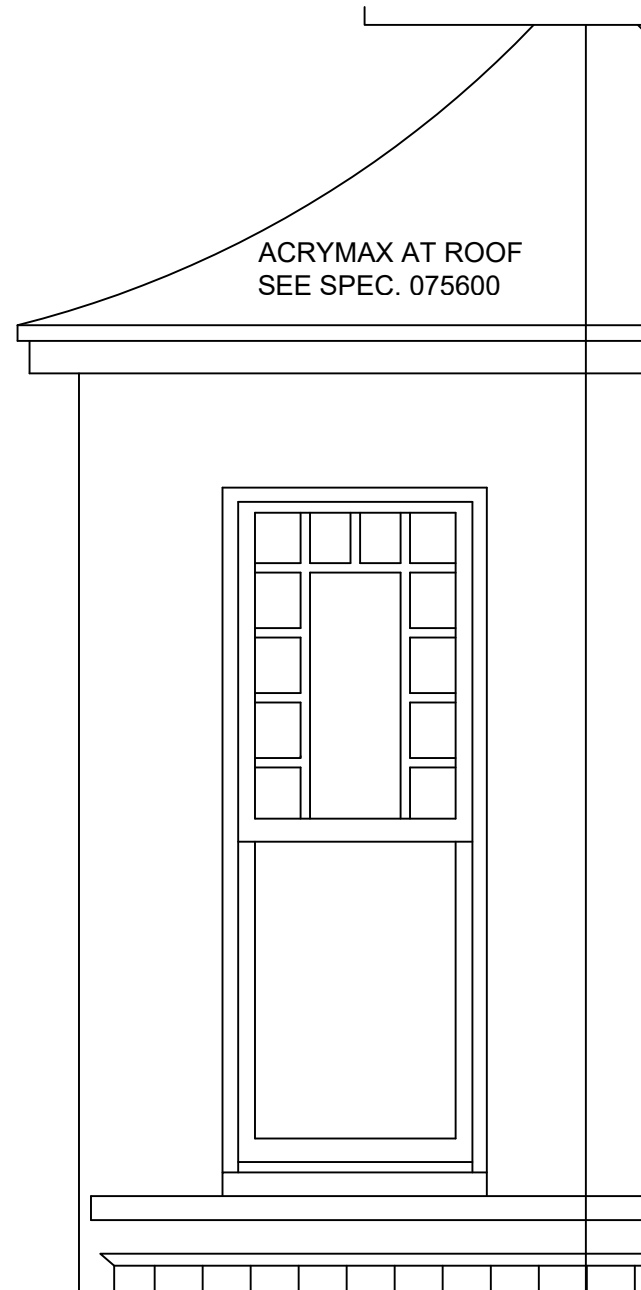
**WINDOW TYPE 'B'**  
BASEMENT LOCATIONS SET IN MASONRY  
SECOND FLOOR LOCATION IN FRAME WALLS



**WINDOW TYPE 'C'**

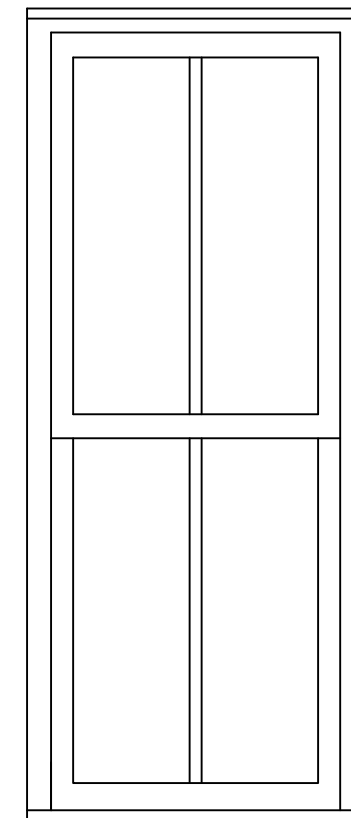


**WINDOW TYPE 'D'**  
W003 BASEMENT ONLY



**WINDOW TYPE 'E'**  
WINDOW 104 SHOWN,  
W105 OPPOSITE HAND

ACRYMAX AT ROOF  
SEE SPEC. 075600



**WINDOW TYPE 'F'**  
TYPE 'G' SIMILAR EXCEPT  
FOR MUNTIN (1 OVER 1)

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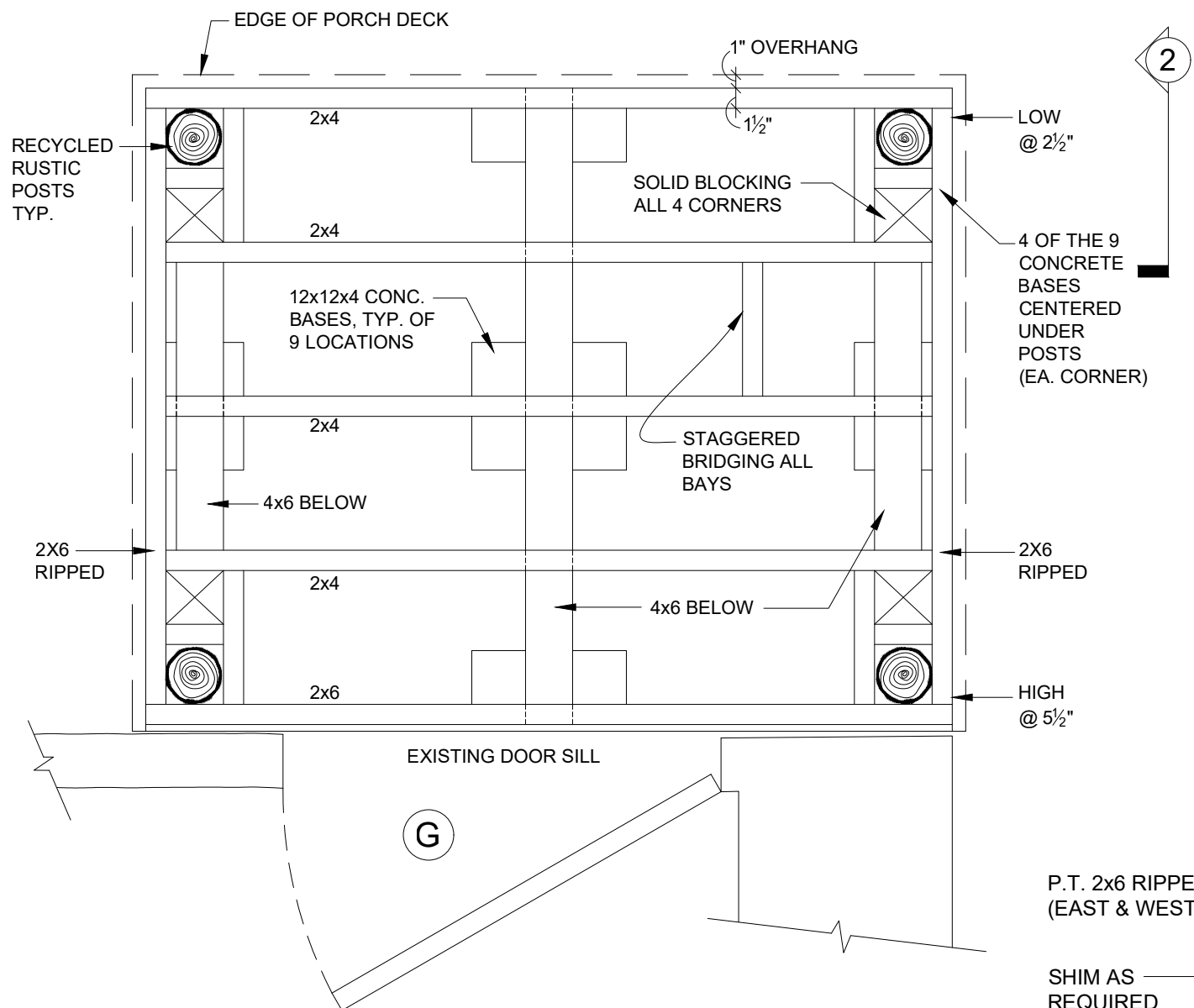
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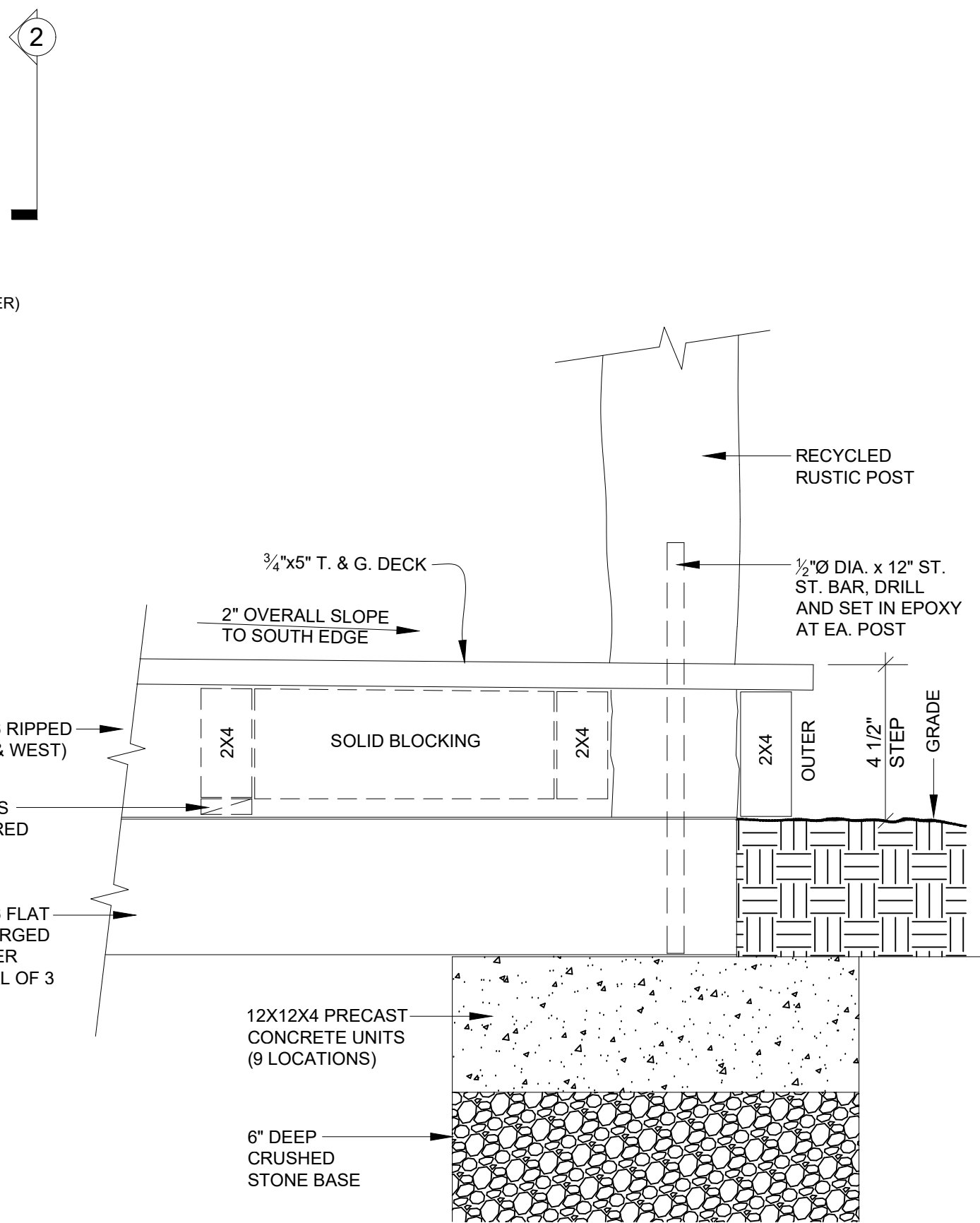
SCALE: 3/4" = 1'-0"

WINDOW TYPES

**A852**



**1** **DETAIL PLAN BUILDING 4 SOUTH DECKS**  
 A900 SCALE: N.T.S. NOTE: TYPICAL OF 2 LOCATIONS



**2** **CROSS SECTION @ POSTS**  
 A900 SCALE: 3" = 1'-0"

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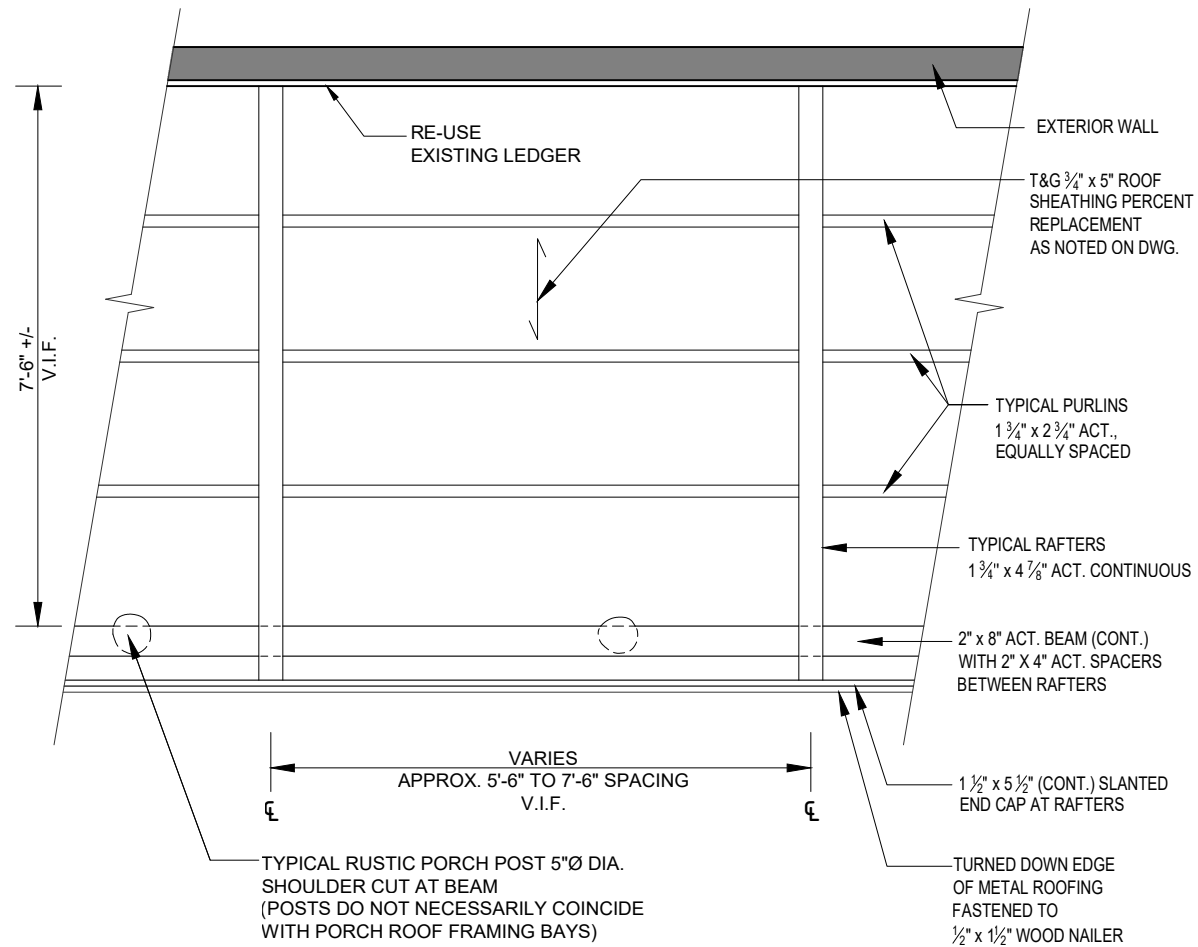
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DATE 09/10/20

SCALE: AS NOTED

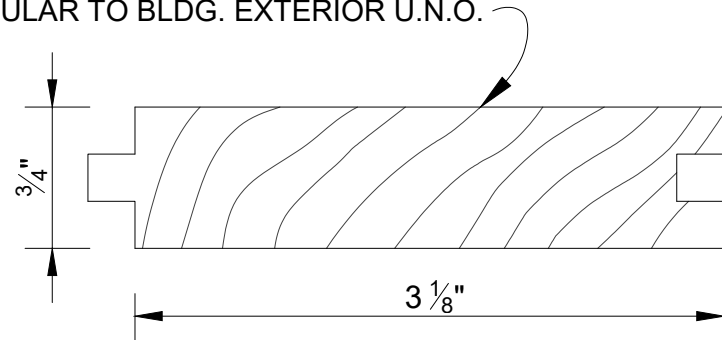
BUILDING 4 SOUTH DECKS

**A900**

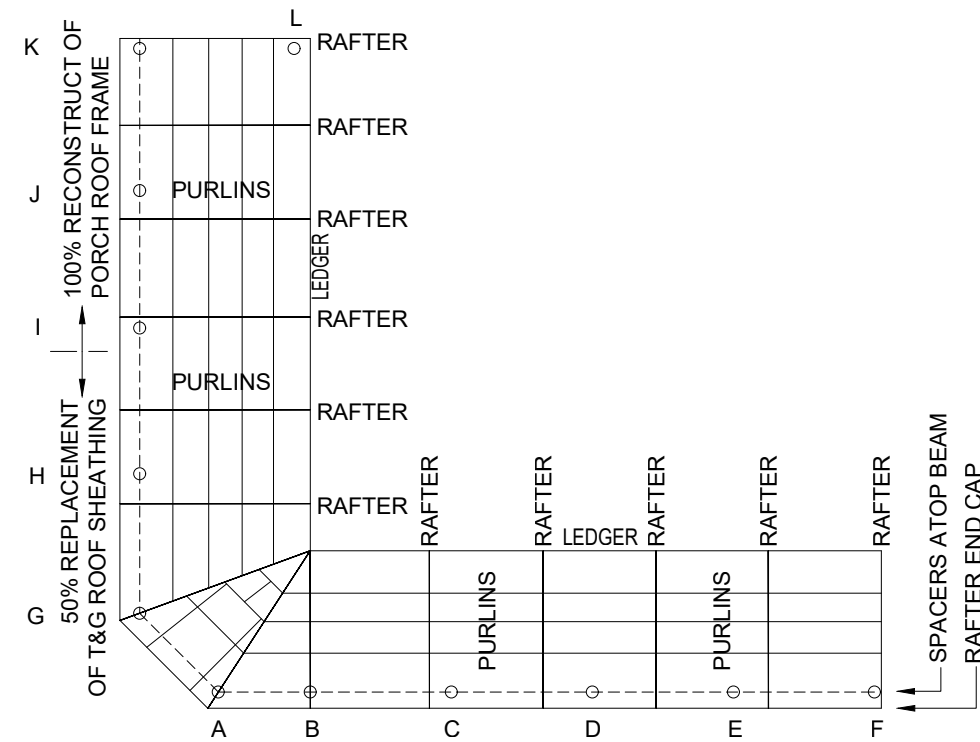


**1** PORCH REFLECTED CEILING PLAN - TYPICAL BAY  
A901 SCALE: 1/2"=1'-0" [1:24]

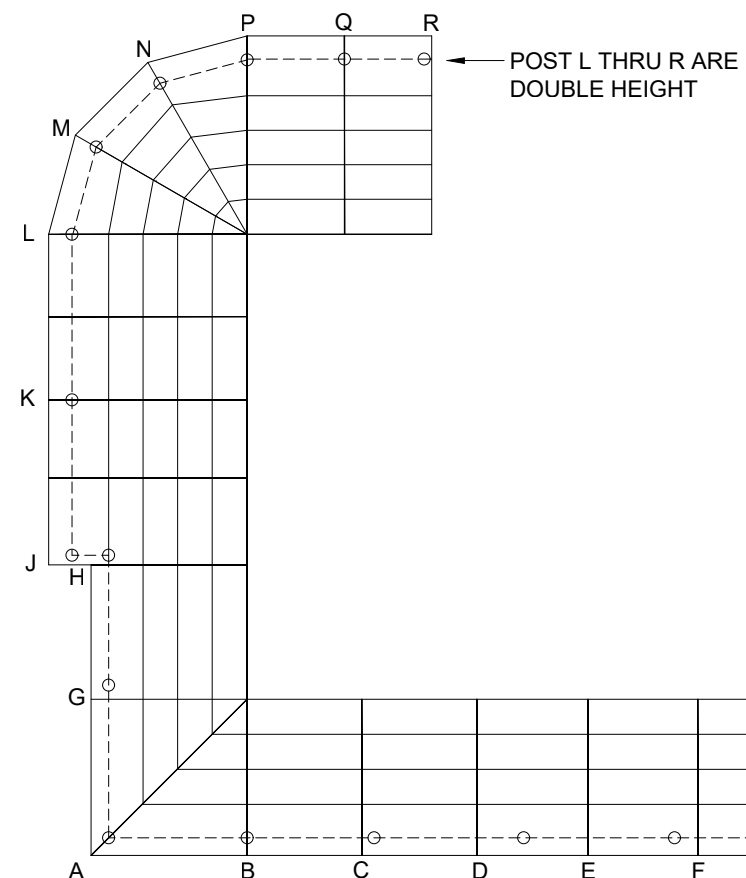
TYPICAL ALL PORCHES:  
PREMIUM DOUGLAS FIR, MIN. 10 GROWTH RINGS PER INCH:  
BORATE TREATED, PRIMED & PAINTED. DECK ALWAYS INSTALLED  
PERPENDICULAR TO BLDG. EXTERIOR U.N.O.



**2** TONGUE & GROOVE PORCH DECKING  
A901 SCALE: FULL SIZED [1:1]



**3** BLDG #4 PORCH ROOF FRAMING  
A901 SCALE: 3/32" = 1'-0"



**4** BLDG #7 PORCH ROOF FRAMING  
A901 SCALE: 3/32" = 1'-0"

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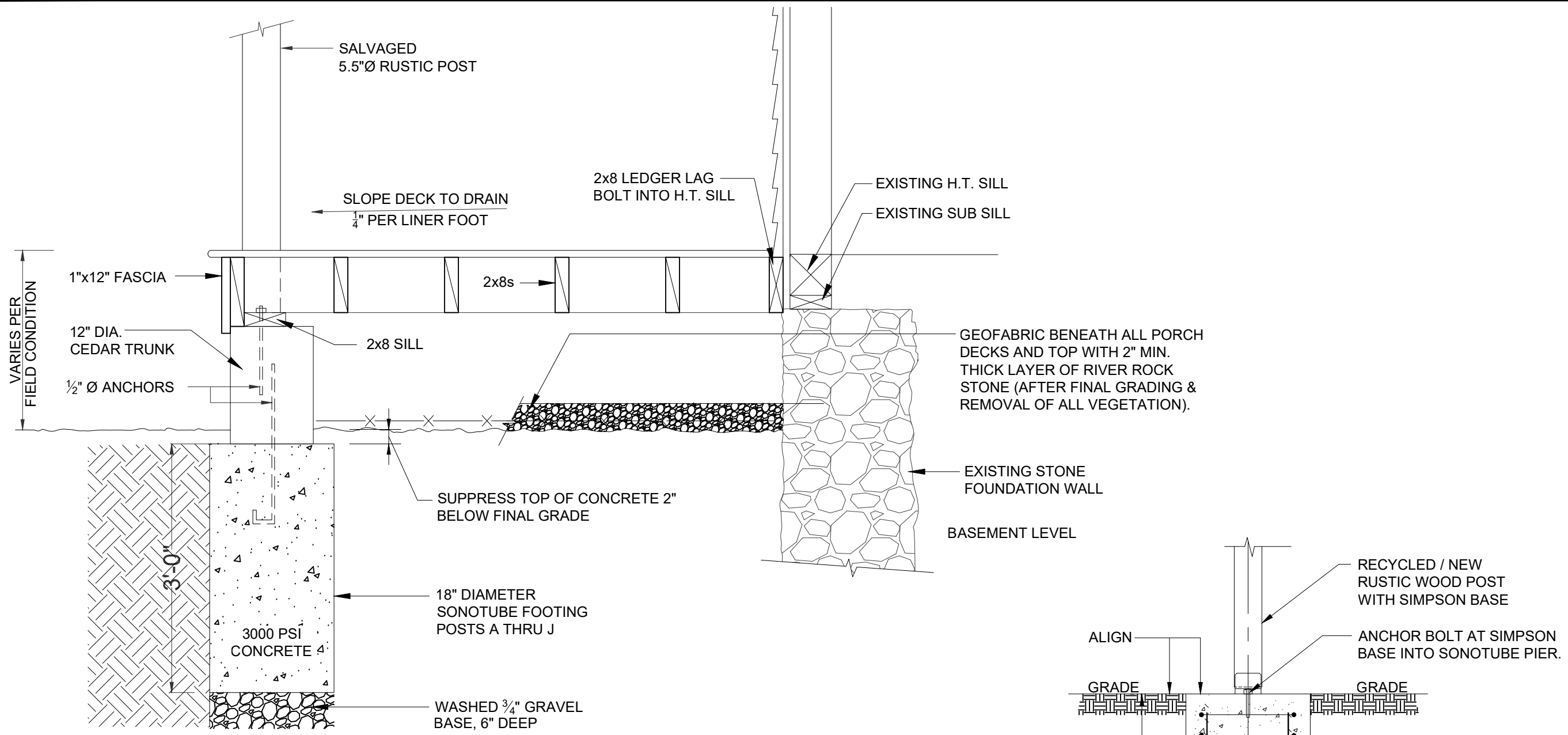
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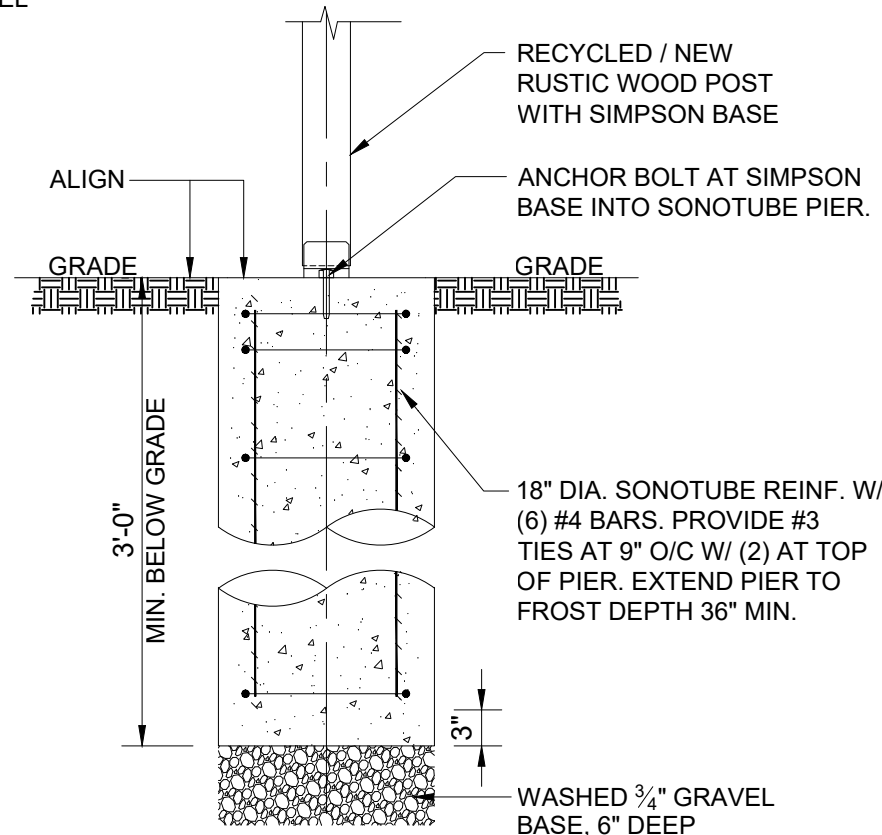
SCALE: AS NOTED

PORCH DETAILS 1

A901



**1 SECTION THROUGH NEW PORCH DECK**  
 A902 SCALE: 3/4"=1'-0"



**2 BUILDING #7 NEW FOOTINGS AT ELEVATED PORCH DECK (K THRU R)**  
 A902 SCALE: 3/4"=1'-0"

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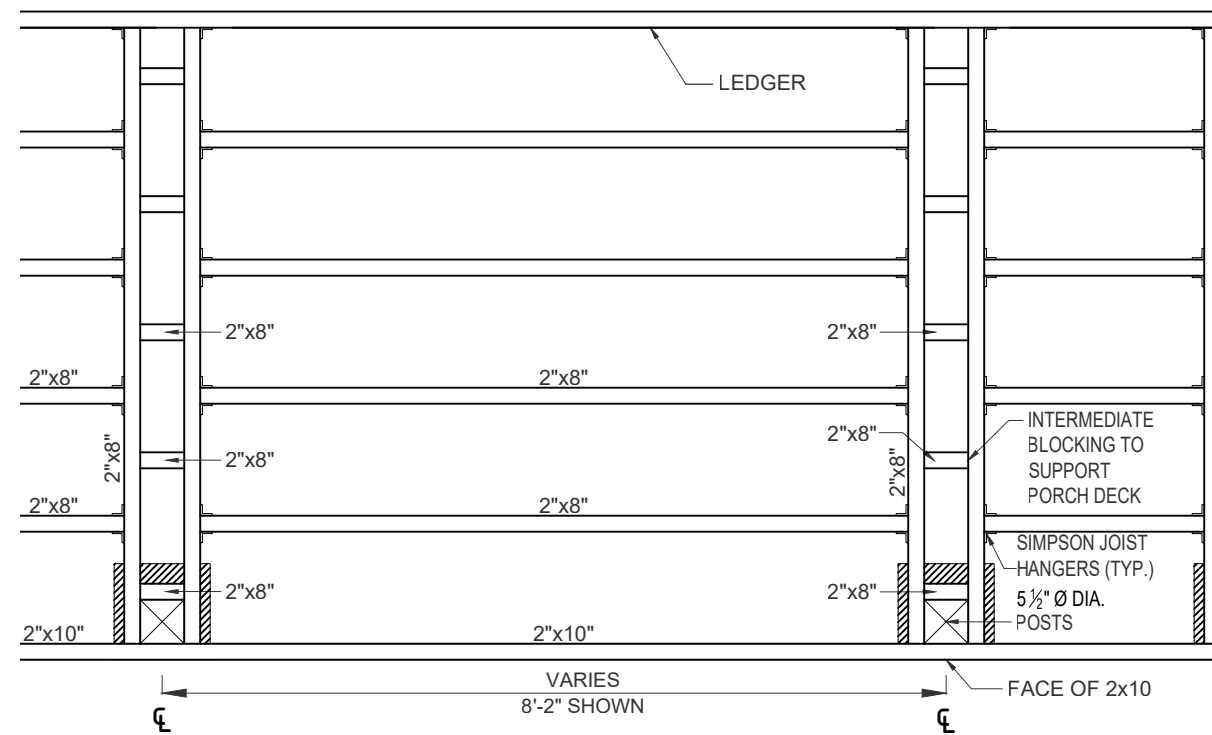
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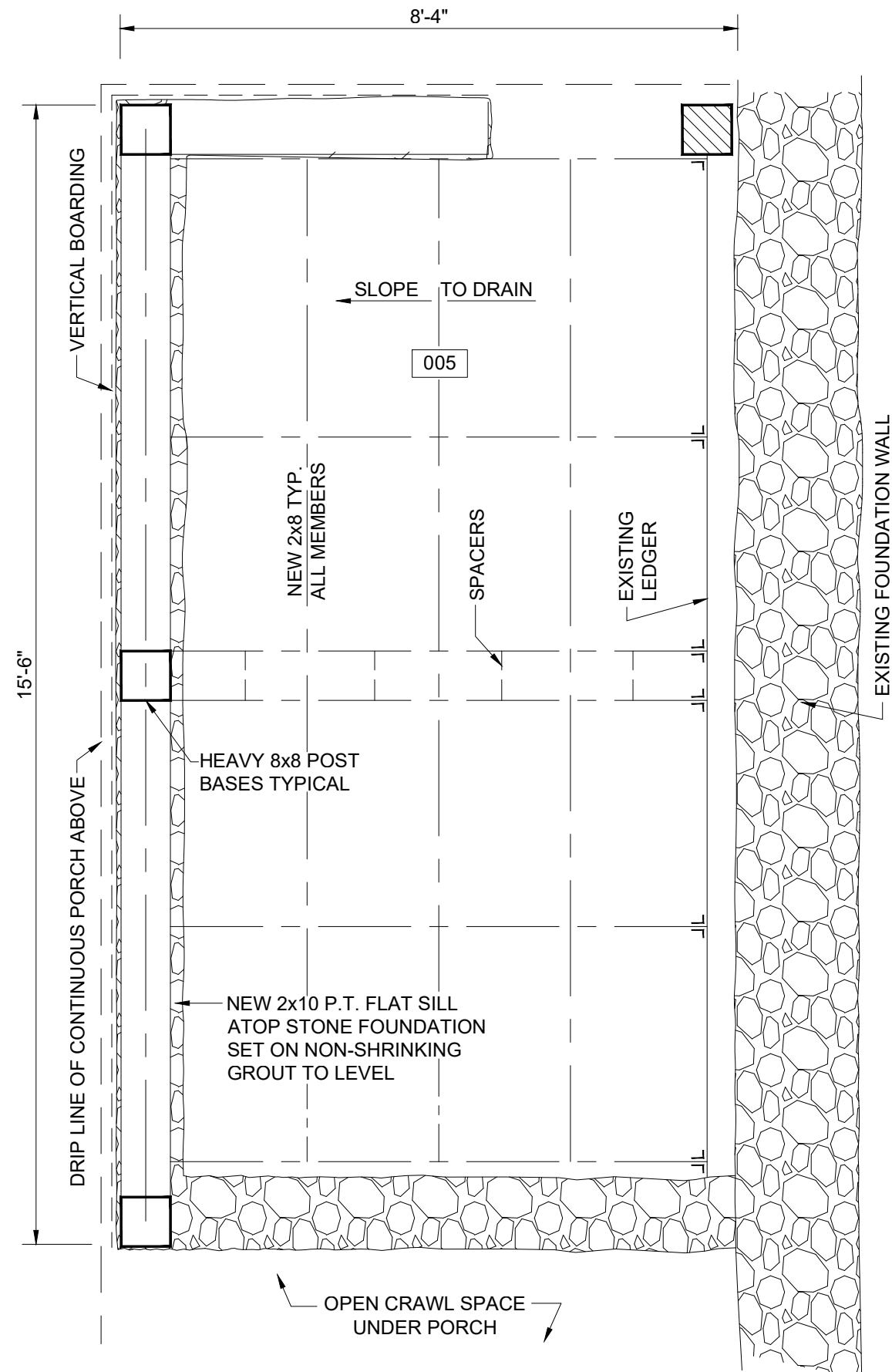
SCALE: AS NOTED

PORCH DETAILS 2

**A902**



**1** NEW PORCH DECK FRAMING - TYPICAL BAY  
 A903 SCALE: 1/2"=1'-0"



**2** RECONSTRUCTED EAST PORCH @ BLDG. #4  
 A903 SCALE: 1/2"=1'-0"

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 9 CATARACT HOLLOW ROAD  
 BERKELEY HEIGHTS, NEW JERSEY 07922  
 COUNTY OF UNION, OWNER

MICHAEL CALAFATI, RA NJ#21AI00902900  
 Certificate of Authorization  
 #21AC0084500 / Expires 01/2022

**MCA**

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 510 Bank Street, PO Box 2363, Cape May, NJ 08204  
 609 884 4922 www.calafati.com

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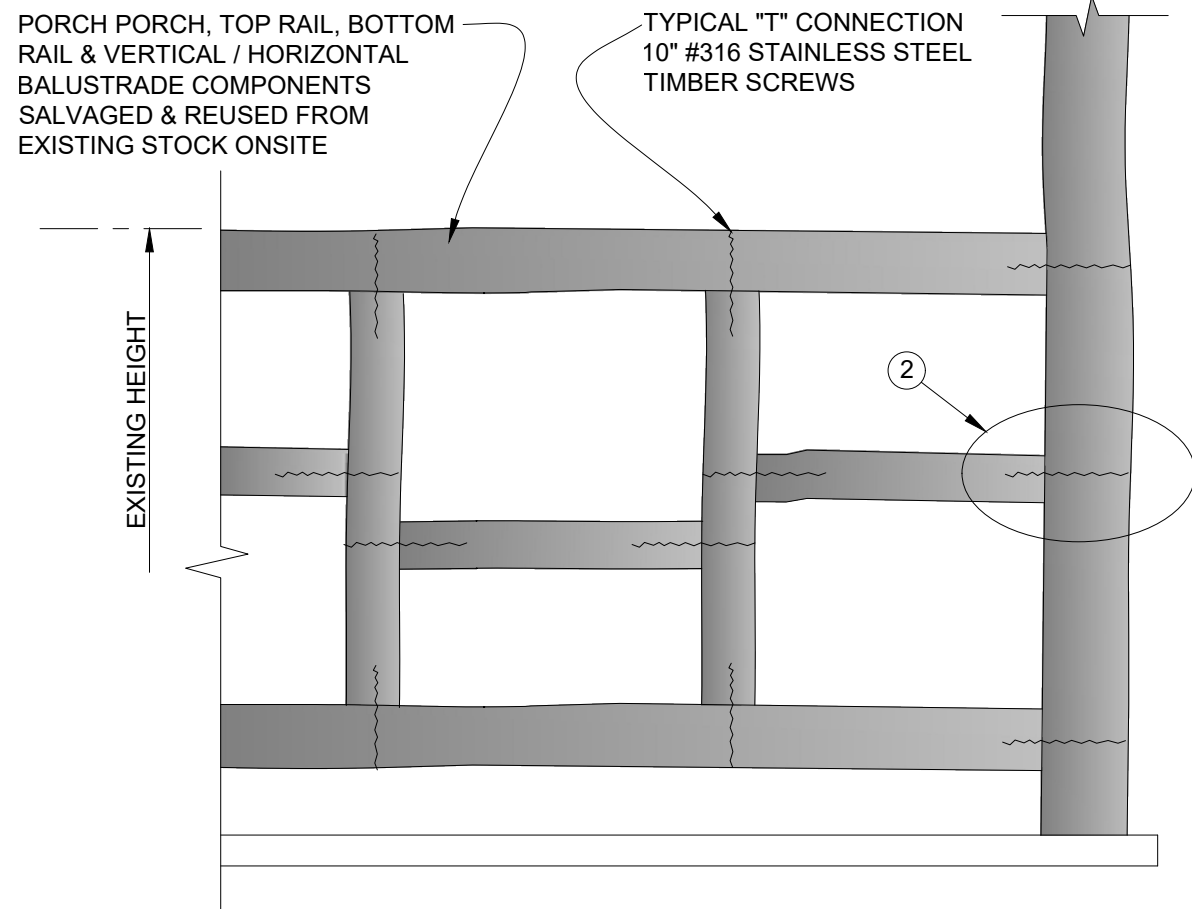
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DATE 09/10/20

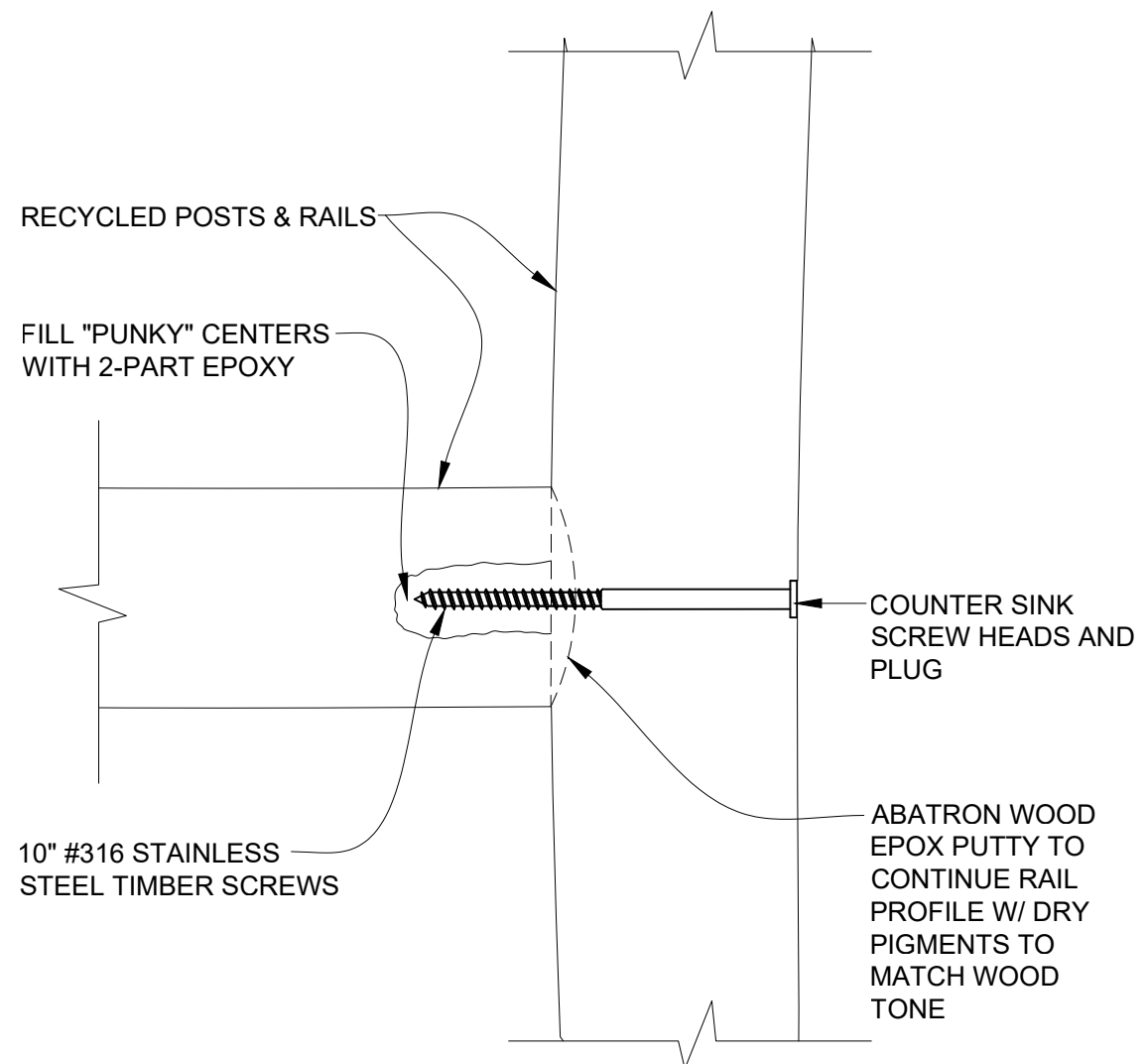
SCALE: AS NOTED

PORCH DETAILS 3

**A903**



**1** REPAIRED / RECONSTRUCTED PORCH RAILINGS  
A904 SCALE: N.T.S.



**2** "T" CONNECTION DETAIL  
A904 SCALE: 6" = 1'-0"

IMPROVEMENTS AT  
BUILDINGS #4 AND #7 AT THE  
**DESERTED VILLAGE  
OF FELTVILLE /  
GLENSIDE PARK**  
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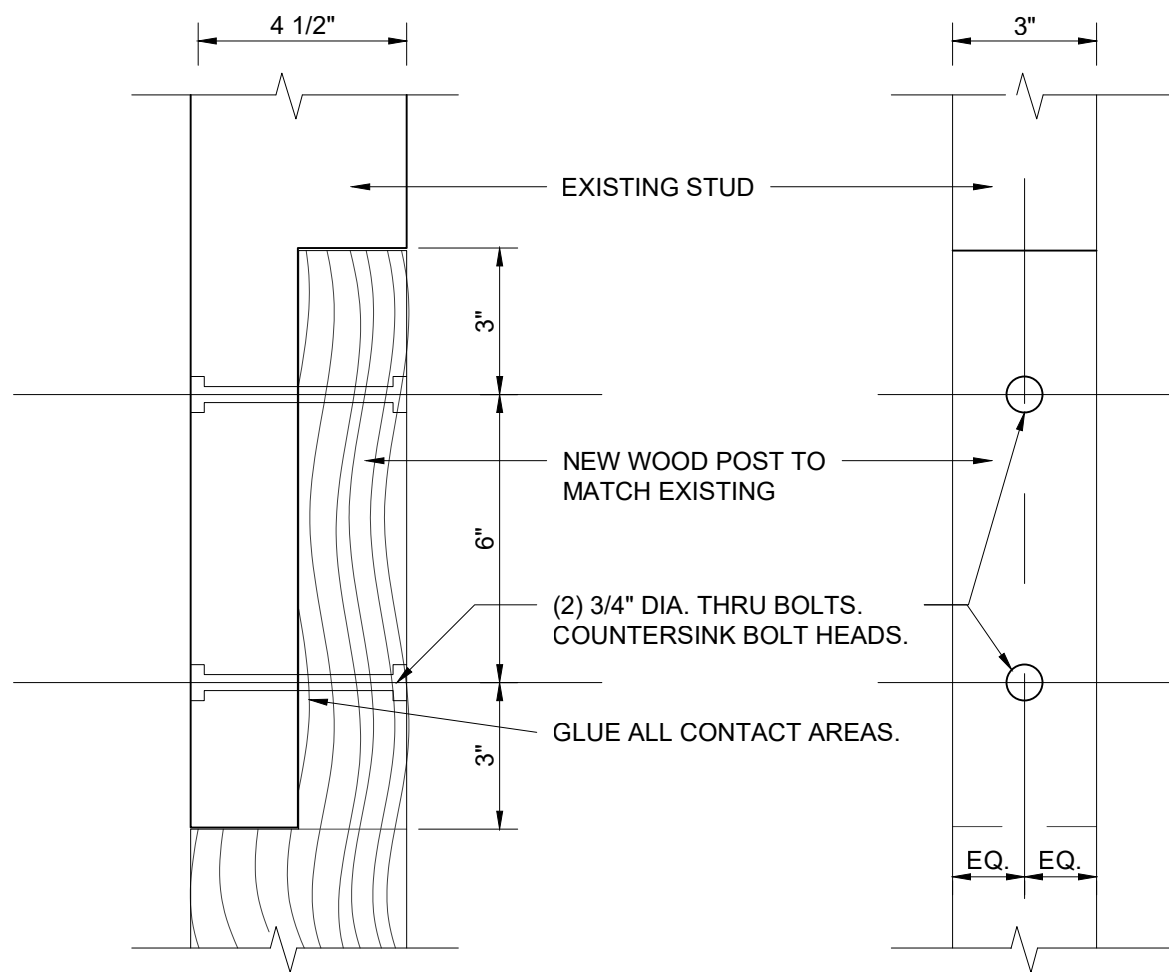
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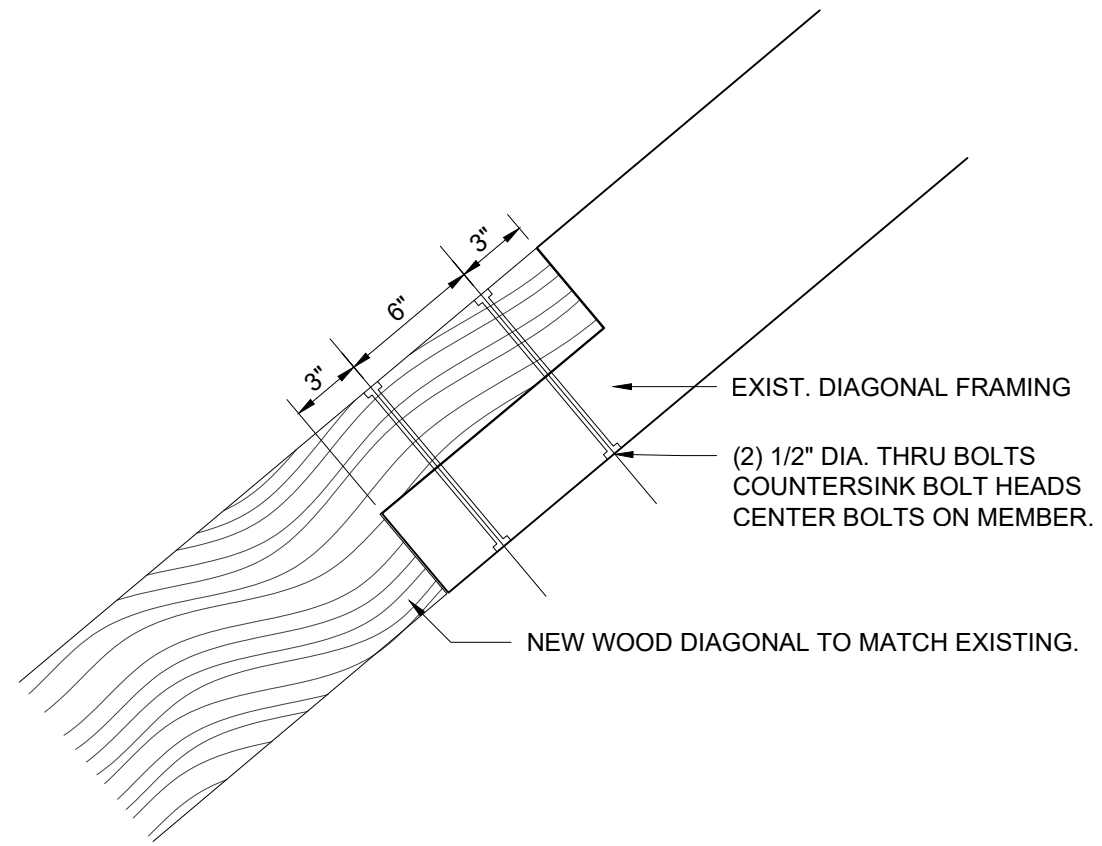
SCALE: AS NOTED

PORCH DETAILS 4

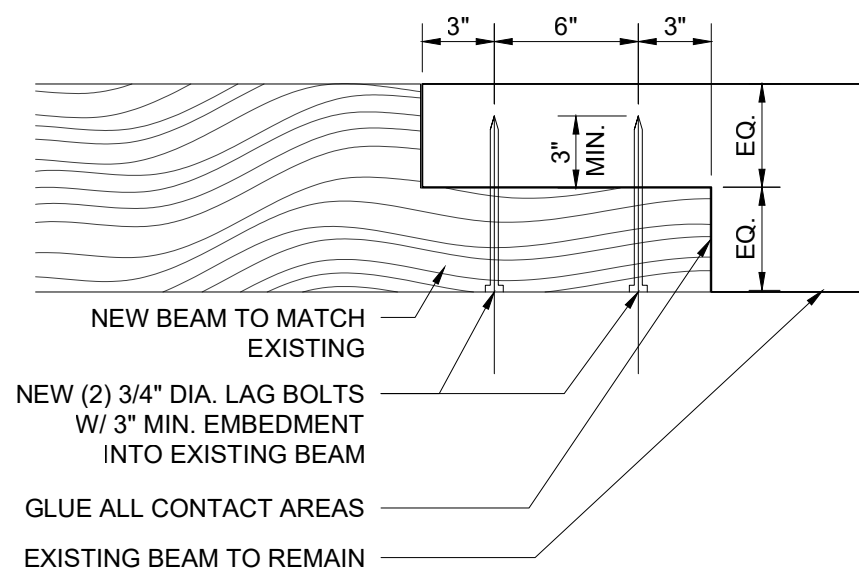
**A904**



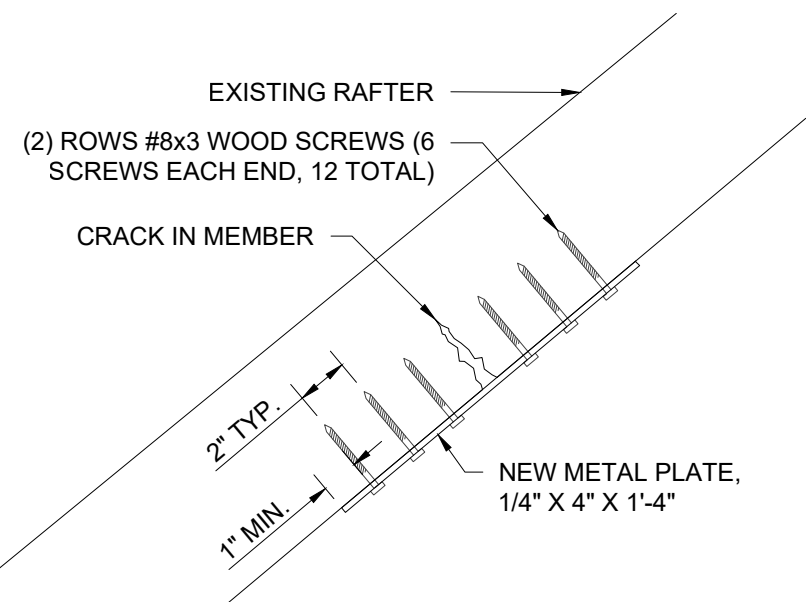
**1 SHIP LAP DETAIL AT STUDS BASE**  
A905 SCALE: 3" = 1'-0"



**2 SHIP LAP DETAIL AT DIAGONAL**  
A905 SCALE: 1 1/2" = 1'-0"



**3 SHIP LAP DETAIL AT BEAM**  
A905 SCALE: 3" = 1'-0"



**4 RAFTER REPAIR DETAIL**  
A905 SCALE: 1 1/2" = 1'-0"

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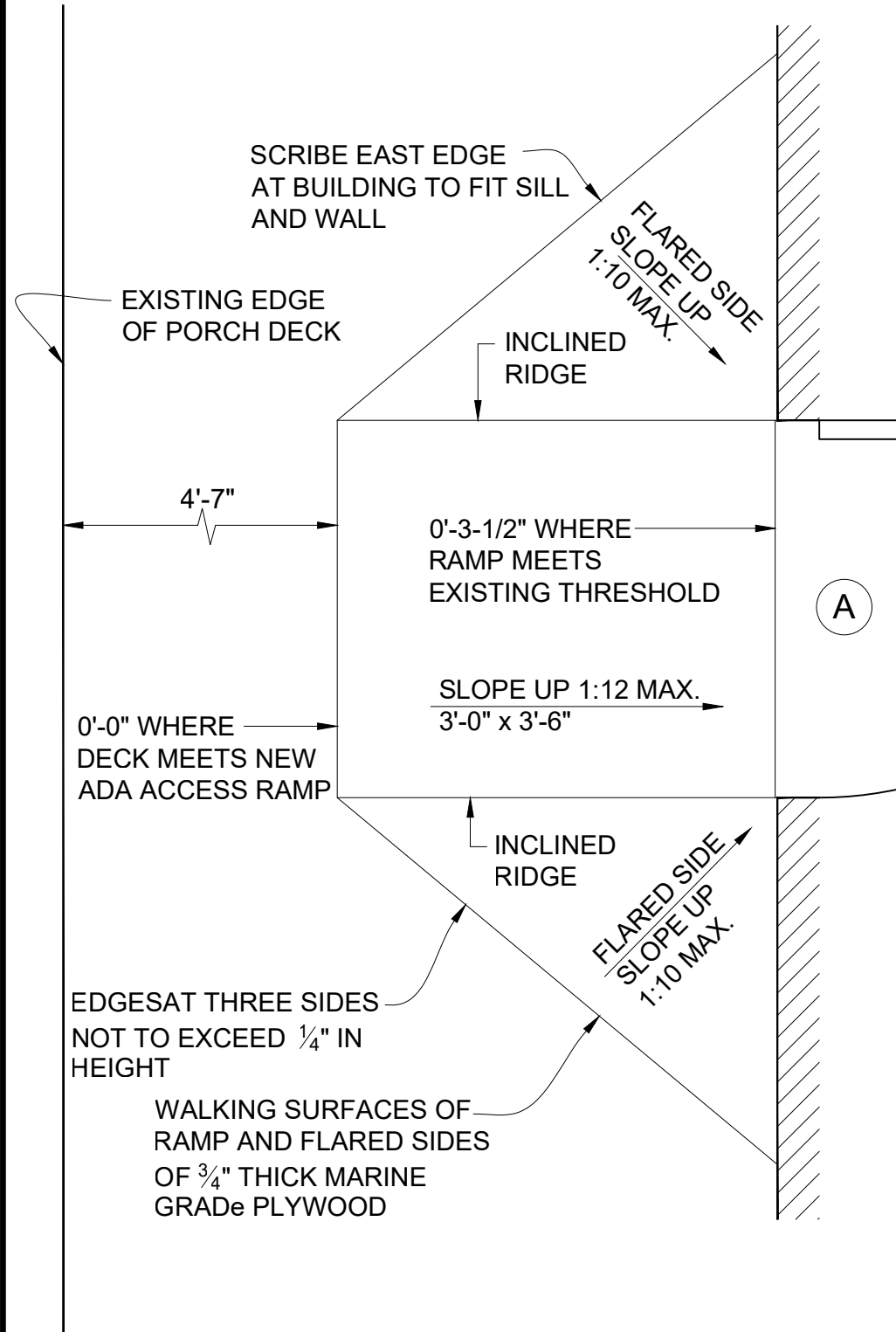
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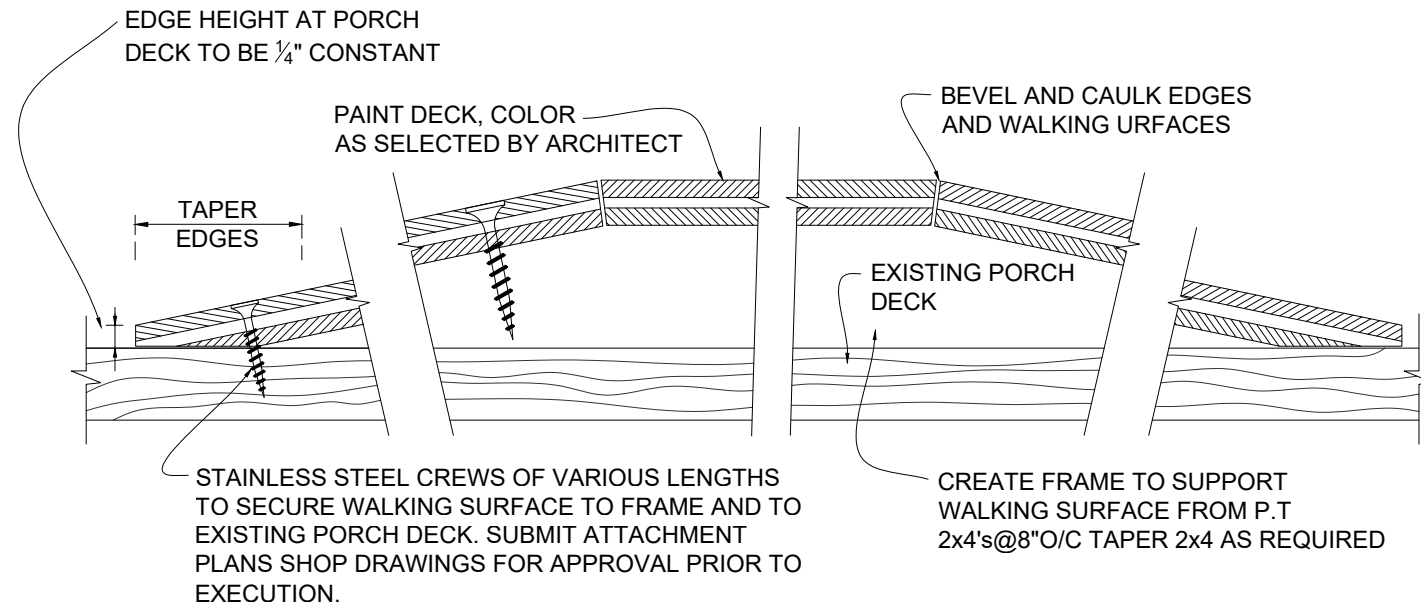
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FRAMING REPAIRS

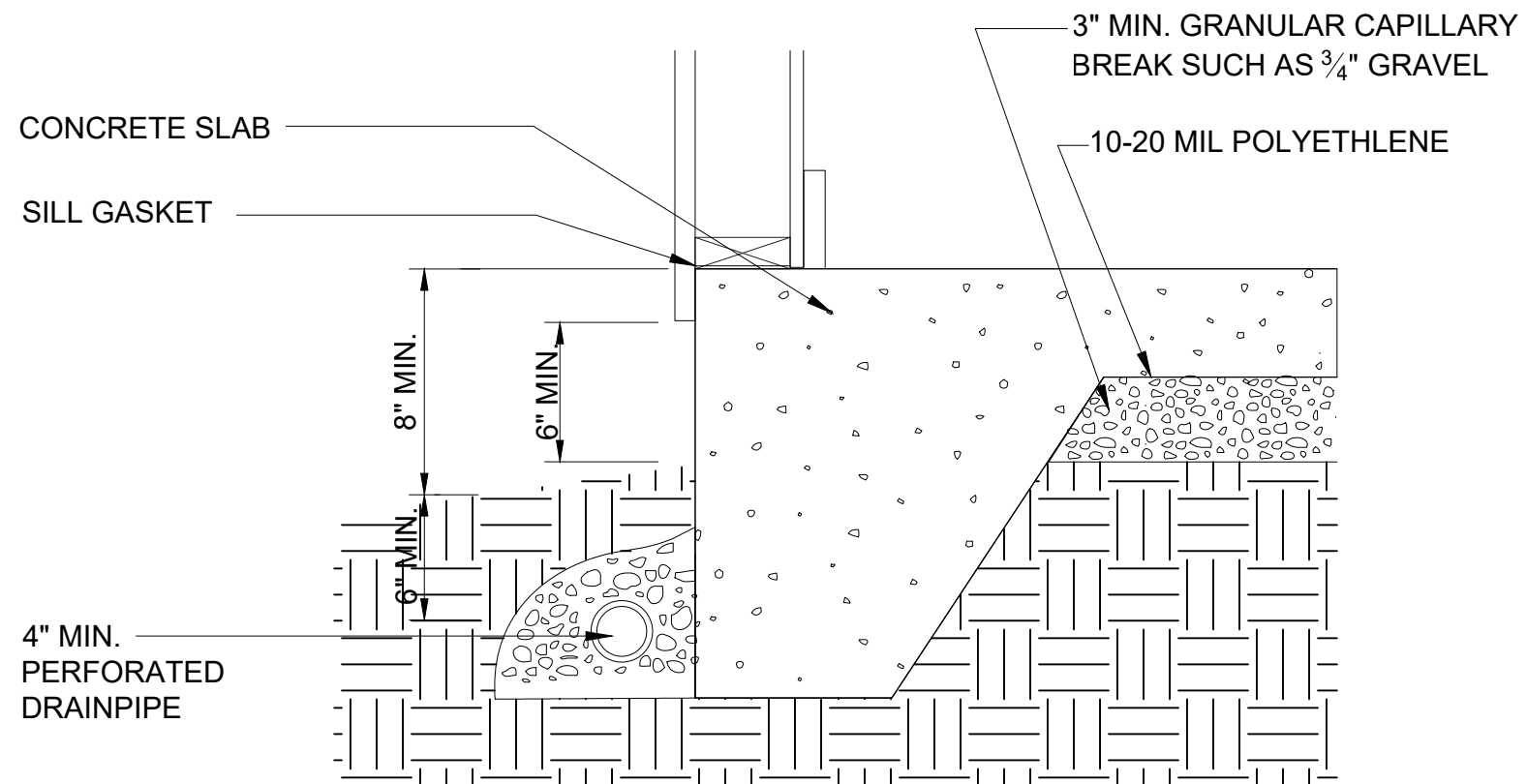
A905



**1 ADA MINI-RAMP PLAN AT BLDG #7**  
 A906 SCALE: 3/4"=1'-0"



**2 ADA MINI-RAMP SECTION AT BLDG #7**  
 A906 SCALE: 6"=1'-0"



**3 SLAB ON GRADE AT BLDG #4**  
 A906 SCALE: 1-1/2"=1'-0"

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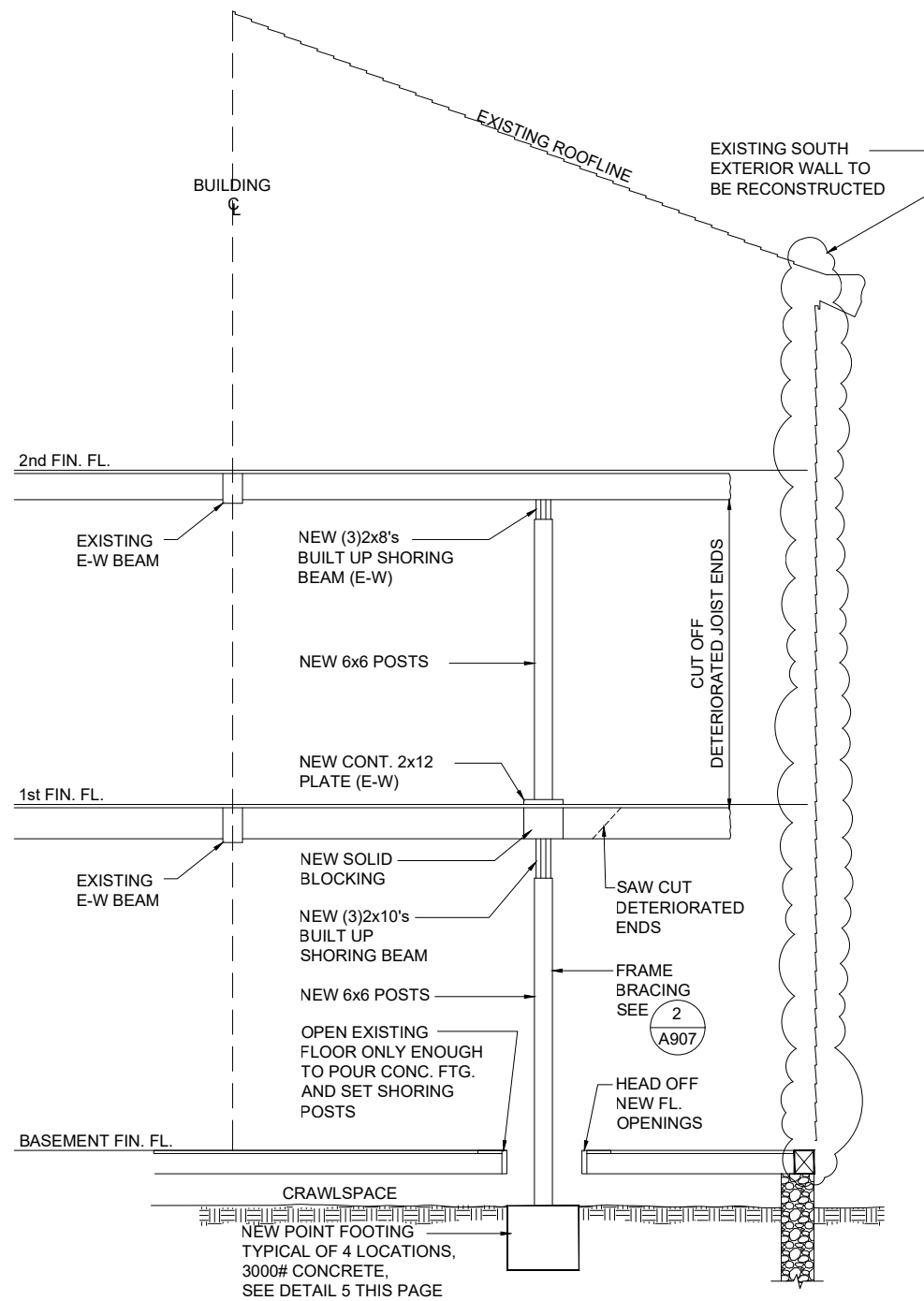
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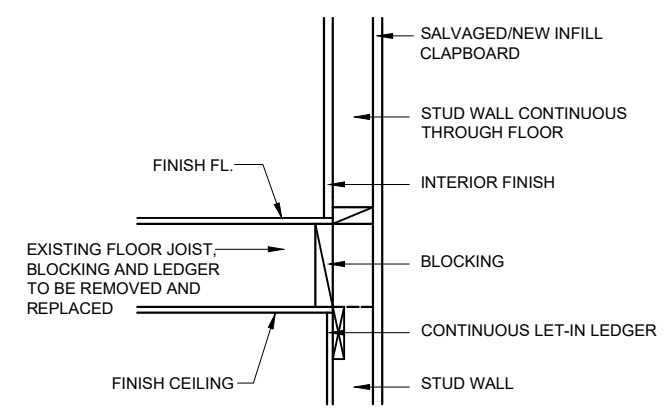
BLDG 7 SHORT-RUN RAMP  
 BLDG 4 SOUTH BAY FTG

**A906**

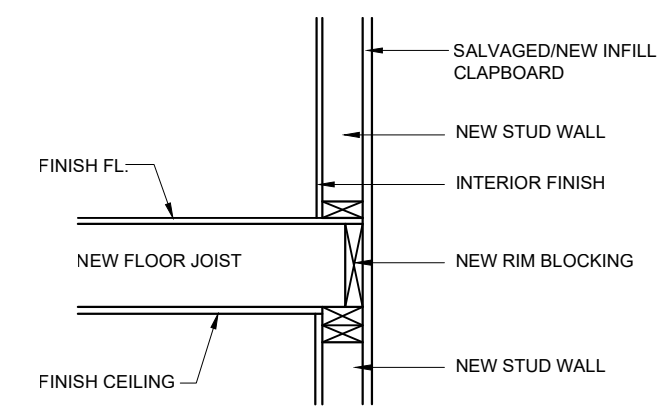




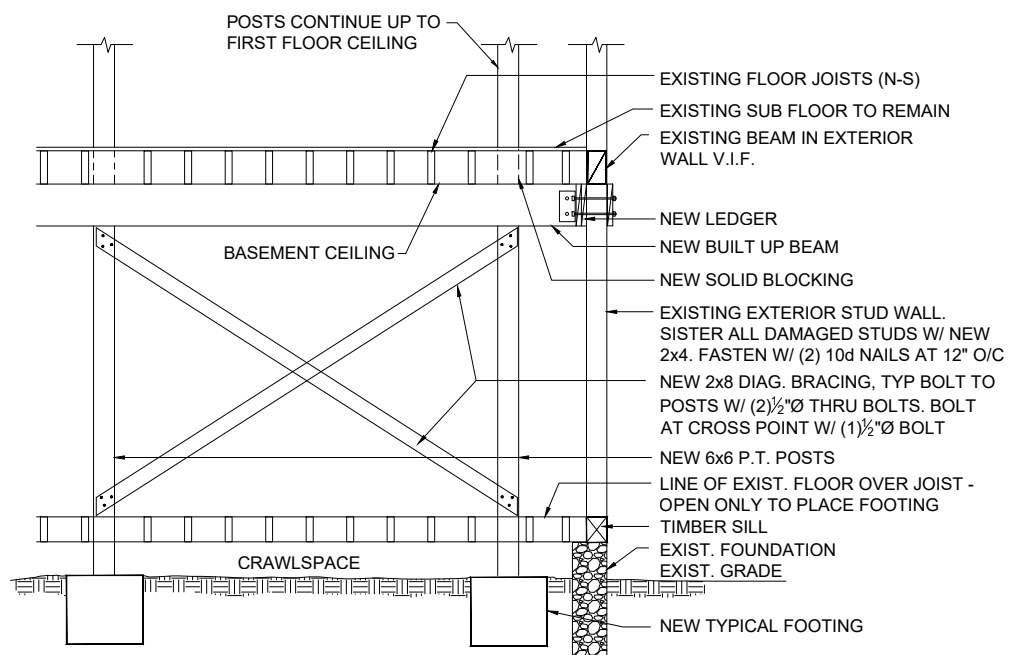
**1**  
A907 N.T.S.  
**BLDG 7 SOUTH WALL SHORING DIAGRAM**



**2**  
A907 N.T.S.  
**EXISTING JOISTS AT BALLOON-FRAMED WALL**  
JOIST PERPENDICULAR TO WALL

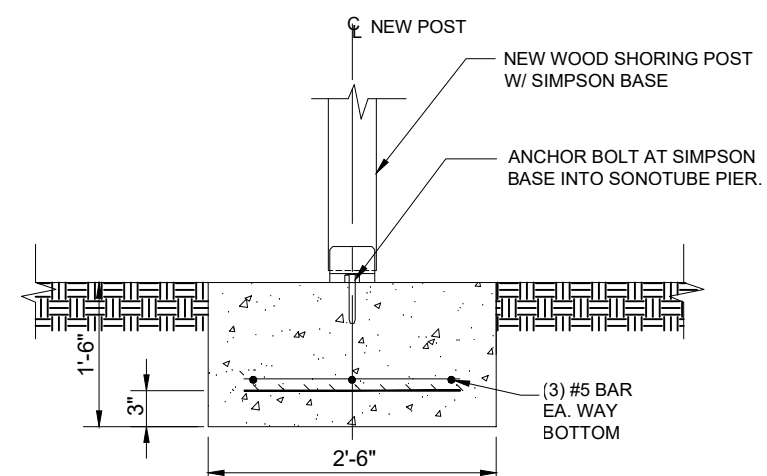


**3**  
A907 N.T.S.  
**PROPOSED JOISTS AT EXTERIOR WALL**  
JOIST PERPENDICULAR TO WALL



**4**  
A907 N.T.S.  
**DIAGONAL FRAME BRACING**

NOTES:  
1. DIAGONAL FRAMES ARE TYPICAL OF TWO LOCATIONS.  
2. ALL STEEL HARDWARE, FASTENERS AND NAILS TO BE GALVANIZED.  
3. ALL WOOD MEMBERS TO BE PRESSURE TREATED.



**5**  
A907 SCALE: 3/4" = 1'-0"  
**NEW TEMPORARY FOOTINGS AT SHORING POSTS**

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BLDG #7 SOUTH WALL SHORING DIAGRAM

A907

## ELECTRICAL SPECIFICATIONS

### 1. GENERAL:

- A. ALL WORK SHALL CONFORM TO THE LATEST ADOPTED EDITIONS OF THE NEC, NFPA, IBC, UCC AND LOCAL CODES.
- B. OBTAIN ALL PERMITS AND APPROVAL FROM AUTHORITIES HAVING JURISDICTION AND PAYING ALL FEES REQUIRED.
- C. SUBMIT SIX(6) SETS OF SHOP DRAWINGS FOR APPROVAL OF THE FOLLOWING:
 

1. WIRE	4. CONDUIT
2. DEVICES	5. LIGHT FIXTURES
3. PANELS	6. COORDINATED, DIMENSIONED, MEP FLOOR PLANS.
- D. PROVIDE TEMPORARY POWER AS REQUIRED FOR THE PROJECT.
- E. ALL WORK SHALL BE DONE UNDER NORMAL WORKING HOURS, UNLESS OTHERWISE NOTED.
- F. TELEPHONE/DATA WIRING TO BE FURNISHED AND INSTALLED BY OTHERS.
- G. PROVIDE ANY/ALL PROPERLY SIZED THERMAL ELEMENTS IN STARTERS AS REQUIRED.
- H. ALL DISTURBANCES TO PLACE UNDERGROUND CONDUITS SHALL BE COORDINATED WITH A QUALIFIED ARCHAEOLOGIST SO THAT EXCAVATION DOES NOT OCCUR WITHOUT APPROPRIATE MONITORING.

### 2. GROUNDING:

- A. GROUNDING SYSTEM: PERMANENTLY AND EFFECTIVELY GROUND ALL METALLIC CONDUITS, SUPPORTS, CABINETS, PANELBOARDS AND SYSTEM GROUNDING NEUTRAL IN ACCORDANCE WITH THE REQUIREMENTS OF THE NEC. MAINTAIN CONTINUITY OF EQUIPMENT GROUND THROUGHOUT THE SYSTEM. GROUND CLAMPS SHALL BE APPROVED TYPE, SPECIFICALLY DESIGNED FOR GROUNDING. WHERE GROUNDING CONDUCTOR IS ENCLOSED IN CONDUIT, GROUND CLAMPS SHALL BE OF A TYPE WHICH GROUNDS BOTH CONDUCTOR AND CONDUIT. ALL CIRCUITS IN FLEXIBLE CONDUIT OR PLASTIC CONDUIT SHALL INCLUDE A GROUND WIRE SIZED IN ACCORDANCE WITH "NEC" TABLE 250-122.
- B. EQUIPMENT GROUNDING CONDUCTORS SHALL BE PROVIDED FOR ALL FEEDERS AND BRANCH CIRCUITS. USE GREEN GROUND.

### 3. IDENTIFICATION:

- A. PROVIDE TYPE WRITTEN PANELS SCHEDULES IN ALL PANELS.
- B. WIRE AND CABLE COLOR CODING.
  - 1. POWER WIRING: CONSISTENT PHASE IDENTIFICATION OF ALL WIRES SHALL BE MAINTAINED AS FOLLOWS:
 

240/120 VOLT, 1Ø 60 HZ

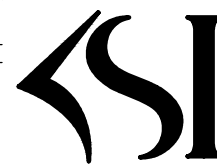
PHASE A	BLACK
PHASE B	RED
NEUTRAL WIRE	WHITE
GROUND WIRE	GREEN
  - 2. CONTROL WIRES: WIRES OF CONTROL CIRCUITS SHALL BE CONSISTENTLY COLOR CODED TO PERMIT EASY IDENTIFICATION OF CONDUCTORS.

## ELECTRICAL SPECIFICATIONS

- C. PROVIDE IDENTIFICATION OF ALL BRANCH CIRCUIT WIRES IN PULL BOXES AND AT TERMINATIONS WITH PANEL AND CIRCUIT NUMBER.
- D. PROVIDE PLASTIC ENGRAVED LABELS ON PANELS, DISCONNECT SWITCHES AND TRANSFORMERS TO INDICATE POWER SOURCE AND VOLTAGE.

### 4. WIRING METHODS:

- A. BRANCH CIRCUIT AND FEEDER WIRING RUN WITHIN THE BUILDING SHALL BE INSTALLED IN ELECTRO-METALLIC TUBING WITH COMPRESSION FITTINGS AND RUN CONCEALED WHERE POSSIBLE, BUT EXPOSED ON EXISTING SURFACES WHERE CONDUITS CANNOT BE CONCEALED. ARMORED CABLE(TYPE MC OR HCF-90) SHALL BE PERMITTED IN CONCEALED AREAS ONLY AND TO THE EXTENT PERMITTED BY CODE.
- B. WIRING FOR CONTROLS, COMMUNICATIONS AND OTHER SYSTEMS SHALL BE IN RACEWAY SPECIFIED FOR BRANCH CIRCUITS UNLESS SPECIFICALLY NOTED OTHERWISE.
- C. PROVIDE SEALS FOR RACEWAYS PASSING THROUGH FLOORS, ROOFS AND WALLS.
- D. CONDUCTORS SHALL BE 600 VOLT INSULATION, COPPER, TYPE THHN OR THWN.
- E. LIQUID TIGHT FLEXIBLE METAL CONDUIT IN LENGTHS OF 3' OR LESS WITH APPROVED TYPE FITTINGS SHALL BE USED FOR CONNECTIONS TO VIBRATING EQUIPMENT, MOTORS, AND OTHER OUTLETS WHERE WIRING WILL BE EXPOSED TO WEATHER, MOISTURE OR VIBRATIONS.
- F. INSTALL RACEWAYS FROM BOX TO BOX OR TERMINATIONS AS SHOWN ON THE DRAWINGS OR AS REQUIRED TO EFFECT CIRCUITING DESCRIBED WITH CIRCUIT NUMBERS ADJACENT TO EQUIPMENT. GROUPING HOME RUNS OR COMBINING WIRES IN COMMON RACEWAYS WILL BE ALLOWED WITH A MAXIMUM OF THREE SINGLE POLE BRANCH CIRCUITS IN A RACEWAY. INCREASE WIRE SIZES AND RACEWAYS WHERE REQUIRED TO AVOID LOSS OF AMPACITY AS REQUIRED BY NATIONAL ELECTRIC CODE.
- G. FLEXIBLE METAL CONDUIT WITH APPROVED TYPE FITTING MAY BE USED IN LIMITED LENGTHS FOR CONNECTIONS TO RECESSED FIXTURES WHERE IT IS NECESSARY TO PROVIDE FLEXIBLE CONNECTIONS. IT MAY ALSO BE USED WHERE STRUCTURAL MEMBERS PRECLUDE THE USE OF ELECTRICAL METALLIC TUBING OR CONDUITS.
- H. INSTALL CONDUIT CONTINUOUS BETWEEN BOXES AND CABINETS WITH NO MORE THAN FOUR(4) 90 DEGREE BENDS. SECURELY FASTEN IN PLACE WITH STRAPS, HANGERS AND STEEL SUPPORTS AS REQUIRED. DO NOT SUPPORT CONDUIT FROM SUSPENDED CEILING GRID OR SUSPENSION WIRES. REAM CONDUIT ENDS BEFORE INSTALLATION AND THOROUGHLY CLEAN BEFORE INSTALLATION. OPENINGS SHALL BE PLUGGED OR COVERED TO KEEP CONDUIT CLEAN. TERMINALS ON SWITCHES AND RECEPTACLES SHALL NOT BE USED TO "FEED THRU" TO THE NEXT SWITCH OR RECEPTACLE. THE DISCONNECTIONS OR REMOVAL OF A DEVICE FROM A BOX SHALL NOT INTERFERE WITH OR INTERRUPT THE CONDUCTOR CONTINUITY.
- I. CONDUCTORS SHALL BE CONTINUOUS FROM ORIGIN TO PANEL OR EQUIPMENT WITHOUT SPLICES. WHERE TAP SPLICES ARE NECESSARY AND APPROVED, THEY SHALL BE MADE WITH SUITABLE CONNECTORS IN JUNCTION BOXES.
- J. MECHANICAL CONTRACTOR SHALL FURNISH AND INSTALL CONTROL WIRING.



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**CERTIFICATE OF AUTHORIZATION NO.:** 24GA28124300

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**Paul Ripoli, P.E.**  
 Professional Engineer  
 State of New Jersey  
 DATE: \_\_\_\_\_  
 KSI PROJECT # 1970M\_03  
 NEW JERSEY PROFESSIONAL ENGINEER  
 LICENSE NUMBER: 4515800

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GENERAL NOTES  
 1/3

# E0.1

## ELECTRICAL SPECIFICATIONS

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K. ALL WIRE AND CABLE AMPACITIES INDICATED ON DRAWINGS ARE BASED ON 75°C. TEMPERATURE RATING. ALL LUGS, BREAKERS, SWITCHES AND OTHER TERMINATIONS SHALL HAVE 75°C. RATINGS AS A MINIMUM.

L. BALANCE ALL LOADS BETWEEN PHASES.

M. SEPARATE NEUTRALS SHALL BE RUN FOR ALL CIRCUITS.

5. PANELBOARDS:

A. PANELBOARD SHALL BE FACTORY ASSEMBLED AS MANUFACTURED BY SQUARE "D", GENERAL ELECTRIC, OR CUTLER-HAMMER; MEETING U.L. STANDARDS 30 AND 87, WITH U.L. LABEL. ALL CONDUCTOR TERMINALS TO BE U.L. FOR MINIMUM 75°C. SYSTEMS SHALL BE FULLY RATED. PANEL SHALL BE NEMA 3R.

B. BRACING SHALL BE EQUIVALENT TO, OR COMPARABLE WITH, THE RATED INTERRUPTING CAPACITY OF SMALLEST OVERCURRENT DEVICE IN THAT PANEL.

C. BREAKERS TO BE THERMAL MAGNETIC TYPE, BOLT-IN, QUICK-MAKE, QUICK-BREAK TYPE, SINGLE UNIT CONSTRUCTION WITH TRIP SETTINGS AND NUMBER OF POLES AS INDICATED ON DRAWINGS. TWO AND THREE POLE BREAKERS SHALL BE SINGLE UNIT COMMON TRIP TYPE. ALL BREAKERS CONNECTED TO LIGHTING BRANCH CIRCUITS SHALL BE APPROVED FOR THAT USE AND MARKED "SWD". MINIMUM 10KAIC.

D. PANELBOARD CABINETS SHALL BE ONE PIECE CODE GAGE GALVANIZED STEEL WITH MOUNTING STUDS. WIRING GUTTER OF AMPLE SIZE AND KNOCKOUTS FOR CONDUIT CONNECTIONS AS REQUIRED. BUS BARS SHALL BE 98% CONDUCTIVE COPPER, ARRANGED FOR SEQUENCE PHASING AND ALL CONNECTIONS SHALL BE SILVER PLATED. FRONTS SHALL BE ONE PIECE CODE GAGE STEEL WITH ADJUSTABLE FASTENERS, SINGLE DOOR LOCK AND KEY. PROVIDE FLUSH MOUNT UNITS UNLESS OTHERWISE INDICATED. PROVIDE A PLASTIC COVERED TYPEWRITTEN SCHEDULE IDENTIFYING ALL BRANCH CIRCUITS INSIDE EACH CABINET.

E. ALL PANELS SHALL HAVE TYPEWRITTEN DIRECTORIES.

F. DISCONNECT SWITCHES SHALL BE HEAVY-DUTY, QUICK-MAKE, QUICK-BREAK TYPE NEMA 1 ENCLOSURE (NEMA 3R FOR OUTDOOR). SWITCHES SHALL BE AS MANUFACTURED BY SQUARE "D", GENERAL ELECTRIC, OR CUTLER-HAMMER. FURNISH AND INSTALL ALL FUSES AS MANUFACTURED BY BUSSMAN, GOULD-SHAWMUT OR LITT-FUSE. ALL CONDUCTOR TERMINALS TO BE U.L. FOR MINIMUM 75° C. NON FUSED RATINGS SHALL MATCH CONDUCTOR RATINGS. U.O.N.

G. N/A

H. CONTRACTOR SHALL CONTACT THE LOCAL UTILITY COMPANY AND COORDINATE THE NEW ELECTRICAL SERVICE AS SHOWN ON THE DRAWINGS. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL COSTS REQUIRED BY THE UTILITY TO ESTABLISH THE NEW SERVICE. NEW SERVICE SHALL BE INSTALLED AS PER THE UTILITY'S REQUIREMENTS.

I. CONTRACTOR SHALL VERIFY AVAILABLE SHORT CIRCUIT FROM THE UTILITY AND HAVE SHORT CIRCUIT CALCULATIONS PERFORMED BY THE MANUFACTURER FOR APPROVAL.

6. EQUIPMENT SUPPORTS:

A. THE CONTRACTOR SHALL PROVIDE ALL STRUCTURAL SUPPORTS AND MOUNTING DEVICES FOR THE PROPER ATTACHMENTS OF EQUIPMENT SUPPLIED BY THIS TRADE. THIS SHALL ALSO INCLUDE STARTERS, DISCONNECTS, CONTROLLERS, ETC. FURNISHED BY THE MECHANICAL TRADE.

B. CONDUIT SUPPORTS SHALL BE PLACED AT A MAXIMUM DISTANCE OF TEN (10) FEET APART.

C. SUPPORT CEILING MOUNTED LIGHT FIXTURES FROM STRUCTURE ABOVE WITH METAL TIE WIRES.

7. SPECIAL REQUIREMENTS:

A. REMOVAL ALTERATIONS, RELOCATIONS AND CONNECTIONS TO EXISTING SYSTEMS:

1. CERTAIN REMOVALS AND RELOCATIONS OF EXISTING WORK WILL BE NECESSARY TO THE SATISFACTORY PERFORMANCE OF THE GENERAL WORK. ALL CHANGES CANNOT BE DETAILED ON THE DRAWINGS, BUT SHALL BE TAKEN INTO CONSIDERATION IN MAKING UP THE WORK PROPOSAL. THE SCOPE OF REMOVALS SHALL BE BASED ON ACTUAL FIELD INSPECTIONS.

2. THE ELECTRICAL CONTRACTOR SHALL MAINTAIN CONTINUITY OF EXISTING CIRCUITS AFFECTED BY THIS WORK.

3. IN THE EVENT ANY WIRING OR EQUIPMENT TO BE REMOVED IS IN ACTIVE USE AS DETERMINED BY THE OWNER, THIS CONTRACTOR SHALL PROVIDE TEMPORARY WIRING AS MAY BE REQUIRED TO MAINTAIN SUCH USE UNTIL THE PERMANENT RELOCATED WIRING IS INSTALLED.

4. ALL WORK REQUIRING AN OUTAGE OR AN INTERRUPTION OF SERVICE (POWER, TELEPHONE, ETC.) SHALL BE DONE ONLY AT SUCH TIME AS PERMITTED BY THE OWNER. THE CONTRACTOR SHALL PROVIDE A MINIMUM OF 48 HOURS NOTICE TO THE OWNER FOR SUCH SHUTDOWNS.

8. CLOSE OUT:

A. ALL ELECTRICAL EQUIPMENT SHALL BE ADJUSTED AND TESTED FOR PROPER OPERATION. AFTER WIRES ARE IN PLACE AND CONNECTED TO DEVICES AND EQUIPMENT. THE SYSTEM SHALL BE TESTED FOR SHORTS AND GROUNDS. ALL HOT AND NEUTRAL CONDUCTORS, IF SHORTED OR GROUNDED, SHALL BE REMOVED AND REPLACED. ALL METERS, INSTRUMENTS, CABLE CONNECTIONS, EQUIPMENT OR APPARATUS NECESSARY FOR MAKING ALL TESTS, SHALL BE FURNISHED BY THIS CONTRACTOR AT HIS OWN EXPENSE.

B. TOUCH-UP OR REFINISH DAMAGED SURFACES OF FIXTURES AND EQUIPMENT, EXPOSED TO VIEW.

C. FURNISH WRITTEN TWO YEAR GUARANTEE FOR ALL ELECTRICAL WORK AND EQUIPMENT.

D. CONTRACTOR SHALL SUBMIT AS-BUILT DRAWINGS AT COMPLETION OF PROJECT.

E. CONTRACTOR SHALL SUBMIT (3) THREE COPIES OF OPERATION AND MAINTENANCE MANUALS.



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 Professional Engineer  
 State of New Jersey  
 DATE: KSI PROJECT # 1970M\_01  
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GENERAL NOTES  
 2/3

**E0.2**

## ELECTRICAL GENERAL NOTES

1. ELECTRICAL DRAWINGS ARE NOT TO BE SCALED FOR DIMENSIONAL REQUIREMENTS, COORDINATE WITH ARCHITECTURAL DRAWINGS.
2. 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 PANELBOARD AND CONDUITS.
3. PANELBOARD LOCKS SHALL BE KEYED IN ACCORDANCE TO OWNER REQUIREMENTS.

## ELECTRICAL SYMBOL LEGEND

(DEVICE AND EQUIPMENT MOUNTING HEIGHTS ARE AS LISTED ON DRAWING AND/OR DESCRIBED IN SPECIFICATIONS UNLESS ITEMIZED BY ARCHITECTURAL DOCUMENTS.)

### SYMBOL

### DESCRIPTION

3	DUPLEX CONVENIENCE RECEPTACLE 20A. 125V. MOUNTED 1'-4" A.F.F. TO CENTER. U.O.N. 3-CIRCUIT NUMBER. CH=ABOVE COUNTER HEIGHT AT 44" MAX TO ABOVE COUNTERS WHICH ARE 20"-25" DEEP. U.O.N. CP=CHILD PROOF.
	DOUBLE DUPLEX RECEPTACLE (QUAD) - GFI
	JUNCTION BOX, CEILING OR WALL MOUNTED AS NOTED, ELECTRICAL CONTRACTOR TO MAKE ALL REQUIRED CONNECTIONS TO DESIGNATED EQUIPMENT.
	ELECTRIC METER
	PANEL BOARD (LIGHTING OR RECEPTACLE) SURFACE MOUNTED
	GROUND ROD
	EXPOSED CONDUIT OR CABLE
	CONCEALED CONDUIT OR CABLE
	ITEMS TO BE DEMOLISHED AND REMOVED

## ELECTRICAL ABBREVIATION LEGEND

<u>ABBREVIATION</u>	<u>DESCRIPTION</u>	<u>ABBREVIATION</u>	<u>DESCRIPTION</u>
A	AMPERE	JB	JUNCTION BOX
AC	ALTERNATING CURRENT	KCMIL	THOUSAND CIRCULAR MILS
AHJ	AUTHORITY HAVING JURISDICTION	KVA	KILOVOLT - AMPERE
AWG	AMERICAN WIRE GAGE	KW	KILOWATT
C	CONDUIT	MCB	MAIN CIRCUIT BREAKER
CB	CIRCUIT BREAKER	MGB	MAIN GROUND BUS
CKT	CIRCUIT	PP	POWER PANEL
D/S	DISCONNECT SWITCH	PVC	POLY VINYL CHLORIDE CONDUIT
EC	ELECTRICAL CONTRACTOR	V	VOLT
EMT	ELECTRICAL METALLIC TUBING	WP	WEATHER PROOF (NEMA RATED)
G	GROUND		
GFI	GROUND FAULT CIRCUIT INTERRUPTER		

IMPROVEMENTS AT  
BUILDINGS 4 AND 7 AT THE  
**DESERTED VILLAGE  
OF FELTVILLE**  
9 CATARACT HOLLOW ROAD  
BERKELEY HEIGHTS, NEW JERSEY 07922  
COUNTY OF UNION, OWNER

MICHAEL CALAFATI, RA NJ#21A100902900  
Certificate of Authorization  
#21AC0084500 / Expires 01/2022

# MCA

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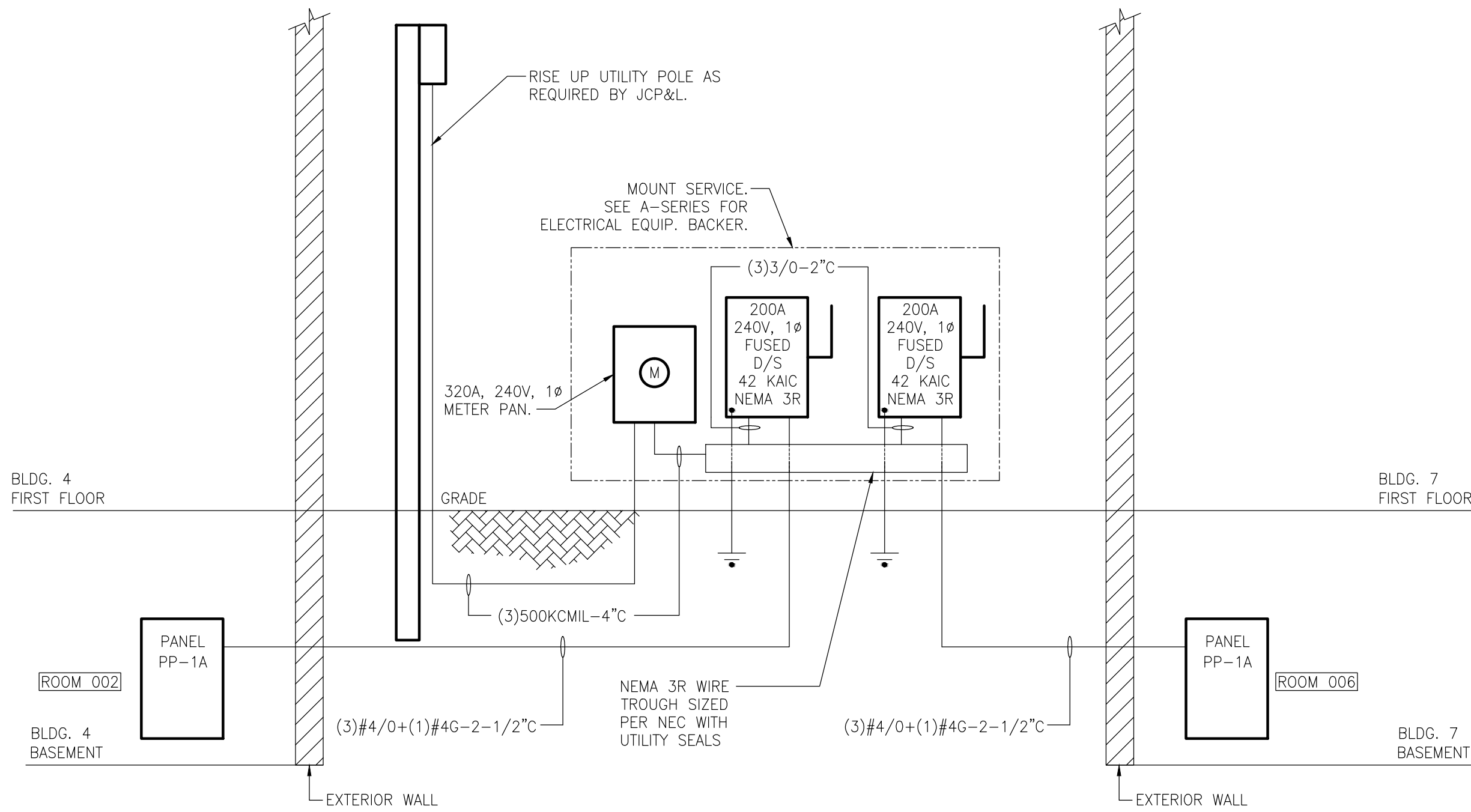
KSI CONSULTING ENGINEERS, LLC  
ADDRESS: [REDACTED]  
P.O. BOX 628 FARMINGDALE, NJ 07727  
PHONE: [REDACTED] 732.938.2666  
FAX: [REDACTED] 732.938.2521  
CERTIFICATE OF AUTHORIZATION NO. [REDACTED] 24GA28124300

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Paul Ripoli, P.E.  
Professional Engineer  
State of New Jersey  
DATE: [REDACTED]  
KSI PROJECT # 1970M\_03  
NEW JERSEY PROFESSIONAL ENGINEER  
LICENSE NUMBER: 4515800

03/09/21	ISSUED FOR RE-BID
12/02/20	ISSUED FOR BID
DATE	REVISION
DRAWN BY:	AJC
DATE	06/15/20
SCALE:	AS NOTED

GENERAL NOTES  
3/3  
  
**E0.3**



**GENERAL NOTE:**

1. CONTRACTOR SHALL CONTACT LOCAL UTILITY AND COORDINATE SERVICE WITH THE UTILITY.

01  
E0.4

**ELECTRICAL RISER DIAGRAM**

NONE

IMPROVEMENTS AT  
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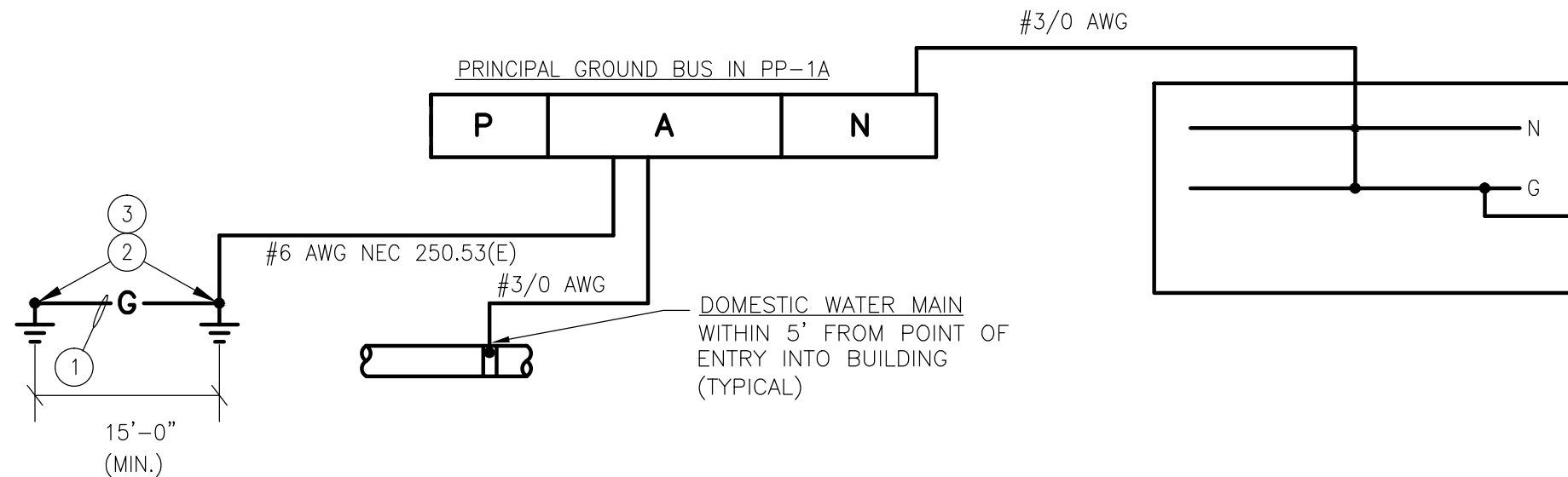
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State of New Jersey  
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ELECTRICAL  
RISER DIAGRAM

E0.4



**GENERAL NOTES:**

1. ALL CONDUCTORS BECOME 750KCMIL IN DATA/COM PROJECT.
2. THE GROUNDING SYSTEM IS DESIGNED FOR A MAXIMUM OF 25 OHMS WHEN MEASURED FROM THE GROUND BUS TO THE SINGLE POINT GROUND LOCATED OUTSIDE OF THE BUILDING ENVELOPE.
3. GROUNDING SHOWN SHALL BE IN ACCORDANCE WITH THE LATEST ADOPTED EDITION OF THE N.E.C. ARTICLE 250.
4. BOND ACROSS WATER METERS, ETC.

**KEY NOTES:**

- ① 3/0 COPPER WIRE.
- ② CADWELD CONNECTION.
- ③ COPPERCLAD GROUND ROD. 3/4"X10' LOCATED 18" MINIMUM BELOW FINISHED GRADE.(TYPICAL) U.O.N.

01  
E0.5 NONE **TYPICAL GROUNDING SYSTEM FROM SERVICE ENTRANCE**

PANEL PP-1A		SCHEDULE		COMMENTS:		TYPICAL FOR BUILDINGS 4 & 7		200A MAIN CIRCUIT BREAKER											
PANEL LOCATION		BASEMENT		UNLESS OTHERWISE NOTED BELOW		200A BUS SIZE		NUMBER OF POLES: 42											
240/120		VOLTS, 1 PHASE, 3WIRE						PANEL SHORT CIRCUIT RATING: 10 KAIC											
C.B. POLE NO.	C.B. TRIP AMPS	C.B. LOAD VA	LOAD DESCRIPTION	CIR NO	FDR.DATA			PHASE A	PHASE B	FDR.DATA			CIR NO	LOAD DESCRIPTION	C.B. LOAD VA	C.B. TRIP AMPS	C.B. POLE NO.		
				No. WIRE GND COND						No. WIRE GND COND									
1	20	360	RECEPTACLE AT PANEL	1	2	12	12	3/4	860		2	12	12	3/4	2	EMERGENCY LIGHTING	500	20	1
1	20	360	GENERAL REC	3	2	12	12	3/4		720	2	12	12	3/4	4	GENERAL REC	360	20	1
1	20	360	GENERAL REC	5	2	12	12	3/4	720		2	12	12	3/4	6	GENERAL REC	360	20	1
1	20	360	GENERAL REC	7	2	12	12	3/4		1860	2	12	12	3/4	8	DEDICATED REC *	1,500	20	1
1	20		SPARE	9					1500		2	12	12	3/4	10	DEDICATED REC *	1,500	20	1
1	20		SPARE	11					1500	1500	2	12	12	3/4	12	DEDICATED REC *	1,500	20	1
1	20		SPARE	13					1500		2	12	12	3/4	14	DEDICATED REC *	1,500	20	1
1	20		SPARE	15						0					16	SPARE		20	1
1	20		SPARE	17					0						18	SPARE		20	1
1	20		SPARE	19					0	0					20	SPARE		20	1
1	20		SPARE	21					0						22	SPARE		20	1
1	20		SPARE	23					0	0					24	SPARE		20	1
1	20		SPARE	25					0						26	SPARE		20	1
1	20		SPARE	27					0	0					28	SPARE		20	1
1	20		SPARE	29					0						30	SPARE		20	1
			SPACE	31					0	0					32	SPACE			
			SPACE	33					0						34	SPACE			
			SPACE	35					0	0					36	SPACE			
			SPACE	37					0						38	SPACE			
			SPACE	39					0	0					40	SPACE			
			SPACE	41					0						42	SPACE			
MOUNTING:		SURFACE		PH-LOAD		4580	4080	VA	PANEL TYPE : NEMA 1, WITH		GROUNDING TERMINAL 100% NEUTRAL								
FED FROM:		UTILITY		CONNECTED LOAD		9	KVA	36	AMPS										

\*CIRCUIT SHALL BE SPARE IN BUILDING 4 AND ONLY UTILIZED IN BUILDING 7.

02  
E0.5 NONE **ELECTRICAL PANEL SCHEDULE**

IMPROVEMENTS AT BUILDINGS 4 AND 7 AT THE **DESERTED VILLAGE OF FELTVILLE**  
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Paul Repak, P.E.  
Professional Engineer  
State of New Jersey  
DATE:  
KSI PROJECT # 1970M\_01  
NEW JERSEY PROFESSIONAL ENGINEER  
LICENSE NUMBER: 4515800

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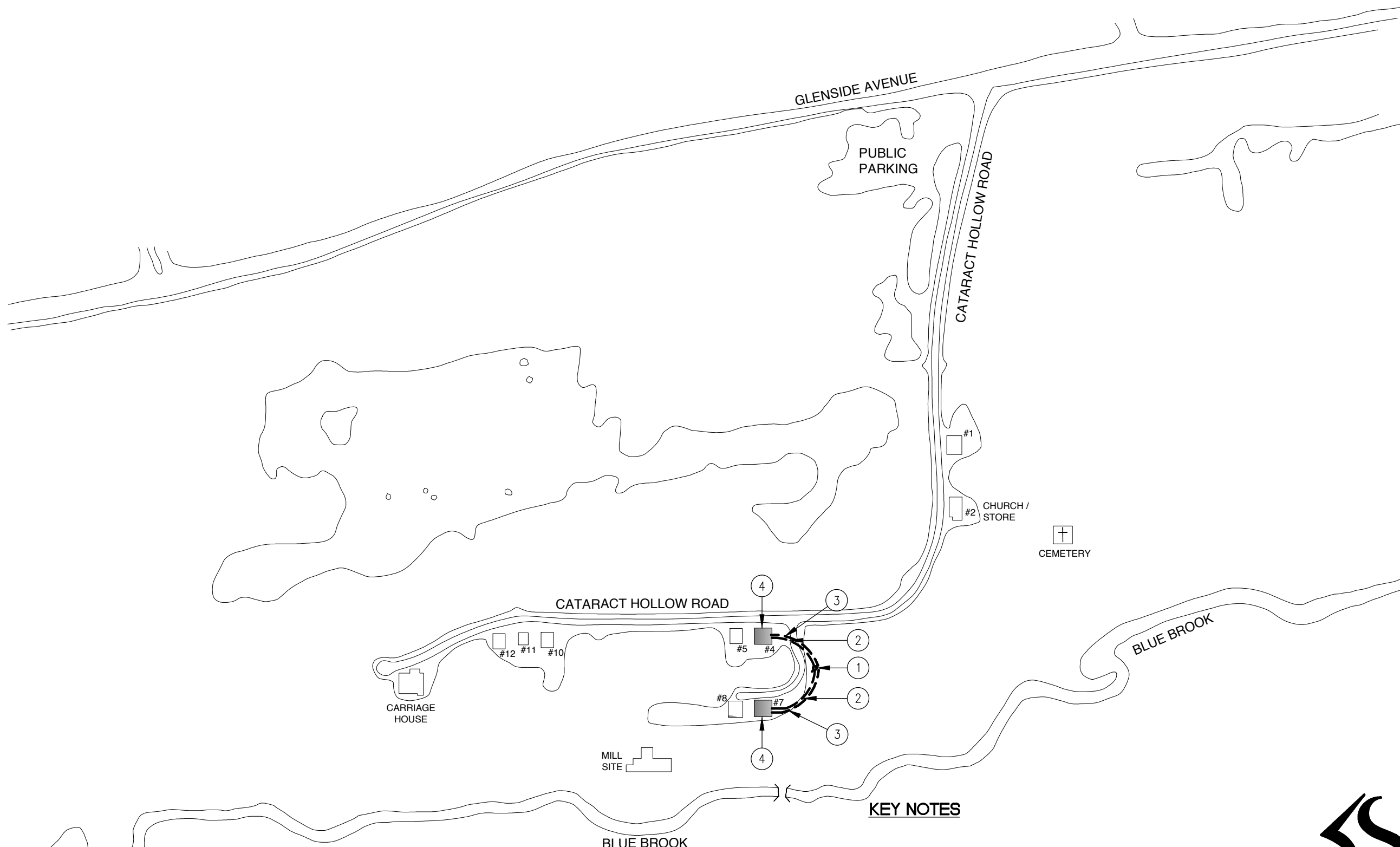
DRAWN BY: AJC

DATE 06/15/20

SCALE: AS NOTED

ELECTRICAL GROUNDING DIAGRAM & SCHEDULES

E0.5



**KEY NOTES**

1. APPROXIMATE LOCATION OF JCP&L UTILITY POLE TO SERVE BUILDINGS #4 AND #7.
2. APPROXIMATE ROUTING OF NEW UNDERGROUND CONDUIT TO FOR ELECTRICAL SERVICE. COORDINATE THE FINAL ROUTING WITH THE OWNER AND ARCHITECT.
3. APPROXIMATE ROUTING OF NEW UNDERGROUND CONDUIT TO FOR TELCO SERVICE. COORDINATE THE FINAL ROUTING WITH THE OWNER AND ARCHITECT.
4. EXISTING BUILDINGS #4 AND #7.

01  
SU1.1 **ELECTRICAL SITE PLAN**  
1"=250'-0"



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IMPROVEMENTS AT BUILDINGS 4 AND 7 AT THE  
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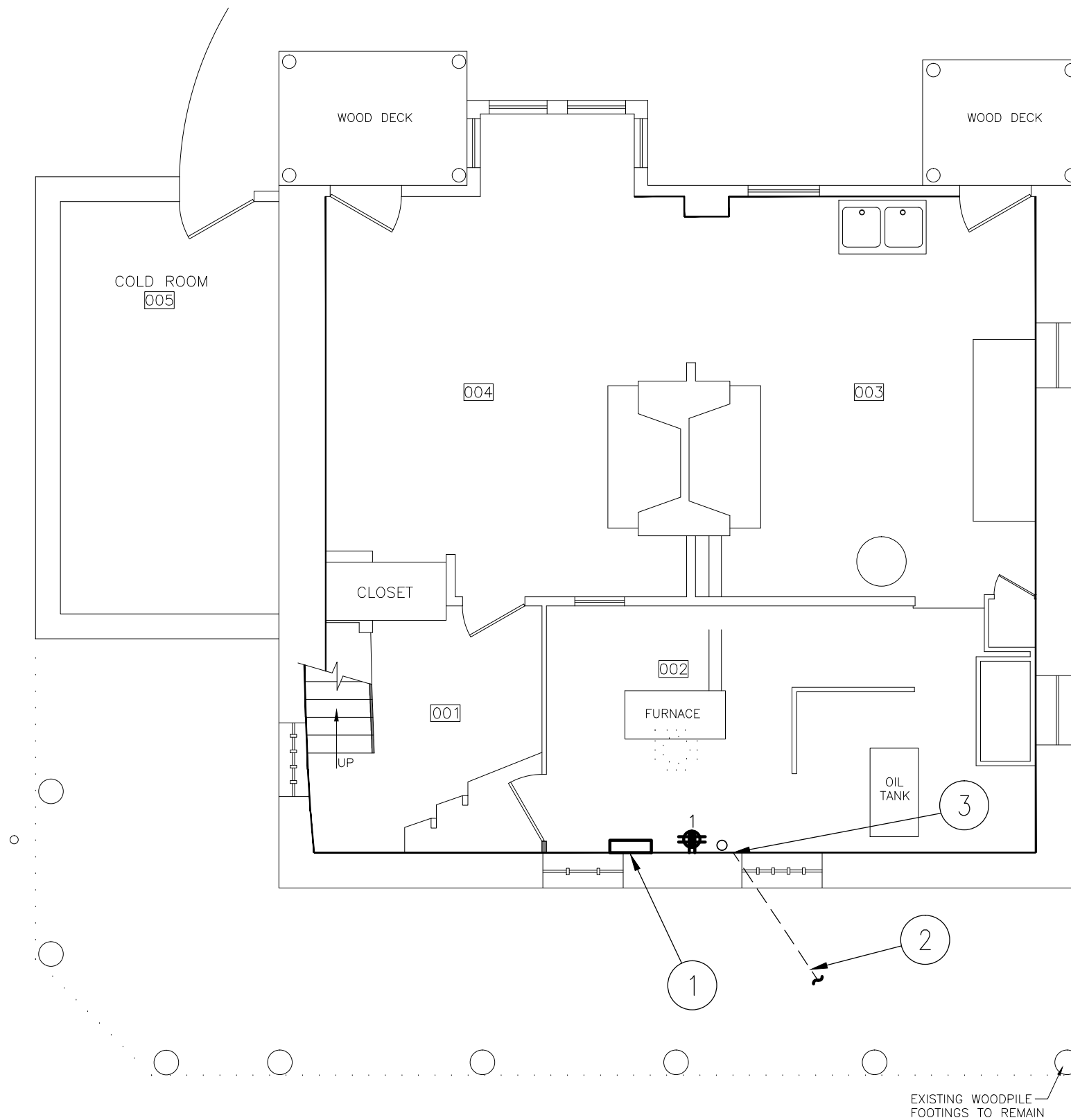
**ELECTRICAL SITE PLAN**  
**SU1.1**

**KEY NOTES**

1. PROPOSED LOCATION OF NEW PANEL PP-1A. COORDINATE FINAL LOCATION OF PANEL WITH THE ARCHITECT AND OWNER.
2. PROVIDE (2) 4" CONDUITS WITH PULLSTRING FROM TELCO BACKBOARD TO UTILITY POLE FOR TELEPHONE AND TV AND DATA SERVICE.
3. PROVIDE A 4'X4'X3/4" PIECE OF PAINTED PLYWOOD FOR TELCO BACKBOARD.

**GENERAL NOTES**

1. CONTRACTOR SHALL COORDINATE THE NEW UTILITY SERVICE WITH THE UTILITY AND THE OWNER.



01  
E1.00

**BLDG. 4 ELECTRICAL BASEMENT FLOOR PLAN**

3/16" = 1'-0"

IMPROVEMENTS AT  
BUILDINGS 4 AND 7 AT THE  
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BLDG. 4 ELECTRICAL  
BASEMENT FLOOR PLAN

E1.00

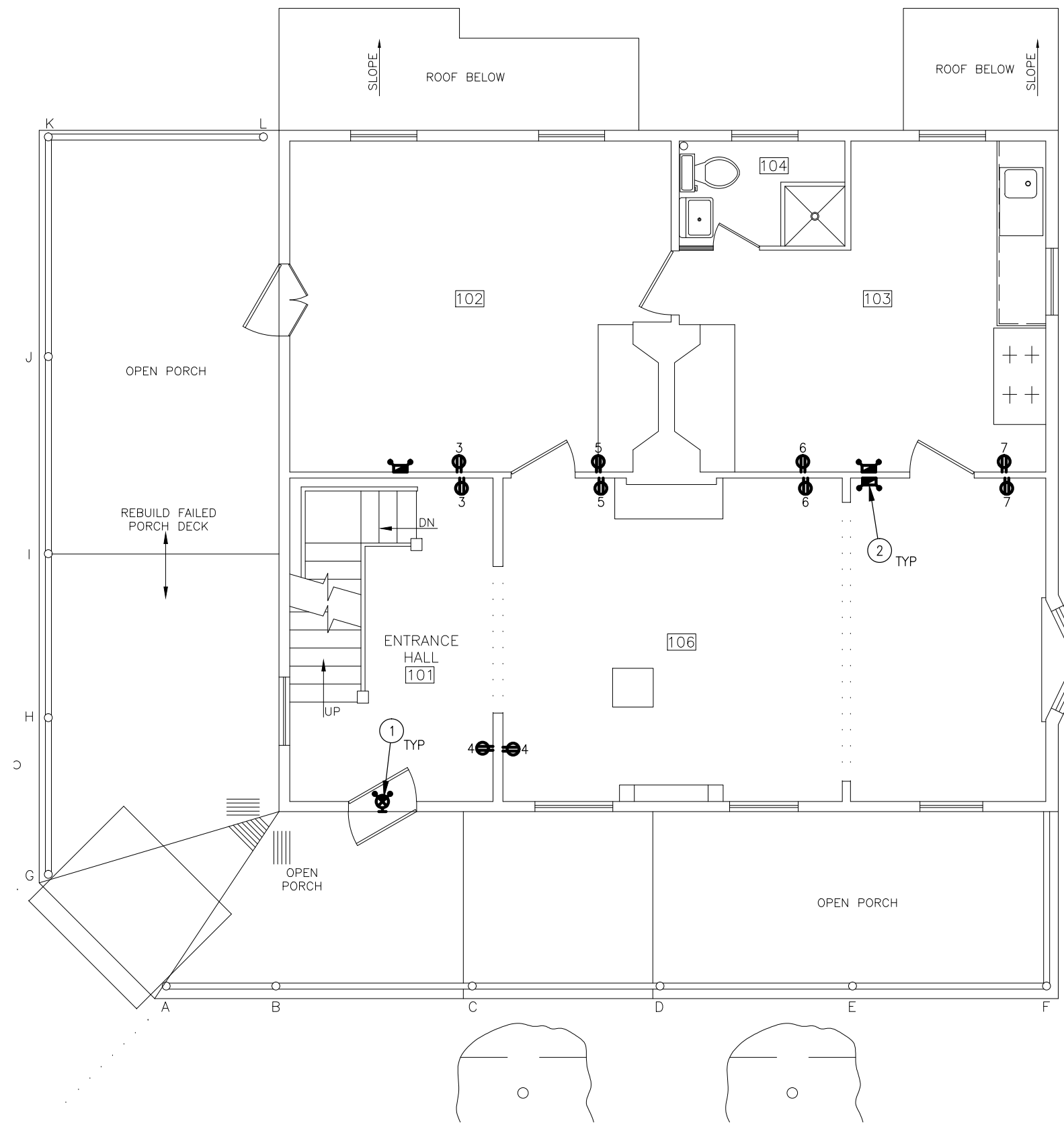


**KEY NOTES**

1. COMBO EXIT LIGHT SHALL BE MODEL LHQM-LED-R-HO AS MANUFACTURED BY LITHONIA OR EQUAL. CONTRACTOR SHALL COORDINATE THE COLOR OF THE LETTERING WITH THE CODE OFFICIAL PRIOR TO SUBMITTALS.
2. EMERGENCY LIGHTING FIXTURE SHALL BE MODEL ELM2LF AS MANUFACTURED BY LITHONIA OR EQUAL.

**GENERAL NOTES**

1. ALL DEVICES SHALL BE CIRCUITED TO THE LOCAL PANEL AS SHOWN ON THE PANEL SCHEDULE.



01  
E1.01

**BLDG. 4 ELECTRICAL FIRST FLOOR PLAN**

3/16" = 1'-0"

IMPROVEMENTS AT  
BUILDINGS 4 AND 7 AT THE  
**DESERTED VILLAGE  
OF FELTVILLE**  
9 CATARACT HOLLOW ROAD  
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BLDG. 4 ELECTRICAL  
FIRST FLOOR PLAN

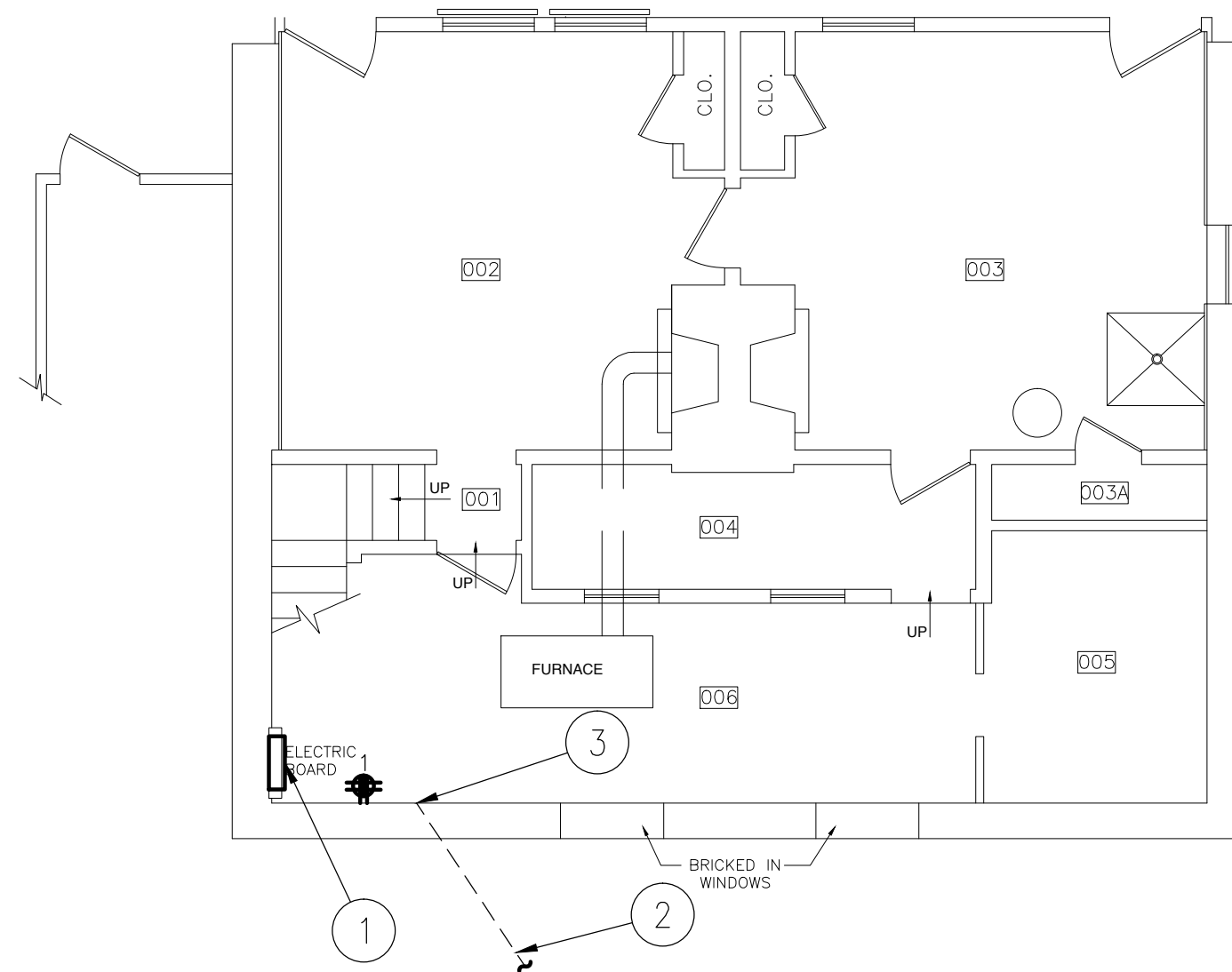
**E1.01**

**KEY NOTES**

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**GENERAL NOTES**

1. CONTRACTOR SHALL COORDINATE THE NEW UTILITY SERVICE WITH THE UTILITY AND THE OWNER.



01  
E1.10

**BLDG. 7 ELECTRICAL BASEMENT FLOOR PLAN**

3/16"=1'-0"



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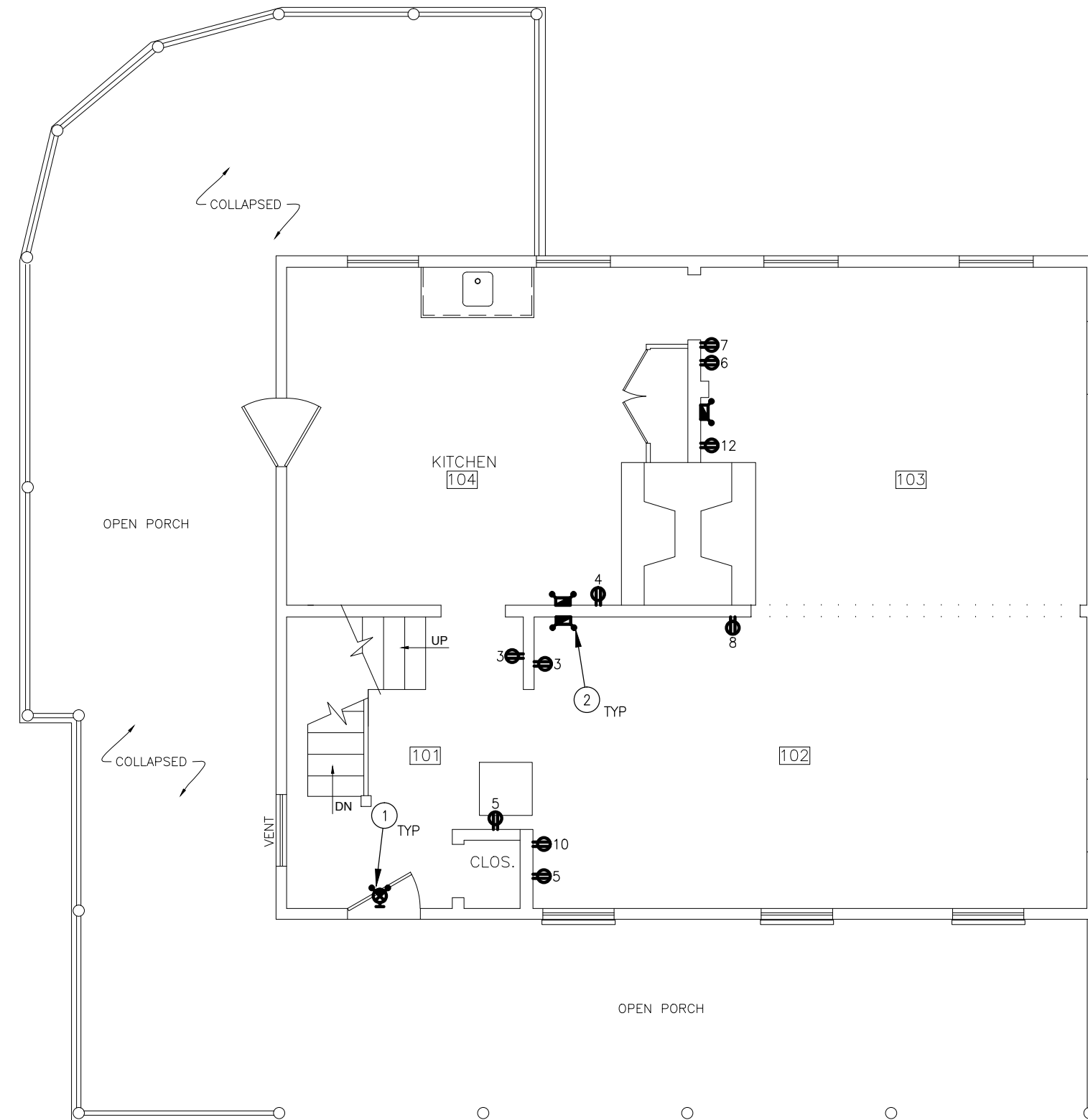
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BLDG. 7 ELECTRICAL  
FIRST FLOOR PLAN

**E1.11**

01  
E1.11

**BLDG. 7 ELECTRICAL FIRST FLOOR PLAN**

3/16"=1'-0"