

CITY OF ELYRIA, OHIO

DEPARTMENT OF PUBLIC SERVICE
ENGINEERING DIVISION

PROJECT SPECIFICATIONS

FOR

**LOCKER ROOMS ADDITION #2 – REBID
NORTH PARK ICE ARENA**

Carrie Reardon
Parks and Recreation Director

Chris Pyanowski
Safety-Service Director

John Schneider, P.E.
City Engineer

**Prepared BY: Brandstetter Carroll Inc.
Project No. 22074**

November 21, 2024



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INVITATION TO BID

Sealed bids for a unit price contract will be received by the City of Elyria, Ohio, until **10:00 AM** local time on **Friday, December 13, 2024** for the project known as:

NORTH PARK LOCKER ROOMS ADDITION #2 - REBID

The bids are to be delivered to the **Office of the Engineer, Elyria City Hall, 131 Court Street, Elyria, Ohio 44035**. All bids received will then be opened and read at a public bid-opening meeting.

DESCRIPTION OF WORK: The Contractor shall furnish all labor, equipment, supplies, and supervision of labors necessary to complete the work. This project includes the following items of work in a single contract: clearing, excavation, utilities, and new construction for locker room addition on the south side of the ice arena and other items all as shown on construction plans and specifications prepared by Brandstetter Carroll Inc.

BIDDING DOCUMENTS: The plans, specifications, and all bidding forms may be examined and/or downloaded at the City of Elyria Website, <http://www.cityofelyria.org/bids-requests/>, go to “Current Bids”. **Bidders SHALL request the electronic copy of the bid package by sending their request to engineer@cityofelyria.org in order to be placed on the Planholders List for notification of any addenda.**

PRE-BID MEETING: No pre-bid meeting will be held. Bidders are encouraged to visit the project site. Scheduling a time/date is also encouraged to ensure access to the building interior. Contact Carrie Reardon, 440-326-1500 creardon@cityofelyria.org and/or Chris Parker 440-326-1498 cparker@cityofelyria.org in our Parks and Recreation Department if interested.

PROJECT QUESTIONS: Questions will be accepted in writing to engineer@cityofelyria.org until December 9, 2024 @ 12:00 PM.

BID SECURITY: The bid must be accompanied by a bid guaranty. The bid guaranty must meet all requirements of Section 153.54 of the ORC and the Instructions to Bidders.

COMPLETION TIME: The contractor will have 180 calendar days to complete the work from issuance of the Notice to Commence. (typically within 2-3 weeks from bid opening)

PREVAILING WAGES: The contractor and any subcontractor must comply with the prevailing wage rate requirements on public improvements in Lorain County and the City of Elyria, Ohio, as determined by the Ohio Department of Commerce, Division of Industrial Compliance and Labor, Bureau of Wage and Hour Administration (614) 644-2239. A complete listing of prevailing wage rates on public improvements in Lorain County may be obtained from the City of Elyria Engineer’s Office at (440) 326-1444 or at <http://com.ohio.gov/laws>. **Please note it is the Contractor’s responsibility to know the prevailing wage rates on public improvements in Lorain County.**

COMPLIANCE WITH ALL LAWS: All work shall be carried out in compliance with all federal, state and local laws, rules and regulations that apply to the work. Any project specification item in

conflict with a federal, state, or local law, rule or regulation, shall be void.

AFFIRMATIVE ACTION: All bidders must comply with the provisions of Chapter 167 of the Elyria Codified Ordinances as amended. Bidders must submit an acceptable Affirmative Action Plan with the bid submission. No contract will be awarded unless an acceptable Affirmative Action Plan is reviewed by the EEO Office, approved and incorporated into the contract. Each bidder must complete and sign the Elyria Equal Opportunity Clause, which is included with the specifications. The bidder must be in compliance with the equal employment opportunity requirements of Ohio Administrative Code Chapter 123, the Governor's Executive Order of 1972, and Governor's Executive Order 84-9. The project specifications provide further details on State EEO and Affirmative Action requirements.

PROPOSAL FORMS: No proposal will be considered unless it is made on the blanks furnished by the City. No bidder shall take any exception to any requirement of the specifications. Each proposal must contain the full name of the party or parties submitting the proposal and all persons interested therein.

AWARD OF CONTRACT: The City reserves the right to waive any technicalities or informalities, to reject any or all bids received, and to accept any bid with any combination of alternates which is deemed most favorable to the City of Elyria, Ohio at the time and under the conditions stipulated in the project documents.

Published by order of:
Kevin Brubaker, Mayor

INSTRUCTIONS TO BIDDERS

1. ORDINANCE

- 1.1 The bids for this project are being taken in accordance with Ordinance No. 2022-17 passed by the Elyria City Council on February 7, 2022.

2. DEFINED TERMS

- 2.1 Except as given in Section 2.2 herein, the terms used in these Instructions to Bidders which are defined in the General Conditions and have the meanings assigned to them in Section 1.01 of the noted General Conditions.

- 2.2 Additional terms used in these Instructions to Bidders are defined as follows:

SUCCESSFUL BIDDER - the lowest and best, responsible, and responsive bidder to whom the City (on the basis of the City's evaluation as hereinafter provided) makes an award.

UNDERGROUND FACILITIES - All pipes, conduits, ducts, cables, fiber optic cables, wires, service connections, manholes, closeouts, valves, vaults, pull boxes, tanks, tunnels, culverts or other such facilities or attachments, and encasements containing such facilities privately or publicly owned which have been installed underground to furnish any of the following services or materials: electricity, gas, steam, liquid petroleum products, street lighting, telephone or other communications, cable television, sewage and drainage removal, traffic or other control systems, or water.

WORK - The entire completed construction or the various separately identifiable parts thereof required to be furnished under the contract documents. Work includes and is the result of performing or furnishing labor and furnishing and incorporating materials and equipment into the construction, and performing or furnishing services and furnishing documents, all as required by the contract documents.

3. COPIES OF BIDDING DOCUMENTS

- 3.1 Complete sets of the bidding documents may be purchased as described in the Invitation to Bid. No refund will be made for returned documents.
- 3.2 Complete sets of bidding documents must be used in preparing bids; the City does not assume any responsibility for errors or misinterpretations resulting from the use of an incomplete set of bidding documents.
- 3.3 The City in making copies of the bidding documents available on the above terms does so only for the purpose of obtaining bids for the work and does not confer a license or grant permission for any other use of the bidding documents.

4. QUALIFICATIONS OF BIDDERS

- 4.1 To demonstrate qualifications to perform the work, each bidder must be prepared to submit within five (5) days after the bid opening, upon the City's request, detailed written evidence

such as financial data, previous experience, present commitments and other such data as may be needed to demonstrate the bidder's qualifications.

- 4.2 Each bidder must be qualified to do business in the State of Ohio, or must obtain such qualification prior to award of the contract by the City.

5. EXAMINATION OF CONTRACT DOCUMENTS AND SITE

5.1 It is the responsibility of each bidder before submitting a bid:

5.1.1 To examine thoroughly the contract documents and other related data identified in the bidding documents. Documents are available for review in the City of Elyria Engineering Department;

5.1.2 To visit the site to become familiar with and satisfy bidder as to the general, local and site conditions that may affect cost, progress, performance or the furnishing of the work;

5.1.3 To consider federal, state and local laws and regulations that may affect cost, progress, performance, or the furnishing of the work;

5.1.4 To study and carefully correlate bidders knowledge and observations with the contract documents, and other related data; and

5.1.5 To promptly notify the Engineer of all conflicts, errors, ambiguities or discrepancies which bidder has discovered in or between the contract documents and other related documents or observations.

5.1.6 To evaluate the condition, layout and nature of the project site and surrounding area;

5.1.7 To consider the availability and cost of labor;

5.1.8 To consider the availability and cost of materials, supplies and equipment;

5.1.9 To consider the cost of temporary utilities required in the bid;

5.1.10 To consider the cost of any permit or license required by a local or regional authority having jurisdiction over the project;

5.1.11 To consider the generally prevailing climatic conditions; and

5.1.12 To evaluate conditions bearing upon transportation, disposal, handling, and storage of materials.

5.2 All notices of conflicts, errors, ambiguities or discrepancies submitted by a bidder to the Engineer must be in writing and should be given at least seven (7) days prior to the bid opening. The Engineer will respond to such notices received in time, by sending an addendum to all holders of the plans and specifications.

5.3 Any reports of exploration and tests of subsurface conditions at or contiguous to the site which have been utilized by the Engineer in preparation of the contract documents are

identified in the Supplementary Conditions. The bidder may rely upon the general accuracy of the "technical data" contained in such report but not upon other data, interpretations, opinions or information contained in such reports or otherwise related to the subsurface conditions at the site, nor upon the completeness thereof for the purpose of bidding or constructing the project.

- 5.4 The City may have record drawings of previous projects constructed in the past, in part or the entire site where this project is to be constructed. The bidder may examine these drawings, if available.
- 5.5 The bidder may purchase copies of the reports noted in Section 5.3 and of the drawings noted in Section 5.4 for the cost of reproduction as established by City Ordinance or by the firm printing the bid documents. Those reports and drawings are not part of the contract documents. The bidder is responsible for any interpretation or conclusion drawn from any technical data, opinions or other information contained in or developed from such reports or drawings.
- 5.6 Before submitting a bid, each bidder will be responsible to obtain such additional or supplementary examinations, investigations, explorations, tests, studies, and data concerning conditions (surface, subsurface, and underground facilities) at or contiguous to the site or otherwise which may affect cost, progress, performance, or furnishing the work, or which relates to any aspect of the means, methods, techniques, sequences, or procedure of construction to be selected and employed by bidder and all safety precautions and programs incidental thereto or which bidder deems necessary to determine its bid for the performing and furnishing the work in accordance with time, price, and other terms and conditions of the contract documents.
- 5.7 On request, the City will grant permission to each potential bidder, access to the site (by issuing a no fee excavation permit, except a fee will be required if pavement is to be cut) to conduct such examination, investigation, exploration, tests and studies as each bidder deems necessary for submission of a bid. Bidders must fill all test holes and clean up and restore the site to its former condition upon completion of such explorations, investigation, tests and studies.
- 5.8 The general nature of any work scheduled to be performed at the project site by the City, or by another prime contractor working for the City, and by any utility (if known by the City) that relates to the work for which a bid is to be submitted, is included as information in the Supplementary Conditions.
- 5.9 The submission of a bid will constitute an incontrovertible representation by bidder that bidder has complied with every requirement of the Article 5, and that without exception the bid is premised upon performing and furnishing the work required by the contract documents and applying the specific means, methods, techniques, sequences or procedures of construction selected by the bidder to complete the project as expressly required by the contract documents, that the bidder has given the Engineer written notice of all conflicts, errors, ambiguities and discrepancies that bidder has discovered (if any) in the contract documents in time for an addenda to be issued to all plan holders, and that the written resolutions thereof issued by the Engineer as an addenda is acceptable to the bidder, and that the contract documents are generally sufficient to indicate and convey understanding of all

terms and conditions for performing and furnishing the work.

6. AVAILABILITY OF LAND FOR WORK

- 6.1 The lands upon which the work is to be performed, the right-of-way and easements, and access thereto and other lands designated for use by the contractor in performing the work are identified in the contract documents. All additional lands and access thereto required for temporary construction facilities, construction equipment, or storage of materials and equipment to be incorporated in the work are to be obtained and paid for by the contractor.
- 6.2 All easements and/or right-of-way for permanent structures or permanent changes in existing facilities have been obtained and paid for by the City unless otherwise provided in the Supplementary Conditions.
- 6.3 Any special condition set forth in easements obtained by the City, which may affect the performance or furnishing the work, if any, are identified in the Supplementary Conditions.

7. INTERPRETATIONS AND ADDENDA

- 7.1 All questions about the true meaning or intent of the bidding documents are to be directed to the Engineer in writing. Interpretations or clarifications considered necessary by the Engineer in response to such questions will be issued by addenda, either mailed, faxed, emailed or hand delivered to all parties recorded by the Engineer as having received the bidding documents or attended the pre-bid meeting.
- 7.2 An addendum may also be issued by the Engineer to modify the bidding documents as deemed advisable by the City.
- 7.3 Any bidder may not rely upon any interpretation of the bidding documents by any means other than a written addendum.

8. BID SECURITY

- 8.1 Each bid must be accompanied by a bid guarantee. The bid guarantee may be a **Bid/Contract Bond**, a **Certified Check**, a **Cashiers Check** or a **Letter of Credit**. The bid guarantee shall meet all requirements of Section 153.54 of the Ohio Revised Code and any additional requirements stated herein.
- 8.2 Any bond shall be furnished by a surety company licensed to conduct business in the State of Ohio. Any check used as bid security shall be drawn on a solvent bank.
- 8.3 Any **Bid/Contract Bond** submitted shall be for the full amount of the base bid plus the highest combination of additive alternates, if any. The form of the **Bid/Contract Bond** shall be of substantially the same form as provided in Section 153.571 of the Ohio Revised Code and it shall serve as both a bid bond and a contract bond. If stated, the amount of the **Bid/Contract Bond** shall be specified in figures. Specifying the amount of the bond as a percentage or one hundred percent (100%) is **not** acceptable.
- 8.4 Section 3905.41, Ohio Revised Code, may require that a **Bid/Contract Bond** be

countersigned by an Ohio resident agent. It is the bidder's responsibility to determine the applicability of Section 3905.41, Ohio Revised Code.

- 8.5 Any **Certified Check, Cashiers Check** or a **Letter of Credit** submitted shall be made payable to the City of Elyria, Ohio and shall be for an amount of not less than ten percent (10%) of the base bid plus the highest combination of additive alternates, if any. The amount shall be stated in figures. Any **Certified Check, Cashiers Check** or a **Letter of Credit** submitted shall be accompanied by an executed Consent of Surety form. Any letter of credit shall be revocable only by the City. If the successful bidder used a certified check, cashier's check or letter of credit, it will be returned upon provision of the **Contract Bond** required by Section 153.54, Ohio Revised Code.
- 8.6 In case a bidder, to whom a contract is awarded, fails to execute the contract within ten (10) days after notice of award is delivered in writing to the bidder, or in case a bidder fails to secure the contract with an acceptable performance bond and payments bond (each in the full amount of the contract) and execute the contract within ten (10) days after notice of the award is delivered in writing to the bidder, the bidder shall be considered as refusing the contract and shall forfeit their bid security in accordance with provisions of Section 153.54 of the Ohio Revised Code.
- 8.7 The bid security from each bidder may be held by the City for up to sixty (60) days. The bid security will be returned to the unsuccessful bidders after the contract has been signed and secured as provided herein above by the successful bidder.

9. **CONTRACT TIME**

- 9.1 The number of days within which, or the date by which, the work is to be substantially completed and also completed and ready for a pre-final payment, are set forth in the Invitation to Bidders and will be set forth in the Agreement Form.

10. **LIQUIDATED DAMAGES**

- 10.1 Provisions for liquidated damages, if any are set forth in the Agreement Form.

11. **SUBSTITUTE AND "OR-EQUAL" ITEMS**

- 11.1 The drawings or specifications may make a reference to a specific manufacturer's make or model identification for a material or item of equipment. The materials and equipment described in this way, by a manufacturer's brand name, establishes a standard of required type, function, quality, and expected life to be met by any proposed substitute or "or-equal" item. Such reference to a name shall be considered as requiring the contractor to furnish either that product or a substitute proposed by the contractor and approved by the Engineer as an approved equal.
- 11.2 An application for acceptance will not be considered by the Engineer until after the effective date of the Agreement.
- 11.3 Each submission by the contractor for review of a substitute shall include the name of the material or equipment for which it is to be substituted and a complete description of the

proposed item including drawings, cuts, performance and test data, and any other information necessary for an evaluation.

- 11.4 The Engineer's review of the substitution will consider the City's normal inventory of repair parts for the specified equipment and the possibility of increased down time for repairs to equipment of a type that repair parts are not in the City's inventory.

12. BID FORM

- 12.1 The Bid Form is included with the bidding documents. This form shall be used by the bidder to submit its bid.
- 12.2 All blanks on the Bid Form (except the signature line) must be completed by printing in ink or by typewriter.
- 12.3 Discrepancies between the sum of the labor unit price in the bid and/or the material unit price in the bid for an item will be resolved by using the unit price stated by the bidder. The Bid Price for each item shall be the unit price times the estimated quantity. The City will correct all multiplication errors using the unit price stated by the bidder times the estimated quantity.
- 12.4 Bids by corporations must be executed by a corporate officer accompanied by evidence of authority to sign. The corporate seal must be affixed and attested by the secretary or an assistant secretary.
- 12.5 Bids by a partnership must be executed in the partnership name and signed by a partner, whose title must be shown below the signature.
- 12.6 The bid shall contain an acknowledgment of receipt of all addenda.
- 12.7 The address, telephone number and email address for communication regarding the bid must be shown.
- 12.8 An out-of-state corporation must provide evidence of authority to conduct business in the State of Ohio.
- 12.9 The bid price stated in the bid form shall be the full price for completion of the work which price shall include all payments by the City to the contractor for all labor, material, equipment, supervision, and overhead required to complete the work.
- 12.10 The cost of completing all work specified in the drawings and in the specifications, in accordance with the contract documents, shall be included by the bidder in the pay items listed on the Bid Form.
- 12.11 The Bid Form includes two separate bid amounts for Contract A and Contract B. The Owner may select separate Bidders to award contracts.

13. SUBMISSION OF BIDS

- 13.1 Bids shall be submitted at the time and place indicated in the Invitation to Bidders and shall

be bound with the other bidding documents and enclosed in an opaque sealed envelope marked "**BID ENCLOSED**" for project (by name) plus the name and address of the bidder.

- 13.2 If the bid is sent through the mail or delivered by another delivery system, the sealed bid envelope shall be enclosed in a separate envelope with the notation "**BID ENCLOSED**" on the face of the delivery envelope. Bids received, if any, after the deadline for delivery of bids, will be returned unopened.

14. NO MODIFICATION OF BIDS

- 14.1 After submission of a bid to the City, no modification of the bid may be made by the bidder.

15. WITHDRAWAL OF BIDS

- 15.1 After submission of a bid to the City, and at any time before the deadline for bid submission, the bidder may withdraw its bid by giving a duly signed written notice requesting to withdraw the bid to the City. Thereafter, that bidder will be disqualified from further bidding on the work, including any re-bid held by the City.

16. OPENING OF BIDS

- 16.1 All bids received will be opened and (unless obviously non-responsive) read aloud publicly at the place where the bids are to be submitted. A summary of the prices bid will be mailed to all bidders after a tabulation of the bids is completed by the Engineer.

17. BIDS TO REMAIN SUBJECT TO ACCEPTANCE

- 17.1 All bids will remain subject to acceptance for sixty (60) days after the day of the bid opening, but the City may, in its sole discretion, release the bid and return the bid security prior to the end of the sixty (60) day period.

18. AWARD OF CONTRACT

- 18.1 The City reserves the right to reject any or all bids, including without limitation, the rights to reject any or all nonconforming, non-responsive, unbalanced or conditional bids, and to reject the bid of any bidder if the City believes that it would not be in the best interest of the City to make an award to that bidder, whether because the bid is not responsive or the bidder is unqualified or of doubtful financial ability or fail to meet any other pertinent standard or criteria established by the City.
- 18.2 In evaluating the bids to determine the lowest and best bid, the City will consider the qualification of the bidders, whether or not the bids comply with the prescribed requirements, and such alternates, unit prices and other data, as may have been submitted with the bid or as may be requested per the contract documents before the award is made by the City.
- 18.3 The City may consider the qualifications and experience of the subcontractors, suppliers, and other persons and organizations proposed for those portions of the work as to which the identity of subcontractors, suppliers, and other persons and organizations must be submitted as provided in the Supplementary Conditions. The City may consider also the operating cost,

maintenance requirements, performance data and guarantees of major items of materials and equipment proposed for incorporation in the work when such data is required to be submitted prior to the award of the work.

- 18.4 The City may conduct such investigations as the City deems necessary to assist in the evaluation of any bid and to establish the responsibility, qualifications and financial ability of the bidders, proposed subcontractors, suppliers, and other persons and organizations to perform and furnish the work in accordance with the contract documents to the City's satisfaction within the prescribed time.
- 18.5 If the contract is to be awarded, it will be awarded to the bidder whose evaluation by the City indicates to the City that the award will be in the best interest of the City.
- 18.6 If the contract is to be awarded, the City will give the successful bidder a Notice of Award within sixty (60) days after the day of the bid opening, unless the bidder grants a time extension to the City.

19. SIGNING OF AGREEMENT

- 19.1 When the City gives a written Notice of Award to the successful bidder, it will be accompanied by the required number of the unsigned counterparts of the Agreement. Within ten (10) days thereafter the contractor shall sign the Agreement and deliver all copies to the City Engineer. The City will then execute the Agreement, and the City Auditor's Certification of Funds, and will deliver one (1) fully executed Agreement to the contractor with the Notice to Commence Work. One copy of the Agreement and attached documents will be sent to the local agent of the contractor's surety.

20. CONTRACT SECURITY

- 20.1 When the successful bidder delivers the executed Agreement to the City, it must be accompanied by the required performance and payment bonds, unless the bond submitted with the bid was a **Bid/Contract Bond**, which will serve as the required contract security.

21. SALES TAXES

- 21.1 The City is exempt from Ohio State sales and use taxes on the materials and equipment to be incorporated into the work. Said taxes shall not be included in the bid price. The contractor shall contact the City Auditor's Office at 440-326-1530 for completion of the tax-exempt forms required for the project.

22. PROGRESS PAYMENTS AND RETAINER

- 22.1 Progress payments may be made to a Contractor before the work is completed. Progress payments so paid to a Contractor shall be based on actual measurements of labor and materials furnished, including materials delivered, under the contract to the date of estimate. The amount of a progress payment shall be determined by subtracting from the value of the portion of the work completed and materials furnished to the date of the estimate a retainer of ten percent (10%) and the sum of all previous progress payments.

- 22.2 Thirty (30) days after substantial completion of the work under the contract, and upon approval of the work by the Engineer, the ten percent (10%) retainage may be reduced to five percent (5%).
- 22.3 After completion of all punch list items, the five percent (5%) retainage may be released. The Contractor shall be responsible for full guarantee of all work for one full year from the date of final completion of the contract. No retainer shall be subject to interest payments to the Contractor nor required to be deposited with an escrow agent who will pay interest to the Contractor.

24. EQUAL EMPLOYMENT OPPORTUNITY

- 24.1 In addition to the City of Elyria, Ohio, Codified Ordinance Chapter 167, the contractor shall, and all subcontractors working on the project shall, comply with the equal employment requirements for the utilization of minorities and females pursuant to Chapter 123 of the Ohio Administrative Code, the Governor's Executive Order of 1972, and the Governor's Executive Order 84-9.

25. SPECIAL INSURANCE REQUIREMENTS

- 25.1 The contractor and each of the subcontractors shall maintain during the life of its contract or subcontract, Workers' Compensation Insurance, Public Liability, Property Damage and Vehicle Liability Insurance, equal or exceeding the limits specified in the Supplementary Conditions.
- 25.2 Until the project is completed and accepted by the City, the contractor shall maintain Builders Risk Insurance on a one hundred percent (100%) basis (completed value form) on the project for the benefit of the Ohio Public Works Commission.

26. CONTRACTOR LICENSES AND/OR PERMITS

- 26.1 The Contractor and all Subcontractors shall obtain, maintain and renew the necessary licenses and/or permits as required by the City of Elyria Building Department to complete the Work. The Contractor shall secure all credentials and pay for all necessary fees associated with obtaining these licenses and/or permits. Fees shall be included in the price of the contract and no additional payment will be made to the Contractor for reimbursement of fees. Licenses and/or permits shall be obtained prior to initiating any construction activity associated with that particular license.

27. WARRANTY OF WORKMANSHIP AND MATERIALS

- 27.1 The Successful Bidder shall warrant that all labor furnished under this project shall be competent to perform the tasks undertaken, that the product of such labor shall yield only first-class results, that all material and equipment provided shall be new and of high quality, that the completed work will be complete, of high quality, without defects, and that all work complies with the requirements of this project.
- 27.2 The duration of the Bidders warranty, including equipment and labor, shall be one (1) year from the date of Substantial Completion or upon written acceptance notice date by the City

for individual pieces of equipment.

28 STORMWATER BEST MANAGEMENT PRACTICES

- 28.1 The Contractor and all Subcontractors shall consider and implement any and all storm water best management practices (BMPs) as per City of Elyria Codified Ordinance Chapter 960 “Storm Water Management” and as per the Ohio Department of Natural Resources in the most recent version of the Rainwater and Land Development manual for construction site runoff and post-construction site runoff as required to minimize, reduce and/or eliminate the discharge of contaminated or sediment-laden storm water from the construction site. All existing and proposed outlets and drainage courses shall be protected.

The Contractor shall develop and submit a plan for approval if the construction site is over one acre. Weekly site inspections, including all inspections within 24 hours after a rain event, shall be the responsibility of the contractor. Completed and signed inspection forms shall be submitted to the Engineer within 48 working hours after the completion of the inspection. Maintenance of all BMPs shall be the responsibility of the contractor. The contractor and all of its subcontractors shall comply with all other storm water best requirements as specified in the specifications, documents, Storm Water Pollution Prevention Plans and/or drawings for this project. Cost for this work shall be included in 1) the individual unit price bid for Storm Water Pollution Prevention Plan (SWPPP), 2) the separate line items as applicable, or 3) the total lump sum base bid for the project, whichever is applicable and detailed in the bid form.

29. SUBCONTRACTOR QUALIFICATIONS

- 29.1 Within five (5) days after the bid opening and prior to Award of Contract, the Successful Bidder shall supply to the City a list of subcontractors that it intends to use for the project, if not included with the original bid submittal. The City, at its sole discretion, may request that a subcontractor be replaced or not used. If the Successful Bidder refuses to replace this subcontractor, the City reserves the right to award the contract to the next lowest and best bidder deemed most qualified to perform the Work. The City may request references for any subcontractor. If the Successful Bidder proposes to change a subcontractor at any time after submittal of the original list of subcontractors, including during construction, the new subcontractor shall be approved by the City prior to that subcontractor performing any work on the project.

AGREEMENT FORM

**AGREEMENT
BY AND BETWEEN
THE CITY OF ELYRIA
AND**

CONTRACT NO. 24-20

This Agreement is made and entered into, effective upon full execution by all parties, by and between the City of Elyria, Ohio, an Ohio municipal corporation with offices located at 131 Court St., Elyria, Ohio 44035 (the “City”) and _____, an Ohio entity with offices located at _____, Ohio 44 (the “Contractor”). The Contractor and the City shall be collectively referred to as the “Parties” and individually as the “Party.”

WHEREAS, this Agreement was authorized by Ordinance No. 2022-17 which was passed by the Elyria City Council on February 7, 2022; and

WHEREAS, the City desires to enter into an agreement for construction services for **NORTH PARK LOCKER ROOMS ADDITION #2** (the “Agreement” or “Contract”); and

WHEREAS, the Contractor has submitted a bid in response to the City’s request for bid proposals; and

WHEREAS, the City has determined that the Contractor has the experience and resources to complete the work as contemplated by this Agreement.

NOW, THEREFORE, in consideration of the mutual covenants contained herein and other good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, the City and the Contractor agree as follows:

ARTICLE 1 – WORK

The Contractor shall furnish all labor, equipment, supplies, and supervision of labors necessary to complete the work, which is the subject of this Agreement (the “Work”). The Work will involve the construction of a locker room addition, utility connections, and other items all as shown on construction plans and specifications prepared by Brandstetter Carroll Inc. The project location is North Park Ice Arena located at 901 Duffey Street. Construction documents were prepared by Brandstetter Carroll Inc.

The City’s request for bid proposals (attached as Exhibit “A”) and Contractor’s proposal (attached as Exhibit “B”) are incorporated by reference as if fully rewritten herein. In the event that a discrepancy exists between the terms of Exhibits A and B, the terms of Exhibit A will be controlling and binding. In the event that a discrepancy exists between the terms of the Exhibits and this Agreement, the terms of this Agreement will be controlling and binding.

ARTICLE 2 - ENGINEER TO BE CITY'S REPRESENTATIVE

The services of the Contractor shall be carried out under the authority for contract administration of the Mayor and Safety-Service Director of the City, who is designating the City Engineer as the person who, as the City's representative, will administer the contract, undertake and assume all duties and responsibilities, and will have the authority and rights assigned to the Engineer under the specifications for this work.

ARTICLE 3 - CONTRACT PERFORMANCE

COMPLETION TIME: Construction of this project shall begin at the discretion of the contractor but must be completed within 180 calendar days.

ARTICLE 4 - LIQUIDATED DAMAGES

The City and the Contractor recognize that time is of the essence in this agreement, and that the City will suffer financial loss (including but not limited to incidental and consequential damages) if the Work is not carried out within the time specified in Article 3 herein. Both the City and the Contractor recognize the impossibility of calculating the actual loss suffered by the City if the Work is not substantially completed within the specified time. Accordingly, instead of requiring any such proof, the City and the Contractor agree that as liquidated damages for delay (but not as a penalty) the Contractor shall pay the City the sum of four hundred dollars (\$400.00) for each calendar day that expires after the time specified in Article 3 herein for completing the work assigned, unless the City grants a time extension for good reason not under the control of the Contractor. In addition to the foregoing, Contractor agrees to pay for the cost of any additional inspection services that the City requires as a result of delays.

ARTICLE 5 - CONTRACT AMOUNT

The City shall pay the Contractor for performance of the Work, in accordance with the contract documents, a total amount of, which shall not exceed, _____ Dollars and _____ Cents (\$ _____).

The Contractor agrees that no extra work will require any extra or additional payments by the City, unless the extra work is authorized in writing by the City's Mayor before the extra work is performed.

ARTICLE 6 - PAYMENT PROCEDURES

The Contractor agrees to promptly (by the 5th of each month), but not more frequently than once every thirty (30) days, submit an original invoice with one (1) copy and the required estimate computations with required certifications to the Engineer. The City will make progress payments on or about the 26th day of each month.

Prior to substantial completion, progress payments will be in an amount equal to ninety percent (90%) of the Work completed and ninety percent (90%) of the materials and equipment delivered to the project site, but not yet incorporated into the Work, less in each case, the aggregate of all payments previously made. No retainer shall be subject to interest payments to the Contractor nor required to be deposited with an escrow agent who will pay interest to the Contractor.

Acceptance of the Work, Pre-Final Payment and Final Payment: Upon final completion and acceptance of the work by the City in accordance with E.C.O. 143.06, the City shall pay the Contractor all funds due the Contractor, except for the five percent (5%) retainer per Section 22 of the Instructions to Bidders. The five percent (5%) retainer shall be paid by the City to the Contractor, after completion of all work and all punch list items. If defects in the Work are found during the one (1) year period after final completion, the defects are to be corrected by the Contractor. The corrected work shall be guaranteed for a period of one (1) year by the Contractor. After satisfactory completion of all work and all punch list items, the five percent (5%) retainer or any payment withheld for other purpose may be released.

ARTICLE 7 - CONTRACTOR'S REPRESENTATIONS

The Contractor acknowledges that it has taken the steps reasonably necessary to ascertain the nature and the location of the Work to be performed, and that it has investigated and satisfied itself as to the general and local conditions which can affect the Work, its cost, including but not limited to (1) the cost of purchasing, transportation, handling and storage of materials and supplies, (2) the availability of labor and cost, (3) the uncertainties of weather or similar physical conditions, including the time of year the project is to be constructed, (4) all other physical conditions which can impact the cost of doing Work, (5) the character of the equipment and facilities needed to prepare to do the work and to carry out the work to be performed, considering the limited work area, and the access to the site, (6) the cost of the Contractor's overhead, (7) the cost of providing worker supervision and management, (8) the cost of providing insurance, bonds, and related expenses.

The Contractor also acknowledges that it has had sufficient time during the bidding of the project to review all contract documents, and to make all investigations necessary to reasonably ascertain the cost of doing the Work. Further, the Contractor has correlated the results of observations, examination, investigations, and review of local labor conditions with the terms and conditions of all of the contract documents, including the addenda listed on the Contractor's Bid Form, in determining the price bid for the Work. The Contractor acknowledges that the City assumes no responsibility for any understanding reached or representations made concerning conditions which can affect the Work, by any of its officers, employees, or agents before execution of this Agreement, unless that understanding or representation is expressly stated in the contract documents which are a part of the Agreement.

ARTICLE 8 – INDEMNIFICATION

Contractor shall indemnify, defend and hold harmless the City, its elected officials, employees, representatives and agents, and Brandstetter Carroll Inc. (the "Indemnified Parties") from and against any and all loss, cost, expense, damage, injury, liability, claim, demand, penalty or cause of action (including attorneys' fees) directly or indirectly arising out of, resulting from or related to (in whole or in part), (1) the Work performed hereunder, (2) the contract or (3) an act or omission of Contractor, a Subcontractor or any individual partnership or joint venture or corporation (a) directly or indirectly employed by Contractor or a Subcontractor or (b) for whose acts or omissions Contractor or a Subcontractor may be liable. Contractor shall promptly advise the City in writing of any action, administrative or legal proceeding or investigation as to which this indemnification may apply, and Contractor, at Contractor's expense shall assume on behalf of the City, and conduct with due diligence and in good faith, the defense with counsel satisfactory to the City, provided, that the City shall have the right to be represented therein by advisory counsel of its own selection and at its

own expense; and provided further, that if the defendants in any such action include both Contractor and the City, and the City shall have reasonably concluded that there may be legal defenses available to the City which are different from or additional to, or inconsistent with those available to Contractor, the City shall have the right to select separate counsel to participate in a defense of such action on its own behalf at Contractor's expense. In the event of failure by Contractor to fully perform in accordance with this indemnification, the City, at its option, and without relieving Contractor of its obligations hereunder may so perform, but all costs and expenses so incurred by the City in that event shall be reimbursed by Contractor to the City, together with interest on the same from the day any such expense was paid by the City until reimbursed by Contractor at the rate of interest provided to be paid on judgments, by the law of the State of Ohio. The obligations of Contractor under this Section shall survive the expiration of the Contract.

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

The Contractor acknowledges that, as a political subdivision of the State of Ohio, the City does not indemnify any person or entity. The Contractor agrees that no provision of this Agreement or any other agreement between the Contractor and the City may be interpreted to obligate the City to indemnify or defend the Contractor or any other party.

ARTICLE 9 - CONTRACT DOCUMENTS

This Agreement and accompanying documents, including the Bid Form, Unit Price Schedule, Instructions to Bidders, Invitation to Bid, all Addenda listed on the Contractors Bid Form, the General Conditions, State Prevailing Wages and Technical Specifications as prepared by the City Engineer's Office, and all attachments submitted by the Contractor with its Bid Form, are made a part of the Agreement hereto as if the contents of those contract documents were fully rewritten herein. The City and the Contractor agree that there are no oral or written representations, understandings or agreements relating to this Agreement which are not fully expressed herein. No modification, change or amendment hereof shall be valid unless such is in writing and signed by the authorized representative of the party against which such modification, change or amendment is sought to be enforced.

ARTICLE 10 - INSURANCE

10.1 Insurance Coverage Requirements. Contractor agrees to procure and maintain during the term of this Agreement insurance in the types and amounts shown below.

- a) Worker's Compensation in full compliance with the requirements of the State of Ohio.
- b) SEE REQUEST FOR BID PROPOSALS FOR SPECIFIC INSURANCE REQUIREMENTS.

All insurance shall be exclusive of defense costs whenever possible.

10.2 Insurance Coverage Terms and Conditions.

- a) The insurance policies of the Contractor, required for this Agreement, shall:
- (i) Name the “City of Elyria, Ohio” as an Additional Insured. This does not apply to Worker’s Compensation and Professional Liability.
 - (ii) Contain a waiver of subrogation provision wherein the insurer(s) waives all rights of recovery against the City; and
 - (iii) Be primary and not in excess or contingent on any other basis; and
- b) The insurance required for this Agreement shall be provided by insurance carrier(s) licensed to transact business and write insurance in the state(s) where operations are performed and shall carry a minimum A.M. Best’s rating of A- VII or above.
- c) The terms of this Agreement shall be controlling and shall not be limited by any insurance policy provision.
- d) High-risk activities may require higher insurance limits.
- e) These insurance provisions shall not affect or limit the liability of the Contractor stated elsewhere in this Agreement or as provided by law.
- f) The Contractor shall require any and all of its subcontractors to procure, maintain, and pay premiums for the insurance coverages and limits of liability outlined above with respect to products, services, work and/or operations performed in connection with this Agreement.
- g) The City reserves the right to require insurance coverages in various amounts or to modify or waive insurance requirements on a case-by-case basis whenever it is determined to be in the best interest of the City.
- h) If the Bid/Proposal specifies the need for higher limits of liability for any applicable insurance provision, the Bid/Proposal specifications shall govern.
- i) Where coverages are made on a claims-made basis, the claims-made retroactive date on the policy shall be prior to the commencement of professional activity related to this Agreement.
- j) The Contractor shall furnish a Worker’s Compensation Certificate and Certificate of Insurance evidencing that the insurance coverages required herein are in full force and effect. Acceptance of a non-conforming certificate of insurance by the City shall not constitute a waiver of any rights of the parties under this Agreement.
- k) The Certificate(s) of Insurance evidencing these coverages shall contain the following additional insured and waiver of subrogation language where applicable:
- (i) “City of Elyria, Ohio is an additional insured for purposes of commercial general liability and automobile liability”: and/or
 - (ii) “Waiver of subrogation in favor of the City of Elyria.”
- l) Any additional insured shall receive at least thirty (30) days’ notice of any cancellation,

change reducing the coverage, or refusal to renew, which is adverse to the interest of any additional insured to be affected. The City shall be provided with any notice of non-renewal, regardless of the cost. The same terms apply to any subcontractors to the extent practical.

10.3 Certificate of Insurance. This Agreement is contingent upon, and not valid or binding upon City, until such times as City receives said Certificate of Insurance.

ARTICLE 11 - TERMINATION

11.1 Termination for Default. Either party may terminate this Agreement, in whole or in part, whenever such party determines that the other has failed to satisfactorily fulfill its material obligations and responsibilities hereunder and is unable to cure such failure within a reasonable period of time, not to exceed thirty (30) calendar days. Such termination shall be referred to as "Termination for Default." If the defaulting party is unable to cure the failure within the specified time period, the party seeking to terminate may, by giving written notice thereof to the defaulting party, terminate this Agreement, in full or in part, as of the date specified in the notice of termination. The Contractor, however, shall be paid for all services and/or materials provided on or prior to the date of termination. Any fees paid in advance shall be returned to the City at a prorated amount.

11.2 Termination for Financial Instability. In the event that the Contractor becomes financially unstable to the point of (i) ceasing to conduct business in the normal course, (ii) making a general assignment for the benefit of creditors, or (iii) suffering or permitting the appointment of a receiver for its business or its assets, or there is a filing by or against the Contractor of a meritorious petition in bankruptcy under any bankruptcy or debtor's law, the City may, at its option, terminate this Agreement under Section 11.1, the "Termination for Default" clause, by giving written notice thereof.

ARTICLE 12 – ASSIGNMENT

No assignment by a party hereto of any rights under or interests in the Agreement will be binding on another party hereto without the written consent of the party sought to be bound; and specifically but without limitation, moneys that may become due and moneys that are due may not be assigned without such consent (except to the extent that the effect of this restriction may be limited by law), and unless specifically stated to the contrary in any written consent to an assignment. No assignment will release or discharge the assignor from any duty or responsibility under the contract documents.

ARTICLE 13 – SAFETY

The Contractor agrees to comply with Chapter 4121:1-3 of the Ohio Administrative Code entitled "Specific Safety Requirements of the Industrial Commission of Ohio relating to Construction," effective November 1, 1979 and with the "Federal Occupational Safety and Health Act of 1970 and Code of Federal Regulation, Title 29, Chapter XVII, Part 1926," and to also comply with all other requirements of law.

ARTICLE 14 – WARRANTY

THE CONTRACTOR HEREBY WARRANTS THAT THE SERVICES WILL NOT INFRINGE, MISAPPROPRIATE OR VIOLATE ANY INTELLECTUAL PROPERTY OR ANY OTHER RIGHT OF ANY PERSON OR ENTITY. THE SERVICES WILL BE PERFORMED IN A

PROFESSIONAL AND WORKMANLIKE MANNER, CONSISTENT WITH INDUSTRY STANDARDS. THE SERVICES WILL BE PERFORMED IN STRICT ACCORDANCE WITH THE HIGHEST STANDARDS OF CARE, SKILL, DILIGENCE AND PROFESSIONAL COMPETENCE APPLICABLE TO SUPPLIERS/CONTRACTORS ENGAGED IN PROVIDING SIMILAR SERVICES IN THE LORAIN COUNTY AREA. THE CONTRACTOR HAS THE REQUISITE SKILL AND STAFF TO PERFORM THE SERVICES REQUIRED HEREUNDER FULLY, IN A TIMELY AND EFFICIENT MANNER. THE CONTRACTOR WILL PERFORM THE SERVICES IN ACCORDANCE WITH ALL APPLICABLE LAWS.

ARTICLE 15 - PREVAILING WAGE RATES

The Contractor agrees to pay wages equal to or exceeding the minimum wage rates as determined by the Ohio Department of Commerce (“ODOC”). The Contractor agrees to require all subcontractors, if any, to pay wages equal to or exceeding the minimum wage rates as determined by the ODOC.

ARTICLE 16 – SUCCESSORS

The City and the Contractor each bind themselves, their partners, successors, assigns and legal representatives in respect to all conveniences, agreements and obligations contained in the contract documents.

ARTICLE 17 - OTHER PROVISIONS

The Contractor agrees to comply with the requirements of Chapter 167 of the Elyria Codified Ordinances as amended, regarding Affirmative Action and Equal Employment Opportunity. All sections of Chapter 167 as amended on the first date of advertising this project, which are to be a part of any construction or service agreement executed by the City, are included in this Agreement by reference, as if repeated in full herein.

ARTICLE 18 – REVIEW BY COUNSEL

Each party and its counsel have reviewed and approved this Agreement and any ambiguities will not be resolved against the drafting party.

ARTICLE 19 – ENTIRE AGREEMENT

This Agreement sets forth the entire agreement between the parties and supersedes any prior agreements, negotiations or understandings of the parties.

ARTICLE 20 – GOVERNING LAW

This Agreement shall be governed by, and shall be construed and enforced in accordance with, the laws of the State of Ohio. The parties agree that any actions regarding this Agreement or the Work performed hereunder shall be brought in the Court of Common Pleas of Lorain County, Ohio. Each party consents to the exclusive jurisdiction of the Court of Common Pleas of Lorain County, Ohio, and hereby agrees not to challenge this Governing Law and Jurisdiction provision, and further agrees not to attempt to remove any legal action outside of Lorain County for any reason.

ARTICLE 21 – SEVERABILITY

If any term or provision of this Agreement is deemed by a court of law to be invalid or unenforceable, the remainder of this Agreement shall not be affected thereby, and each remaining term or provision of this Agreement shall be valid and enforceable to the fullest extent permitted by law.

ARTICLE 22 – SURVIVAL OF TERMS

Termination or expiration of this Contract for any reason shall not release either party from any liabilities or obligations set forth in this Contract which (i) the parties have expressly agreed shall survive any such termination or expiration, or (ii) remain to be performed or by their nature would be intended to be applicable following any such termination or expiration.

ARTICLE 23 – WAIVER

No delay or omission by either party in the exercise of any right or power shall impair any such right or power or be construed to be a waiver thereof. A waiver by either of the parties of any of the covenants, conditions or agreements to be performed by the other or any breach thereof shall not be construed to be a waiver of any succeeding breach thereof or of any other covenant, condition or agreement herein contained. No change, waiver or discharge hereof shall be valid unless in writing and signed by an authorized representative of the party against which such change, waiver, or discharge is sought to be enforced.

ARTICLE 24 – FORCE MAJEURE

Neither Party shall be in default if its failure to perform any obligation hereunder is caused solely by supervening conditions beyond that Party’s reasonable control, including, without limitation, acts of God, civil commotion, strikes, labor disputes, or governmental demands or requirements.

ARTICLE 25 – INDEPENDENT CONTRACTOR

It is fully understood and agreed that the Contractor is an independent contractor and is not an agent, servant, or employee of the City. The Contractor declares that it is engaged as an independent business and has complied with all applicable federal, state, and local laws regarding business permits and licenses of any kind, including but not limited to any insurance coverage, workers’ compensation, or unemployment compensation that is required in the normal course of business and will assume all responsibility for any federal, state, municipal or other tax liabilities.

ARTICLE 26 - ANTI-DISCRIMINATION

Contractor agrees that in its employment of labor, skilled or unskilled, there shall be no discrimination exercised against any person because of race, color, religion, national origin, sex, gender, ancestry, age, disability, sexual orientation, sexual identity, genetic information, military status, or veteran status, and a violation of this term shall be deemed a material breach of this Contract.

ARTICLE 27 – HEADINGS

The section headings appearing in this Contract are inserted only as a matter of convenience and in no way define, limit, or describe the scope or extent of such section.

ARTICLE 28 - COUNTERPARTS

This Contract may be executed in separate original or facsimile counterparts, each of which shall be deemed an original, and all of which shall be deemed one and the same instrument.

ARTICLE 29 – OHIO REVISED CODE

Contractor shall comply with all applicable provisions of Sections 2909.21 to 2909.34 Ohio Revised Code (Ohio Patriot Act) and Sections 3517.13 Ohio Revised Code.

(THE REMAINDER OF THIS PAGE INTENTIONALLY LEFT BLANK)

(SIGNATURE PAGE TO FOLLOW)

IN WITNESS WHEREOF, this Agreement has been executed in duplicate by the City and the Contractor on the dates below.

CONTRACTOR NAME

THE CITY OF ELYRIA, OHIO

Signature

Kevin Brubaker – Mayor Date

Print Name

APPROVED AS TO FORM:

Date

Amanda R. Deery, Law Director

Date

**NOTICE TO COMMENCE WORK
and
NOTICE TO COMMENCEMENT OF A PUBLIC IMPROVEMENT
PURSUANT TO REVISED CODE SECTION 1311.252**

State of Ohio

SS

County of Lorain

I, Kevin Brubaker, being first duly sworn, say that:

1) Affiant is the Mayor of the City of Elyria, Ohio.

2) The City of Elyria, Ohio gives this Notice to Commence Work to the Contractor, for the public improvement identified as **NORTH PARK LOCKER ROOMS ADDITION #2 - REBID.**

3) The following is the name, address and trade of the principal contractor working on this public improvement:

NAME:

ADDRESS:

TRADE: General

DATE OF FIRST EXECUTED CONTRACT:

4) The following is the name and address of the surety for the principal contractor:

NAME OF SURETY:

ADDRESS OF SURETY:

5) For the purpose of serving an affidavit pursuant to Revised Code Section 1311.26, service may be made upon the following representative of the Public Authority:

Kevin Brubaker, Mayor
CITY OF ELYRIA, OHIO
131 Court Street
Elyria, Ohio 44035

FURTHER AFFIANT SAYETH NAUGHT.

Signature: _____

SWORN TO BEFORE ME and subscribed in my presence this _____ day of _____, 2024.

(SEAL)

Notary Public: _____

FINANCE DIRECTOR'S CERTIFICATION OF FUNDS

I hereby certify that there is in the Treasury of the City of Elyria, State of Ohio, to the credit of the _____ not appropriated for any other purpose and/or in the process of collection, as required by law, the sum of _____ (\$ _____) to pay the cost of the attached contract for the **NORTH PARK LOCKER ROOMS ADDITION #2-REBID** in Elyria, Ohio.

Executed in duplicate this _____ day of _____ in the year of 2024.

City Finance Director

Ordinance No.: 2022-17

Passed On: February 7, 2022

Account No.:

Account No.:

RESOLUTION OF DIRECTORS

Date _____

The Board of Directors of: _____ (Firm Name)

met on the _____ day of _____ of _____.

A motion was made, seconded and passed authorizing _____ (Name),

_____ (Title) to sign and submit a bid to the City of Elyria, Ohio, for

the: _____ (Name of Project)

and authorizing the same person to enter into a contract with the City of Elyria, Ohio, if the City awards the work to the firm.

By: _____ Title: _____
(Signature)

ATTEST:

By: _____ Title: _____
(Signature)

(CORPORATION SEAL)

NOTE: A similar form with an original signature and a current date (within 12 months) may be used in place of this form. If the form submitted with the bid has photocopy signatures, the form must be replaced with one having original signatures, before the contract is signed.

BID FORM
LUMP SUM CONTRACT

PROJECT: NORTH PARK LOCKER ROOMS ADDITION #2 - REBID

THIS BID IS SUBMITTED TO: Mayor Kevin Brubaker
Office of the Safety-Service Director
City of Elyria, Ohio
131 Court Street
Elyria, Ohio 44035

1. The undersigned **Bidder** proposes and agrees, if this **Bid** is accepted, to enter into an **Agreement** with the **City** in the form included in the **Contract Documents** to complete all **Work** as specified or indicated in the **Contract Documents** for the **Contract Price** and within the **Contract Time** indicated in this bid, and all in accordance with the **Contract Documents**.
2. **Bidder** accepts all of the terms and conditions of the **Instructions to Bidders**, including without limitation those dealing with the disposal of the **Bid Security**. This **Bid** will remain open for **sixty (60)** days after the day of **Bid Opening**. **Bidder** will sign the **Agreement** and submit the documents required by the **Contract Documents** within ten (10) days after the date of the **City's Notice of Award**.
3. In submitting this **Bid**, the **Bidder** represents, as more fully set forth in the **Agreement**, that:
 - (a) The **Bidder** has examined copies of the **Invitation to Bid**, the **Instructions to Bidders**, the **Specifications**, the **Supplementary Conditions** and all other **Contract Documents**, and also the following addenda:

Date	Number	Topics
------	--------	--------

the receipt of all of which is hereby acknowledged.

- (b) **Bidder** has examined the site and locality where the work is to be performed, the legal requirements (**Federal, State, and Local**, laws, ordinances, rules and regulations) and, conditions affecting cost, progress or performance of the **WORK**, and has made such independent investigations as **Bidder** deems necessary.
 - (c) This **Bid** is genuine and not made in the interest of or on behalf of any undisclosed person, firm or corporation and is not submitted in conformity with any agreement or rules of any group, association, organization or corporation; **Bidder** has not directly or indirectly induced or solicited any other bidder to submit a false or sham bid; **Bidder** has not solicited or induced any person, firm, or corporation to refrain from bidding; and **Bidder** has not sought by collusion to obtain for himself any advantage over any other bidder or over the **City**.
4. **Bidder** agrees that the **Work** on the project will be completed within **180 calendar days**.
6. **Bidder** will complete the **Work** in accordance with the **Contract Documents** for the lump sum bid prices.

BID ITEMS:

- A.) Base Bid – North Park Locker Rooms Addition #2 (Complete) \$ _____
- B.) Contingency Allowance \$30,000.00
- C.) Total Base Bid plus Contingency Allowance \$ _____
 _____ (C In Words)
- D.) Add Alternate 01 – Resilient Athletic Flooring at Ice Rink \$ _____

The following documents are attached to and made a condition of this bid:

- (a) Bid Security in the form of _____
- (b) Bidder's Insurance Agent's Affidavit, signed by the agent
- (c) Bidder's Affidavit, signed by the Bidder
- (d) City and State EEO and Affirmative Action Forms
- (e) OPWC – Covenants/Certification

The bidder is _____ (Insert Individual, Partnership, Corporation or Joint Venture.)

This **Proposal** is signed on this _____ day of _____, in the year of 2024.

BIDDER: _____ (SEAL)
(Firm Name)

BY: _____ Title: _____
(Printed Name)

BY: _____ Attest: _____
(Authorized Signature)

BUSINESS ADDRESS: (Address to which all official notices are to be sent.)

Telephone Number: (_____)_____-_____-_____-_____ FAX Number: (_____)_____-_____-_____

Email Address: _____

(NOTE: If **Bid** is by a partnership, a partner must sign; if the **Bid** is by a corporation, an authorized officer must sign, and seal is to be affixed; and if **Bid** is by a joint venture, all members of the joint venture must sign).

BID GUARANTY AND CONTRACT BOND

(OHIO REVISED CODE SECTION 153.571)

Bond Number _____

KNOW ALL MEN BY THESE PRESENTS, that we, the undersigned _____

(Bidder's Name and Address)

as principal and _____ (Name of Sureties) as sureties, are hereby held and firmly bound unto the City of Elyria, Ohio, as obligee in the penal sum of the dollar amount of the bid submitted by the principal to the obligee on _____ (Date) to undertake the project known as _____

The penal sum referred to herein shall be the dollar amount of the principal's bid to the obligee, incorporating any additive or deductive alternate proposals made by the principal on the date referred to above to the obligee, which are accepted by the obligee. In no case shall the penal sum exceed the amount of \$ _____ (Dollars in Figures) _____

_____ (Dollars in Words). (If the amount in figures and the amount in words are different, the amount in words shall be used as the amount intended.) (If the foregoing blank is not filled in, the penal sum will be the full amount of the principal's bid, including alternates. Alternatively, if the blank is filled in, the amount stated must not be less than the full amount of the bid including alternates, in dollars and cents. A percentage is not acceptable.) For the payment of the penal sum well and truly to be made, we hereby jointly and severally bind ourselves, our heirs, executors, administrators, successors, and assigns.

THE CONDITION OF THE ABOVE OBLIGATION IS SUCH, that whereas the above named principal has submitted a bid for: **North Park Locker Rooms Addition #2 - REBID.**

Now, therefore, if the obligee accepts the bid of the principal and the principal fails to enter into a proper contract in accordance with the bid, plans, details, specifications, and bills of material; and in the event the principal pays to the obligee the difference not to exceed ten percent (10%) of the penalty hereof between the amount specified in the bid and such larger amount for which the obligee may in good faith contract with the next lowest bidder to perform the work covered by the bid; or in the event the obligee does not award the contract to the next lowest bidder and resubmits the project for bidding, the principal pays to the obligee the difference not to exceed ten percent (10%) of the penalty hereof between the amount specified in the bid, or the costs, in connection, and printing and mailing notices to prospective bidders, whichever is less, then this obligation shall be null and void, otherwise to remain in full force and effect; if the obligee accepts the bid of the principal and the principal within ten (10) days after the awarding of the contract enters into a proper contract in accordance with the bid, plans, details, specifications, and bill of materials, which said contract is made a part of this bond the same as though set forth herein;

Now also, if the said principal shall well and faithfully do and perform the things agreed by obligee to be done and performed according to the terms of said contract; and shall pay all lawful claims of subcontractors, materialmen, and laborers, for labor performed and materials furnished in the carrying forward, performing, or completing of said contract; we agreeing and assenting that this undertaking shall be for the benefit of any materialman or laborer having a just claim, as well as for the obligee herein; then this obligation shall be void; otherwise the same shall remain in full force and effect; it being expressly understood and agreed that the liability of the surety for any and all claims hereunder shall in no event exceed the penal amount of this obligation as herein stated.

The said surety hereby stipulates and agrees that no modifications, omissions, or additions, in or to the terms of the said contract or in or to the plans or specifications therefor shall in any wise affect the obligations of said surety on this bond.

Name of Bidder: _____ (SEAL)

By: _____ Title: _____
(Printed Name)

By: _____ Attest: _____
(Signature) (Signature)

Name of Surety: _____ (SEAL)

Surety Mailing Address: _____

By: _____ Title: _____
(Printed Name)

By: _____ (Attorney-in-Fact)
(Signature)

Surety Agent Mailing Address: _____

CONSENT OF SURETY

KNOW ALL MEN BY THESE PRESENTS, that we _____

(Name of Bidder) as principal and _____(Name of Surety Company)

a corporation created and existing under the laws of the State of _____and having its

principal office at _____

(Complete mailing address of Surety Company) are held firmly bound unto the **City of Elyria, Ohio**, hereby jointly and severally and binding our heirs, successors, administrators, executors, legal representatives and assigns by these presents.

THE CONDITION OF THIS OBLIGATION are such that whereas, the above named principal submits the herewith proposal for the **NORTH PARK LOCKER ROOMS ADDITION #2 - REBID** in the City of Elyria, Ohio, in conformance with the Invitation to Bid, and with the Instructions to Bidders. We, the above named surety, will meet all stipulations and will execute the Surety Bonds as hereinafter, to the above named principal in event he should be awarded a contract and in an amount of _____(Amount in Words) which is an amount equaling or exceeding the amount of said principal's bid plus all additive alternates, and guaranteeing its performance in conformity with the plans and specifications, and a payment bond in the amount of _____(Amount in Words) amount equaling or exceeding the amount of said principal's bid plus all additive alternates, as guaranteeing the payment of all laborers and suppliers of materials for the project, to the City of Elyria, Ohio.

WITNESS OUR SIGNATURES this _____ day of _____, 2024.

Name of Bidder: _____(SEAL)

By: _____ Title: _____

(Printed Name)

By: _____ Attest: _____

(Signature)

(Signature)

Name of Surety: _____(SEAL)

By: _____ Title: _____

(Printed Name)

By: _____ Attest: _____

(Signature)

(Signature)

Surety Agent Mailing Address: _____

BIDDER'S INSURANCE AGENT'S AFFIDAVIT

Project: NORTH PARK LOCKER ROOMS ADDITION #2

I, _____, _____, first being duly sworn do state the following:
(Name) (Title)

- (a) that I am an Insurance Agent.
- (b) that I have reviewed the insurance requirements in the General Conditions, and have noted therein the requirements on insurance including the cancellation, and non-renewal provisions.
- (c) that I am familiar with the insurance that _____
(Bidder's Name)
has in force, and that its insurance meets the City requirements, or that it can be amended to meet the City requirements.
- (d) that if an award of contract is made by the City to the Bidder an insurance certificate will be issued within ten (10) days, which will include the **City of Elyria, Ohio, as an Additional Insured.**

Further, Affiant sayeth naught.

(Agents Signature)

Sworn to and subscribed in my presence this _____ day of _____, 2024.

(Notary Public)

(SEAL)

(Attach Bidders Insurance Certificate to this page)

(The insurance certificate may be submitted after the bid opening date.)

TAX AFFIDAVIT

State of _____

SS

County of _____

I _____ (Name), _____ (Title), of the

_____ (Company Name), first being duly sworn do depose and state that it has submitted a competitive bid for a contract, to be administered and awarded by the City of Elyria, Ohio.

Further, Affiant says that it was not charged with any delinquent personal property taxes, penalties or interest due or owing to the County of Lorain, State of Ohio, except as hereinafter stated:

(If none, state "NONE". If due, state "AMOUNT DUE", together with assessed interest and penalty.)

Further, Affiant says that a copy of this statement, affirmed under oath shall be made a part of its bid and the contract to be awarded.

Further, Affiant sayeth naught.

Business Name: _____

By: _____

Title: _____

Sworn to and subscribed in my presence this _____ day of _____, 2024.

(SEAL)

(NOTARY PUBLIC)

My Commission Expires _____

BIDDER'S AFFIDAVIT

This affidavit is to be filled out and executed by the BIDDER; if the bid is made by a corporation, then by it's properly authorized agent.

STATE OF _____

SS

COUNTY OF _____

I, _____ being first duly sworn, deposes and says that he/she is _____ (sole owner, a partner, officer of, etc.) of the _____ (Name of Business) the party making the enclosed bid; and says further that:
(Give the names of all persons, firms or corporations interested in the enclosed bid)

_____ and, that those listed are the only party or parties interested with the profits of any contract which may result from the herein contained bid; that the said proposal is made without any connection or interest in the profits thereof with any other person making any other bid or proposal for said work; that no member of the City Council, the head of any department , division, or bureau or employee therein or any officer of the City of Elyria, Ohio is directly or indirectly interested therein; that said bid is genuine and not collusion, or communication or conference, with any person, to fix the bid price of Affiant or any other bidder, or to fix any overhead, profit or cost element of said bid price, or that of any other bidder, or to secure any advantage against the City of Elyria, Ohio, or any person interested in the proposed contract; and that all statements contained in said proposal or bid are true; that such bidder has not, directly or indirectly submitted this bid, or contents thereof, or divulged information or data relative thereto to any association, or to any member or agent thereof; and further says that all the statements made by him in said proposal or bid are true.

AFFIANT

Sworn to and subscribed before me this _____ day of _____, 2024.

Notary Public in and for,
_____ County, Ohio
My Commission Expires: _____

PENALTY FOR FALSE CERTIFICATION

Section 35 of the Criminal Code, as amended, provides a penalty of not more than \$10,000.00 or imprisonment of not more than ten years, or both, for knowingly and willfully making or causing to be made, "any false or fraudulent statements --- or use or cause to be made or used and false ---account, claim, certification, affidavit, or deposition, knowing the same to contain any fraudulent or fictitious statement--"relating to any matter within the jurisdiction of any Governmental Department or Agency.

EQUAL EMPLOYMENT OPPORTUNITY CLAUSE

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

1. The contractor shall not discriminate against any employee or applicant for employment because of race, religion, age, color, sex, national origin or handicap. The contractor shall take affirmative action to insure that applicants are employed and that employees are treated without regard to race, religion, color, sex, national origin or handicap during employment.

As used herein, the work "treated" shall mean and include without limitation, the following:

recruited: whether in the form of rates of pay or other forms of compensation

selected for training: including apprenticeship, promoted, upgraded, transferred, laid off and terminated

The contractor agrees to and shall post in conspicuous places available to employees and applicants for employment, notices to be provided by the contracting officers setting forth the provisions of the non-discrimination clause.

2. The contractor shall, in all solicitations or advertisement for employees placed by or on the behalf of the contractor; state that all qualified applicants will receive consideration for employment without regard to race, religion, color, sex, national origin or handicap.
3. The contractor shall submit to the City, in writing, an affirmative action plan and shall furnish all information and reports required by the City or its representatives pursuant to this chapter and permit access to the contractor's books, records, and accounts by the contracting agency and affirmative action officials for purposes of investigation to ascertain compliance with the Affirmative Action Program. The contractor may comply with the provisions of this section by doing one of the following:
 - (a) The contractor may submit its Affirmative Action Program in writing at the time of its submission of bid; or
 - (b) The contractor may submit its Affirmative Action Program in writing prior to its submission of bid for pre-certification.

The contractor's Affirmative Action Program may be pre-certified upon the filing and approval of its Affirmative Action Program with the City's OEO office not more than six months prior to its bid submission. Upon pre-certification, the contractor will be issued a pre-certification compliance number for its Affirmative Action Program, which may be used and referred to in any bid submission in the place of any other written requirement for Affirmative Action Program submission. It shall be the sole responsibility of the contractor to be re-certified upon the expiration of its pre-certification. Approved programs may be reviewed before any pre-certification expiration date.

4. The contractor shall send to each labor union or representatives of workers with which he/she has a collective bargaining agreement or other contract or understanding, a notice advising the labor union or workers' representative of the contractor's commitments under the Equal Employment Opportunity Clause of the City of Elyria and shall post copies of the notice in conspicuous places

available to employees and applicants for employment.

5. The contractor shall take such action with respect to any subcontractor as the City of Elyria may direct as a means of enforcing the provisions of the EEO Clause including penalties and sanctions for noncompliance. Provided, however; that in the event the contractor becomes involved in or is threatened with litigation as a result of such direction by the City, the City will enter into such litigation as is necessary to protect the interests of the City and to effectuate the City's Equal Opportunity Program and in the case of contracts receiving federal assistance, the contractor or the City may request the United States to enter into such litigation to protect the interests of the United States.
6. The contractor shall file and shall cause his/her subcontractors, if any, to file compliance reports with the City in the form and to the extent prescribed by the City or its representative. Compliance reports shall contain information as to the employment practices, policies, programs and statistics of the contract and subcontractor(s).
7. The contractor shall include the provisions of the Equal Employment Opportunity Clause in every subcontract or purchase order so that such provisions will be binding upon each subcontractor and/or vendor.
8. Refusal by the contractor or subcontractor to comply with any provision of this program as herein stated and described will subject the offending party to any or all of the following penalties:
 - (a) Withholding of all future payments under the involved public contracts to the contractor in violation until it is determined that the contractor or subcontractor is in compliance with the provision of this contract.
 - (b) Refusal of all future bids for any public contract with the City or any of its departments or divisions until such time as the contractor or subcontractor demonstrates that he/she has established and shall carry out the policies of the programs as herein outlined.
 - (c) Cancellation of the public contract and declaration of forfeiture of the performance bond.
 - (d) In cases in which there is substantial or material violation or the threat of substantial or material violation of the compliance procedure or as may be provided by contract, appropriate proceedings may be brought to enforce these provisions, including the enjoining within applicable laws of contractors, subcontractors or other organizations, individuals, or groups who prevent directly or indirectly or seek to prevent directly or indirectly compliance with the policy as herein outlined.

Name of Company Official

Title

Name of Company

Area Code/Telephone Number

Signature of Company Official

Date Signed

CONTRACTOR'S/VENDOR'S AFFIRMATIVE ACTION INFORMATION SHEET

This Affirmative Action Information Sheet is to be completed and returned with the Bid.

Bidder's EEO Officer's Name: _____

Bidder's EEO Officer's Title: _____

Bidder's Firm Name: _____

Address: _____

City/State/Zip Code _____

Telephone Number: (_____)_____-_____ Fax Number: (_____)_____-_____

Note: The bidder must comply with either #1 or #2 below. (Place a check mark in the correct item.)

#1 _____ Our firm has been pre-certified, by Elyria's EEO Officer.

Our pre-certification number is: _____

Our pre-certification expires on: _____

_____ A copy of our pre-certification letter from Elyria is attached.

#2 _____ We are enclosing our own Affirmative Action Plan (number of page(s)_____) with this bid.

(For City Office Use Only)

CITY OF ELYRIA SIGN-OFF:

Affirmative Action/Equal Opportunity Officer: _____

Comments:

**CONTRACTOR/SUPPLIER AFFIRMATIVE ACTION PROGRAM
TOTAL PRESENT WORKFORCE BREAKDOWN**

TABLE 1

JOB CATEGORY	TOTAL MALES	MALE EMPLOYEES MINORITY GROUPS				TOTAL FEMALES	FEMALE EMPLOYEES MINORITY GROUPS				TOTAL ALL EMPLOYEES
		WHITE	BLACK	SPANISH	OTHER MINORITY		WHITE	BLACK	SPANISH	OTHER MINORITY	
OFFICIALS/ ADMINISTRATORS											
PROFESSIONALS											
TECHNICIANS											
PROTECTIVE SERVICE											
SALES											
PARAPROFESSIONALS											
OFFICE-CLERICAL											
SKILLED CRAFT SPECIFY											
JOURNEYMEN											
HELPERS											
APPRENTICES											
TRAINEES											
LABORERS											
SERVICE/CUSTODIAL											
OTHERS (SPECIFY)											
TOTALS											

SUPPLEMENTARY CONDITIONS

I. INSURANCE LIMITS:

LIABILITY, PROPERTY DAMAGE, VEHICLE AND BUILDER'S RISK INSURANCE: Contractor shall purchase and maintain such comprehensive general liability and other types of insurance as will provide protection from claims as set forth herein which may arise out of or result from Contractor's performance of the work and Contractor's other obligations under all contract documents, whether such performance is by Contractor, by any lower subcontractor, by anyone directly or indirectly employed by any of them, or by anyone for whose acts any of them may be liable.

The claims types for which insurance shall be provided shall include:

- a) Claims under workers compensation, disability benefits and others similar employee benefit acts;
- b) Claims for damage because of bodily injury, occupational sickness, sickness, disease, or death of any person;
- c) Claims for damages sustained by any person as a result of an employment practices offense directly or indirectly related to the employment of such person by the contractor or a subcontractor or by any other person for any other reason;
- d) Claims for damages, other than to the work itself, because of injury to or destruction of tangible property, including loss of the use resulting therefrom;
- e) Claims for damages because of bodily injury or death of any person or for property damage arising out of the ownership, leasing, renting, hires, loaned, or otherwise using, and the maintenance of any item of construction or equipment of any power tools by Contractor or a subcontractor;
- f) Claims for damages because of bodily injury or death of any person or for property damage arising out of the ownership, leasing renting or using maintenance of any motor vehicle, by Contractor or a subcontractor;
- g) Claims for damages to the work itself, and/or all existing City property located in the proximate area of the work, because of injury or destruction of the tangible property, including the loss of use resulting therefrom; and
- h) Claims for damages because of bodily injury or death of any person or property damage arising out of the use, transportation or storage of any type of explosives, explosive devices or dangerous ordnance use in doing work included in the Contract.

The insurance limits required by this section shall include the specific coverage as are applicable to the work, and shall be written for the specified limits stated herein, or for the specific limits as provided in any applicable supplementary specification, or as may be required by law, wherever is greater.

The Contractor shall have and maintain the type of insurance that provides the limits of coverage for each occurrence. If the Contractor's policy is not of the form providing coverage limits for each occurrence, then he shall obtain a rider providing coverage by occurrence for the work under this specification.

The insurance shall be written by a solvent and otherwise acceptable company(s) authorized to do business in the State of Ohio,

Evidence of insurance shall be provided by the Contractor to the City for review and acceptance by the City, before the issuance of the Notice to Commence.

Such evidence shall consist of the Contractors insurance agents "insurance affidavit" (when requested, on a form that is on file at the City Engineer's office) the Certificate of Insurance plus the Certificate of Compliance provided by the Ohio Department of Insurance for the Company(s) in question.

Failure to provide evidence of the maintenance of all of the required insurance shall suspend the City's obligation to pay for any and all work performed after the cessation of the required coverage for which evidence has previously been provided, and can be the basis of a non-compensable order to suspend work or for the termination of the contract for cause.

North Park Locker Rooms Addition #2

The Contractor's policy shall provide and the Certificate of Insurance shall reflect the fact that the City is an additional insured and all (if any) other additional insured shall receive at least thirty (30) days notice of any cancellation, change reducing the coverage, or refusal to renew, which is adverse to the interests of the City and/or other additional insured to be effected. The City and other additional insured shall be provided with any notice on non-renewal, regardless of the cause.

The liability limits for the required coverage notes above shall be at least:

	EACH OCCURRENCE	AGGREGATE
Bodily Injury & Property Damage Combined	\$ 2,000,000.00	\$ 2,000,000.00
Vehicle Liability	\$ 1,000,000.00	\$ 1,000,000.00
Builders Risk/Installation Floater	(The amount of the contract)	

ANY AND ALL LIABILITY LIMITS SHALL BE EXCLUSIVE OF DEFENSE COSTS.

II. CONTROLLING LAW AND JURISDICTION:

This Agreement shall in all respects be interpreted and construed in accordance with and governed by the laws of the State of Ohio. This Agreement shall be subject to the jurisdiction of the Court of Common Pleas Lorain County, Ohio.

III. ENGINEER:

Unless otherwise provided, the **Engineer** shall be the City of Elyria Engineer and/or a representative of Brandstetter Carroll Inc.

IV. CONTINGENCY, IF ANY:

Any Extra Work performed or Extra Materials utilized as part of the Contingency line item, if included in the project, shall be approved in writing by the Engineer, and only the Engineer, prior to commencement of that activity and prior to payment for that activity. Final costs for the Extra Work incurred shall be approved by the Engineer. Approval of this activity shall be directly related to and necessary for the completion of the Scope of Work described in the bid documents, specifications or detailed plans with the construction project.

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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 Form for certain work defined in the bidding requirements that may be added to or deducted from the base bid amount if the 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 alternates into the Work. No other adjustments are made to the Contract Sum.

1.3 PROCEDURES

- A. Coordination: Revise 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. Execute accepted alternates under the same conditions as other work of the Contract.
- C. 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. Alternate No. 01: RESILIENT ATHLETIC FLOORING

1. Alternate: Provide resilient athletic flooring surrounding the ice rink as indicated on as Drawing G-101 and as specified in Section 096566 "Resilient Athletic Flooring".

END OF SECTION 012300

SECTION 012600 - CONTRACT MODIFICATION PROCEDURES

PART 1 - GENERAL

1.1 SUMMARY

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

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.
 - 1. Work Change Proposal Requests issued by Architect are not instructions either to stop work in progress or to execute the proposed change.

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. Work Change Proposal Requests issued by Architect are not instructions either to stop work in progress or to execute the proposed change.
 - 2. Within time specified in Proposal Request or 14 days, when not otherwise specified, after receipt of Proposal Request, submit a quotation estimating cost adjustments to the Contract Sum and the Contract Time necessary to execute the change.
 - a. Include a list of quantities of products required or eliminated and unit costs, with total amount of purchases and credits to be made. If requested, furnish survey data to substantiate quantities.
 - b. Indicate applicable taxes, delivery charges, equipment rental, and amounts of trade discounts.
 - c. Include costs of labor and supervision directly attributable to the change.
 - d. Include 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 changed conditions require modifications to the Contract, Contractor may initiate a claim by submitting a request for a change to Architect.
 - 1. Include a statement outlining reasons for the change and the effect of the change on the Work. Provide a complete description of the proposed change. Indicate the effect of the proposed change on the Contract Sum and the Contract Time.

2. Include a list of quantities of products required or eliminated and unit costs, with total amount of purchases and credits to be made. If requested, furnish survey data to substantiate quantities.
3. Indicate applicable taxes, delivery charges, equipment rental, and amounts of trade discounts.
4. Include costs of labor and supervision directly attributable to the change.
5. Include an updated Contractor's construction schedule that indicates the effect of the change, including, but not limited to, changes in activity duration, start and finish times, and activity relationship. Use available total float before requesting an extension of the Contract Time.
6. Comply with requirements in General Conditions 6.05 "Substitutes and Or Equals" if the proposed change requires substitution of one product or system for product or system specified.

1.4 CHANGE ORDER PROCEDURES

- A. On Owner's approval of a Work Change Proposal Request, Architect will issue a Change Order for signatures of Owner and Contractor on Owner's Form (attached here).

1.5 WORK CHANGE DIRECTIVE

- A. Work Change Directive: Architect may issue a Work Change Directive on Owner's Form (attached here). Work Change Directive instructs Contractor to proceed with a change in the Work, for subsequent inclusion in a Change Order.
 1. 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 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. Section includes administrative and procedural requirements necessary to prepare and process Applications for Payment.

1.2 SCHEDULE OF VALUES

- A. Coordination: Coordinate preparation of the schedule of values with preparation of Contractor's construction schedule.
 - 1. Coordinate line items in the schedule of values with items required to be indicated as separate activities in Contractor's construction schedule.
 - 2. Submit the schedule of values to Architect at earliest possible date, but no later than seven days before the date scheduled for submittal of initial Applications for Payment.
- B. Format and Content: Use the Bid Tab as a guide to establish line items for the schedule of values.
 - 1. Arrange schedule of values consistent with format of AIA G703 "Continuation Sheet".
 - 2. Schedule of Values Revisions: Revise the schedule of values when Change Orders or Construction Change Directives result in a change in the Contract Sum. Include at least one separate line item for each Change Order and Construction Change Directive.

1.3 APPLICATIONS FOR PAYMENT

- A. Each Application for Payment following the initial Application for Payment shall be consistent with previous applications and payments as certified by Architect and paid for by Owner.
- B. Payment Application Times: Submit Application for Payment to Architect by the end of the month. The period covered by each Application for Payment is one month, ending on the last day of the month.
 - 1. Submit draft copy of Application for Payment seven days prior to due date for review by Architect.
- C. Application for Payment Forms: Use AIA Document G702 and AIA Document G703 as form for Applications for Payment.
- D. Application Preparation: Complete every entry on form. Notarize and execute by a person authorized to sign legal documents on behalf of Contractor. Architect will return incomplete applications without action.

1. Entries shall match data on the schedule of values and Contractor's construction schedule. Use updated schedules if revisions were made.
 2. Include amounts for work completed following previous Application for Payment, whether or not payment has been received. Include only amounts for work completed at time of Application for Payment.
 3. Include amounts of Change Orders and Construction Change Directives issued before last day of construction period covered by application.
- E. Transmittal: Submit four signed and notarized original copies of each Application for Payment to Architect. Electronic media form will be considered. One copy shall include waivers of lien and similar attachments if required.
1. Transmit each copy with a transmittal form listing attachments and recording appropriate information about application.
- F. Include with each application, as appropriate, and Affidavit of Contractor or an Affidavit for Final Payment certifying under oath:
1. The names and addresses of all Subcontractors furnishing labor, material, or services and of all persons furnishing material included in such estimate.
 2. That all bills for materials and labor included in preceding estimates have been paid in full (or if not paid in full, a list of unpaid bills giving amounts paid to each Supplier or Subcontractor, together with the reason for non-payment).
 3. That all bills for materials and labor included in such estimate have been or will be paid from the proceeds thereof.
 4. A sample Affidavit of Contractor (3 pages) and a sample Affidavit for Final Payment (1 page) are included in the end of this Section.
- G. Owner may require Contractor to furnish waivers of lien signed by all persons furnishing labor or materials included in any estimate submitted by or on behalf of Contractor.
- H. For payment for materials and equipment stored at the Site, furnish supporting documentation required by paragraph 9.3.2 of General Conditions.
- I. For payment for materials and equipment stored at an approved "off-site" location, furnish supporting documentation required by paragraph 9.3.2 of the General Conditions and the following:
1. A list of the materials consigned to the Project (which shall be clearly identified), giving the place of storage.
 2. Certification that all items have been tagged for delivery to the Project, that they will not be used for any other purpose, and that they will be fully protected during storage.
 3. A letter from the Bonding Company indicating agreement to the arrangements and that payment to the Contractor shall not relieve either party of their responsibility to complete the facility.
 4. Evidence that representatives of Owner or Architect have visited Contractor's place of storage and checked all items on Contractor's certificate.
- J. Application for Payment at Substantial Completion: After Architect issues the Certificate of Substantial Completion, submit an Application for Payment showing 100 percent completion for portion of the Work claimed as substantially complete.

1. Include documentation supporting claim that the Work is substantially complete and a statement showing an accounting of changes to the Contract Sum.
 2. This application shall reflect Certificate(s) of Substantial Completion issued previously for Owner occupancy of designated portions of the Work.
- K. Final Payment Application: After completing Project closeout requirements, 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. Evidence that claims have been settled.
 5. 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.
 6. Final liquidated damages settlement statement.

PART 2 - PRODUCTS (Not Used)

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. General coordination procedures.
 2. RFIs.
 3. Digital project management procedures.
 4. Project meetings.
- B. Related Requirements:
1. Section 017300 "Execution" for procedures for coordinating general installation and field-engineering services, including establishment of benchmarks and control points.

1.2 GENERAL COORDINATION PROCEDURES

- 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. Administrative Procedures: Coordinate scheduling and timing of required administrative procedures with other construction activities to avoid conflicts and to ensure orderly progress of the Work. Such administrative activities include, but are not limited to, the following:
1. Preparation of Contractor's construction schedule.
 2. Preparation of the schedule of values.
 3. Installation and removal of temporary facilities and controls.
 4. Delivery and processing of submittals.
 5. Progress meetings.
 6. Preinstallation conferences.
 7. Project closeout activities.
 8. Startup and adjustment of systems.

1.3 REQUEST FOR INFORMATION (RFI)

- A. General: Immediately on discovery of the need for additional information, clarification, or interpretation of the Contract Documents, Contractor shall prepare and submit an RFI in the form specified.
1. Architect will return without response those RFIs submitted to Architect by other entities controlled by Contractor.
 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. Owner name.
 2. Owner's Project number.
 3. Name of Architect.
 4. Architect's Project number.
 5. Date.
 6. Name of Contractor.
 7. RFI number, numbered sequentially.
 8. RFI subject.
 9. Specification Section number and title and related paragraphs, as appropriate.
 10. Drawing number and detail references, as appropriate.
 11. Field dimensions and conditions, as appropriate.
 12. Contractor's suggested resolution. If Contractor's suggested resolution impacts the Contract Time or the Contract Sum, Contractor shall state impact in the RFI.
 13. Contractor's signature.
 14. 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: Software-generated form with substantially the same content as indicated above, acceptable to Architect.
- D. Architect's Action: Architect will review each RFI, determine action required, and respond. Allow seven days for Architect's response for each RFI. RFIs received by Architect after 1:00 p.m. will be considered as received the following working day.
1. The following Contractor-generated RFIs will be returned without action:
 - a. Requests for approval of submittals.
 - b. Requests for approval of substitutions.
 - c. Requests for approval of Contractor's means and methods.
 - d. Requests for coordination information already indicated in the Contract Documents.
 - e. Requests for adjustments in the Contract Time or the Contract Sum.
 - f. Requests for interpretation of Architect's actions on submittals.
 - g. 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 by Architect 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 Section 012600 "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. RFI Log: Prepare, maintain, and submit a tabular log of RFIs organized by the RFI number. Submit log weekly. Include the following:
1. Project name.
 2. Name and address of Contractor.
 3. Name and address of Architect.
 4. RFI number including RFIs that were returned without action or withdrawn.
 5. RFI description.
 6. Date the RFI was submitted.
 7. Date Architect's response was received.
- F. 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 three days if Contractor disagrees with response.
- 1.4 DIGITAL PROJECT MANAGEMENT PROCEDURES
- A. Use of Architect's Digital Data Files: Digital data files of Architect's CAD drawings may be provided by Architect for Contractor's use during construction.
1. Digital data files may be used by Contractor in preparing coordination drawings, Shop Drawings, and Project record Drawings.
 2. Architect makes no representations as to the accuracy or completeness of digital data files as they relate to Contract Drawings.
 3. Digital Drawing Software Program: Contract Drawings are available in AutoCAD.
 4. Contractor shall execute a data licensing agreement in the form of Architect's Electronic File Disclaimer.
 - a. Subcontractors, and other parties granted access by Contractor to Architect's digital data files shall execute a data licensing agreement in the form of Architect's Electronic File Disclaimer.
- 1.5 PROJECT MEETINGS
- A. General: Schedule and conduct meetings and conferences at Project site unless otherwise indicated.

- B. Preconstruction Conference: Architect will schedule and conduct a preconstruction conference before starting construction, at a time convenient to Owner and Architect, but no later than 15 days after execution of the Agreement.
1. Attendees: Authorized representatives of Owner, Architect and their consultants; Contractor and its superintendent; major subcontractors; suppliers; and other concerned parties shall attend the conference. 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. Responsibilities and personnel assignments.
 - b. Tentative construction schedule.
 - c. Critical work sequencing and long lead items.
 - d. Designation of key personnel and their duties.
 - e. Lines of communications.
 - f. Use of web-based Project software.
 - g. Procedures for processing field decisions and Change Orders.
 - h. Procedures for RFIs.
 - i. Procedures for testing and inspecting.
 - j. Procedures for processing Applications for Payment.
 - k. Distribution of the Contract Documents.
 - l. Submittal procedures.
 - m. Preparation of Record Documents.
 - n. Use of the premises.
 - o. Work restrictions.
 - p. Working hours.
 - q. Owner's occupancy requirements.
 - r. Responsibility for temporary facilities and controls.
 - s. Procedures for moisture and mold control.
 - t. Procedures for disruptions and shutdowns.
 - u. Construction waste management and recycling.
 - v. Parking availability.
 - w. Office, work, and storage areas.
 - x. Equipment deliveries and priorities.
 - y. First aid.
 - z. Security.
 - aa. Progress cleaning.
 3. Minutes: Entity responsible for conducting meeting will record and distribute meeting minutes.
- C. Preinstallation Conferences: Conduct a preinstallation conference at Project site before each construction activity when required by other sections and when required for coordination with other construction.
1. Attendees: Installer and representatives of manufacturers and fabricators involved in or affected by the installation and its coordination or integration with other materials and installations that have preceded or will follow, shall attend the meeting. Advise Architect and Owner 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. Possible conflicts.
 - i. Compatibility requirements.
 - j. Time schedules.
 - k. Weather limitations.
 - l. Manufacturer's written instructions.
 - m. Warranty requirements.
 - n. Compatibility of materials.
 - o. Acceptability of substrates.
 - p. Temporary facilities and controls.
 - q. Space and access limitations.
 - r. Regulations of authorities having jurisdiction.
 - s. Testing and inspecting requirements.
 - t. Installation procedures.
 - u. Coordination with other work.
 - v. Required performance results.
 - w. Protection of adjacent work.
 - x. 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: Conduct progress meetings at regular intervals.
1. Coordinate dates of meetings with preparation of payment requests.
 2. 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.
 3. Agenda: Review and correct or approve minutes of previous progress meeting. Review other items of significance that could affect progress. Include topics for discussion as appropriate to status of Project.
 - a. Contractor's Construction Schedule: Review progress since the last meeting. Determine whether each activity is on time, ahead of schedule, or behind schedule, in relation to Contractor's construction schedule. Determine how construction behind schedule will be expedited; secure commitments from parties involved to do so. Discuss whether schedule revisions are required to ensure that current and subsequent activities will be completed within the Contract Time.

- 1) Review schedule for next period.
- b. 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 use.
 - 8) Temporary facilities and controls.
 - 9) Progress cleaning.
 - 10) Quality and work standards.
 - 11) Status of correction of deficient items.
 - 12) Field observations.
 - 13) Status of RFIs.
 - 14) Status of Proposal Requests.
 - 15) Pending changes.
 - 16) Status of Change Orders.
 - 17) Pending claims and disputes.
 - 18) Documentation of information for payment requests.
4. Minutes: Entity responsible for conducting the meeting will record and distribute the meeting minutes to each party present and to parties requiring information.
 - a. Schedule Updating: Revise Contractor's construction schedule after each progress meeting where revisions to the schedule have been made or recognized. Issue revised schedule concurrently with the report of each meeting.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 013100

SECTION 013300 - SUBMITTAL PROCEDURES

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Submittal schedule requirements.
2. Administrative and procedural requirements for submittals.

1.2 DEFINITIONS

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

1.3 SUBMITTAL SCHEDULE

- A. Submittal Schedule: Submit, as an action submittal, a list of submittals, arranged in chronological order by dates required by construction schedule. Include time required for review, ordering, manufacturing, fabrication, and delivery when establishing dates. Include additional time required for making corrections or revisions to submittals noted by Architect and additional time for handling and reviewing submittals required by those corrections.

1.4 SUBMITTAL FORMATS

A. Submittal Information: Include the following information in each submittal:

1. Project name.
2. Date.
3. Name of Architect.
4. Name of Contractor.
5. Name of firm or entity that prepared submittal.
6. Names of subcontractor, manufacturer, and supplier.
7. Unique submittal number, including revision identifier. Include Specification Section number with sequential alphanumeric identifier; and alphanumeric suffix for resubmittals.
8. Category and type of submittal.
9. Submittal purpose and description.

10. Number and title of Specification Section, with paragraph number and generic name for each of multiple items.
 11. Drawing number and detail references, as appropriate.
 12. Indication of full or partial submittal.
 13. Location(s) where product is to be installed, as appropriate.
 14. Other necessary identification.
 15. Remarks.
 16. Signature of transmitter.
- B. Options: Identify options requiring selection by Architect.
- C. Deviations and Additional Information: On each submittal, clearly indicate deviations from requirements in the Contract Documents, including minor variations and limitations; include relevant additional information and revisions, other than those requested by Architect on previous submittals. Indicate by highlighting on each submittal or noting on attached separate sheet.
- D. Electronic Submittals: Prepare submittals as PDF package, incorporating complete information into each PDF file. Name PDF file with submittal number.
- E. Submittals for Utilizing Web-Based Project Management Software: Prepare submittals as PDF files, or other format indicated by Project management software.

1.5 SUBMITTAL PROCEDURES

- A. Prepare and submit submittals required by individual Specification Sections. Types of submittals are indicated in individual Specification Sections.
1. Email: Prepare submittals as PDF package, and transmit to Architect by sending via email. Include PDF transmittal form. Include information in email subject line as requested by Architect.
 2. Web-Based Project Management Software: Prepare submittals in PDF form, and upload to web-based Project management software website. Enter required data in web-based software site to fully identify submittal.
- B. Coordination: Coordinate preparation and processing of submittals with performance of construction activities.
1. Coordinate each submittal with fabrication, purchasing, testing, delivery, other submittals, and related activities that require sequential activity.
 2. Submit all submittal items required for each Specification Section concurrently unless partial submittals for portions of the Work are indicated on approved submittal schedule.
 3. Submit action submittals and informational submittals required by the same Specification Section as separate packages under separate transmittals.
- C. Processing Time: Allow time for submittal review, including time for resubmittals, as follows. Time for review shall commence on Architect's receipt of submittal. No extension of the Contract Time will be authorized because of failure to transmit submittals enough in advance of the Work to permit processing, including resubmittals.

1. Initial Review: Allow 15 days for initial review of each submittal. Allow additional time if coordination with subsequent submittals is required. Architect will advise Contractor when a submittal being processed must be delayed for coordination.
 2. Resubmittal Review: Allow 15 days for review of each resubmittal.
- D. Resubmittals: Make resubmittals in same form and number of copies as initial submittal.
- E. 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.
- F. Use for Construction: Retain complete copies of submittals on Project site. Use only final action submittals that are marked with approval notation from Architect's action stamp.

1.6 SUBMITTAL REQUIREMENTS

- A. Product Data: Collect information into a single submittal for each element of construction and type of product or equipment.
1. If information must be specially prepared for submittal because standard published data are unsuitable 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 that show 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 Shop Drawings, and before or concurrent with Samples.
- B. 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. Identification of products.

- b. Schedules.
 - c. Compliance with specified standards.
 - d. Notation of coordination requirements.
 - e. Notation of dimensions established by field measurement.
 - f. Relationship and attachment to adjoining construction clearly indicated.
 - g. Seal and signature of professional engineer if specified.
- C. Samples: Submit Samples for review of kind, color, pattern, and texture for a check of these characteristics with other materials.
1. Transmit Samples that contain multiple, related components such as accessories together in one submittal package.
 2. Identification: Permanently attach label on unexposed side of Samples that includes the following:
 - a. Project name and submittal number.
 - b. Generic description of Sample.
 - c. Product name and name of manufacturer.
 - d. Sample source.
 - e. Number and title of applicable Specification Section.
 - f. Specification paragraph number and generic name of each item.
 3. Email Transmittal: Provide PDF transmittal. Include digital image file illustrating Sample characteristics, and identification information for record.
 4. Web-Based Project Management Software: Prepare submittals in PDF form, and upload to web-based Project software website. Enter required data in web-based software site to fully identify submittal.
 5. Paper Transmittal: Include paper transmittal including complete submittal information indicated.
 6. 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.
 7. 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.
 8. Samples for Verification: Submit full-size units or Samples of size indicated, prepared from same material to be used for the Work, cured and finished in manner specified, and physically identical with material or product proposed for use, and that show full range of color and texture variations expected. Samples include, but are not limited to, the following: partial sections of manufactured or fabricated components; small cuts or

containers of materials; complete units of repetitively used materials; swatches showing color, texture, and pattern; color range sets; and components used for independent testing and inspection.

- a. Number of Samples: Submit two set of Samples. Architect will retain one Sample sets; remainder will be returned.
 - 1) Submit a single Sample where assembly details, workmanship, fabrication techniques, connections, operation, and other similar characteristics are to be demonstrated.
 - 2) If variation in color, pattern, texture, or other characteristic is inherent in material or product represented by a Sample, submit at least three sets of paired units that show approximate limits of variations.
- D. 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:
- E. 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.
- F. Design Data: Prepare and submit written and graphic information indicating compliance with indicated performance and design criteria in individual Specification Sections. Include list of assumptions and summary of loads. Include load diagrams if applicable. Provide name and version of software, if any, used for calculations. Number each page of submittal.
- G. Certificates:
 1. Certificates and Certifications Submittals: Submit 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. Provide a notarized signature where indicated.
 2. 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.
 3. 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.
 4. Material Certificates: Submit written statements on manufacturer's letterhead certifying that material complies with requirements in the Contract Documents.
 5. Product Certificates: Submit written statements on manufacturer's letterhead certifying that product complies with requirements in the Contract Documents.
 6. Welding Certificates: Prepare written certification that welding procedures and personnel comply with requirements in the Contract Documents. Submit record of Welding Procedure Specification and Procedure Qualification Record on AWS forms. Include names of firms and personnel certified.
- H. Test and Research Reports:

1. 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 substrate preparation and primers required.
2. Field Test Reports: Submit written reports indicating and interpreting results of field tests performed either during installation of product or after product is installed in its final location, for compliance with requirements in the Contract Documents.
3. 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.
4. 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.
5. Product Test Reports: Submit written reports indicating that current product produced by manufacturer complies with requirements in the Contract Documents. Base reports on evaluation of tests performed by manufacturer and witnessed by a qualified testing agency, or on comprehensive tests performed by a qualified testing agency.
6. Research Reports: Submit written evidence, from a model code organization acceptable to authorities having jurisdiction, that product complies with building code in effect for Project. Include the following information:
 - a. Name of evaluation organization.
 - b. Date of evaluation.
 - c. Time period when report is in effect.
 - d. Product and manufacturers' names.
 - e. Description of product.
 - f. Test procedures and results.
 - g. Limitations of use.

1.7 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 insufficient to perform services or certification required, submit a written request for additional information to Architect.
- B. Delegated-Design Services Certification: In addition to Shop Drawings, Product Data, and other required submittals, submit digitally signed PDF file 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.

1.8 CONTRACTOR'S REVIEW

- A. Action Submittals 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. Contractor's Approval: Indicate Contractor's approval for each submittal with a uniform approval stamp. Include 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.
 - 1. Architect will not review submittals received from Contractor that do not have Contractor's review and approval.

1.9 ARCHITECT'S REVIEW

- A. Action Submittals: Architect will review each submittal, indicate corrections or revisions required, and return it.
 - 1. PDF Submittals: Architect will indicate, via markup on each submittal, the appropriate action.
 - 2. Submittals by Web-Based Project Management Software: Architect will indicate, on Project management software website, the appropriate action.
- B. Informational Submittals: Architect will review each submittal and will not return it, or will return it if it does not comply with requirements. Architect will forward each submittal to appropriate party.
- C. Partial submittals prepared for a portion of the Work will be reviewed when use of partial submittals has received prior approval from Architect.
- D. Incomplete submittals are unacceptable, will be considered nonresponsive, and will be returned for resubmittal without review.
- E. Architect will return without review submittals received from sources other than Contractor.
- F. Submittals not required by the Contract Documents will be returned by Architect without action.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 013300

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

1.2 DEFINITIONS

- A. Experienced: When used with an entity or individual, "experienced" unless otherwise further described means having successfully completed a minimum of five 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.
- B. Field Quality-Control Tests and Inspections: Tests and inspections that are performed on-site for installation of the Work and for completed Work.
- C. 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, assembly, and similar operations.
 - 1. Use of trade-specific terminology in referring to a Work result does not require that certain construction activities specified apply exclusively to specific trade(s).
- D. Preconstruction Testing: Tests and inspections performed specifically for Project before products and materials are incorporated into the Work, to verify performance or compliance with specified criteria. Unless otherwise indicated, copies of reports of tests or inspections performed for other than the Project do not meet this definition.
- E. Product Tests: Tests and inspections that are performed by a nationally recognized testing laboratory (NRTL) according to 29 CFR 1910.7, by a testing agency accredited according to NIST's National Voluntary Laboratory Accreditation Program (NVLAP), or by 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 Tests and Inspections: Tests and inspections that are performed at the source; for example, plant, mill, factory, or shop.
- G. Testing Agency: An entity engaged to perform specific tests, inspections, or both. Testing laboratory shall have the same meaning as testing agency.
- H. 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.
- I. 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. Contractor's quality-control services do not include contract administration activities performed by Architect.

1.3 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 Statement: Submit a statement, 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, indicating that the products and systems are in compliance with performance and design criteria indicated. Include list of codes, loads, and other factors used in performing these services.

1.4 CONFLICTING REQUIREMENTS

- A. Conflicting Standards and Other Requirements: If compliance with two or more standards or requirements is specified and the standards or requirements establish different or conflicting requirements for minimum quantities or quality levels, inform the Architect regarding the conflict and obtain clarification prior to proceeding with the Work. Refer conflicting requirements that are different, but apparently equal, to Architect for clarification before proceeding.
- B. Minimum Quantity or Quality Levels: The quantity or quality level shown or specified shall be the minimum provided or performed. The actual installation may comply exactly with the minimum quantity or quality specified, or it may exceed the minimum within reasonable limits. To comply with these requirements, indicated numeric values are minimum or maximum, as appropriate, for the context of requirements. Refer uncertainties to Architect for a decision before proceeding.

1.5 INFORMATIONAL SUBMITTALS

- A. Contractor's Statement of Responsibility: When required by authorities having jurisdiction, submit copy of written statement of responsibility submitted to authorities having jurisdiction before starting work on the following systems:
 - 1. Seismic-force-resisting system, designated seismic system, or component listed in the Statement of Special Inspections.
 - 2. Main wind-force-resisting system or a wind-resisting component listed in the Statement of Special Inspections.
- B. 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.
- C. Permits, Licenses, and Certificates: For Owner's record, 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 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, telephone number, and email address 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 inspection.
 - 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 Technical Representative's Field Reports: Prepare written information documenting manufacturer's technical representative's tests and inspections specified in other Sections. Include the following:
 - 1. Statement on condition of substrates and their acceptability for installation of product.
 - 2. Statement that products at Project site comply with requirements.
 - 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. Factory-Authorized Service Representative's Reports: Prepare written information documenting manufacturer's factory-authorized service representative's tests and inspections specified in other Sections. Include the following:
1. Statement that equipment complies with requirements.
 2. Results of operational and other tests and a statement of whether observed performance complies with requirements.
 3. Other required items indicated in individual Specification Sections.

1.7 QUALITY ASSURANCE

- A. 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. As applicable, procure products from manufacturers able to meet qualification requirements, warranty requirements, and technical or factory-authorized service representative requirements.
- 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, applying, 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 in material, design, and extent to those indicated for this Project.
- F. Testing and Inspecting Agency Qualifications: An NRTL, an NVLAP, or an independent agency with the experience and capability to conduct testing and inspection indicated, as documented according to ASTM E329; and with additional qualifications specified in individual Sections; and, where required by authorities having jurisdiction, that is acceptable to authorities.
- G. Manufacturer's Technical 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.

- H. 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 and test assemblies; 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.

1.8 QUALITY CONTROL

- A. Owner Responsibilities: Where quality-control services are indicated as Owner's responsibility, Owner will engage a qualified testing agency to perform these services.
1. Owner will furnish Contractor with names, addresses, and telephone numbers of testing agencies engaged and a description of types of testing and inspection they are engaged to perform.
 2. Costs for retesting and reinspecting construction that replaces or is necessitated by Work that failed to comply with the Contract Documents will be charged to Contractor, and the Contract Sum will be adjusted by Change Order.
- B. Contractor Responsibilities: Tests and inspections not explicitly assigned to Owner are Contractor's responsibility. Perform additional quality-control activities, whether specified or not, to verify and document that the Work complies with requirements.
1. Engage a qualified testing agency to perform 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 inspection 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 inspection requested by Contractor and not required by the Contract Documents are Contractor's responsibility.
 5. Submit additional copies of each written report directly to authorities having jurisdiction, when they so direct.

- C. 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 locations 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 duties of Contractor.
- E. Manufacturer's Field Services: Where indicated, engage a factory-authorized service representative to inspect field-assembled components and equipment installation, including service connections. Report results in writing as specified in Section 013300 "Submittal Procedures."
- F. Manufacturer's Technical Services: Where indicated, engage a manufacturer's technical representative to observe and inspect the Work. Manufacturer's technical representative's services include participation in preinstallation conferences, examination of substrates and conditions, verification of materials, observation of Installer activities, inspection of completed portions of the Work, and submittal of written reports.
- G. Contractor's Associated Requirements and Services: Cooperate with agencies and representatives 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 inspection. Assist agency in obtaining samples.
 4. Facilities for storage and field curing of test samples.
 5. Preliminary design mix proposed for use for material mixes that require control by testing agency.
 6. Security and protection for samples and for testing and inspection equipment at Project site.
- H. Coordination: Coordinate sequence of activities to accommodate required quality-assurance and quality-control services with a minimum of delay and to avoid necessity of removing and replacing construction to accommodate testing and inspection.
1. Schedule times for tests, inspections, obtaining samples, and similar activities.

1.9 SPECIAL TESTS AND INSPECTIONS

- A. Special Tests and Inspections: Contractor will engage a qualified testing agency to conduct special tests and inspections required by authorities having jurisdiction and as indicated on the Drawings.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION

3.1 TEST AND INSPECTION LOG

- A. Test and Inspection Log: Prepare a record of tests and inspections. Include the following:
 - 1. Date test or inspection was conducted.
 - 2. Description of the Work tested or inspected.
 - 3. Date test or inspection results were transmitted to Architect.
 - 4. Identification of testing agency or special inspector conducting test or inspection.
- B. Maintain log at Project site. Post changes and revisions as they occur. Provide access to test and inspection log for Architect's and authorities' having jurisdiction reference during normal working hours.
 - 1. Submit log at Project closeout as part of Project Record Documents.

3.2 REPAIR AND PROTECTION

- A. General: On completion of testing, inspection, 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 Section 017300 "Execution."
- 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 017300 - EXECUTION

PART 1 - GENERAL

1.1 SUMMARY

- A. Section includes general administrative and procedural requirements governing execution of the Work, including, but not limited to, the following:
 - 1. Construction layout.
 - 2. Field engineering and surveying.
 - 3. Installation of the Work.
 - 4. Cutting and patching.
 - 5. Coordination of Owner's portion of the Work.
 - 6. Progress cleaning.
 - 7. Starting and adjusting.
 - 8. Protection of installed construction.

- B. Related Requirements:
 - 1. Section 011000 "Summary" for coordination of Owner-performed work, and limits on use of Project site.
 - 2. Section 017700 "Closeout Procedures" for submitting final property survey with Project Record Documents, recording of Owner-accepted deviations from indicated lines and levels, replacing defective work, and final cleaning.

1.2 DEFINITIONS

- A. Cutting: Removal of in-place construction necessary to permit installation or performance of subsequent work.

- B. Patching: Fitting and repair work required to restore construction to original conditions after installation of subsequent work.

1.3 CLOSEOUT SUBMITTALS

- A. Final Property Survey: Submit a digital copy showing the Work performed and record survey data.

1.4 QUALITY ASSURANCE

- A. Land Surveyor Qualifications: A professional land surveyor who is legally qualified to practice in jurisdiction where Project is located and who is experienced in providing land-surveying services of the kind indicated.

- B. Cutting and Patching: Comply with requirements for and limitations on cutting and patching of construction elements.
1. Structural Elements: When cutting and patching structural elements, or when encountering the need for cutting and patching of elements whose structural function is not known, notify Architect of locations and details of cutting and await directions from Architect before proceeding. Shore, brace, and support structural elements during cutting and patching. Do not cut and patch structural elements in a manner that could change their load-carrying capacity or increase deflection.
 2. Operational Elements: Do not cut and patch operating elements and related components in a manner that results in reducing their capacity to perform as intended or that results in increased maintenance or decreased operational life or safety.
 3. Other Construction Elements: Do not cut and patch other construction elements or components in a manner that could change their load-carrying capacity, that results in reducing their capacity to perform as intended, or that results in increased maintenance or decreased operational life or safety.
 4. Visual Elements: Do not cut and patch construction in a manner that results in visual evidence of cutting and patching. Do not cut and patch exposed construction in a manner that would, in Architect's opinion, reduce the building's aesthetic qualities. Remove and replace construction that has been cut and patched in a visually unsatisfactory manner.
- C. Manufacturer's Installation Instructions: Obtain and maintain on-site manufacturer's written recommendations and instructions for installation of specified products and equipment.

PART 2 - PRODUCTS

2.1 MATERIALS

- A. Comply with requirements specified in other Sections.
- B. In-Place Materials: Use materials for patching identical to in-place materials. For exposed surfaces, use materials that visually match in-place adjacent surfaces to the fullest extent possible.
1. If identical materials are unavailable or cannot be used, use materials that, when installed, will provide a match acceptable to Architect for the visual and functional performance of in-place materials. Use materials that are not considered hazardous.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Existing Conditions: The existence and location of underground and other utilities and construction indicated as existing are not guaranteed. Before beginning sitework, investigate and verify the existence and location of underground utilities, and other construction affecting the Work.

1. Before construction, verify the location and invert elevation at points of connection of sanitary sewer, storm sewer, gas service piping, and water-service piping; underground electrical services; and other utilities.
 2. Furnish location data for work related to Project that must be performed by public utilities serving Project site.
- B. 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. 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.
- C. Space Requirements: Verify space requirements and dimensions of items shown diagrammatically on Drawings.
- D. 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 in accordance with requirements in Section 013100 "Project Management and Coordination."

3.3 CONSTRUCTION LAYOUT

- A. Verification: Before proceeding to lay out the Work, verify layout information shown on Drawings, in relation to the property survey and existing benchmarks and existing conditions. If discrepancies are discovered, notify Architect promptly.
- B. Engage a land surveyor experienced in laying out the Work, using the following accepted surveying practices:
1. Establish benchmarks and control points to set lines and levels at each story of construction and elsewhere as needed to locate each element of Project.
 2. Establish limits on use of Project site.
 3. Establish dimensions within tolerances indicated. Do not scale Drawings to obtain required dimensions.
 4. Inform installers of lines and levels to which they must comply.
 5. Check the location, level and plumb, of every major element as the Work progresses.
 6. Notify Architect when deviations from required lines and levels exceed allowable tolerances.
 7. Close site surveys with an error of closure equal to or less than the standard established by authorities having jurisdiction.

- C. Site Improvements: Locate and lay out site improvements, including pavements, grading, fill and topsoil placement, utility slopes, and rim and invert elevations.
- D. Building Lines and Levels: Locate and lay out control lines and levels for structures, building foundations, column grids, and floor levels, including those required for mechanical and electrical work. Transfer survey markings and elevations for use with control lines and levels. Level foundations and piers from two or more locations.
- E. Record Log: Maintain a log of layout control work. Record deviations from required lines and levels. Include beginning and ending dates and times of surveys, weather conditions, name and duty of each survey party member, and types of instruments and tapes used. Make the log available for reference by Architect.

3.4 FIELD ENGINEERING

- A. Identification: Owner will identify existing benchmarks, control points, and property corners.
- B. Reference Points: Locate existing permanent benchmarks, control points, and similar reference points before beginning the Work. Preserve and protect permanent benchmarks and control points during construction operations.
 - 1. Do not change or relocate existing benchmarks or control points without prior written approval of Architect. Report lost or destroyed permanent benchmarks or control points promptly. Report the need to relocate permanent benchmarks or control points to Architect before proceeding.
 - 2. Replace lost or destroyed permanent benchmarks and control points promptly. Base replacements on the original survey control points.
- C. Final Property Survey: Engage a land surveyor to prepare a final property survey showing significant features (real property) for Project. Include on the survey a certification, signed by land surveyor, that principal metes, bounds, lines, and levels of Project are accurately positioned as shown on the survey.
 - 1. Show boundary lines, monuments, streets, site improvements and utilities, existing improvements and significant vegetation, adjoining properties, acreage, grade contours, and the distance and bearing from a site corner to a legal point.

3.5 INSTALLATION

- A. 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 satisfactory results as judged by Architect. 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 of type expected for Project.
- E. Sequence the Work and allow adequate clearances to accommodate movement of construction items on-site and placement in permanent locations.
- F. Tools and Equipment: Select tools or equipment that minimize production of excessive noise levels.
- G. Templates: Obtain and distribute to the parties involved templates for Work specified to be factory prepared and field installed. Check Shop Drawings of other portions of the Work to confirm that adequate provisions are made for locating and installing products to comply with indicated requirements.
- H. Attachment: Provide blocking and attachment plates and anchors and fasteners of adequate size and number to securely anchor each component in place, accurately located and aligned with other portions of the Work. Where size and type of attachments are not indicated, verify size and type required for load conditions with manufacturer.
 - 1. Mounting Heights: Where mounting heights are not indicated, mount components at heights directed by Architect.
 - 2. Allow for building movement, including thermal expansion and contraction.
 - 3. Coordinate installation of anchorages. Furnish setting drawings, templates, and directions for installing anchorages, including sleeves, concrete inserts, anchor bolts, and items with integral anchors, that are to be embedded in concrete or masonry. Deliver such items to Project site in time for installation.
- I. Joints: Make joints of uniform width. Where joint locations in exposed Work are not indicated, arrange joints for the best visual effect, as judged by Architect. Fit exposed connections together to form hairline joints.
- J. Repair or remove and replace damaged, defective, or nonconforming Work.
 - 1. Comply with Section 017700 "Closeout Procedures" for repairing or removing and replacing defective Work.

3.6 CUTTING AND PATCHING

- A. General: Employ skilled workers to perform cutting and patching. Proceed with cutting and patching at the earliest feasible time, and complete without delay.
 - 1. Cut in-place construction to provide for installation of other components or performance of other construction, and subsequently patch as required to restore surfaces to their original condition.

- B. Existing Warranties: Remove, replace, patch, and repair materials and surfaces cut or damaged during installation or cutting and patching operations, by methods and with materials so as not to void existing warranties.
- C. Temporary Support: Provide temporary support of Work to be cut.
- D. Protection: Protect in-place construction during cutting and patching to prevent damage. Provide protection from adverse weather conditions for portions of Project that might be exposed during cutting and patching operations.
- E. Cutting: Cut in-place construction by sawing, drilling, breaking, chipping, grinding, and similar operations, including excavation, using methods least likely to damage elements retained or adjoining construction. If possible, review proposed procedures with original Installer; comply with original Installer's written recommendations.
 - 1. In general, use hand or small power tools designed for sawing and grinding, not hammering and chopping. Cut holes and slots neatly to minimum size required, and with minimum disturbance of adjacent surfaces. Temporarily cover openings when not in use.
 - 2. Finished Surfaces: Cut or drill from the exposed or finished side into concealed surfaces.
 - 3. Concrete: Cut using a cutting machine, such as an abrasive saw or a diamond-core drill.
 - 4. Excavating and Backfilling: Comply with requirements in applicable Sections where required by cutting and patching operations.
- F. Patching: Patch construction by filling, repairing, refinishing, closing up, and similar operations following performance of other Work. Patch with durable seams that are as invisible as practicable, as judged by Architect. Provide materials and comply with installation requirements specified in other Sections, where applicable.
 - 1. Inspection: Where feasible, test and inspect patched areas after completion to demonstrate physical integrity of installation.
 - 2. Exposed Finishes: Restore exposed finishes of patched areas and extend finish restoration into retained adjoining construction in a manner that will eliminate evidence of patching and refinishing.
 - a. Clean piping, conduit, and similar features before applying paint or other finishing materials.
 - b. Restore damaged pipe covering to its original condition.
- G. Cleaning: Clean areas and spaces where cutting and patching are performed. Remove paint, mortar, oils, putty, and similar materials from adjacent finished surfaces.

3.7 COORDINATION OF OWNER'S PORTION OF THE WORK

- A. Site Access: Provide access to Project site for Owner's construction personnel.
 - 1. Provide temporary facilities required for Owner-furnished, Contractor-installed products.
 - 2. Refer to Section 011000 "Summary" for other requirements for Owner-furnished, Contractor-installed products

- B. Coordination: Coordinate construction and operations of the Work with work performed by Owner's construction personnel.
 - 1. Construction Schedule: Inform Owner of Contractor's preferred construction schedule for Owner's portion of the Work. Adjust construction schedule based on a mutually agreeable timetable. Notify Owner if changes to schedule are required due to differences in actual construction progress.

3.8 PROGRESS CLEANING

- A. Clean Project site and work areas daily. Enforce requirements strictly. Dispose of materials lawfully.
 - 1. Comply with requirements in NFPA 241 for removal of combustible waste materials and debris.
 - 2. Do not hold waste materials more than seven days during normal weather or three days if the temperature is expected to rise above 80 deg F (27 deg C).
 - 3. Containerize hazardous and unsanitary waste materials separately from other waste. Mark containers appropriately and dispose of legally, according to regulations.
 - a. Use containers intended for holding waste materials of type to be stored.
- B. Site: Maintain Project site free of waste materials and debris.
- C. Work Areas: Clean areas where Work is in progress to the level of cleanliness necessary for proper execution of the Work.
 - 1. Remove liquid spills promptly.
 - 2. Where dust would impair proper execution of the Work, broom-clean or vacuum the entire work area, as appropriate.
- D. Installed Work: Keep installed work clean. Clean installed surfaces according to written instructions of manufacturer or fabricator of product installed, using only cleaning materials specifically recommended. If specific cleaning materials are not recommended, use cleaning materials that are not hazardous to health or property and that will not damage exposed surfaces.
- E. Concealed Spaces: Remove debris from concealed spaces before enclosing the space.
- F. Exposed Surfaces: Clean exposed surfaces and protect as necessary to ensure freedom from damage and deterioration at time of Substantial Completion.
- G. Waste Disposal: Do not bury or burn waste materials on-site. Do not wash waste materials down sewers or into waterways. Comply with waste disposal requirements in Section 017419 "Construction Waste Management and Disposal."
- H. 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.

- I. 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.
- J. Limiting Exposures: Supervise construction operations to ensure that no part of the construction, completed or in progress, is subject to harmful, dangerous, damaging, or otherwise deleterious exposure during the construction period.

3.9 STARTING AND ADJUSTING

- A. Start equipment and operating components to confirm proper operation. Remove malfunctioning units, replace with new units, and retest.
- B. Adjust equipment for proper operation. Adjust operating components for proper operation without binding.
- C. Test each piece of equipment to verify proper operation. Test and adjust controls and safeties. Replace damaged and malfunctioning controls and equipment.
- D. Manufacturer's Field Service: Comply with qualification requirements in Section 014000 "Quality Requirements."

3.10 PROTECTION AND REPAIR 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. Repair Work previously completed and subsequently damaged during construction period. Repair to like-new condition.
- C. Protection of Existing Items: Provide protection and ensure that existing items to remain undisturbed by construction are maintained in condition that existed at commencement of the Work.
- D. Comply with manufacturer's written instructions for temperature and relative humidity.

END OF SECTION 017300

SECTION 017419 - CONSTRUCTION WASTE MANAGEMENT AND DISPOSAL

PART 1 - GENERAL

1.1 SUMMARY

- A. Section includes administrative and procedural requirements for the following:
 - 1. Salvaging nonhazardous demolition and construction waste.
 - 2. Recycling nonhazardous demolition and construction waste.
 - 3. Disposing of nonhazardous demolition and construction waste.
- B. Related Requirements:
 - 1. Section 042000 "Unit Masonry" for disposal requirements for masonry waste.
 - 2. Section 311000 "Site Clearing" for disposition of waste resulting from site clearing and removal of above- and below-grade improvements.

1.2 DEFINITIONS

- A. Construction Waste: Building, structure, and site improvement materials and other solid waste resulting from construction, remodeling, renovation, or repair operations. Construction waste includes packaging.
- B. Demolition Waste: Building, structure, and site improvement materials resulting from demolition operations.
- C. Disposal: Removal of demolition or construction waste and subsequent salvage, sale, recycling, or deposit in landfill, incinerator acceptable to authorities having jurisdiction, or designated spoil areas on Owner's property.
- D. Recycle: Recovery of demolition or construction waste for subsequent processing in preparation for reuse.
- E. Salvage: Recovery of demolition or construction waste and subsequent sale or reuse in another facility.
- F. Salvage and Reuse: Recovery of demolition or construction waste and subsequent incorporation into the Work.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION

3.1 PLAN IMPLEMENTATION

- A. Training: Train workers, subcontractors, and suppliers on proper waste management procedures, as appropriate for the Work.
- B. Site Access and Temporary Controls: Conduct waste management operations to ensure minimum interference with roads, streets, walks, walkways, and other adjacent occupied and used facilities.
 - 1. Designate and label specific areas on Project site necessary for separating materials that are to be salvaged and recycled.
 - 2. Comply with Section 015000 "Temporary Facilities and Controls" for controlling dust and dirt, environmental protection, and noise control.

3.2 SALVAGING DEMOLITION WASTE

- A. Salvaged Items for Reuse in the Work:
 - 1. Clean salvaged items.
 - 2. Pack or crate items after cleaning. Identify contents of containers with label indicating elements, date of removal, quantity, and location where removed.
 - 3. Store items in a secure area until installation.
 - 4. Protect items from damage during transport and storage.
 - 5. Install salvaged items to comply with installation requirements for new materials and equipment. Provide connections, supports, and miscellaneous materials necessary to make items functional for use indicated.
- B. Salvaged Items for Sale Not permitted on Project site.
- C. Salvaged Items for Owner's Use:
 - 1. Clean salvaged items.
 - 2. Pack or crate items after cleaning. Identify contents of containers with label indicating elements, date of removal, quantity, and location where removed.
 - 3. Store items in a secure area until delivery to Owner.
 - 4. Transport items to Owner's storage area designated by Owner.
 - 5. Protect items from damage during transport and storage.

3.3 RECYCLING DEMOLITION AND CONSTRUCTION WASTE, GENERAL

- A. General: Recycle paper and beverage containers used by on-site workers.

- B. Preparation of Waste: Prepare and maintain recyclable waste materials according to recycling or reuse facility requirements. Maintain materials free of dirt, adhesives, solvents, petroleum contamination, and other substances deleterious to the recycling process.
- C. Procedures: Separate recyclable waste from other waste materials, trash, and debris. Separate recyclable waste by type at Project site to the maximum extent practical according to approved construction waste management plan.
 - 1. Provide appropriately marked containers or bins for controlling recyclable waste until removed from Project site. Include list of acceptable and unacceptable materials at each container and bin.
 - a. Inspect containers and bins for contamination and remove contaminated materials if found.
 - 2. Stockpile processed materials on-site without intermixing with other materials. Place, grade, and shape stockpiles to drain surface water. Cover to prevent windblown dust.
 - 3. Stockpile materials away from construction area. Do not store within drip line of remaining trees.
 - 4. Store components off the ground and protect from the weather.
 - 5. Remove recyclable waste from Owner's property and transport to recycling receiver or processor as often as required to prevent overfilling bins.

3.4 RECYCLING DEMOLITION WASTE

- A. Concrete: Remove reinforcement and other metals from concrete and sort with other metals.
 - 1. Pulverize concrete to maximum 4-inch (100-mm) size.
- B. Masonry: Remove metal reinforcement, anchors, and ties from masonry and sort with other metals.
 - 1. Pulverize masonry to maximum 1-1/2-inch (38-mm) size.
 - 2. Clean and stack undamaged, whole masonry units on wood pallets.

3.5 RECYCLING CONSTRUCTION WASTE

- A. Packaging:
 - 1. Cardboard and Boxes: Break down packaging into flat sheets. Bundle and store in a dry location.
 - 2. Polystyrene Packaging: Separate and bag materials.
 - 3. Pallets: As much as possible, require deliveries using pallets to remove pallets from Project site. For pallets that remain on-site, break down pallets into component wood pieces and comply with requirements for recycling wood.
 - 4. Crates: Break down crates into component wood pieces and comply with requirements for recycling wood.
- B. Wood Materials:

1. Clean Cut-Offs of Lumber: Grind or chip into small pieces.
 2. Clean Sawdust: Bag sawdust that does not contain painted or treated wood.
- C. Paint: Seal containers and store by type.

3.6 DISPOSAL OF WASTE

- A. General: Except for items or materials to be salvaged or recycled, remove waste materials from Project site and legally dispose of them in a landfill or incinerator acceptable to authorities having jurisdiction.
1. Except as otherwise specified, do not allow waste materials that are to be disposed of accumulate on-site.
 2. Remove and transport debris in a manner that will prevent spillage on adjacent surfaces and areas.
- B. General: Except for items or materials to be salvaged or recycled, remove waste materials and legally dispose of at designated spoil areas on Owner's property.
- C. Burning: Do not burn waste materials.

END OF SECTION 017419

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. Substantial Completion procedures.
 - 2. Final completion procedures.
 - 3. Warranties.
 - 4. Final cleaning.
- B. Related Requirements:
 - 1. Section 017823 "Operation and Maintenance Data" for additional operation and maintenance manual requirements.

1.2 ACTION SUBMITTALS

- A. Product Data: For each type of cleaning agent.
- B. Contractor's List of Incomplete Items: Initial submittal at Substantial Completion.
- C. Certified List of Incomplete Items: Final submittal at Final Completion.

1.3 CLOSEOUT SUBMITTALS

- A. Certificates of Release: From authorities having jurisdiction.
- B. Certificate of Insurance: For continuing coverage.
- C. Field Report: For pest-control inspection.

1.4 SUBSTANTIAL COMPLETION PROCEDURES

- A. Contractor's List of Incomplete Items: Prepare and submit a list of items to be completed and corrected (Contractor's "punch list"), indicating the value of each item on the list and reasons why the Work is incomplete.
- B. Submittals Prior to Substantial Completion: Complete the following a minimum of 10 days prior to requesting inspection for determining date of Substantial Completion. List items below that are incomplete at time of request.

1. Certificates of Release: Obtain and submit releases from authorities having jurisdiction, permitting Owner unrestricted use of the Work and access to services and utilities. Include occupancy permits, operating certificates, and similar releases.
 2. Submit closeout submittals specified in other Division 01 Sections, including Project Record Documents, operation and maintenance manuals, damage or settlement surveys, property surveys, and similar final record information.
 3. Submit closeout submittals specified in individual Sections, including specific warranties, workmanship bonds, maintenance service agreements, final certifications, and similar documents.
 4. Submit maintenance material submittals specified in individual Sections, including tools, spare parts, extra materials, and similar items, and deliver to location designated by Owner. Label with manufacturer's name and model number.
 5. Submit testing, adjusting, and balancing records.
 6. Submit changeover information related to Owner's occupancy, use, operation, and maintenance.
- C. Procedures Prior to Substantial Completion: Complete the following a minimum of 10 days prior to requesting inspection for determining date of Substantial Completion. List items below that are incomplete at time of request.
1. Advise Owner of pending insurance changeover requirements.
 2. Make final changeover of permanent locks and deliver keys to Owner. Advise Owner's personnel of changeover in security provisions.
 3. Complete startup and testing of systems and equipment.
 4. Perform preventive maintenance on equipment used prior to Substantial Completion.
 5. Advise Owner of changeover in utility services.
 6. Participate with Owner in conducting inspection and walkthrough with local emergency responders.
 7. Terminate and remove temporary facilities from Project site, along with mockups, construction tools, and similar elements.
 8. Complete final cleaning requirements.
 9. Touch up paint and otherwise repair and restore marred exposed finishes to eliminate visual defects.
- D. Inspection: Submit a written request for inspection to determine Substantial Completion a minimum of 10 days prior to date the Work will be completed and ready for final inspection and tests. 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.

1.5 FINAL COMPLETION PROCEDURES

- A. Submittals Prior to Final Completion: Before requesting final inspection for determining Final Completion, complete the following:
1. Submit a final Application for Payment in accordance with Section 012900 "Payment Procedures."
 2. Certified List of Incomplete Items: Submit certified copy of Architect's Substantial Completion inspection list of items to be completed or corrected (punch list), endorsed

and dated by Architect. Certified copy of the list shall state that each item has been completed or otherwise resolved for acceptance.

3. Certificate of Insurance: Submit evidence of final, continuing insurance coverage complying with insurance requirements.

- B. Inspection: Submit a written request for final inspection to determine acceptance a minimum of 10 days prior to date the Work will be completed and ready for final inspection and tests. 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.

1.6 SUBMITTAL OF PROJECT WARRANTIES

- A. Time of Submittal: Submit written warranties on request of Architect for designated portions of the Work where warranties are indicated to commence on dates other than date of Substantial Completion, or when delay in submittal of warranties might limit Owner's rights under warranty.
- B. Organize warranty documents into an orderly sequence based on the table of contents of Project Manual.
- C. Warranty Electronic File: Provide warranties and bonds in PDF format. Assemble complete warranty and bond submittal package into a single electronic PDF file with bookmarks enabling navigation to each item. Provide bookmarked table of contents at beginning of document.
 1. Submit on digital media acceptable to Architect.
- D. Warranties in Paper Form:
 1. Bind warranties and bonds in heavy-duty, three-ring, vinyl-covered, loose-leaf binders, thickness as necessary to accommodate contents, and sized to receive 8-1/2-by-11-inch (215-by-280-mm) paper.
- E. Provide additional copies of each warranty to include in operation and maintenance manuals.

PART 2 - PRODUCTS

2.1 MATERIALS

- A. Cleaning Agents: Use cleaning materials and agents recommended by manufacturer or fabricator of the surface to be cleaned. Do not use cleaning agents that are potentially hazardous to health or property or that might damage finished surfaces.

PART 3 - EXECUTION

3.1 FINAL CLEANING

- A. 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 designated portion of Project:
 - a. Clean Project site of rubbish, waste material, litter, and other foreign substances.
 - b. 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.
- C. Construction Waste Disposal: Comply with waste-disposal requirements in Section 017419 "Construction Waste Management and Disposal."

3.2 REPAIR OF THE WORK

- A. Complete repair and restoration operations required by Section 017300 "Execution" before requesting inspection for determination of Substantial Completion.

END OF SECTION 017700

SECTION 017823 - OPERATION AND MAINTENANCE DATA

PART 1 - GENERAL

1.1 SUMMARY

- A. Section includes administrative and procedural requirements for preparing operation and maintenance manuals, including the following:
 - 1. Operation and maintenance documentation directory manuals.
 - 2. Product maintenance manuals.

1.2 CLOSEOUT SUBMITTALS

- A. Submit operation and maintenance manuals indicated. Provide content for each manual as specified in individual Specification Sections, and as reviewed and approved at the time of Section submittals. Submit reviewed manual content formatted and organized as required by this Section.
 - 1. Architect will comment on whether content of operation and maintenance submittals is acceptable.
 - 2. Where applicable, clarify and update reviewed manual content to correspond to revisions and field conditions.
- B. Format: Submit operation and maintenance manuals in the following format:
 - 1. Submit on digital media acceptable to Architect. Enable reviewer comments on draft submittals.
 - 2. Submit three paper copies. Architect will return one copy and will provide one copy to Owner.
- C. Final Manual Submittal: Submit each manual in final form prior to requesting inspection for Substantial Completion and at least 15 days before commencing demonstration and training. Architect will return copy with comments.
 - 1. Correct or revise each manual to comply with Architect's comments. Submit copies of each corrected manual within 15 days of receipt of Architect's comments and prior to commencing demonstration and training.
- D. Comply with Section 017700 "Closeout Procedures" for schedule for submitting operation and maintenance documentation.

1.3 FORMAT OF OPERATION AND MAINTENANCE MANUALS

- A. Manuals, Electronic Files: Submit manuals in the form of a multiple file composite electronic PDF file for each manual type required.

1. Electronic Files: Use electronic files prepared by manufacturer where available. Where scanning of paper documents is required, configure scanned file for minimum readable file size.
 2. File Names and Bookmarks: Bookmark individual documents based on file names. Name document files to correspond to system, subsystem, and equipment names used in manual directory and table of contents. Group documents for each system and subsystem into individual composite bookmarked files, then create composite manual, so that resulting bookmarks reflect the system, subsystem, and equipment names in a readily navigated file tree. Configure electronic manual to display bookmark panel on opening file.
- B. Manuals, Paper Copy: Submit manuals in the form of hard-copy, bound and labeled volumes.
1. Binders: Heavy-duty, three-ring, vinyl-covered, loose-leaf binders, in thickness necessary to accommodate contents, sized to hold 8-1/2-by-11-inch (215-by-280-mm) paper; with clear plastic sleeve on spine to hold label describing contents and with pockets inside covers to hold folded oversize sheets.
 2. Drawings: Attach reinforced, punched binder tabs on drawings and bind with text.
 - a. If oversize drawings are necessary, fold drawings to same size as text pages and use as foldouts.
 - b. If drawings are too large to be used as foldouts, fold and place drawings in labeled envelopes and bind envelopes in rear of manual. At appropriate locations in manual, insert typewritten pages indicating drawing titles, descriptions of contents, and drawing locations.

1.4 REQUIREMENTS FOR OPERATION AND MAINTENANCE MANUALS

- A. Organization of Manuals: Unless otherwise indicated, organize each manual into a separate section for each system and subsystem, and a separate section for each piece of equipment not part of a system. Each manual shall contain the following materials, in the order listed:
1. Title page.
 2. Table of contents.
 3. Manual contents.
- B. Title Page: Include the following information:
1. Subject matter included in manual.
 2. Name and address of Project.
 3. Name and address of Owner.
 4. Date of submittal.
 5. Name and contact information for Contractor.
 6. Name and contact information for Construction Manager.
 7. Name and contact information for Architect.
 8. Name and contact information for Commissioning Authority.
 9. Names and contact information for major consultants to the Architect that designed the systems contained in the manuals.
 10. Cross-reference to related systems in other operation and maintenance manuals.

- C. Table of Contents: List each product included in manual, identified by product name, indexed to the content of the volume, and cross-referenced to Specification Section number in Project Manual.
- D. Identification: In the documentation directory and in each operation and maintenance manual, identify each system, subsystem, and piece of equipment with same designation used in the Contract Documents. If no designation exists, assign a designation according to ASHRAE Guideline 4, "Preparation of Operating and Maintenance Documentation for Building Systems."

1.5 PRODUCT MAINTENANCE MANUALS

- A. Product Maintenance Manual: Assemble a complete set of maintenance data indicating care and maintenance of each product, material, and finish incorporated into the Work.
- B. Content: Organize manual into a separate section for each product, material, and finish. Include source information, product information, maintenance procedures, repair materials and sources, and warranties and bonds, as described below.
- C. Product Information: Include the following, as applicable:
 - 1. Product name and model number.
 - 2. Manufacturer's name.
 - 3. Color, pattern, and texture.
 - 4. Material and chemical composition.
 - 5. Reordering information for specially manufactured products.
- D. Maintenance Procedures: Include manufacturer's written recommendations and the following:
 - 1. Inspection procedures.
 - 2. Types of cleaning agents to be used and methods of cleaning.
 - 3. List of cleaning agents and methods of cleaning detrimental to product.
 - 4. Schedule for routine cleaning and maintenance.
 - 5. Repair instructions.
- E. Repair Materials and Sources: Include lists of materials and local sources of materials and related services.
- F. Warranties and Bonds: Include copies of warranties and bonds and lists of circumstances and conditions that would affect validity of warranties or bonds.
 - 1. Include procedures to follow and required notifications for warranty claims.

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PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 017823

SECTION 024119 - SELECTIVE DEMOLITION

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Demolition and removal of selected portions of building or structure and pavement.

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. 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 CLOSEOUT SUBMITTALS

- A. Landfill Records: Indicate receipt and acceptance of hazardous wastes by a landfill facility licensed to accept hazardous wastes.

1.4 FIELD CONDITIONS

- A. Conditions existing at time of inspection for bidding purpose will be maintained by Owner as far as practical.
- B. Notify Architect of discrepancies between existing conditions and Drawings before proceeding with selective demolition.
- C. Hazardous Materials: It is not expected that hazardous materials will be encountered in the Work.
 1. Hazardous materials will have been removed by Owner prior to start of the Work.
 2. If suspected hazardous materials are encountered, do not disturb; immediately notify Architect and Owner. Hazardous materials will be removed by Owner under a separate contract.
- D. Storage or sale of removed items or materials on-site is not permitted.
- E. Utility Service: Maintain existing utilities indicated to remain in service and protect them against damage during selective demolition operations.

1.5 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/ASSE A10.6 and NFPA 241.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Verify that appropriate 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. Survey of Existing Conditions: Record existing conditions by use of preconstruction photographs.

3.2 UTILITY SERVICES AND MECHANICAL/ELECTRICAL SYSTEMS

- A. Existing Services/Systems to Remain: Maintain services/systems indicated to remain and protect them against damage.
 - 1. Comply with requirements for existing services/systems interruptions specified in Section 011000 "Summary."
- B. Existing Services/Systems to Be Removed, Relocated, or Abandoned: Locate, identify, disconnect, and seal or cap off indicated utility services and mechanical/electrical systems serving areas to be selectively demolished.
 - 1. Owner will arrange to shut off indicated services/systems when requested by Contractor.

2. 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. Disconnect, demolish, and remove plumbing, equipment, and components indicated to be removed.
 - a. Piping to Be Removed: Remove portion of piping indicated to be removed and cap or plug remaining piping with same or compatible piping material.
 - b. Piping to Be Abandoned in Place: Drain piping and cap or plug piping with same or compatible piping material.
 - c. Equipment to Be Removed: Disconnect and cap services and remove equipment.
 - d. Equipment to Be Removed and Reinstalled: Disconnect and cap services and remove, clean, and store equipment; when appropriate, reinstall, reconnect, and make equipment operational.

3.3 PREPARATION

- A. Temporary Facilities: Provide temporary barricades and other protection required to prevent injury to people and damage to facilities to remain.
- B. 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 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. Removed and Reinstalled Items:
 1. Clean and repair items to functional condition adequate for intended reuse.

2. Pack or crate items after cleaning and repairing. Identify contents of containers.
 3. Protect items from damage during transport and storage.
 4. Reinstall items in locations indicated. Comply with installation requirements for new materials and equipment. Provide connections, supports, and miscellaneous materials necessary to make item functional for use indicated.
- C. Existing Items to Remain: Protect construction indicated to remain against damage and soiling during selective demolition. When permitted by Architect, items may be removed to a suitable, protected storage location during selective demolition and cleaned and reinstalled in their original locations after selective demolition operations are complete.

3.5 DISPOSAL OF DEMOLISHED MATERIALS

- A. General: Except for items or materials indicated to be reused, 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.
 3. Remove debris from elevated portions of building by chute, hoist, or other device that will convey debris to grade level in a controlled descent.
- 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 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 033000 - CAST-IN-PLACE CONCRETE

PART 1 - GENERAL

1.1 SUMMARY

- A. Section includes cast-in-place concrete, including formwork, reinforcement, concrete materials, mixture design, placement procedures, and finishes.

1.2 ACTION SUBMITTALS

- A. Product Data: For each type of product indicated.
- B. Design Mixtures: For each concrete mixture.
- C. Steel Reinforcement Shop Drawings: Placing drawings that detail fabrication, bending, and placement.

1.3 INFORMATIONAL SUBMITTALS

- A. Material certificates.
- B. Material test reports.

1.4 QUALITY ASSURANCE

- A. Manufacturer Qualifications: A firm experienced in manufacturing ready-mixed concrete products and that complies with ASTM C 94/C 94M requirements for production facilities and equipment.
 - 1. Manufacturer certified according to NRMCA's "Certification of Ready Mixed Concrete Production Facilities."
- B. ACI Publications: Comply with the following unless modified by requirements in the Contract Documents:
 - 1. ACI 301, "Specifications for Structural Concrete," Sections 1 through 5
 - 2. ACI 117, "Specifications for Tolerances for Concrete Construction and Materials."
- C. Concrete Testing Service: Engage a qualified independent testing agency to perform material evaluation tests and to design concrete mixtures.

PART 2 - PRODUCTS

2.1 FORM-FACING MATERIALS

- A. Smooth-Formed Finished Concrete: Form-facing panels that will provide continuous, true, and smooth concrete surfaces. Furnish in largest practicable sizes to minimize number of joints.

2.2 STEEL REINFORCEMENT

- A. Reinforcing Bars: ASTM A 615/A 615M, Grade 60, deformed.
- B. Plain-Steel Welded Wire Reinforcement: ASTM A 185/A 185M, plain, fabricated from as-drawn steel wire into flat sheets.
- C. Deformed Steel Welded Wire Reinforcement: ASTM A 497/A 497M, flat sheet.
- D. Bar Supports: Bolsters, chairs, spacers, and other devices for spacing, supporting, and fastening reinforcing bars and welded wire reinforcement in place. Manufacture bar supports from steel wire, plastic, or precast concrete according to CRSI's "Manual of Standard Practice.

2.3 CONCRETE MATERIALS

- A. Cementitious Material: Use the following cementitious materials, of the same type, brand, and source, throughout Project:
 - 1. Portland Cement: ASTM C 150, See S-001
 - a. Fly Ash: ASTM C 618, See S-001.
- B. Normal-Weight Aggregates: ASTM C 33, graded.
 - 1. Maximum Coarse-Aggregate Size: $\frac{3}{4}$ inch nominal.
 - 2. Fine Aggregate: Free of materials with deleterious reactivity to alkali in cement.
- C. Water: ASTM C 94/C 94M and potable.

2.4 ADMIXTURES

- A. Air-Entraining Admixture: ASTM C 260.
- B. Chemical Admixtures: Provide admixtures certified by manufacturer to be compatible with other admixtures and that will not contribute water-soluble chloride ions exceeding those permitted in hardened concrete. Do not use calcium chloride or admixtures containing calcium chloride.
 - 1. Water-Reducing Admixture: ASTM C 494/C 494M, Type A.
 - 2. Retarding Admixture: ASTM C 494/C 494M, Type B.
 - 3. Water-Reducing and Retarding Admixture: ASTM C 494/C 494M, Type D.

4. High-Range, Water-Reducing Admixture: ASTM C 494/C 494M, Type F.
5. High-Range, Water-Reducing and Retarding Admixture: ASTM C 494/C 494M, Type G.
6. Plasticizing and Retarding Admixture: ASTM C 1017/C 1017M, Type II.

2.5 VAPOR RETARDERS

- A. Sheet Vapor Barrier: ASTM E 1745, Class A not less than 15 mils thick, with permeance as tested before and after mandatory conditioning (ASTM 1745 Section 7.1E subparagraph 7.1.1 – 7.1.5) less than .01 perms. Include manufacturer's recommended adhesive or pressure-sensitive tape.
- B. Products: Subject to compliance with requirements, provide one of the following:
 1. Viper VaporCheck II 15 mil Vapor Barrier
 2. Stego 15 mil Vapor Barrier
 3. Or Approved Equal

2.6 CURING MATERIALS

- A. Moisture-Retaining Cover: ASTM C 171, polyethylene film or white burlap-polyethylene sheet.
- B. Water: Potable.
- C. Clear, Waterborne, Membrane-Forming Curing Compound: ASTM C 309, Type 1, Class B, dissipating.

2.7 RELATED MATERIALS

- A. Expansion- and Isolation-Joint-Filler Strips: ASTM D 1751, asphalt-saturated cellulosic fiber or ASTM D 1752 cork or self-expanding cork.

2.8 CONCRETE MIXTURES

- A. Prepare design mixtures for each type and strength of concrete, proportioned on the basis of laboratory trial mixture or field test data, or both, according to ACI 301.
- B. Cementitious Materials: Use fly ash, as needed to reduce the total amount of Portland cement, which would otherwise be used by not less than 20 percent.
- C. Admixtures: Use admixtures according to manufacturer's written instructions.
 1. Use water-reducing or plasticizing admixture in concrete, as required, for placement and workability.
 2. Use water-reducing and retarding admixture when required by high temperatures, low humidity, or other adverse placement conditions.
 3. Use water-reducing admixture in pumped concrete, concrete for heavy-use industrial slabs and parking structure slabs, concrete required to be watertight, and concrete with a water-cementitious materials ratio below 0.50.

- D. Proportion normal-weight concrete mixture as follows:
1. Minimum Compressive Strength: 4000 psi at 28 days.
 2. Maximum Water-Cementitious Materials Ratio: .049.
 3. Slump Limit: 8 inch for concrete with verified slump of 2 to 4 inches before adding water reducing or plasticizing admixture, plus or minus 1 inch.
 4. Air Content: 5.5 percent plus or minus 1.5 percent at point of delivery for 1-½ inch nominal maximum aggregate size.
 5. Air Content: Six percent (6%), plus or minus 1.5 percent at point of delivery for ¾ inch nominal maximum aggregate size.
 6. Air Content: Do not allow air content of trowel-finished floors to exceed 3 percent.

2.9 FABRICATING REINFORCEMENT

- A. Fabricate steel reinforcement according to CRSI's "Manual of Standard Practice."

2.10 CONCRETE MIXING

- A. Ready-Mixed Concrete: Measure, batch, mix, and deliver concrete according to ASTM C 94/C 94M, and furnish batch ticket information.
1. When air temperature is between 90 deg F, reduce mixing and delivery time from 1-1/2 hours to 75 minutes; when air temperature is above 90 deg F, reduce mixing and delivery time to 60 minutes.

PART 3 - EXECUTION

3.1 FORMWORK

- A. Design, erect, shore, brace, and maintain formwork, according to ACI 301, to support vertical, lateral, static, and dynamic loads, and construction loads that might be applied, until structure can support such loads.
- B. Construct formwork so concrete members and structures are of size, shape, alignment, elevation, and position indicated, within tolerance limits of ACI 117.
- C. Chamfer exterior corners and edges of permanently exposed concrete unless otherwise noted.

3.2 EMBEDDED ITEMS

- A. Place and secure anchorage devices and other embedded items required for adjoining work that is attached to or supported by cast-in-place concrete. Use setting drawings, templates, diagrams, instructions, and directions furnished with items to be embedded.

3.3 VAPOR RETARDERS

- A. Sheet Vapor Barriers: Place, protect, and repair sheet vapor retarder according to ASTM E 1643 and manufacturer's written instructions. Place sheets in position with longest dimension parallel with direction of pour.
 - 1. Lap joints 6 inches and seal with manufacturer's recommended tape.
 - 2. Apply seam tape to a clean and dry vapor barrier
 - 3. Seal all penetrations (including pipes) per manufacturer's instructions
 - 4. Avoid the use of non-permanent stakes driven through vapor barrier.
 - 5. If non-permanent stakes are driven through vapor barrier, repair as recommend by manufacturer.
 - 6. Repair damaged areas with vapor barrier material similar (or better) permeance, puncture, or tensile properties.

3.4 STEEL REINFORCEMENT

- A. General: Comply with CRSI's "Manual of Standard Practice" for placing reinforcement.
 - 1. Do not cut or puncture vapor retarder. Repair damage and reseal vapor retarder before placing concrete.

3.5 JOINTS

- A. General: Construct joints true to line with faces perpendicular to surface plane of concrete.
- B. Construction Joints: Install so strength and appearance of concrete are not impaired, at locations indicated or as approved by Architect.
- C. Contraction Joints in Slabs-on-Grade: Form weakened-plane contraction joints, sectioning concrete into areas as indicated. Construct contraction joints for a depth equal to at least one-fourth of concrete thickness as follows:
 - 1. Sawed Joints: Form contraction joints with power saws equipped with shatterproof abrasive or diamond-rimmed blades. Cut 1/8-inch- wide joints into concrete when cutting action will not tear, abrade, or otherwise damage surface and before concrete develops random contraction cracks.
 - 2. Grooved Joints: Form contraction joints after initial floating by grooving and finishing each edge of joint to a radius of 1/8 inch. Repeat grooving of contraction joints after applying surface finishes. Eliminate groover tool marks on concrete surfaces.
- D. Isolation Joints in Slabs-on-Grade: After removing formwork, install joint-filler strips at slab junctions with vertical surfaces, such as column pedestals, foundation walls, grade beams, and other locations, as indicated.
- E. Waterstops: Install in construction joints and at other joints indicated according to manufacturer's written instructions.

3.6 CONCRETE PLACEMENT

- A. Before placing concrete, verify that installation of formwork, reinforcement, and embedded items is complete and that required inspections have been performed.
- B. Deposit concrete continuously in one layer or in horizontal layers of such thickness that no new concrete will be placed on concrete that has hardened enough to cause seams or planes of weakness. If a section cannot be placed continuously, provide construction joints as indicated. Deposit concrete to avoid segregation.
 - 1. Consolidate placed concrete with mechanical vibrating equipment according to ACI 301.
- C. Cold-Weather Placement: Comply with ACI 306.1.
- D. Hot-Weather Placement: Comply with ACI 301.

3.7 FINISHING FORMED SURFACES

- A. Rough-Formed Finish: As-cast concrete texture imparted by form-facing material with tie holes and defects repaired and patched. Remove fins and other projections that exceed specified limits on formed-surface irregularities.
 - 1. Apply to concrete surfaces not exposed to view.
- B. Smooth-Formed Finish: As-cast concrete texture imparted by form-facing material, arranged in an orderly and symmetrical manner with a minimum of seams. Repair and patch tie holes and defects. Remove fins and other projections that exceed specified limits on formed-surface irregularities.
 - 1. Apply to concrete surfaces exposed to public view, to receive a rubbed finish, to be covered with a coating or covering material applied directly to concrete.
- C. Related Unformed Surfaces: At tops of walls, horizontal offsets, and similar unformed surfaces adjacent to formed surfaces, strike off smooth and finish with a texture matching adjacent formed surfaces. Continue final surface treatment of formed surfaces uniformly across adjacent unformed surfaces unless otherwise indicated.

3.8 FINISHING FLOORS AND SLABS

- A. General: Comply with ACI 302.1R recommendations for screeding, restraightening, and finishing operations for concrete surfaces. Do not wet concrete surfaces.
- B. Scratch: Surfaces to receive concrete floor toppings, mortar setting beds for cementitious floor finishes.
- C. Float Finish: Consolidate surface with power-driven floats or by hand floating if area is small or inaccessible to power driven floats. Restraighten, cut down high spots, and fill low spots. Repeat float passes and restraightening until surface is left with a uniform, smooth, granular texture.

1. Apply float finish to surfaces to receive trowel finish and to be covered with fluid-applied or sheet waterproofing, built-up or membrane roofing.
- D. Trowel Finish: After applying float finish, apply first troweling and consolidate concrete by hand or power-driven trowel. Continue troweling passes and restraighten until surface is free of trowel marks and uniform in texture and appearance. Grind smooth any surface defects that would telegraph through applied coatings or floor coverings.
 1. Apply a trowel finish to surfaces exposed to view or to be covered with resilient flooring, carpet, ceramic or quarry tile set over a cleavage membrane, paint, or another thin-film-finish coating system.
 2. Finish and measure surface so gap at any point between concrete surface and an unveled, freestanding, 10-ft.- long straightedge resting on two high spots and placed anywhere on the surface does not exceed 3/16 inch.
- E. Broom Finish: Apply a broom finish to exterior concrete platforms, steps, ramps, and elsewhere as indicated.

3.9 CONCRETE PROTECTING AND CURING

- A. General: Protect freshly placed concrete from premature drying and excessive cold or hot temperatures. Comply with ACI 306.1 for cold-weather protection and ACI 301 for hot-weather protection during curing.
- B. Evaporation Retarder: Apply evaporation retarder to unformed concrete surfaces if hot, dry, or windy conditions cause moisture loss approaching 0.2 lb/sq. ft. x h before and during finishing operations. Apply according to manufacturer's written instructions after placing, screeding, and bull floating or darbying concrete, but before float finishing.
- C. Cure concrete according to ACI 308.1, by one or a combination of the following methods:
 1. Moisture Curing: Keep surfaces continuously moist for not less than seven days.
 2. Moisture-Retaining-Cover Curing: Cover concrete surfaces with moisture-retaining cover for curing concrete, placed in widest practicable width, with sides and ends lapped at least 12 inches, and sealed by waterproof tape or adhesive. Cure for not less than seven days. Immediately repair any holes or tears during curing period using cover material and waterproof tape.
 3. Curing Compound: Apply uniformly in continuous operation by power spray or roller according to manufacturer's written instructions. Recoat areas subjected to heavy rainfall within three hours after initial application. Maintain continuity of coating and repair damage during curing period.
 - a. Removal: After curing period has elapsed, remove curing compound without damaging concrete surfaces by method recommended by curing compound manufacturer unless manufacturer certifies curing compound will not interfere with bonding of floor covering used on project.

3.10 CONCRETE SURFACE REPAIRS

- A. Defective Concrete: Repair and patch defective areas when approved by Architect. Remove and replace concrete that cannot be repaired and patched to Architect's approval.

3.11 FIELD QUALITY CONTROL

- A. Testing and Inspecting: Owner will engage a qualified testing and inspecting agency to perform field tests and inspections and prepare test reports.

END OF SECTION 033000

SECTION 042000 - UNIT MASONRY

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Concrete masonry units.
2. Decorative concrete masonry units.

B. This section supplements General Structural Notes Drawing.

1.2 DEFINITIONS

A. CMU(s): Concrete masonry unit(s).

B. Reinforced Masonry: Masonry containing reinforcing steel in grouted cells.

1.3 ACTION SUBMITTALS

A. Product Data: For each type of product.

B. Shop Drawings: For reinforcing steel. Detail bending, lap lengths, and placement of unit masonry reinforcing bars. Comply with ACI 315. Show elevations of reinforced walls.

C. Samples: For each type and color of the following:

1. Decorative CMUs.

1.4 INFORMATIONAL SUBMITTALS

A. Material Certificates: For each type and size of product. For masonry units, include data on material properties.

B. Mix Designs: For each type of mortar and grout. Include description of type and proportions of ingredients.

1. Include test reports for mortar mixes required to comply with property specification. Test according to ASTM C 109/C 109M for compressive strength, ASTM C 1506 for water retention, and ASTM C 91/C 91M for air content.
2. Include test reports, according to ASTM C 1019, for grout mixes required to comply with compressive strength requirement.

1.5 FIELD CONDITIONS

- A. Cold-Weather Requirements: Do not use frozen materials or materials mixed or coated with ice or frost. Do not build on frozen substrates. Remove and replace unit masonry damaged by frost or by freezing conditions. Comply with cold-weather construction requirements contained in TMS 602/ACI 530.1/ASCE 6.
- B. Hot-Weather Requirements: Comply with hot-weather construction requirements contained in TMS 602/ACI 530.1/ASCE 6.

PART 2 - PRODUCTS

2.1 UNIT MASONRY, GENERAL

- A. Masonry Standard: Comply with TMS 602/ACI 530.1/ASCE 6, except as modified by requirements in the Contract Documents.
- B. Defective Units: Referenced masonry unit standards may allow a certain percentage of units to contain chips, cracks, or other defects exceeding limits stated. Do not use units where such defects are exposed in the completed Work and will be within 20 feet (6 m) vertically and horizontally of a walking surface.
- C. Fire-Resistance Ratings: Comply with requirements for fire-resistance-rated assembly designs indicated.
 - 1. Where fire-resistance-rated construction is indicated, units shall be listed and labeled by a qualified testing agency acceptable to authorities having jurisdiction.

2.2 CONCRETE MASONRY UNITS.

- A. Shapes: Provide shapes indicated and as follows, with exposed surfaces matching exposed faces of adjacent units unless otherwise indicated.
 - 1. Provide special shapes for lintels, corners, jambs, sashes, movement joints, headers, bonding, and other special conditions.
 - 2. All exposed corners on the interior of the building shall be bullnose.
- B. Integral Water Repellent: Provide units made with integral water repellent for exposed units.
- C. CMUs: ASTM C 90.
 - 1. Unit Compressive Strength: Provide units with minimum average net-area compressive strength of 2150 psi (14.8 MPa)
 - 2. Density Classification: Normal weight.
- D. Decorative CMUs: ASTM C 90.
 - 1. Split-face Colored Masonry Units.

2. Unit Compressive Strength: Provide units with minimum average net-area compressive strength of 2150 psi (14.8 MPa).
3. Density Classification: Normal weight.
4. Pattern and Texture:
 - a. Standard pattern, split-face finish. To match previous addition.
Color 1: Hershey Brown
Color 2: Butterscotch

2.3 MORTAR AND GROUT MATERIALS

- A. Portland Cement: ASTM C 150/C 150M, Type I or II, except Type III may be used for cold-weather construction. Provide natural color or white cement as required to produce mortar color indicated.
 - B. Hydrated Lime: ASTM C 207, Type S.
 - C. Portland Cement-Lime Mix: Packaged blend of portland cement and hydrated lime containing no other ingredients.
 - D. Masonry Cement: ASTM C 91/C 91M.
 - E. Mortar Pigments: Natural and synthetic iron oxides and chromium oxides, compounded for use in mortar mixes and complying with ASTM C 979/C 979M. Use only pigments with a record of satisfactory performance in masonry mortar.
 - F. Colored Cement Products: Packaged blend made from portland cement and hydrated lime and mortar pigments, all complying with specified requirements, and containing no other ingredients.
 1. Mortar color: To match previous addition: CEMEX, color Keystone
 - G. Aggregate for Mortar: ASTM C 144.
 1. White-Mortar Aggregates: Natural white sand or crushed white stone.
 2. Colored-Mortar Aggregates: Natural sand or crushed stone of color necessary to produce required mortar color.
 - H. Aggregate for Grout: ASTM C 404.
 - I. Water-Repellent Admixture: Liquid water-repellent mortar admixture intended for use with CMUs containing integral water repellent from same manufacturer.
 - J. Water: Potable.
- ### 2.4 REINFORCEMENT
- A. Uncoated-Steel Reinforcing Bars: ASTM A 615/A 615M or ASTM A 996/A 996M, Grade 60 (Grade 420).

- B. Reinforcing Bar Positioners: Wire units designed to fit into mortar bed joints spanning masonry unit cells and to hold reinforcing bars in center of cells. Units are formed from 0.148-inch (3.77-mm) steel wire, hot-dip galvanized after fabrication. Provide units designed for number of bars indicated.
- C. Masonry-Joint Reinforcement, General: ASTM A 951/A 951M.
 - 1. Interior Walls: galvanized, carbon steel.
 - 2. Exterior Walls: Hot-dip galvanized carbon steel.
 - 3. Wire Size for Side Rods: 0.148-inch (3.77-mm) diameter.
 - 4. Wire Size for Cross Rods: 0.148-inch (3.77-mm) diameter.
 - 5. Spacing of Cross Rods: Not more than 16 inches (407 mm) o.c.
 - 6. Provide in lengths of not less than 10 feet (3 m).

2.5 TIES AND ANCHORS

- A. Materials: Provide ties and anchors specified in this article that are made from materials that comply with the following unless otherwise indicated:
 - 1. Hot-Dip Galvanized, Carbon-Steel Wire: ASTM A 82/A 82M, with ASTM A 153/A 153M, Class B-2 coating.
 - 2. Steel Sheet, Galvanized after Fabrication: ASTM A 1008/A 1008M, Commercial Steel, with ASTM A 153/A 153M, Class B coating.
 - 3. Steel Plates, Shapes, and Bars: ASTM A 36/A 36M.
- B. Partition Top Anchors: 0.105-inch- (2.66-mm-) thick metal plate with a 3/8-inch- (9.5-mm-) diameter metal rod 6 inches (152 mm) long welded to plate and with closed-end plastic tube fitted over rod that allows rod to move in and out of tube. Fabricate from steel, hot-dip galvanized after fabrication.
- C. Rigid Anchors: Fabricate from steel bars 1-1/2 inches (38 mm) wide by 1/4 inch (6.35 mm) thick by 24 inches (610 mm) long, with ends turned up 2 inches (51 mm) or with cross pins unless otherwise indicated.
 - 1. Corrosion Protection: Hot-dip galvanized to comply with ASTM A 153/A 153M.

2.6 EMBEDDED FLASHING MATERIALS

- A. Metal Flashing: Provide metal flashing complying with Section 076200 "Sheet Metal Flashing and Trim" and as follows:
 - 1. Fabricate metal drip edges from stainless steel. Extend at least 3 inches (76 mm) into wall and 1/2 inch (13 mm) out from wall, with outer edge bent down 30 degrees and hemmed.
 - 2. Fabricate metal sealant stops from stainless steel. Extend at least 3 inches (76 mm) into wall and out to exterior face of wall. At exterior face of wall, bend metal back on itself for 3/4 inch (19 mm) and down into joint 1/4 inch (6 mm) to form a stop for retaining sealant backer rod.
 - 3. Fabricate metal expansion-joint strips from stainless steel to shapes indicated.

- B. Flexible Flashing: Use one of the following unless otherwise indicated:
1. Copper-Laminated Flashing: 7-oz./sq. ft. (2-kg/sq. m) copper sheet bonded between two layers of glass-fiber cloth. Use only where flashing is fully concealed in masonry.
 2. Rubberized-Asphalt Flashing: Composite flashing product consisting of a pliable, adhesive rubberized-asphalt compound, bonded to a high-density, cross-laminated polyethylene film to produce an overall thickness of not less than 0.040 inch (1.02 mm).
 3. Butyl Rubber Flashing: Composite, self-adhesive, flashing product consisting of a pliable, butyl rubber compound, bonded to a high-density polyethylene film, aluminum foil, or spunbonded polyolefin to produce an overall thickness of not less than 0.030 inch (0.8 mm).
 4. Elastomeric Thermoplastic Flashing: Composite flashing product consisting of a polyester-reinforced ethylene interpolymer alloy.
 5. EPDM Flashing: Sheet flashing product made from ethylene-propylene-diene terpolymer, complying with ASTM D 4637/D 4637M, 0.040 inch (1.02 mm) thick.
- C. Solder and Sealants for Sheet Metal Flashings: As specified in Section 076200 "Sheet Metal Flashing and Trim."
- D. Adhesives, Primers, and Seam Tapes for Flashings: Flashing manufacturer's standard products or products recommended by flashing manufacturer for bonding flashing sheets to each other and to substrates.

2.7 MISCELLANEOUS MASONRY ACCESSORIES

- A. Compressible Filler: Premolded filler strips complying with ASTM D 1056, Grade 2A1; compressible up to 35 percent; of width and thickness indicated; formulated from neoprene, urethane or PVC.
- B. Preformed Control-Joint Gaskets: Made from styrene-butadiene-rubber compound, complying with ASTM D 2000, Designation M2AA-805 or PVC, complying with ASTM D 2287, Type PVC-65406 and designed to fit standard sash block and to maintain lateral stability in masonry wall; size and configuration as indicated.
- C. Bond-Breaker Strips: Asphalt-saturated felt complying with ASTM D 226/D 226M, Type I (No. 15 asphalt felt).
- D. Weep/Cavity Vent Products: Use one of the following unless otherwise indicated:
1. Cellular Plastic Weep/Vent: One-piece, flexible extrusion made from UV-resistant polypropylene copolymer, full height and width of head joint and depth 1/8 inch (3 mm) less than depth of outer wythe, in color selected from manufacturer's standard.
 2. Mesh Weep/Vent: Free-draining mesh; made from polyethylene strands, full height and width of head joint and depth 1/8 inch (3 mm) less than depth of outer wythe; in color selected from manufacturer's standard.

3. Vinyl Weep Hole/Vent: Units made from flexible PVC, designed to fit into a head joint and consisting of a louvered vertical leg, flexible wings to seal against ends of masonry units, and a top flap to keep mortar out of the head joint; in color selected by Architect.

2.8 MASONRY CLEANERS

- A. Proprietary Acidic Cleaner: Manufacturer's standard-strength cleaner designed for removing mortar/grout stains, efflorescence, and other new construction stains from new masonry without discoloring or damaging masonry surfaces. Use product expressly approved for intended use by cleaner manufacturer and manufacturer of masonry units being cleaned.

2.9 MASONRY-CELL FILL

- A. Loose-Fill Insulation: Perlite complying with ASTM C 549, Type II (surface treated for water repellency and limited moisture absorption) or Type IV (surface treated for water repellency and to limit dust generation).

PART 3 - EXECUTION

3.1 INSTALLATION, GENERAL

- A. Use full-size units without cutting if possible. If cutting is required to provide a continuous pattern or to fit adjoining construction, cut units with motor-driven saws; provide clean, sharp, unchipped edges. Allow units to dry before laying unless wetting of units is specified. Install cut units with cut surfaces and, where possible, cut edges concealed.
- B. Select and arrange units for exposed unit masonry to produce a uniform blend of colors and textures. Mix units from several pallets or cubes as they are placed.
- C. Wetting of Brick: Wet brick before laying if initial rate of absorption exceeds 30 g/30 sq. in. (30 g/194 sq. cm) per minute when tested according to ASTM C 67. Allow units to absorb water so they are damp but not wet at time of laying.

3.2 TOLERANCES

- A. Dimensions and Locations of Elements:
 1. For dimensions in cross section or elevation, do not vary by more than plus 1/2 inch (12 mm) or minus 1/4 inch (6 mm).
 2. For location of elements in plan, do not vary from that indicated by more than plus or minus 1/2 inch (12 mm).
 3. For location of elements in elevation, do not vary from that indicated by more than plus or minus 1/4 inch (6 mm) in a story height or 1/2 inch (12 mm) total.
- B. Lines and Levels:

1. For bed joints and top surfaces of bearing walls, do not vary from level by more than 1/4 inch in 10 feet (6 mm in 3 m), or 1/2-inch (12-mm) maximum.
2. For conspicuous horizontal lines, such as lintels, sills, parapets, and reveals, do not vary from level by more than 1/8 inch in 10 feet (3 mm in 3 m), 1/4 inch in 20 feet (6 mm in 6 m), or 1/2-inch (12-mm) maximum.
3. For vertical lines and surfaces, do not vary from plumb by more than 1/4 inch in 10 feet (6 mm in 3 m), 3/8 inch in 20 feet (9 mm in 6 m), or 1/2-inch (12-mm) maximum.
4. For conspicuous vertical lines, such as external corners, door jambs, reveals, and expansion and control joints, do not vary from plumb by more than 1/8 inch in 10 feet (3 mm in 3 m), 1/4 inch in 20 feet (6 mm in 6 m), or 1/2-inch (12-mm) maximum.
5. For lines and surfaces, do not vary from straight by more than 1/4 inch in 10 feet (6 mm in 3 m), 3/8 inch in 20 feet (9 mm in 6 m), or 1/2-inch (12-mm) maximum.

C. Joints:

1. For bed joints, do not vary from thickness indicated by more than plus or minus 1/8 inch (3 mm), with a maximum thickness limited to 1/2 inch (12 mm).
2. For head and collar joints, do not vary from thickness indicated by more than plus 3/8 inch (9 mm) or minus 1/4 inch (6 mm).
3. For exposed head joints, do not vary from thickness indicated by more than plus or minus 1/8 inch (3 mm).

3.3 LAYING MASONRY WALLS

- A. Lay out walls in advance for accurate spacing of surface bond patterns with uniform joint thicknesses and for accurate location of openings, movement-type joints, returns, and offsets. Avoid using less-than-half-size units, particularly at corners, jambs, and, where possible, at other locations.
- B. Bond Pattern for Exposed Masonry: Unless otherwise indicated, lay exposed masonry in running bond; do not use units with less-than-nominal 4-inch (100-mm) horizontal face dimensions at corners or jambs.
- C. Built-in Work: As construction progresses, build in items specified in this and other Sections. Fill in solidly with masonry around built-in items.
- D. Fill space between steel frames and masonry solidly with mortar unless otherwise indicated.
- E. Fill cores in hollow CMUs with grout 24 inches (600 mm) under bearing plates, beams, lintels, posts, and similar items unless otherwise indicated.

3.4 MORTAR BEDDING AND JOINTING

A. Lay CMUs as follows:

1. Bed face shells in mortar and make head joints of depth equal to bed joints.
2. Bed webs in mortar in all courses of piers, columns, and pilasters.
3. Bed webs in mortar in grouted masonry, including starting course on footings.

4. Fully bed entire units, including areas under cells, at starting course on footings where cells are not grouted.
- B. Lay solid masonry units and hollow brick with completely filled bed and head joints; butter ends with sufficient mortar to fill head joints and shove into place. Do not deeply furrow bed joints or slush head joints.
- C. Tool exposed joints slightly concave when thumbprint hard, using a jointer larger than joint thickness unless otherwise indicated.
- D. Cut joints flush for masonry walls to receive plaster or other direct-applied finishes (other than paint) unless otherwise indicated.

3.5 MASONRY-CELL FILL

- A. Pour loose-fill insulation into cavities to fill void spaces. Maintain inspection ports to show presence of fill at extremities of each pour area. Close the ports after filling has been confirmed. Limit the fall of fill to one story high, but not more than 20 feet (6 m).

3.6 ANCHORED MASONRY VENEERS

- A. Anchor masonry veneers to concrete and masonry backup with masonry-veneer anchors to comply with the following requirements:
 1. Fasten screw-attached anchors through sheathing to wall framing with metal fasteners of type indicated. Use two fasteners unless anchor design only uses one fastener.
 2. Locate anchor sections to allow maximum vertical differential movement of ties up and down.
 3. Space anchors as indicated, but not more than 18 inches (458 mm) o.c. vertically and 24 inches (610 mm) o.c. horizontally, with not less than one anchor for each 2 sq. ft. (0.2 sq. m) of wall area. Install additional anchors within 12 inches (305 mm) of openings and at intervals, not exceeding 8 inches (203 mm), around perimeter.
 4. Space anchors as indicated, but not more than 18 inches (458 mm) o.c. vertically and horizontally. Install additional anchors within 12 inches (305 mm) of openings and at intervals, not exceeding 24 inches (610 mm), around perimeter.

3.7 FLASHING, WEEP HOLES, AND CAVITY VENTS

- A. General: Install embedded flashing and weep holes in masonry at shelf angles, lintels, ledges, other obstructions to downward flow of water in wall, and where indicated.
- B. Install flashing as follows unless otherwise indicated:
 1. Prepare masonry surfaces so they are smooth and free from projections that could puncture flashing. Where flashing is within mortar joint, place through-wall flashing on sloping bed of mortar and cover with mortar. Before covering with mortar, seal penetrations in flashing with adhesive, sealant, or tape as recommended by flashing manufacturer.

2. At lintels and shelf angles, extend flashing a minimum of 6 inches (150 mm) into masonry at each end. At heads and sills, extend flashing 6 inches (150 mm) at ends and turn up not less than 2 inches (50 mm) to form end dams.
 3. Install metal drip edges beneath flexible flashing at exterior face of wall. Stop flexible flashing 1/2 inch (13 mm) back from outside face of wall, and adhere flexible flashing to top of metal drip edge.
 4. Install metal flashing termination beneath flexible flashing at exterior face of wall. Stop flexible flashing 1/2 inch (13 mm) back from outside face of wall, and adhere flexible flashing to top of metal flashing termination.
- C. Install weep holes in exterior wythes and veneers in head joints of first course of masonry immediately above embedded flashing.
1. Use specified weep/cavity vent products or open head joints to form weep holes.
 2. Space weep holes 24 inches (600 mm) o.c. unless otherwise indicated.
 3. Cover cavity side of weep holes with plastic insect screening at cavities insulated with loose-fill insulation.

3.8 REPAIRING, POINTING, AND CLEANING

- A. In-Progress Cleaning: Clean unit masonry as work progresses by dry brushing to remove mortar fins and smears before tooling joints.
- B. Final Cleaning: After mortar is thoroughly set and cured, clean exposed masonry as follows:
1. 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.
 3. Protect adjacent surfaces from contact with cleaner.
 4. Wet wall surfaces with water before applying cleaners; remove cleaners promptly by rinsing surfaces thoroughly with clear water.
 5. Clean masonry with a proprietary acidic cleaner applied according to manufacturer's written instructions.

3.9 MASONRY WASTE DISPOSAL

- A. Waste Disposal as Fill Material: Dispose of clean masonry waste, including excess or soil-contaminated sand, waste mortar, and broken masonry units, by crushing and mixing with fill material as fill is placed.
1. Do not dispose of masonry waste as fill within 18 inches (450 mm) of finished grade.
- B. Masonry Waste Recycling: Return broken CMUs not used as fill to manufacturer for recycling.
- C. Excess Masonry Waste: Remove excess clean masonry waste that cannot be used as fill, as described above or recycled, and other masonry waste, and legally dispose of off Owner's property.

PROJECT No. 22074

LOCKER ROOMS ADDITION #2
NORTH PARK, ELYRIA, OHIO

END OF SECTION 042000

SECTION 054400 - COLD-FORMED METAL TRUSSES

PART 1 - GENERAL

1.1 SUMMARY

- A. Section includes cold-formed steel framing in the form of the following:
 - 1. Cold-formed steel trusses for roofs.

1.2 ACTION SUBMITTALS

- A. Product Data: For each type of product.
- B. Shop Drawings:
 - 1. Include layout, spacings, sizes, thicknesses, and types of cold-formed steel trusses; fabrication; and fastening and anchorage details, including mechanical fasteners.
 - 2. Indicate reinforcing channels, opening framing, supplemental framing, strapping, bracing, bridging, splices, accessories, connection details, and attachment to adjoining work.
- C. Delegated-Design Submittal: For cold-formed steel trusses.

1.3 INFORMATIONAL SUBMITTALS

- A. Welding certificates.
- B. Product test reports.
- C. Evaluation Reports: For *post-installed anchors and power-actuated fasteners*, from ICC-ES or other qualified testing agency acceptable to authorities having jurisdiction.
- D. Field quality-control reports.

1.4 QUALITY ASSURANCE

- A. Testing Agency Qualifications: Qualified according to ASTM E 329 for testing indicated.
- B. Product Tests: Mill certificates or data from a qualified independent testing agency.
- C. Welding Qualifications: Qualify procedures and personnel according to the following:
 - 1. AWS D1.1/D1.1M, "Structural Welding Code - Steel."
 - 2. AWS D1.3/D1.3M, "Structural Welding Code - Sheet Steel."

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

- A. Delegated Design: Engage a qualified professional engineer, as defined in Section 014000 "Quality Requirements," to design cold-formed steel trusses.
- B. Structural Performance: Provide cold-formed steel trusses capable of withstanding design loads within limits and under conditions indicated.
 - 1. Design Loads: As indicated on Drawings.
 - 2. Deflection Limits: Design trusses to withstand design loads without deflections greater than the following:
 - a. Roof Trusses: Vertical deflection of 1/240 of the span.
 - 3. Design trusses to provide for movement of truss members located outside the insulated building envelope without damage or overstressing, sheathing failure, connection failure, undue strain on fasteners and anchors, or other detrimental effects when subject to a maximum ambient temperature change of 120 deg F (67 deg C).
- C. Cold-Formed Steel Truss Standards: Unless more stringent requirements are indicated, trusses shall comply with the following:
 - 1. Floor and Roof Systems: AISI S210.
 - 2. Lateral Design: AISI S213.
 - 3. Roof Trusses: AISI S214.
- D. Fire-Resistance Ratings: Comply with ASTM E 119; testing by a qualified testing agency. Identify products with appropriate markings of applicable testing agency.

2.2 COLD-FORMED STEEL TRUSS MATERIALS

- A. Steel Sheet: ASTM A 1003/A 1003M, Structural Grade, Type H, metallic coated, of grade and coating designation as follows:
 - 1. Grade: As required by structural performance.
 - 2. Coating: G60 (Z180), or equivalent.

2.3 ROOF TRUSSES

- A. Roof Truss Members: Manufacturer's standard steel sections, complying with ASTM C 955, and as follows:
 - 1. Minimum Uncoated-Steel Thickness: As required by truss manufacturers design calculations.
 - 2. Flange Width: As required.
 - 3. Section Properties: As required.

2.4 TRUSS ACCESSORIES

- A. Fabricate steel-truss accessories from steel sheet, ASTM A 1003/A 1003M, Structural Grade, Type H, metallic coated steel sheet, of same grade and coating designation used for truss members.
- B. Provide accessories of manufacturer's standard thickness and configuration unless otherwise indicated.

2.5 ANCHORS, CLIPS, AND FASTENERS

- A. Steel Shapes and Clips: ASTM A 36/A 36M, zinc coated by hot-dip process according to ASTM A 123/A 123M.
- B. Anchor Bolts: ASTM F 1554, Grade 36, threaded carbon-steel hex-headed bolts, carbon-steel nuts, and flat, hardened-steel washers; zinc coated by hot-dip process according to ASTM A 153/A 153M, Class C.
- C. Expansion Anchors: Fabricated from corrosion-resistant materials, with capability to sustain, without failure, a load equal to 5 times design load, as determined by testing per ASTM E 488 conducted by a qualified independent testing agency.
- D. Power-Actuated Fasteners: Fastener systems with working capacity greater than or equal to the design load, according to an evaluation report acceptable to authorities having jurisdiction, based on ICC-ES AC70.
- E. Mechanical Fasteners: ASTM C 1513, corrosion-resistant-coated, self-drilling, self-tapping steel drill screws.
 - 1. Head Type: Low-profile head beneath sheathing; manufacturer's standard elsewhere.

2.6 MISCELLANEOUS MATERIALS

- A. Galvanizing Repair Paint: SSPC-Paint 20 or DOD-P-21035.
- B. Shims: Load-bearing, high-density multimonomer, nonleaching plastic; or cold-formed steel of same grade and metallic coating as truss members supported by shims.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine supporting substrates and abutting structural framing 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. Before sprayed fire-resistive materials are applied, attach continuous angles, supplementary framing, or tracks to structural members indicated to receive sprayed fire-resistive materials.
- B. After applying sprayed fire-resistive materials, remove only as much of these materials as needed to complete installation of cold-formed steel trusses without reducing thickness of fire-resistive materials below that required to obtain fire-resistance ratings indicated. Protect remaining fire-resistive materials from damage.

3.3 INSTALLATION

- A. Install bridge, and brace cold-formed steel trusses according to AISI S200, AISI S202, AISI S214, and manufacturer's written instructions unless more stringent requirements are indicated.
 - 1. Coordinate with wall framing to align webs of bottom chords and load-bearing studs or continuously reinforce track to transfer loads to structure.
 - 2. Install continuous bridging and permanently brace trusses as indicated on Drawings.
- B. Install cold-formed steel trusses and accessories true to line and location, and with connections securely fastened.
- C. Install temporary bracing and supports to secure trusses and support loads equal to those for which structure was designed. Maintain braces and supports in place, undisturbed, until entire integrated supporting structure has been completed and permanent connections to trusses are secured.
- D. Truss Spacing: As indicated on Drawings.

3.4 ERECTION TOLERANCES

- A. Install cold-formed steel trusses level, plumb, and true to line to a maximum allowable tolerance variation of 1/8 inch in 10 feet (1:960) and as follows:
 - 1. Space individual trusses no more than plus or minus 1/8 inch (3 mm) from plan location. Cumulative error shall not exceed minimum fastening requirements of sheathing or other finishing materials.

3.5 FIELD QUALITY CONTROL

- A. Special Inspections: Engage a qualified special inspector to perform inspections.
- B. Testing Agency: Engage a qualified testing agency to perform tests and inspections.
- C. Cold-formed metal trusses will be considered defective if they do not pass tests and inspections.
- D. Prepare test and inspection reports.

3.6 REPAIRS AND PROTECTION

- A. Galvanizing Repairs: Prepare and repair damaged galvanized coatings on fabricated and installed cold-formed steel trusses with galvanized repair paint according to ASTM A 780/A 780M and manufacturer's written instructions.

END OF SECTION 054400

SECTION 061000 - ROUGH CARPENTRY

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes:
 - 1. Wood blocking and nailers.

1.2 ACTION SUBMITTALS

- A. Product Data: For each type of process and factory-fabricated product.
 - 1. Include data for wood-preservative treatment from chemical treatment manufacturer and certification by treating plant that treated materials comply with requirements.
 - 2. Include data for fire-retardant treatment from chemical treatment manufacturer and certification by treating plant that treated materials comply with requirements.

1.3 INFORMATIONAL SUBMITTALS

- A. Material Certificates: For dimension lumber specified to comply with minimum allowable unit stresses. Indicate species and grade selected for each use and design values approved by the ALSC Board of Review.

PART 2 - PRODUCTS

2.1 WOOD PRODUCTS, GENERAL

- A. Lumber: DOC PS 20 and applicable rules of grading agencies indicated. If no grading agency is indicated, provide lumber that complies with the applicable rules of any rules-writing agency certified by the ALSC Board of Review. Provide lumber graded by an agency certified by the ALSC Board of Review to inspect and grade lumber under the rules indicated.
 - 1. Factory mark each piece of lumber with grade stamp of grading agency.
 - 2. For exposed lumber indicated to receive a stained or natural finish, mark grade stamp on end or back of each piece.
 - 3. Provide dressed lumber, S4S, unless otherwise indicated.
- B. Maximum Moisture Content of Lumber: 15 percent for 2-inch nominal (38-mm actual) thickness or less, 19 percent for more than 2-inch nominal (38-mm actual) thickness unless otherwise indicated.

2.2 WOOD-PRESERVATIVE-TREATED LUMBER

- A. Preservative Treatment by Pressure Process: AWWPA U1; Use Category UC2.
 - 1. Preservative Chemicals: Acceptable to authorities having jurisdiction and containing no arsenic or chromium. Do not use inorganic boron (SBX) for sill plates.

- B. Kiln-dry lumber after treatment to a maximum moisture content of 19 percent. Do not use material that is warped or that does not comply with requirements for untreated material.
- C. Mark lumber with treatment quality mark of an inspection agency approved by the ALSC Board of Review.
- D. Application: Treat items indicated on Drawings, and the following:
 - 1. Wood cants, nailers, curbs, equipment support bases, blocking, stripping, and similar members in connection with roofing, flashing, vapor barriers, and waterproofing.
 - 2. Wood sills, sleepers, blocking, furring, and similar concealed members in contact with masonry or concrete.
 - 3. Wood floor plates that are installed over concrete slabs-on-grade.

2.3 FIRE-RETARDANT-TREATED MATERIALS

- A. Fire-Retardant-Treated Lumber and Plywood by Pressure Process: Products with a flame spread index of 25 or less when tested according to ASTM E 84, and with no evidence of significant progressive combustion when the test is extended an additional 20 minutes, and with the flame front not extending more than 10.5 feet (3.2 m) beyond the centerline of the burners at any time during the test.
- B. Identify fire-retardant-treated wood with appropriate classification marking of qualified testing agency.
- C. Application: Treat items indicated on Drawings, and the following:
 - 1. Plywood backing panels.

2.4 DIMENSION LUMBER FRAMING

- A. Exposed Framing: Provide material hand-selected for uniformity of appearance and freedom from characteristics, on exposed surfaces and edges, that would impair finish appearance, including decay, honeycomb, knot-holes, shake, splits, torn grain, and wane.
 - 1. Application: Exposed interior framing indicated to receive a stained or natural finish.

2.5 MISCELLANEOUS LUMBER

- A. General: Provide miscellaneous lumber indicated and lumber for support or attachment of other construction, including the following:
 - 1. Blocking.
 - 2. Nailers.
 - 3. Rooftop equipment bases and support curbs.
 - 4. Cants.
 - 5. Furring.
 - 6. Grounds.
- B. For items of dimension lumber size, provide Construction or No. 2 grade lumber of any species.
- C. For concealed boards, provide lumber with 15 percent maximum moisture content and the following species and grades:

1. Mixed southern pine; No. 2 grade; SPIB.
2. Eastern softwoods; No. 2 Common grade; NeLMA.
3. Northern species; No. 2 Common grade; NLGA.

2.6 FASTENERS

- A. General: Provide fasteners of size and type indicated that comply with requirements specified in this article for material and manufacture.
 1. Where rough carpentry is exposed to weather, in ground contact, pressure-preservative treated, or in area of high relative humidity, provide fasteners of Type 304 stainless steel.
- B. Power-Driven Fasteners: NES NER-272.
- C. Bolts: Steel bolts complying with ASTM A 307, Grade A (ASTM F 568M, Property Class 4.6); with ASTM A 563 (ASTM A 563M) hex nuts and, where indicated, flat washers.

2.7 METAL FRAMING ANCHORS

- A. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 1. Cleveland Steel Specialty Co.
 2. Simpson Strong-Tie Co., Inc.
 3. USP Structural Connectors.
- B. Allowable Design Loads: Provide products with allowable design loads, as published by manufacturer, that meet or exceed those indicated. Manufacturer's published values shall be determined from empirical data or by rational engineering analysis and demonstrated by comprehensive testing performed by a qualified independent testing agency.
- C. Galvanized-Steel Sheet: Hot-dip, zinc-coated steel sheet complying with ASTM A 653/A 653M, G60 (Z180) coating designation.
 1. Use for interior locations unless otherwise indicated.
- D. Hot-Dip, Heavy-Galvanized Steel Sheet: ASTM A 653/A 653M; structural steel (SS), high-strength low-alloy steel Type A (HSLAS Type A), or high-strength low-alloy steel Type B (HSLAS Type B); G185 (Z550) coating designation; and not less than 0.036 inch (0.9 mm) thick.
 1. Use for wood-preservative-treated lumber and where indicated.

2.8 MISCELLANEOUS MATERIALS

- A. Sill-Sealer Gaskets: Closed-cell neoprene foam, 1/4 inch (6.4 mm) thick, selected from manufacturer's standard widths to suit width of sill members indicated.
- B. Flexible Flashing: Composite, self-adhesive, flashing product consisting of a pliable, butyl rubber or rubberized-asphalt compound, bonded to a high-density polyethylene film, aluminum foil, or spunbonded polyolefin to produce an overall thickness of not less than 0.025 inch (0.6 mm).

PART 3 - EXECUTION

3.1 INSTALLATION, GENERAL

- A. Set rough carpentry to required levels and lines, with members plumb, true to line, cut, and fitted. Fit rough carpentry to other construction; scribe and cope as needed for accurate fit. Locate furring, nailers, blocking, and similar supports to comply with requirements for attaching other construction.
- B. Framing Standard: Comply with AF&PA's WCD 1, "Details for Conventional Wood Frame Construction," unless otherwise indicated.
- C. Framing with Engineered Wood Products: Install engineered wood products to comply with manufacturer's written instructions.
- D. Install fire-retardant treated plywood backing panels with classification marking of testing agency exposed to view.
- E. Metal Framing Anchors: Install metal framing anchors to comply with manufacturer's written instructions. Install fasteners through each fastener hole.
- F. Do not splice structural members between supports unless otherwise indicated.
- G. Comply with AWWA M4 for applying field treatment to cut surfaces of preservative-treated lumber.
- H. Securely attach rough carpentry work to substrate by anchoring and fastening as indicated, complying with the following:
 - 1. NES NER-272 for power-driven fasteners.
 - 2. Table 2304.9.1, "Fastening Schedule," in ICC's International Building Code.
 - 3. Table R602.3(1), "Fastener Schedule for Structural Members," and Table R602.3(2), "Alternate Attachments," in ICC's International Residential Code for One- and Two-Family Dwellings.

3.2 PROTECTION

- A. Protect wood that has been treated with inorganic boron (SBX) from weather. If, despite protection, inorganic boron-treated wood becomes wet, apply EPA-registered borate treatment. Apply borate solution by spraying to comply with EPA-registered label.
- B. Protect rough carpentry from weather. If, despite protection, rough carpentry becomes wet, apply EPA-registered borate treatment. Apply borate solution by spraying to comply with EPA-registered label.

END OF SECTION 061000

SECTION 061600 - SHEATHING

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Wall sheathing.
2. Roof sheathing.

1.2 ACTION SUBMITTALS

- A. Product Data: For each type of process and factory-fabricated product. Indicate component materials and dimensions and include construction and application details.

PART 2 - PRODUCTS

2.1 WALL SHEATHING

- A. Plywood Wall Sheathing: APA Rated, 16/0, Exposure 1 sheathing.

2.2 ROOF SHEATHING

- A. Plywood Roof Sheathing: APA Rated, 32/16, Exterior, Exposure 1 sheathing.

2.3 FASTENERS

- A. General: Provide fasteners of size and type indicated that comply with requirements specified in this article for material and manufacture.
1. For roof and wall sheathing, provide fasteners of Type 304 stainless steel.

PART 3 - EXECUTION

3.1 INSTALLATION, GENERAL

- A. Do not use materials with defects that impair quality of sheathing or pieces that are too small to use with minimum number of joints or optimum joint arrangement. Arrange joints so that pieces do not span between fewer than three support members.
- B. Cut panels at penetrations, edges, and other obstructions of work; fit tightly against abutting construction unless otherwise indicated.
- C. Coordinate wall and roof sheathing installation with flashing and joint-sealant installation so these materials are installed in sequence and manner that prevent exterior moisture from passing through completed assembly.

- D. Do not bridge building expansion joints; cut and space edges of panels to match spacing of structural support elements.

3.2 WOOD STRUCTURAL PANEL INSTALLATION

- A. General: Comply with applicable recommendations in APA Form No. E30, "Engineered Wood Construction Guide," for types of structural-use panels and applications indicated.
- B. Fastening Methods: Fasten panels as indicated below:
 - 1. Wall and Roof Sheathing:
 - a. Nail to wood framing.
 - b. Space panels 1/8 inch (3 mm) apart at edges and ends.

END OF SECTION 061600

SECTION 072100 - THERMAL INSULATION

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Foam-plastic board insulation.
2. Masonry-cell insulation.
3. Glass-fiber blanket insulation.

1.2 ACTION SUBMITTALS

- ##### A. Product Data: For each type of product indicated.

1.3 INFORMATIONAL SUBMITTALS

- ##### A. Product test reports.
- ##### B. Research/evaluation reports.

PART 2 - PRODUCTS

2.1 EXTRUDED POLYSTYRENE FOAM-PLASTIC BOARD

- ##### A. Extruded polystyrene boards in this article are also called "XPS boards."
- ##### B. Extruded-Polystyrene Board sub-slab perimeter Insulation: ASTM C 578, with maximum flame-spread and smoke-developed indexes of 75 and 450, respectively, per ASTM E 84.
1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - a. DiversiFoam Products.
 - b. Dow Chemical Company (The).
 - c. Owens Corning.
 - d. Pactiv Building Products.
 - e. Approved equal.
 2. Type IV, 25 psi.

2.2 MASONRY-CELL INSULATION

- A. Molded Expandable Polystyrene Insulation Units: Rigid, cellular thermal insulation formed by the expansion of polystyrene-resin beads or granules in a closed mold to comply with ASTM C 578, Type X. Provide specially shaped units designed for installing in cores of masonry units.
 - 1. Products: Subject to compliance with requirements, provide one of the following:
 - a. Concrete Block Insulating Systems; Korfil
 - b. Shelter Enterprises Inc.; Omni Core.
 - c. Approved equal.

2.3 GLASS-FIBER BLANKET

- A. Glass-Fiber Blanket, Reinforced-Foil Faced: ASTM C 665, Type III (reflective faced), Class A (faced surface with a flame-spread index of 25 or less); Category 1 (membrane is a vapor barrier), faced with foil scrim, foil-scrim kraft, or foil-scrim polyethylene.

2.4 ACCESSORIES

- A. Insulation for Miscellaneous Voids:
 - 1. Glass-Fiber Insulation: ASTM C 764, Type II, loose fill; with maximum flame-spread and smoke-developed indexes of 5, per ASTM E 84.
 - 2. Spray Polyurethane Foam Insulation: ASTM C 1029, Type II, closed cell, with maximum flame-spread and smoke-developed indexes of 75 and 450, respectively, per ASTM E 84.
- B. Insulation Anchors, Spindles, and Standoffs: As recommended by manufacturer.
- C. Adhesive for Bonding Insulation: Product compatible with insulation and air and water barrier materials, and with demonstrated capability to bond insulation securely to substrates without damaging insulation and substrates.
- D. Eave Ventilation Troughs: Preformed, rigid fiberboard or plastic sheets designed and sized to fit between roof framing members and to provide ventilation between insulated attic spaces and vented eaves.

PART 3 - EXECUTION

3.1 INSTALLATION, GENERAL

- A. Comply with insulation manufacturer's written instructions applicable to products and applications indicated.
- B. Install insulation that is undamaged, dry, and unsoiled and that has not been left exposed to ice, rain, or snow at any time.

- C. Extend insulation to envelop entire area to be insulated. Cut and fit tightly around obstructions and fill voids with insulation. Remove projections that interfere with placement.
- D. Install loose glass-fiber blanket insulation above ceiling between and through roof framing. Provide knitted wire mesh blanket (.011 inches thick) tied tight to the underside of roof framing to secure insulation.
- E. Provide sizes to fit applications indicated and selected from manufacturer's standard thicknesses, widths, and lengths. Apply single layer of insulation units to produce thickness indicated unless multiple layers are otherwise shown or required to make up total thickness.

3.2 INSTALLATION OF BELOW-GRADE INSULATION

- A. On vertical surfaces, set insulation units using manufacturer's recommended adhesive according to manufacturer's written instructions.
 - 1. If not otherwise indicated, extend insulation a minimum of 24 inches below exterior grade line.
- B. On horizontal surfaces, loosely lay insulation units according to manufacturer's written instructions. Stagger end joints and tightly abut insulation units.
 - 1. If not otherwise indicated, extend insulation a minimum of 24 inches in from exterior walls.

3.3 INSTALLATION OF INSULATION IN FRAMED CONSTRUCTION

- A. Blanket Insulation: Install in cavities formed by framing members according to the following requirements:
 - 1. Use insulation widths and lengths that fill the cavities formed by framing members. If more than one length is required to fill the cavities, provide lengths that will produce a snug fit between ends.
 - 2. Place insulation in cavities formed by framing members to produce a friction fit between edges of insulation and adjoining framing members.
 - 3. Maintain 3-inch (76-mm) clearance of insulation around recessed lighting fixtures not rated for or protected from contact with insulation.
 - 4. Attics: Install eave ventilation troughs between roof framing members in insulated attic spaces at vented eaves.
 - 5. For wood-framed construction, install blankets according to ASTM C 1320 and as follows:
 - a. With faced blankets having stapling flanges, lap blanket flange over flange of adjacent blanket to maintain continuity of vapor retarder once finish material is installed over it.
- B. Miscellaneous Voids: Install insulation in miscellaneous voids and cavity spaces where required to prevent gaps in insulation using the following materials:

1. Glass-Fiber Insulation: Compact to approximately 40 percent of normal maximum volume equaling a density of approximately 2.5 lb/cu. ft. (40 kg/cu. m).
2. Spray Polyurethane Insulation: Apply according to manufacturer's written instructions.

3.4 INSTALLATION OF INSULATION FOR CONCRETE SUBSTRATES

- A. Install board insulation on concrete substrates by adhesively attached, spindle-type insulation anchors as follows:
 1. Fasten insulation anchors to concrete substrates with insulation anchor adhesive according to anchor manufacturer's written instructions. Space anchors according to insulation manufacturer's written instructions for insulation type, thickness, and application indicated.
 2. Apply insulation standoffs to each spindle to create cavity width indicated between concrete substrate and insulation.
 3. After adhesive has dried, install board insulation by pressing insulation into position over spindles and securing it tightly in place with insulation-retaining washers, taking care not to compress insulation below indicated thickness.
 4. Where insulation will not be covered by other building materials, apply capped washers to tips of spindles.

END OF SECTION 072100

SECTION 072500 - WEATHER BARRIERS

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes:
 - 1. Building wrap.

1.2 ACTION SUBMITTALS

- A. Product Data: For each type of product.

1.3 INFORMATIONAL SUBMITTALS

- A. Evaluation Reports: For water-resistive barrier from ICC-ES.

PART 2 - PRODUCTS

2.1 WATER-RESISTIVE BARRIER

- A. Building Wrap: ASTM E 1677, Type I air barrier; with flame-spread and smoke-developed indexes of less than 25 and 450, respectively, when tested according to ASTM E 84; UV stabilized; and acceptable to authorities having jurisdiction.
 - 1. Water-Vapor Permeance: Not less than 50 g through 1 sq. m of surface in 24 hours per ASTM E 96/E 96M, Desiccant Method (Procedure A).
 - 2. Fire Propagation Characteristics: Passes NFPA 285 testing as part of an approved assembly.
- B. Building-Wrap Tape: Pressure-sensitive plastic tape recommended by building-wrap manufacturer for sealing joints and penetrations in building wrap.

PART 3 - EXECUTION

3.1 WATER-RESISTIVE BARRIER INSTALLATION

- A. Cover sheathing with water-resistive barrier as follows:
 - 1. Cut back barrier 1/2 inch on each side of the break in supporting members at expansion- or control-joint locations.
 - 2. Apply barrier to cover vertical flashing with a minimum 4-inch overlap unless otherwise indicated.

B. Building Wrap: Comply with manufacturer's written instructions.

1. Seal seams, edges, fasteners, and penetrations with tape.
2. Extend into jambs of openings and seal corners with tape.

END OF SECTION 072500

SECTION 074113 - STANDING-SEAM METAL ROOF PANELS

PART I - GENERAL

1.1 SUMMARY

- A. Section includes standing-seam metal roof panels.

1.2 ACTION SUBMITTALS

- A. Product Data: For each type of product including, but not limited to, trim, flashings, closures, and anchorage systems.
- B. Sustainable Design Submittals:
 - 1. Product Test Reports: For roof materials, documentation indicating that roof materials comply with Solar Reflectance Index requirements.
 - 2. Product Data: For recycled content, indicating postconsumer and preconsumer recycled content and cost.
- C. Samples: For each type of metal panel indicated.

1.3 CLOSEOUT SUBMITTALS

- A. Maintenance data.
- B. Warranties.

1.4 WARRANTY

- A. Special Warranty: Manufacturer's standard form in which manufacturer agrees to repair or replace components of metal panel systems that fail in materials or workmanship within specified warranty period.
 - 1. Warranty Period: Two years from date of Substantial Completion.
- B. Special Warranty on Panel Finishes: Manufacturer's standard form in which manufacturer agrees to repair finish or replace metal panels that show evidence of deterioration of factory-applied finishes within specified warranty period.
 - 1. Finish Warranty Period: 20 years from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

- A. Recycled Content: Postconsumer recycled content plus one-half of preconsumer recycled content not less than 25 percent.

- B. Solar Reflectance Index (SRI): Three-year-aged SRI not less than 32 or initial SRI not less than 39 when calculated according to ASTM E 1980, based on testing identical products by a qualified testing agency.
- C. Energy Performance: Provide roof panels that are listed on the EPA/DOE's ENERGY STAR "Roof Product List" for steep-slope roof products.
- D. Energy Performance: Provide roof panels according to one of the following when tested according to CRRC-1:
 - 1. Three-year, aged solar reflectance of not less than 0.55 and emissivity of not less than 0.75.
 - 2. Three-year, aged Solar Reflectance Index of not less than 64 when calculated according to ASTM E 1980.
- E. Structural Performance: Provide metal panel systems capable of withstanding the effects of the following loads, based on testing according to ASTM E 1592:
 - 1. Wind Loads: As indicated on Drawings.
 - 2. Other Design Loads: As indicated on Drawings.
- F. Thermal Movements: Allow for thermal movements from ambient and surface temperature changes by preventing buckling, opening of joints, overstressing of components, failure of joint sealants, failure of connections, and other detrimental effects. Base calculations on surface temperatures of materials due to both solar heat gain and nighttime-sky heat loss.

2.2 STANDING-SEAM METAL ROOF PANELS

- A. Basis of design: Fabral Mighti-Rib Exposed Fastener Panel
- B. General: Provide factory-formed metal roof panels designed to be installed by lapping and interconnecting raised side edges of adjacent panels with joint type indicated and mechanically attaching panels to supports using concealed clips in side laps. Include clips, cleats, pressure plates, and accessories required for weathertight installation.
- C. Tapered-Rib-Profile, Exposed-Fastener Metal Roof Panels: Formed with raised, trapezoidal major ribs and intermediate stiffening ribs symmetrically spaced between major ribs.
 - 1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - a. AEP Span; a BlueScope Steel company.
 - b. Architectural Metal Systems; a Nucor company.
 - c. Berridge Manufacturing Company.
 - d. Butler Manufacturing; a BlueScope Steel company.
 - e. CENTRIA Architectural Systems.
 - f. Fabral.
 - g. Firestone Metal Products, LLC.
 - h. Flexospan Steel Buildings, Inc.
 - i. McElroy Metal, Inc.
 - j. Metal Sales Manufacturing Corporation.
 - k. Morin; a Kingspan Group company.

- l. Petersen Aluminum Corporation.
 - m. Union Corrugating Company.
 - n. VICWEST.
2. Metallic-Coated Steel Sheet: Zinc-coated (galvanized) steel sheet complying with ASTM A 653/A 653M, G90 (Z275) coating designation, or aluminum-zinc alloy-coated steel sheet complying with ASTM A 792/A 792M, Class AZ50 (Class AZM150) coating designation; structural quality. Pre-painted by the coil-coating process to comply with ASTM A 755/A 755M.
 - a. Nominal Thickness: 26 gauge.
 - b. Exterior Finish: Two-coat fluoropolymer.
 - c. Color: To match previous addition: Qualiform metals, Burnished Slate – 92.
 3. Major-Rib Spacing: 12 inches (305 mm) o.c.
 4. Panel Coverage: 36 inches (914 mm).
 5. Panel Height: 1.1875 inches (30 mm).

2.3 UNDERLAYMENT MATERIALS

- A. Self-Adhering, High-Temperature Underlayment: Provide self-adhering, cold-applied, sheet underlayment, a minimum of 30 mils (0.76 mm) thick, consisting of slip-resistant, polyethylene-film top surface laminated to a layer of butyl or SBS-modified asphalt adhesive, with release-paper backing. Provide primer when recommended by underlayment manufacturer.
 1. Thermal Stability: Stable after testing at 240 deg F (116 deg C); ASTM D 1970.
 2. Low-Temperature Flexibility: Passes after testing at minus 20 deg F (29 deg C); ASTM D 1970.
- B. Felt Underlayment: ASTM D 226/D 22M, Type II (No. 30), asphalt-saturated organic felts.
- C. Slip Sheet: Manufacturer's recommended slip sheet, of type required for application.

2.4 MISCELLANEOUS MATERIALS

- A. Miscellaneous Metal Subframing and Furring: ASTM C 645; cold-formed, metallic-coated steel sheet, ASTM A 653/A 653M, G90 (Z275 hot-dip galvanized) coating designation or ASTM A 792/A 792M, Class AZ50 (Class AZM150) coating designation unless otherwise indicated. Provide manufacturer's standard sections as required for support and alignment of metal panel system.
- B. Panel Accessories: Provide components required for a complete, weathertight panel system including trim, copings, fasciae, mullions, sills, corner units, clips, flashings, sealants, gaskets, fillers, closure strips, and similar items. Match material and finish of metal panels unless otherwise indicated.
 1. Closures: Provide closures at eaves and ridges, fabricated of same metal as metal panels.
 2. Backing Plates: Provide metal backing plates at panel end splices, fabricated from material recommended by manufacturer.
 3. Closure Strips: Closed-cell, expanded, cellular, rubber or crosslinked, polyolefin-foam or closed-cell laminated polyethylene; minimum 1-inch- (25-mm-) thick, flexible closure

strips; cut or premolded to match metal panel profile. Provide closure strips where indicated or necessary to ensure weathertight construction.

- C. Flashing and Trim: Provide flashing and trim formed from same material as metal panels as required to seal against weather and to provide finished appearance. Locations include, but are not limited to, eaves, rakes, corners, bases, framed openings, ridges, fasciae, and fillers. Finish flashing and trim with same finish system as adjacent metal panels.
- D. Gutters and Downspouts: Plain rectangular, formed from same material as roof panels according to SMACNA's "Architectural Sheet Metal Manual." Finish to match metal roof panels.
- E. Downspout Boot: Provide cast iron downspout boot transition to drainage piping.
- F. Panel Fasteners: Self-tapping screws designed to withstand design loads.
- G. Panel Sealants: Provide sealant type recommended by manufacturer that are compatible with panel materials, are nonstaining, and do not damage panel finish.
 - 1. Sealant Tape: Pressure-sensitive, 100 percent solids, gray polyisobutylene compound sealant tape with release-paper backing; 1/2 inch (13 mm) wide and 1/8 inch (3 mm) thick.
 - 2. Joint Sealant: ASTM C 920; as recommended in writing by metal panel manufacturer.
 - 3. Butyl-Rubber-Based, Solvent-Release Sealant: ASTM C 1311.

2.5 FABRICATION

- A. General: Fabricate and finish metal panels and accessories at the factory, by manufacturer's standard procedures and processes, as necessary to fulfill indicated performance requirements demonstrated by laboratory testing. Comply with indicated profiles and with dimensional and structural requirements.
- B. On-Site Fabrication: Subject to compliance with requirements of this Section, metal panels may be fabricated on-site using UL-certified, portable roll-forming equipment if panels are of same profile and warranted by manufacturer to be equal to factory-formed panels. Fabricate according to equipment manufacturer's written instructions and to comply with details shown.
- C. Provide panel profile, including major ribs and intermediate stiffening ribs, if any, for full length of panel.
- D. Fabricate metal panel joints with factory-installed captive gaskets or separator strips that provide a weathertight seal and prevent metal-to-metal contact, and that minimize noise from movements.
- E. Sheet Metal Flashing and Trim: Fabricate flashing and trim to comply with manufacturer's recommendations and recommendations in SMACNA's "Architectural Sheet Metal Manual" that apply to design, dimensions, metal, and other characteristics of item indicated.

2.6 FINISHES

A. Panels and Accessories:

1. Two-Coat Fluoropolymer: Fluoropolymer finish containing not less than 70 percent PVDF resin by weight in color coat.
2. Concealed Finish: White or light-colored acrylic or polyester backer finish.

PART 3 - EXECUTION

3.1 PREPARATION

- A. Miscellaneous Supports: Install subframing, furring, and other miscellaneous panel support members and anchorages according to ASTM C 754 and metal panel manufacturer's written recommendations.

3.2 UNDERLAYMENT INSTALLATION

- A. Self-Adhering, High-Temperature Underlayment: Provide self-adhering, cold-applied, sheet underlayment, a minimum of 30 mils (0.76 mm) thick, specifically designed to withstand high metal temperatures beneath metal roofing. Provide primer when recommended by underlayment manufacturer. Apply over the entire roof area.

1. Thermal Stability: Stable after testing at 220 deg F (111 deg C); ASTM D 1970.
2. Low-Temperature Flexibility: Passes after testing at minus 20 deg F (29 deg C); ASTM D 1970.
3. Products: Subject to compliance with requirements, provide one of the following:
 - a. Carlisle Residential, a division of Carlisle Construction Materials; WIP 300HT.
 - b. Grace Construction Products, a unit of W. R. Grace & Co.; Grace Ice and Water Shield HT.
 - c. Henry Company; Blueskin PE200 HT.
 - d. Kirsch Building Products, LLC; Sharkskin Ultra SA.
 - e. Metal-Fab Manufacturing, LLC; MetShield.
 - f. Owens Corning; WeatherLock Specialty Tile and Metal Underlayment.

- B. Slip Sheet: Manufacturer's recommended slip sheet, of type required for application.

3.3 MISCELLANEOUS MATERIALS

- A. Panel Accessories: Provide components required for a complete, weathertight panel system including trim, copings, fasciae, mullions, sills, corner units, clips, flashings, sealants, gaskets, fillers, closure strips, and similar items. Match material and finish of metal panels unless otherwise indicated.

1. Closures: Provide closures at eaves and ridges, fabricated of same metal as metal panels.
2. Backing Plates: Provide metal backing plates at panel end splices, fabricated from material recommended by manufacturer.
3. Closure Strips: Closed-cell, expanded, cellular, rubber or crosslinked, polyolefin-foam or closed-cell laminated polyethylene; minimum 1-inch- (25-mm-) thick, flexible closure

strips; cut or premolded to match metal panel profile. Provide closure strips where indicated or necessary to ensure weathertight construction.

- B. Flashing and Trim: Provide flashing and trim formed from same material as metal panels as required to seal against weather and to provide finished appearance. Locations include, but are not limited to, eaves, rakes, corners, bases, framed openings, ridges, fasciae, and fillers. Finish flashing and trim with same finish system as adjacent metal panels.
- C. Gutters and Downspouts: Formed from same material as roof panels according to SMACNA's "Architectural Sheet Metal Manual." Finish to match metal roof panels.
- D. Roof Curbs: Fabricated from same material as roof panels, 0.048-inch- (1.2-mm-) nominal thickness; with bottom of skirt profiled to match roof panel profiles and with welded top box and integral full-length cricket. Fabricate curb subframing of 0.060-inch- (1.52-mm-) nominal thickness, angle-, C-, or Z-shaped steel sheet. Fabricate curb and subframing to withstand indicated loads of size and height indicated. Finish roof curbs to match metal roof panels.
- E. Panel Fasteners: Self-tapping screws designed to withstand design loads. Provide exposed fasteners with heads matching color of metal panels by means of plastic caps or factory-applied coating. Provide EPDM or PVC sealing washers for exposed fasteners.
- F. Panel Sealants: Provide sealant types recommended by manufacturer that are compatible with panel materials, are nonstaining, and do not damage panel finish.
 - 1. Sealant Tape: Pressure-sensitive, 100 percent solids, gray polyisobutylene compound sealant tape with release-paper backing; 1/2 inch (13 mm) wide and 1/8 inch (3 mm) thick.
 - 2. Joint Sealant: ASTM C 920; as recommended in writing by metal panel manufacturer.
 - 3. Butyl-Rubber-Based, Solvent-Release Sealant: ASTM C 1311.

3.4 METAL PANEL INSTALLATION

- A. Lap-Seam Metal Panels: Fasten metal panels to supports with fasteners at each lapped joint at location and spacing recommended by manufacturer.
 - 1. Lap ribbed or fluted sheets one full rib. Apply panels and associated items true to line for neat and weathertight enclosure.
 - 2. Provide metal-backed washers under heads of exposed fasteners bearing on weather side of metal panels.
 - 3. Locate and space exposed fasteners in uniform vertical and horizontal alignment. Use proper tools to obtain controlled uniform compression for positive seal without rupture of washer.
 - 4. Install screw fasteners with power tools having controlled torque adjusted to compress washer tightly without damage to washer, screw threads, or panels. Install screws in predrilled holes.
 - 5. Flash and seal panels with weather closures at perimeter of all openings.
 - 6. Watertight Installation:
 - a. Apply a continuous ribbon of sealant or tape to seal lapped joints of metal panels, using sealant or tape as recommend by manufacturer on side laps of nesting-type panels and elsewhere as needed to make panels watertight.

- b. Provide sealant or tape between panels and protruding equipment, vents, and accessories.
 - c. At panel splices, nest panels with minimum 6-inch (152-mm) end lap, sealed with sealant and fastened together by interlocking clamping plates.
- B. Accessory Installation: Install accessories with positive anchorage to building and weathertight mounting, and provide for thermal expansion. Coordinate installation with flashings and other components.
- C. Flashing and Trim: Comply with performance requirements, manufacturer's written installation instructions, and SMACNA's "Architectural Sheet Metal Manual." Provide concealed fasteners where possible, and set units true to line and level. Install work with laps, joints, and seams that are permanently watertight.

3.5 CLEANING AND PROTECTION

- A. Remove temporary protective coverings and strippable films, if any, as metal panels are installed, unless otherwise indicated in manufacturer's written installation instructions. On completion of metal panel installation, clean finished surfaces as recommended by metal panel manufacturer. Maintain in a clean condition during construction.

END OF SECTION 074113

SECTION 074619 - STEEL SIDING

PART 1 - GENERAL

1.1 SUMMARY

- A. Section includes steel siding and soffit.

1.2 ACTION SUBMITTALS

- A. Product Data: For each type of product.
- B. Samples: For steel siding and soffit including related accessories.

1.3 INFORMATIONAL SUBMITTALS

- A. Product certificates.
- B. Research/evaluation reports.
- C. Sample warranty.

1.4 CLOSEOUT SUBMITTALS

- A. Maintenance data.

1.5 QUALITY ASSURANCE

- A. Mockups: Build mockups to verify selections made under Sample submittals and to demonstrate aesthetic effects and to set quality standards for fabrication and installation.
 - 1. Build mockup of typical wall area as shown on Drawings.
 - 2. Subject to compliance with requirements, approved mockups may become part of the completed Work if undisturbed at time of Substantial Completion.

1.6 WARRANTY

- A. Special Warranty: Manufacturer agrees to repair or replace products that fail in materials or workmanship within specified warranty period.
 - 1. Warranty Period: **20** years from date of Substantial Completion.
 - 2. Warranty Period for Chalking and Fading: 10 years from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 STEEL SIDING

- A. Basis of Design: Fabral, 7/8-inch corrugated exposed fastener panels.
- B. Steel Siding: Formed product, in continuous lengths without end joints, made from galvanized steel complying with ASTM A 653/A 653M, G90 (Z275) coating.
- C. Vertical Pattern: Corrugated.
- D. Texture: Smooth.
- E. Nominal Thickness: 26 guage.
- F. Finish: Manufacturer's standard.
 - 1. Color: To match previous addition:
 - a. Exterior: Qualiform metals, Burnished Slate – 92.
 - b. Interior: White

2.2 STEEL SOFFIT

- A. Steel Soffit: Formed product made from galvanized steel complying with ASTM A 653/A 653M, G90 (Z275) coating.
- B. Pattern: 12-inch (300-mm) exposure in V-grooved, double-board style.
- C. Texture: Smooth.
- D. Ventilation: Provide perforated soffit.
- E. Nominal Thickness: 0.017 inch (0.43 mm).
- F. Finish: Manufacturer's standard.
 - 1. Color: To match previous addition:
 - a. Exterior: Qualiform metals, Burnished Slate – 92.
 - b. Interior: White.

2.3 ACCESSORIES

- A. Siding Accessories, General: Provide starter strips, edge trim, outside and inside corner caps, and other items as recommended by siding manufacturer for building configuration.
 - 1. Provide accessories made from same material as adjacent siding unless otherwise indicated.
- B. Flashing: Provide flashing complying with Section 076200 "Sheet Metal Flashing and Trim" at window and door heads and where indicated.

C. Fasteners:

1. For fastening to metal, use ribbed bugle-head screws of sufficient length to penetrate a minimum of 1/4 inch (6 mm), or three screw-threads, into substrate.
2. For fastening galvanized steel, use hot-dip galvanized-steel fasteners. Where fasteners are exposed to view, use prefinished galvanized-steel fasteners in color to match item being fastened.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. General: Comply with manufacturer's written installation instructions applicable to products and applications indicated unless more stringent requirements apply.
 1. Center nails in elongated nailing slots without binding siding to allow for thermal movement.
- B. Install joint sealants as specified in Section 079200 "Joint Sealants" and to produce a weathertight installation.
- C. Where steel siding contacts dissimilar metals, protect against galvanic action by painting contact surfaces with primer or by applying sealant or tape or installing nonconductive spacers as recommended by manufacturer for this purpose.

3.2 ADJUSTING AND CLEANING

- A. Remove damaged, improperly installed, or otherwise defective materials and replace with new materials complying with specified requirements.
- B. Clean finished surfaces according to manufacturer's written instructions and maintain in a clean condition during construction.

END OF SECTION 074619

SECTION 074646 - FIBER-CEMENT SIDING

PART 1 - GENERAL

1.1 SUMMARY

- A. Section includes fiber-cement trim.

1.2 ACTION SUBMITTALS

- A. Product Data: For each type of product.

1.3 CLOSEOUT SUBMITTALS

- A. Maintenance data.
- B. Warranty.

1.4 WARRANTY

- A. Special Warranty: Manufacturer agrees to repair or replace products that fail in materials or workmanship within specified warranty period.
 - 1. Warranty Period: 25 years from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 FIBER-CEMENT TRIM

- A. General: ASTM C 1186, Type A, Grade II, fiber-cement board, noncombustible when tested according to ASTM E 136; with a flame-spread index of 25 or less when tested according to ASTM E 84.
 - 1. Basis-of-Design Products: Subject to compliance with requirements, provide products manufactured by James Hardie or comparable product by one of the following:
 - a. Cemplank.
 - b. CertainTeed Corp.
 - c. GAF Materials Corporation.
 - d. MaxiTile, Inc; a California corporation.
 - e. Nichiha Fiber Cement.
- B. Trim:
 - 1. HardieTrim HZ boards.

2. Finish Texture: Smooth.
 3. Sizes: Thicknesses and widths as indicated on drawings.
- C. Factory Priming: Manufacturer's standard acrylic primer.

2.2 ACCESSORIES

- A. Fasteners:
1. For fastening to wood, use siding nails or ribbed bugle-head screws of sufficient length to penetrate a minimum of 1 inch (25 mm) into substrate.
 2. For fastening to metal, use ribbed bugle-head screws of sufficient length to penetrate a minimum of 1/4 inch (6 mm), or three screw-threads, into substrate.
 3. For fastening fiber cement, use stainless-steel fasteners.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. General: Strictly comply with manufacturer's written installation instructions applicable to products and applications indicated unless more stringent requirements apply.
- B. Install joint sealants as specified in Section 079200 "Joint Sealants" and to produce a weathertight installation or as specified by siding manufacturer, whichever is more stringent.
1. Install joint sealants as specified by siding manufacturer.

3.2 ADJUSTING AND CLEANING

- A. Remove damaged, improperly installed, or otherwise defective materials and replace with new materials complying with specified requirements.
- B. Clean finished surfaces according to manufacturer's written instructions and maintain in a clean condition during construction.

END OF SECTION 074646

SECTION 079200 - JOINT SEALANTS

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Silicone joint sealants.
2. Nonstaining silicone joint sealants.
3. Urethane joint sealants.
4. Mildew-resistant joint sealants.
5. Latex joint sealants.

1.2 ACTION SUBMITTALS

- A. Product Data: For each joint-sealant product.
- B. Samples: For each kind and color of joint sealant required.
- C. Joint-Sealant Schedule: Include the following information:
1. Joint-sealant application, joint location, and designation.
 2. Joint-sealant manufacturer and product name.
 3. Joint-sealant formulation.
 4. Joint-sealant color.

1.3 WARRANTY

- A. Special Installer's Warranty: Installer agrees to repair or replace 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.
- B. Special Manufacturer's Warranty: Manufacturer agrees to furnish joint sealants to repair or replace those joint sealants that do not comply with performance and other requirements specified in this Section within specified warranty period.
1. Warranty Period: Five years from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 JOINT SEALANTS, GENERAL

- A. VOC Content: Sealants and sealant primers shall comply with the following:

1. Architectural sealants shall have a VOC content of 250 g/L or less.
2. Sealants and sealant primers for nonporous substrates shall have a VOC content of 250 g/L or less.
3. Sealants and sealant primers for porous substrates shall have a VOC content of 775 g/L or less.
4. Sealant shall comply with the testing and product requirements of the California Department of Public Health's "Standard Method for the Testing and Evaluation of Volatile Organic Chemical Emissions from Indoor Sources Using Environmental Chambers."

B. Colors of Exposed Joint Sealants: To match surrounding material.

2.2 NONSTAINING SILICONE JOINT SEALANTS

- A. Silicone, Nonstaining, S, NS, 50, NT: Nonstaining, single-component, nonsag, plus 50 percent and minus 50 percent movement capability, nontraffic-use, neutral-curing silicone joint sealant; ASTM C 920, Type S, Grade NS, Class 50, Use NT.
- B. Silicone, Nonstaining, S, NS, 100/50, T, NT: Nonstaining, single-component, nonsag, plus 100 percent and minus 50 percent movement capability, traffic- and nontraffic-use, neutral-curing silicone joint sealant; ASTM C 920, Type S, Grade NS, Class 100/50, Uses T and NT.
- C. Silicone, Nonstaining, M, NS, 50, NT: Nonstaining, multicomponent, nonsag, plus 50 percent and minus 50 percent movement capability, nontraffic-use, neutral-curing silicone joint sealant; ASTM C 920, Type M, Grade NS, Class 50, Use NT.

2.3 URETHANE JOINT SEALANTS

- A. Urethane, S, NS, 25, NT: Single-component, nonsag, nontraffic-use, plus 25 percent and minus 25 percent movement capability, urethane joint sealant; ASTM C 920, Type S, Grade NS, Class 25, Use NT.
- B. Urethane, S, P, 35, T, NT: Single-component, pourable, plus 35 percent and minus 35 percent movement capability, traffic- and nontraffic-use, urethane joint sealant; ASTM C 920, Type S, Grade P, Class 35, Uses T and NT.
- C. Urethane, S, P, 25, T, NT: Single-component, pourable, plus 25 percent and minus 25 percent movement capability, traffic- and nontraffic-use, urethane joint sealant; ASTM C 920, Type S, Grade P, Class 25, Uses T and NT.
- D. Urethane, M, P, 50, T, NT: Multicomponent, pourable, plus 50 percent and minus 50 percent movement capability, traffic- and nontraffic-use, urethane joint sealant; ASTM C 920, Type M, Grade P, Class 50, Uses T and NT.

2.4 MILDEW-RESISTANT JOINT SEALANTS

- A. Mildew-Resistant Joint Sealants: Formulated for prolonged exposure to humidity with fungicide to prevent mold and mildew growth.

- B. Acrylic Latex: Acrylic latex or siliconized acrylic latex, ASTM C 834, Type OP, Grade NF.

2.5 JOINT-SEALANT BACKING

- A. Cylindrical Sealant Backings: ASTM C 1330, Type C (closed-cell material with a surface skin) Type O (open-cell material) Type 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.
- B. Bond-Breaker Tape: Polyethylene tape or other plastic tape recommended by sealant manufacturer.

2.6 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. Cleaners for Nonporous Surfaces: Chemical cleaners acceptable to manufacturers of sealants and sealant backing materials.
- C. 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 to comply with joint-sealant manufacturer's written instructions and the following requirements:
 - 1. Remove laitance and form-release agents from concrete.
 - 2. Clean nonporous joint substrate surfaces with chemical cleaners or other means that do not stain, harm substrates, or leave residues capable of interfering with adhesion.
- B. Joint Priming: Prime joint substrates where recommended by joint-sealant manufacturer or as indicated by preconstruction joint-sealant-substrate tests or prior experience.
- C. Masking Tape: Use masking tape where required to prevent contact of sealant or primer with adjoining surfaces.

3.2 INSTALLATION OF JOINT SEALANTS

- A. General: Comply with ASTM C 1193 and joint-sealant manufacturer's written installation instructions for products and applications indicated, unless more stringent requirements apply.

- B. Install sealant backings of kind 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.
- 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 to form smooth, uniform beads of configuration indicated. Use tooling agents that are approved in writing by sealant manufacturer and that do not discolor sealants or adjacent surfaces.
 - 1. Provide concave joint profile per Figure 8A in ASTM C 1193 unless otherwise indicated.

3.3 JOINT-SEALANT SCHEDULE

- A. Joint-Sealant Application: Exterior joints in horizontal traffic surfaces.
 - 1. Joint Locations:
 - a. Isolation and contraction joints in cast-in-place concrete slabs.
 - b. Other joints as indicated on Drawings.
 - 2. Joint Sealant: Urethane, M, P, 50, T, NT.
 - 3. Joint-Sealant Color: Match surrounding material color.
- B. Joint-Sealant Application: Exterior joints in horizontal traffic surfaces subject to water immersion.
 - 1. Joint Locations:
 - a. Joints in concrete sidewalks.
 - b. Other joints as indicated on Drawings.
 - 2. Joint Sealant: Urethane, immersible, S, P, 25, T, NT, I.
 - 3. Joint-Sealant Color: Match surrounding material color.
- C. Joint-Sealant Application: Exterior joints in vertical surfaces and horizontal nontraffic surfaces.
 - 1. Joint Locations:
 - a. Construction joints in cast-in-place concrete.
 - b. Control and expansion joints in unit masonry.
 - c. Other joints as indicated on Drawings.

2. Joint Sealant: Silicone, nonstaining, S, NS, 50, NT.
 3. Joint-Sealant Color: Match surrounding material color.
- D. Joint-Sealant Application: Interior joints in horizontal traffic surfaces.
1. Joint Locations:
 - a. Isolation joints in cast-in-place concrete slabs.
 - b. Other joints as indicated on Drawings.
 2. Joint Sealant: Urethane, S, P, 25, T, NT.
 3. Joint-Sealant Color: Match surrounding material color.
- E. Joint-Sealant Application: Interior joints in vertical surfaces and horizontal nontraffic surfaces.
1. Joint Locations:
 - a. Control and expansion joints on exposed interior surfaces of exterior walls.
 - b. Vertical joints on exposed surfaces of unit masonry.
 - c. Other joints as indicated on Drawings.
 2. Joint Sealant: Urethane, S, NS, 25, NT.
 3. Joint-Sealant Color: Match surrounding material color.
- F. Joint-Sealant Application: Mildew-resistant interior joints in vertical surfaces and horizontal nontraffic surfaces.
1. Joint Locations:
 - a. Joints between plumbing fixtures and adjoining walls, floors, and counters.
 - b. Other joints as indicated on Drawings.
 2. Joint Sealant: Silicone, mildew resistant, acid curing, S, NS, 25, NT.
 3. Joint-Sealant Color: Match surrounding material color.
- G. Joint-Sealant Application: Concealed mastics.
1. Joint Locations:
 - a. Aluminum thresholds.
 - b. Sill plates.
 - c. Other joints as indicated on Drawings.
 2. Joint Sealant: Butyl-rubber based.
 3. Joint-Sealant Color: Match surrounding material color.

END OF SECTION 079200

SECTION 081113 - HOLLOW METAL DOORS AND FRAMES

PART 1 - GENERAL

1.1 SUMMARY

- A. Section includes hollow-metal work.

1.2 DEFINITIONS

- A. Minimum Thickness: Minimum thickness of base metal without coatings according to NAAMM-HMMA 803 or SDI A250.8.

1.3 ACTION SUBMITTALS

- A. Product Data: For each type of product.
- B. Shop Drawings: Include elevations, door edge details, frame profiles, metal thicknesses, preparations for hardware, and other details.
- C. Schedule: Prepared by or under the supervision of supplier, using same reference numbers for details and openings as those on Drawings.

PART 2 - PRODUCTS

2.1 REGULATORY REQUIREMENTS

- A. Fire-Rated Assemblies: Complying with NFPA 80 and listed and labeled by a qualified testing agency acceptable to authorities having jurisdiction for fire-protection ratings and temperature-rise limits indicated, based on testing at positive pressure according to NFPA 252 or UL 10C.
- B. Fire-Rated, Borrowed-Lite Assemblies: Complying with NFPA 80 and listed and labeled by a testing and inspecting agency acceptable to authorities having jurisdiction for fire-protection ratings indicated, based on testing according to NFPA 257 or UL 9.

2.2 EXTERIOR HOLLOW-METAL DOORS AND FRAMES

- A. Heavy-Duty Doors and Frames: SDI A250.8, Level 2.
 - 1. Physical Performance: Level B according to SDI A250.4.
 - 2. Doors:
 - a. Type: As indicated in the Door and Frame Schedule.

- b. Thickness: 1-3/4 inches (44.5 mm).
 - c. Face: Metallic-coated steel sheet, minimum thickness of 0.042 inch (1.0 mm), with minimum A40 (ZF120) coating.
 - d. Edge Construction: Model 1, Full Flush.
 - e. Core: Manufacturer's standard insulation material.
3. Thermal-Rated Doors: Provide doors fabricated with thermal-resistance value (R-value) of not less than 2.1 deg F x h x sq. ft./Btu (0.370 K x sq. m/W) when tested according to ASTM C 1363.
 4. Frames:
 - a. Materials: Metallic-coated steel sheet, minimum thickness of 0.053 inch (1.3 mm), with minimum A40 (ZF120) coating.
 - b. Construction: Full profile welded.
 5. Exposed Finish: Prime.

2.3 FRAME ANCHORS

A. Jamb Anchors:

1. Masonry Type: Adjustable strap-and-stirrup or T-shaped anchors to suit frame size, not less than 0.042 inch (1.0 mm) thick, with corrugated or perforated straps not less than 2 inches (51 mm) wide by 10 inches (254 mm) long; or wire anchors not less than 0.177 inch (4.5 mm) thick.
2. Stud-Wall Type: Designed to engage stud, welded to back of frames; not less than 0.042 inch (1.0 mm) thick.

B. Floor Anchors: Formed from same material as frames, minimum thickness of 0.042 inch (1.0 mm), and as follows:

1. Monolithic Concrete Slabs: Clip-type anchors, with two holes to receive fasteners.

2.4 MATERIALS

- A. Recycled Content of Steel Products: Postconsumer recycled content plus one-half of preconsumer recycled content not less than 25 percent.
- B. Cold-Rolled Steel Sheet: ASTM A 1008/A 1008M, Commercial Steel (CS), Type B; suitable for exposed applications.
- C. Hot-Rolled Steel Sheet: ASTM A 1011/A 1011M, Commercial Steel (CS), Type B; free of scale, pitting, or surface defects; pickled and oiled.
- D. Metallic-Coated Steel Sheet: ASTM A 653/A 653M, Commercial Steel (CS), Type B.
- E. Frame Anchors: ASTM A 879/A 879M, Commercial Steel (CS), 04Z (12G) coating designation; mill phosphatized.

1. For anchors built into exterior walls, steel sheet complying with ASTM A 1008/A 1008M or ASTM A 1011/A 1011M, hot-dip galvanized according to ASTM A 153/A 153M, Class B.
- F. Inserts, Bolts, and Fasteners: Hot-dip galvanized according to ASTM A 153/A 153M.
- G. Power-Actuated Fasteners in Concrete: From corrosion-resistant materials.
- H. Grout: ASTM C 476, except with a maximum slump of 4 inches (102 mm), as measured according to ASTM C 143/C 143M.
- I. Mineral-Fiber Insulation: ASTM C 665, Type I (blankets without membrane facing).
- J. Glazing: Section 088000 "Glazing."
- K. Bituminous Coating: Cold-applied asphalt mastic, compounded for 15-mil (0.4-mm) dry film thickness per coat.

2.5 FABRICATION

- A. Fabricate hollow-metal work to be rigid and free of defects, warp, or buckle. Accurately form metal to required sizes and profiles, with minimum radius for metal thickness. Where practical, fit and assemble units in manufacturer's plant. To ensure proper assembly at Project site, clearly identify work that cannot be permanently factory assembled before shipment.
- B. Hollow-Metal Doors:
 1. Exterior Doors: Provide weep-hole openings in bottoms of exterior doors to permit moisture to escape. Seal joints in top edges of doors against water penetration.
 2. Astragals: Provide overlapping astragal on one leaf of pairs of doors where required by NFPA 80 for fire-performance rating or where indicated.
- C. Hollow-Metal Frames: Where frames are fabricated in sections due to shipping or handling limitations, provide alignment plates or angles at each joint, fabricated of same thickness metal as frames.
 1. Frames: Provide closed tubular members with no visible face seams or joints, fabricated from same material as door frame. Fasten members at crossings and to jambs by butt welding.
 2. Provide countersunk, flat- or oval-head exposed screws and bolts for exposed fasteners unless otherwise indicated.
 3. Grout Guards: Weld guards to frame at back of hardware mortises in frames to be grouted.
 4. Floor Anchors: Weld anchors to bottoms of jambs with at least four spot welds per anchor; however, for slip-on drywall frames, provide anchor clips or countersunk holes at bottoms of jambs.
 5. Jamb Anchors: Provide number and spacing of anchors as follows:

- a. Masonry Type: Locate anchors not more than 16 inches (406 mm) from top and bottom of frame. Space anchors not more than 32 inches (813 mm) o.c., to match coursing, and as follows:
 - 1) Three anchors per jamb from 60 to 90 inches (1524 to 2286 mm) high.
 - 2) Four anchors per jamb from 90 to 120 inches (2286 to 3048 mm) high.
6. Door Silencers: Except on weather-stripped frames, drill stops to receive door silencers.
 - a. Single-Door Frames: Drill stop in strike jamb to receive three door silencers.
 - b. Double-Door Frames: Drill stop in head jamb to receive two door silencers.
- D. Hardware Preparation: Factory prepare hollow-metal work to receive templated mortised hardware; include cutouts, reinforcement, mortising, drilling, and tapping according to SDI A250.6, the Door Hardware Schedule, and templates.
 1. Reinforce doors and frames to receive nontemplated, mortised, and surface-mounted door hardware.
 2. Comply with applicable requirements in SDI A250.6 and BHMA A156.115 for preparation of hollow-metal work for hardware.

2.6 STEEL FINISHES

- A. Prime Finish: Clean, pretreat, and apply manufacturer's standard primer.
 1. Shop Primer: SDI A250.10.

2.7 ACCESSORIES

- A. Grout Guards: Formed from same material as frames, not less than 0.016 inch (0.4 mm) thick.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. Hollow-Metal Frames: Install hollow-metal frames for doors of size and profile indicated. Comply with SDI A250.11 or NAAMM-HMMA 840 as required by standards specified.
 1. Set frames accurately in position; plumbed, aligned, and braced securely until permanent anchors are set. After wall construction is complete, remove temporary braces, leaving surfaces smooth and undamaged.
 - a. At fire-rated openings, install frames according to NFPA 80.
 - b. Where frames are fabricated in sections because of shipping or handling limitations, field splice at approved locations by welding face joint continuously; grind, fill, dress, and make splice smooth, flush, and invisible on exposed faces.
 - c. Install frames with removable stops located on secure side of opening.
 - d. Install door silencers in frames before grouting.

- e. Remove temporary braces necessary for installation only after frames have been properly set and secured.
 - f. Check plumb, square, and twist of frames as walls are constructed. Shim as necessary to comply with installation tolerances.
 - g. Field apply bituminous coating to backs of frames that will be filled with grout containing antifreezing agents.
2. Floor Anchors: Provide floor anchors for each jamb and mullion that extends to floor, and secure with postinstalled expansion anchors.
 - a. Floor anchors may be set with power-actuated fasteners instead of postinstalled expansion anchors if so indicated and approved on Shop Drawings.
 3. Masonry Walls: Coordinate installation of frames to allow for solidly filling space between frames and masonry with grout.
 4. Installation Tolerances: Adjust hollow-metal door frames for squareness, alignment, twist, and plumb to the following tolerances:
 - a. Squareness: Plus or minus 1/16 inch (1.6 mm), measured at door rabbet on a line 90 degrees from jamb perpendicular to frame head.
 - b. Alignment: Plus or minus 1/16 inch (1.6 mm), measured at jambs on a horizontal line parallel to plane of wall.
 - c. Twist: Plus or minus 1/16 inch (1.6 mm), measured at opposite face corners of jambs on parallel lines, and perpendicular to plane of wall.
 - d. Plumbness: Plus or minus 1/16 inch (1.6 mm), measured at jambs at floor.
- B. Hollow-Metal Doors: Fit hollow-metal doors accurately in frames, within clearances specified below. Shim as necessary.
1. Non-Fire-Rated Steel Doors:
 - a. Between Door and Frame Jambs and Head: 1/8 inch (3.2 mm) plus or minus 1/32 inch (0.8 mm).
 - b. Between Edges of Pairs of Doors: 1/8 inch (3.2 mm) to 1/4 inch (6.3 mm) plus or minus 1/32 inch (0.8 mm).
 - c. At Bottom of Door: 3/4 inch (19.1 mm) plus or minus 1/32 inch (0.8 mm).
 - d. Between Door Face and Stop: 1/16 inch (1.6 mm) to 1/8 inch (3.2 mm) plus or minus 1/32 inch (0.8 mm).

3.2 ADJUSTING AND CLEANING

- A. Final Adjustments: Check and readjust operating hardware items immediately before final inspection. Leave work in complete and proper operating condition. Remove and replace defective work, including hollow-metal work that is warped, bowed, or otherwise unacceptable.
- B. Remove grout and other bonding material from hollow-metal work immediately after installation.
- C. Prime-Coat Touchup: Immediately after erection, sand smooth rusted or damaged areas of prime coat and apply touchup of compatible air-drying, rust-inhibitive primer.

- D. Metallic-Coated Surface Touchup: Clean abraded areas and repair with galvanizing repair paint according to manufacturer's written instructions.
- E. Touchup Painting: Cleaning and touchup painting of abraded areas of paint are specified in painting Sections.

END OF SECTION 081113

SECTION 083323 - OVERHEAD COILING DOORS

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Insulated service doors.

1.2 ACTION SUBMITTALS

A. Product Data: For each type and size of overhead coiling door and accessory.

B. Shop Drawings: For each installation and for special components not dimensioned or detailed in manufacturer's product data.

1. Include points of attachment and their corresponding static and dynamic loads imposed on structure.

C. Samples: For each exposed product and for each color and texture specified.

1.3 INFORMATIONAL SUBMITTALS

A. Sample warranty.

1.4 CLOSEOUT SUBMITTALS

A. Maintenance data.

1.5 QUALITY ASSURANCE

A. Installer Qualifications: An entity that employs installers and supervisors who are trained and approved by manufacturer for both installation and maintenance of units required for this Project.

B. Accessibility Standard: Comply with applicable provisions in the USDOJ's "2010 ADA Standards for Accessible Design" and ICC A117.1

1.6 WARRANTY

A. Special Warranty: Manufacturer agrees to repair or replace components of doors that fail in materials or workmanship within specified warranty period.

1. Warranty Period: Two years from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

- A. Structural Performance, Exterior Doors: Capable of withstanding the following design wind loads:

1. Design Wind Load: Uniform pressure (velocity pressure) of 20 lbf/sq. ft. (960 Pa), acting inward and outward.

2.2 DOOR ASSEMBLY

- A. Service Door: Overhead coiling door formed with curtain of interlocking metal slats.

1. Manufacturers: Basis of Design: Clopay Model CESD20 Insulated Coiling Service Door. Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:

- a. Clopay Building Products.
- b. ENTREMATIC.
- c. Overhead Door Corporation.
- d. Wayne-Dalton Corp.

- B. Operation Cycles: Door components and operators capable of operating for not less than 10,000.

- A. Insulated Door Curtain R-Value: 8.0.

- B. Door Curtain Material: 20-gauge Galvanized Steel.

- C. Door Curtain Slats: Flat profile slats.

- D. Bottom Bar: Two angles fabricated from reinforced extruded aluminum interior face with full depth insulation and exterior skin slat to match curtain material and gauge.

- E. Curtain Jamb Guides: Galvanized steel with exposed finish matching curtain slats.

- F. Hood: Match curtain material and finish.

1. Mounting: Face of wall.

- G. Locking Devices: Equip door with locking device assembly.

1. Locking Device Assembly: Single bottom bar keyed cylinder lock, operable from outside with cylinder. Provide interlock switches on motor operated units.

- H. Manual Door Operator: Push-up operation.

- I. Door Finish:
 - 1. Powder-Coated Finish: Color as selected by Architect from manufacturer's color selections.
 - 2. Interior Curtain-Slat Facing: Match finish of exterior curtain-slat face.

2.3 MATERIALS, GENERAL

- A. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and application.

2.4 DOOR CURTAIN MATERIALS AND CONSTRUCTION

- A. Door Curtains: Fabricate overhead coiling-door curtain of interlocking metal slats, designed to withstand wind loading indicated, in a continuous length for width of door without splices. Unless otherwise indicated, provide slats of thickness and mechanical properties recommended by door manufacturer for performance, size, and type of door indicated.
- B. Curtain Jamb Guides: Manufacturer's standard angles or channels and angles of same material and finish as curtain slats unless otherwise indicated, with sufficient depth and strength to retain curtain, to allow curtain to operate smoothly, and to withstand loading. Slot bolt holes for guide adjustment. Provide removable stops on guides to prevent overtravel of curtain.

2.5 HOODS

- A. General: Form sheet metal hood to entirely enclose coiled curtain and operating mechanism at opening head. Contour to fit end brackets to which hood is attached. Roll and reinforce top and bottom edges for stiffness. Form closed ends for surface-mounted hoods and fascia for any portion of between-jamb mounting that projects beyond wall face. Equip hood with intermediate support brackets as required to prevent sagging.
 - 1. Exterior-Mounted Doors: Fabricate hood to act as weather protection and with a perimeter sealant-joint-bead profile for applying joint sealant.

2.6 LOCKING DEVICES

- A. Locking Device Assembly: Fabricate with cylinder lock, spring-loaded dead bolt, operating handle, cam plate, and adjustable locking bars to engage through slots in tracks.
 - 1. Lock Cylinders: As standard with manufacturer and keyed to building keying system.
 - 2. Keys: Three for each cylinder.

2.7 CURTAIN ACCESSORIES

- A. Weatherseals for Exterior Doors: Equip each exterior door with weather-stripping gaskets fitted to entire exterior perimeter of door for a weather-resistant installation unless otherwise indicated.

- B. Push/Pull Handles: Equip each push-up-operated or emergency-operated door with lifting handles on each side of door, finished to match door.

2.8 COUNTERBALANCE MECHANISM

- A. General: Counterbalance doors by means of manufacturer's standard mechanism with an adjustable-tension, steel helical torsion spring mounted around a steel shaft and contained in a spring barrel connected to top of curtain with barrel rings. Use grease-sealed bearings or self-lubricating graphite bearings for rotating members.
- B. Brackets: Manufacturer's standard mounting brackets of either cast iron or cold-rolled steel plate.

2.9 MANUAL DOOR OPERATORS

- A. General: Equip door with manual door operator by door manufacturer.
- B. Push-up Door Operation: Lift handles and pull rope for raising and lowering doors, with counterbalance mechanism designed so that required lift or pull for door operation does not exceed 25 lbf (111 N).

PART 3 - EXECUTION

3.1 INSTALLATION

- A. Install overhead coiling doors and operating equipment complete with necessary hardware, anchors, inserts, hangers, and equipment supports; according to manufacturer's written instructions and as specified.

3.2 DEMONSTRATION

- A. Engage a factory-authorized service representative to train Owner's maintenance personnel to adjust, operate, and maintain overhead coiling doors.

END OF SECTION 083323

SECTION 087100 - DOOR HARDWARE

PART 1 - GENERAL

1.1 SUMMARY

A. Section includes:

1. Mechanical door hardware.
2. Overhead door hardware specified in 083323 Overhead Coiling Doors..

1.2 ACTION SUBMITTALS

A. Product Data: For each type of product indicated.

B. Other Action Submittals:

1. Door Hardware Schedule: Prepared by or under the supervision of Installer, detailing fabrication and assembly of door hardware, as well as installation procedures and diagrams. Coordinate final door hardware schedule with doors, frames, and related work to ensure proper size, thickness, hand, function, and finish of door hardware.
2. Keying Schedule: Prepared by or under the supervision of Installer, detailing Owner's final keying instructions for locks.

1.3 MAINTENANCE MATERIAL SUBMITTALS

A. Furnish extra materials that match products installed and that are packaged with protective covering for storage and identified with labels describing contents.

1. Door Hardware: (1) Lock Cylinder.

1.4 QUALITY ASSURANCE

A. Installer Qualifications: Supplier of products and an employer of workers trained and approved by product manufacturers and an Architectural Hardware Consultant who is available during the course of the Work to consult with Contractor, Architect, and Owner about door hardware and keying.

B. Source Limitations: Provide electrified door hardware from same manufacturer as mechanical door hardware, unless otherwise indicated. Manufacturers that perform electrical modifications and that are listed by a testing and inspecting agency acceptable to authorities having jurisdiction are acceptable.

C. Accessibility Requirements: For door hardware on doors in an accessible route, comply with the U.S. Architectural & Transportation Barriers Compliance Board's ADA-ABA Accessibility Guidelines and ICC/ANSI A117.1.

1. Provide operating devices that do not require tight grasping, pinching, or twisting of the wrist and that operate with a force of not more than 5 lbf (22.2 N).

2. Comply with the following maximum opening-force requirements:
 - a. Interior, Non-Fire-Rated Hinged Doors: 5 lbf (22.2 N) applied perpendicular to door.
 3. Bevel raised thresholds with a slope of not more than 1:2. Provide thresholds not more than 1/2 inch (13 mm) high.
 4. Adjust door closer sweep periods so that, from an open position of 70 degrees, the door will take at least 3 seconds to move to a point 3 inches (75 mm) from the latch, measured to the leading edge of the door.
- D. Keying Conference: Conduct conference at Project site to comply with requirements in Section 013100 "Project Management and Coordination."

1.5 WARRANTY

- A. Special Warranty: Manufacturer's standard form in which manufacturer agrees to repair or replace components of door hardware that fail in materials or workmanship within specified warranty period.
1. Warranty Period: Three years from date of Substantial Completion, unless otherwise indicated.
 - a. Manual Closers: 10 years from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 SCHEDULED DOOR HARDWARE

- A. Provide door hardware for each door as scheduled in Part 3 "Door Hardware Schedule" Article to comply with requirements in this Section.

2.2 HINGES

- A. Hinges:
1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - a. Hager Companies.
 - b. McKinney Products Company; an ASSA ABLOY Group company.
 - c. Stanley Commercial Hardware; Div. of The Stanley Works.

2.3 MECHANICAL LOCKS AND LATCHES

- A. Strikes: Provide manufacturer's standard strike for each lock bolt or latchbolt complying with requirements indicated for applicable lock or latch and with strike box and curved lip extended to protect frame; finished to match lock or latch.
- B. Bored Locks:
- a. Manufacturers: Match Owner's existing system.

2.4 AUXILIARY LOCKS

A. Bored Auxiliary Locks:

1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
2. Basis-of-Design Product: Subject to compliance with requirements, provide product indicated on schedule or comparable product by one of the following:
 - a. Best Access Systems; Div. of Stanley Security Solutions, Inc.
 - b. SARGENT Manufacturing Company; an ASSA ABLOY Group company.
 - c. Schlage Commercial Lock Division; an Ingersoll-Rand company.
 - d. Yale Security Inc.; an ASSA ABLOY Group company..

2.5 LOCK CYLINDERS

A. Lock Cylinders: Tumbler type, constructed from brass or bronze, stainless steel, or nickel silver.

1. Manufacturer: Match Owner's existing equipment manufacturer.

2.6 KEYING

A. Keying System:

1. Doors 02, 03, and 04: Match Owner's existing system.
2. Doors 05, 06, and 07: Provide independent keying system.

2.7 OPERATING TRIM

A. Operating Trim: BHMA A156.6; stainless steel, unless otherwise indicated.

1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
2. Basis-of-Design Product: Subject to compliance with requirements, provide product indicated on schedule or comparable product by one of the following:
 - a. Burns Manufacturing Incorporated.
 - b. Hager Companies.
 - c. Hiawatha, Inc.
 - d. IVES Hardware; an Ingersoll-Rand company.
 - e. Rockwood Manufacturing Company.
 - f. Trimco.

2.8 SURFACE CLOSERS

A. Surface Closers: BHMA A156.4; rack-and-pinion hydraulic type with adjustable sweep and latch speeds controlled by key-operated valves and forged-steel main arm. Comply with manufacturer's written recommendations for size of door closers depending on size of door,

exposure to weather, and anticipated frequency of use. Provide factory-sized closers, adjustable to meet field conditions and requirements for opening force.

1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - a. Arrow USA; an ASSA ABLOY Group company.
 - b. LCN Closers; an Ingersoll-Rand company.
 - c. Norton Door Controls; an ASSA ABLOY Group company.
 - d. SARGENT Manufacturing Company; an ASSA ABLOY Group company.
 - e. Yale Security Inc.; an ASSA ABLOY Group company.

2.9 MECHANICAL STOPS AND HOLDERS

A. Wall- and Floor-Mounted Stops:

1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - a. Hager Companies.
 - b. IVES Hardware; an Ingersoll-Rand company.
 - c. Rockwood Manufacturing Company.

2.10 OVERHEAD STOPS AND HOLDERS

A. Overhead Stops and Holders:

1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - a. Architectural Builders Hardware Mfg., Inc.
 - b. Glynn-Johnson; an Ingersoll-Rand company.
 - c. Rockwood Manufacturing Company.
 - d. SARGENT Manufacturing Company; an ASSA ABLOY Group company.

2.11 DOOR GASKETING

A. Door Gasketing: air leakage not to exceed 0.50 cfm per foot (0.000774 cu. m/s per m) of crack length for gasketing other than for smoke control, as tested according to ASTM E 283; with resilient or flexible seal strips that are easily replaceable and readily available from stocks maintained by manufacturer.

1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - a. Hager Companies.
 - b. National Guard Products.
 - c. Pemko Manufacturing Co.; an ASSA ABLOY Group company.
 - d. Reese Enterprises, Inc.
 - e. Zero International.

2.12 THRESHOLDS

A. Thresholds: fabricated to full width of opening indicated.

1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - a. Hager Companies.
 - b. National Guard Products.
 - c. Pemko Manufacturing Co.; an ASSA ABLOY Group company.
 - d. Reese Enterprises, Inc.
 - e. Zero International.

2.13 METAL PROTECTIVE TRIM UNITS

- A. Metal Protective Trim Units: BHMA A156.6; fabricated from 0.050-inch- (1.3-mm-) thick stainless steel; with manufacturer's standard machine or self-tapping screw fasteners.
 1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - a. IVES Hardware; an Ingersoll-Rand company.
 - b. Pawling Corporation.
 - c. Rockwood Manufacturing Company.

2.14 FABRICATION

- A. Fasteners: Provide door hardware manufactured to comply with published templates prepared for machine, wood, and sheet metal screws. Provide screws that comply with commercially recognized industry standards for application intended, except aluminum fasteners are not permitted. Provide Phillips flat-head screws with finished heads to match surface of door hardware, unless otherwise indicated.
 1. Concealed Fasteners: For door hardware units that are exposed when door is closed, except for units already specified with concealed fasteners. Do not use through bolts for installation where bolt head or nut on opposite face is exposed unless it is the only means of securely attaching the door hardware. Where through bolts are used on hollow door and frame construction, provide sleeves for each through bolt.
 - a. Stainless Steel Through Bolts: For the following unless door blocking is provided:
 - 1) Closers to doors and frames.
 2. Spacers or Sex Bolts: For through bolting of hollow-metal doors.
 3. Gasketing Fasteners: Provide noncorrosive fasteners for exterior applications and elsewhere as indicated.

2.15 FINISHES

- A. Provide finishes as indicated in door hardware schedule.
- B. Protect mechanical finishes on exposed surfaces from damage by applying a strippable, temporary protective covering before shipping.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. Steel Doors and Frames: For surface applied door hardware, drill and tap doors and frames according to ANSI/SDI A250.6.
- B. Mounting Heights: Mount door hardware units at heights to comply with the following unless otherwise indicated or required to comply with governing regulations.
 - 1. Custom Steel Doors and Frames: HMMA 831.
- C. Install each door hardware item to comply with manufacturer's written instructions. Where cutting and fitting are required to install door hardware onto or into surfaces that are later to be painted or finished in another way, coordinate removal, storage, and reinstallation of surface protective trim units with finishing work. Do not install surface-mounted items until finishes have been completed on substrates involved.
 - 1. Set units level, plumb, and true to line and location. Adjust and reinforce attachment substrates as necessary for proper installation and operation.
 - 2. Drill and countersink units that are not factory prepared for anchorage fasteners. Space fasteners and anchors according to industry standards.
- D. Hinges: Install types and in quantities indicated in door hardware schedule but not fewer than the number recommended by manufacturer for application indicated or one hinge for every 30 inches (750 mm) of door height, whichever is more stringent, unless other equivalent means of support for door, such as spring hinges or pivots, are provided.
- E. Lock Cylinders: Install construction cores to secure building and areas during construction period.
 - 1. Replace construction cores with permanent cores as directed by Owner.
- F. Thresholds: Set thresholds for exterior doors and other doors indicated in full bed of sealant complying with requirements specified in Section 079200 "Joint Sealants."
- G. Stops: Provide floor stops for doors unless wall or other type stops are indicated in door hardware schedule. Do not mount floor stops where they will impede traffic.
- H. Perimeter Gasketing: Apply to head and jamb, forming seal between door and frame.
- I. Door Bottoms: Apply to bottom of door, forming seal with threshold when door is closed.
- J. Adjustment: Adjust and check each operating item of door hardware and each door to ensure proper operation or function of every unit. Replace units that cannot be adjusted to operate as intended. Adjust door control devices to compensate for final operation of heating and ventilating equipment and to comply with referenced accessibility requirements.

3.2 FIELD QUALITY CONTROL

- A. Independent Architectural Hardware Consultant: Engage a qualified independent Architectural Hardware Consultant to perform inspections and to prepare inspection reports.

3.3 DOOR HARDWARE SCHEDULE

Set 1

Interior Single Opening 06 3'07"0 1-3/4" HMF x HMD
Interior Single Opening 07 3'07"0 1-3/4" HMF x HMD

Each Opening to Have:

2 Hinges	TA2314 4-1/2" x 4-1/2" NRP	26D	McKinney
1 Classroom Lock	L lever	26D	Sargent
1 Cylinder	As Required to match existing		
1 Closer	CPS 7500	689	Norton
1 Kick Plate	K1050 10" x 34"	32D	Rockwood
1 Sweep	3452 ANB	AL	Pemko
1 Gasketing	S88		Pemko

Description of operation; door normally unlocked during business hours. Entering the toilet and throwing deadbolt will offer privacy for toilet use. Egress is always free. Exterior key override always available.

Set 2

Interior Single Opening 05 3'07"0 1-3/4" HMF x HMD

Each Opening to Have:

3 Hinges	TA2314 4-1/2" x 4-1/2" NRP	26D	McKinney
1 Privacy Lock w/indicator	V20 8265 E2H001 x LB thumb turn	26D	Sargent
1 Cylinder	As Required to match existing		
1 Closer	CPS 7500	689	Norton
1 Kick Plate	K1050 10" x 35"	32D	Rockwood
1 Sweep	3452 ANB	AL	Pemko
1 Gasketing	S88		Pemko
1 Coat Hook	796	26D	Rockwood

Description of operation; door normally unlocked during business hours. Entering the toilet and throwing deadbolt will offer privacy for toilet use. Exiting toilet will retract deadbolt allowing egress. Egress is always free. Exterior key override always available.

Set 3

Interior Double Opening 03 6'07"0 1-3/4" HMF x HMD

Each Opening to Have:

6 Hinge, Full Mortise	TA2314 4-1/2" x 4-1/2" NRP	26D	McKinney
2 Flush Bolt	55 / 557	26D	Rockwood
1 Classroom Lock	L lever	26D	Sargent
1 Cylinder	As Required to match existing		
2 Kick Plate	K1050 10" x 34"	32D	Rockwood
2 Sweep	3452 ANB	AL	Pemko
1 Gasketing	S88		Pemko

Description of operation; door normally unlocked during business hours. Entering the toilet and throwing deadbolt will offer privacy for toilet use. Egress is always free. Exterior key override always available.

Set 4

Exterior Single Opening 02 3'07"0 1-3/4" HMF x HMD

Exterior Single Opening 04 3'07"0 1-3/4" HMF x HMD

Each Opening to Have:

3 Hinge, Full Mortise	TA2314 4-1/2" x 4-1/2" NRP	26D	McKinney
1 Storeroom Lock	L lever	26D	Sargent
1 Cylinder	As Required to match existing		
1 Closer	CPS 7500	689	Norton
1 Kick Plate	K1050 10" x 35"	32D	Rockwood
1 Threshold	253X3A	AL	Pemko
1 Sweep	3452 ANB	AL	Pemko
1 Gasketing	S88 (1 perimeter, 1 astragal)		Pemko
1 Drip Cap	346C	AL	Pemko

END OF SECTION 087100

SECTION 096566 - RESILIENT ATHLETIC FLOORING

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Rubber sheet flooring.
2. Polyurethane adhesive.

B. Related Requirements:

1. Section 033000 "Cast-in-Place Concrete"
2. Section 072619 "Topical Moisture Vapor Emission System".

1.2 COORDINATION

- A. Coordinate layout and installation of flooring with floor inserts for gymnasium equipment.

1.3 ACTION SUBMITTALS

- A. Product Data: For each type of product.

- B. Shop Drawings: Show installation details and locations of the following:

1. Layout, widths, and dimensions of flooring locations.
2. Seam locations for sheet flooring.

- C. Samples: For each exposed product and for each type, color, and pattern specified.

1.4 CLOSEOUT SUBMITTALS

- A. Maintenance data.

1.5 QUALITY ASSURANCE

- A. Sheet Vinyl Flooring Installer Qualifications: An experienced installer who has completed sheet vinyl flooring installations using seaming methods indicated for this Project and similar in material, design, and extent to that indicated for this Project; who is acceptable to manufacturer; and whose work has resulted in installations with a record of successful in-service performance.

PART 2 - PRODUCTS

2.1 RUBBER SHEET FLOORING: Basis of Design: Kiefer USA, Tuff Roll 8mm x 48" wide sheet rubber flooring, Zone 1 colors.

- A. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
1. Amarco Products.
 2. Conner Sports Surface Solutions.
 3. Kiefer USA.
 4. Mondo America Inc.
 5. Regupol America.
 6. Robbins Sports Surfaces.
 7. Roppe Corporation, USA.
- B. Description: Rubber athletic flooring provided as rolled goods for adhered installation.
- C. Material: Recycled-rubber compound.
- D. Traffic-Surface Texture: Smooth.
- E. Roll Size: Not less than 48 inches (1219 mm) wide by longest length that is practical to minimize splicing during installation.
- F. Thickness: 8.0mm.
- G. Color and Pattern: Basis of Design: Tuff Roll by Kiefer USA, as selected from Zone 1 colors.
- H. Border: Interlocking, beveled-edge tiles, of same material as sheet flooring; with bevels that transition from thickness of sheet flooring to surface below it; with straight outside edges; for use where flooring corners and edges do not abut vertical surfaces.
1. Border Color and Pattern: Matching sheet flooring.

2.2 ACCESSORIES

- A. Trowelable Leveling and Patching Compound: Latex-modified, hydraulic-cement-based formulation approved by flooring manufacturer.
- B. Adhesives: Water-resistant type recommended in writing by manufacturer for substrate and conditions indicated.
1. Basis of Design: MAPEI ECO-570 premium urethane rubber sport floor adhesive.

PART 3 - EXECUTION

3.1 PREPARATION

- A. Prepare substrates according to manufacturer's written instructions to ensure adhesion of flooring.
- B. Concrete Substrates: Prepare according to ASTM F 710.
 - 1. Verify that substrates are dry and free of curing compounds, sealers, and hardeners.
 - 2. Alkalinity Testing: Perform pH testing according to ASTM F 710. Proceed with installation only if pH readings are not less than 7.0 and not greater than 8.5.
 - 3. Moisture Testing: Perform tests so that each test area does not exceed 200 sq. ft. (18.6 sq. m), and perform no fewer than three tests in each installation area and with test areas evenly spaced in installation areas.
 - a. Anhydrous Calcium Chloride Test: ASTM F 1869. Proceed with installation only after substrates have maximum moisture-vapor-emission rate of 3 lb of water/1000 sq. ft. (1.36 kg of water/92.9 sq. m) in 24 hours.
 - b. Relative Humidity Test: Using in-situ probes, ASTM F 2170. Proceed with installation only after substrates have a maximum 75 percent relative humidity level measurement.
- C. Remove substrate coatings and other substances that are incompatible with adhesives and that contain soap, wax, oil, or silicone, using mechanical methods recommended in writing by manufacturer. Do not use solvents.
- D. Use trowelable leveling and patching compound to fill cracks, holes, and depressions in substrates.
- E. Apply Topical Moisture Vapor Mitigation System, Basis of Design: Ardex MC Rapid.
- F. Sweep and vacuum clean substrates to be covered by flooring immediately before installation. After cleaning, examine substrates for moisture, alkaline salts, carbonation, and dust. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 FLOORING INSTALLATION, GENERAL

- A. Comply with manufacturer's written installation instructions.
- B. Scribe, cut, and fit flooring to butt neatly and tightly to vertical surfaces, equipment anchors, floor outlets, and other interruptions of floor surface.
- C. Extend flooring into toe spaces, door reveals, closets, and similar openings unless otherwise indicated.
- D. Maintain reference markers, holes, and openings that are in place or marked for future cutting by repeating subfloor markings on flooring. Use nonpermanent, nonstaining marking device.

3.3 SHEET FLOORING INSTALLATION

- A. Unroll sheet flooring and allow it to stabilize before cutting and fitting.
- B. Lay out sheet flooring as follows:
 - 1. Maintain uniformity of flooring direction.
 - 2. Minimize number of seams; place seams in inconspicuous and low-traffic areas, at least 6 inches (150 mm) away from parallel joints in flooring substrates.
 - 3. Match edges of flooring for color shading at seams.
 - 4. Locate seams according to approved Shop Drawings.
- C. Adhere products to substrates using a full spread of adhesive applied to substrate to comply with adhesive and flooring manufacturers' written instructions, including those for trowel notching, adhesive mixing, and adhesive open and working times.
 - 1. Provide completed installation without open cracks, voids, raising and puckering at joints, telegraphing of adhesive spreader marks, and other surface imperfections.

3.4 CLEANING AND PROTECTION

- A. Perform the following operations immediately after completing flooring installation:
 - 1. Remove adhesive and other blemishes from flooring surfaces.
 - 2. Sweep and vacuum flooring thoroughly.
 - 3. Damp-mop flooring to remove marks and soil after time period recommended in writing by manufacturer.
- B. Protect flooring from mars, marks, indentations, and other damage from construction operations and placement of equipment and fixtures during remainder of construction period. Use protection methods recommended in writing by manufacturer.
 - 1. Do not move heavy and sharp objects directly over flooring. Protect flooring with plywood or hardboard panels to prevent damage from storing or moving objects over flooring.

END OF SECTION 096566

SECTION 099123 - INTERIOR PAINTING

PART 1 - GENERAL

1.1 SUMMARY

- A. Section includes surface preparation and the application of paint systems on interior substrates.

1.2 DEFINITIONS

- A. MPI Gloss Level 1: Not more than five units at 60 degrees and 10 units at 85 degrees, according to ASTM D 523.
- B. MPI Gloss Level 2: Not more than 10 units at 60 degrees and 10 to 35 units at 85 degrees, according to ASTM D 523.
- C. MPI Gloss Level 3: 10 to 25 units at 60 degrees and 10 to 35 units at 85 degrees, according to ASTM D 523.
- D. MPI Gloss Level 4: 20 to 35 units at 60 degrees and not less than 35 units at 85 degrees, according to ASTM D 523.
- E. MPI Gloss Level 5: 35 to 70 units at 60 degrees, according to ASTM D 523.
- F. MPI Gloss Level 6: 70 to 85 units at 60 degrees, according to ASTM D 523.
- G. MPI Gloss Level 7: More than 85 units at 60 degrees, according to ASTM D 523.

1.3 ACTION SUBMITTALS

- A. Product Data: For each type of product. Include preparation requirements and application instructions.
- B. Samples: For each type of paint system and in each color and gloss of topcoat.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. Products: Subject to compliance with requirements, where indicated provide products by one or more of the following:
 - 1. Sherwin-Williams
 - 2. Minwax
 - 3. Dura-Seal

4. Benjamin Moore
5. Glidden
6. Kelley-Moore
7. Zinsser

2.2 PAINT, GENERAL

- A. MPI Standards: Products shall comply with MPI standards indicated and shall be listed in its "MPI Approved Products Lists."
- B. Material Compatibility:
 1. Materials for use within each paint system shall be compatible with one another and substrates indicated, under conditions of service and application as demonstrated by manufacturer, based on testing and field experience.
 2. For each coat in a paint system, products shall be recommended in writing by topcoat manufacturers for use in paint system and on substrate indicated.
- C. Colors: As selected by Architect from manufacturer's full range.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine substrates and conditions, with Applicator present, for compliance with requirements for maximum moisture content and other conditions affecting performance of the Work.
- B. Maximum Moisture Content of Substrates: When measured with an electronic moisture meter as follows:
 1. Concrete: 12 percent.
 2. Fiber-Cement Board: 12 percent.
 3. Masonry (Clay and CMUs): 12 percent.
 4. Wood: 15 percent.
 5. Gypsum Board: 12 percent.
 6. Plaster: 12 percent.
- C. Verify suitability of substrates, including surface conditions and compatibility with existing finishes and primers.
- D. Proceed with coating application only after unsatisfactory conditions have been corrected.
 1. Application of coating indicates acceptance of surfaces and conditions by painting contractor.

3.2 PREPARATION

- A. Comply with manufacturer's written instructions and recommendations in "MPI Architectural Painting Specification Manual" applicable to substrates and paint systems indicated.
- B. Remove hardware, covers, plates, and similar items already in place that are removable and are not to be painted. If removal is impractical or impossible because of size or weight of item, provide surface-applied protection before surface preparation and painting.
 - 1. After completing painting operations, use workers skilled in the trades involved to reinstall items that were removed. Remove surface-applied protection if any.
 - 2. Clean items to remove signs of installation dirt, fingerprints, etc.

3.3 APPLICATION

- A. Apply paints according to manufacturer's written instructions and recommendations in "MPI Architectural Painting Specification Manual."
- B. Apply paints to produce surface films without cloudiness, spotting, holidays, laps, brush marks, roller tracking, runs, sags, ropiness, or other surface imperfections. Cut in sharp lines and color breaks.

3.4 INTERIOR PAINTING SCHEDULE

- A. CMU Substrates:
 - 1. Institutional Low-Odor/VOC Latex System:
 - a. Block Filler: Block filler, latex, interior/exterior.
 - b. Intermediate Coat: Latex, interior, institutional low odor/VOC, matching topcoat.
 - c. Topcoat: Latex, interior, institutional low odor/VOC (MPI Gloss Level 4).
- B. Cement fiber Board Substrates:
 - 1. Latex System:
 - a. Prime Coat: Latex, interior, matching topcoat.
 - b. Intermediate Coat: Latex, interior, matching topcoat.
 - c. Topcoat: Latex, interior, low sheen (MPI Gloss Level 3-4).
- C. Concrete Substrates, Traffic Surfaces:
 - 1. Water-Based Concrete Floor Sealer System:
 - a. First Coat: Clear Sealer, water based, for concrete floors, matching topcoat.
 - b. Topcoat: Clear Sealer, water based, for concrete floors.
- D. Steel Substrates:

1. Latex over Shop-Applied Quick-Drying Shop Primer System:
 - a. Prime Coat: Shop primer specified in Section where substrate is specified.
 - b. Intermediate Coat: Latex, interior, matching topcoat.
 - c. Topcoat: Latex, interior (MPI Gloss Level 5).

END OF SECTION 099123

SECTION 101400 - SIGNAGE

PART 1 - GENERAL

1.1 SUMMARY

- A. This Section includes the following:
 - 1. Room-identification signs that are directly attached to the building.

1.2 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplemental General Conditions and Part D – Detail Specification Sections, apply to this Section.

1.3 DEFINITIONS

- A. ADA-ABA Accessibility Guidelines: U.S. Architectural & Transportation Barriers Compliance Board's "Americans with Disabilities Act (ADA) Accessibility Guidelines for Buildings and Facilities; Architectural Barriers Act (ABA) Accessibility Guidelines."

1.4 ACTION SUBMITTALS

- A. Product Data: For each type of product indicated.
- B. Shop Drawings: For dimensional characters and room identification signs.
 - 1. Include fabrication and installation details and attachments to other work.
 - 2. Show sign mounting heights, locations of supplementary supports to be provided by other installers, and accessories.
 - 3. Show message list, typestyles, graphic elements, including raised characters and Braille, and layout for each sign at least half size.
- C. Samples: For each sign type and for each color and texture required.
 - 1. Room Identification Signs: Full-size sample.

1.5 INFORMATIONAL SUBMITTALS

- A. Sample warranty.

1.6 CLOSEOUT SUBMITTALS

- A. Maintenance data.

1.7 WARRANTY

- A. Special Warranty: Manufacturer agrees to repair or replace components of signs that fail in materials or workmanship within specified warranty period.
 - 1. Warranty Period: Five years from date of Substantial Completion.

1.8 QUALITY ASSURANCE

- A. Regulatory Requirements: Comply with applicable provisions in ADA-ABA Accessibility Guidelines and ICC/ANSI A117.1.

PART 2 - PRODUCTS

2.1 ROOM IDENTIFICATION SIGNS

- A. Sign Materials: Acrylic Sheet: ASTM D 4802, category as standard with manufacturer for each sign, Type UVF (UV filtering).
- B. Room-Identification Sign: Sign system with smooth, uniform surfaces; with message and characters having uniform faces, sharp corners, and precisely formed lines and profiles; and as follows:
 - 1. Basis of Design: Subject to compliance with requirements, provide product by ASI Sign Systems, Inc., (or a comparable product acceptable to the Architect.)
 - 2. Laminated-Sheet Sign: Photopolymer face sheet with raised graphics laminated over subsurface graphics to acrylic backing sheet to produce composite sheet.
 - a. Composite-Sheet Thickness: 0.125 inch (3.18 mm).
 - b. Surface-Applied Graphics: Applied photo image.
 - c. Color(s): As selected by Architect from manufacturer's full range.
 - 3. Sign-Panel Perimeter: Finish edges smooth.
 - a. Edge Condition Square cut.
 - b. Corner Condition in Elevation: Radius.
 - 4. Mounting: Manufacturer's standard method for substrates indicated, Surface mounted to wall with adhesive.

2.2 ACCESSORIES

- A. Fasteners and Anchors: Manufacturer's standard as required for secure anchorage of signs, noncorrosive and compatible with each material joined, and complying with the following:
 - 1. For exterior exposure, furnish stainless-steel devices unless otherwise indicated.
 - 2. Exposed Metal-Fastener Components, General:

- a. Fabricated from same basic metal and finish of fastened sign unless otherwise indicated.
 - b. Furnish inserts, as required, to be set into concrete or masonry work.
- B. Adhesive: As recommended by sign manufacturer.

2.3 FABRICATION

- A. General: Provide manufacturer's standard sign assemblies according to requirements indicated.
- 1. Mill joints to a tight, hairline fit. Form assemblies and joints exposed to weather to resist water penetration and retention.
 - 2. Provide welds and brazes behind finished surfaces without distorting or discoloring exposed side. Clean exposed welded and brazed connections of flux, and dress exposed and contact surfaces.
 - 3. Conceal connections if possible; otherwise, locate connections where they are inconspicuous.
 - 4. Provide rabbets, lugs, and tabs necessary to assemble components and to attach to existing work. Drill and tap for required fasteners. Use concealed fasteners where possible; use exposed fasteners that match sign finish.
- B. Subsurface-Applied Graphics: Apply graphics to back face of clear face-sheet material to produce precisely formed image. Image shall be free of rough edges.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. Locate signs and accessories where indicated, using mounting methods of types described and complying with manufacturer's written instructions.
- 1. Install signs level, plumb, and at heights indicated, with sign surfaces free of distortion and other defects in appearance.
 - 2. Install signs so they do not protrude or obstruct according to the accessibility standard.
 - 3. Before installation, verify that sign surfaces are clean and free of materials or debris that would impair installation.
- B. Wall-Mounted Signs: Comply with sign manufacturer's written instructions except where more stringent requirements apply.
- 1. Adhesive: Clean bond-breaking materials from substrate surface and remove loose debris. Apply linear beads or spots of adhesive symmetrically to back of sign and of suitable quantity to support weight of sign after cure without slippage. Keep adhesive away from edges to prevent adhesive extrusion as sign is applied and to prevent visibility of cured adhesive at sign edges. Place sign in position, and push to engage adhesive. Temporarily support sign in position until adhesive fully sets.

3.2 CLEANING, PROTECTION, AND REPAIR

- A. Repair scratches and other damage which might have occurred during installation. Replace components where repairs were made but are still visible to the unaided eye from a distance of 5 feet.
- B. Remove temporary coverings and protection to adjacent work areas. Clean installed products in accordance with manufacturer's instructions prior to Owner's acceptance. Remove construction debris from project in accordance with other sections.

END OF SECTION 101400

SECTION 102113.17 - PHENOLIC-CORE TOILET COMPARTMENTS

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Phenolic-core toilet compartments configured as toilet enclosures.

1.2 ACTION SUBMITTALS

A. Product Data: For each type of product.

B. Shop Drawings: For toilet compartments. Include plans, elevations, sections, details, and attachment details.

C. Samples for each type of toilet compartment material indicated.

1.3 INFORMATIONAL SUBMITTALS

A. Product certificates.

1.4 CLOSEOUT SUBMITTALS

A. Maintenance data.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

A. Surface-Burning Characteristics: Comply with ASTM E 84; testing by a qualified testing agency. Identify products with appropriate markings of applicable testing agency.

1. Flame-Spread Index: 25 or less.
2. Smoke-Developed Index: 450 or less.

2.2 PHENOLIC-CORE TOILET COMPARTMENTS

A. Manufacturers: Subject to compliance with requirements, provide products by one of the following:

1. Bradley Corporation.

1. General Partitions Mfg. Corp.
 2. Metpar Corp.
 3. Scranton Products.
 4. Sanymetal; a Crane Plumbing company.
 5. Weis-Robart Partitions, Inc.
- B. Toilet-Enclosure Style: Overhead braced.
- C. Door, Panel and Pilaster Construction: Solid phenolic-core panel material with melamine facing on both sides fused to substrate during panel manufacture (not separately laminated), and with eased and polished edges. Provide minimum 3/4-inch- (19-mm-) thick doors and pilasters and minimum 1/2-inch- (13-mm-) thick panels.
- D. Pilaster Shoes and Sleeves (Caps): Formed from stainless-steel sheet, not less than 0.031-inch (0.79-mm) nominal thickness and 3 inches (76 mm) high, finished to match hardware.
- E. Brackets (Fittings):
1. Full-Height (Continuous) Type: Manufacturer's standard design; stainless steel.
- F. Phenolic-Panel Finish:
1. Facing Sheet Finish: One color and pattern in each room.
 2. Color and Pattern: As selected by Architect from manufacturer's full range with manufacturer's standard dark color core.
 3. Edge Color: Manufacturer's standard.

2.3 HARDWARE AND ACCESSORIES

- A. Hardware and Accessories: Manufacturer's heavy-duty stainless steel operating hardware and accessories.
1. Provide units that comply with regulatory requirements for accessibility at compartments designated as accessible.
 - a. Hinges: Manufacturer's standard continuous, self-closing type that can be adjusted to hold doors open at any angle up to 90 degrees.
 - b. Latch and Keeper: Manufacturer's standard surface-mounted latch unit designed for emergency access and with combination rubber-faced door strike and keeper.
 - c. Door Pull: Manufacturer's standard unit at out-swinging doors. Provide units on both sides of all out-swinging doors.
- B. Overhead Bracing: Manufacturer's standard continuous, extruded-aluminum head rail with antigrip profile and in manufacturer's standard finish.
- C. Anchorages and Fasteners: Manufacturer's standard exposed fasteners of stainless steel with theft-resistant-type heads. Provide sex-type bolts for through-bolt applications. For concealed anchors, use stainless-steel.

2.4 FABRICATION

- A. Fabrication, General: Fabricate toilet compartment components to sizes indicated. Coordinate requirements and provide cutouts for through-partition toilet accessories where required for attachment of toilet accessories.
- B. Overhead-Braced Units: Provide manufacturer's standard corrosion-resistant supports, leveling mechanism, and anchors at pilasters to suit floor conditions. Provide shoes at pilasters to conceal supports and leveling mechanism.
- C. Door Size and Swings: Unless otherwise indicated, provide 34-inch- (914-mm) wide out-swinging doors for standard toilet compartments.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. General: Comply with manufacturer's written installation instructions. Install units rigid, straight, level, and plumb. Secure units in position with manufacturer's recommended anchoring devices.
 - 1. Maximum Clearances:
 - a. Pilasters and Panels: 1/2 inch (13 mm).
 - b. Panels and Walls: 1 inch (25 mm).
 - 2. Full-Height (Continuous) Brackets: Secure panels to walls and to pilasters with full-height brackets.
 - a. Locate bracket fasteners so holes for wall anchors occur in masonry or tile joints.
 - b. Align brackets at pilasters with brackets at walls.

3.2 ADJUSTING

- A. Hardware Adjustment: Adjust and lubricate hardware according to hardware manufacturer's written instructions for proper operation. Set hinges on in-swinging doors to hold doors open approximately 30 degrees from closed position when unlatched. Set hinges on out-swinging doors to return doors to fully closed position.

END OF SECTION 102113.17

SECTION 102116 - SHOWER UNITS

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Acrylic Shower units.

1.2 ACTION SUBMITTALS

- A. Product Data: For each type of product indicated.

1.3 CLOSEOUT SUBMITTALS

- A. Maintenance data.

PART 2 - PRODUCTS

2.1 SHOWERS

- A. Showers: Standard PMMA with integral base.

1. PMMA (Acrylic) Showers: Basis of Design: Aquatic, 1363C.
2. Standard: ANSI Z124.1.2.
3. Nominal Size: 36 inches by 36 inches by 72 inches.
4. Surround: One piece.
5. Bathing Surface: Slip resistant according to ASTM F 462.
6. Color: White, smooth surface
7. Drain Location: Center.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. Install plumbing fixtures level and plumb according to roughing-in drawings.
- B. Follow manufacturer's instructions.
- C. Set shower unit in leveling bed of cement grout.

- D. Seal joints between plumbing fixtures, counters, floors, and walls using sanitary-type, one-part, mildew-resistant silicone sealant. Match sealant color to fixture color. Comply with sealant requirements specified in Section 079200 "Joint Sealants."

3.2 CLEANING AND PROTECTION

- A. After completing installation of plumbing fixtures, inspect and repair damaged finishes.
- B. Clean plumbing fixtures, faucets, and other fittings with manufacturers' recommended cleaning methods and materials.
- C. Provide protective covering for installed plumbing fixtures and fittings.
- D. Do not allow use of plumbing fixtures for temporary facilities unless approved in writing by Owner.

END OF SECTION 102116

SECTION 102800 - TOILET, BATH, AND LAUNDRY ACCESSORIES

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes:
 - 1. Public-use washroom accessories.
 - 2. Underlavatory guards.

1.2 ACTION SUBMITTALS

- A. Product Data: For each type of product indicated.
- B. Product Schedule: Indicating types, quantities, sizes, and installation locations by room of each accessory required.

1.3 CLOSEOUT SUBMITTALS

- A. Maintenance data.
- B. Warranty
- C. Materials for Owner stock: One or one set of each product listed below with complete hardware set.

1.4 QUALITY ASSURANCE

- A. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and application.

1.5 WARRANTY

- A. Special Mirror Warranty: Manufacturer's standard form in which manufacturer agrees to replace mirrors that develop visible silver spoilage defects and that fail in materials or workmanship within specified warranty period.
 - 1. Warranty Period: 15 years from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 PUBLIC-USE WASHROOM ACCESSORIES

Basis-of-Design Product: Subject to compliance with requirements, provide product indicated below or comparable product by one of the following:

- 1. A & J Washroom Accessories, Inc.
- 2. American Specialties, Inc.
- 3. Bobrick Washroom Equipment, Inc.
- 4. Bradley Corporation.
- 5. GAMCO Specialty Accessories; a division of Bobrick Washroom Equipment, Inc.
- 6. Tubular Specialties Manufacturing, Inc.

- A. Soap Dispenser:SD
 - 1. Furnished and Installed by Owner

- B. Mirror Unit: MG
 - 1. Basis-of-Design Product: Bobrick B-290 2436
 - 2. Frame: Stainless-steel channel.
 - a. Corners: Welded and ground smooth.
 - 3. Hangers: Produce rigid, tamper- and theft-resistant installation, using method indicated below.
 - a. One-piece, galvanized-steel, wall-hanger device with spring-action locking mechanism to hold mirror unit in position with no exposed screws or bolts.
 - b. Wall bracket of galvanized steel, equipped with concealed locking devices requiring a special tool to remove.
 - 4. Size: 24" W x 36" H.
- C. Toilet Tissue (Roll) Dispenser: TTD
 - A. Basis-of-Design Product: Bobrick B-2888
 - 1. Description: Surface Mounted Multi-Roll Toilet Tissue Dispenser
 - 2. Capacity: Designed for 4-1/2 or 5-inch (114- or 127-mm) diameter tissue rolls.
 - 3. Finish: Satin Stainless Steel, No. 4 finish (satin).
- D. Grab Bar: GB
 - 1. Basis-of-Design Product:
 - a. Toilet Stall: Bobrick; B-68137.99, with B-6806.99x18
 - 2. Mounting: Flanges with concealed fasteners.
 - 3. Material: Stainless steel, 0.05 inch (1.3 mm) thick.
 - a. Finish: Smooth, No. 4 finish (satin) on ends and slip-resistant texture in grip area.
 - 4. Outside Diameter: 1-1/2 inches (38 mm).
 - 5. Configuration and Length: As indicated on Drawings.
- E. Sanitary-Napkin Disposal Unit: SND
 - 1. Basis-of-Design Product: Bobrick, B-270.
 - 2. Mounting: Surface mounted.
 - 3. Door or Cover: Self-closing, disposal-opening cover and hinged face panel with tumbler lockset.
 - 4. Receptacle: Removable.
 - 5. Material and Finish: Stainless steel, No. 4 finish (satin).
- F. Under-Lavatory Guard
 - 1. Description: Insulating pipe covering for supply and drain piping assemblies that prevents direct contact with and burns from piping; allow service access without removing coverings.
 - 2. Material and Finish: Antimicrobial, molded plastic, white.
- G. Shower Curtain and Rod
 - 1. Basis-of-Design Product: Bobrick, B-6107 (Heavy Duty Shower Curtain Rod)
 - a. Description: 1-inch (25.4-mm) OD; fabricated from nominal 0.0375-inch- (0.95-mm-) thick stainless steel.
 - b. Mounting: Flanges with concealed fasteners.
 - c. Material and Finish: Stainless steel, No. 4 (satin).
 - 2. Basis-of-Design Product: Bobrick, 204 (Vinyl Shower Curtain)
 - a. Size: Minimum 12 inches (305 mm) wider than opening by 72 inches (1828 mm) high.

- b. Material: Vinyl, minimum 0.008 inch (0.20 mm) thick, opaque, matte.
- c. Grommets: Nickel-plated brass grommets along top, one every 6 inches (150 mm).
- d. Shower Curtain Hooks: Bobrick, B-204-1, stainless steel.

H. Robe Hook:

- 1. Basis-of-Design Product: Bobrick, B-212.
- 2. Description: Single prong unit with bumper.
- 3. Material and Finish: Solid cast aluminum with matte finish

2.2 WARM-AIR DRYERS

A. Warm-Air Dryer: WD

- 1. Basis-of-Design Product: Excel Dryer, Inc. Ultra-Fast Xlerator, XL-W
- 2. Mounting: Surface mounted.
- 3. Operation: Electronic-sensor activated with timed power cut-off switch.
- 4. Cover Material and Finish: Chrome-plated steel.
- 5. Electrical Requirements: Refer to electrical drawings and specifications for product info.

2.3 FABRICATION

- A. Keys: Provide universal keys for internal access to accessories for servicing and resupplying. Provide minimum of 10 keys to Owner's representative.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. Install accessories according to manufacturers' written instructions, using fasteners appropriate to substrate indicated and recommended by unit manufacturer. Install units level, plumb, and firmly anchored in locations and at heights indicated.
- B. Grab Bars: Install to withstand a downward load of at least 250 lbf (1112 N), when tested according to ASTM F 446.

END OF SECTION 102800

SECTION 104416 - FIRE EXTINGUISHERS

PART 1 - GENERAL

1.1 SUMMARY

- A. Section includes portable, hand-carried fire extinguishers and mounting brackets for fire extinguishers.

1.2 ACTION SUBMITTALS

- A. Product Data: For each type of product.

1.3 INFORMATIONAL SUBMITTALS

- A. Warranty: Sample of special warranty.

1.4 CLOSEOUT SUBMITTALS

- A. Operation and maintenance data.

1.5 WARRANTY

- A. Special Warranty: Manufacturer's standard form in which manufacturer agrees to repair or replace fire extinguishers that fail in materials or workmanship within specified warranty period.
 - 1. Warranty Period: Six years from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

- A. NFPA Compliance: Fabricate and label fire extinguishers to comply with NFPA 10, "Portable Fire Extinguishers."
- B. Fire Extinguishers: Listed and labeled for type, rating, and classification by an independent testing agency acceptable to authorities having jurisdiction.

2.2 PORTABLE, HAND-CARRIED FIRE EXTINGUISHERS

- A. Fire Extinguishers: Type, size, and capacity for each mounting bracket indicated.

1. Instruction Labels: Include pictorial marking system complying with NFPA 10, Appendix B, and bar coding for documenting fire-extinguisher location, inspections, maintenance, and recharging.

B. Multipurpose Dry-Chemical Type >: UL-rated Size 10 pound nominal capacity, with monoammonium phosphate-based dry chemical in manufacturer's standard enameled container.

2.3 MOUNTING BRACKETS

A. Mounting Brackets: Manufacturer's standard galvanized steel, designed to secure fire extinguisher to wall or structure, of sizes required for types and capacities of fire extinguishers indicated, with plated or red baked-enamel finish.

B. Identification: Lettering complying with authorities having jurisdiction for letter style, size, spacing, and location. Locate as indicated by Architect.

1. Identify bracket-mounted fire extinguishers with the words "FIRE EXTINGUISHER" in red letter decals applied to mounting surface.

PART 3 - EXECUTION

3.1 INSTALLATION

A. Examine fire extinguishers for proper charging and tagging.

1. Remove and replace damaged, defective, or undercharged fire extinguishers.

B. Install fire extinguishers and mounting brackets in locations indicated and in compliance with requirements of authorities having jurisdiction.

1. Mounting Brackets: 54 inches (1372 mm) above finished floor to top of fire extinguisher.

C. Mounting Brackets: Fasten mounting brackets to surfaces, square and plumb, at locations indicated.

END OF SECTION 104416

SECTION 123661 – SOLID SURFACE COUNTERTOPS

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes:
 - 1. Solid-surface-material countertops, backsplashes, and integral sinks.

1.2 ACTION SUBMITTALS

- A. Product Data: For countertop materials and sinks.
- B. Shop Drawings: For countertops. Show materials, finishes, edge and backsplash profiles, methods of joining, and cutouts for plumbing fixtures. Indicate compliance with A.D.A. requirements.
- C. Samples: For each type of material exposed to view.

PART 2 - PRODUCTS

2.1 SOLID-SURFACE-MATERIAL COUNTERTOPS

- A. Configuration: Provide countertops with the following front and backsplash style:
 - 1. Front: Straight, slightly eased at top.
 - 2. Backsplash: Integral, straight, slightly eased at corner.
 - 3. Endsplash: Matching backsplash.
- B. Countertops: 3/8-inch-thick, solid surface material laminated to 3/4-inch- (19-mm-) thick particleboard with exposed edges built up with 3/4-inch- (19-mm-) thick, solid surface material.
- C. Backsplashes: 1/2-inch- (12.7-mm-) thick, solid surface material.

2.2 COUNTERTOP MATERIALS

- A. Plywood: Exterior softwood plywood complying with DOC PS 1, Grade C-C Plugged, touch sanded.
- B. Solid Surface Material: Homogeneous solid sheets of filled plastic resin complying with ANSI SS1.
 - 1. Manufacturers: Basis of Design product is Dupont Corian. Other manufacturers offering products that may be incorporated into the Work include the following:
 - a. Avonite Surfaces.

- b. Formica Corporation.
 - c. Samsung Chemical USA, Inc.
 - d. Swan Corporation (The).
 - e. Wilsonart, Gibraltar.
2. Type: Provide Standard Type.
 3. Integral Sink Bowls: Comply with ISSFA-2 and ANSI Z124.3, Type 5 or Type 6, without a precoated finish. ADA compliant.
 - a. Basis of Design: Corian.
 4. Colors and Patterns:
 - a. Countertops: Corian – Aurora.
 - b. Sink bowls: Corian – Bone.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. Fasten countertops by screwing through corner blocks of base units into underside of countertop, or as otherwise recommended by manufacturer for installation. Align adjacent surfaces and, using adhesive in color to match countertop, form seams to comply with manufacturer's written instructions. Carefully dress joints smooth, remove surface scratches, and clean entire surface.

END OF SECTION 123661

SECTION 221113 - FACILITY WATER DISTRIBUTION PIPING

PART 1 - GENERAL

1.1 SUMMARY

- A. This Section includes water-distribution piping and related components outside the building for combined water service and fire-service mains.
- B. Utility-furnished products include water meters that will be furnished to the site, ready for installation.

1.2 ACTION SUBMITTALS

- A. Product Data: For each type of product indicated.
- B. Shop Drawings: Detail precast concrete vault assemblies and indicate dimensions, method of field assembly, and components.

1.3 INFORMATIONAL SUBMITTALS

- A. Field quality-control test reports.

1.4 CLOSEOUT SUBMITTALS

- A. Operation and maintenance data.

1.5 QUALITY ASSURANCE

- A. Regulatory Requirements:
 - 1. Comply with requirements of utility company supplying water. Include tapping of water mains and backflow prevention.
 - 2. Comply with standards of authorities having jurisdiction for potable-water-service piping, including materials, installation, testing, and disinfection.
 - 3. Comply with standards of authorities having jurisdiction for fire-suppression water-service piping, including materials, hose threads, installation, and testing.
- B. Piping materials shall bear label, stamp, or other markings of specified testing agency.
- C. Comply with ASTM F 645 for selection, design, and installation of thermoplastic water piping.
- D. Comply with FMG's "Approval Guide" or UL's "Fire Protection Equipment Directory" for fire-service-main products.

- E. NFPA Compliance: Comply with NFPA 24 for materials, installations, tests, flushing, and valve and hydrant supervision for fire-service-main piping for fire suppression.

1.6 PROJECT CONDITIONS

- A. Interruption of Existing Water-Distribution Service: Do not interrupt service to facilities occupied by Owner or others unless permitted under the following conditions and then only after arranging to provide temporary water-distribution service according to requirements indicated:
 - 1. Notify Architect no fewer than two days in advance of proposed interruption of service.
 - 2. Do not proceed with interruption of water-distribution service without Architect's written permission.

1.7 COORDINATION

- A. Coordinate connection to water main with utility company.

PART 2 - PRODUCTS

2.1 PIPE AND FITTINGS

- A. Soft Copper Tube: ASTM B 88, Type K, water tube, annealed temper.
 - 1. Copper, Solder-Joint Fittings: ASME B16.18, cast-copper-alloy or ASME B16.22, wrought-copper, solder-joint pressure type. Furnish only wrought-copper fittings if indicated.
- B. Hard Copper Tube: ASTM B 88, Type K, water tube, drawn temper.
 - 1. Copper, Solder-Joint Fittings: ASME B16.18, cast-copper-alloy or ASME B16.22, wrought-copper, solder-joint pressure type. Furnish only wrought-copper fittings if indicated.
- C. Push-on-Joint, Ductile-Iron Pipe: AWWA C151, with push-on-joint bell and plain spigot end unless grooved or flanged ends are indicated.
 - 1. Push-on-Joint, Ductile-Iron Fittings: AWWA C110, ductile- or gray-iron standard pattern or AWWA C153, ductile-iron compact pattern.
 - 2. Gaskets: AWWA C111, rubber.
- D. PVC, AWWA Pipe: AWWA C900, Class 150, with bell end with gasket, and with spigot end.
 - 1. Comply with UL 1285 for fire-service mains if indicated.
 - 2. PVC Fabricated Fittings: AWWA C900, Class 150, with bell-and-spigot or double-bell ends. Include elastomeric gasket in each bell.
 - 3. PVC Molded Fittings: AWWA C907, Class 150, with bell-and-spigot or double-bell ends. Include elastomeric gasket in each bell.

4. Push-on-Joint, Ductile-Iron Fittings: AWWA C110, ductile- or gray-iron standard pattern or AWWA C153, ductile-iron compact pattern.
 - a. Gaskets: AWWA C111, rubber.
5. Mechanical-Joint, Ductile-Iron Fittings: AWWA C110, ductile- or gray-iron standard pattern or AWWA C153, ductile-iron compact pattern.
 - a. Glands, Gaskets, and Bolts: AWWA C111, ductile- or gray-iron glands, rubber gaskets, and steel bolts.

2.2 JOINING MATERIALS

- A. Refer to Section 330500 "Common Work Results for Utilities" for commonly used joining materials.
- B. Brazing Filler Metals: AWS A5.8, BCuP Series.
- C. Bonding Adhesive for Fiberglass Piping: As recommended by fiberglass piping manufacturer.
- D. Plastic Pipe-Flange Gasket, Bolts, and Nuts: Type and material recommended by piping system manufacturer, unless otherwise indicated.

2.3 PIPING SPECIALTIES

- A. Transition Fittings: Manufactured fitting or coupling same size as, with pressure rating at least equal to and ends compatible with, piping to be joined.
- B. Tubular-Sleeve Pipe Couplings:
 1. Description: Metal, bolted, sleeve-type, reducing or transition coupling, with center sleeve, gaskets, end rings, and bolt fasteners and with ends of same sizes as piping to be joined.
 - a. Standard: AWWA C219.

2.4 GATE VALVES

- A. AWWA, Cast-Iron Gate Valves:
 1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - a. American Cast Iron Pipe Co.; American Flow Control Div.
 - b. East Jordan Iron Works, Inc.
 - c. McWane, Inc.; Clow Valve Co. Div. (Oskaloosa).
 - d. McWane, Inc.; Kennedy Valve Div.
 - e. McWane, Inc.; M & H Valve Company Div.
 2. Nonrising-Stem, Resilient-Seated Gate Valves:

- a. Description: Gray- or ductile-iron body and bonnet; with bronze or gray- or ductile-iron gate, resilient seats, bronze stem, and stem nut.
 - 1) Standard: AWWA C509.
 - 2) Minimum Pressure Rating: 200 psig.
 - 3) End Connections: Mechanical joint.
 - 4) Interior Coating: Complying with AWWA C550.
- 3. Nonrising-Stem, High-Pressure, Resilient-Seated Gate Valves:
 - a. Description: Ductile-iron body and bonnet; with bronze or ductile-iron gate, resilient seats, bronze stem, and stem nut.
 - 1) Standard: AWWA C509.
 - 2) Minimum Pressure Rating: 250 psig.
 - 3) End Connections: Push on or mechanical joint.
 - 4) Interior Coating: Complying with AWWA C550.
- 4. OS&Y, Rising-Stem, Resilient-Seated Gate Valves:
 - a. Description: Cast- or ductile-iron body and bonnet, with bronze or gray- or ductile-iron gate, resilient seats, and bronze stem.
 - 1) Standard: AWWA C509.
 - 2) Minimum Pressure Rating: 200 psig.
 - 3) End Connections: Flanged.
- B. UL/FMG, Cast-Iron Gate Valves:
 - 1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - a. American Cast Iron Pipe Co.; American Flow Control Div.
 - b. McWane, Inc.; Clow Valve Co. Div. (Oskaloosa).McWane, Inc.; Kennedy Valve Div.
 - c. McWane, Inc.; M & H Valve Company Div.
 - 2. OS&Y, Rising-Stem Gate Valves:
 - a. Description: Iron body and bonnet and bronze seating material.
 - 1) Standards: UL 262 and FMG approved.
 - 2) Minimum Pressure Rating: 175 psig.
 - 3) End Connections: Flanged.
- C. Bronze Gate Valves:
 - 1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - a. Crane Co.; Crane Valve Group; Crane Valves.
 - b. Hammond Valve.
 - c. Milwaukee Valve Company.

- d. NIBCO INC.
- 2. OS&Y, Rising-Stem Gate Valves:
 - a. Description: Bronze body and bonnet and bronze stem.
 - 1) Standards: UL 262 and FMG approved.
 - 2) Minimum Pressure Rating: 175 psig.
 - 3) End Connections: Threaded.
- 3. Nonrising-Stem Gate Valves:
 - a. Description: Class 125, Type 1, bronze with solid wedge, threaded ends, and malleable-iron handwheel.
 - 1) Standard: MSS SP-80.

2.5 GATE VALVE ACCESSORIES AND SPECIALTIES

- A. Tapping-Sleeve Assemblies:
 - 1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - a. East Jordan Iron Works, Inc.
 - b. McWane, Inc.; Clow Valve Co. Div. (Oskaloosa).
 - c. McWane, Inc.; Kennedy Valve Div.
 - d. McWane, Inc.; M & H Valve Company Div.
 - 2. Description: Sleeve and valve compatible with drilling machine.
 - a. Standard: MSS SP-60.
 - b. Tapping Sleeve: Cast- or ductile-iron or stainless-steel, two-piece bolted sleeve with flanged outlet for new branch connection. Include sleeve matching size and type of pipe material being tapped and with recessed flange for branch valve.
 - c. Valve: AWWA, cast-iron, nonrising-stem, metal, resilient-seated gate valve with one raised face flange mating tapping-sleeve flange.
- B. Valve Boxes: Comply with AWWA M44 for cast-iron valve boxes. Include top section, adjustable extension of length required for depth of burial of valve, plug with lettering "WATER," and bottom section with base that fits over valve and with a barrel approximately 5 inches in diameter.
 - 1. Operating Wrenches: Steel, tee-handle with one pointed end, stem of length to operate deepest buried valve, and socket matching valve operating nut.
- C. Indicator Posts: UL 789, FMG-approved, vertical-type, cast-iron body with operating wrench, extension rod, and adjustable cast-iron barrel of length required for depth of burial of valve.

2.6 WATER METERS

- A. Water meters will be furnished by utility company.

2.7 BACKFLOW PREVENTERS

A. Reduced-Pressure-Principle Backflow Preventers:

1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - a. Ames Fire & Waterworks; a division of Watts Regulator Co.
 - b. Flomatic Corporation.
 - c. Wilkins; a Zurn company.
2. Standard: AWWA C511.
3. Operation: Continuous-pressure applications.
4. Pressure Loss: 12 psig maximum, through middle 1/3 of flow range.
5. Size: 6"
6. Body: Bronze for NPS 2 and smaller; cast iron with interior lining complying with AWWA C550 or that is FDA approved for NPS 2-1/2 and larger.
7. End Connections: Threaded for NPS 2 and smaller; flanged for NPS 2-1/2 and larger.
8. Configuration: Designed for horizontal, straight through flow.
9. Accessories:
 - a. Valves: Ball type with threaded ends on inlet and outlet of NPS 2 and smaller; OS&Y gate type with flanged ends on inlet and outlet of NPS 2-1/2 and larger.
 - b. Air-Gap Fitting: ASME A112.1.2, matching backflow preventer connection.

B. Double-Check, Backflow-Prevention Assemblies:

1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - a. Ames Fire & Waterworks; a division of Watts Regulator Co.
 - b. Flomatic Corporation.
 - c. Wilkins; a Zurn company.
2. Standard: AWWA C510.
3. Operation: Continuous-pressure applications, unless otherwise indicated.
4. Pressure Loss: 5 psig maximum, through middle 1/3 of flow range.
5. Size: 6"
6. Body: Bronze for NPS 2 and smaller; cast iron with interior lining complying with AWWA C550 or that is FDA approved for NPS 2-1/2 and larger.
7. End Connections: Threaded for NPS 2 and smaller; flanged for NPS 2-1/2 and larger.
8. Configuration: Designed for horizontal, straight through flow.
9. Accessories: Ball valves with threaded ends on inlet and outlet of NPS 2 and smaller; OS&Y gate valves with flanged ends on inlet and outlet of NPS 2-1/2 and larger.

2.8 CONCRETE VAULTS

- A. Description: Precast, reinforced-concrete vault, designed for A-16 load designation according to ASTM C 857 and made according to ASTM C 858.
1. Ladder: ASTM A 36/A 36M, steel or polyethylene-encased steel steps.
 2. Manhole: ASTM A 48/A 48M Class No. 35A minimum tensile strength, gray-iron traffic frame and cover.
 - a. Dimension: 24-inch minimum diameter, unless otherwise indicated.
 3. Manhole: ASTM A 536, Grade 60-40-18, ductile-iron traffic frame and cover.
 - a. Dimension: 24-inch- minimum diameter, unless otherwise indicated.
 4. Drain: ASME A112.6.3, cast-iron floor drain with outlet of size indicated. Include body anchor flange, light-duty cast-iron grate, bottom outlet, and integral or field-installed bronze ball or clapper-type backwater valve.

2.9 FIRE DEPARTMENT CONNECTIONS

- A. Fire Department Connections:
1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - a. Guardian Fire Equipment, Inc.
 - b. Kidde Fire Fighting.
 - c. Reliable Automatic Sprinkler Co., Inc.
 2. Description: Freestanding, with cast-bronze body, thread inlets according to NFPA 1963 and matching local fire department hose threads, and threaded bottom outlet. Include lugged caps, gaskets, and chains; lugged swivel connection and drop clapper for each hose-connection inlet; 18-inch- high brass sleeve; and round escutcheon plate.
 - a. Standard: UL 405.
 - b. Connections: Two NPS 2-1/2 inlets and one NPS 6 outlet.
 - c. Inlet Alignment: Inline, horizontal.
 - d. Finish Including Sleeve: Polished bronze.
 - e. Escutcheon Plate Marking: "AUTO SPKR & STANDPIPE."

PART 3 - EXECUTION

3.1 EARTHWORK

- A. Refer to Section 312000 "Earth Moving" for excavating, trenching, and backfilling.

3.2 PIPING APPLICATIONS

- A. General: Use pipe, fittings, and joining methods for piping systems according to the following applications.
- B. Transition couplings and special fittings with pressure ratings at least equal to piping pressure rating may be used, unless otherwise indicated.
- C. Do not use flanges or unions for underground piping.
- D. Flanges, unions, and special fittings may be used, instead of joints indicated, on aboveground piping and piping in vaults.
- E. Underground water-service piping NPS 3/4 to NPS 3 shall be soft copper tube, ASTM B 88, Type K; wrought-copper, solder-joint fittings; and brazed joints.
- F. Underground water-service piping NPS 4 and NPS 6 shall be any of the following:
 - 1. Ductile-iron, push-on-joint pipe; ductile-iron, push-on-joint fittings; and gasketed joints.
 - 2. NPS 4 and NPS 6: NPS 6 PVC, AWWA Class 150 pipe; PVC, AWWA Class 150 molded fittings; and gasketed joints.
- G. Water Meter Box Water-Service Piping NPS 3/4 to NPS 2 shall be same as underground water-service piping.
- H. Aboveground and Vault Water-Service Piping NPS 3/4 to NPS 3 shall be hard copper tube, ASTM B 88, Type K; wrought-copper, solder-joint fittings; and brazed joints.
- I. Aboveground and vault water-service piping NPS 4 and NPS 6 shall be the following:
 - 1. Ductile-iron, flanged-end pipe; ductile-iron, flanged-end appurtenances; and flanged joints.
- J. Underground Fire-Service-Main Piping NPS 4 to NPS 8 shall be the following:
 - 1. Ductile-iron, push-on-joint pipe; ductile-iron, push-on-joint fittings; and gasketed, mechanical-joint pipe; ductile-iron, mechanical-joint fittings; and mechanical joints.
- K. Aboveground and Vault Fire-Service-Main Piping NPS 4 to NPS 8 shall be ductile-iron, flanged-end pipe; ductile-iron-pipe appurtenances; and flanged joints.
- L. Underground Combined Water-Service and Fire-Service-Main Piping NPS 6 to NPS 10 shall be any of the following:
 - 1. Ductile-iron, push-on-joint pipe; ductile-iron, push-on-joint fittings; and gasketed, mechanical-joint pipe; ductile-iron, mechanical-joint fittings; and mechanical joints.
 - 2. PVC, AWWA Class 150 pipe listed for fire-protection service; PVC fabricated or molded fittings of same class as pipe; and gasketed joints.

3.3 VALVE APPLICATIONS

- A. General Application: Use mechanical-joint-end valves for NPS 3 and larger underground installation. Use threaded- or flanged-end valves for installation in vaults. Use UL/FMG, nonrising-stem gate valves for installation with indicator posts. Use corporation valves and curb valves with ends compatible with piping, for NPS 2 and smaller installation.
- B. Drawings indicate valve types to be used. Where specific valve types are not indicated, the following requirements apply:
 - 1. Underground Valves, NPS 3 and Larger: AWWA, cast-iron, nonrising-stem, resilient-seated gate valves with valve box.
 - 2. Underground Valves, NPS 4 and Larger, for Indicator Posts: UL/FMG, cast-iron, nonrising-stem gate valves with indicator post.
 - 3. Use the following for valves in vaults and aboveground:
 - a. Gate Valves, NPS 2 and Smaller: Bronze, nonrising stem.
 - b. Gate Valves, NPS 3 and Larger: AWWA, cast iron, OS&Y rising stem, resilient seated.

3.4 PIPING SYSTEMS - COMMON REQUIREMENTS

- A. See Section 330500 "Common Work Results for Utilities" for piping-system common requirements.

3.5 PIPING INSTALLATION

- A. Water-Main Connection: Arrange with utility company for tap of size and in location indicated in water main.
- B. Water-Main Connection: Tap water main according to requirements of water utility company and of size and in location indicated.
- C. Make connections larger than NPS 2 with tapping machine according to the following:
 - 1. Install tapping sleeve and tapping valve according to MSS SP-60.
 - 2. Install tapping sleeve on pipe to be tapped. Position flanged outlet for gate valve.
 - 3. Use tapping machine compatible with valve and tapping sleeve; cut hole in main. Remove tapping machine and connect water-service piping.
 - 4. Install gate valve onto tapping sleeve. Comply with MSS SP-60. Install valve with stem pointing up and with valve box.
- D. Make connections NPS 2 and smaller with drilling machine according to the following:
 - 1. Install service-saddle assemblies and corporation valves in size, quantity, and arrangement required by utility company standards.
 - 2. Install service-saddle assemblies on water-service pipe to be tapped. Position outlets for corporation valves.

3. Use drilling machine compatible with service-saddle assemblies and corporation valves. Drill hole in main. Remove drilling machine and connect water-service piping.
 4. Install corporation valves into service-saddle assemblies.
 5. Install manifold for multiple taps in water main.
 6. Install curb valve in water-service piping with head pointing up and with service box.
- E. Comply with NFPA 24 for fire-service-main piping materials and installation.
1. Install copper tube and fittings according to CDA's "Copper Tube Handbook."
- F. Install ductile-iron, water-service piping according to AWWA C600 and AWWA M41.
- G. Install PE pipe according to ASTM D 2774 and ASTM F 645.
- H. Install PVC, AWWA pipe according to ASTM F 645 and AWWA M23.
- I. Bury piping with depth of cover over top at least 36 inches, with top at least 12 inches below level of maximum frost penetration.
- J. Extend water-service piping and connect to water-supply source and building-water-piping systems at outside face of building wall in locations and pipe sizes indicated.
1. Terminate water-service piping at building wall until building-water-piping systems are installed. Terminate piping with caps, plugs, or flanges as required for piping material. Make connections to building-water-piping systems when those systems are installed.
- K. Sleeves are specified in Section 220517 "Sleeves and Sleeve Seals for Plumbing Piping."
- L. Mechanical sleeve seals are specified in Section 220517 "Sleeves and Sleeve Seals for Plumbing Piping."
- M. Install underground piping with restrained joints at horizontal and vertical changes in direction. Use restrained-joint piping, thrust blocks, anchors, tie-rods and clamps, and other supports.
- 3.6 JOINT CONSTRUCTION
- A. See Section 330500 "Common Work Results for Utilities" for basic piping joint construction.
- B. Make pipe joints according to the following:
1. Ductile-Iron Piping, Gasketed Joints for Water-Service Piping: AWWA C600 and AWWA M41.
 2. Ductile-Iron Piping, Gasketed Joints for Fire-Service-Main Piping: UL 194.
 3. PVC Piping Gasketed Joints: Use joining materials according to AWWA C900. Construct joints with elastomeric seals and lubricant according to ASTM D 2774 or ASTM D 3139 and pipe manufacturer's written instructions.
 4. Dissimilar Materials Piping Joints: Use adapters compatible with both piping materials, with OD, and with system working pressure.

3.7 ANCHORAGE INSTALLATION

- A. Anchorage, General: Install water-distribution piping with restrained joints. Anchorages and restrained-joint types that may be used include the following:
 - 1. Concrete thrust blocks.
 - 2. Locking mechanical joints.
 - 3. Set-screw mechanical retainer glands.
 - 4. Bolted flanged joints.
 - 5. Pipe clamps and tie rods.
- B. Install anchorages for tees, plugs and caps, bends, crosses, valves, and hydrant branches. Include anchorages for the following piping systems:
 - 1. Gasketed-Joint, Ductile-Iron, Water-Service Piping: According to AWWA C600.
 - 2. Gasketed-Joint, PVC Water-Service Piping: According to AWWA M23.
 - 3. Fire-Service-Main Piping: According to NFPA 24.
- C. Apply full coat of asphalt or other acceptable corrosion-resistant material to surfaces of installed ferrous anchorage devices.

3.8 VALVE INSTALLATION

- A. AWWA Gate Valves: Comply with AWWA C600 and AWWA M44. Install each underground valve with stem pointing up and with valve box.
- B. UL/FMG, Gate Valves: Comply with NFPA 24. Install each underground valve and valves in vaults with stem pointing up and with vertical cast-iron indicator post.
- C. MSS Valves: Install as component of connected piping system.
- D. Corporation Valves and Curb Valves: Install each underground curb valve with head pointed up and with service box.

3.9 WATER METER INSTALLATION

- A. Install water meters, piping, and specialties according to utility company's written instructions.

3.10 BACKFLOW PREVENTER INSTALLATION

- A. Install backflow preventers of type, size, and capacity indicated. Include valves and test cocks. Install according to requirements of plumbing and health department and authorities having jurisdiction.
- B. Do not install backflow preventers that have relief drain in vault or in other spaces subject to flooding.
- C. Do not install bypass piping around backflow preventers.

- D. Support NPS 2-1/2 and larger backflow preventers, valves, and piping near floor and on brick or concrete piers.

3.11 WATER METER BOX INSTALLATION

- A. Install water meter boxes in paved areas flush with surface.
- B. Install water meter boxes in grass or earth areas with top 1 inch above surface.

3.12 CONCRETE VAULT INSTALLATION

- A. Install precast concrete vaults according to ASTM C 891.

3.13 FIRE HYDRANT INSTALLATION

- A. General: Install each fire hydrant with separate gate valve in supply pipe, anchor with restrained joints or thrust blocks, and support in upright position.
- B. Wet-Barrel Fire Hydrants: Install with valve below frost line. Provide for drainage.
- C. AWWA Fire Hydrants: Comply with AWWA M17.
- D. UL/FMG Fire Hydrants: Comply with NFPA 24.

3.14 CONNECTIONS

- A. See Section 330500 "Common Work Results for Utilities" for piping connections to valves and equipment.
- B. Connect water-distribution piping to existing water main. Use tapping sleeve and tapping valve.
- C. Connect water-distribution piping to interior domestic water and fire-suppression piping.
- D. Connect waste piping from concrete vault drains to storm-drainage system. See Section 334100 "Storm Utility Drainage Piping" for connection to storm-sewer piping.

3.15 FIELD QUALITY CONTROL

- A. Piping Tests: Conduct piping tests before joints are covered and after concrete thrust blocks have hardened sufficiently. Fill pipeline 24 hours before testing and apply test pressure to stabilize system. Use only potable water.
- B. Hydrostatic Tests: Test at not less than one-and-one-half times working pressure for two hours.
 - 1. Increase pressure in 50-psig increments and inspect each joint between increments. Hold at test pressure for 1 hour; decrease to 0 psig. Slowly increase again to test pressure and

hold for 1 more hour. Maximum allowable leakage is 2 quarts per hour per 100 joints. Remake leaking joints with new materials and repeat test until leakage is within allowed limits.

- C. Prepare reports of testing activities.

3.16 IDENTIFICATION

- A. Install continuous underground detectable warning tape during backfilling of trench for underground water-distribution piping. Locate below finished grade, directly over piping. Underground warning tapes are specified in Section 312000 "Earth Moving."
- B. Permanently attach equipment nameplate or marker indicating plastic water-service piping, on main electrical meter panel. See Section 330500 "Common Work Results for Utilities" for identifying devices.

3.17 CLEANING

- A. Clean and disinfect water-distribution piping as follows:
 - 1. Purge new water-distribution piping systems and parts of existing systems that have been altered, extended, or repaired before use.
 - 2. Use purging and disinfecting procedure prescribed by authorities having jurisdiction or, if method is not prescribed by authorities having jurisdiction, use procedure described in AWWA C651 or do as follows:
 - a. Fill system or part of system with water/chlorine solution containing at least 50 ppm of chlorine; isolate and allow to stand for 24 hours.
 - b. After standing time, flush system with clean, potable water until no chlorine remains in water coming from system.
 - c. Submit water samples in sterile bottles to authorities having jurisdiction. Repeat procedure if biological examination shows evidence of contamination.
- B. Prepare reports of purging and disinfecting activities.

END OF SECTION 221113

SECTION 311000 - SITE CLEARING

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Protecting existing vegetation to remain.
2. Removing existing vegetation.
3. Clearing and grubbing.
4. Stripping and stockpiling topsoil.
5. Removing above- and below-grade site improvements.
6. Disconnecting, capping or sealing site utilities.
7. Temporary erosion- and sedimentation-control measures.

1.2 MATERIAL OWNERSHIP

- A. Except for stripped topsoil and other materials indicated to be stockpiled or otherwise remain Owner's property, cleared materials shall become Contractor's property and shall be removed from Project site.

1.3 PROJECT CONDITIONS

- A. Traffic: Minimize interference with adjoining roads, streets, walks, and other adjacent occupied or used facilities during site-clearing operations.
1. Do not close or obstruct streets, walks, or other adjacent occupied or used facilities without permission from Owner and authorities having jurisdiction.
 2. Provide alternate routes around closed or obstructed traffic ways if required by Owner or authorities having jurisdiction.
- B. Utility Locator Service: Notify utility locator service for area where Project is located before site clearing.
- C. Do not commence site clearing operations until temporary erosion- and sedimentation-control and plant-protection measures are in place.
- D. The following practices are prohibited within protection zones:
1. Storage of construction materials, debris, or excavated material.
 2. Parking vehicles or equipment.
 3. Foot traffic.
 4. Erection of sheds or structures.
 5. Impoundment of water.
 6. Excavation or other digging unless otherwise indicated.

7. Attachment of signs to or wrapping materials around trees or plants unless otherwise indicated.

PART 2 - PRODUCTS

2.1 MATERIALS

- A. Satisfactory Soil Material: Requirements for satisfactory soil material are specified in Section 312000 "Earth Moving."
 1. Obtain approved borrow soil material from off-site sources.

PART 3 - EXECUTION

3.1 PREPARATION

- A. Protect and maintain benchmarks and survey control points from disturbance during construction.
- B. Locate and clearly identify trees, shrubs, and other vegetation to remain or to be relocated.
- C. Protect existing site improvements to remain from damage during construction.
 1. Restore damaged improvements to their original condition, as acceptable to Owner.

3.2 TEMPORARY EROSION AND SEDIMENTATION CONTROL

- A. Provide temporary erosion- and sedimentation-control measures to prevent soil erosion and discharge of soil-bearing water runoff or airborne dust to adjacent properties and walkways, according to erosion- and sedimentation-control Drawings and requirements of authorities having jurisdiction.
- B. Verify that flows of water redirected from construction areas or generated by construction activity do not enter or cross protection zones.
- C. Inspect, maintain, and repair erosion- and sedimentation-control measures during construction until permanent vegetation has been established.
- D. Remove erosion and sedimentation controls and restore and stabilize areas disturbed during removal.

3.3 TREE AND PLANT PROTECTION

- A. General: Protect trees and plants remaining on-site.

- B. Repair or replace trees, shrubs, and other vegetation indicated to remain or be relocated that are damaged by construction operations, in a manner approved by Architect.

3.4 EXISTING UTILITIES

- A. Locate, identify, disconnect, and seal or cap utilities indicated to be removed or abandoned in place.
 - 1. Arrange with utility companies to shut off indicated utilities.

3.5 CLEARING AND GRUBBING

- A. Remove obstructions, trees, shrubs, and other vegetation to permit installation of new construction.
 - 1. Grind down stumps and remove roots, obstructions, and debris to a depth of 18 inches below exposed subgrade.
 - 2. Use only hand methods for grubbing within protection zones.
- B. Fill depressions caused by clearing and grubbing operations with satisfactory soil material unless further excavation or earthwork is indicated.
 - 1. Place fill material in horizontal layers not exceeding a loose depth of 8 inches, and compact each layer to a density equal to adjacent original ground.

3.6 TOPSOIL STRIPPING

- A. Remove sod and grass before stripping topsoil.
- B. Strip topsoil to depth of 6 inches in a manner to prevent intermingling with underlying subsoil or other waste materials.
- C. Stockpile topsoil away from edge of excavations without intermixing with subsoil. Grade and shape stockpiles to drain surface water. Cover to prevent windblown dust and erosion by water.

3.7 SITE IMPROVEMENTS

- A. Remove existing above- and below-grade improvements as indicated and necessary to facilitate new construction.

3.8 DISPOSAL OF SURPLUS AND WASTE MATERIALS

- A. Remove surplus soil material, unsuitable topsoil, obstructions, demolished materials, and waste materials including trash and debris, and legally dispose of them off Owner's property.

END OF SECTION 311000

SECTION 312000 - EARTH MOVING

PART 1 - GENERAL

1.1 GEOTECHNICAL REPORT.

- A. A geotechnical report is not available.

1.2 SUMMARY

- A. Section Includes:

1. Preparing subgrades for pavements, turf and grasses and plants.
2. Excavating and backfilling for buildings and structures.
3. Drainage course for concrete slabs-on-grade.
4. Subbase course for concrete pavements.
5. Excavating and backfilling for utility trenches.

1.3 DEFINITIONS

- A. Backfill: Soil material used to fill an excavation.

1. Initial Backfill: Backfill placed beside and over pipe in a trench, including haunches to support sides of pipe.
2. Final Backfill: Backfill placed over initial backfill to fill a trench.

- B. Base Course: Aggregate layer placed between the subbase course and paving.

- C. Bedding Course: Aggregate layer placed over the excavated subgrade in a trench before laying pipe.

- D. Borrow Soil: Satisfactory soil borrowed from on or off-site locations for use as fill or backfill. Contractor must notify the Owners representative as to the location of the borrow site(s).

- E. Drainage Course: Aggregate layer supporting the slab-on-grade that also minimizes upward capillary flow of pore water.

- F. Excavation: Removal of material encountered above subgrade elevations and to lines and dimensions indicated.

1. Authorized Additional Excavation: Excavation below subgrade elevations or beyond indicated lines and dimensions as directed by Architect. Authorized additional excavation and replacement material will be paid for according to Contract provisions for changes in the Work.
2. Unauthorized Excavation: Excavation below subgrade elevations or beyond indicated lines and dimensions without direction by Architect. Unauthorized excavation, as well as remedial work directed by Architect, shall be without additional compensation.

- G. Fill: Soil materials used to raise existing grades.
- H. Structures: Buildings, footings, foundations, retaining walls, slabs, tanks, curbs, mechanical and electrical appurtenances, or other man-made stationary features constructed above or below the ground surface.
- I. Subbase Course: Aggregate layer placed between the subgrade and base course for hot-mix asphalt pavement, or aggregate layer placed between the subgrade and a cement concrete pavement or a cement concrete or hot-mix asphalt walk.
- J. Subgrade: Uppermost surface of an excavation or the top surface of a fill or backfill immediately below subbase, drainage fill, drainage course, or topsoil materials.
- K. Utilities: On-site underground pipes, conduits, ducts, and cables, as well as underground services within buildings.

1.4 PROJECT CONDITIONS

- A. Utility Locator Service: Notify utility locator service for area where Project is located before beginning earth moving operations.

PART 2 - PRODUCTS

2.1 SOIL MATERIALS

- A. General: Provide borrow soil materials when sufficient satisfactory soil materials are not available from excavations.
- B. Satisfactory Soils: Soil Classification Groups GW, GP, GM, SW, SP, and SM according to ASTM D 2487, or a combination of these groups; free of rock or gravel larger than 2" in any dimension, debris, waste, frozen materials, vegetation, and other deleterious matter.
- C. Unsatisfactory Soils: Soil Classification Groups GC, SC, CL, ML, OL, CH, MH, OH, and PT according to ASTM D 2487, or a combination of these groups.
 - 1. Unsatisfactory soils also include satisfactory soils not maintained within 2 percent of optimum moisture content at time of compaction.
- D. Subbase Material: Naturally or artificially graded mixture of natural or crushed gravel, crushed stone, and natural or crushed sand; ASTM D 2940; with at least 90 percent passing a 1-1/2-inch sieve and not more than 12 percent passing a No. 200 sieve.
- E. Base Course: Naturally or artificially graded mixture of natural or crushed gravel, crushed stone, and natural or crushed sand; ASTM D 2940; with at least 95 percent passing a 1-1/2-inch sieve and not more than 8 percent passing a No. 200 sieve.

- F. Engineered Fill: Naturally or artificially graded mixture of natural or crushed gravel, crushed stone, and natural or crushed sand; ASTM D 2940; with at least 90 percent passing a 1-1/2-inch sieve and not more than 12 percent passing a No. 200 sieve.
- G. Bedding Course: Naturally or artificially graded mixture of natural or crushed gravel, crushed stone, and natural or crushed sand; ASTM D 2940; except with 100 percent passing a 1-inch sieve and not more than 8 percent passing a No. 200 sieve.
- H. Drainage Course: Narrowly graded mixture of crushed stone, or crushed or uncrushed gravel; ASTM D 448; coarse-aggregate grading Size 57; with 100 percent passing a 1-1/2-inch sieve and 0 to 5 percent passing a No. 8 sieve.

2.2 ACCESSORIES

- A. Warning Tape: Acid- and alkali-resistant, polyethylene film warning tape manufactured for marking and identifying underground utilities, 6 inches wide and 4 mils thick, continuously inscribed with a description of the utility; colored to comply with local practice or requirements of authorities having jurisdiction.
- B. Detectable Warning Tape: Acid- and alkali-resistant, polyethylene film warning tape manufactured for marking and identifying underground utilities, a minimum of 6 inches wide and 4 mils thick, continuously inscribed with a description of the utility, with metallic core encased in a protective jacket for corrosion protection, detectable by metal detector when tape is buried up to 30 inches deep; colored to comply with local practice or requirements of authorities having jurisdiction.

PART 3 - EXECUTION

3.1 PREPARATION

- A. Protect structures, utilities, sidewalks, pavements, and other facilities from damage caused by settlement, lateral movement, undermining, washout, and other hazards created by earth moving operations.
- B. Protect and maintain erosion and sedimentation controls during earth moving operations.
- C. Protect subgrades and foundation soils from freezing temperatures and frost. Remove temporary protection before placing subsequent materials.

3.2 EXCAVATION, GENERAL

- A. Unclassified Excavation: Excavate to subgrade elevations regardless of the character of surface and subsurface conditions encountered. Unclassified excavated materials may include rock, soil materials, and obstructions. No changes in the Contract Sum or the Contract Time will be authorized for rock excavation or removal of obstructions.

1. If excavated materials intended for fill and backfill include unsatisfactory soil materials and rock, replace with satisfactory soil materials.

3.3 EXCAVATION FOR STRUCTURES

- A. Excavate to indicated elevations and dimensions within a tolerance of plus or minus 1 inch. If applicable, extend excavations a sufficient distance from structures for placing and removing concrete formwork, for installing services and other construction, and for inspections.
 1. Excavations for Footings and Foundations: Do not disturb bottom of excavation. Excavate by hand to final grade just before placing concrete reinforcement. Trim bottoms to required lines and grades to leave solid base to receive other work.
- B. Excavations at Edges of Tree- and Plant-Protection Zones:
 1. Excavate by hand to indicated lines, cross sections, elevations, and subgrades. Use narrow-tine spading forks to comb soil and expose roots. Do not break, tear, or chop exposed roots. Do not use mechanical equipment that rips, tears, or pulls roots.

3.4 EXCAVATION FOR WALKS AND PAVEMENTS

- A. Excavate surfaces under walks and pavements to indicated lines, cross sections, elevations, and subgrades.

3.5 EXCAVATION FOR UTILITY TRENCHES

- A. Excavate trenches to indicated gradients, lines, depths, and elevations.
- B. Excavate trenches to uniform widths to provide the following clearance on each side of pipe or conduit. Excavate trench walls vertically from trench bottom to 12 inches higher than top of pipe or conduit unless otherwise indicated.
 1. Clearance: As indicated in drawings.
- C. Trench Bottoms: Excavate and shape trench bottoms to provide uniform bearing and support of pipes and conduit. Shape subgrade to provide continuous support for bells, joints, and barrels of pipes and for joints, fittings, and bodies of conduits. Remove projecting stones and sharp objects along trench subgrade.
 1. Excavate trenches 6 inches deeper than elevation required in rock or other unyielding bearing material, 4 inches deeper elsewhere, to allow for bedding course.
- D. Trenches in Tree- and Plant-Protection Zones:
 1. Hand-excavate to indicated lines, cross sections, elevations, and subgrades. Use narrow-tine spading forks to comb soil and expose roots. Do not break, tear, or chop exposed roots. Do not use mechanical equipment that rips, tears, or pulls roots.

2. Do not cut main lateral roots or taproots; cut only smaller roots that interfere with installation of utilities.

3.6 SUBGRADE INSPECTION

- A. Proof-roll subgrade below the building slabs and pavements with a pneumatic-tired dump truck to identify soft pockets and areas of excess yielding. Do not proof-roll wet or saturated subgrades.
- B. Reconstruct subgrades damaged by freezing temperatures, frost, rain, accumulated water, or construction activities, as directed by Architect, without additional compensation.

3.7 UNAUTHORIZED EXCAVATION

- A. Fill unauthorized excavation under foundations or wall footings by extending bottom elevation of concrete foundation or footing to excavation bottom, without altering top elevation. Lean concrete fill, with 28-day compressive strength of 2500 psi, may be used when approved by Architect.
 1. Fill unauthorized excavations under other construction, pipe, or conduit as directed by Architect.

3.8 STORAGE OF SOIL MATERIALS

- A. Stockpile borrow soil materials and excavated satisfactory soil materials without intermixing. Place, grade, and shape stockpiles to drain surface water. Cover to prevent windblown dust.
 1. Stockpile soil materials away from edge of excavations. Do not store within drip line of remaining trees.

3.9 UTILITY TRENCH BACKFILL

- A. Place backfill on subgrades free of mud, frost, snow, or ice.
- B. Place and compact bedding course on trench bottoms and where indicated. Shape bedding course to provide continuous support for bells, joints, and barrels of pipes and for joints, fittings, and bodies of conduits.
- C. Trenches under Footings: Backfill trenches excavated under footings and within 18 inches of bottom of footings with satisfactory soil; fill with concrete to elevation of bottom of footings.
- D. Trenches under Roadways: Provide 4-inch- thick, concrete-base slab support for piping or conduit less than 30 inches below surface of roadways. After installing and testing, completely encase piping or conduit in a minimum of 4 inches of concrete before backfilling or placing roadway subbase course.
- E. Place and compact initial backfill free of particles larger than 1 inch in any dimension, to a height of 12 inches over the pipe or conduit.

1. Carefully compact initial backfill under pipe haunches and compact evenly up on both sides and along the full length of piping or conduit to avoid damage or displacement of piping or conduit. Coordinate backfilling with utilities testing.
- F. Place and compact final backfill of satisfactory soil to final subgrade elevation.
- G. Install warning tape directly above utilities, 12 inches below finished grade, except 6 inches below subgrade under pavements and slabs.

3.10 SOIL FILL

- A. Plow, scarify, bench, or break up sloped surfaces steeper than 1 vertical to 4 horizontal so fill material will bond with existing material.
- B. Place and compact fill material in layers to required elevations as follows:
1. Under grass and planted areas, use satisfactory soil material.
 2. Under walks and pavements, use satisfactory soil material.
 3. Under steps and ramps, use engineered fill.
 4. Under building slabs, use engineered fill.
 5. Under footings and foundations, use engineered fill.

3.11 SOIL MOISTURE CONTROL

- A. Uniformly moisten or aerate subgrade and each subsequent fill or backfill soil layer before compaction to within 2 percent of optimum moisture content.
1. Do not place backfill or fill soil material on surfaces that are muddy, frozen, or contain frost or ice.
 2. Remove and replace, or scarify and air dry, otherwise satisfactory soil material that exceeds optimum moisture content by 2 percent and is too wet to compact to specified dry unit weight.

3.12 COMPACTION OF SOIL BACKFILLS AND FILLS

- A. Place backfill and fill soil materials in layers not more than 8 inches in loose depth for material compacted by heavy compaction equipment, and not more than 4 inches in loose depth for material compacted by hand-operated tampers.
- B. Place backfill and fill soil materials evenly on all sides of structures to required elevations, and uniformly along the full length of each structure.
- C. Compact soil materials to not less than the following percentages of maximum dry unit weight according to ASTM D 698 or ASTM D 1557:
1. Under structures, building slabs, steps, and pavements, scarify and recompact top 12 inches of existing subgrade and each layer of backfill or fill soil material at 100 percent.

2. Under walkways, scarify and recompact top 6 inches below subgrade and compact each layer of backfill or fill soil material at 98 percent.
3. Under turf or unpaved areas, scarify and recompact top 6 inches below subgrade and compact each layer of backfill or fill soil material at 95 percent.
4. For utility trenches, compact each layer of initial and final backfill soil material at 90 percent.

3.13 GRADING

- A. General: Uniformly grade areas to a smooth surface, free of irregular surface changes. Comply with compaction requirements and grade to cross sections, lines, and elevations indicated.
- B. Site Rough Grading: Slope grades to direct water away from buildings and to prevent ponding. Finish subgrades to required elevations within the following tolerances:
 1. Turf or Unpaved Areas: Plus or minus 1 inch.
 2. Walks: Plus or minus 1 inch.
 3. Pavements: Plus or minus 1/2 inch.
- C. Grading inside Building Lines: Finish subgrade to a tolerance of 1/2 inch when tested with a 10-foot straightedge.

3.14 SUBBASE AND BASE COURSES UNDER PAVEMENTS AND WALKS

- A. Place subbase course and base course on subgrades free of mud, frost, snow, or ice.
- B. On prepared subgrade, place subbase course and base course under pavements and walks as follows:
 1. Shape subbase course and base course to required crown elevations and cross-slope grades.
 2. Place subbase course and base course that exceeds 4 inches in compacted thickness in layers of equal thickness, with no compacted layer more than 4 inches thick or less than 3 inches thick.
 3. Compact subbase course and base course at optimum moisture content to required grades, lines, cross sections, and thickness to not less than 98 percent of maximum dry unit weight according to ASTM D 698 or ASTM D 1557.

3.15 DRAINAGE COURSE UNDER CONCRETE SLABS-ON-GRADE

- A. Place drainage course on subgrades free of mud, frost, snow, or ice.
- B. On prepared subgrade, place and compact drainage course under cast-in-place concrete slabs-on-grade as follows:
 1. Place drainage course that exceeds 6 inches in compacted thickness in layers of equal thickness, with no compacted layer more than 6 inches thick or less than 3 inches thick.

2. Compact each layer of drainage course to required cross sections and thicknesses to not less than 98 percent of maximum dry unit weight according to ASTM D 698.

3.16 FIELD QUALITY CONTROL

- A. Testing Agency: Owner will engage a qualified geotechnical engineering testing agency to perform tests and inspections.
- B. Allow testing agency to inspect and test subgrades and each fill or backfill layer. Proceed with subsequent earth moving only after test results for previously completed work comply with requirements.
- C. Footing Subgrade: At footing subgrades, at least one test of each soil stratum will be performed to verify design bearing capacities. Subsequent verification and approval of other footing subgrades may be based on a visual comparison of subgrade with tested subgrade when approved by Architect.
- D. When testing agency reports that subgrades, fills, or backfills have not achieved degree of compaction specified, scarify and moisten or aerate, or remove and replace soil materials to depth required; recompact and retest until specified compaction is obtained.

3.17 TOPSOIL MATERIALS

- A. Excavated and reused material located in top 8 inches or if inadequate amounts, hauled in from approved borrow sites.
- B. Graded
- C. Free of roots larger than ½ inch, subsoil, debris, large weeds and foreign matter.

3.18 PROTECTION

- A. Protecting Graded Areas: Protect newly graded areas from traffic, freezing, and erosion. Keep free of trash and debris.
- B. Repair and reestablish grades to specified tolerances where completed or partially completed surfaces become eroded, rutted, settled, or where they lose compaction due to subsequent construction operations or weather conditions.
- C. Where settling occurs before Project correction period elapses, remove finished surfacing, backfill with additional soil material, compact, and reconstruct surfacing.
 1. Restore appearance, quality, and condition of finished surfacing to match adjacent work, and eliminate evidence of restoration to greatest extent possible.

3.19 DISPOSAL OF SURPLUS AND WASTE MATERIALS

- A. Remove surplus satisfactory soil and waste materials, including unsatisfactory soil, trash, and debris, and legally dispose of them off Owner's property.

END OF SECTION 312000

SECTION 312319 - DEWATERING

PART 1 - GENERAL

1.1 SUMMARY

- A. Section includes construction dewatering.

1.2 PERFORMANCE REQUIREMENTS

- A. Dewatering Performance: Design, furnish, install, test, operate, monitor, and maintain dewatering system of sufficient scope, size, and capacity to control hydrostatic pressures and to lower, control, remove, and dispose of ground water and permit excavation and construction to proceed on dry, stable subgrades.

1.3 ACTION SUBMITTALS

- A. Shop Drawings: For dewatering system. Show arrangement, locations, and details of wells and well points; locations of risers, headers, filters, pumps, power units, discharge lines, piezometers, and flow-measuring devices; and means of discharge, control of sediment, and disposal of water.
- B. Delegated-Design Submittal: For dewatering system indicated to comply with performance requirements and design criteria, including analysis data signed and sealed by the qualified professional engineer responsible for their preparation.

1.4 QUALITY ASSURANCE

- A. Regulatory Requirements: Comply with governing EPA notification regulations before beginning dewatering. Comply with hauling and disposal regulations of authorities having jurisdiction.
- B. Preinstallation Conference: Conduct conference at Project site.

1.5 PROJECT CONDITIONS

- A. Survey Work: Engage a qualified land surveyor or professional engineer to survey adjacent existing buildings, structures, and site improvements, establishing exact elevations at fixed points to act as benchmarks. Clearly identify benchmarks and record existing elevations.
 - 1. During dewatering, regularly resurvey benchmarks, maintaining an accurate log of surveyed elevations for comparison with original elevations. Promptly notify Architect if changes in elevations occur or if cracks, sags, or other damage is evident in adjacent construction.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION

3.1 INSTALLATION

- A. Provide temporary grading to facilitate dewatering and control of surface water.
- B. Monitor dewatering systems continuously.
- C. Protect and maintain temporary erosion and sedimentation controls, which are specified during dewatering operations.
- D. Install dewatering system utilizing wells, well points, or similar methods complete with pump equipment, standby power and pumps, filter material gradation, valves, appurtenances, water disposal, and surface-water controls.
 - 1. Space well points or wells at intervals required to provide sufficient dewatering.
 - 2. Use filters or other means to prevent pumping of fine sands or silts from the subsurface.
- E. Before excavating below ground-water level, place system into operation to lower water to specified levels. Operate system continuously until drains, sewers, and structures have been constructed and fill materials have been placed or until dewatering is no longer required.
- F. Provide an adequate system to lower and control ground water to permit excavation, construction of structures, and placement of fill materials on dry subgrades. Install sufficient dewatering equipment to drain water-bearing strata above and below bottom of foundations, drains, sewers, and other excavations.
 - 1. Do not permit open-sump pumping that leads to loss of fines, soil piping, subgrade softening, and slope instability.
- G. Reduce hydrostatic head in water-bearing strata below subgrade elevations of foundations, drains, sewers, and other excavations.
 - 1. Maintain piezometric water level a minimum of 24 inches below surface of excavation.
- H. Provide standby equipment on site, installed and available for immediate operation, to maintain dewatering on continuous basis if any part of system becomes inadequate or fails. If dewatering requirements are not satisfied due to inadequacy or failure of dewatering system, restore damaged structures and foundation soils at no additional expense to Owner.
 - 1. Remove dewatering system from Project site on completion of dewatering. Plug or fill well holes with sand or cut off and cap wells a minimum of 36 inches below overlying construction.

END OF SECTION 312319

SECTION 312500 – EROSION AND SEDIMENTATION CONTROL (INCLUDES SWPPP)

PART 1 - GENERAL

1.1 SUMMARY

A. Section includes:

1. Temporary erosion and sedimentation control measures.
2. Storm Water Pollution Prevention Plan (SWPPP or SWP3)
3. The following forms:
 - a. Site Posting (Construction Site Notice)
 - b. Pre-Construction Meeting
 - c. Weekly Site Inspection Checklist
 - d. Site Log for Earthwork Activities
 - e. Site Spill Log
 - f. Site Visit Log for EPA/Government Officials

B. Contractor Responsible:

1. The selected contractor for Contract A – Site and Trail Work, shall be responsible for the requirements of this section and for filing of the Notice of Intent (NOI).

1.2 QUALITY ASSURANCE

- A. Preinstallation Conference: Conduct conference at Project site as specified by the SWPPP with applicable subcontractors, the civil engineer of record, the Owner’s Representative, and any applicable governing officials.

1.3 PROJECT CONDITIONS

- A. Review and certify the SWPPP prior to beginning onsite work.
- B. Traffic: Minimize interference with adjoining roads, streets, walks, and other adjacent occupied facilities when installing erosion controls. Coordinate all measures with applicable government authorities having jurisdiction over the connecting, adjacent, or surrounding roadways.
- C. Utility Locator Service: Notify utility locator service for area where Project is located before installing erosion or sediment control measures.

PART 2 - PRODUCTS

2.1 MATERIALS

- A. Seed, sod, and or ground covers as indicated on the Drawings.
- B. Erosion/Sediment control devices or Best Management Practices as indicated on the Drawings and in the SWPPP.

PART 3 - EXECUTION

3.1 PREPARATION

- A. Review the Storm Water Pollution Prevention Plan attached to this section and all applicable Drawings, checklist, logs, etc.

3.2 IMPLEMENTATION AND DOCUMENTATION

- A. Inspect, repair, and maintain erosion and sedimentation control measures, per the SWPPP, during construction until permanent vegetation has been established.
- B. Execute required site inspection checklists, documents, and site logs in the SWPPP.
- C. Update, maintain, alter, or add temporary erosion and sediment controls in conjunction with the SWPPP and ongoing earthwork activities as required for the Project.
- D. Maintain an up-to-date Site Plan in the field office. Continually update the Site Plan with notations that coordinate with the site checklists and logs per the SWPPP.
- E. The Owner's Representative has the right and authority to limit earth-moving activities and to direct the Contractor to immediately provide permanent or temporary pollution control measures.
- F. Install permanent erosion measures such as pavement and lawn areas as soon as practically possible to minimize temporary pollution control measures.
- G. Remove erosion and sedimentation controls and restore and stabilize areas disturbed during removal.
- H. Ensure that a proper Notice of Termination (NOT) is filed with the governing authority.

3.3 CLOSEOUT DOCUMENTS

- A. Before retainage can be released, the Contractor must provide the Owner with a final copy of all documents making up the SWPPP including plans, checklists, and logs.
 - 1. Retain a copy of the above documentation for a minimum of three years from final acceptance.

The Storm Water Pollution Prevention Plan (SWPPP), forms, checklists, and logs follow this page.

**STORM WATER POLLUTION PREVENTION PLAN (SWPPP)
FOR CONSTRUCTION ACTIVITIES
AT
Elyria West Park**

Prepared For: City of Elyria, Ohio

Preparation Date: _____, 20 22

Prepared by (Civil Eng Firm): Brandstetter Carroll Inc.
Name
1220 W. 6th Street
Address
Cleveland, Ohio 44113
City, State, Zip

Estimated Project Dates: Construction Start August, 2022
Construction Complete: _____, 202_

Owner Name and Address: City of Elyria, Ohio
Name
131 Court Street
Address
Elyria, Ohio 44035
City, State, Zip

General Contractor: _____
Name

Address

City, State, Zip

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• Notice of Termination	

I. Introduction

The objective of this Storm Water Pollution Prevention Plan (SWPPP or SWP3) is to identify, design, construct, and implement Best Management Practices (BMP’s) to reduce or eliminate pollutants in storm water discharges during the construction of this project.

This SWPPP includes but is not limited to Division 31 Section "Erosion and Sedimentation Controls", all Erosion and Sediment Control Plans in the Contract Drawings including location maps, phasing drawings, detail sheets, and all applicable attachments: Notice of Intent (NOI), Local Permit Text, Inspection Checklists, Logs, and Notice of Termination (NOT). This SWPPP is a living, breathing document with all updates and modifications during construction made part of the overall plan as they occur.

The EPA or local government agency that oversees this project is:

Ohio EPA

II. Contact List of Operators

Prior to the commencement of earth disturbing activities, a Pre-Construction Meeting is to be held and the attached Pre-Construction Meeting Form will be fully executed listing all required contact names and numbers. Any subcontractor(s) required to be a co-permittee by local jurisdictions must be listed and provide a copy of their NOI or co-permit to the owner and attach to this SWPPP.

III. Project Description

A. Project Scope: This project includes, but is not limited to, earthwork, asphalt Paving, Curb and gutter, storm water drainage, sanitary sewers, water lines for domestic and fire prevention, power and communication lines, sports courts and fields as shown in the contract documents for construction of a community park.

B. Location Maps: A general location map and overall site map of this project is included in the erosion and sediment control construction drawings for this project. Please reference the following site drawings:

Cover Sheet.	Date: July 18, 2022
Sheet C-101	S.W.P.P.P. Date: July 18, 2022

C. Site Area: The total area of the site is 55 Acres ±

D. Topography/Use: Existing Site is park land, uncultivated.

E. Site Soils: Site soils include topsoil, silty and sandy loam soils.

F. Rainfall information: 24 Hour Rainfall information was obtained from the Soil Conservation Service, Technical Paper No. 40

G. Name of Receiving Waters: This site will drain to the Black River and Lake Erie.

H. Off-Site Borrow Location (If applicable): No offsite borrow anticipated.

*This can be filled in at anytime during the life of this SWPPP. An off-site borrow location for imported soil material that is solely designated to this project must be monitored under this SWPPP. If the off-site borrow location services multiple locations it should have it's own NOI and SWPPP by the owner/operator of the borrow location. The general contractor is responsible for verifying any and all sources of imported material to be within this SWPPP.

I. Endangered Species: not applicable

J. Other Industrial Activities: not applicable

IV. Erosion and Sediment Controls

A. Sequence of Major Activities: The order of activities will be as follows:

1. Install temporary construction entrance per the site drawings before any construction begins or supplies are delivered.
2. All perimeter silt fence and other initial erosion controls applicable on the site drawings shall be in place before any other earth moving activities commence.
3. Post all applicable signs, including the Notice of Intent (NOI), and have this SWPPP with Erosion and Sediment Control plans at the site for continual use and modification. (See attached "Construction Site Notice" (For Posting at the Construction Entrance).
4. Phasing of work to allow existing vegetative areas or buffers to remain as long as possible is encouraged.
5. Erosion controls must be inspected per the attached inspection checklist (once every 7 days and within 24 hours of 0.5 inches or greater rainfall.
6. Install any sediment traps and/or basins per the site drawings, as soon as possible, during the clearing and excavation of the site. Provide temporary grading to direct water to traps/basins.
7. Remove accumulated sediment from erosion controls as necessary.
8. Continue installing/modifying erosion controls as the construction of site utilities, foundations, and structures change the topography of the site.
9. Establish temporary stabilization/seeding on all areas that are to remain undisturbed per the attached weekly inspection checklist.
10. The general contractor will keep written documentation of major earthmoving activities using the attached site log indicating start and stop dates for defined areas of the site. Note these areas on the site drawings when possible.
11. Provide final stabilization as soon as areas are made available. Final Stabilization, 70 percent coverage of turf grass, is specified in the text of the applicable permit.
12. Remove temporary or sediment control practices once final stabilization/ vegetation has been established.
13. File the appropriate Notice of Termination (NOT) when the entire project is complete.
14. Keep all SWPPP documents, including inspection checklists, on file for three years from termination.

B. Temporary Stabilization: Soil stockpiles and disturbed portions of the site where construction activity temporarily ceases are to be stabilized within seven days. These areas are to be stabilized with temporary seed, straw mulch, wood mulch/fibers, netting, matting, and/or tackifiers. The temporary seed is to be a fast-growing variety suitable to the project's climate and location. Straw mulch is to be tracked into place by machine, disked, or tackified to prevent blowing and washing away of the straw.

- C. Permanent Stabilization: Disturbed portions of the site where construction activities permanently cease are to be stabilized with permanent seed, mulch, sod, etc. per the final landscaping plan in the Construction Drawings. This permanent stabilization must occur within seven days of an area reaching final grade.
- D. Structural Practices: The structural practices for this project include, but are not limited to, those specific items shown of the erosion and sediment control drawings listed in Section III. B.
1. General Best Method Practices (BMP's) are listed below:
 - a. Diversion Ditches/Berms – They consist of temporary or permanent swales or dikes made of soil material to control the flow of sediment laden surface water. Most of these BMP's will be coupled with check dams, sediment traps, and or basins.
 - b. Check Dam – (Also known as Ditch Checks) Consists of rock, riprap, or other material designed to control concentrated flows of water in a ditch or swale. Water moving at a higher velocity will be pooled by a check dam to allow sediment to settle out before the surface water continues through the device.
 - c. Construction Entrance – All access to and from the site will require the appropriately constructed access drive usually consisting of stone on top of a geotextile fabric. When conditions require, a truck wash station will also be utilized to prevent the tracking of sediment off site.
 - d. Inlet protection – These devices may consist of a wood frame with silt fence fabric, straw bales, large rock or other pre-manufactured products designed to keep sediment-laden water from entering storm drain inlets.
 - e. Sediment Basins / Traps – Consist of a depression created in the earth to collect sediment-laden surface water to allow settlement of suspended soil particles before storm water is allowed to exit the site. The size and construction of these devices are to be shown on the site-specific drawings. Accumulated sediment must be removed to maintain effectiveness.
 - f. Silt Fence – This BMP consists of a synthetic permeable woven fabric that must only be used to control small surface water flows within this product's design capability. Silt fence must also be inspected and cleaned per the weekly checklist to maintain its effectiveness.

V. Other Pollutant Controls

- A. The following items are pollutant issues (outside of storm water sediment) during the construction process:
1. Dust Control - The general contractor will employ the use of water trucks or other dust control agents to reduce dust generated during construction to levels acceptable by local authorities and the owner's agent.
 2. Concrete Waste (Washout from Ready Mix Trucks) - All concrete washouts will be in designated locations, noted by the general contractor on the job site erosion control plan. The concrete washout will be isolated and contained from storm water run-off until the discharge has hardened and can be disposed of properly as solid waste or recycled for other uses.

3. Equipment/Vehicle Maintenance – All on-site equipment shall receive regular maintenance by the contractors using the equipment to help prevent leaking of fluids or other pollutant discharges. The general contractor is responsible for overseeing that any onsite vehicle maintenance is handled appropriately and that all fluids and materials are disposed of properly.
4. Fuel Tanks – All onsite fuel tanks must meet all government standards including proper barriers for safety and containment of potential spills. The general contractor must note the location of any fuel tanks on the job site erosion control plan.
5. Hazardous Waste Management and Spill Reporting – The general contractor is responsible for following all government requirements including: record keeping of Material Safety Data Sheets (MSDS), proper handling, training of personnel, and notifying the required agencies of any spills. *The general contractor must also notify the owner representative with-in 24 hours of a spill and create a written explanation in the attached site log.*
6. Misc. Building Materials or Supplies – All materials that will become part of the permanent improvements are to be kept in sealed containers and maintained in an orderly fashion until installed. The general contractor will be responsible for monitoring any and all stockpiles of material and equipment on site.
7. Offsite Vehicle Tracking – Per the Structural Practices section, a stabilized construction entrance will be provided to help reduce vehicle tracking of sediments. The paved streets adjacent to the site are to be swept as necessary to remove any excess mud, dirt or rock tracked from the site. Dump trucks hauling loose material from the construction site are to be covered with a tarpaulin.
8. Sanitary Waste – All on site personnel are to utilize the temporary or permanent sanitary facilities provided on site by the general contractor. Sanitary waste is to be collected from the temporary/portable units a minimum of one time per week by a licensed sanitary waste management contractor, or as required by local regulation. The location of sanitary units is to be noted on the job site erosion control plan by the general contractor.
9. Solid Waste Material (Construction Debris) - No solid waste is to be allowed in storm water discharges. *On site burning or burying of waste material is prohibited.* All trash and construction debris from the site is to be deposited in dumpsters or proper hauling equipment. The dumpsters are to meet local and state solid waste management regulations and emptied as deemed necessary to an approved off site dump. The location of dumpsters is to be noted on the job site erosion control plan by the general contractor. All construction companies working on site will be responsible for the correct procedure in their waste disposal.

VI. Inspection and Maintenance Procedures for Construction

- A. The cornerstone of our maintenance procedure is the attached “Weekly Site Inspection Checklist”. Qualified owners representatives and general contractor site superintendents will be trained in the inspection and maintenance practices necessary for keeping the pollutant controls used in this SWPPP in good working order. The site superintendent will be responsible for the daily oversight of the pollution controls along with the execution of the site inspection report in accordance with this SWPPP. The owner’s representative will also have periodic inspection requirements to ensure proper execution of site inspections and maintenance.

VII. Certification of Compliance with Federal, State, and Local Requirements

- A. This storm water pollution prevention plan reflects the City of Elyria requirements for storm water management and erosion and sediments control. This plan was prepared in accordance with the attached permit text. There are no other known applicable State or Federal requirements for sediment and erosion site plans (or permits); or storm water management site plans (or permits).

VIII. Post Construction Practices**A. Structures and Pollutants**

1. The project site, when construction is completed, will consist of the addition of a rail, pickleball courts, and a new restroom building. Storm runoff will be handled by the permanent storm system. The permanent storm system includes drop box inlets connecting to the existing storm system in the park. The onsite detention for the development is to detain mainly the water runoff from the parking lot, it is detained to treat 20% of the water quality volume and will also recharge the ground water in the area.
2. The expected pollutants to be generated by this site should be typical of a parking lot. Some of those sources include fluids from automobiles like oil, grease, fuel, antifreeze, and brake fluid, plus particulates created by or carried on vehicles and deposited on the site such as brake dust, rubber fragments from tires, and dirt picked up from or carried onto the site. In addition, trash generated by the pool occupants or blown onto the site may be found at times. Thermal pollution may also occur during rainfall events when the building roof or asphalt pavement is hot from significant sunlight prior to the rainfall.

B. Maintenance Guidelines for Post Construction Operation

1. Maintenance of all storm water pollution prevention measures will be the responsibility of the on-site management staff. The maintenance guidelines consist mostly of good housekeeping measures. Any grassed or vegetated areas that experience erosion from rainfall events should be repaired and revegetated as soon as possible. Trash or litter should be picked up and properly disposed to prevent it from getting into the storm drainage system and downstream waterways. Any detention structures should also be monitored for sediment build up. Periodic removal of sediment should be done to keep the detention structure effective. Pavement areas should also be monitored for pollutants. Any large quantity of fluids such as oil, antifreeze, brake fluid, etc. found on the pavement should be reported to the office and the source determined, if possible, and removed from the site for maintenance or repair. Pavements should also be monitored for sediment coming from vegetated areas that drain onto the pavement. If sediment is found it should be cleaned off the pavement, and the source of the soil found and repaired as discussed above.

IX. Certification by Owner and General Contractor

A. OWNER'S POLLUTION PREVENTION PLAN CERTIFICATION

I certify under penalty of law this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Signature

Printed Name

Title

Date:

B. GENERAL CONTRACTOR'S CERTIFICATION

I certify under penalty of law that I understand the terms and conditions of this Storm Water Pollution Prevention Plan and the permit text attached that authorizes the storm water discharges associated with industrial activity from the construction site identified as part of this certification.

An officer of the company or owner must sign.

Signature

Printed Name

Title

Date

X. Attachments

- Notice of Intent (Per local governing authority)
- General Permit Text (Per local governing authority)
- Construction Site Notice (For Posting at the Construction Entrance)
- Pre-Construction Meeting Document (Includes contact list)
- Weekly Site Inspection Checklist
- Site Logs for Earthwork Activity, Spills, and EPA/Government Inspections
- Notice of Termination (Per local governing authority)

SWPPP

Construction Site Notice

For the NPDES General Permit

General Contractor Name:

General Contractor Address:

General Contractor Contact/Number:

Project Name:

***The Storm Water Pollution Prevention Plan (SWPPP) is on file in the field office.

**Storm Water Pollution Prevention Plan
Pre-Construction Meeting**

Date: _____ **Location:** _____

Attendees				
Description	Name (Printed	Signature	Company/Firm	Phone #
Required Attendees				
GC Superintendent				
GC Project Manager				
City Engineer (Owner Rep)				
Civil Engineer				
Additional Attendees				
Local EPA Rep				
Subcontractor				
Subcontractor				
Subcontractor				
Other				
Other				

All Storm Water Pollution Prevention Plans (SWPPP) and Best Management Practices (BMP's) must be in place as required by local permitting authorities prior to the initiation of earth disturbing activity. The following items must be reviewed and checked off prior to earth disturbing work:

- The original NOI and SWPPP are on site and have been reviewed by all attendees.
- The proper sign, including the NOI, is posted at the site entrance per the SWPPP.
- All attendees have reviewed the Weekly Site Inspection Checklist.
- All attendees acknowledge that the posted SWPPP is a fluid document that must be updated in conjunction with the Weekly Site Inspection Checklist.

Note any areas of the SWPPP that need alterations or adjustments at this time:

This fully executed form must be transmitted to the Corporate Office prior to ground disturbing activity.

**Storm Water Pollution Prevention Plan
Weekly Site Inspection Checklist****Summary of BMP (Best Management Practices)****Temporary Stabilization**

This is the most effective BMP. All disturbed areas that will lie dormant for over [21] days must be stabilized within [seven] days of the date the area becomes inactive. The goal of temporary stabilization is to provide cover, quickly. Areas within [50] feet of a stream must be stabilized within [two] days of inactivity. This is accomplished by seeding with fast-growing grasses then covering with straw mulch. Apply only mulch between [November 1] and [March 31]. To minimize your costs of temporary stabilization, leave natural cover in place for as long as possible. Only disturb areas you intent to work within the next 21 days.

Construction Entrances

Construction entrances are installed to minimize off-site tracking of sediments. A stone access drive must be installed at every point where vehicles enter or exit the site (reference the SWPPP for designated locations). The SWPPP must be updated if any alterations to construction entrances are made. Any track out of soil or sediment must be promptly swept up and must not be allowed to enter a storm drain system.

Sediment Ponds

This is the sediment control of choice for areas, which exceed the design capacity of silt fence or to control concentrated flows or runoff. There are two types of sediment ponds: sediment basins and sediment traps. A sediment trap is appropriate where the contributing drainage area is 10 acres or less. The outlet is an earthen embankment with a simple stone spillway. A sediment basin is appropriate for drainage areas larger than 10 acres. The outlet is an engineered riser pipe. Often a permanent storm water management pond, such as a retention or detention basin, can be modified to act as a sediment basin during construction. Reference the SWPPP for size and location of sediment ponds. All sediment ponds, regardless of whether they are a trap or a basin and regardless of whether they will become a permanent storm water pond, must provide a minimum storage of [67] cubic yards per acre of total contributing drainage area. Sediment ponds must be installed within [seven] days of first grubbing the area they control.

Silt Fence

This is typically used at the perimeter of a disturbed area. It's only for small drainage areas on relatively flat slopes or around small soil storage piles. Not suitable where runoff is concentrated in a ditch, pipe, or through streams. For large drainage areas where flow is concentrated, collect runoff in diversion berms or channels and pass it through a sediment pond prior to discharging it from the site. As with all sediment controls, silt fence must be capable of ponding runoff so that sediment can settle out of suspension. Silt fence, in most cases, must be installed prior to earthwork on site and modified throughout the construction period. All silt fences must be labeled by station markings per the SWPPP to better communicate areas of alteration and repair.

Inlet Protection

These must be installed on all yard drains and curb drains when these inlets do not drain to a sediment trap or basin. Even if there is a sediment trap or basin, inlet protection is still required, as it increases the overall sediment removal efficiency. If working properly, inlet protection will cause water to pond. If used on curb inlets, streets will flood temporarily during heavy storms. Reference the SWPPP for locations and coordinate placement with the local governing authority before installing inlet protection that may affect public roads. Proper maintenance of inlet protection is required to allow the correct operation of the inlet protection.

Permanent Stabilization

All areas at final grade must be permanently stabilized within [**seven**] days of reaching final grade. This is usually accomplished by using seed and mulch, but special measures are sometimes required. This is particularly true in drainage ditches or on steep slopes. Reference the SWPPP and landscaping drawings for permanent stabilization methods for this Project. Permanent seeding should be done [**March 1**] to [**May 31**] and [**August 1**] to [**September 30**]. Dormant seeding can be done from [**November 20**] to [**March 15**]. At all other times of the year, the area should be temporarily stabilized until a permanent seeding can be applied.

Non-Sediment Pollution Control

Although sediment is the pollutant of greatest concern on most construction sites, there are other sources of pollution: storage tanks, concrete wash out, solid or liquid waste. Most of these BMPs are easy to implement with a little bit of planning and go a long way toward keeping your site clean and organized. Please be sure to inform all contractors how these BMPs and the SWPPP affect their operations on the site, particularly those that will be working near a stream.

(See next page for Storm Water Pollution Prevention Plan Weekly Site Inspection Checklist)

**Storm Water Pollution Prevention Plan
Weekly Site Inspection Checklist**

Date: _____

Location: _____

Inspector(s):

Name

Title

Name

Title

Name

Title

Weather Conditions: _____ Rain since last inspection: _____ (inches)

Phase of Construction: _____ (Clearing, Rough Grading, Building Const, Paving, Etc.)

*** This checklist must be conducted weekly (with-in every 7 days) and within 24 hours of a 0.5 inches or greater rainfall. The site must be equipped with an accurate rain gauge to complete this form. The onsite SWPPP must be referenced and updated with the performance of this checklist.

Temporary stabilization

Y/N or NA

- 1. Are there any areas of the site that are disturbed, but will likely lie dormant for over 21 days? _____
- 2. Have all dormant, disturbed areas been temporarily stabilized in their entireties? _____
- 3. Have disturbed areas outside the silt fence been seeded or mulched? _____
- 4. Have soil stockpiles that will sit for over 21 days been stabilized? _____
- 5. Has seed and mulch been applied at the proper rate? (In general, seed is applied at 3 to 5 lbs per 1000 sq ft and straw mulch is applied at 2-3 bales per 1000 sq ft.) _____
- 6. Has seed or mulch blown away? If so, repair. _____

Note areas where repairs or maintenance is needed:

Construction Entrances

Y/N or NA

- 1. Are all entrances constructed per the SWPPP design? (geotextile fabric, correct stone 2 inches diameter and 6 inches in depth) _____
- 2. Are the drives useable width and length a minimum of 10 feet and 50 feet, respectively? _____
- 3. If the entrance is placed on a slope, has a diversion berm been constructed across the drive to divert runoff away from the street or water resource? _____
- 4. If the entrance is placed across a ditch, is the culvert pipe allowing proper flow and in good condition? _____
- 5. If a truck wash is required to prevent track out, is it operating correctly? _____

Note areas where repairs or maintenance is needed:

Sediment Ponds

Y/N or NA

1. Is the sediment pond installed and appropriately sized per the SWPPP ([67] cubic yards per acre of total drainage area)? _____
2. Are concentrated flows of runoff directed to a sediment pond? _____
3. Is sheet-flow runoff from drainage areas that exceed the design capacity of silt fence (generally 0.25 acres or larger) directed to a sediment pond? _____
4. Is runoff being collected and directed to the sediment pond via the storm sewer system or via a network of diversion berms and channels? _____
5. Are the embankments of the sediment pond and the areas that lie downstream of the pond been stabilized? _____
6. For sediment basins that dewater 100% between storms, is the riser pipe wrapped with chicken wire and double wrapped with geotextile fabric? _____
Does the riser have 1-inch diameter holes spaced 4 inches apart, both horizontally and vertically? _____
For sediment basins, which dewater 60% between storms, is the diameter of the dewatering hole per the SWPPP? _____
7. For sediment traps, is there geotextile under the stone spillway and is the spillway saddle-shaped? _____
For sediment traps, which dewater 100% between storms, is the dewatering pipe end capped, no larger than 6 inches in diameter, perforated and double-wrapped in geotextile? _____
8. Is the length-to-width ratio between inlet(s) and outlet at least 2:1? NOTE: If not, a baffle should be added to lengthen the distance. _____
9. Is the depth from the bottom of the basin to the top of the primary spillway no more than 3 to 5 feet? _____
10. For a modified storm water pond being used as a sediment pond, is the connection between the riser pipe and the permanent outlet watertight? _____
11. Is it time to clean out the sediment pond to restore its original capacity? Generally, sediment should be removed once the pond is half-full. Stabilize the dredged sediments with seed and mulch. _____

Note areas where repairs or maintenance is needed:

Silt Fence

Y/N or NA

1. Is all silt fences labeled with station markings both in the field and on the SWPPP? _____
2. Is the fence at least 4" to 6" into the ground? _____
3. Is the install trench backfilled to prevent runoff from cutting underneath the fence? _____
4. Is the fence pulled tight so it won't sag when water builds up behind it? _____
5. Are the ends brought upslope of the rest of the fence so as to prevent runoff from going around the ends? _____
6. Is the fence placed on a level contour? If not, the fence will only act as a diversion. _____
7. Have all the gaps and tears in the fence been eliminated? _____
8. Is the fence controlling an appropriate drainage area? _____

RULE OF THUMB: Design capacity for 100 linear feet of silt fence is 0.5 acres for slopes <2%, 0.25 acres for slopes 2% to 20%, & 0.125 acres for slopes 20% or more. Generally, no more than 0.25 acres should lie behind 100 feet of fence at 2% to 10% slope, i.e., the distance between the fence and the top of

the slope behind it should be not more than 125 feet. The allowable distance increases on flatter slopes and decreases for steeper slopes.

Note areas where repairs or maintenance is needed: (Reference locations by station markings)

Inlet protection	Y/N or NA
1. Does water pond around the inlet when it rains?	_____
2. Is there fabric that has developed tears or sags? (Replace)	_____
3. For curb inlet protection, does the fabric cover the entire grate, including the curb window?	_____
4. For yard inlet protections, does the structure encircle the entire grate per the SWPPP?	_____
5. Is the fabric properly entrenched or anchored so that water passes through it and not under it?	_____
6. For yard inlet protection, is the fabric properly supported to withstand the weight of water and prevent sagging? The fabric should be supported, per the SWPPP, typically by a wood frame with cross braces.	_____
7. Is there accumulated sediment at the inlet that requires removal?	_____

Note areas where repairs or maintenance is needed:

Permanent Stabilization	Y/N or NA
1. Are any areas at final grade?	_____
2. Has the soil been properly prepared to accept permanent seeding?	_____
3. Has seed and mulch been applied at the appropriate rate?	_____
4. If rainfall has been inadequate, are seeded areas being watered?	_____
5. For drainage ditches requiring matting per the SWPPP, have the correct products been installed?	_____
6. Has rock riprap been placed under all storm water outfall pipes to prevent scouring in the receiving stream or erosion of the receiving channel?	_____
7. For sites with steep slopes or fill areas, is runoff from the top of the site conveyed to the bottom of the slope or fill area in a controlled manner so as not to cause erosion?	_____

Note areas where repairs or maintenance is needed:

Non-Sediment Pollution Control	Y/N or NA
1. Has the designated area for washing out concrete trucks been noted on the SWPPP and identified on site? (Washings must be contained on site within a bermed area until they harden. The washings should never be directed toward a watercourse, ditch, or storm drain.)	_____
2. Is waste and packaging disposed of in a dumpster? (No on site burning is allowed.)	_____
3. Are fuel tanks and drums of toxic and hazardous materials stored within a diked area or trailer?	_____
4. Are streets swept as often as necessary to keep them clean and free from sediment and track out debris?	_____

NOTE: Sediment should be swept back onto the lot, not down the storm sewers or off the development.

- 5. Are stockpiles of soil or other materials stored away from any watercourse, ditch or storm drain? _____
- 6. Have stream crossings been constructed entirely of non-erodible material? _____
- 7. If an area of the site is being dewatered, is it being pumped from a sump pit or is the discharge directed to a sediment pond? _____

NOTE: If you must lower ground water, the water may be discharged to the receiving stream as long as the water remains clean. Be sure not to co-mingle the clean ground water with sediment-laden water or to discharge it off-site by passing it over disturbed ground.

Note areas where repairs or maintenance is needed:

Record Keeping

Y/N or NA

- 1. Are the original NOI and SWPPP on site? _____
- 2. Is the proper sign posted at the site entrance per the SWPPP? _____
- 3. Is the SWPPP, posted on site, up to date with all applicable changes? _____
- 4. Are copies of the weekly inspection reports kept in the site office? _____

Note areas where repairs or maintenance is needed:

I certify that the information in this inspection checklist is true, accurate, and complete. I am aware that there are significant penalties for falsifying any information in this inspection checklist.

Inspector's Signature	Date	Inspector's Name (Printed)
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The owner's representative is required to participate in one inspection per Month.

Owner's Signature	Date	Owner's Name (Printed)
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SWPPP
Site Log for Earthwork Activities

Location: _____

General Contractor: _____

This log is to document areas, dates, and durations for earthwork activities on the site. When possible corresponding notations are to be made on the job site Erosion Control Plans. Dates of temporary or permanent stabilization for a specific area should be highlighted.

Description of Area or Location: _____

Contractor(s) Performing Activity: _____

Start Date: _____ End Date: _____

Description of Activity (Clearing, Grading, Temporary or Permanent Stabilization):

Description of Area or Location: _____

Contractor(s) Performing Activity: _____

Start Date: _____ End Date: _____

Description of Activity (Clearing, Grading, Temporary or Permanent Stabilization):

Description of Area or Location: _____

Contractor(s) Performing Activity: _____

Start Date: _____ End Date: _____

Description of Activity (Clearing, Grading, Temporary or Permanent Stabilization):

Description of Area or Location: _____

Contractor(s) Performing Activity: _____

Start Date: _____ End Date: _____

Description of Activity (Clearing, Grading, Temporary or Permanent Stabilization):

Description of Area or Location: _____

Contractor(s) Performing Activity: _____

Start Date: _____ End Date: _____

Description of Activity (Clearing, Grading, Temporary or Permanent Stabilization):

SWPPP
Site Spill Log

Location: _____

General Contractor: _____

Any site spill must be reported to the appropriate authorities in accordance with all applicable laws and regulations. Spills must also be reported to the owner's representative immediately, but no later than 24 hours of occurrence.

Date / Time of Spill: _____

Name / Title: _____

Material Spilled and Approximate Quantity:

Weather Conditions: _____

Phase of Construction: _____ (Clearing, Rough Grading, Building, Paving, Etc.)

Contractor(s) Representatives Present:

Containment Actions Taken and Authorities Notified:

Date / Time of Spill: _____

Name / Title: _____

Material Spilled and Approximate Quantity:

Weather Conditions: _____

Phase of Construction: _____ (Clearing, Rough Grading, Building, Paving, Etc.)

Contractor(s) Representatives Present:

Containment Actions Taken and Authorities Notified:

SWPPP
Site Visit Log for EPA/Government Officials

Location: _____
General Contractor: _____

Any site visits or inspections must be reported to the owner's representative immediately, but no later than 24 hours of occurrence.

Date: _____ Name of Inspector: _____
Title and Agency of Inspector: _____
Weather Conditions: _____
Phase of Construction: _____ (Clearing, Rough Grading, Building, Paving, Etc.)
Contractor(s) Representatives Present: _____

Comments: _____

Date: _____ Name of Inspector: _____
Title and Agency of Inspector: _____
Weather Conditions: _____
Phase of Construction: _____ (Clearing, Rough Grading, Building, Paving, Etc.)
Contractor(s) Representatives Present: _____

Comments: _____

Date: _____ Name of Inspector: _____
Title and Agency of Inspector: _____
Weather Conditions: _____
Phase of Construction: _____ (Clearing, Rough Grading, Building, Paving, Etc.)
Contractor(s) Representatives Present: _____

Comments: _____

END OF SECTION 312500

SECTION 313116 - TERMITE CONTROL

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Soil treatment with termiticide.

1.2 ACTION SUBMITTALS

- A. Product Data: For each type of product indicated. Include the EPA-Registered Label for termiticide products.

1.3 INFORMATIONAL SUBMITTALS

- A. Product certificates.

- B. Soil Treatment Application Report: Include the following:

1. Date and time of application.
2. Moisture content of soil before application.
3. Termiticide brand name and manufacturer.
4. Quantity of undiluted termiticide used.
5. Dilutions, methods, volumes used, and rates of application.
6. Areas of application.
7. Water source for application.

- C. Warranties: Sample of special warranties.

1.4 QUALITY ASSURANCE

- A. Installer Qualifications: A specialist who is licensed according to regulations of authorities having jurisdiction to apply termite control treatment and products in jurisdiction where Project is located and who employs workers trained and approved by manufacturer to install manufacturer's products.

- B. Regulatory Requirements: Formulate and apply termiticides and termiticide devices according to the EPA-Registered Label.

1.5 PROJECT CONDITIONS

- A. Environmental Limitations: To ensure penetration, do not treat soil that is water saturated or frozen. Do not treat soil while precipitation is occurring. Comply with requirements of the EPA-Registered Label and requirements of authorities having jurisdiction.
- B. Coordinate soil treatment application with excavating, filling, grading, and concreting operations. Treat soil under footings, grade beams, and ground-supported slabs before construction.

1.6 WARRANTY

- A. Soil Treatment Special Warranty: Manufacturer's standard form, signed by Applicator and Contractor, certifying that termite control work, consisting of applied soil termiticide treatment, will prevent infestation of subterranean termites. If subterranean termite activity or damage is discovered during warranty period, re-treat soil and repair or replace damage caused by termite infestation.
 - 1. Warranty Period: Five years from date of Substantial Completion.

1.7 MAINTENANCE SERVICE

- A. Continuing Service: Beginning at Substantial Completion, provide 12 months' continuing service including monitoring, inspection, and re-treatment for occurrences of termite activity. Provide a standard continuing service agreement. State services, obligations, conditions, terms for agreement period, and terms for future renewal options.

PART 2 - PRODUCTS

2.1 SOIL TREATMENT

- A. Termiticide: Provide an EPA-Registered termiticide, complying with requirements of authorities having jurisdiction, in an aqueous solution formulated to prevent termite infestation. Provide quantity required for application at the label volume and rate for the maximum termiticide concentration allowed for each specific use, according to product's EPA-Registered Label.
 - 1. Products: Subject to compliance with requirements, provide one of the following:
 - a. BASF Corporation, Agricultural Products; Termidor.
 - b. Bayer Environmental Science; Premise 75.
 - c. FMC Corporation, Agricultural Products Group; Dragnet FT.
 - d. Syngenta; Prelude.
 - e. Or Approved Equal
 - 2. Service Life of Treatment: Soil treatment termiticide that is effective for not less than five years against infestation of subterranean termites.

PART 3 - EXECUTION

3.1 APPLICATION, GENERAL

- A. General: Comply with the most stringent requirements of authorities having jurisdiction and with manufacturer's EPA-Registered Label for products.

3.2 APPLYING SOIL TREATMENT

- A. Examine substrates, areas, and conditions, with Applicator present, for compliance with requirements for moisture content of soil per termiticide label requirements, interfaces with earthwork, slab and foundation work, landscaping, utility installation, and other conditions affecting performance of termite control.
- B. Proceed with application only after unsatisfactory conditions have been corrected.
- C. Soil Treatment Preparation: Remove foreign matter and impermeable soil materials that could decrease treatment effectiveness on areas to be treated. Loosen, rake, and level soil to be treated except previously compacted areas under slabs and footings. Termiticides may be applied before placing compacted fill under slabs if recommended in writing by termiticide manufacturer.
 - 1. Fit filling hose connected to water source at the site with a backflow preventer, complying with requirements of authorities having jurisdiction.
- D. Application: Mix soil treatment termiticide solution to a uniform consistency. Provide quantity required for application at the label volume and rate for the maximum specified concentration of termiticide, according to manufacturer's EPA-Registered Label, to the following so that a continuous horizontal and vertical termiticidal barrier or treated zone is established around and under building construction. Distribute treatment evenly.
 - 1. Slabs-on-Grade and Basement Slabs: Underground-supported slab construction, including footings, building slabs, and attached slabs as an overall treatment. Treat soil materials before concrete footings and slabs are placed.
 - 2. Foundations: Adjacent soil, including soil along the entire inside perimeter of foundation walls; along both sides of interior partition walls; around plumbing pipes and electric conduit penetrating the slab; around interior column footers, piers, and chimney bases; and along the entire outside perimeter, from grade to bottom of footing. Avoid soil washout around footings.
 - 3. Crawlspace: Soil under and adjacent to foundations as previously indicated. Treat adjacent areas including around entrance platform, porches, and equipment bases. Apply overall treatment only where attached concrete platform and porches are on fill or ground.
 - 4. Masonry: Treat voids.
 - 5. Penetrations: At expansion joints, control joints, and areas where slabs will be penetrated.
- E. Avoid disturbance of treated soil after application. Keep off treated areas until completely dry.

- F. Protect termiticide solution, dispersed in treated soils and fills, from being diluted until ground-supported slabs are installed. Use waterproof barrier according to EPA-Registered Label instructions.
- G. Post warning signs in areas of application.
- H. Reapply soil treatment solution to areas disturbed by subsequent excavation, grading, landscaping, or other construction activities following application.

END OF SECTION 313116

SECTION 329200 - TURF AND GRASSES

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Seeding.
2. Sodding.

1.2 DEFINITIONS

- A. Duff Layer: The surface layer of native topsoil that is composed of mostly decayed leaves, twigs, and detritus.
- B. Finish Grade: Elevation of finished surface of planting soil.
- C. Manufactured Topsoil: Soil produced off-site by homogeneously blending mineral soils or sand with stabilized organic soil amendments to produce topsoil or planting soil.
- D. Pesticide: A substance or mixture intended for preventing, destroying, repelling, or mitigating a pest. This includes insecticides, miticides, herbicides, fungicides, rodenticides, and molluscicides. It also includes substances or mixtures intended for use as a plant regulator, defoliant, or desiccant.
- E. Pests: Living organisms that occur where they are not desired or that cause damage to plants, animals, or people. These include insects, mites, grubs, mollusks (snails and slugs), rodents (gophers, moles, and mice), unwanted plants (weeds), fungi, bacteria, and viruses.
- F. Planting Soil: Standardized topsoil; existing, native surface topsoil; existing, in-place surface soil; imported topsoil; or manufactured topsoil that is modified with soil amendments and perhaps fertilizers to produce a soil mixture best for plant growth.
- G. Subgrade: Surface or elevation of subsoil remaining after excavation is complete, or top surface of a fill or backfill before planting soil is placed.
- H. Subsoil: All soil beneath the topsoil layer of the soil profile, and typified by the lack of organic matter and soil organisms.
- I. Surface Soil: Whatever soil is present at the top layer of the existing soil profile at the Project site. In undisturbed areas, the surface soil is typically topsoil, but in disturbed areas such as urban environments, the surface soil can be subsoil.

1.3 ACTION SUBMITTALS

- A. Product Data: For each type of product indicated.

1.4 INFORMATIONAL SUBMITTALS

- A. Certification of grass seed.
 - 1. Certification of each seed mixture for turfgrass sod.
- B. Product certificates.

1.5 QUALITY ASSURANCE

- A. Installer's Field Supervision: Require Installer to maintain an experienced full-time supervisor on Project site when work is in progress.
 - 1. Pesticide Applicator: State licensed, commercial.
- B. Soil Analysis: For each unamended soil type, furnish soil analysis and a written report by a qualified soil-testing laboratory.
 - 1. The soil-testing laboratory shall oversee soil sampling.
 - 2. Report suitability of tested soil for turf growth.
 - a. State recommendations for nitrogen, phosphorus, and potash nutrients and soil amendments to be added to produce satisfactory planting soil suitable for healthy, viable plants.
 - b. Report presence of problem salts, minerals, or heavy metals; if present, provide additional recommendations for corrective action.

1.6 DELIVERY, STORAGE, AND HANDLING

- A. Seed and Other Packaged Materials: Deliver packaged materials in original, unopened containers showing weight, certified analysis, name and address of manufacturer, and indication of conformance with state and federal laws, as applicable.
- B. Sod: Harvest, deliver, store, and handle sod according to requirements in "Specifications for Turfgrass Sod Materials" and "Specifications for Turfgrass Sod Transplanting and Installation" in TPI's "Guideline Specifications to Turfgrass Sodding." Deliver sod in time for planting within 24 hours of harvesting. Protect sod from breakage and drying.

1.7 MAINTENANCE SERVICE

- A. Initial Turf Maintenance Service: Provide full maintenance by skilled employees of landscape Installer. Maintain as required in Part 3. Begin maintenance immediately after each area is planted and continue until acceptable turf is established but for not less than the following periods:
 - 1. Seeded Turf: 60 days from date of planting completion.
 - a. When initial maintenance period has not elapsed before end of planting season, or if turf is not fully established, continue maintenance during next planting season.

2. Sod Turf: 30 days from date of planting completion.

PART 2 - PRODUCTS

2.1 SEED

- A. Grass Seed: Fresh, clean, dry, new-crop seed complying with AOSA's "Journal of Seed Technology; Rules for Testing Seeds" for purity and germination tolerances.
- B. Seed Species: State-certified seed of grass species as follows:
 - a. 29.49 percent GreensKeeper – WAF tall fescue.
 - b. 29.38 percent Tar Heel 2 tall fescue.
 - c. 20.78 percent Coyote II tall fescue.
 - d. 6.79 percent Raven Kentucky Bluegrass.
 - e. 6.75 percent Thermal Kentucky Bluegrass.
 - f. 6.30 percent Avalanche Kentucky Bluegrass.

2.2 TURFGRASS SOD

- A. Turfgrass Sod: Certified including limitations on thatch, weeds, diseases, nematodes, and insects, complying with "Specifications for Turfgrass Sod Materials" in TPI's "Guideline Specifications to Turfgrass Sodding." Furnish viable sod of uniform density, color, and texture, strongly rooted, and capable of vigorous growth and development when planted. Sod grass species must be compatible with seed species for coloration and grass blade characteristics.

2.3 INORGANIC SOIL AMENDMENTS

- A. Lime: ASTM C 602, agricultural liming material containing a minimum of 80 percent calcium carbonate equivalent and as follows:
 1. Class: T, with a minimum of 99 percent passing through No. 8 sieve and a minimum of 75 percent passing through No. 60 sieve.
 2. Class: O, with a minimum of 95 percent passing through No. 8 sieve and a minimum of 55 percent passing through No. 60 sieve.
- B. Sulfur: Granular, biodegradable, containing a minimum of 90 percent sulfur, and with a minimum of 99 percent passing through No. 6 sieve and a maximum of 10 percent passing through No. 40 sieve.
- C. Iron Sulfate: Granulated ferrous sulfate containing a minimum of 20 percent iron and 10 percent sulfur.
- D. Aluminum Sulfate: Commercial grade, unadulterated.
- E. Perlite: Horticultural perlite, soil amendment grade.

- F. Agricultural Gypsum: Minimum 90 percent calcium sulfate, finely ground with 90 percent passing through No. 50 sieve.
- G. Sand: Clean, washed, natural or manufactured, and free of toxic materials.
- H. Diatomaceous Earth: Calcined, 90 percent silica, with approximately 140 percent water absorption capacity by weight.
- I. Zeolites: Mineral clinoptilolite with at least 60 percent water absorption by weight.

2.4 ORGANIC SOIL AMENDMENTS

- A. Compost: Well-composted, stable, and weed-free organic matter, pH range of 5.5 to 8; moisture content 35 to 55 percent by weight; 100 percent passing through 1-inch sieve; soluble salt content of 5 to 10 decisiemens/m; not exceeding 0.5 percent inert contaminants and free of substances toxic to plantings.
- B. Muck Peat: Partially decomposed moss peat, native peat, or reed-sedge peat, finely divided or of granular texture, with a pH range of 6 to 7.5, and having a water-absorbing capacity of 1100 to 2000 percent.
- C. Manure: Well-rotted, unleached, stable or cattle manure containing not more than 25 percent by volume of straw, sawdust, or other bedding materials; free of toxic substances, stones, sticks, soil, weed seed, and material harmful to plant growth.

2.5 FERTILIZERS

- A. Bonemeal: Commercial, raw or steamed, finely ground; a minimum of [1] [4] percent nitrogen and 10 percent phosphoric acid.
- B. Superphosphate: Commercial, phosphate mixture, soluble; a minimum of 20 percent available phosphoric acid.
- C. Commercial Fertilizer: Commercial-grade complete fertilizer of neutral character, consisting of fast- and slow-release nitrogen, 50 percent derived from natural organic sources of urea formaldehyde, phosphorous, and potassium in the following composition:
 - 1. Composition: 1 lb/1000 sq. ft. of actual nitrogen, 4 percent phosphorous, and 2 percent potassium, by weight.
- D. Slow-Release Fertilizer: Granular or pelleted fertilizer consisting of 50 percent water-insoluble nitrogen, phosphorus, and potassium in the following composition:
 - 1. Composition: 20 percent nitrogen, 10 percent phosphorous, and 10 percent potassium, by weight.

2.6 PLANTING SOILS

- A. Planting Soil: ASTM D 5268 topsoil, with pH range of 5.5 to 7, a minimum of 2 percent organic material content. Existing, native surface topsoil. Verify suitability of soil to produce viable planting soil. Clean soil of roots, plants, sod, stones, clods, clay lumps, pockets of coarse sand, concrete slurry, concrete layers or chunks, cement, plaster, building debris, and other extraneous materials harmful to plant growth. Mix soil with the following soil amendments in the following quantities to produce planting soil:
1. Ratio of Loose Compost to Topsoil by Volume: 1:4.

2.7 MULCHES

- A. Straw Mulch: Provide air-dry, clean, mildew- and seed-free, salt hay or threshed straw of wheat, rye, oats, or barley.

2.8 PESTICIDES

- A. General: Pesticide, registered and approved by EPA, acceptable to authorities having jurisdiction, and of type recommended by manufacturer for each specific problem and as required for Project conditions and application. Do not use restricted pesticides unless authorized in writing by authorities having jurisdiction.

PART 3 - EXECUTION

3.1 TURF AREA PREPARATION

- A. Newly Graded Subgrades: Loosen subgrade to a minimum depth of 4 inches. Remove stones larger than 1 inch in any dimension and sticks, roots, rubbish, and other extraneous matter and legally dispose of them off Owner's property.
1. Thoroughly blend planting soil off-site before spreading or spread topsoil, apply soil amendments and fertilizer on surface, and thoroughly blend planting soil.
 2. Spread planting soil to a depth of 6 inches but not less than required to meet finish grades after light rolling and natural settlement. Do not spread if planting soil or subgrade is frozen, muddy, or excessively wet.
 - a. Reduce elevation of planting soil to allow for soil thickness of sod.
- B. Unchanged Subgrades: If turf is to be planted in areas unaltered or undisturbed by excavating, grading, or surface-soil stripping operations, prepare surface soil as follows:
1. Remove existing grass, vegetation, and turf. Do not mix into surface soil.
 2. Loosen surface soil to a depth of at least 6 inches. Apply soil amendments and fertilizers according to planting soil mix proportions and mix thoroughly into top 6 inches of soil. Till soil to a homogeneous mixture of fine texture.
 3. Remove stones larger than 1 inch in any dimension and sticks, roots, trash, and other extraneous matter.

4. Legally dispose of waste material, including grass, vegetation, and turf, off Owner's property.
- C. Finish Grading: Grade planting areas to a smooth, uniform surface plane with loose, uniformly fine texture. Grade to within plus or minus 1/2 inch of finish elevation. Roll and rake, remove ridges, and fill depressions to meet finish grades. Limit finish grading to areas that can be planted in the immediate future.
- D. Moisten prepared area before planting if soil is dry. Water thoroughly and allow surface to dry before planting. Do not create muddy soil.
- E. Before planting, obtain Architect's acceptance of finish grading; restore planting areas if eroded or otherwise disturbed after finish grading.

3.2 SEEDING

- A. Do not broadcast or drop seed when wind velocity exceeds 5 mph. Evenly distribute seed by sowing equal quantities in two directions at right angles to each other. Do not seed against existing trees. Limit extent of seed to outside edge of planting saucer.
- B. Sow seed at a total rate of 3 to 4 lb/1000 sq. ft..
- C. Rake seed lightly into top 1/8 inch of soil, roll lightly, and water with fine spray.
- D. Protect seeded areas unless covered by erosion control blanket, by spreading straw mulch. Spread uniformly at a minimum rate of 2 tons/acre to form a continuous blanket 1-1/2 inches in loose thickness over seeded areas. Spread by hand, blower, or other suitable equipment.
 1. Anchor straw mulch by crimping into soil with suitable mechanical equipment.

3.3 SODDING

- A. Lay sod within 24 hours of harvesting. Do not lay sod if dormant or if ground is frozen or muddy.
- B. Lay sod to form a solid mass with tightly fitted joints. Butt ends and sides of sod; do not stretch or overlap. Stagger sod strips or pads to offset joints in adjacent courses. Avoid damage to subgrade or sod during installation. Tamp and roll lightly to ensure contact with subgrade, eliminate air pockets, and form a smooth surface. Work sifted soil or fine sand into minor cracks between pieces of sod; remove excess to avoid smothering sod and adjacent grass.
 1. Lay sod across angle of slopes exceeding 1:3.
 2. Anchor sod on slopes exceeding 1:6 with wood pegs or steel staples spaced as recommended by sod manufacturer but not less than 2 anchors per sod strip to prevent slippage.
- C. Saturate sod with fine water spray within two hours of planting. During first week after planting, water daily or more frequently as necessary to maintain moist soil to a minimum depth of 1-1/2 inches below sod.

3.4 TURF MAINTENANCE

- A. Maintain and establish turf by watering, fertilizing, weeding, mowing, trimming, replanting, and performing other operations as required to establish healthy, viable turf. Roll, regrade, and replant bare or eroded areas and mulch to produce a uniformly smooth turf. Provide materials and installation the same as those used in the original installation.
- B. Mow turf as soon as top growth is tall enough to cut. Repeat mowing to maintain height appropriate for species without cutting more than 1/3 of grass height. Remove no more than 1/3 of grass-leaf growth in initial or subsequent mowings.
- C. Apply pesticides and other chemical products and biological control agents in accordance with authorities having jurisdiction and manufacturer's written recommendations. Coordinate applications with Owner's operations and others in proximity to the Work. Notify Owner before each application is performed.

3.5 SATISFACTORY TURF

- A. Turf installations shall meet the following criteria as determined by Architect:
 - 1. Satisfactory Seeded Turf: At end of maintenance period, a healthy, uniform, close stand of grass has been established, free of weeds and surface irregularities, with coverage exceeding 90 percent over any 10 sq. ft. and bare spots not exceeding 5 by 5 inches.
 - 2. Satisfactory Sodded Turf: At end of maintenance period, a healthy, well-rooted, even-colored, viable turf has been established, free of weeds, open joints, bare areas, and surface irregularities.
- B. Use specified materials to reestablish turf that does not comply with requirements and continue maintenance until turf is satisfactory.

END OF SECTION 329200

SECTION 333000 - SANITARY SEWERAGE UTILITIES

PART 1 - GENERAL

- 1.1 This work shall consist of the installation of sanitary sewer lines in accordance with these specifications and in reasonable close conformity with the lines and grades shown on the plans or as established by the Engineer.

PART 2 - PRODUCTS

- 2.1 The materials used in this construction shall be the type shown on the plans or as directed by the Engineer and shall conform to the following requirements:
- A. P.V.C. Pipe
 - 1. Polyvinylchloride (PVC) pipe shall be ASTM D3033 or 3034 with ASTM D3212 joints.
 - B. Steel Casing Pipe
 - 1. Where steel casing pipe is required, it shall meet the requirements of AWWA C202 of these Specifications.
 - C. Crushed Stone for Bedding
 - 1. Bedding material shall be as per the drawings.
 - D. Manholes
 - 1. Manholes shall be constructed using one of the following materials:
 - a. Pre-cast reinforced concrete manholes shall meet requirements of ODOT in accordance with the detail drawings. ASTM C478 w/ASTM C443 Joints.
 - b. Drop manhole shall be in accordance with the detail drawings.
 - E. Manhole Frames, Covers, Steps, Cleanout Frames and Covers
 - 1. Manhole frames and covers shall be roadway type with deep socket covers. Machine frames and covers to prevent rattling. Castings shall be of gray iron meeting requirements of ASTM A48, Class 35, covers shall have a combined weight of not less than 325 pounds for out of traffic locations and 425 pounds for traffic locations. Frame height shall be not less than 7". Covers shall have one pick hole only, about 1-1/2 inches wide and 1/2 inch deep with 3/8 inch square undercut at rear and 3/4 inch square undercut on sides, and the cover shall have the work "sanitary sewer" cast in it in accordance with the drawings.

2. Waterproof manhole frames and covers shall have bolt holes for anchor bolts. These manholes shall have the joint between the frame and the precast section sealed with Thiccol, on part of Polysulfide base sealant, or an approved equal. The Contractor shall furnish waterproof frames and covers and they shall be per the drawings.
3. Cleanout frame and covers shall be of gray iron meeting requirements of ASTM A48, Class 30.

PART 3 - EXECUTION

3.1 CLEARING AND GRUBBING

- A. The Contractor shall clear and grub the surface as required for the full length of the trench. The Contractor shall dispose of all trees, shrubs and refuse in a satisfactory manner. All surface materials covering the location of trenches.

3.2 TRENCHING

- A. The trench shall be excavated to conform to the drawings. Where the sewer is in an existing paved area, the edges of the pavement for the ditch shall be cut in a straight line, parallel to the pipe on each side. A straight and vertical cut shall be made either prior to excavation or after, but before installation of the permanent pavement repair.
- B. All trenching shall be open-cut from the surface and no tunneling will be allowed without the consent of the Engineer. All trenches shall be excavated to the lines and grades as shown on the plans. The Engineer will furnish these lines and grades on the ground at the beginning of the job.
- C. The bottom of the trench shall be excavated to the width on the drawings. The sides of the trench shall be uniform and vertical. Care shall be taken not to over excavate on the trenches.
- D. All trenches excavated below grade shall be refilled to grade with gravel. No extra compensation shall be allowed for this work unless such excavation is ordered by the Engineer.
- E. All trenches will be excavated so as to accommodate the proper bedding material as shown in the standard drawings in these Specifications. No extra compensation will be made for crushed stone used to bring the trench up to grade.
- F. The Contractor shall not, without written permission from the Engineer, open more than three hundred (300) ft. of trench in advance of the completed sewer, and the completed backfilling and restoration of the trench to a satisfactory condition. If the Contractor fails to heed the above requirements, the Engineer will refuse payment until these requirements are complied with.
- G. All drains, gutters, culverts and sewers for surface drainage are to be kept opened or if unavoidably closed, other provisions are to be made for this drainage. All crossings,

culverts or ditches are to be made without extra compensation to the Contractor beyond the extra price of sewer laid.

- H. The Contractor shall be required to furnish, put-in-place, and maintain such sheeting, bracing, etc., as may be required to support the sides of the trenches.
- I. In excavating for the trench it is essential that the trench bottom be uniform in grade and remain static during backfilling and under all subsequent trench conditions. To insure a uniform depth of stone, the grade of the bottom of the trench shall be graded to within 5/10 of one inch of the plan grade. The stone shall be graded to the same tolerances.
- J. The Contractor shall pump, or otherwise remove any water that accumulates in the trenches and shall perform all work necessary to keep the trenches clear from water while the pipe is being laid or masonry units are being constructed. No structure or sewer pipe shall be constructed in water and water shall not be allowed to flow over or rise upon any concrete masonry structure or sewer pipe until the work has been accepted.
- K. All water pumped or bailed from the trench or other excavation shall be conveyed in a proper manner to a suitable point of discharge.

3.3 DISPOSITION OF EXCAVATED MATERIAL

- A. All excavated material shall be placed on one side of the trench unless permission is given by the Engineer or his representative to place it on both sides.
- B. Excavated materials shall be so placed as not to endanger the work and so that free access may be had at all times to all parts of the trench and to all fire alarm boxes, fire hydrants and gate valves on water pipes, which are located in the vicinity.
- C. Excavated material shall be placed so as to inconvenience the public as little as possible.
- D. All fences and walls shall be protected, and if damaged, shall be repaired or replaced in as good condition as before disturbed. All shade trees shall be protected.

3.4 SUB-SURFACE OBSTRUCTION

- A. In excavating, backfilling and laying pipe, care must be taken not to remove or injure any sub-surface structure such as water lines, sewer lines, conduits, etc. If necessary, the Contractor shall, at his own expense, sling, shore-up and maintain a continuous flow in said structure until final acceptance of the work.
- B. In the event that a gas line, water line, power cable or conduit, or telephone cable or conduit is broken or damaged, the Contractor shall give immediate notice to the proper authorities and shall be responsible for any damage to persons or property caused by such breaks.
- C. If a service pipe supplying water or gas to an adjoining house is broken, the Contractor shall repair same at once and at his own expense. The City may, at the Contractor's

expense, repair any such service without prior notice to the Contractor. Should it become necessary to move the position of any underground structure, the Contractor may be required to do such work and shall be paid on a force account basis.

3.5 BEDDING FOR THE PIPE

- A. Wherever the pipe is laid below the existing ground level, bedding material meeting the specifications in Section B. shall be placed under the pipe in accordance with the details shown on the drawings.
- B. To insure full support of the pipe barrel, bell holes must be in the stone. The stone shall be hand shaped to conform to the barrel of the pipe.
- C. In accordance with the details of the drawings, loose backfill shall be carefully compacted around and over the pipe to a height of twelve (12) inches above the top of the pipe.

3.6 PIPE LAYING

- A. The Contractor shall comply with Kentucky Division of Water standards for separation of sewer lines from water lines and/or combined sewers.
- B. Prior to being installed, each section of the pipe shall be carefully examined for damages and conformation to these specifications. All pipe damaged or deemed not to conform to these specifications shall be rejected. The faces of all spigots and bells cannot be made to fit properly, or pipe, which has chipped bells or spigots will be rejected. The faces of all spigots ends and of all shoulders on the bells must be true, and be brought in fair contact. All lumps on the face will be cut away before the pipe is lowered into the trench.
- C. The pipe and special fittings shall be laid in the trench so that its interior surface shall conform to the grade and alignment as given by the Engineer. Pipe laying shall be done so as to disturb as little as possible the pipe already laid, and unless otherwise directed by the Engineer, the pipe shall be laid up hill without any break in line or grade from manhole to manhole. Before laying, the bell and spigot shall be wiped free from any dirt and other foreign material and a coating of pipe lubricant applied in accordance with manufacturer's recommendations.
- D. Installation of all pipe shall be observed by the City Engineer for the City of Greensburg prior to backfilling and a suitable ladder affording easy and safe access for such inspection shall be furnished. When the trench is left for the night or the pipe laying is suspended, the ends of the pipe shall be covered to keep out dirt and other foreign substances.
- E. All special fittings, such as wyes, tees and building connections shall be installed at the point indicated by the Engineer or as shown on the plans in accordance with details.

3.7 CONDITION OF AN OPEN TRENCH AFTER WORK

- A. Whenever it becomes necessary to leave a section of trench open after the completion of the day's work, the Contractor shall be responsible for:
1. Constructing necessary barricades, lights, etc. to protect the public.
 2. Providing the necessary drainage to keep the trench free from water and sewage.
 3. Pumping or bailing any water that accumulates in the trenches.
 4. Undercutting any portion of the trench that becomes saturated with water.

3.8 BACKFILL

- A. The trench shall be backfilled per the drawings. Backfill shall be placed by hand, uniformly on each side of the pipe and spaded. Do not backfill on muddy or frozen soil. Backfill trench from one (1) foot above the pipe to grade with clean earth fill free of stones larger than six (6) inches. Layers shall not exceed 12 inches, except that under road shoulders and under existing or future paved areas, layers shall not exceed eight (8) inches. Backfill shall be compacted to the density specified for the areas in which it is located except that minimum compaction in any area shall be to the density of the adjacent soil. Place backfill materials evenly adjacent to structures. Take care to prevent wedging action of the backfill against structures by carrying the material uniformly around the structure to approximately the same elevation in each lift. The Contractor shall refill all excavations as rapidly as practical after completion of the structural work therein, or after the excavation have served their purpose. All trenches shall be backfilled prior to the completion of the day's work unless otherwise directed by the Engineer.
- B. The Contractor shall compact each layer of fill or backfill to not less than 98 percent maximum density beneath existing or future pavements, walks, and road shoulders and 90 percent maximum density at optimum, moisture content in other unpaved areas as determined by ASTM D698 (AASHTO T-99). Solid shall be compacted using equipment suitable for the material and the work area location. Power driven hand tampers shall be used for compacting material adjacent to structures. Use hand tamper for recompaction over underground utilities.
- C. All areas within the limits designated on the drawings, including adjacent transition areas shall be uniformly graded. The contractor shall finish surfaces within specified tolerances with uniform levels or slopes between points where elevations are shown and existing grades. Specified tolerances shall be as follows:
1. Finish sub-grade areas that are to receive topsoil to within 0.10 foot of required sub-grade elevations.
 2. Shape sub-grade under walks to line, grade, and cross-section to within 0.10 foot of required sub-grade elevations.
 3. Shape sub-grade under pavement to line, grade, and cross-section to within 1/2 inch of required sub-grade elevations.

- D. The Contractor shall protect newly graded areas from traffic and erosion and repair and re-establish grade in settled, eroded, or rutted areas. Where compacted areas are disturbed by subsequent construction or adverse weather, he shall scarify the surface, reshape and compact to the required density. If the Contractor shall fail to maintain any trench within two (2) days after receipt of written notice from the Engineer, the Owner may refill the said depressions and the cost of such work may be retained from monies due to the Contractor. In case of emergency, the Owner may refill any dangerous depressions without giving previous notice to the Contractor.

3.9 MANHOLES

- A. Precast manholes shall be constructed in accordance with these specifications.
- B. The Contractor shall use a flexible boot for making sealed joints from pipe to manhole.
 - 1. The port shall be cored to the size, shape, surface finish, and location required and not cast in the manhole. Angular adjustments thru 20 degrees shall be allowed. The flexible boot shall be a 3/8-inch thick neoprene compound meeting ASTM C443 Specifications. The boot shall be secured to the port with an internal aluminum expanding band and to the pipe with a non-magnetic corrosion resistant steel external band. Boot seal shall be "Kor-N-Seal" as manufactured by National Pollution Control Systems, Inc. or equal.

3.10 MANHOLE AND CLEANOUT FRAMES AND COVERS

- A. The Contractor is to furnish the frames and covers. They must be coordinated with the City standards.

3.11 DROP MANHOLES

- A. Drop manholes shall be constructed in accordance with detail drawings.

3.12 CLEANUP AND RESTORATION OF SITE

- A. After the backfilling is completed, the Contractor shall dispose of all surplus material, dirt and rubbish from the site, and shall keep the site free of mud and dust to the satisfaction of the Engineer. The Contractor may be required to flush or sprinkle the street to prevent dust nuisance. It is important that cleanup and restoration of the site follow the work closely. The Contractor shall dispose of surplus material and clean the street at the end of each week for portion of work completed that week unless additional cleaning is required. After all work is completed the Contractor shall remove all tools and other equipment, leaving the site free, clean and in good condition. The Contractor shall keep the surface over and along the trenches and other excavation in a safe and satisfactory condition during the progress of the work and for a period of one (1) year after the work has been completed. He shall be held responsible for any accidents that may occur on the account of the defective condition of such surface.

3.13 FINAL INSPECTION AND TESTING

- A. Upon completion of the entire work, the Engineer may inspect the work in part or as a whole and make such test as will satisfy himself that every portion of the contract has been faithfully carried out. Pipe lines from manhole to manhole shall show a round circle of light from one end to the other. Any obstructions found in the sewer shall be removed and the sewer barrel left clean for its entire length.
- B. All manholes shall be of the specified size, shape and material, and shall have their tops set to the grade as furnished by the Engineer.
- C. If, in the opinion of the Engineer, a defect exists in the pipe line or its appurtenances, in some place not accessible except by uncovering, the Engineer may order the line to be uncovered. If it is found that after the pipe has been uncovered at the order of the Engineer, no defect exists or that the defect was not the fault of the Contractor, then the expense so incurred by the Contractor shall be borne by the Owner.
- D. The Contractor shall provide all equipment, materials, water, labor, etc. needed to perform test in accordance with procedure listed below. All equipment, materials, etc. used shall be checked and approved by the Engineer prior to its use. It shall be the responsibility of the Contractor to insure the pipe is clean before any tests are made.
- E. Test for leakage of gravity sewer shall be done as directed by the Engineer or as shown on the plans. Infiltration and exfiltration test may be used and low pressure air test may be used for sewer up to 12 inches in diameter.
 - 1. Exfiltration and Infiltration Test
 - a. The Contractor shall perform water exfiltration and infiltration leakage test in the presence of the Engineer after the lines are completed and backfilled. The leakage outward or inward (exfiltration or infiltration) shall not exceed 200 gallons per inch of nominal pipe diameter per mile per day for any section of system including manholes.
 - b. Where exfiltration is tested from the line shall be subjected to a minimum of 4 ft. of head, or head to the top of manhole, whichever is lesser, above the crown of the pipe at the upstream manhole of the section being tested.
 - c. The infiltration test shall be used only when the hydrostatic head outside the pipe is a minimum of 4 ft. above the crown of the pipe for the entire length of the pipe being tested.
 - d. Plug the pipe at the lower manhole. Fill the line and manhole to 4 ft. level, or top of straight section of less than 4 ft. Let the water stand until pipe has reached maximum absorption and until all trapped air has escaped, 4 hours minimum. After maximum absorption is reached, refill manhole to original level. After 30 minutes, record difference in level and convert to gallons. Subtract manhole loss to obtain pipe line loss. Manhole loss is found by plugging inlet and outlet and filling manhole with water to 4 foot level to top of straight section if less than 4 ft. Let

water stand one hour to reach maximum absorption. Refill to original level. After 30 minutes, check difference in level and convert to gallons.

- e. If line fails to meet the maximum allowable leakage requirements, the Contractor shall locate and repair deficiencies and rerun test until the line meets these requirements. Contract time extensions will not be allowed to correct deficiencies found during line acceptance testing. The Contractor shall obtain personnel skilled in running test and evaluating results. The Engineer will only observe tests and certify the results.

2. Low Pressure Air Test

- a. Low pressure air test when approved by the Engineer shall conform to ASTM C828-75T.
- b. Before tests are made all wyes, tees, or end of side sewer stubs shall be plugged with flexible-joint caps. or acceptable alternate, securely fastened to withstand the internal test pressure. Such plugs or caps shall be readily removable, and their removal shall provide a socket suitable for making a flexible-joint lateral connection or extension.
- c. After all pipes are cleaned, air shall be slowly supplied to the plugged pipe installation until the internal air pressure reaches 4.0 pounds per square inch greater than the average back pressure of any ground water that may submerge the pipe. At least two minutes shall be allowed for temperature stabilization before proceeding further.
- d. The pipe line shall be considered acceptable, when tested at an average pressure of 3.0 pounds per square inch greater than the average back pressure of any ground water that may submerge the pipe, it: (1) the total rate of air loss from any section tested in its entirety between manhole and cleanout structures does not exceed 2.0 cubic feet per minute, or (2) the section under test does not lose air at a rate greater than 0.0030 cubic feet per minute per square foot of internal pipe surface.
- e. The requirements of this specification shall be considered satisfied is the time required in seconds for the pressure to decrease from 3.5 to 2.5 pounds per square inch greater than the average back pressure of any ground water that may submerge the pipe is not less than that computed according to the attached page entitled, "Procedure for Conducting Low Pressure Air Test."
- f. If the pipe installations fail to meet these requirements, the Contractor shall determine at his own expense the source or sources of leakage, and he shall repair (if the extent and type of repairs proposed by the Contractor appear reasonable to the Engineer) or replace all defective materials or workmanship. The completed pipe installation shall meet

the requirements of this test, or the alternative water exfiltration test, before being considered acceptable.

3. Mandrel Testing
 - a. Conduct for all pipes under 30 inches in diameter and provide project completion reports witnessed by local authorities having jurisdiction or the Owner's testing agency.
 - b. Install and backfill pipe runs to subgrade elevation (preferably to final grade elevation) at least 30 days prior to mandrel testing.
 - c. Pipe deflection shall not exceed 5% of average inside diameter as established by ASTM Standards
 - d. Approved mandrel must conform to applicable ASTM Standards
 - e. Flush and clean lines prior to utilizing a 5-point mandrel of a size not less than 92.5 percent of the pipe diameter.
 - f. Remove and replace pipe exceeding deflection limits.
4. Vacuum Testing of Manholes
 - a. Conduct for all manholes and provide project completion reports witnessed by local authorities having jurisdiction.
 - b. Vacuum testing shall be done per ASTM C1244, Standard Test Methods for Concrete Sewer Manholes by the Negative Air Pressure Test Prior to Backfill.
 - c. Vacuum testing is to be done prior to backfilling and no groundwater shall be present in the excavation.
 - d. Manholes shall be tested before the ring and cover and grade adjustment rings have been installed. All pipes entering the manhole shall be plugged and braced and a vacuum of ten inches of mercury shall be drawn. The vacuum pump shall be turned off and the time monitored as the vacuum drops one inch. The vacuum must not drop more than one inch for the duration of the time indicated, 1 minute for 48" diameter, 1:15 for 60" and 1:30 for 72" diameter.
 - e. Manholes, which fail the vacuum test, shall have the defects located and repaired and the test shall be repeated. Repair and repeat testing shall be continued until the testing requirements are met.

END OF SECTION

SECTION 334100 - STORM UTILITY DRAINAGE PIPING

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Pipe and fittings.
2. Manholes.
3. Cleanouts.
4. Nonpressure transition couplings.
5. Catch basins.
6. Stormwater inlets.

1.2 ACTION SUBMITTALS

- A. Product Data: For each type of product indicated.

1.3 INFORMATIONAL SUBMITTALS

- A. Coordination Drawings: Show pipe sizes, locations, and elevations. Show other piping in same trench and clearances from storm drainage system piping. Indicate interface and spatial relationship between manholes, piping, and proximate structures.
- B. Product Certificates: For each type of cast-iron soil pipe and fitting, from manufacturer.
- C. Field quality-control reports.

1.4 PROJECT CONDITIONS

- A. Interruption of Existing Storm Drainage Service: Do not interrupt service to facilities occupied by Owner or others unless permitted under the following conditions and then only after arranging to provide temporary service according to requirements indicated:
1. Notify Owner no fewer than two days in advance of proposed interruption of service.
 2. Do not proceed with interruption of service without Owner's written permission.

PART 2 - PRODUCTS

2.1 PE PIPE AND FITTINGS

- A. Corrugated PE Drainage Pipe and Fittings NPS 3 to NPS 10: AASHTO M 252M, Type S, with smooth waterway for coupling joints.

1. Silttight Couplings: PE sleeve with ASTM D 1056, Type 2, Class A, Grade 2 gasket material that mates with tube and fittings.
 2. Soiltight Couplings: AASHTO M 252M, corrugated, matching tube and fittings.
- B. Corrugated PE Pipe and Fittings NPS 12 to NPS 60: AASHTO M 294M, Type S, with smooth waterway for coupling joints.
1. Silttight Couplings: PE sleeve with ASTM D 1056, Type 2, Class A, Grade 2 gasket material that mates with pipe and fittings.
 2. Soiltight Couplings: AASHTO M 294M, corrugated, matching pipe and fittings.

2.2 CONCRETE PIPE AND FITTINGS

- A. Nonreinforced-Concrete Sewer Pipe and Fittings: ASTM C 14, Class 3, with tongue-and-groove ends and gasketed joints with ASTM C 443, rubber gaskets.
- B. Reinforced-Concrete Sewer Pipe and Fittings: ASTM C 76.
1. Tongue-and-groove ends and gasketed joints with ASTM C 443, rubber gaskets

2.3 CLEANOUTS

- A. Cast-Iron Cleanouts:
1. Description: ASME A112.36.2M, round, gray-iron housing with clamping device and round, secured, scoriated, gray-iron cover. Include gray-iron ferrule with inside calk or spigot connection and countersunk, tapered-thread, brass closure plug.
 2. Top-Loading Classification(s): Light Duty, Medium Duty, Heavy Duty, and Extra-Heavy Duty.
 3. Sewer Pipe Fitting and Riser to Cleanout: ASTM A 74, Service class, cast-iron soil pipe and fittings.

2.4 MANHOLES

- A. Standard Precast Concrete Manholes:
1. Description: ASTM C 478, precast, reinforced concrete, of depth indicated, with provision for sealant joints.
 2. Diameter: 48 inches minimum unless otherwise indicated.
 3. Ballast: Increase thickness of precast concrete sections or add concrete to base section as required to prevent flotation.
 4. Base Section: 6-inch minimum thickness for floor slab and 4-inch minimum thickness for walls and base riser section, and separate base slab or base section with integral floor.
 5. Riser Sections: 4-inch minimum thickness, and lengths to provide depth indicated.
 6. Top Section: Eccentric-cone type unless concentric-cone or flat-slab-top type is indicated, and top of cone of size that matches grade rings.
 7. Joint Sealant: ASTM C 990, bitumen or butyl rubber.

8. Resilient Pipe Connectors: ASTM C 923, cast or fitted into manhole walls, for each pipe connection.
9. Steps: Individual FRP steps or FRP ladder, wide enough to allow worker to place both feet on one step and designed to prevent lateral slippage off step. Cast or anchor steps into sidewalls at 12- to 16-inch intervals. Omit steps if total depth from floor of manhole to finished grade is less than 60 inches.
10. Adjusting Rings: Interlocking HDPE rings with level or sloped edge in thickness and diameter matching manhole frame and cover, and of height required to adjust manhole frame and cover to indicated elevation and slope. Include sealant recommended by ring manufacturer.
11. Grade Rings: Reinforced-concrete rings, 6- to 9-inch total thickness, to match diameter of manhole frame and cover, and height as required to adjust manhole frame and cover to indicated elevation and slope.

B. Manhole Frames and Covers:

1. Description: Ferrous; 24-inch ID by 7- to 9-inch riser with 4-inch- minimum width flange and 26-inch- diameter cover. Include indented top design with lettering cast into cover, using wording equivalent to "STORM SEWER."
2. Material: ASTM A 536, Grade 60-40-18 ductile iron unless otherwise indicated.

2.5 CONCRETE

A. General: Cast-in-place concrete according to ACI 318, ACI 350/350R, and the following:

1. Cement: ASTM C 150, Type II.
2. Fine Aggregate: ASTM C 33, sand.
3. Coarse Aggregate: ASTM C 33, crushed gravel.
4. Water: Potable.

B. Portland Cement Design Mix: 4000 psi minimum, with 0.45 maximum water/cementitious materials ratio.

1. Reinforcing Fabric: ASTM A 185/A 185M, steel, welded wire fabric, plain.
2. Reinforcing Bars: ASTM A 615/A 615M, Grade 60 (420 MPa) deformed steel.

C. Manhole Channels and Benches: Factory or field formed from concrete. Portland cement design mix, 4000 psi minimum, with 0.45 maximum water/cementitious materials ratio. Include channels and benches in manholes.

1. Channels: Concrete invert, formed to same width as connected piping, with height of vertical sides to three-fourths of pipe diameter. Form curved channels with smooth, uniform radius and slope.
 - a. Invert Slope: 2 percent through manhole.
2. Benches: Concrete, sloped to drain into channel.
 - a. Slope: 8 percent.

- D. Ballast and Pipe Supports: Portland cement design mix, 3000 psi minimum, with 0.58 maximum water/cementitious materials ratio.
1. Reinforcing Fabric: ASTM A 185/A 185M, steel, welded wire fabric, plain.
 2. Reinforcing Bars: ASTM A 615/A 615M, Grade 60 (420 MPa) deformed steel.

2.6 CATCH BASINS

A. Standard Precast Concrete Catch Basins:

1. Description: ASTM C 478, precast, reinforced concrete, of depth indicated, with provision for sealant joints.
2. Base Section: 6-inch minimum thickness for floor slab and 4-inch minimum thickness for walls and base riser section, and separate base slab or base section with integral floor.
3. Riser Sections: 4-inch minimum thickness, 48-inch diameter, and lengths to provide depth indicated.
4. Top Section: Eccentric-cone type unless concentric-cone or flat-slab-top type is indicated. Top of cone of size that matches grade rings.
5. Joint Sealant: ASTM C 990, bitumen or butyl rubber.
6. Adjusting Rings: Interlocking rings with level or sloped edge in thickness and shape matching catch basin frame and grate. Include sealant recommended by ring manufacturer.
7. Grade Rings: Include two or three reinforced-concrete rings, of 6- to 9-inch total thickness, that match 24-inch- diameter frame and grate.
8. Steps: Individual FRP steps or FRP ladder, wide enough to allow worker to place both feet on one step and designed to prevent lateral slippage off step. Cast or anchor steps into sidewalls at 12- to 16-inch intervals. Omit steps if total depth from floor of catch basin to finished grade is less than 60 inches.
9. Pipe Connectors: ASTM C 923, resilient, of size required, for each pipe connecting to base section.

B. Frames and Grates: ASTM A 536, Grade 60-40-18, ductile iron designed for A-16, structural loading. Include flat grate with small square or short-slotted drainage openings.

1. Size: 24 by 24 inches minimum unless otherwise indicated.
2. Grate Free Area: Approximately 50 percent unless otherwise indicated.

C. Frames and Grates: ASTM A 536, Grade 60-40-18, ductile iron designed for A-16, structural loading. Include 24-inch ID by 7- to 9-inch riser with 4-inch minimum width flange, and 26-inch- diameter flat grate with small square or short-slotted drainage openings.

1. Grate Free Area: Approximately 50 percent unless otherwise indicated.

2.7 STORMWATER INLETS

A. Curb Inlets: Made with vertical curb opening, of materials and dimensions according to utility standards.

- B. Gutter Inlets: Made with horizontal gutter opening, of materials and dimensions according to utility standards. Include heavy-duty frames and grates.
- C. Combination Inlets: Made with vertical curb and horizontal gutter openings, of materials and dimensions according to utility standards. Include heavy-duty frames and grates.
- D. Frames and Grates: Heavy duty, according to utility standards.

PART 3 - EXECUTION

3.1 EARTHWORK

- A. Excavation, trenching, and backfilling are specified in Section 312000 "Earth Moving."

3.2 PIPING INSTALLATION

- A. General Locations and Arrangements: Drawing plans and details indicate general location and arrangement of underground storm drainage piping. Location and arrangement of piping layout take into account design considerations. Install piping as indicated, to extent practical. Where specific installation is not indicated, follow piping manufacturer's written instructions.
- B. Install piping beginning at low point, true to grades and alignment indicated with unbroken continuity of invert. Place bell ends of piping facing upstream. Install gaskets, seals, sleeves, and couplings according to manufacturer's written instructions for use of lubricants, cements, and other installation requirements.
- C. Install manholes for changes in direction unless fittings are indicated. Use fittings for branch connections unless direct tap into existing sewer is indicated.
- D. Install proper size increasers, reducers, and couplings where different sizes or materials of pipes and fittings are connected. Reducing size of piping in direction of flow is prohibited.
- E. When installing pipe under streets or other obstructions that cannot be disturbed, use pipe-jacking process of microtunneling.
- F. Install gravity-flow, nonpressure drainage piping according to the following:
 - 1. Install piping pitched down in direction of flow.
 - 2. Install piping NPS 6 and larger with restrained joints at tee fittings and at changes in direction. Use corrosion-resistant rods, pipe or fitting manufacturer's proprietary restraint system, or cast-in-place concrete supports or anchors.
 - 3. Install piping with 36-inch minimum cover.
 - 4. Install PE corrugated sewer piping according to ASTM D 2321.
 - 5. Install nonreinforced-concrete sewer piping according to ASTM C 1479 and ACPA's "Concrete Pipe Installation Manual."
 - 6. Install reinforced-concrete sewer piping according to ASTM C 1479 and ACPA's "Concrete Pipe Installation Manual."

3.3 PIPE JOINT CONSTRUCTION

- A. Join gravity-flow, nonpressure drainage piping according to the following:
 - 1. Join corrugated PE piping according to ASTM D 3212 for push-on joints.
 - 2. Join nonreinforced-concrete sewer piping according to ASTM C 14 and ACPA's "Concrete Pipe Installation Manual" for rubber-gasketed joints.
 - 3. Join reinforced-concrete sewer piping according to ACPA's "Concrete Pipe Installation Manual" for rubber-gasketed joints.
 - 4. Join dissimilar pipe materials with nonpressure-type flexible couplings.

3.4 CLEANOUT INSTALLATION

- A. Install cleanouts and riser extensions from sewer pipes to cleanouts at grade. Use cast-iron soil pipe fittings in sewer pipes at branches for cleanouts and cast-iron soil pipe for riser extensions to cleanouts. Install piping so cleanouts open in direction of flow in sewer pipe.
 - 1. Use Light-Duty, top-loading classification cleanouts in earth or unpaved foot-traffic areas.
 - 2. Use Medium-Duty, top-loading classification cleanouts in paved foot-traffic areas.
 - 3. Use Heavy-Duty, top-loading classification cleanouts in vehicle-traffic service areas.
 - 4. Use Extra-Heavy-Duty, top-loading classification cleanouts in roads.
- B. Set cleanout frames and covers in earth in cast-in-place concrete block, 18 by 18 by 12 inches deep. Set with tops 1 inch above surrounding earth grade.
- C. Set cleanout frames and covers in concrete pavement and roads with tops flush with pavement surface.

3.5 MANHOLE INSTALLATION

- A. General: Install manholes, complete with appurtenances and accessories indicated.
- B. Install precast concrete manhole sections with sealants according to ASTM C 891.
- C. Where specific manhole construction is not indicated, follow manhole manufacturer's written instructions.
- D. Set tops of frames and covers flush with finished surface of manholes that occur in pavements. Set tops 3 inches above finished surface elsewhere unless otherwise indicated.

3.6 CATCH BASIN INSTALLATION

- A. Set frames and grates to elevations indicated.

3.7 STORMWATER INLET INSTALLATION

- A. Construct inlet head walls, aprons, and sides of reinforced concrete, as indicated.

- B. Construct riprap of broken stone, as indicated.
- C. Install outlets that spill onto grade, anchored with concrete, where indicated.
- D. Install outlets that spill onto grade, with flared end sections that match pipe, where indicated.
- E. Construct energy dissipaters at outlets, as indicated.

3.8 CONCRETE PLACEMENT

- A. Place cast-in-place concrete according to ACI 318.

3.9 CHANNEL DRAINAGE SYSTEM INSTALLATION

- A. Install with top surfaces of components, except piping, flush with finished surface.
- B. Assemble channel sections to form slope down toward drain outlets. Use sealants, adhesives, fasteners, and other materials recommended by system manufacturer.
- C. Embed channel sections and drainage specialties in 4-inch minimum concrete around bottom and sides.
- D. Fasten grates to channel sections if indicated.
- E. Assemble channel sections with flanged or interlocking joints.
- F. Embed channel sections in 4-inch minimum concrete around bottom and sides.

3.10 CONNECTIONS

- A. Connect nonpressure, gravity-flow drainage piping in building's storm building drains specified in Section 221413 "Facility Storm Drainage Piping."
- B. Make connections to existing piping and underground manholes.
 - 1. Use commercially manufactured wye fittings for piping branch connections. Remove section of existing pipe; install wye fitting into existing piping; and encase entire wye fitting, plus 6-inch overlap, with not less than 6 inches of concrete with 28-day compressive strength of 3000 psi.
 - 2. Make branch connections from side into existing piping, NPS 4 to NPS 20. Remove section of existing pipe, install wye fitting into existing piping, and encase entire wye with not less than 6 inches of concrete with 28-day compressive strength of 3000 psi.
 - 3. Make branch connections from side into existing piping, NPS 21 or larger, or to underground manholes and structures by cutting into existing unit and creating an opening large enough to allow 3 inches of concrete to be packed around entering connection. Cut end of connection pipe passing through pipe or structure wall to conform to shape of and be flush with inside wall unless otherwise indicated. On outside of pipe, manhole, or structure wall, encase entering connection in 6 inches of concrete for

minimum length of 12 inches to provide additional support of collar from connection to undisturbed ground.

- a. Use concrete that will attain a minimum 28-day compressive strength of 3000 psi unless otherwise indicated.
 - b. Use epoxy-bonding compound as interface between new and existing concrete and piping materials.
4. Protect existing piping, manholes, and structures to prevent concrete or debris from entering while making tap connections. Remove debris or other extraneous material that may accumulate.
- C. Connect to sediment interceptors specified in Section 221323 "Sanitary Waste Interceptors."

3.11 IDENTIFICATION

- A. Materials and their installation are specified in Section 312000 "Earth Moving." Arrange for installation of green warning tape directly over piping and at outside edge of underground structures.
1. Use warning tape or detectable warning tape over ferrous piping.
 2. Use detectable warning tape over nonferrous piping and over edges of underground structures.

3.12 FIELD QUALITY CONTROL

- A. Inspect interior of piping to determine whether line displacement or other damage has occurred. Inspect after approximately 24 inches of backfill is in place, and again at completion of Project.
1. Submit separate reports for each system inspection.
 2. Defects requiring correction include the following:
 - a. Alignment: Less than full diameter of inside of pipe is visible between structures.
 - b. Deflection: Flexible piping with deflection that prevents passage of ball or cylinder of size not less than 92.5 percent of piping diameter.
 - c. Damage: Crushed, broken, cracked, or otherwise damaged piping.
 - d. Infiltration: Water leakage into piping.
 - e. Exfiltration: Water leakage from or around piping.
 3. Replace defective piping using new materials, and repeat inspections until defects are within allowances specified.
 4. Reinspect and repeat procedure until results are satisfactory.
- B. Test new piping systems, and parts of existing systems that have been altered, extended, or repaired, for leaks and defects.
1. Do not enclose, cover, or put into service before inspection and approval.
 2. Test completed piping systems according to requirements of authorities having jurisdiction.

3. Schedule tests and inspections by authorities having jurisdiction with at least 24 hours' advance notice.
4. Submit separate report for each test.
5. Gravity-Flow Storm Drainage Piping: Test according to requirements of authorities having jurisdiction, UNI-B-6, and the following:
 - a. Exception: Piping with soiltight joints unless required by authorities having jurisdiction.
 - b. Option: Test plastic piping according to ASTM F 1417.
 - c. Option: Test concrete piping according to ASTM C 924.
- C. Leaks and loss in test pressure constitute defects that must be repaired.
- D. Replace leaking piping using new materials, and repeat testing until leakage is within allowances specified.

END OF SECTION 334100

SECTION 334600 - SUBDRAINAGE

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Perforated-wall pipe and fittings.
2. Geotextile filter fabrics.

1.2 ACTION SUBMITTALS

- A. Product Data: For geotextile filter fabrics.

PART 2 - PRODUCTS

2.1 PERFORATED-WALL PIPES AND FITTINGS

- A. Perforated PE Pipe and Fittings: ASTM F 405 or AASHTO M 252, Type CP; corrugated, for coupled joints.

2.2 SOIL MATERIALS

- A. Soil materials are specified in Section 312000 "Earth Moving."

2.3 WATERPROOFING FELTS

- A. Material: Comply with ASTM D 226, Type I, asphalt or ASTM D 227, coal-tar-saturated organic felt.

2.4 GEOTEXTILE FILTER FABRICS

- A. Description: Fabric of PP or polyester fibers or combination of both, with flow rate range from 110 to 330 gpm/sq. ft. when tested according to ASTM D 4491.
- B. Structure Type: Nonwoven, needle-punched continuous filament.
1. Survivability: AASHTO M 288 Class 2.
 2. Styles: Flat and sock.

PART 3 - EXECUTION

3.1 EARTHWORK

- A. Excavating, trenching, and backfilling are specified in Section 312000 "Earth Moving."

3.2 FOUNDATION DRAINAGE INSTALLATION

- A. Place impervious fill material on subgrade adjacent to bottom of footing after concrete footing forms have been removed. Place and compact impervious fill to dimensions indicated, but not less than 6 inches deep and 12 inches wide.
- B. Lay flat-style geotextile filter fabric in trench and overlap trench sides.
- C. Place supporting layer of drainage course over compacted subgrade and geotextile filter fabric, to compacted depth of not less than 4 inches.
- D. Encase pipe with sock-style geotextile filter fabric before installing pipe. Connect sock sections with tape.
- E. Install drainage piping as indicated in Part 3 "Piping Installation" Article for foundation subdrainage.
- F. Add drainage course to width of at least 6 inches on side away from wall and to top of pipe to perform tests.
- G. After satisfactory testing, cover drainage piping to width of at least 6 inches on side away from footing and above top of pipe to within 12 inches of finish grade.
- H. Install drainage course and wrap top of drainage course with flat-style geotextile filter fabric.
- I. Place layer of flat-style geotextile filter fabric over top of drainage course, overlapping edges at least 4 inches.
- J. Place backfill material over compacted drainage course. Place material in loose-depth layers not exceeding 6 inches. Thoroughly compact each layer. Final backfill to finish elevations and slope away from building.

3.3 UNDERSLAB DRAINAGE INSTALLATION

- A. Excavate for underslab drainage system after subgrade material has been compacted but before drainage course has been placed. Include horizontal distance of at least 6 inches between drainage pipe and trench walls. Grade bottom of trench excavations to required slope, and compact to firm, solid bed for drainage system.
- B. Lay flat-style geotextile filter fabric in trench and overlap trench sides.
- C. Place supporting layer of drainage course over compacted subgrade and geotextile filter fabric, to compacted depth of not less than 4 inches.

- D. Encase pipe with sock-style geotextile filter fabric before installing pipe. Connect sock sections with tape.
- E. Install drainage piping as indicated in Part 3 "Piping Installation" Article for underslab subdrainage.
- F. Add drainage course to width of at least 6 inches on side away from wall and to top of pipe to perform tests.
- G. After satisfactory testing, cover drainage piping with drainage course to elevation of bottom of slab, and compact and wrap top of drainage course with flat-style geotextile filter fabric.

3.4 PIPING INSTALLATION

- A. Install piping beginning at low points of system, true to grades and alignment indicated, with unbroken continuity of invert. Bed piping with full bearing in filtering material. Install gaskets, seals, sleeves, and couplings according to manufacturer's written instructions and other requirements indicated.
 - 1. Foundation Subdrainage: Install piping level and with a minimum cover of 36 inches unless otherwise indicated.
 - 2. Underslab Subdrainage: Install piping level.
 - 3. Retaining-Wall Subdrainage: When water discharges at end of wall into stormwater piping system, install piping level and with a minimum cover of 36 inches unless otherwise indicated.
 - 4. Lay perforated pipe with perforations down.
 - 5. Excavate recesses in trench bottom for bell ends of pipe. Lay pipe with bells facing upslope and with spigot end entered fully into adjacent bell.
- B. Use increasers, reducers, and couplings made for different sizes or materials of pipes and fittings being connected. Reduction of pipe size in direction of flow is prohibited.
- C. Install thermoplastic piping according to ASTM D 2321.

3.5 PIPE JOINT CONSTRUCTION

- A. Join perforated PE pipe and fittings with couplings according to ASTM D 3212 with loose banded, coupled, or push-on joints.
- B. Special Pipe Couplings: Join piping made of different materials and dimensions with special couplings made for this application. Use couplings that are compatible with and fit materials and dimensions of both pipes.

3.6 CLEANOUT INSTALLATION

- A. Comply with requirements for cleanouts specified in Section 334100 "Storm Utility Drainage Piping."

B. Cleanouts for Foundation Subdrainage:

1. Install cleanouts from piping to grade. Locate cleanouts at beginning of piping run and at changes in direction. Install fittings so cleanouts open in direction of flow in piping.
2. In vehicular-traffic areas, use NPS 4 cast-iron soil pipe and fittings for piping branch fittings and riser extensions to cleanout. Set cleanout frames and covers in a cast-in-place concrete anchor, 18 by 18 by 12 inches deep. Set top of cleanout flush with grade.
3. In nonvehicular-traffic areas, use NPS 4 PVC pipe and fittings for piping branch fittings and riser extensions to cleanout. Set cleanout frames and covers in a cast-in-place concrete anchor, 12 by 12 by 4 inches deep. Set top of cleanout 1 inch above grade.
4. Comply with requirements for concrete specified in Section 033000 "Cast-in-Place Concrete."

C. Cleanouts for Underslab Subdrainage:

1. Install cleanouts and riser extensions from piping to top of slab. Locate cleanouts at beginning of piping run and at changes in direction. Install fittings so cleanouts open in direction of flow in piping.
2. Use NPS 4 cast-iron soil pipe and fittings for piping branch fittings and riser extensions to cleanout flush with top of slab.

3.7 CONNECTIONS

- A. Comply with requirements for piping specified in Section 334100 "Storm Utility Drainage Piping." Drawings indicate general arrangement of piping, fittings, and specialties.

3.8 FIELD QUALITY CONTROL

A. Tests and Inspections:

1. After installing drainage course to top of piping, test drain piping with water to ensure free flow before backfilling.
2. Remove obstructions, replace damaged components, and repeat test until results are satisfactory.

B. Drain piping will be considered defective if it does not pass tests and inspections.

C. Prepare test and inspection reports.

3.9 CLEANING

- A. Clear interior of installed piping and structures of dirt and other superfluous material as work progresses. Maintain swab or drag in piping and pull past each joint as it is completed. Place plugs in ends of uncompleted pipe at end of each day or when work stops.

END OF SECTION 334600

LOCKER ROOMS ADDITION #2 – REBID NORTH PARK ICE ARENA

Sanitary Sewer and Water Main Connections Supplemental

Contractor shall include in their bid the installation of water and sanitary sewer service laterals and all necessary appurtenances from the new locker room to the respective mains as indicated in plans and specifications.

Approximate distance is 300 feet: mains are located north of the parking lot near the playground.

Contractor shall provide an itemized schedule of values for materials / labor included in the bid for the utility connections.

(It is unlikely that the new locker room sanitary sewer lateral will be able to be connected to the existing locker room sewer due to depth as it exists; however, if modifications are made to accommodate the new locker room sewer, change order may be requested).

This document has important legal consequences; consultation with an attorney is encouraged with respect to its use or modification. This document should be adapted to the particular circumstances of the contemplated Project and the controlling Laws and Regulations.

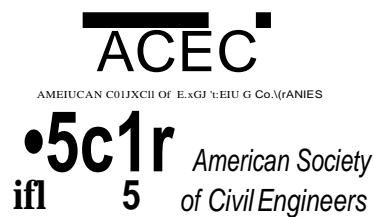
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ARTICLE 1 - DEFINITIONS AND TERMINOLOGY

1.01 *Defined Terms*

- A. Wherever used in the Bidding Requirements or Contract Documents and printed with initial capital letters, the terms listed below will have the meanings indicated which are applicable to both the singular and plural thereof. In addition to terms specifically defined, terms with initial capital letters in the Contract Documents include references to identified articles and paragraphs, and the titles of other documents or forms.
1. *Addenda-Written* or graphic instruments issued prior to the opening of Bids which clarify, correct, or change the Bidding Requirements or the proposed Contract Documents.
 2. *Agreement-The* written instrument which is evidence of the agreement between Owner and Contractor covering the Work.
 3. *Application for Payment-The* form acceptable to Engineer which is to be used by Contractor during the course of the Work in requesting progress or final payments and which is to be accompanied by such supporting documentation as is required by the Contract Documents.
 4. *Asbestos-Any* material that contains more than one percent asbestos and is friable or is releasing asbestos fibers into the air above current action levels established by the United States Occupational Safety and Health Administration.
 5. *Bid-The* offer or proposal of a Bidder submitted on the prescribed form setting forth the prices for the Work to be performed.
 6. *Bidder-The* individual or entity who submits a Bid directly to Owner.
 7. *Bidding Documents-The* Bidding Requirements and the proposed Contract Documents (including all Addenda).
 8. *Bidding Requirements-The* advertisement or invitation to bid, Instructions to Bidders, Bid security of acceptable form, if any, and the Bid Form with any supplements.
 9. *Change Order-A* document recommended by Engineer which is signed by Contractor and Owner and authorizes an addition, deletion, or revision in the Work or an adjustment in the Contract Price or the Contract Times, issued on or after the Effective Date of the Agreement.
 10. *Claim-A* demand or assertion by Owner or Contractor seeking an adjustment of Contract Price or Contract Times, or both, or other relief with respect to the terms of the Contract. A demand for money or services by a third party is not a Claim.
 11. *Contract-The* entire and integrated written agreement between the Owner and Contractor concerning the Work. The Contract supersedes prior negotiations, representations, or agreements, whether written or oral.

12. *Contract Documents*-Those items so designated in the Agreement. Only printed or hard copies of the items listed in the Agreement are Contract Documents. Approved Shop Drawings, other Contractor submittals, and the reports and drawings of subsurface and physical conditions are not Contract Documents.
13. *Contract Price*-The moneys payable by Owner to Contractor for completion of the Work in accordance with the Contract Documents as stated in the Agreement (subject to the provisions of Paragraph 11.03 in the case of Unit Price Work).
14. *Contract Times*-The number of days or the dates stated in the Agreement to: (i) achieve Milestones, if any; (ii) achieve Substantial Completion; and (iii) complete the Work so that it is ready for final payment as evidenced by Engineer's written recommendation of final payment.
15. *Contractor*-The individual or entity with whom Owner has entered into the Agreement.
16. *Cost of the Work*-See Paragraph 11.01 for definition.
17. *Drawings*-That part of the Contract Documents prepared or approved by Engineer which graphically shows the scope, extent, and character of the Work to be performed by Contractor. Shop Drawings and other Contractor submittals are not Drawings as so defined.
18. *Effective Date of the Agreement*-The date indicated in the Agreement on which it becomes effective, but if no such date is indicated, it means the date on which the Agreement is signed and delivered by the last of the two parties to sign and deliver.
19. *Engineer*-The individual or entity named as such in the Agreement.
20. *Field Order*-A written order issued by Engineer which requires minor changes in the Work but which does not involve a change in the Contract Price or the Contract Times.
21. *General Requirements*-Sections of Division 1 of the Specifications.
22. *Hazardous Environmental Condition*-The presence at the Site of Asbestos, PCBs, Petroleum, Hazardous Waste, or Radioactive Material in such quantities or circumstances that may present a substantial danger to persons or property exposed thereto.
23. *Hazardous Waste*-The term Hazardous Waste shall have the meaning provided in Section 1004 of the Solid Waste Disposal Act (42 USC Section 6903) as amended from time to time.
24. *Laws and Regulations; Laws or Regulations*-Any and all applicable laws, rules, regulations, ordinances, codes, and orders of any and all governmental bodies, agencies, authorities, and courts having jurisdiction.
25. *Liens*-Charges, security interests, or encumbrances upon Project funds, real property, or personal property.
26. *Milestone*-A principal event specified in the Contract Documents relating to an intermediate completion date or time prior to Substantial Completion of all the Work.

27. *Notice of Award*-The written notice by Owner to the Successful Bidder stating that upon timely compliance by the Successful Bidder with the conditions precedent listed therein, Owner will sign and deliver the Agreement.
28. *Notice to Proceed*-A written notice given by Owner to Contractor fixing the date on which the Contract Times will commence to run and on which Contractor shall start to perform the Work under the Contract Documents.
29. *Owner*-The individual or entity with whom Contractor has entered into the Agreement and for whom the Work is to be performed.
30. *PCBs*-Polychlorinated biphenyls.
31. *Petroleum*-Petroleum, including crude oil or any fraction thereof which is liquid at standard conditions of temperature and pressure (60 degrees Fahrenheit and 14.7 pounds per square inch absolute), such as oil, petroleum, fuel oil, oil sludge, oil refuse, gasoline, kerosene, and oil mixed with other non-Hazardous Waste and crude oils.
32. *Progress Schedule*-A schedule, prepared and maintained by Contractor, describing the sequence and duration of the activities comprising the Contractor's plan to accomplish the Work within the Contract Times.
33. *Project*-The total construction of which the Work to be performed under the Contract Documents may be the whole, or a part.
34. *Project Manual*-The bound documentary information prepared for bidding and constructing the Work. A listing of the contents of the Project Manual, which may be bound in one or more volumes, is contained in the table(s) of contents.
35. *Radioactive Material*-Source, special nuclear, or byproduct material as defined by the Atomic Energy Act of 1954 (42 USC Section 2011 et seq.) as amended from time to time.
36. *Resident Project Representative*-The authorized representative of Engineer who may be assigned to the Site or any part thereof.
37. *Samples*-Physical examples of materials, equipment, or workmanship that are representative of some portion of the Work and which establish the standards by which such portion of the Work will be judged.
38. *Schedule of Submittals*-A schedule, prepared and maintained by Contractor, of required submittals and the time requirements to support scheduled performance of related construction activities.
39. *Schedule of Values*-A schedule, prepared and maintained by Contractor, allocating portions of the Contract Price to various portions of the Work and used as the basis for reviewing Contractor's Applications for Payment.
40. *Shop Drawings*-All drawings, diagrams, illustrations, schedules, and other data or information which are specifically prepared or assembled by or for Contractor and submitted by Contractor to illustrate some portion of the Work.

41. *Site-Lands* or areas indicated in the Contract Documents as being furnished by Owner upon which the Work is to be performed, including rights-of-way and easements for access thereto, and such other lands furnished by Owner which are designated for the use of Contractor.
42. *Specifications*-That part of the Contract Documents consisting of written requirements for materials, equipment, systems, standards and workmanship as applied to the Work, and certain administrative requirements and procedural matters applicable thereto.
43. *Subcontractor*-An individual or entity having a direct contract with Contractor or with any other Subcontractor for the performance of a part of the Work at the Site.
44. *Substantial Completion*-The time at which the Work (or a specified part thereof) has progressed to the point where, in the opinion of Engineer, the Work (or a specified part thereof) is sufficiently complete, in accordance with the Contract Documents, so that the Work (or a specified part thereof) can be utilized for the purposes for which it is intended. The terms "substantially complete" and "substantially completed" as applied to all or part of the Work refer to Substantial Completion thereof.
45. *Successful Bidder*-The Bidder submitting a responsive Bid to whom Owner makes an award.
46. *Supplementary Conditions*-That part of the Contract Documents which amends or supplements these General Conditions.
47. *Supplier*-A manufacturer, fabricator, supplier, distributor, materialman, or vendor having a direct contract with Contractor or with any Subcontractor to furnish materials or equipment to be incorporated in the Work by Contractor or Subcontractor.
48. *Underground Facilities*-All underground pipelines, conduits, ducts, cables, wires, manholes, vaults, tanks, tunnels, or other such facilities or attachments, and any encasements containing such facilities, including those that convey electricity, gases, steam, liquid petroleum products, telephone or other communications, cable television, water, wastewater, storm water, other liquids or chemicals, or traffic or other control systems.
49. *Unit Price Work*-Work to be paid for on the basis of unit prices.
50. *Work*-The entire construction or the various separately identifiable parts thereof required to be provided under the Contract Documents. Work includes and is the result of performing or providing all labor, services, and documentation necessary to produce such construction, and furnishing, installing, and incorporating all materials and equipment into such construction, all as required by the Contract Documents.
51. *Work Change Directive*-A written statement to Contractor issued on or after the Effective Date of the Agreement and signed by Owner and recommended by Engineer ordering an addition, deletion, or revision in the Work, or responding to differing or unforeseen subsurface or physical conditions under which the Work is to be performed or to emergencies. A Work Change Directive will not change the Contract Price or the Contract Times but is evidence that the parties expect that the change ordered or documented by a

Work Change Directive will be incorporated in a subsequently issued Change Order following negotiations by the parties as to its effect, if any, on the Contract Price or Contract Times.

1.02 Terminology

A. The words and terms discussed in Paragraph 1.02.B through F are not defined but, when used in the Bidding Requirements or Contract Documents, have the indicated meaning.

B. *Intent of Certain Terms or Adjectives:*

1. The Contract Documents include the terms "as allowed," "as approved," "as ordered," "as directed" or terms of like effect or import to authorize an exercise of professional judgment by Engineer. In addition, the adjectives "reasonable," "suitable," "acceptable," "proper," "satisfactory," or adjectives of like effect or import are used to describe an action or determination of Engineer as to the Work. It is intended that such exercise of professional judgment, action, or determination will be solely to evaluate, in general, the Work for compliance with the information in the Contract Documents and with the design concept of the Project as a functioning whole as shown or indicated in the Contract Documents (unless there is a specific statement indicating otherwise). The use of any such term or adjective is not intended to and shall not be effective to assign to Engineer any duty or authority to supervise or direct the performance of the Work, or any duty or authority to undertake responsibility contrary to the provisions of Paragraph 9.09 or any other provision of the Contract Documents.

C. *Day:*

1. The word "day" means a calendar day of 24 hours measured from midnight to the next midnight.

D. *Defective:*

1. The word "defective," when modifying the word "Work," refers to Work that is unsatisfactory, faulty, or deficient in that it:
 - a. does not conform to the Contract Documents; or
 - b. does not meet the requirements of any applicable inspection, reference standard, test, or approval referred to in the Contract Documents; or
 - c. has been damaged prior to Engineer's recommendation of final payment (unless responsibility for the protection thereof has been assumed by Owner at Substantial Completion in accordance with Paragraph 14.04 or 14.05).

E. *Furnish, Install, Perform, Provide:*

1. The word "furnish," when used in connection with services, materials, or equipment, shall mean to supply and deliver said services, materials, or equipment to the Site (or some other specified location) ready for use or installation and **in** usable or operable condition.

2. The word "install," when used in connection with services, materials, or equipment, shall mean to put into use or place in final position said services, materials, or equipment complete and ready for intended use.
 3. The words "perform" or "provide," when used in connection with services, materials, or equipment, shall mean to furnish and install said services, materials, or equipment complete and ready for intended use.
 4. When "furnish," "install," "perform," or "provide" is not used in connection with services, materials, or equipment in a context clearly requiring an obligation of Contractor, "provide" is implied.
- F. Unless stated otherwise in the Contract Documents, words or phrases that have a well-known technical or construction industry or trade meaning are used in the Contract Documents in accordance with such recognized meaning.

ARTICLE 2 - PRELIMINARY MATTERS

2.01 Delivery of Bonds and Evidence of Insurance

- A. When Contractor delivers the executed counterparts of the Agreement to Owner, Contractor shall also deliver to Owner such bonds as Contractor may be required to furnish.
- B. *Evidence of Insurance:* Before any Work at the Site is started, Contractor and Owner shall each deliver to the other, with copies to each additional insured identified in the Supplementary Conditions, certificates of insurance (and other evidence of insurance which either of them or any additional insured may reasonably request) which Contractor and Owner respectively are required to purchase and maintain in accordance with Article 5.

2.02 Copies of Documents

- A. Owner shall furnish to Contractor up to ten printed or hard copies of the Drawings and Project Manual. Additional copies will be furnished upon request at the cost of reproduction.

2.03 Commencement of Contract Times; Notice to Proceed

- A. The Contract Times will commence to run on the thirtieth day after the Effective Date of the Agreement or, if a Notice to Proceed is given, on the day indicated in the Notice to Proceed. A Notice to Proceed may be given at any time within 30 days after the Effective Date of the Agreement. In no event will the Contract Times commence to run later than the sixtieth day after the day of Bid opening or the thirtieth day after the Effective Date of the Agreement, whichever date is earlier.

2.04 Starting the Work

- A. Contractor shall start to perform the Work on the date when the Contract Times commence to run. No Work shall be done at the Site prior to the date on which the Contract Times commence to run.

2.05 *Before Starting Construction*

A. *Preliminary Schedules:* Within 10 days after the Effective Date of the Agreement (unless otherwise specified in the General Requirements), Contractor shall submit to Engineer for timely review:

1. a preliminary Progress Schedule indicating the times (numbers of days or dates) for starting and completing the various stages of the Work, including any Milestones specified in the Contract Documents;
2. a preliminary Schedule of Submittals; and
3. a preliminary Schedule of Values for all of the Work which includes quantities and prices of items which when added together equal the Contract Price and subdivides the Work into component parts in sufficient detail to serve as the basis for progress payments during performance of the Work. Such prices will include an appropriate amount of overhead and profit applicable to each item of Work.

2.06 *Preconstruction Conference; Designation of Authorized Representatives*

A. Before any Work at the Site is started, a conference attended by Owner, Contractor, Engineer, and others as appropriate will be held to establish a working understanding among the parties as to the Work and to discuss the schedules referred to in Paragraph 2.05.A, procedures for handling Shop Drawings and other submittals, processing Applications for Payment, and maintaining required records.

B. At this conference Owner and Contractor each shall designate, in writing, a specific individual to act as its authorized representative with respect to the services and responsibilities under the Contract. Such individuals shall have the authority to transmit instructions, receive information, render decisions relative to the Contract, and otherwise act on behalf of each respective party.

2.07 *Initial Acceptance of Schedules*

A. At least 10 days before submission of the first Application for Payment a conference attended by Contractor, Engineer, and others as appropriate will be held to review for acceptability to Engineer as provided below the schedules submitted in accordance with Paragraph 2.05.A. Contractor shall have an additional 10 days to make corrections and adjustments and to complete and resubmit the schedules. No progress payment shall be made to Contractor until acceptable schedules are submitted to Engineer.

1. The Progress Schedule will be acceptable to Engineer if it provides an orderly progression of the Work to completion within the Contract Times. Such acceptance will not impose on Engineer responsibility for the Progress Schedule, for sequencing, scheduling, or progress of the Work, nor interfere with or relieve Contractor from Contractor's full responsibility therefor.
2. Contractor's Schedule of Submittals will be acceptable to Engineer if it provides a workable arrangement for reviewing and processing the required submittals.

3. Contractor's Schedule of Values will be acceptable to Engineer as to form and substance if it provides a reasonable allocation of the Contract Price to component parts of the Work.

ARTICLE 3 - CONTRACT DOCUMENTS: INTENT, AMENDING, REUSE

3.01 Intent

- A. The Contract Documents are complementary; what is required by one is as binding as if required by all.
- B. It is the intent of the Contract Documents to describe a functionally complete project (or part thereof) to be constructed in accordance with the Contract Documents. Any labor, documentation, services, materials, or equipment that reasonably may be inferred from the Contract Documents or from prevailing custom or trade usage as being required to produce the indicated result will be provided whether or not specifically called for, at no additional cost to Owner.
- C. Clarifications and interpretations of the Contract Documents shall be issued by Engineer as provided in Article 9.

3.02 Reference Standards

- A. Standards, Specifications, Codes, Laws, and Regulations
 1. Reference to standards, specifications, manuals, or codes of any technical society, organization, or association, or to Laws or Regulations, whether such reference be specific or by implication, shall mean the standard, specification, manual, code, or Laws or Regulations in effect at the time of opening of Bids (or on the Effective Date of the Agreement if there were no Bids), except as may be otherwise specifically stated in the Contract Documents.
 2. No provision of any such standard, specification, manual, or code, or any instruction of a Supplier, shall be effective to change the duties or responsibilities of Owner, Contractor, or Engineer, or any of their subcontractors, consultants, agents, or employees, from those set forth in the Contract Documents. No such provision or instruction shall be effective to assign to Owner, Engineer, or any of their officers, directors, members, partners, employees, agents, consultants, or subcontractors, any duty or authority to supervise or direct the performance of the Work or any duty or authority to undertake responsibility inconsistent with the provisions of the Contract Documents.

3.03 Reporting and Resolving Discrepancies

A. Reporting Discrepancies:

- I. *Contractor's Review of Contract Documents Before Starting Work:* Before undertaking each part of the Work, Contractor shall carefully study and compare the Contract Documents and check and verify pertinent figures therein and all applicable field measurements. Contractor shall promptly report in writing to Engineer any conflict, error, ambiguity, or discrepancy which Contractor discovers, or has actual knowledge of, and shall obtain a written interpretation or clarification from Engineer before proceeding with any Work affected thereby.

2. *Contractor's Review of Contract Documents During Performance of Work:* If, during the performance of the Work, Contractor discovers any conflict, error, ambiguity, or discrepancy within the Contract Documents, or between the Contract Documents and (a) any applicable Law or Regulation, (b) any standard, specification, manual, or code, or (c) any instruction of any Supplier, then Contractor shall promptly report it to Engineer in writing. Contractor shall not proceed with the Work affected thereby (except in an emergency as required by Paragraph 6.16.A) until an amendment or supplement to the Contract Documents has been issued by one of the methods indicated in Paragraph 3.04.
3. Contractor shall not be liable to Owner or Engineer for failure to report any conflict, error, ambiguity, or discrepancy in the Contract Documents unless Contractor had actual knowledge thereof.

B. Resolving Discrepancies:

1. Except as may be otherwise specifically stated in the Contract Documents, the provisions of the Contract Documents shall take precedence in resolving any conflict, error, ambiguity, or discrepancy between the provisions of the Contract Documents and:
 - a. the provisions of any standard, specification, manual, or code, or the instruction of any Supplier (whether or not specifically incorporated by reference in the Contract Documents); or
 - b. the provisions of any Laws or Regulations applicable to the performance of the Work (unless such an interpretation of the provisions of the Contract Documents would result in violation of such Law or Regulation).

3.04 Amending and Supplementing Contract Documents

- A. The Contract Documents may be amended to provide for additions, deletions, and revisions in the Work or to modify the terms and conditions thereof by either a Change Order or a Work Change Directive.
- B. The requirements of the Contract Documents may be supplemented, and minor variations and deviations in the Work may be authorized, by one or more of the following ways:
 1. A Field Order;
 2. Engineer's approval of a Shop Drawing or Sample (subject to the provisions of Paragraph 6.17.D.3); or
 3. Engineer's written interpretation or clarification.

3.05 Reuse of Documents

- A. Contractor and any Subcontractor or Supplier shall not:
 1. have or acquire any title to or ownership rights in any of the Drawings, Specifications, or other documents (or copies of any thereof) prepared by or bearing the seal of Engineer or its consultants, including electronic media editions; or

2. reuse any such Drawings, Specifications, other documents, or copies thereof on extensions of the Project or any other project without written consent of Owner and Engineer and specific written verification or adaptation by Engineer.
- B. The prohibitions of this Paragraph 3.05 will survive final payment, or termination of the Contract. Nothing herein shall preclude Contractor from retaining copies of the Contract Documents for record purposes.

3.06 *Electronic Data*

- A. Unless otherwise stated in the Supplementary Conditions, the data furnished by Owner or Engineer to Contractor, or by Contractor to Owner or Engineer, that may be relied upon are limited to the printed copies (also known as hard copies). Files in electronic media format of text, data, graphics, or other types are furnished only for the convenience of the receiving party. Any conclusion or information obtained or derived from such electronic files will be at the user's sole risk. If there is a discrepancy between the electronic files and the hard copies, the hard copies govern.
- B. Because data stored in electronic media format can deteriorate or be modified inadvertently or otherwise without authorization of the data's creator, the party receiving electronic files agrees that it will perform acceptance tests or procedures within 60 days, after which the receiving party shall be deemed to have accepted the data thus transferred. Any errors detected within the 60-day acceptance period will be corrected by the transferring party.
- C. When transferring documents in electronic media format, the transferring party makes no representations as to long term compatibility, usability, or readability of documents resulting from the use of software application packages, operating systems, or computer hardware differing from those used by the data's creator.

ARTICLE 4-AVAILABILITY OF LANDS; SUBSURFACE AND PHYSICAL CONDITIONS; HAZARDOUS ENVIRONMENTAL CONDITIONS; REFERENCE POINTS

4.01 *Availability of Lands*

- A. Owner shall furnish the Site. Owner shall notify Contractor of any encumbrances or restrictions not of general application but specifically related to use of the Site with which Contractor must comply in performing the Work. Owner will obtain in a timely manner and pay for easements for permanent structures or permanent changes in existing facilities. If Contractor and Owner are unable to agree on entitlement to or on the amount or extent, if any, of any adjustment in the Contract Price or Contract Times, or both, as a result of any delay in Owner's furnishing the Site or a part thereof, Contractor may make a Claim therefor, as provided in Paragraph 10.05.
- B. Upon reasonable written request, Owner shall furnish Contractor with a current statement of record legal title and legal description of the lands upon which the Work is to be performed and Owner's interest therein as necessary for giving notice of or filing a mechanic's or construction lien against such lands in accordance with applicable Laws and Regulations.
- C. Contractor shall provide for all additional lands and access thereto that may be required for temporary construction facilities or storage of materials and equipment.

4.02 *Subsurface and Physical Conditions*

A. *Reports and Drawings*: The Supplementary Conditions identify:

1. those reports known to Owner of explorations and tests of subsurface conditions at or contiguous to the Site; and
2. those drawings known to Owner of physical conditions relating to existing surface or subsurface structures at the Site (except Underground Facilities).

B. *Limited Reliance by Contractor on Technical Data Authorized*: Contractor may rely upon the accuracy of the "technical data" contained in such reports and drawings, but such reports and drawings are not Contract Documents. Such "technical data" is identified in the Supplementary Conditions. Except for such reliance on such "technical data," Contractor may not rely upon or make any claim against Owner or Engineer, or any of their officers, directors, members, partners, employees, agents, consultants, or subcontractors with respect to:

1. the completeness of such reports and drawings for Contractor's purposes, including, but not limited to, any aspects of the means, methods, techniques, sequences, and procedures of construction to be employed by Contractor, and safety precautions and programs incident thereto; or
2. other data, interpretations, opinions, and information contained in such reports or shown or indicated in such drawings; or
3. any Contractor interpretation of or conclusion drawn from any "technical data" or any such other data, interpretations, opinions, or information.

4.03 *Differing Subsurface or Physical Conditions*

A. *Notice*: If Contractor believes that any subsurface or physical condition that is uncovered or revealed either:

1. is of such a nature as to establish that any "technical data" on which Contractor is entitled to rely as provided in Paragraph 4.02 is materially inaccurate; or
2. is of such a nature as to require a change in the Contract Documents; or
3. differs materially from that shown or indicated in the Contract Documents; or
4. is of an unusual nature, and differs materially from conditions ordinarily encountered and generally recognized as inherent in work of the character provided for in the Contract Documents;

then Contractor shall, promptly after becoming aware thereof and before further disturbing the subsurface or physical conditions or performing any Work in connection therewith (except in an emergency as required by Paragraph 6.16.A), notify Owner and Engineer in writing about such condition. Contractor shall not further disturb such condition or perform any Work in connection therewith (except as aforesaid) until receipt of written order to do so.

B. *Engineer's Review:* After receipt of written notice as required by Paragraph 4.03.A, Engineer will promptly review the pertinent condition, determine the necessity of Owner's obtaining additional exploration or tests with respect thereto, and advise Owner in writing (with a copy to Contractor) of Engineer's findings and conclusions.

C. *Possible Price and Times Adjustments:*

1. The Contract Price or the Contract Times, or both, will be equitably adjusted to the extent that the existence of such differing subsurface or physical condition causes an increase or decrease in Contractor's cost of, or time required for, performance of the Work; subject, however, to the following:
 - a. such condition must meet any one or more of the categories described in Paragraph 4.03.A; and
 - b. with respect to Work that is paid for on a unit price basis, any adjustment in Contract Price will be subject to the provisions of Paragraphs 9.07 and 11.03.
2. Contractor shall not be entitled to any adjustment in the Contract Price or Contract Times if:
 - a. Contractor knew of the existence of such conditions at the time Contractor made a final commitment to Owner with respect to Contract Price and Contract Times by the submission of a Bid or becoming bound under a negotiated contract; or
 - b. the existence of such condition could reasonably have been discovered or revealed as a result of any examination, investigation, exploration, test, or study of the Site and contiguous areas required by the Bidding Requirements or Contract Documents to be conducted by or for Contractor prior to Contractor's making such final commitment; or
 - c. Contractor failed to give the written notice as required by Paragraph 4.03.A.
3. If Owner and Contractor are unable to agree on entitlement to or on the amount or extent, if any, of any adjustment in the Contract Price or Contract Times, or both, a Claim may be made therefor as provided in Paragraph 10.05. However, neither Owner or Engineer, or any of their officers, directors, members, partners, employees, agents, consultants, or subcontractors shall be liable to Contractor for any claims, costs, losses, or damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) sustained by Contractor on or in connection with any other project or anticipated project.

4.04 *Underground Facilities*

A. *Shown or Indicated:* The information and data shown or indicated in the Contract Documents with respect to existing Underground Facilities at or contiguous to the Site is based on information and data furnished to Owner or Engineer by the owners of such Underground Facilities, including Owner, or by others. Unless it is otherwise expressly provided in the Supplementary Conditions:

1. Owner and Engineer shall not be responsible for the accuracy or completeness of any such information or data provided by others; and

2. the cost of all of the following will be included in the Contract Price, and Contractor shall have full responsibility for:
 - a. reviewing and checking all such information and data;
 - b. locating all Underground Facilities shown or indicated in the Contract Documents;
 - c. coordination of the Work with the owners of such Underground Facilities, including Owner, during construction; and
 - d. the safety and protection of all such Underground Facilities and repairing any damage thereto resulting from the Work.

B. Not Shown or Indicated:

1. If an Underground Facility is uncovered or revealed at or contiguous to the Site which was not shown or indicated, or not shown or indicated with reasonable accuracy in the Contract Documents, Contractor shall, promptly after becoming aware thereof and before further disturbing conditions affected thereby or performing any Work in connection therewith (except in an emergency as required by Paragraph 6.16.A), identify the owner of such Underground Facility and give written notice to that owner and to Owner and Engineer. Engineer will promptly review the Underground Facility and determine the extent, if any, to which a change is required in the Contract Documents to reflect and document the consequences of the existence or location of the Underground Facility. During such time, Contractor shall be responsible for the safety and protection of such Underground Facility.
2. If Engineer concludes that a change in the Contract Documents is required, a Work Change Directive or a Change Order will be issued to reflect and document such consequences. An equitable adjustment shall be made in the Contract Price or Contract Times, or both, to the extent that they are attributable to the existence or location of any Underground Facility that was not shown or indicated or not shown or indicated with reasonable accuracy in the Contract Documents and that Contractor did not know of and could not reasonably have been expected to be aware of or to have anticipated. If Owner and Contractor are unable to agree on entitlement to or on the amount or extent, if any, of any such adjustment in Contract Price or Contract Times, Owner or Contractor may make a Claim therefor as provided in Paragraph 10.05.

4.05 Reference Points

- A. Owner shall provide engineering surveys to establish reference points for construction which in Engineer's judgment are necessary to enable Contractor to proceed with the Work. Contractor shall be responsible for laying out the Work, shall protect and preserve the established reference points and property monuments, and shall make no changes or relocations without the prior written approval of Owner. Contractor shall report to Engineer whenever any reference point or property monument is lost or destroyed or requires relocation because of necessary changes in grades or locations, and shall be responsible for the accurate replacement or relocation of such reference points or property monuments by professionally qualified personnel.

4.06 *Hazardous Environmental Condition at Site*

- A. *Reports and Drawings:* The Supplementary Conditions identify those reports and drawings known to Owner relating to Hazardous Environmental Conditions that have been identified at the Site.
- B. *Limited Reliance by Contractor on Technical Data Authorized:* Contractor may rely upon the accuracy of the "technical data" contained in such reports and drawings, but such reports and drawings are not Contract Documents. Such "technical data" is identified in the Supplementary Conditions. Except for such reliance on such "technical data," Contractor may not rely upon or make any claim against Owner or Engineer, or any of their officers, directors, members, partners, employees, agents, consultants, or subcontractors with respect to:
 - 1. the completeness of such reports and drawings for Contractor's purposes, including, but not limited to, any aspects of the means, methods, techniques, sequences and procedures of construction to be employed by Contractor and safety precautions and programs incident thereto; or
 - 2. other data, interpretations, opinions and information contained in such reports or shown or indicated in such drawings; or
 - 3. any Contractor interpretation of or conclusion drawn from any "technical data" or any such other data, interpretations, opinions or information.
- C. Contractor shall not be responsible for any Hazardous Environmental Condition uncovered or revealed at the Site which was not shown or indicated in Drawings or Specifications or identified in the Contract Documents to be within the scope of the Work. Contractor shall be responsible for a Hazardous Environmental Condition created with any materials brought to the Site by Contractor, Subcontractors, Suppliers, or anyone else for whom Contractor is responsible.
- D. If Contractor encounters a Hazardous Environmental Condition or if Contractor or anyone for whom Contractor is responsible creates a Hazardous Environmental Condition, Contractor shall immediately: (i) secure or otherwise isolate such condition; (ii) stop all Work in connection with such condition and in any area affected thereby (except in an emergency as required by Paragraph 6.16.A); and (iii) notify Owner and Engineer (and promptly thereafter confirm such notice in writing). Owner shall promptly consult with Engineer concerning the necessity for Owner to retain a qualified expert to evaluate such condition or take corrective action, if any. Promptly after consulting with Engineer, Owner shall take such actions as are necessary to permit Owner to timely obtain required permits and provide Contractor the written notice required by Paragraph 4.06.E.
- E. Contractor shall not be required to resume Work in connection with such condition or in any affected area until after Owner has obtained any required permits related thereto and delivered written notice to Contractor: (i) specifying that such condition and any affected area is or has been rendered safe for the resumption of Work; or (ii) specifying any special conditions under which such Work may be resumed safely. If Owner and Contractor cannot agree as to entitlement to or on the amount or extent, if any, of any adjustment in Contract Price or Contract Times, or both, as a result of such Work stoppage or such special conditions under which Work

is agreed to be resumed by Contractor, either party may make a Claim therefor as provided in Paragraph 10.05.

- F. If after receipt of such written notice Contractor does not agree to resume such Work based on a reasonable belief it is unsafe, or does not agree to resume such Work under such special conditions, then Owner may order the portion of the Work that is in the area affected by such condition to be deleted from the Work. If Owner and Contractor cannot agree as to entitlement to or on the amount or extent, if any, of an adjustment in Contract Price or Contract Times as a result of deleting such portion of the Work, then either party may make a Claim therefor as provided in Paragraph 10.05. Owner may have such deleted portion of the Work performed by Owner's own forces or others in accordance with Article 7.
- G. To the fullest extent permitted by Laws and Regulations, Owner shall indemnify and hold harmless Contractor, Subcontractors, and Engineer, and the officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to a Hazardous Environmental Condition, provided that such Hazardous Environmental Condition: (i) was not shown or indicated in the Drawings or Specifications or identified in the Contract Documents to be included within the scope of the Work, and (ii) was not created by Contractor or by anyone for whom Contractor is responsible. Nothing in this Paragraph 4.06.G shall obligate Owner to indemnify any individual or entity from and against the consequences of that individual's or entity's own negligence.
- H. To the fullest extent permitted by Laws and Regulations, Contractor shall indemnify and hold harmless Owner and Engineer, and the officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to a Hazardous Environmental Condition created by Contractor or by anyone for whom Contractor is responsible. Nothing in this Paragraph 4.06.H shall obligate Contractor to indemnify any individual or entity from and against the consequences of that individual's or entity's own negligence.
- I. The provisions of Paragraphs 4.02, 4.03, and 4.04 do not apply to a Hazardous Environmental Condition uncovered or revealed at the Site.

ARTICLE 5 - BONDS AND INSURANCE

5.01 Performance, Payment, and Other Bonds

- A. Contractor shall furnish performance and payment bonds, each in an amount at least equal to the Contract Price as security for the faithful performance and payment of all of Contractor's obligations under the Contract Documents. These bonds shall remain in effect until one year after the date when final payment becomes due or until completion of the correction period specified in Paragraph 13.07, whichever is later, except as provided otherwise by Laws or Regulations or by the Contract Documents. Contractor shall also furnish such other bonds as are required by the Contract Documents.

- B. All bonds shall be in the form prescribed by the Contract Documents except as provided otherwise by Laws or Regulations, and shall be executed by such sureties as are named in the list of "Companies Holding Certificates of Authority as Acceptable Sureties on Federal Bonds and as Acceptable Reinsuring Companies" as published in Circular 570 (amended) by the Financial Management Service, Surety Bond Branch, U.S. Department of the Treasury. All bonds signed by an agent or attorney-in-fact must be accompanied by a certified copy of that individual's authority to bind the surety. The evidence of authority shall show that it is effective on the date the agent or attorney-in-fact signed each bond.
- C. If the surety on any bond furnished by Contractor is declared bankrupt or becomes insolvent or its right to do business is terminated in any state where any part of the Project is located or it ceases to meet the requirements of Paragraph 5.01.B, Contractor shall promptly notify Owner and Engineer and shall, within 20 days after the event giving rise to such notification, provide another bond and surety, both of which shall comply with the requirements of Paragraphs 5.01.B and 5.02.

5.02 *Licensed Sureties and Insurers*

- A. All bonds and insurance required by the Contract Documents to be purchased and maintained by Owner or Contractor shall be obtained from surety or insurance companies that are duly licensed or authorized in the jurisdiction in which the Project is located to issue bonds or insurance policies for the limits and coverages so required. Such surety and insurance companies shall also meet such additional requirements and qualifications as may be provided in the Supplementary Conditions.

5.03 *Certificates of Insurance*

- A. Contractor shall deliver to Owner, with copies to each additional insured and loss payee identified in the Supplementary Conditions, certificates of insurance (and other evidence of insurance requested by Owner or any other additional insured) which Contractor is required to purchase and maintain.
- B. Owner shall deliver to Contractor, with copies to each additional insured and loss payee identified in the Supplementary Conditions, certificates of insurance (and other evidence of insurance requested by Contractor or any other additional insured) which Owner is required to purchase and maintain.
- C. Failure of Owner to demand such certificates or other evidence of Contractor's full compliance with these insurance requirements or failure of Owner to identify a deficiency in compliance from the evidence provided shall not be construed as a waiver of Contractor's obligation to maintain such insurance.
- D. Owner does not represent that insurance coverage and limits established in this Contract necessarily will be adequate to protect Contractor.
- E. The insurance and insurance limits required herein shall not be deemed as a limitation on Contractor's liability under the indemnities granted to Owner in the Contract Documents.

5.04 Contractor's Insurance

- A. Contractor shall purchase and maintain such insurance as is appropriate for the Work being performed and as will provide protection from claims set forth below which may arise out of or result from Contractor's performance of the Work and Contractor's other obligations under the Contract Documents, whether it is to be performed by Contractor, any Subcontractor or Supplier, or by anyone directly or indirectly employed by any of them to perform any of the Work, or by anyone for whose acts any of them may be liable:
1. claims under workers' compensation, disability benefits, and other similar employee benefit acts;
 2. claims for damages because of bodily injury, occupational sickness or disease, or death of Contractor's employees;
 3. claims for damages because of bodily injury, sickness or disease, or death of any person other than Contractor's employees;
 4. claims for damages insured by reasonably available personal injury liability coverage which are sustained:
 - a. by any person as a result of an offense directly or indirectly related to the employment of such person by Contractor, or
 - b. by any other person for any other reason;
 5. claims for damages, other than to the Work itself, because of injury to or destruction of tangible property wherever located, including loss of use resulting therefrom; and
 6. claims for damages because of bodily injury or death of any person or property damage arising out of the ownership, maintenance or use of any motor vehicle.
- B. The policies of insurance required by this Paragraph 5.04 shall:
1. with respect to insurance required by Paragraphs 5.04.A.3 through 5.04.A.6 inclusive, be written on an occurrence basis, include as additional insureds (subject to any customary exclusion regarding professional liability) Owner and Engineer, and any other individuals or entities identified in the Supplementary Conditions, all of whom shall be listed as additional insureds, and include coverage for the respective officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of all such additional insureds, and the insurance afforded to these additional insureds shall provide primary coverage for all claims covered thereby;
 2. include at least the specific coverages and be written for not less than the limits of liability provided in the Supplementary Conditions or required by Laws or Regulations, whichever is greater;
 3. include contractual liability insurance covering Contractor's indemnity obligations under Paragraphs 6.11 and 6.20;

4. contain a provision or endorsement that the coverage afforded will not be canceled, materially changed or renewal refused until at least 30 days prior written notice has been given to Owner and Contractor and to each other additional insured identified in the Supplementary Conditions to whom a certificate of insurance has been issued (and the certificates of insurance furnished by the Contractor pursuant to Paragraph 5.03 will so provide);
5. remain in effect at least until final payment and at all times thereafter when Contractor may be correcting, removing, or replacing defective Work in accordance with Paragraph 13.07; and
6. include completed operations coverage:
 - a. Such insurance shall remain in effect for two years after final payment.
 - b. Contractor shall furnish Owner and each other additional insured identified in the Supplementary Conditions, to whom a certificate of insurance has been issued, evidence satisfactory to Owner and any such additional insured of continuation of such insurance at final payment and one year thereafter.

5.05 *Owner's Liability Insurance*

- A. In addition to the insurance required to be provided by Contractor under Paragraph 5.04, Owner, at Owner's option, may purchase and maintain at Owner's expense Owner's own liability insurance as will protect Owner against claims which may arise from operations under the Contract Documents.

5.06 *Property Insurance*

- A. Unless otherwise provided in the Supplementary Conditions, Owner shall purchase and maintain property insurance upon the Work at the Site in the amount of the full replacement cost thereof (subject to such deductible amounts as may be provided in the Supplementary Conditions or required by Laws and Regulations). This insurance shall:
 1. include the interests of Owner, Contractor, Subcontractors, and Engineer, and any other individuals or entities identified in the Supplementary Conditions, and the officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them, each of whom is deemed to have an insurable interest and shall be listed as a loss payee;
 2. be written on a Builder's Risk "all-risk" policy form that shall at least include insurance for physical loss or damage to the Work, temporary buildings, falsework, and materials and equipment in transit, and shall insure against at least the following perils or causes of loss: fire, lightning, extended coverage, theft, vandalism and malicious mischief, earthquake, collapse, debris removal, demolition occasioned by enforcement of Laws and Regulations, water damage (other than that caused by flood), and such other perils or causes of loss as may be specifically required by the Supplementary Conditions.

3. include expenses incurred in the repair or replacement of any insured property (including but not limited to fees and charges of engineers and architects);
 4. cover materials and equipment stored at the Site or at another location that was agreed to in writing by Owner prior to being incorporated in the Work, provided that such materials and equipment have been included in an Application for Payment recommended by Engineer;
 5. allow for partial utilization of the Work by Owner;
 6. include testing and startup; and
 7. be maintained in effect until final payment is made unless otherwise agreed to in writing by Owner, Contractor, and Engineer with 30 days written notice to each other loss payee to whom a certificate of insurance has been issued.
- B. Owner shall purchase and maintain such equipment breakdown insurance or additional property insurance as may be required by the Supplementary Conditions or Laws and Regulations which will include the interests of Owner, Contractor, Subcontractors, and Engineer, and any other individuals or entities identified in the Supplementary Conditions, and the officers, directors, members, partners, employees, agents, consultants and subcontractors of each and any of them, each of whom is deemed to have an insurable interest and shall be listed as a loss payee.
- C. All the policies of insurance (and the certificates or other evidence thereof) required to be purchased and maintained in accordance with this Paragraph 5.06 will contain a provision or endorsement that the coverage afforded will not be canceled or materially changed or renewal refused until at least 30 days prior written notice has been given to Owner and Contractor and to each other loss payee to whom a certificate of insurance has been issued and will contain waiver provisions in accordance with Paragraph 5.07.
- D. Owner shall not be responsible for purchasing and maintaining any property insurance specified in this Paragraph 5.06 to protect the interests of Contractor, Subcontractors, or others, in the Work to the extent of any deductible amounts that are identified in the Supplementary Conditions. The risk of loss within such identified deductible amount will be borne by Contractor, Subcontractors, or others suffering any such loss, and if any of them wishes property insurance coverage within the limits of such amounts, each may purchase and maintain it at the purchaser's own expense.
- E. If Contractor requests in writing that other special insurance be included in the property insurance policies provided under this Paragraph 5.06, Owner shall, if possible, include such insurance, and the cost thereof will be charged to Contractor by appropriate Change Order. Prior to commencement of the Work at the Site, Owner shall in writing advise Contractor whether or not such other insurance has been procured by Owner.

5.07 Waiver of Rights

- A. Owner and Contractor intend that all policies purchased in accordance with Paragraph 5.06 will protect Owner, Contractor, Subcontractors, and Engineer, and all other individuals or entities identified in the Supplementary Conditions as loss payees (and the officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them) in such

policies and will provide primary coverage for all losses and damages caused by the perils or causes of loss covered thereby. All such policies shall contain provisions to the effect that in the event of payment of any loss or damage the insurers will have no rights of recovery against any of the insureds or loss payees thereunder. Owner and Contractor waive all rights against each other and their respective officers, directors, members, partners, employees, agents, consultants and subcontractors of each and any of them for all losses and damages caused by, arising out of or resulting from any of the perils or causes of loss covered by such policies and any other property insurance applicable to the Work; and, in addition, waive all such rights against Subcontractors and Engineer, and all other individuals or entities identified in the Supplementary Conditions as loss payees (and the officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them) under such policies for losses and damages so caused. None of the above waivers shall extend to the rights that any party making such waiver may have to the proceeds of insurance held by Owner as trustee or otherwise payable under any policy so issued.

- B. Owner waives all rights against Contractor, Subcontractors, and Engineer, and the officers, directors, members, partners, employees, agents, consultants and subcontractors of each and any of them for:
 - 1. loss due to business interruption, loss of use, or other consequential loss extending beyond direct physical loss or damage to Owner's property or the Work caused by, arising out of, or resulting from fire or other perils whether or not insured by Owner; and
 - 2. loss or damage to the completed Project or part thereof caused by, arising out of, or resulting from fire or other insured peril or cause of loss covered by any property insurance maintained on the completed Project or part thereof by Owner during partial utilization pursuant to Paragraph 14.05, after Substantial Completion pursuant to Paragraph 14.04, or after final payment pursuant to Paragraph 14.07.
- C. Any insurance policy maintained by Owner covering any loss, damage or consequential loss referred to in Paragraph 5.07.B shall contain provisions to the effect that in the event of payment of any such loss, damage, or consequential loss, the insurers will have no rights of recovery against Contractor, Subcontractors, or Engineer, and the officers, directors, members, partners, employees, agents, consultants and subcontractors of each and any of them.

5.08 Receipt and Application of Insurance Proceeds

- A. Any insured loss under the policies of insurance required by Paragraph 5.06 will be adjusted with Owner and made payable to Owner as fiduciary for the loss payees, as their interests may appear, subject to the requirements of any applicable mortgage clause and of Paragraph 5.08.B. Owner shall deposit in a separate account any money so received and shall distribute it in accordance with such agreement as the parties in interest may reach. If no other special agreement is reached, the damaged Work shall be repaired or replaced, the moneys so received applied on account thereof, and the Work and the cost thereof covered by an appropriate Change Order.
- B. Owner as fiduciary shall have power to adjust and settle any loss with the insurers unless one of the parties in interest shall object in writing within 15 days after the occurrence of loss to Owner's exercise of this power. If such objection be made, Owner as fiduciary shall make settlement with the insurers in accordance with such agreement as the parties in interest may

reach. If no such agreement among the parties in interest is reached, Owner as fiduciary shall adjust and settle the loss with the insurers and, if required in writing by any party in interest, Owner as fiduciary shall give bond for the proper performance of such duties.

5.09 Acceptance of Bonds and Insurance; Option to Replace

A. If either Owner or Contractor has any objection to the coverage afforded by or other provisions of the bonds or insurance required to be purchased and maintained by the other party in accordance with Article 5 on the basis of non-conformance with the Contract Documents, the objecting party shall so notify the other party in writing within 10 days after receipt of the certificates (or other evidence requested) required by Paragraph 2.01.B. Owner and Contractor shall each provide to the other such additional information in respect of insurance provided as the other may reasonably request. If either party does not purchase or maintain all of the bonds and insurance required of such party by the Contract Documents, such party shall notify the other party in writing of such failure to purchase prior to the start of the Work, or of such failure to maintain prior to any change in the required coverage. Without prejudice to any other right or remedy, the other party may elect to obtain equivalent bonds or insurance to protect such other party's interests at the expense of the party who was required to provide such coverage, and a Change Order shall be issued to adjust the Contract Price accordingly.

5.10 Partial Utilization, Acknowledgment of Property Insurer

A. If Owner finds it necessary to occupy or use a portion or portions of the Work prior to Substantial Completion of all the Work as provided in Paragraph 14.05, no such use or occupancy shall commence before the insurers providing the property insurance pursuant to Paragraph 5.06 have acknowledged notice thereof and in writing effected any changes in coverage necessitated thereby. The insurers providing the property insurance shall consent by endorsement on the policy or policies, but the property insurance shall not be canceled or permitted to lapse on account of any such partial use or occupancy.

ARTICLE 6 - CONTRACTOR'S RESPONSIBILITIES

6.01 Supervision and Superintendence

- A. Contractor shall supervise, inspect, and direct the Work competently and efficiently, devoting such attention thereto and applying such skills and expertise as may be necessary to perform the Work in accordance with the Contract Documents. Contractor shall be solely responsible for the means, methods, techniques, sequences, and procedures of construction. Contractor shall not be responsible for the negligence of Owner or Engineer in the design or specification of a specific means, method, technique, sequence, or procedure of construction which is shown or indicated in and expressly required by the Contract Documents.
- B. At all times during the progress of the Work, Contractor shall assign a competent resident superintendent who shall not be replaced without written notice to Owner and Engineer except under extraordinary circumstances.

6.02 *Labor; Working Hours*

- A. Contractor shall provide competent, suitably qualified personnel to survey and lay out the Work and perform construction as required by the Contract Documents. Contractor shall at all times maintain good discipline and order at the Site.
- B. Except as otherwise required for the safety or protection of persons or the Work or property at the Site or adjacent thereto, and except as otherwise stated in the Contract Documents, all Work at the Site shall be performed during regular working hours. Contractor will not permit the performance of Work on a Saturday, Sunday, or any legal holiday without Owner's written consent (which will not be unreasonably withheld) given after prior written notice to Engineer.

6.03 *Services, Materials, and Equipment*

- A. Unless otherwise specified in the Contract Documents, Contractor shall provide and assume full responsibility for all services, materials, equipment, labor, transportation, construction equipment and machinery, tools, appliances, fuel, power, light, heat, telephone, water, sanitary facilities, temporary facilities, and all other facilities and incidentals necessary for the performance, testing, start-up, and completion of the Work.
- B. All materials and equipment incorporated into the Work shall be as specified or, if not specified, shall be of good quality and new, except as otherwise provided in the Contract Documents. All special warranties and guarantees required by the Specifications shall expressly run to the benefit of Owner. If required by Engineer, Contractor shall furnish satisfactory evidence (including reports of required tests) as to the source, kind, and quality of materials and equipment.
- C. All materials and equipment shall be stored, applied, installed, connected, erected, protected, used, cleaned, and conditioned in accordance with instructions of the applicable Supplier, except as otherwise may be provided in the Contract Documents.

6.04 *Progress Schedule*

- A. Contractor shall adhere to the Progress Schedule established in accordance with Paragraph 2.07 as it may be adjusted from time to time as provided below.
 - 1. Contractor shall submit to Engineer for acceptance (to the extent indicated in Paragraph 2.07) proposed adjustments in the Progress Schedule that will not result in changing the Contract Times. Such adjustments will comply with any provisions of the General Requirements applicable thereto.
 - 2. Proposed adjustments in the Progress Schedule that will change the Contract Times shall be submitted in accordance with the requirements of Article 12. Adjustments in Contract Times may only be made by a Change Order.

6.05 *Substitutes and "Or-Equals"*

- A. Whenever an item of material or equipment is specified or described in the Contract Documents by using the name of a proprietary item or the name of a particular Supplier, the specification or description is intended to establish the type, function, appearance, and quality required. Unless the specification or description contains or is followed by words reading that no like, equivalent,

or "or-equal" item or no substitution is permitted, other items of material or equipment or material or equipment of other Suppliers may be submitted to Engineer for review under the circumstances described below.

1. *"Or-Equal" Items:* If in Engineer's sole discretion an item of material or equipment proposed by Contractor is functionally equal to that named and sufficiently similar so that no change in related Work will be required, it may be considered by Engineer as an "or-equal" item, in which case review and approval of the proposed item may, in Engineer's sole discretion, be accomplished without compliance with some or all of the requirements for approval of proposed substitute items. For the purposes of this Paragraph 6.05.A.1, a proposed item of material or equipment will be considered functionally equal to an item so named if:

a. in the exercise of reasonable judgment Engineer determines that:

- 1) it is at least equal in materials of construction, quality, durability, appearance, strength, and design characteristics;
- 2) it will reliably perform at least equally well the function and achieve the results imposed by the design concept of the completed Project as a functioning whole; and
- 3) it has a proven record of performance and availability of responsive service.

b. Contractor certifies that, if approved and incorporated into the Work:

- 1) there will be no increase in cost to the Owner or increase in Contract Times; and
- 2) it will conform substantially to the detailed requirements of the item named in the Contract Documents.

2. *Substitute Items:*

a. If in Engineer's sole discretion an item of material or equipment proposed by Contractor does not qualify as an "or-equal" item under Paragraph 6.05.A.1, it will be considered a proposed substitute item.

b. Contractor shall submit sufficient information as provided below to allow Engineer to determine if the item of material or equipment proposed is essentially equivalent to that named and an acceptable substitute therefor. Requests for review of proposed substitute items of material or equipment will not be accepted by Engineer from anyone other than Contractor.

c. The requirements for review by Engineer will be as set forth in Paragraph 6.05.A.2.d, as supplemented by the General Requirements, and as Engineer may decide is appropriate under the circumstances.

d. Contractor shall make written application to Engineer for review of a proposed substitute item of material or equipment that Contractor seeks to furnish or use. The application:

- 1) shall certify that the proposed substitute item will:

- a) perform adequately the functions and achieve the results called for by the general design,
 - b) be similar in substance to that specified, and
 - c) be suited to the same use as that specified;
- 2) will state:
- a) the extent, if any, to which the use of the proposed substitute item will prejudice Contractor's achievement of Substantial Completion on time,
 - b) whether use of the proposed substitute item in the Work will require a change in any of the Contract Documents (or in the provisions of any other direct contract with Owner for other work on the Project) to adapt the design to the proposed substitute item, and
 - c) whether incorporation or use of the proposed substitute item in connection with the Work is subject to payment of any license fee or royalty;
- 3) will identify:
- a) all variations of the proposed substitute item from that specified, and
 - b) available engineering, sales, maintenance, repair, and replacement services; and
- 4) shall contain an itemized estimate of all costs or credits that will result directly or indirectly from use of such substitute item, including costs of redesign and claims of other contractors affected by any resulting change.
- B. *Substitute Construction Methods or Procedures:* If a specific means, method, technique, sequence, or procedure of construction is expressly required by the Contract Documents, Contractor may furnish or utilize a substitute means, method, technique, sequence, or procedure of construction approved by Engineer. Contractor shall submit sufficient information to allow Engineer, in Engineer's sole discretion, to determine that the substitute proposed is equivalent to that expressly called for by the Contract Documents. The requirements for review by Engineer will be similar to those provided in Paragraph 6.05.A.2.
- C. *Engineer's Evaluation:* Engineer will be allowed a reasonable time within which to evaluate each proposal or submittal made pursuant to Paragraphs 6.05.A and 6.05.B. Engineer may require Contractor to furnish additional data about the proposed substitute item. Engineer will be the sole judge of acceptability. No "or equal" or substitute will be ordered, installed or utilized until Engineer's review is complete, which will be evidenced by a Change Order in the case of a substitute and an approved Shop Drawing for an "or equal." Engineer will advise Contractor in writing of any negative determination.
- D. *Special Guarantee:* Owner may require Contractor to furnish at Contractor's expense a special performance guarantee or other surety with respect to any substitute.

- E. *Engineer's Cost Reimbursement:* Engineer will record Engineer's costs in evaluating a substitute proposed or submitted by Contractor pursuant to Paragraphs 6.05.A.2 and 6.05.B. Whether or not Engineer approves a substitute so proposed or submitted by Contractor, Contractor shall reimburse Owner for the reasonable charges of Engineer for evaluating each such proposed substitute. Contractor shall also reimburse Owner for the reasonable charges of Engineer for making changes in the Contract Documents (or in the provisions of any other direct contract with Owner) resulting from the acceptance of each proposed substitute.
- F. *Contractor's Expense:* Contractor shall provide all data in support of any proposed substitute or "or-equal" at Contractor's expense.

6.06 *Concerning Subcontractors, Suppliers, and Others*

- A. Contractor shall not employ any Subcontractor, Supplier, or other individual or entity (including those acceptable to Owner as indicated in Paragraph 6.06.B), whether initially or as a replacement, against whom Owner may have reasonable objection. Contractor shall not be required to employ any Subcontractor, Supplier, or other individual or entity to furnish or perform any of the Work against whom Contractor has reasonable objection.
- B. If the Supplementary Conditions require the identity of certain Subcontractors, Suppliers, or other individuals or entities to be submitted to Owner in advance for acceptance by Owner by a specified date prior to the Effective Date of the Agreement, and if Contractor has submitted a list thereof in accordance with the Supplementary Conditions, Owner's acceptance (either in writing or by failing to make written objection thereto by the date indicated for acceptance or objection in the Bidding Documents or the Contract Documents) of any such Subcontractor, Supplier, or other individual or entity so identified may be revoked on the basis of reasonable objection after due investigation. Contractor shall submit an acceptable replacement for the rejected Subcontractor, Supplier, or other individual or entity, and the Contract Price will be adjusted by the difference in the cost occasioned by such replacement, and an appropriate Change Order will be issued. No acceptance by Owner of any such Subcontractor, Supplier, or other individual or entity, whether initially or as a replacement, shall constitute a waiver of any right of Owner or Engineer to reject defective Work.
- C. Contractor shall be fully responsible to Owner and Engineer for all acts and omissions of the Subcontractors, Suppliers, and other individuals or entities performing or furnishing any of the Work just as Contractor is responsible for Contractor's own acts and omissions. Nothing in the Contract Documents:
 - 1. shall create for the benefit of any such Subcontractor, Supplier, or other individual or entity any contractual relationship between Owner or Engineer and any such Subcontractor, Supplier or other individual or entity; nor
 - 2. shall create any obligation on the part of Owner or Engineer to pay or to see to the payment of any moneys due any such Subcontractor, Supplier, or other individual or entity except as may otherwise be required by Laws and Regulations.
- D. Contractor shall be solely responsible for scheduling and coordinating the Work of Subcontractors, Suppliers, and other individuals or entities performing or furnishing any of the Work under a direct or indirect contract with Contractor.

- E. Contractor shall require all Subcontractors, Suppliers, and such other individuals or entities performing or furnishing any of the Work to communicate with Engineer through Contractor.
- F. The divisions and sections of the Specifications and the identifications of any Drawings shall not control Contractor in dividing the Work among Subcontractors or Suppliers or delineating the Work to be performed by any specific trade.
- G. All Work performed for Contractor by a Subcontractor or Supplier will be pursuant to an appropriate agreement between Contractor and the Subcontractor or Supplier which specifically binds the Subcontractor or Supplier to the applicable terms and conditions of the Contract Documents for the benefit of Owner and Engineer. Whenever any such agreement is with a Subcontractor or Supplier who is listed as a loss payee on the property insurance provided in Paragraph 5.06, the agreement between the Contractor and the Subcontractor or Supplier will contain provisions whereby the Subcontractor or Supplier waives all rights against Owner, Contractor, Engineer, and all other individuals or entities identified in the Supplementary Conditions to be listed as insureds or loss payees (and the officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them) for all losses and damages caused by, arising out of, relating to, or resulting from any of the perils or causes of loss covered by such policies and any other property insurance applicable to the Work. If the insurers on any such policies require separate waiver forms to be signed by any Subcontractor or Supplier, Contractor will obtain the same.

6.07 *Patent Fees and Royalties*

- A. Contractor shall pay all license fees and royalties and assume all costs incident to the use in the performance of the Work or the incorporation in the Work of any invention, design, process, product, or device which is the subject of patent rights or copyrights held by others. If a particular invention, design, process, product, or device is specified in the Contract Documents for use in the performance of the Work and if, to the actual knowledge of Owner or Engineer, its use is subject to patent rights or copyrights calling for the payment of any license fee or royalty to others, the existence of such rights shall be disclosed by Owner in the Contract Documents.
- B. To the fullest extent permitted by Laws and Regulations, Owner shall indemnify and hold harmless Contractor, and its officers, directors, members, partners, employees, agents, consultants, and subcontractors from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals, and all court or arbitration or other dispute resolution costs) arising out of or relating to any infringement of patent rights or copyrights incident to the use in the performance of the Work or resulting from the incorporation in the Work of any invention, design, process, product, or device specified in the Contract Documents, but not identified as being subject to payment of any license fee or royalty to others required by patent rights or copyrights.
- C. To the fullest extent permitted by Laws and Regulations, Contractor shall indemnify and hold harmless Owner and Engineer, and the officers, directors, members, partners, employees, agents, consultants and subcontractors of each and any of them from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to any infringement of patent rights or copyrights incident to the use in the

performance of the Work or resulting from the incorporation in the Work of any invention, design, process, product, or device not specified in the Contract Documents.

6.08 *Permits*

- A. Unless otherwise provided in the Supplementary Conditions, Contractor shall obtain and pay for all construction permits and licenses. Owner shall assist Contractor, when necessary, in obtaining such permits and licenses. Contractor shall pay all governmental charges and inspection fees necessary for the prosecution of the Work which are applicable at the time of opening of Bids, or, if there are no Bids, on the Effective Date of the Agreement. Owner shall pay all charges of utility owners for connections for providing permanent service to the Work.

6.09 *Laws and Regulations*

- A. Contractor shall give all notices required by and shall comply with all Laws and Regulations applicable to the performance of the Work. Except where otherwise expressly required by applicable Laws and Regulations, neither Owner nor Engineer shall be responsible for monitoring Contractor's compliance with any Laws or Regulations.
- B. If Contractor performs any Work knowing or having reason to know that it is contrary to Laws or Regulations, Contractor shall bear all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to such Work. However, it shall not be Contractor's responsibility to make certain that the Specifications and Drawings are in accordance with Laws and Regulations, but this shall not relieve Contractor of Contractor's obligations under Paragraph 3.03.
- C. Changes in Laws or Regulations not known at the time of opening of Bids (or, on the Effective Date of the Agreement if there were no Bids) having an effect on the cost or time of performance of the Work shall be the subject of an adjustment in Contract Price or Contract Times. If Owner and Contractor are unable to agree on entitlement to or on the amount or extent, if any, of any such adjustment, a Claim may be made therefor as provided in Paragraph 10.05.

6.10 *Taxes*

- A. Contractor shall pay all sales, consumer, use, and other similar taxes required to be paid by Contractor in accordance with the Laws and Regulations of the place of the Project which are applicable during the performance of the Work.

6.11 *Use of Site and Other Areas*

A. *Limitation on Use of Site and Other Areas:*

- 1. Contractor shall confine construction equipment, the storage of materials and equipment, and the operations of workers to the Site and other areas permitted by Laws and Regulations, and shall not unreasonably encumber the Site and other areas with construction equipment or other materials or equipment. Contractor shall assume full responsibility for any damage to any such land or area, or to the owner or occupant thereof, or of any adjacent land or areas resulting from the performance of the Work.

2. Should any claim be made by any such owner or occupant because of the performance of the Work, Contractor shall promptly settle with such other party by negotiation or otherwise resolve the claim by arbitration or other dispute resolution proceeding or at law.
 3. To the fullest extent permitted by Laws and Regulations, Contractor shall indemnify and hold harmless Owner and Engineer, and the officers, directors, members, partners, employees, agents, consultants and subcontractors of each and any of them from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to any claim or action, legal or equitable, brought by any such owner or occupant against Owner, Engineer, or any other party indemnified hereunder to the extent caused by or based upon Contractor's performance of the Work.
- B. *Removal of Debris During Performance of the Work:* During the progress of the Work Contractor shall keep the Site and other areas free from accumulations of waste materials, rubbish, and other debris. Removal and disposal of such waste materials, rubbish, and other debris shall conform to applicable Laws and Regulations.
- C. *Cleaning:* Prior to Substantial Completion of the Work Contractor shall clean the Site and the Work and make it ready for utilization by Owner. At the completion of the Work Contractor shall remove from the Site all tools, appliances, construction equipment and machinery, and surplus materials and shall restore to original condition all property not designated for alteration by the Contract Documents.
- D. *Loading Structures:* Contractor shall not load nor permit any part of any structure to be loaded in any manner that will endanger the structure, nor shall Contractor subject any part of the Work or adjacent property to stresses or pressures that will endanger it.

6.12 *Record Documents*

- A. Contractor shall maintain in a safe place at the Site one record copy of all Drawings, Specifications, Addenda, Change Orders, Work Change Directives, Field Orders, and written interpretations and clarifications in good order and annotated to show changes made during construction. These record documents together with all approved Samples and a counterpart of all approved Shop Drawings will be available to Engineer for reference. Upon completion of the Work, these record documents, Samples, and Shop Drawings will be delivered to Engineer for Owner.

6.13 *Safety and Protection*

- A. Contractor shall be solely responsible for initiating, maintaining and supervising all safety precautions and programs in connection with the Work. Such responsibility does not relieve Subcontractors of their responsibility for the safety of persons or property in the performance of their work, nor for compliance with applicable safety Laws and Regulations. Contractor shall take all necessary precautions for the safety of, and shall provide the necessary protection to prevent damage, injury or loss to:

1. all persons on the Site or who may be affected by the Work;

2. all the Work and materials and equipment to be incorporated therein, whether in storage on or off the Site; and
 3. other property at the Site or adjacent thereto, including trees, shrubs, lawns, walks, pavements, roadways, structures, utilities, and Underground Facilities not designated for removal, relocation, or replacement in the course of construction.
- B. Contractor shall comply with all applicable Laws and Regulations relating to the safety of persons or property, or to the protection of persons or property from damage, injury, or loss; and shall erect and maintain all necessary safeguards for such safety and protection. Contractor shall notify owners of adjacent property and of Underground Facilities and other utility owners when prosecution of the Work may affect them, and shall cooperate with them in the protection, removal, relocation, and replacement of their property.
- C. Contractor shall comply with the applicable requirements of Owner's safety programs, if any. The Supplementary Conditions identify any Owner's safety programs that are applicable to the Work.
- D. Contractor shall inform Owner and Engineer of the specific requirements of Contractor's safety program with which Owner's and Engineer's employees and representatives must comply while at the Site.
- E. All damage, injury, or loss to any property referred to in Paragraph 6.13.A.2 or 6.13.A.3 caused, directly or indirectly, in whole or in part, by Contractor, any Subcontractor, Supplier, or any other individual or entity directly or indirectly employed by any of them to perform any of the Work, or anyone for whose acts any of them may be liable, shall be remedied by Contractor (except damage or loss attributable to the fault of Drawings or Specifications or to the acts or omissions of Owner or Engineer or anyone employed by any of them, or anyone for whose acts any of them may be liable, and not attributable, directly or indirectly, in whole or in part, to the fault or negligence of Contractor or any Subcontractor, Supplier, or other individual or entity directly or indirectly employed by any of them).
- F. Contractor's duties and responsibilities for safety and for protection of the Work shall continue until such time as all the Work is completed and Engineer has issued a notice to Owner and Contractor in accordance with Paragraph 14.07.B that the Work is acceptable (except as otherwise expressly provided in connection with Substantial Completion).

6.14 *Safety Representative*

- A. Contractor shall designate a qualified and experienced safety representative at the Site whose duties and responsibilities shall be the prevention of accidents and the maintaining and supervising of safety precautions and programs.

6.15 *Hazard Communication Programs*

- A. Contractor shall be responsible for coordinating any exchange of material safety data sheets or other hazard communication information required to be made available to or exchanged between or among employers at the Site in accordance with Laws or Regulations.

6.16 *Emergencies*

- A. In emergencies affecting the safety or protection of persons or the Work or property at the Site or adjacent thereto, Contractor is obligated to act to prevent threatened damage, injury, or loss. Contractor shall give Engineer prompt written notice if Contractor believes that any significant changes in the Work or variations from the Contract Documents have been caused thereby or are required as a result thereof. If Engineer determines that a change in the Contract Documents is required because of the action taken by Contractor in response to such an emergency, a Work Change Directive or Change Order will be issued.

6.17 *Shop Drawings and Samples*

- A. Contractor shall submit Shop Drawings and Samples to Engineer for review and approval in accordance with the accepted Schedule of Submittals (as required by Paragraph 2.07). Each submittal will be identified as Engineer may require.

1. *Shop Drawings:*

- a. Submit number of copies specified in the General Requirements.
- b. Data shown on the Shop Drawings will be complete with respect to quantities, dimensions, specified performance and design criteria, materials, and similar data to show Engineer the services, materials, and equipment Contractor proposes to provide and to enable Engineer to review the information for the limited purposes required by Paragraph 6.17.D.

2. *Samples:*

- a. Submit number of Samples specified in the Specifications.
- b. Clearly identify each Sample as to material, Supplier, pertinent data such as catalog numbers, the use for which intended and other data as Engineer may require to enable Engineer to review the submittal for the limited purposes required by Paragraph 6.17.D.

- B. Where a Shop Drawing or Sample is required by the Contract Documents or the Schedule of Submittals, any related Work performed prior to Engineer's review and approval of the pertinent submittal will be at the sole expense and responsibility of Contractor.

C. *Submittal Procedures:*

- 1. Before submitting each Shop Drawing or Sample, Contractor shall have:

- a. reviewed and coordinated each Shop Drawing or Sample with other Shop Drawings and Samples and with the requirements of the Work and the Contract Documents;
- b. determined and verified all field measurements, quantities, dimensions, specified performance and design criteria, installation requirements, materials, catalog numbers, and similar information with respect thereto;

- c. determined and verified the suitability of all materials offered with respect to the indicated application, fabrication, shipping, handling, storage, assembly, and installation pertaining to the performance of the Work; and
 - d. determined and verified all information relative to Contractor's responsibilities for means, methods, techniques, sequences, and procedures of construction, and safety precautions and programs incident thereto.
2. Each submittal shall bear a stamp or specific written certification that Contractor has satisfied Contractor's obligations under the Contract Documents with respect to Contractor's review and approval of that submittal.
 3. With each submittal, Contractor shall give Engineer specific written notice of any variations that the Shop Drawing or Sample may have from the requirements of the Contract Documents. This notice shall be both a written communication separate from the Shop Drawings or Sample submittal; and, in addition, by a specific notation made on each Shop Drawing or Sample submitted to Engineer for review and approval of each such variation.

D. Engineer's Review:

1. Engineer will provide timely review of Shop Drawings and Samples in accordance with the Schedule of Submittals acceptable to Engineer. Engineer's review and approval will be only to determine if the items covered by the submittals will, after installation or incorporation in the Work, conform to the information given in the Contract Documents and be compatible with the design concept of the completed Project as a functioning whole as indicated by the Contract Documents.
2. Engineer's review and approval will not extend to means, methods, techniques, sequences, or procedures of construction (except where a particular means, method, technique, sequence, or procedure of construction is specifically and expressly called for by the Contract Documents) or to safety precautions or programs incident thereto. The review and approval of a separate item as such will not indicate approval of the assembly in which the item functions.
3. Engineer's review and approval shall not relieve Contractor from responsibility for any variation from the requirements of the Contract Documents unless Contractor has complied with the requirements of Paragraph 6.17.C.3 and Engineer has given written approval of each such variation by specific written notation thereof incorporated in or accompanying the Shop Drawing or Sample. Engineer's review and approval shall not relieve Contractor from responsibility for complying with the requirements of Paragraph 6.17.C.1.

E. Resubmittal Procedures:

1. Contractor shall make corrections required by Engineer and shall return the required number of corrected copies of Shop Drawings and submit, as required, new Samples for review and approval. Contractor shall direct specific attention in writing to revisions other than the corrections called for by Engineer on previous submittals.

6.18 *Continuing the Work*

- A. Contractor shall carry on the Work and adhere to the Progress Schedule during all disputes or disagreements with Owner. No Work shall be delayed or postponed pending resolution of any disputes or disagreements, except as permitted by Paragraph 15.04 or as Owner and Contractor may otherwise agree in writing.

6.19 *Contractor's General Warranty and Guarantee*

- A. Contractor warrants and guarantees to Owner that all Work will be in accordance with the Contract Documents and will not be defective. Engineer and its officers, directors, members, partners, employees, agents, consultants, and subcontractors shall be entitled to rely on representation of Contractor's warranty and guarantee.
- B. Contractor's warranty and guarantee hereunder excludes defects or damage caused by:
 - 1. abuse, modification, or improper maintenance or operation by persons other than Contractor, Subcontractors, Suppliers, or any other individual or entity for whom Contractor is responsible; or
 - 2. normal wear and tear under normal usage.
- C. Contractor's obligation to perform and complete the Work in accordance with the Contract Documents shall be absolute. None of the following will constitute an acceptance of Work that is not in accordance with the Contract Documents or a release of Contractor's obligation to perform the Work in accordance with the Contract Documents:
 - 1. observations by Engineer;
 - 2. recommendation by Engineer or payment by Owner of any progress or final payment;
 - 3. the issuance of a certificate of Substantial Completion by Engineer or any payment related thereto by Owner;
 - 4. use or occupancy of the Work or any part thereof by Owner;
 - 5. any review and approval of a Shop Drawing or Sample submittal or the issuance of a notice of acceptability by Engineer;
 - 6. any inspection, test, or approval by others; or
 - 7. any correction of defective Work by Owner.

6.20 *Indemnification*

- A. To the fullest extent permitted by Laws and Regulations, Contractor shall indemnify and hold harmless Owner and Engineer, and the officers, directors, members, partners, employees, agents, consultants and subcontractors of each and any of them from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of

or relating to the performance of the Work, provided that any such claim, cost, loss, or damage is attributable to bodily injury, sickness, disease, or death, or to injury to or destruction of tangible property (other than the Work itself), including the loss of use resulting therefrom but only to the extent caused by any negligent act or omission of Contractor, any Subcontractor, any Supplier, or any individual or entity directly or indirectly employed by any of them to perform any of the Work or anyone for whose acts any of them may be liable.

- B. In any and all claims against Owner or Engineer or any of their officers, directors, members, partners, employees, agents, consultants, or subcontractors by any employee (or the survivor or personal representative of such employee) of Contractor, any Subcontractor, any Supplier, or any individual or entity directly or indirectly employed by any of them to perform any of the Work, or anyone for whose acts any of them may be liable, the indemnification obligation under Paragraph 6.20.A shall not be limited in any way by any limitation on the amount or type of damages, compensation, or benefits payable by or for Contractor or any such Subcontractor, Supplier, or other individual or entity under workers' compensation acts, disability benefit acts, or other employee benefit acts.
- C. The indemnification obligations of Contractor under Paragraph 6.20.A shall not extend to the liability of Engineer and Engineer's officers, directors, members, partners, employees, agents, consultants and subcontractors arising out of:
 - 1. the preparation or approval of, or the failure to prepare or approve maps, Drawings, opinions, reports, surveys, Change Orders, designs, or Specifications; or
 - 2. giving directions or instructions, or failing to give them, if that is the primary cause of the injury or damage.

6.21 *Delegation of Professional Design Services*

- A. Contractor will not be required to provide professional design services unless such services are specifically required by the Contract Documents for a portion of the Work or unless such services are required to carry out Contractor's responsibilities for construction means, methods, techniques, sequences and procedures. Contractor shall not be required to provide professional services in violation of applicable law.
- B. If professional design services or certifications by a design professional related to systems, materials or equipment are specifically required of Contractor by the Contract Documents, Owner and Engineer will specify all performance and design criteria that such services must satisfy. Contractor shall cause such services or certifications to be provided by a properly licensed 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 Engineer.
- C. Owner and Engineer shall be entitled to rely upon the adequacy, accuracy and completeness of the services, certifications or approvals performed by such design professionals, provided Owner and Engineer have specified to Contractor all performance and design criteria that such services must satisfy.

- D. Pursuant to this Paragraph 6.21, Engineer's review and approval of design calculations and design drawings will be only for the limited purpose of checking for conformance with performance and design criteria given and the design concept expressed in the Contract Documents. Engineer's review and approval of Shop Drawings and other submittals (except design calculations and design drawings) will be only for the purpose stated in Paragraph 6.17.D.1.
- E. Contractor shall not be responsible for the adequacy of the performance or design criteria required by the Contract Documents.

ARTICLE 7 - OTHER WORK AT THE SITE

7.01 Related Work at Site

- A. Owner may perform other work related to the Project at the Site with Owner's employees, or through other direct contracts therefor, or have other work performed by utility owners. If such other work is not noted in the Contract Documents, then:
 - 1. written notice thereof will be given to Contractor prior to starting any such other work; and
 - 2. if Owner and Contractor are unable to agree on entitlement to or on the amount or extent, if any, of any adjustment in the Contract Price or Contract Times that should be allowed as a result of such other work, a Claim may be made therefor as provided in Paragraph 10.05.
- B. Contractor shall afford each other contractor who is a party to such a direct contract, each utility owner, and Owner, if Owner is performing other work with Owner's employees, proper and safe access to the Site, provide a reasonable opportunity for the introduction and storage of materials and equipment and the execution of such other work, and properly coordinate the Work with theirs. Contractor shall do all cutting, fitting, and patching of the Work that may be required to properly connect or otherwise make its several parts come together and properly integrate with such other work. Contractor shall not endanger any work of others by cutting, excavating, or otherwise altering such work; provided, however, that Contractor may cut or alter others' work with the written consent of Engineer and the others whose work will be affected. The duties and responsibilities of Contractor under this Paragraph are for the benefit of such utility owners and other contractors to the extent that there are comparable provisions for the benefit of Contractor in said direct contracts between Owner and such utility owners and other contractors.
- C. If the proper execution or results of any part of Contractor's Work depends upon work performed by others under this Article 7, Contractor shall inspect such other work and promptly report to Engineer in writing any delays, defects, or deficiencies in such other work that render it unavailable or unsuitable for the proper execution and results of Contractor's Work. Contractor's failure to so report will constitute an acceptance of such other work as fit and proper for integration with Contractor's Work except for latent defects and deficiencies in such other work.

7.02 Coordination

- A. If Owner intends to contract with others for the performance of other work on the Project at the Site, the following will be set forth in Supplementary Conditions:

1. the individual or entity who will have authority and responsibility for coordination of the activities among the various contractors will be identified;
 2. the specific matters to be covered by such authority and responsibility will be itemized; and
 3. the extent of such authority and responsibilities will be provided.
- B. Unless otherwise provided in the Supplementary Conditions, Owner shall have sole authority and responsibility for such coordination.

7.03 *Legal Relationships*

- A. Paragraphs 7.01.A and 7.02 are not applicable for utilities not under the control of Owner.
- B. Each other direct contract of Owner under Paragraph 7.01.A shall provide that the other contractor is liable to Owner and Contractor for the reasonable direct delay and disruption costs incurred by Contractor as a result of the other contractor's wrongful actions or inactions.
- C. Contractor shall be liable to Owner and any other contractor under direct contract to Owner for the reasonable direct delay and disruption costs incurred by such other contractor as a result of Contractor's wrongful action or inactions.

ARTICLE 8 - OWNER'S RESPONSIBILITIES

8.01 *Communications to Contractor*

- A. Except as otherwise provided in these General Conditions, Owner shall issue all communications to Contractor through Engineer.

8.02 *Replacement of Engineer*

- A. In case of termination of the employment of Engineer, Owner shall appoint an engineer to whom Contractor makes no reasonable objection, whose status under the Contract Documents shall be that of the former Engineer.

8.03 *Furnish Data*

- A. Owner shall promptly furnish the data required of Owner under the Contract Documents.

8.04 *Pay When Due*

- A. Owner shall make payments to Contractor when they are due as provided in Paragraphs 14.02.C and 14.07.C.

8.05 *Lands and Easements; Reports and Tests*

- A. Owner's duties with respect to providing lands and easements and providing engineering surveys to establish reference points are set forth in Paragraphs 4.01 and 4.05. Paragraph 4.02 refers to Owner's identifying and making available to Contractor copies of reports of explorations and

tests of subsurface conditions and drawings of physical conditions relating to existing surface or subsurface structures at the Site.

8.06 *Insurance*

- A. Owner's responsibilities, if any, with respect to purchasing and maintaining liability and property insurance are set forth in Article 5.

8.07 *Change Orders*

- A. Owner is obligated to execute Change Orders as indicated in Paragraph 10.03.

8.08 *Inspections, Tests, and Approvals*

- A. Owner's responsibility with respect to certain inspections, tests, and approvals is set forth in Paragraph 13.03.B.

8.09 *Limitations on Owner's Responsibilities*

- A. The Owner shall not supervise, direct, or have control or authority over, nor be responsible for, Contractor's means, methods, techniques, sequences, or procedures of construction, or the safety precautions and programs incident thereto, or for any failure of Contractor to comply with Laws and Regulations applicable to the performance of the Work. Owner will not be responsible for Contractor's failure to perform the Work in accordance with the Contract Documents.

8.10 *Undisclosed Hazardous Environmental Condition*

- A. Owner's responsibility in respect to an undisclosed Hazardous Environmental Condition is set forth in Paragraph 4.06.

8.11 *Evidence of Financial Arrangements*

- A. Upon request of Contractor, Owner shall furnish Contractor reasonable evidence that financial arrangements have been made to satisfy Owner's obligations under the Contract Documents.

8.12 *Compliance with Safety Program*

- A. While at the Site, Owner's employees and representatives shall comply with the specific applicable requirements of Contractor's safety programs of which Owner has been informed pursuant to Paragraph 6.13.D.

ARTICLE 9 - ENGINEER'S STATUS DURING CONSTRUCTION

9.01 *Owner's Representative*

- A. Engineer will be Owner's representative during the construction period. The duties and responsibilities and the limitations of authority of Engineer as Owner's representative during construction are set forth in the Contract Documents.

9.02 *Visits to Site*

- A. Engineer will make visits to the Site at intervals appropriate to the various stages of construction as Engineer deems necessary in order to observe as an experienced and qualified design professional the progress that has been made and the quality of the various aspects of Contractor's executed Work. Based on information obtained during such visits and observations, Engineer, for the benefit of Owner, will determine, in general, if the Work is proceeding in accordance with the Contract Documents. Engineer will not be required to make exhaustive or continuous inspections on the Site to check the quality or quantity of the Work. Engineer's efforts will be directed toward providing for Owner a greater degree of confidence that the completed Work will conform generally to the Contract Documents. On the basis of such visits and observations, Engineer will keep Owner informed of the progress of the Work and will endeavor to guard Owner against defective Work.
- B. Engineer's visits and observations are subject to all the limitations on Engineer's authority and responsibility set forth in Paragraph 9.09. Particularly, but without limitation, during or as a result of Engineer's visits or observations of Contractor's Work, Engineer will not supervise, direct, control, or have authority over or be responsible for Contractor's means, methods, techniques, sequences, or procedures of construction, or the safety precautions and programs incident thereto, or for any failure of Contractor to comply with Laws and Regulations applicable to the performance of the Work.

9.03 *Project Representative*

- A. If Owner and Engineer agree, Engineer will furnish a Resident Project Representative to assist Engineer in providing more extensive observation of the Work. The authority and responsibilities of any such Resident Project Representative and assistants will be as provided in the Supplementary Conditions, and limitations on the responsibilities thereof will be as provided in Paragraph 9.09. If Owner designates another representative or agent to represent Owner at the Site who is not Engineer's consultant, agent or employee, the responsibilities and authority and limitations thereon of such other individual or entity will be as provided in the Supplementary Conditions.

9.04 *Authorized Variations in Work*

- A. Engineer may authorize minor variations in the Work from the requirements of the Contract Documents which do not involve an adjustment in the Contract Price or the Contract Times and are compatible with the design concept of the completed Project as a functioning whole as indicated by the Contract Documents. These may be accomplished by a Field Order and will be binding on Owner and also on Contractor, who shall perform the Work involved promptly. If Owner or Contractor believes that a Field Order justifies an adjustment in the Contract Price or Contract Times, or both, and the parties are unable to agree on entitlement to or on the amount or extent, if any, of any such adjustment, a Claim may be made therefor as provided in Paragraph 10.05.

9.05 *Rejecting Defective Work*

- A. Engineer will have authority to reject Work which Engineer believes to be defective, or that Engineer believes will not produce a completed Project that conforms to the Contract Documents

or that will prejudice the integrity of the design concept of the completed Project as a functioning whole as indicated by the Contract Documents. Engineer will also have authority to require special inspection or testing of the Work as provided in Paragraph 13.04, whether or not the Work is fabricated, installed, or completed.

9.06 Shop Drawings, Change Orders and Payments

- A. In connection with Engineer's authority, and limitations thereof, as to Shop Drawings and Samples, see Paragraph 6.17.
- B. In connection with Engineer's authority, and limitations thereof, as to design calculations and design drawings submitted in response to a delegation of professional design services, if any, see Paragraph 6.21.
- C. In connection with Engineer's authority as to Change Orders, see Articles 10, 11, and 12.
- D. In connection with Engineer's authority as to Applications for Payment, see Article 14.

9.07 Determinations for Unit Price Work

- A. Engineer will determine the actual quantities and classifications of Unit Price Work performed by Contractor. Engineer will review with Contractor the Engineer's preliminary determinations on such matters before rendering a written decision thereon (by recommendation of an Application for Payment or otherwise). Engineer's written decision thereon will be final and binding (except as modified by Engineer to reflect changed factual conditions or more accurate data) upon Owner and Contractor, subject to the provisions of Paragraph 10.05.

9.08 Decisions on Requirements of Contract Documents and Acceptability of Work

- A. Engineer will be the initial interpreter of the requirements of the Contract Documents and judge of the acceptability of the Work thereunder. All matters in question and other matters between Owner and Contractor arising prior to the date final payment is due relating to the acceptability of the Work, and the interpretation of the requirements of the Contract Documents pertaining to the performance of the Work, will be referred initially to Engineer in writing within 30 days of the event giving rise to the question.
- B. Engineer will, with reasonable promptness, render a written decision on the issue referred. If Owner or Contractor believes that any such decision entitles them to an adjustment in the Contract Price or Contract Times or both, a Claim may be made under Paragraph 10.05. The date of Engineer's decision shall be the date of the event giving rise to the issues referenced for the purposes of Paragraph 10.05.B.
- C. Engineer's written decision on the issue referred will be final and binding on Owner and Contractor, subject to the provisions of Paragraph 10.05.
- D. When functioning as interpreter and judge under this Paragraph 9.08, Engineer will not show partiality to Owner or Contractor and will not be liable in connection with any interpretation or decision rendered in good faith in such capacity.

9.09 *Limitations on Engineer's Authority and Responsibilities*

- A. Neither Engineer's authority or responsibility under this Article 9 or under any other provision of the Contract Documents nor any decision made by Engineer in good faith either to exercise or not exercise such authority or responsibility or the undertaking, exercise, or performance of any authority or responsibility by Engineer shall create, impose, or give rise to any duty in contract, tort, or otherwise owed by Engineer to Contractor, any Subcontractor, any Supplier, any other individual or entity, or to any surety for or employee or agent of any of them.
- B. Engineer will not supervise, direct, control, or have authority over or be responsible for Contractor's means, methods, techniques, sequences, or procedures of construction, or the safety precautions and programs incident thereto, or for any failure of Contractor to comply with Laws and Regulations applicable to the performance of the Work. Engineer will not be responsible for Contractor's failure to perform the Work in accordance with the Contract Documents.
- C. Engineer will not be responsible for the acts or omissions of Contractor or of any Subcontractor, any Supplier, or of any other individual or entity performing any of the Work.
- D. Engineer's review of the final Application for Payment and accompanying documentation and all maintenance and operating instructions, schedules, guarantees, bonds, certificates of inspection, tests and approvals, and other documentation required to be delivered by Paragraph 14.07.A will only be to determine generally that their content complies with the requirements of, and in the case of certificates of inspections, tests, and approvals that the results certified indicate compliance with, the Contract Documents.
- E. The limitations upon authority and responsibility set forth in this Paragraph 9.09 shall also apply to the Resident Project Representative, if any, and assistants, if any.

9.10 *Compliance with Safety Program*

- A. While at the Site, Engineer's employees and representatives shall comply with the specific applicable requirements of Contractor's safety programs of which Engineer has been informed pursuant to Paragraph 6.13.D.

ARTICLE 10 - CHANGES IN THE WORK; CLAIMS

10.01 *Authorized Changes in the Work*

- A. Without invalidating the Contract and without notice to any surety, Owner may, at any time or from time to time, order additions, deletions, or revisions in the Work by a Change Order, or a Work Change Directive. Upon receipt of any such document, Contractor shall promptly proceed with the Work involved which will be performed under the applicable conditions of the Contract Documents (except as otherwise specifically provided).
- B. If Owner and Contractor are unable to agree on entitlement to, or on the amount or extent, if any, of an adjustment in the Contract Price or Contract Times, or both, that should be allowed as a result of a Work Change Directive, a Claim may be made therefor as provided in Paragraph 10.05.

10.02 *Unauthorized Changes in the Work*

- A. Contractor shall not be entitled to an increase in the Contract Price or an extension of the Contract Times with respect to any work performed that is not required by the Contract Documents as amended, modified, or supplemented as provided in Paragraph 3.04, except in the case of an emergency as provided in Paragraph 6.16 or in the case of uncovering Work as provided in Paragraph 13.04.D.

10.03 *Execution of Change Orders*

- A. Owner and Contractor shall execute appropriate Change Orders recommended by Engineer covering:
 - 1. changes in the Work which are: (i) ordered by Owner pursuant to Paragraph 10.01.A, (ii) required because of acceptance of defective Work under Paragraph 13.08.A or Owner's correction of defective Work under Paragraph 13.09, or (iii) agreed to by the parties;
 - 2. changes in the Contract Price or Contract Times which are agreed to by the parties, including any undisputed sum or amount of time for Work actually performed in accordance with a Work Change Directive; and
 - 3. changes in the Contract Price or Contract Times which embody the substance of any written decision rendered by Engineer pursuant to Paragraph 10.05; provided that, in lieu of executing any such Change Order, an appeal may be taken from any such decision in accordance with the provisions of the Contract Documents and applicable Laws and Regulations, but during any such appeal, Contractor shall carry on the Work and adhere to the Progress Schedule as provided in Paragraph 6.18.A.

10.04 *Notification to Surety*

- A. If the provisions of any bond require notice to be given to a surety of any change affecting the general scope of the Work or the provisions of the Contract Documents (including, but not limited to, Contract Price or Contract Times), the giving of any such notice will be Contractor's responsibility. The amount of each applicable bond will be adjusted to reflect the effect of any such change.

10.05 *Claims*

- A. *Engineer's Decision Required:* All Claims, except those waived pursuant to Paragraph 14.09, shall be referred to the Engineer for decision. A decision by Engineer shall be required as a condition precedent to any exercise by Owner or Contractor of any rights or remedies either may otherwise have under the Contract Documents or by Laws and Regulations in respect of such Claims.
- B. *Notice:* Written notice stating the general nature of each Claim shall be delivered by the claimant to Engineer and the other party to the Contract promptly (but in no event later than 30 days) after the start of the event giving rise thereto. The responsibility to substantiate a Claim shall rest with the party making the Claim. Notice of the amount or extent of the Claim, with supporting data shall be delivered to the Engineer and the other party to the Contract within 60 days after the

stait of such event (unless Engineer allows additional time for claimant to submit additional or more accurate data in support of such Claim). A Claim for an adjustment in Contract Price shall be prepared in accordance with the provisions of Paragraph 12.01.B. A Claim for an adjustment in Contract Times shall be prepared in accordance with the provisions of Paragraph 12.oi.B. Each Claim shall be accompanied by claimant's written statement that the adjustment claimed is the entire adjustment to which the claimant believes it is entitled as a result of said event. The opposing party shall submit any response to Engineer and the claimant within 30 days after receipt of the claimant's last submittal (unless Engineer allows additional time).

- C. *Engineer's Action:* Engineer will review each Claim and, within 30 days after receipt of the last submittal of the claimant or the last submittal of the opposing party, if any, take one of the following actions in writing:
1. deny the Claim in whole or in part;
 2. approve the Claim; or
 3. notify the parties that the Engineer is unable to resolve the Claim if, in the Engineer's sole discretion, it would be inappropriate for the Engineer to do so. For purposes of further resolution of the Claim, such notice shall be deemed a denial.
- D. In the event that Engineer does not take action on a Claim within said 30 days, the Claim shall be deemed denied.
- E. Engineer's written action under Paragraph 10.05.C or denial pursuant to Paragraphs 10.05.C.3 or 10.05.D will be final and binding upon Owner and Contractor, unless Owner or Contractor invoke the dispute resolution procedure set forth in Article 16 within 30 days of such action or denial.
- F. No Claim for an adjustment in Contract Price or Contract Times will be valid if not submitted in accordance with this Paragraph 10.05.

ARTICLE 11- COST OF THE WORK; ALLOWANCES; UNIT PRICE WORK

11.01 Cost of the Work

- A. *Costs Included:* The term Cost of the Work means the sum of all costs, except those excluded in Paragraph 11.01.B, necessarily incurred and paid by Contractor in the proper performance of the Work. When the value of any Work covered by a Change Order or when a Claim for an adjustment in Contract Price is determined on the basis of Cost of the Work, the costs to be reimbursed to Contractor will be only those additional or incremental costs required because of the change in the Work or because of the event giving rise to the Claim. Except as otherwise may be agreed to in writing by Owner, such costs shall be in amounts no higher than those prevailing in the locality of the Project, shall not include any of the costs itemized in Paragraph 11.01.B, and shall include only the following items:
1. Payroll costs for employees in the direct employ of Contractor in the performance of the Work under schedules of job classifications agreed upon by Owner and Contractor. Such employees shall include, without limitation, superintendents, foremen, and other personnel

employed full time on the Work. Payroll costs for employees not employed full time on the Work shall be apportioned on the basis of their time spent on the Work. Payroll costs shall include, but not be limited to, salaries and wages plus the cost of fringe benefits, which shall include social security contributions, unemployment, excise, and payroll taxes, workers' compensation, health and retirement benefits, bonuses, sick leave, vacation and holiday pay applicable thereto. The expenses of performing Work outside of regular working hours, on Saturday, Sunday, or legal holidays, shall be included in the above to the extent authorized by Owner.

2. Cost of all materials and equipment furnished and incorporated in the Work, including costs of transportation and storage thereof, and Suppliers' field services required in connection therewith. All cash discounts shall accrue to Contractor unless Owner deposits funds with Contractor with which to make payments, in which case the cash discounts shall accrue to Owner. All trade discounts, rebates and refunds and returns from sale of surplus materials and equipment shall accrue to Owner, and Contractor shall make provisions so that they may be obtained.
3. Payments made by Contractor to Subcontractors for Work performed by Subcontractors. If required by Owner, Contractor shall obtain competitive bids from subcontractors acceptable to Owner and Contractor and shall deliver such bids to Owner, who will then determine, with the advice of Engineer, which bids, if any, will be acceptable. If any subcontract provides that the Subcontractor is to be paid on the basis of Cost of the Work plus a fee, the Subcontractor's Cost of the Work and fee shall be determined in the same manner as Contractor's Cost of the Work and fee as provided in this Paragraph 11.01.
4. Costs of special consultants (including but not limited to engineers, architects, testing laboratories, surveyors, attorneys, and accountants) employed for services specifically related to the Work.
5. Supplemental costs including the following:
 - a. The proportion of necessary transportation, travel, and subsistence expenses of Contractor's employees incurred in discharge of duties connected with the Work.
 - b. Cost, including transportation and maintenance, of all materials, supplies, equipment, machinery, appliances, office, and temporary facilities at the Site, and hand tools not owned by the workers, which are consumed in the performance of the Work, and cost, less market value, of such items used but not consumed which remain the property of Contractor.
 - c. Rentals of all construction equipment and machinery, and the parts thereof whether rented from Contractor or others in accordance with rental agreements approved by Owner with the advice of Engineer, and the costs of transportation, loading, unloading, assembly, dismantling, and removal thereof. All such costs shall be in accordance with the terms of said rental agreements. The rental of any such equipment, machinery, or parts shall cease when the use thereof is no longer necessary for the Work.
 - d. Sales, consumer, use, and other similar taxes related to the Work, and for which Contractor is liable, as imposed by Laws and Regulations.

- e. Deposits lost for causes other than negligence of Contractor, any Subcontractor, or anyone directly or indirectly employed by any of them or for whose acts any of them may be liable, and royalty payments and fees for permits and licenses.
- f. Losses and damages (and related expenses) caused by damage to the Work, not compensated by insurance or otherwise, sustained by Contractor in connection with the performance of the Work (except losses and damages within the deductible amounts of property insurance established in accordance with Paragraph 5.06.D), provided such losses and damages have resulted from causes other than the negligence of Contractor, any Subcontractor, or anyone directly or indirectly employed by any of them or for whose acts any of them may be liable. Such losses shall include settlements made with the written consent and approval of Owner. No such losses, damages, and expenses shall be included in the Cost of the Work for the purpose of determining Contractor's fee.
- g. The cost of utilities, fuel, and sanitary facilities at the Site.
- h. Minor expenses such as telegrams, long distance telephone calls, telephone service at the Site, express and courier services, and similar petty cash items in connection with the Work.
 - 1. The costs of premiums for all bonds and insurance Contractor is required by the Contract Documents to purchase and maintain.

B. *Costs Excluded:* The term Cost of the Work shall not include any of the following items:

- 1. Payroll costs and other compensation of Contractor's officers, executives, principals (of partnerships and sole proprietorships), general managers, safety managers, engineers, architects, estimators, attorneys, auditors, accountants, purchasing and contracting agents, expeditors, timekeepers, clerks, and other personnel employed by Contractor, whether at the Site or in Contractor's principal or branch office for general administration of the Work and not specifically included in the agreed upon schedule of job classifications referred to in Paragraph 11.01.A.1 or specifically covered by Paragraph 11.01.A.4, all of which are to be considered administrative costs covered by the Contractor's fee.
- 2. Expenses of Contractor's principal and branch offices other than Contractor's office at the Site.
- 3. Any part of Contractor's capital expenses, including interest on Contractor's capital employed for the Work and charges against Contractor for delinquent payments.
- 4. Costs due to the negligence of Contractor, any Subcontractor, or anyone directly or indirectly employed by any of them or for whose acts any of them may be liable, including but not limited to, the correction of defective Work, disposal of materials or equipment wrongly supplied, and making good any damage to property.
- 5. Other overhead or general expense costs of any kind and the costs of any item not specifically and expressly included in Paragraphs 11.01.A.

- C. *Contractor's Fee:* When all the Work is performed on the basis of cost-plus, Contractor's fee shall be determined as set forth in the Agreement. When the value of any Work covered by a Change Order or when a Claim for an adjustment in Contract Price is determined on the basis of Cost of the Work, Contractor's fee shall be determined as set forth in Paragraph 12.01.C.
- D. *Documentation:* Whenever the Cost of the Work for any purpose is to be determined pursuant to Paragraphs 11.01.A and 11.01.B, Contractor will establish and maintain records thereof in accordance with generally accepted accounting practices and submit in a form acceptable to Engineer an itemized cost breakdown together with supporting data.

11.02 Allowances

- A. It is understood that Contractor has included in the Contract Price all allowances so named in the Contract Documents and shall cause the Work so covered to be performed for such sums and by such persons or entities as may be acceptable to Owner and Engineer.
- B. *Cash Allowances:*
 - 1. Contractor agrees that:
 - a. the cash allowances include the cost to Contractor (less any applicable trade discounts) of materials and equipment required by the allowances to be delivered at the Site, and all applicable taxes; and
 - b. Contractor's costs for unloading and handling on the Site, labor, installation, overhead, profit, and other expenses contemplated for the cash allowances have been included in the Contract Price and not in the allowances, and no demand for additional payment on account of any of the foregoing will be valid.
- C. *Contingency Allowance:*
 - 1. Contractor agrees that a contingency allowance, if any, is for the sole use of Owner to cover unanticipated costs.
- D. Prior to final payment, an appropriate Change Order will be issued as recommended by Engineer to reflect actual amounts due Contractor on account of Work covered by allowances, and the Contract Price shall be correspondingly adjusted.

11.03 Unit Price Work

- A. Where the Contract Documents provide that all or part of the Work is to be Unit Price Work, initially the Contract Price will be deemed to include for all Unit Price Work an amount equal to the sum of the unit price for each separately identified item of Unit Price Work times the estimated quantity of each item as indicated in the Agreement.
- B. The estimated quantities of items of Unit Price Work are not guaranteed and are solely for the purpose of comparison of Bids and determining an initial Contract Price. Determinations of the actual quantities and classifications of Unit Price Work performed by Contractor will be made by Engineer subject to the provisions of Paragraph 9.07.

- C. Each unit price will be deemed to include an amount considered by Contractor to be adequate to cover Contractor's overhead and profit for each separately identified item.
- D. Owner or Contractor may make a Claim for an adjustment in the Contract Price in accordance with Paragraph 10.05 if:
 - 1. the quantity of any item of Unit Price Work performed by Contractor differs materially and significantly from the estimated quantity of such item indicated in the Agreement; and
 - 2. there is no corresponding adjustment with respect to any other item of Work; and
 - 3. Contractor believes that Contractor is entitled to an increase in Contract Price as a result of having incurred additional expense or Owner believes that Owner is entitled to a decrease in Contract Price and the parties are unable to agree as to the amount of any such increase or decrease.

ARTICLE 12 - CHANGE OF CONTRACT PRICE; CHANGE OF CONTRACT TIMES

12.01 Change of Contract Price

- A. The Contract Price may only be changed by a Change Order. Any Claim for an adjustment in the Contract Price shall be based on written notice submitted by the party making the Claim to the Engineer and the other party to the Contract in accordance with the provisions of Paragraph 10.05.
- B. The value of any Work covered by a Change Order or of any Claim for an adjustment in the Contract Price will be determined as follows:
 - 1. where the Work involved is covered by unit prices contained in the Contract Documents, by application of such unit prices to the quantities of the items involved (subject to the provisions of Paragraph 11.03); or
 - 2. where the Work involved is not covered by unit prices contained in the Contract Documents, by a mutually agreed lump sum (which may include an allowance for overhead and profit not necessarily in accordance with Paragraph 12.01.C.2); or
 - 3. where the Work involved is not covered by unit prices contained in the Contract Documents and agreement to a lump sum is not reached under Paragraph 12.01.B.2, on the basis of the Cost of the Work (determined as provided in Paragraph 11.01) plus a Contractor's fee for overhead and profit (determined as provided in Paragraph 12.01.C).
- C. *Contractor's Fee:* The Contractor's fee for overhead and profit shall be determined as follows:
 - 1. a mutually acceptable fixed fee; or
 - 2. if a fixed fee is not agreed upon, then a fee based on the following percentages of the various portions of the Cost of the Work:
 - a. for costs incurred under Paragraphs 11.01.A.1 and 11.01.A.2, the Contractor's fee shall be 15 percent;

- b. for costs incurred under Paragraph 11.01.A.3, the Contractor's fee shall be five percent;
- c. where one or more tiers of subcontracts are on the basis of Cost of the Work plus a fee and no fixed fee is agreed upon, the intent of Paragraphs 12.01.C.2.a and 12.01.C.2.b is that the Subcontractor who actually performs the Work, at whatever tier, will be paid a fee of 15 percent of the costs incurred by such Subcontractor under Paragraphs 11.01.A.1 and 11.01.A.2 and that any higher tier Subcontractor and Contractor will each be paid a fee of five percent of the amount paid to the next lower tier Subcontractor;
- d. no fee shall be payable on the basis of costs itemized under Paragraphs 11.01.A.4, 11.01.A.5, and 11.01.B;
- e. the amount of credit to be allowed by Contractor to Owner for any change which results in a net decrease in cost will be the amount of the actual net decrease in cost plus a deduction in Contractor's fee by an amount equal to five percent of such net decrease; and
- f. when both additions and credits are involved in any one change, the adjustment in Contractor's fee shall be computed on the basis of the net change in accordance with Paragraphs 12.01.C.2.a through 12.01.C.2.e, inclusive.

12.02 Change of Contract Times

- A. The Contract Times may only be changed by a Change Order. Any Claim for an adjustment in the Contract Times shall be based on written notice submitted by the party making the Claim to the Engineer and the other party to the Contract in accordance with the provisions of Paragraph 10.05.
- B. Any adjustment of the Contract Times covered by a Change Order or any Claim for an adjustment in the Contract Times will be determined in accordance with the provisions of this Article 12.

12.03 Delays

- A. Where Contractor is prevented from completing any part of the Work within the Contract Times due to delay beyond the control of Contractor, the Contract Times will be extended in an amount equal to the time lost due to such delay if a Claim is made therefor as provided in Paragraph 12.02.A. Delays beyond the control of Contractor shall include, but not be limited to, acts or neglect by Owner, acts or neglect of utility owners or other contractors performing other work as contemplated by Article 7, fires, floods, epidemics, abnormal weather conditions, or acts of God.
- B. If Owner, Engineer, or other contractors or utility owners performing other work for Owner as contemplated by Article 7, or anyone for whom Owner is responsible, delays, disrupts, or interferes with the performance or progress of the Work, then Contractor shall be entitled to an equitable adjustment in the Contract Price or the Contract Times, or both. Contractor's entitlement to an adjustment of the Contract Times is conditioned on such adjustment being essential to Contractor's ability to complete the Work within the Contract Times.

- C. If Contractor is delayed in the performance or progress of the Work by fire, flood, epidemic, abnormal weather conditions, acts of God, acts or failures to act of utility owners not under the control of Owner, or other causes not the fault of and beyond control of Owner and Contractor, then Contractor shall be entitled to an equitable adjustment in Contract Times, if such adjustment is essential to Contractor's ability to complete the Work within the Contract Times. Such an adjustment shall be Contractor's sole and exclusive remedy for the delays described in this Paragraph 12.03.C.
- D. Owner, Engineer, and their officers, directors, members, partners, employees, agents, consultants, or subcontractors shall not be liable to Contractor for any claims, costs, losses, or damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) sustained by Contractor on or in connection with any other project or anticipated project.
- E. Contractor shall not be entitled to an adjustment in Contract Price or Contract Times for delays within the control of Contractor. Delays attributable to and within the control of a Subcontractor or Supplier shall be deemed to be delays within the control of Contractor.

ARTICLE 13 -TESTS AND INSPECTIONS; CORRECTION, REMOVAL OR ACCEPTANCE OF DEFECTIVE WORK

13.01 Notice of Defects

- A. Prompt notice of all defective Work of which Owner or Engineer has actual knowledge will be given to Contractor. Defective Work may be rejected, corrected, or accepted as provided in this Article 13.

13.02 Access to Work

- A. Owner, Engineer, their consultants and other representatives and personnel of Owner, independent testing laboratories, and governmental agencies with jurisdictional interests will have access to the Site and the Work at reasonable times for their observation, inspection, and testing. Contractor shall provide them proper and safe conditions for such access and advise them of Contractor's safety procedures and programs so that they may comply therewith as applicable.

13.03 Tests and Inspections

- A. Contractor shall give Engineer timely notice of readiness of the Work for all required inspections, tests, or approvals and shall cooperate with inspection and testing personnel to facilitate required inspections or tests.
- B. Owner shall employ and pay for the services of an independent testing laboratory to perform all inspections, tests, or approvals required by the Contract Documents except:
 - 1. for inspections, tests, or approvals covered by Paragraphs 13.03.C and 13.03.D below;
 - 2. that costs incurred in connection with tests or inspections conducted pursuant to Paragraph 13.04.B shall be paid as provided in Paragraph 13.04.C; and
 - 3. as otherwise specifically provided in the Contract Documents.

- C. If Laws or Regulations of any public body having jurisdiction require any Work (or part thereof) specifically to be inspected, tested, or approved by an employee or other representative of such public body, Contractor shall assume full responsibility for arranging and obtaining such inspections, tests, or approvals, pay all costs in connection therewith, and furnish Engineer the required certificates of inspection or approval.
- D. Contractor shall be responsible for arranging and obtaining and shall pay all costs in connection with any inspections, tests, or approvals required for Owner's and Engineer's acceptance of materials or equipment to be incorporated in the Work; or acceptance of materials, mix designs, or equipment submitted for approval prior to Contractor's purchase thereof for incorporation in the Work. Such inspections, tests, or approvals shall be performed by organizations acceptable to Owner and Engineer.
- E. If any Work (or the work of others) that is to be inspected, tested, or approved is covered by Contractor without written concurrence of Engineer, Contractor shall, if requested by Engineer, uncover such Work for observation.
- F. Uncovering Work as provided in Paragraph 13.03.E shall be at Contractor's expense unless Contractor has given Engineer timely notice of Contractor's intention to cover the same and Engineer has not acted with reasonable promptness in response to such notice.

13.04 Uncovering Work

- A. If any Work is covered contrary to the written request of Engineer, it must, if requested by Engineer, be uncovered for Engineer's observation and replaced at Contractor's expense.
- B. If Engineer considers it necessary or advisable that covered Work be observed by Engineer or inspected or tested by others, Contractor, at Engineer's request, shall uncover, expose, or otherwise make available for observation, inspection, or testing as Engineer may require, that portion of the Work in question, furnishing all necessary labor, material, and equipment.
- C. If it is found that the uncovered Work is defective, Contractor shall pay all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to such uncovering, exposure, observation, inspection, and testing, and of satisfactory replacement or reconstruction (including but not limited to all costs of repair or replacement of work of others); and Owner shall be entitled to an appropriate decrease in the Contract Price. If the parties are unable to agree as to the amount thereof, Owner may make a Claim therefor as provided in Paragraph 10.05.
- D. If the uncovered Work is not found to be defective, Contractor shall be allowed an increase in the Contract Price or an extension of the Contract Times, or both, directly attributable to such uncovering, exposure, observation, inspection, testing, replacement, and reconstruction. If the parties are unable to agree as to the amount or extent thereof, Contractor may make a Claim therefor as provided in Paragraph 10.05.

13.05 Owner May Stop the Work

- A. If the Work is defective, or Contractor fails to supply sufficient skilled workers or suitable materials or equipment, or fails to perform the Work in such a way that the completed Work will conform to the Contract Documents, Owner may order Contractor to stop the Work, or any portion thereof, until the cause for such order has been eliminated; however, this right of Owner to stop the Work shall not give rise to any duty on the part of Owner to exercise this right for the benefit of Contractor, any Subcontractor, any Supplier, any other individual or entity, or any surety for, or employee or agent of any of them.

13.06 Correction or Removal of Defective Work

- A. Promptly after receipt of written notice, Contractor shall correct all defective Work, whether or not fabricated, installed, or completed, or, if the Work has been rejected by Engineer, remove it from the Project and replace it with Work that is not defective. Contractor shall pay all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to such correction or removal (including but not limited to all costs of repair or replacement of work of others).
- B. When correcting defective Work under the terms of this Paragraph 13.06 or Paragraph 13.07, Contractor shall take no action that would void or otherwise impair Owner's special warranty and guarantee, if any, on said Work.

13.07 Correction Period

- A. If within one year after the date of Substantial Completion (or such longer period of time as may be prescribed by the terms of any applicable special guarantee required by the Contract Documents) or by any specific provision of the Contract Documents, any Work is found to be defective, or if the repair of any damages to the land or areas made available for Contractor's use by Owner or permitted by Laws and Regulations as contemplated in Paragraph 6.11.A is found to be defective, Contractor shall promptly, without cost to Owner and in accordance with Owner's written instructions:
 - 1. repair such defective land or areas; or
 - 2. correct such defective Work; or
 - 3. if the defective Work has been rejected by Owner, remove it from the Project and replace it with Work that is not defective, and
 - 4. satisfactorily correct or repair or remove and replace any damage to other Work, to the work of others or other land or areas resulting therefrom.
- B. If Contractor does not promptly comply with the terms of Owner's written instructions, or in an emergency where delay would cause serious risk of loss or damage, Owner may have the defective Work corrected or repaired or may have the rejected Work removed and replaced. All claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute

resolution costs) arising out of or relating to such correction or repair or such removal and replacement (including but not limited to all costs of repair or replacement of work of others) will be paid by Contractor.

- C. In special circumstances where a particular item of equipment is placed in continuous service before Substantial Completion of all the Work, the correction period for that item may start to run from an earlier date if so provided in the Specifications.
- D. Where defective Work (and damage to other Work resulting therefrom) has been corrected or removed and replaced under this Paragraph 13.07, the correction period hereunder with respect to such Work will be extended for an additional period of one year after such correction or removal and replacement has been satisfactorily completed.
- E. Contractor's obligations under this Paragraph 13.07 are in addition to any other obligation or warranty. The provisions of this Paragraph 13.07 shall not be construed as a substitute for, or a waiver of, the provisions of any applicable statute of limitation or repose.

13.08 Acceptance of Defective Work

- A. If, instead of requiring correction or removal and replacement of defective Work, Owner (and, prior to Engineer's recommendation of final payment, Engineer) prefers to accept it, Owner may do so. Contractor shall pay all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) attributable to Owner's evaluation of and determination to accept such defective Work (such costs to be approved by Engineer as to reasonableness) and for the diminished value of the Work to the extent not otherwise paid by Contractor pursuant to this sentence. If any such acceptance occurs prior to Engineer's recommendation of final payment, a Change Order will be issued incorporating the necessary revisions in the Contract Documents with respect to the Work, and Owner shall be entitled to an appropriate decrease in the Contract Price, reflecting the diminished value of Work so accepted. If the parties are unable to agree as to the amount thereof, Owner may make a Claim therefor as provided in Paragraph 10.05. If the acceptance occurs after such recommendation, an appropriate amount will be paid by Contractor to Owner.

13.09 Owner May Correct Defective Work

- A. If Contractor fails within a reasonable time after written notice from Engineer to correct defective Work, or to remove and replace rejected Work as required by Engineer in accordance with Paragraph 13.06.A, or if Contractor fails to perform the Work in accordance with the Contract Documents, or if Contractor fails to comply with any other provision of the Contract Documents, Owner may, after seven days written notice to Contractor, correct, or remedy any such deficiency.
- B. In exercising the rights and remedies under this Paragraph 13.09, Owner shall proceed expeditiously. In connection with such corrective or remedial action, Owner may exclude Contractor from all or part of the Site, take possession of all or part of the Work and suspend Contractor's services related thereto, take possession of Contractor's tools, appliances, construction equipment and machinery at the Site, and incorporate in the Work all materials and equipment stored at the Site or for which Owner has paid Contractor but which are stored

elsewhere. Contractor shall allow Owner, Owner's representatives, agents and employees, Owner's other contractors, and Engineer and Engineer's consultants access to the Site to enable Owner to exercise the rights and remedies under this Paragraph.

- C. All claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) incurred or sustained by Owner in exercising the rights and remedies under this Paragraph 13.09 will be charged against Contractor, and a Change Order will be issued incorporating the necessary revisions in the Contract Documents with respect to the Work; and Owner shall be entitled to an appropriate decrease in the Contract Price. If the parties are unable to agree as to the amount of the adjustment, Owner may make a Claim therefor as provided in Paragraph 10.05. Such claims, costs, losses and damages will include but not be limited to all costs of repair, or replacement of work of others destroyed or damaged by correction, removal, or replacement of Contractor's defective Work.
- D. Contractor shall not be allowed an extension of the Contract Times because of any delay in the performance of the Work attributable to the exercise by Owner of Owner's rights and remedies under this Paragraph 13.09.

ARTICLE 14 - PAYMENTS TO CONTRACTOR AND COMPLETION

14.01 Schedule of Values

- A. The Schedule of Values established as provided in Paragraph 2.07.A will serve as the basis for progress payments and will be incorporated into a form of Application for Payment acceptable to Engineer. Progress payments on account of Unit Price Work will be based on the number of units completed.

14.02 Progress Payments

A. Applications for Payments:

1. At least 20 days before the date established in the Agreement for each progress payment (but not more often than once a month), Contractor shall submit to Engineer for review an Application for Payment filled out and signed by Contractor covering the Work completed as of the date of the Application and accompanied by such supporting documentation as is required by the Contract Documents. If payment is requested on the basis of materials and equipment not incorporated in the Work but delivered and suitably stored at the Site or at another location agreed to in writing, the Application for Payment shall also be accompanied by a bill of sale, invoice, or other documentation warranting that Owner has received the materials and equipment free and clear of all Liens and evidence that the materials and equipment are covered by appropriate property insurance or other arrangements to protect Owner's interest therein, all of which must be satisfactory to Owner.
2. Beginning with the second Application for Payment, each Application shall include an affidavit of Contractor stating that all previous progress payments received on account of the Work have been applied on account to discharge Contractor's legitimate obligations associated with prior Applications for Payment.

3. The amount of retainage with respect to progress payments will be as stipulated in the Agreement.

B. Review of Applications:

1. Engineer will, within 10 days after receipt of each Application for Payment, either indicate in writing a recommendation of payment and present the Application to Owner or return the Application to Contractor indicating in writing Engineer's reasons for refusing to recommend payment. In the latter case, Contractor may make the necessary corrections and resubmit the Application.
2. Engineer's recommendation of any payment requested in an Application for Payment will constitute a representation by Engineer to Owner, based on Engineer's observations of the executed Work as an experienced and qualified design professional, and on Engineer's review of the Application for Payment and the accompanying data and schedules, that to the best of Engineer's knowledge, information and belief:
 - a. the Work has progressed to the point indicated;
 - b. the quality of the Work is generally in accordance with the Contract Documents (subject to an evaluation of the Work as a functioning whole prior to or upon Substantial Completion, the results of any subsequent tests called for in the Contract Documents, a final determination of quantities and classifications for Unit Price Work under Paragraph 9.07, and any other qualifications stated in the recommendation); and
 - c. the conditions precedent to Contractor's being entitled to such payment appear to have been fulfilled in so far as it is Engineer's responsibility to observe the Work.
3. By recommending any such payment Engineer will not thereby be deemed to have represented that:
 - a. inspections made to check the quality or the quantity of the Work as it has been performed have been exhaustive, extended to every aspect of the Work in progress, or involved detailed inspections of the Work beyond the responsibilities specifically assigned to Engineer in the Contract Documents; or
 - b. there may not be other matters or issues between the parties that might entitle Contractor to be paid additionally by Owner or entitle Owner to withhold payment to Contractor.
4. Neither Engineer's review of Contractor's Work for the purposes of recommending payments nor Engineer's recommendation of any payment, including final payment, will impose responsibility on Engineer:
 - a. to supervise, direct, or control the Work, or
 - b. for the means, methods, techniques, sequences, or procedures of construction, or the safety precautions and programs incident thereto, or
 - c. for Contractor's failure to comply with Laws and Regulations applicable to Contractor's performance of the Work, or

- d. to make any examination to ascertain how or for what purposes Contractor has used the moneys paid on account of the Contract Price, or
 - e. to determine that title to any of the Work, materials, or equipment has passed to Owner free and clear of any Liens.
5. Engineer may refuse to recommend the whole or any part of any payment if, in Engineer's opinion, it would be incorrect to make the representations to Owner stated in Paragraph 14.02.B.2. Engineer may also refuse to recommend any such payment or, because of subsequently discovered evidence or the results of subsequent inspections or tests, revise or revoke any such payment recommendation previously made, to such extent as may be necessary in Engineer's opinion to protect Owner from loss because:
- a. the Work is defective, or completed Work has been damaged, requiring correction or replacement;
 - b. the Contract Price has been reduced by Change Orders;
 - c. Owner has been required to correct defective Work or complete Work in accordance with Paragraph 13.09; or
 - d. Engineer has actual knowledge of the occurrence of any of the events enumerated in Paragraph 15.02.A.

C. Payment Becomes Due:

- 1. Ten days after presentation of the Application for Payment to Owner with Engineer's recommendation, the amount recommended will (subject to the provisions of Paragraph 14.02.D) become due, and when due will be paid by Owner to Contractor.

D. Reduction in Payment:

- 1. Owner may refuse to make payment of the full amount recommended by Engineer because:
 - a. claims have been made against Owner on account of Contractor's performance or furnishing of the Work;
 - b. Liens have been filed in connection with the Work, except where Contractor has delivered a specific bond satisfactory to Owner to secure the satisfaction and discharge of such Liens;
 - c. there are other items entitling Owner to a set-off against the amount recommended; or
 - d. Owner has actual knowledge of the occurrence of any of the events enumerated in Paragraphs 14.02.B.5.a through 14.02.B.5.c or Paragraph 15.02.A.
- 2. If Owner refuses to make payment of the full amount recommended by Engineer, Owner will give Contractor immediate written notice (with a copy to Engineer) stating the reasons for such action and promptly pay Contractor any amount remaining after deduction of the amount so withheld. Owner shall promptly pay Contractor the amount so withheld, or any

adjustment thereto agreed to by Owner and Contractor, when Contractor remedies the reasons for such action.

3. Upon a subsequent determination that Owner's refusal of payment was not justified, the amount wrongfully withheld shall be treated as an amount due as determined by Paragraph 14.02.C.1 and subject to interest as provided in the Agreement.

14.03 Contractor's Warranty of Title

- A. Contractor warrants and guarantees that title to all Work, materials, and equipment covered by any Application for Payment, whether incorporated in the Project or not, will pass to Owner no later than the time of payment free and clear of all Liens.

14.04 Substantial Completion

- A. When Contractor considers the entire Work ready for its intended use Contractor shall notify Owner and Engineer in writing that the entire Work is substantially complete (except for items specifically listed by Contractor as incomplete) and request that Engineer issue a certificate of Substantial Completion.
- B. Promptly after Contractor's notification, Owner, Contractor, and Engineer shall make an inspection of the Work to determine the status of completion. If Engineer does not consider the Work substantially complete, Engineer will notify Contractor in writing giving the reasons therefor.
- C. If Engineer considers the Work substantially complete, Engineer will deliver to Owner a tentative certificate of Substantial Completion which shall fix the date of Substantial Completion. There shall be attached to the certificate a tentative list of items to be completed or corrected before final payment. Owner shall have seven days after receipt of the tentative certificate during which to make written objection to Engineer as to any provisions of the certificate or attached list. If, after considering such objections, Engineer concludes that the Work is not substantially complete, Engineer will, within 14 days after submission of the tentative certificate to Owner, notify Contractor in writing, stating the reasons therefor. If, after consideration of Owner's objections, Engineer considers the Work substantially complete, Engineer will, within said 14 days, execute and deliver to Owner and Contractor a definitive certificate of Substantial Completion (with a revised tentative list of items to be completed or corrected) reflecting such changes from the tentative certificate as Engineer believes justified after consideration of any objections from Owner.
- D. At the time of delivery of the tentative certificate of Substantial Completion, Engineer will deliver to Owner and Contractor a written recommendation as to division of responsibilities pending final payment between Owner and Contractor with respect to security, operation, safety, and protection of the Work, maintenance, heat, utilities, insurance, and warranties and guarantees. Unless Owner and Contractor agree otherwise in writing and so inform Engineer in writing prior to Engineer's issuing the definitive certificate of Substantial Completion, Engineer's aforesaid recommendation will be binding on Owner and Contractor until final payment.

- E. Owner shall have the right to exclude Contractor from the Site after the date of Substantial Completion subject to allowing Contractor reasonable access to remove its property and complete or correct items on the tentative list.

14.05 Partial Utilization

- A. Prior to Substantial Completion of all the Work, Owner may use or occupy any substantially completed part of the Work which has specifically been identified in the Contract Documents, or which Owner, Engineer, and Contractor agree constitutes a separately functioning and usable part of the Work that can be used by Owner for its intended purpose without significant interference with Contractor's performance of the remainder of the Work, subject to the following conditions:
 - 1. Owner at any time may request Contractor in writing to permit Owner to use or occupy any such part of the Work which Owner believes to be ready for its intended use and substantially complete. If and when Contractor agrees that such part of the Work is substantially complete, Contractor, Owner, and Engineer will follow the procedures of Paragraph 14.04.A through D for that part of the Work.
 - 2. Contractor at any time may notify Owner and Engineer in writing that Contractor considers any such part of the Work ready for its intended use and substantially complete and request Engineer to issue a certificate of Substantial Completion for that part of the Work.
 - 3. Within a reasonable time after either such request, Owner, Contractor, and Engineer shall make an inspection of that part of the Work to determine its status of completion. If Engineer does not consider that part of the Work to be substantially complete, Engineer will notify Owner and Contractor in writing giving the reasons therefor. If Engineer considers that part of the Work to be substantially complete, the provisions of Paragraph 14.04 will apply with respect to certification of Substantial Completion of that part of the Work and the division of responsibility in respect thereof and access thereto.
 - 4. No use or occupancy or separate operation of part of the Work may occur prior to compliance with the requirements of Paragraph 5.10 regarding property insurance.

14.06 Final Inspection

- A. Upon written notice from Contractor that the entire Work or an agreed portion thereof is complete, Engineer will promptly make a final inspection with Owner and Contractor and will notify Contractor in writing of all particulars in which this inspection reveals that the Work is incomplete or defective. Contractor shall immediately take such measures as are necessary to complete such Work or remedy such deficiencies.

14.07 Final Payment

A. Application for Payment:

1. After Contractor has, in the opinion of Engineer, satisfactorily completed all corrections identified during the final inspection and has delivered, in accordance with the Contract Documents, all maintenance and operating instructions, schedules, guarantees, bonds, certificates or other evidence of insurance, certificates of inspection, marked-up record documents (as provided in Paragraph 6.12), and other documents, Contractor may make application for final payment following the procedure for progress payments.
2. The final Application for Payment shall be accompanied (except as previously delivered) by:
 - a. all documentation called for in the Contract Documents, including but not limited to the evidence of insurance required by Paragraph 5.04.B.6;
 - b. consent of the surety, if any, to final payment;
 - c. a list of all Claims against Owner that Contractor believes are unsettled; and
 - d. complete and legally effective releases or waivers (satisfactory to Owner) of all Lien rights arising out of or Liens filed in connection with the Work.
3. In lieu of the releases or waivers of Liens specified in Paragraph 14.07.A.2 and as approved by Owner, Contractor may furnish receipts or releases in full and an affidavit of Contractor that: (i) the releases and receipts include all labor, services, material, and equipment for which a Lien could be filed; and (ii) all payrolls, material and equipment bills, and other indebtedness connected with the Work for which Owner might in any way be responsible, or which might in any way result in liens or other burdens on Owner's property, have been paid or otherwise satisfied. If any Subcontractor or Supplier fails to furnish such a release or receipt in full, Contractor may furnish a bond or other collateral satisfactory to Owner to indemnify Owner against any Lien.

B. Engineer's Review of Application and Acceptance:

1. If, on the basis of Engineer's observation of the Work during construction and final inspection, and Engineer's review of the final Application for Payment and accompanying documentation as required by the Contract Documents, Engineer is satisfied that the Work has been completed and Contractor's other obligations under the Contract Documents have been fulfilled, Engineer will, within ten days after receipt of the final Application for Payment, indicate in writing Engineer's recommendation of payment and present the Application for Payment to Owner for payment. At the same time Engineer will also give written notice to Owner and Contractor that the Work is acceptable subject to the provisions of Paragraph 14.09. Otherwise, Engineer will return the Application for Payment to Contractor, indicating in writing the reasons for refusing to recommend final payment, in which case Contractor shall make the necessary corrections and resubmit the Application for Payment.

C. Payment Becomes Due:

1. Thirty days after the presentation to Owner of the Application for Payment and accompanying documentation, the amount recommended by Engineer, less any sum Owner is entitled to set off against Engineer's recommendation, including but not limited to liquidated damages, will become due and will be paid by Owner to Contractor.

14.08 Final Completion Delayed

- A. If, through no fault of Contractor, final completion of the Work is significantly delayed, and if Engineer so confirms, Owner shall, upon receipt of Contractor's final Application for Payment (for Work fully completed and accepted) and recommendation of Engineer, and without terminating the Contract, make payment of the balance due for that portion of the Work fully completed and accepted. If the remaining balance to be held by Owner for Work not fully completed or corrected is less than the retainage stipulated in the Agreement, and if bonds have been furnished as required in Paragraph 5.01, the written consent of the surety to the payment of the balance due for that portion of the Work fully completed and accepted shall be submitted by Contractor to Engineer with the Application for such payment. Such payment shall be made under the terms and conditions governing final payment, except that it shall not constitute a waiver of Claims.

14.09 Waiver of Claims

- A. The making and acceptance of final payment will constitute:
 1. a waiver of all Claims by Owner against Contractor, except Claims arising from unsettled Liens, from defective Work appearing after final inspection pursuant to Paragraph 14.06, from failure to comply with the Contract Documents or the terms of any special guarantees specified therein, or from Contractor's continuing obligations under the Contract Documents; and
 2. a waiver of all Claims by Contractor against Owner other than those previously made in accordance with the requirements herein and expressly acknowledged by Owner in writing as still unsettled.

ARTICLE 15 - SUSPENSION OF WORK AND TERMINATION

15.01 Owner May Suspend Work

- A. At any time and without cause, Owner may suspend the Work or any portion thereof for a period of not more than 90 consecutive days by notice in writing to Contractor and Engineer which will fix the date on which Work will be resumed. Contractor shall resume the Work on the date so fixed. Contractor shall be granted an adjustment in the Contract Price or an extension of the Contract Times, or both, directly attributable to any such suspension if Contractor makes a Claim therefor as provided in Paragraph 10.05.

15.02 Owner May Terminate for Cause

- A. The occurrence of any one or more of the following events will justify termination for cause:
 1. Contractor's persistent failure to perform the Work in accordance with the Contract Documents (including, but not limited to, failure to supply sufficient skilled workers or

suitable materials or equipment or failure to adhere to the Progress Schedule established under Paragraph 2.07 as adjusted from time to time pursuant to Paragraph 6.04);

2. Contractor's disregard of Laws or Regulations of any public body having jurisdiction;
 3. Contractor's repeated disregard of the authority of Engineer; or
 4. Contractor's violation in any substantial way of any provisions of the Contract Documents.
- B. If one or more of the events identified in Paragraph 15.02.A occur, Owner may, after giving Contractor (and surety) seven days written notice of its intent to terminate the services of Contractor:
1. exclude Contractor from the Site, and take possession of the Work and of all Contractor's tools, appliances, construction equipment, and machinery at the Site, and use the same to the full extent they could be used by Contractor (without liability to Contractor for trespass or conversion);
 2. incorporate in the Work all materials and equipment stored at the Site or for which Owner has paid Contractor but which are stored elsewhere; and
 3. complete the Work as Owner may deem expedient.
- C. If Owner proceeds as provided in Paragraph 15.02.B, Contractor shall not be entitled to receive any further payment until the Work is completed. If the unpaid balance of the Contract Price exceeds all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) sustained by Owner arising out of or relating to completing the Work, such excess will be paid to Contractor. If such claims, costs, losses, and damages exceed such unpaid balance, Contractor shall pay the difference to Owner. Such claims, costs, losses, and damages incurred by Owner will be reviewed by Engineer as to their reasonableness and, when so approved by Engineer, incorporated in a Change Order. When exercising any rights or remedies under this Paragraph, Owner shall not be required to obtain the lowest price for the Work performed.
- D. Notwithstanding Paragraphs 15.02.B and 15.02.C, Contractor's services will not be terminated if Contractor begins within seven days of receipt of notice of intent to terminate to correct its failure to perform and proceeds diligently to cure such failure within no more than 30 days of receipt of said notice.
- E. Where Contractor's services have been so terminated by Owner, the termination will not affect any rights or remedies of Owner against Contractor then existing or which may thereafter accrue. Any retention or payment of moneys due Contractor by Owner will not release Contractor from liability.
- F. If and to the extent that Contractor has provided a performance bond under the provisions of Paragraph 5.01.A, the termination procedures of that bond shall supersede the provisions of Paragraphs 15.02.B and 15.02.C.

15.03 Owner May Terminate For Convenience

- A. Upon seven days written notice to Contractor and Engineer, Owner may, without cause and without prejudice to any other right or remedy of Owner, terminate the Contract. In such case, Contractor shall be paid for (without duplication of any items):
1. completed and acceptable Work executed in accordance with the Contract Documents prior to the effective date of termination, including fair and reasonable sums for overhead and profit on such Work;
 2. expenses sustained prior to the effective date of termination in performing services and furnishing labor, materials, or equipment as required by the Contract Documents in connection with uncompleted Work, plus fair and reasonable sums for overhead and profit on such expenses;
 3. all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) incurred in settlement of terminated contracts with Subcontractors, Suppliers, and others; and
 4. reasonable expenses directly attributable to termination.
- B. Contractor shall not be paid on account of loss of anticipated profits or revenue or other economic loss arising out of or resulting from such termination.

15.04 Contractor May Stop Work or Terminate

- A. If, through no act or fault of Contractor, (i) the Work is suspended for more than 90 consecutive days by Owner or under an order of court or other public authority, or (ii) Engineer fails to act on any Application for Payment within 30 days after it is submitted, or (iii) Owner fails for 30 days to pay Contractor any sum finally determined to be due, then Contractor may, upon seven days written notice to Owner and Engineer, and provided Owner or Engineer do not remedy such suspension or failure within that time, terminate the Contract and recover from Owner payment on the same terms as provided in Paragraph 15.03.
- B. In lieu of terminating the Contract and without prejudice to any other right or remedy, if Engineer has failed to act on an Application for Payment within 30 days after it is submitted, or Owner has failed for 30 days to pay Contractor any sum finally determined to be due, Contractor may, seven days after written notice to Owner and Engineer, stop the Work until payment is made of all such amounts due Contractor, including interest thereon. The provisions of this Paragraph 15.04 are not intended to preclude Contractor from making a Claim under Paragraph 10.05 for an adjustment in Contract Price or Contract Times or otherwise for expenses or damage directly attributable to Contractor's stopping the Work as permitted by this Paragraph.

ARTICLE 16 - DISPUTE RESOLUTION

16.01 Methods and Procedures

- A. Either Owner or Contractor may request mediation of any Claim submitted to Engineer for a decision under Paragraph 10.05 before such decision becomes final and binding. The mediation

will be governed by the Construction Industry Mediation Rules of the American Arbitration Association in effect as of the Effective Date of the Agreement. The request for mediation shall be submitted in writing to the American Arbitration Association and the other party to the Contract. Timely submission of the request shall stay the effect of Paragraph 10.05.E.

- B. Owner and Contractor shall participate in the mediation process in good faith. The process shall be concluded within 60 days of filing of the request. The date of termination of the mediation shall be determined by application of the mediation rules referenced above.
- C. If the Claim is not resolved by mediation, Engineer's action under Paragraph 10.05.C or a denial pursuant to Paragraphs 10.05.C.3 or 10.05.D shall become final and binding 30 days after termination of the mediation unless, within that time period, Owner or Contractor:
 - 1. elects in writing to invoke any dispute resolution process provided for in the Supplementary Conditions; or
 - 2. agrees with the other party to submit the Claim to another dispute resolution process; or
 - 3. gives written notice to the other party of the intent to submit the Claim to a court of competent jurisdiction.

ARTICLE 17 - MISCELLANEOUS

17.01 Giving Notice

- A. Whenever any provision of the Contract Documents requires the giving of written notice, it will be deemed to have been validly given if:
 - 1. delivered in person to the individual or to a member of the firm or to an officer of the corporation for whom it is intended; or
 - 2. delivered at or sent by registered or certified mail, postage prepaid, to the last business address known to the giver of the notice.

17.02 Computation of Times

- A. When any period of time is referred to in the Contract Documents by days, it will be computed to exclude the first and include the last day of such period. If the last day of any such period falls on a Saturday or Sunday or on a day made a legal holiday by the law of the applicable jurisdiction, such day will be omitted from the computation.

17.03 Cumulative Remedies

- A. The duties and obligations imposed by these General Conditions and the rights and remedies available hereunder to the parties hereto are in addition to, and are not to be construed in any way as a limitation of, any rights and remedies available to any or all of them which are otherwise imposed or available by Laws or Regulations, by special warranty or guarantee, or by other provisions of the Contract Documents. The provisions of this Paragraph will be as effective as if repeated specifically in the Contract Documents in connection with each particular duty, obligation, right, and remedy to which they apply.

17.04 Survival of Obligations

- A. All representations, indemnifications, warranties, and guarantees made in, required by, or given in accordance with the Contract Documents, as well as all continuing obligations indicated in the Contract Documents, will survive final payment, completion, and acceptance of the Work or termination or completion of the Contract or termination of the services of Contractor.

17.05 Controlling Law

- A. This Contract is to be governed by the law of the state in which the Project is located.

17.06 Headings

- A. Article and paragraph headings are inserted for convenience only and do not constitute parts of these General Conditions.

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Prevailing Wage Determination Cover Letter

County: -Select-
Determination Date: 10/23/2024
Expiration Date: 01/23/2025

THE FOLLOWING PAGES ARE PREVAILING RATES OF WAGES ON PUBLIC IMPROVEMENTS FAIRLY ESTIMATED TO BE MORE THAN THE AMOUNT IN O.R.C. SEC. 4115.03 (b) (1) or (2), AS APPLICABLE.

Section 4115.05 provides, in part: "Where contracts are not awarded or construction undertaken within ninety days from the date of the establishment of the prevailing wages, there shall be a redetermination of the prevailing rate of wages before the contract is awarded." The expiration date of this wage schedule is listed above for your convenience only. This wage determination is not intended as a blanket determination to be used for all projects during this period without prior approval of this Department.

Section 4115.04, Ohio Revised Code provides, in part: "Such schedule of wages shall be attached to and made a part of the specifications for the work, and shall be printed on the bidding blanks where the work is done by contract..."

The contract between the letting authority and the successful bidder shall contain a statement requiring that mechanics and laborers be paid a prevailing rate of wage as required in Section 4115.06, Ohio Revised Code.

The contractor or subcontractor is required to file with the contracting public authority upon completion of the project and prior to final payment therefore an affidavit stating that he has fully complied with Chapter 4115 of the Ohio Revised Code.

The wage rates contained in this schedule are the "Prevailing Wages" as defined by Section 4115.03, Ohio Revised Code (the basic hourly rates plus certain fringe benefits). These rates and fringes shall be a minimum to be paid under a contract regulated by Chapter 4115 of the Ohio Revised Code by contractors and subcontractors. The prevailing wage rates contained in this schedule include the effective dates and wage rates currently on file. In cases where future effective dates are not included in this schedule, modifications to the wage schedule will be furnished to the Prevailing Wage Coordinator appointed by the public authority as soon as prevailing wage rates increases are received by this office.

"There shall be posted in a prominent and accessible place on the site of work a legible statement of the Schedule of Wage Rates specified in the contract to the various classifications of laborers, workmen, and mechanics employed, said statement to remain posted during the life of such contract." Section 4115.07, Ohio Revised Code.

Apprentices will be permitted to work only under a bona fide apprenticeship program if such program exists and if such program is registered with the Ohio Apprenticeship Council.

Section 4115.071 provides that no later than ten days before the first payment of wages is due to any employee of any contractor or subcontractor working on a contract regulated by Chapter 4115, Ohio Revised Code, the contracting public authority shall appoint one of his own employees to act as the prevailing wage coordinator for said contract. The duties of the prevailing wage coordinator are outlined in Section 4115.071 of the Ohio Revised Code.

Section 4115.05 provides for an escalator in the prevailing wage rate. Each time a new rate is established, that rate is required to be paid on all ongoing public improvement projects.

A further requirement of Section 4115.05 of the Ohio Revised Code is: "On the occasion of the first pay date under a contract, the contractor shall furnish each employee not covered by a collective bargaining agreement or understanding between employers and bona fide organizations of Labor with individual written notification of the job classification to which the employee is assigned, the prevailing wage determined to be applicable to that classification, separated into the hourly rate of pay and the fringe payments, and the identity of the prevailing wage Coordinator appointed by the public authority. The contractor or subcontractor shall furnish the same notification to each affected employee every time the job classification of the employee is changed."

Work performed in connection with the installation of modular furniture may be subject to prevailing wage.

THIS PACKET IS NOT TO BE SEPARATED BUT IS TO REMAIN COMPLETE AS IT IS SUBMITTED TO YOU. (Reference guidelines and forms are included in this packet to be helpful in the compliance of the Prevailing Wage law.)

wh1500



PREVAILING WAGE THRESHOLD LEVELS IMPORTANT NOTICE

Before advertising for bids, contracting, or undertaking construction with its own forces, to construct a public improvement, the Public Authority shall have the Ohio Department of Commerce-Division of Industrial Compliance, Bureau of Wage and Hour Administration determine the prevailing rates of wages for workers employed on the public improvement. The wage determination must be included in the project specifications and printed on the bidding blanks where work is done by contract.

“New” construction threshold for <i>Building Construction</i>:	\$250,000
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“Reconstruction, enlargement, alteration, repair, remodeling, renovation, or painting” threshold level for <i>Building Construction</i>:	\$75,000
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As of January 1, 2024:

“New” construction that involves <i>roads, streets, alleys, sewers, ditches and other works connected to road or bridge construction</i> threshold level has been adjusted to:	\$98,974
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“Reconstruction, enlargement, alteration, repair, remodeling, renovation, or painting” that involves <i>roads, streets, alleys, sewers, ditches and other works connected to road or bridge construction</i> threshold level has been adjusted to:	\$29,653
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- A) Thresholds are to be adjusted biennially by the Director of the Ohio Department of Commerce.
- B) Biennial adjustments to threshold levels are made according to the Building Cost for Skilled Labor Index published by McGraw-Hill’s Engineering News-Record, but may not increase or decrease more than 3% for any year.

If there are questions concerning this notification, please contact:

Bureau of Wage and Hour Administration
6606 Tussing Road, PO Box 4009
Reynoldsburg, Ohio 43068-9009
Phone: 614-644-2239
Fax: 614-728-8639
www.com.ohio.gov

PREVAILING WAGE LAW

Wages And Hours On Public Works (Prevailing Wage)

ORC Chapter 4115: Wages And Hours On Public Works (Prevailing Wage)

If you are a public authority and wish this division to issue to you a determination as to the prevailing rates of wages called for by the public improvement in the locality where the work is to be performed, you may fill-out a request form on line here: [Prevailing Wage Request Form](#).

Remember: Filling out and submitting the Prevailing Wage Request Form informs us of your project information. Print this document out for your files prior to clicking the "Submit" button on the on-line form. The current date is automatically generated by the form and is in the upper right hand corner. If you mark the "Internet" choice in the "Method of delivery" box, no mailing will be sent to you as this indicates that you have or will download the wage rates from the web site.

Accessing Prevailing Wage Rates

To gain free access to our Prevailing Wage Rate Database, click [here](#). You must enter information requested prior to gaining access. This database is primarily for Public Authorities, Unions, Contractors, and others who are in the process of complying with Ohio's prevailing wage laws on public projects.

Access Registration for Prevailing Wage Rates.

The following information regarding Ohio's prevailing wage is supplied only as a guide. We suggest that for in-depth questions that you consult Ohio's prevailing wage law, codified in [ORC Chapter 4115: Wages And Hours On Public Works \(Prevailing Wage\)](#).

Ohio's prevailing wage law applies to construction projects undertaken by public authorities and requires that the public authorities pay the locally prevailing rate of wages to workers on the project.

Ohio's prevailing wage rate is determined by the Director of the Ohio Department of Commerce (DOC) and is the sum of the following:

The basic hourly rate of pay.

The rate of contribution irrevocably made by a contractor or subcontractor to a trustee or third person pursuant to a fund, plan, or program.

The rate of costs to the contractor or subcontractor which may be reasonably anticipated in providing fringe benefits.

These rates vary from locality to locality, and are based on collective bargaining agreements.

Every public authority authorized to contract for or construct with its own forces a public improvement, before advertising for bids or undertaking such construction with its own forces, shall have the Department of Commerce determine the prevailing rates of wages for the classes of work called for by the public improvement in the locality where such work is to be performed. This schedule of wages is to be attached to and made a part of the specifications for the work and shall be printed on the bidding blanks when the work is done by contract. Click on this link for more information regarding the duties of [Public Authorities and Prevailing Wage Coordinators](#).

Information on this site is believed to be accurate but is not guaranteed. The State of Ohio disclaims any liability for any errors or omissions.

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PREVAILING WAGE CONTRACTOR RESPONSIBILITIES

This is a summary of prevailing wage contractors' responsibilities. For more detailed information please refer to Chapter 4115 of the Ohio Revised Code

General Information

Ohio's prevailing wage laws apply to all public improvements financed in whole or in part by public funds when the total overall project cost is fairly estimated to be more than \$250,000 for new construction or \$75,000 for reconstruction, enlargement, alteration, repair, remodeling, renovation, or painting.

Ohio's prevailing wage laws apply to all public improvements financed in whole or in part by public funds when the total overall project cost is fairly estimated to be more than \$91,150 for new construction that involves roads, streets, alleys, sewers, ditches and other works connected to road or bridge construction or \$27,309 for reconstruction, enlargement, alteration, repair, remodeling, renovation, or painting of a public improvement that involves roads, streets, alleys, sewers, ditches and other works connected to road or bridge construction.

- a) Thresholds are to be adjusted biennially by the Administrator of Ohio Department of Commerce, Division of Industrial Compliance and Labor, Bureau of Wage and Hour Administration
- b) Biennial adjustments to threshold levels are made according to the Price Deflator for Construction Index, United States Department of Commerce, Bureau of the Census*, but may not increase or decrease more than 3% for any year

Penalties for violation

Violators are to be assessed the wages owed, plus a penalty of 100% of the wages owed.

Intentional Violations

If an intentional violation is determined to have occurred, the contractor is prohibited from contracting directly or indirectly with any public authority for the construction of a public improvement. Intentional violation means "a willful, knowing, or deliberate disregard for any provision" of the prevailing wage law and includes but is not limited to the following actions:

- Intentional failure to submit payroll reports as required, or knowingly submitting false or erroneous reports.
- Intentional misclassification of employees for the purpose of reducing wages.
- Intentional misclassification of employees as independent contractors or as apprentices.
- Intentional failure to pay the prevailing wage.
- Intentional failure to comply with the allowable ratio of apprentices to skilled workers as required by the regulations established by Ohio Department of Commerce, Division of Industrial Compliance and Labor, Bureau of Wage and Hour Administration.
- Intentionally employing an officer, of a contractor or subcontractor, that is known to be prohibited from contracting, directly or indirectly, with a public authority.



**Department
of Commerce**

Division of Industrial Compliance

Responsibilities

- A. Pay the prevailing rate of wages as shown in the wage rate schedules issued by the Ohio Department of Commerce, Division of Industrial Compliance and Labor, Bureau of Wage and Hour Administration, for the classification of work being performed.
1. Wage rate schedules include all modifications, corrections, escalations, or reductions to wage rates issued for the project.
 2. Overtime must be paid at time and one-half the employee's base hourly rate. Fringe benefits are paid at straight time rate for all hours including overtime.
 3. Prevailing wages must be paid in full without any deduction for food, lodging, transportation, use of tools, etc.; unless, the employee has voluntarily consented to these deductions in writing. The public authority and the Director of Ohio Department of Commerce, Division of Industrial Compliance and Labor, Bureau of Wage and Hour Administration - must approve these deductions as fair and reasonable. Consent and approval must be obtained before starting the project.
- B. Use of Apprentices and Helpers cannot exceed the ratios permitted in the wage rate schedules.
1. Apprentices must be registered with the U.S. Department of Labor Bureau of Apprenticeship and Training.
 2. Contractors must provide the Prevailing Wage Coordinator a copy of the Apprenticeship Agreement for each apprentice on the project.
- C. Keep full and accurate payroll records available for inspection by any authorized representative of the Ohio Department of Commerce, Division of Industrial Compliance, and Labor, Bureau of Wage and Hour Administration or the contracting public authority, including the Prevailing Wage Coordinator. Records should include but are not limited to:
1. Time cards, time sheets, daily work records, etc.
 2. Payroll ledger/journals and canceled checks/check register.
 3. Fringe benefit records must include program, address, account number, & canceled checks.
 4. Records made in connection with the public improvement must not be removed from the State for one year following the completion of the project.
 5. Out-of-State Corporations must submit to the Ohio Secretary of State the full name and address of their Statutory Agent in Ohio.
- D. Prevailing Wage Rate Schedule must be posted on the job site where it is accessible to all employees.
- E. Prior to submitting the initial payroll report, supply the Prevailing Wage Coordinator with your project dates to schedule reporting of your payrolls.
- F. Supply the Prevailing Wage Coordinator a list of all subcontractors including the name, address, and telephone number for each.
1. **Contractors are responsible for their subcontractors' compliance with requirements of Chapter 4115 of the Ohio Revised Code.**

Bureau of Wage and Hour Administration
6606 Tussing Road
Reynoldsburg, OH 43068-9099

614-644-2239
Fax 614-728-8639
TTY/TDD 800-750-0750
com.ohio.gov

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**Department
of Commerce**

Division of Industrial Compliance

- G. Before employees start work on the project, supply them with written notification of their job classification, prevailing wage rate, fringe benefit amounts, and the name of the Prevailing Wage Coordinator for the project. A copy of the completed signed notification should be submitted to Prevailing Wage Coordinator.
- H. Supply all subcontractors with the Prevailing Wage Rates and changes.
- I. Submit certified payrolls within two (2) weeks after the initial pay period. Payrolls must include the following information:
1. Employees' names, addresses, and social security numbers.
 - a. Corporate officers/owners/partners and any salaried personnel who do physical work on the project are considered employees. All rate and reporting requirements are applicable to these individuals.
 2. Employees' work classification.
 - a. Be specific about the laborers and/or operators (Group)
 - b. For all apprentices, show level/year and percent of journeyman's rate
 3. Hours worked on the project for each employee.
 - a. The number of hours worked in each day and the total number of hours worked each week.
 4. Hourly rate for each employee.
 - a. The minimum rate paid must be the wage rate for the appropriate classification. The Department's Wage Rate Schedule sets this rate.
 - b. All overtime worked is to be paid at time and one-half for all hours worked more than forty (40) per week.
 5. Where fringes are paid into a bona fide plan instead of cash, list each benefit and amount per hour paid to program for each employee.
 - a. When the amount contributed to the fringe benefit plan and the total number of hours worked by the employee on all projects for the year are documented, the hourly amount is calculated by dividing the total contribution of the employer by the total number of hours worked by the employee.
 - b. When the amount contributed to the fringe benefit is documented but not the total hours worked, the hourly amount is calculated by **dividing the total yearly contribution by 2080.**
 6. Gross amount earned on all projects during the pay period.
 7. Total deductions from employee's wages.
 8. Net amount paid.
- J. The reports shall be certified by the contractor, subcontractor, or duly appointed agent stating that the payroll is correct and complete; and that the wage rates shown are not less than those required by the O.R.C. 4115.
- K. Provide a Final Affidavit to the Prevailing Wage Coordinator upon the completion of the project.



Many of our staff are teleworking to stop community spread of the coronavirus (COVID-19). Our office will also not be accepting walk-in customers. The Division is still operational, and customers will still be able to drop off plans, applications and other documents, but we ask that you first work through our web portal, where you can also submit payments. There are no convenience fees for online payment. Please call us at 614-644-2223 or email us at IC@com.state.oh.us with any questions. Thanks for your patience.

INSTRUCTIONS FOR PREPARING CERTIFIED PAYROLL REPORTS

General

Contractors and subcontractors are required by law to submit certified payroll reports for work on projects covered by Ohio's Prevailing Wage Law. This form meets the reporting requirements established by Ohio Revised Code Chapter 4115. The use of this form is not mandatory, employers may submit their own forms provided that all of the required information is included. This form may be reproduced, or additional copies obtained from:

Ohio Department of Commerce Division of Industrial Compliance and Labor Bureau of Wage & Hour Administration 6606 Tussing Rd. P. O. Box 4009 Reynoldsburg, OH 43068-9009 Phone: (614) 644-2239

Certified Payroll Heading

Employer name and address: Company's full name and address. Indicate if the company is a subcontractor, if so list the name of the General or Prime. Project: Name and location of the project, including county. Contracting Public Authority: Name and address of the contracting public authority. Week Ending: Month, day, and year for last day of reporting period. Payroll #: Indicates first, second, third, etc. payroll filed by the company for the project. Page indicator: number of pages included in the report. Project Number: Determined by the public authority. If there is no number leave blank.

Information by Column

- 1. Employee Name, Address and Social Security number: This information must be provided for all employees that perform physical labor on the project. Corporate officers, partners, and salaried employees are considered employees and must be paid the prevailing rate. Individual sole proprietors do not have to pay themselves prevailing rate but must report their hours on the project.
- 2. Work Class: List classification of work actually performed by employee. If unsure of work classification, consult the Ohio department of Commerce, Wage and Hour Bureau. Employees working more than one classification should have separate line entries for each classification. Indicate what year/level for Apprentices. Be specific when using laborer and operator classifications; for example, Backhoe Operator or Asphalt Laborer.
- 3. Hours Worked, Day & Date: In the first row of column 3 enter days of pay period example; M T W T H F S S. The second row is for the date that corresponds with each day for the pay period. In the employee information section enter the number of hours worked on the prevailing wage project and which day the hours were worked. Separate rows are labeled for (ST) straight time hours and (OT) overtime hours. All hours worked after 40, must be paid at the appropriate overtime rate.
- 4. Project Total Hours : Total the hours entered for pay period.
- 5. Base Rate: Enter actual rate per hour paid to the employee. The overtime hourly rate is time and one-half the base rate listed in the prevailing wage schedule plus fringe benefits at straight time rate. The prevailing wage schedule lists the base rate plus fringe benefit amounts. These amounts added together equal the total prevailing wage rate. Employers must pay this total amount in one of three ways.
 - Total rate may be paid in entirety in the base rate to the employee; in which case, the cash designation will be checked for fringe benefits.
 - Total rate may be paid as listed in prevailing wage rate schedule with total fringe amounts paid approved plans.
 - Total rate may be paid with a combination of base rate and fringe payments to approved plans in amounts other than those listed in schedule.
- 6. Project Gross: Enter total gross wages earned on the project for straight time and overtime. Project hours X base rate should equal project gross.
- 7. Fringes: If fringe benefits are paid in the hourly base rate, indicate this by marking the cash space. If fringe benefits are paid to approved plans as listed in the prevailing wage rate schedule, mark the space Approved Plans. If fringe benefits are paid partially in the base rate and partially to approved plans, mark the space Cash & Approved plans. List the hourly amount paid to approved plans for each fringe. If payments are not made on a per hour basis, calculate the hourly fringe credit by dividing the yearly employer contribution by the lesser of: hours actually worked in the year (these must be documented) or 2080. Fringe benefits include: Employer's share of health insurance,

life insurance, retirement plan, bonus/profit sharing, sick pay, holiday pay, personal leave, vacation, and education/training programs.

- 8. Total Hours All Jobs: Total all hours worked during the pay period including non-prevailing wage jobs.
- 9. Total Gross All Jobs: Gross amount earned in the pay period for all hours worked.
- 10. Self explanatory.
- 11. Self explanatory.
- 12. Self explanatory.

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CONTACT US

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CONNECT WITH US



LOOKUP SERVICES

Registered Contractor List
Boiler Information Database
Building Code Compliance Electronic Plan
Submission
Board Of Building Appeals Case Lookup
Elevator Database Lookup

RESOURCES

Federal Wage and Hour
U.S. Consumer Product Safety
Commission
National Electric, Fire Alarm and Sprinkler
Codes
Minor Labor Law Poster
2017 Minimum Wage Poster
2018 Minimum Wage Poster

ABOUT INDUSTRIAL COMPLIANCE

Director Sheryl Maxfield
Superintendent Geoff Eaton

com.ohio.gov



Affidavit of Compliance

Prevailing Wages

I, _____ (Name of person signing affidavit) (Title)

do hereby certify that the wages paid to all employees of

_____ (Company Name)

for all hours worked on the

_____ (Project name and location)

project, during the period from _____ to _____ are in (Project Dates)

compliance with prevailing wage requirements of Chapter 4115 of the Ohio Revised Code. I further certify that no rebates or deductions have been or will be made, directly or indirectly, from any wages paid in connection with this project, other than those provided by law.

_____ (Signature of Officer or Agent)

Sworn to and subscribed in my presence this _____ day of _____, 20_____.

_____ (Notary Public)

The above affidavit must be executed and sworn to by the officer or agent of the contractor or subcontractor who supervises the payment of employees. This affidavit must be submitted to the owner (public authority) before the surety is released or final payment due under the terms of the contract is made.

PREVAILING WAGE NOTIFICATION TO EMPLOYEE

Project Name:		Job Number:	
Contractor:			
Project Location:			
Jobsite posting of prevailing wage rates located:			
Prevailing Wage Coordinator		Employee	
Name:		Name:	
Street:		Street:	
City:		City:	
State / Zip:		State / Zip:	
Phone:		Phone:	
<p>You will be performing work on this project that falls under these classifications. You will be paid the appropriate rate for the type of work you are performing.</p>			
Classification	Prevailing Wage Rate Total Package	Minus Your Fringe Benefits	Your Hourly Base Rate
Hourly fringe benefits paid on your behalf by this company.			
Fringe	Amount	Fringe	Amount
Health Insurance		Health Insurance	
Life Insurance		Holiday	
Pension		Sick Pay	
Bonus		Training	
Other		TOTAL HOURLY FRINGES	
Contractor's Signature:		Date:	
Employee's Signature:		Date:	

Certified Payroll Report - Instructions

State of Ohio Standard Forms for Public Facility Construction

This Certified Payroll Report was created in Excel Version 14.0.6112.5000 (32-bit), part of Microsoft Office Professional 2010. There are two tabs that comprise a complete Certified Payroll Report that complies with Section 4115.071 of the Ohio Revised Code. Part A may be produced in response to a public records request without the need for redacting each Worker's Social Security Number in order to protect sensitive personal information. Part B shall be produced in response to a request from the Bureau of Wage and Hour Administration of the Department of Commerce.

EMPLOYER NAME AND ADDRESS: Enter the company's full name and address. Indicate if the company is a Subcontractor in the space below, if so list the name of the General or Prime Contractor. Prime Contractor includes a Construction Manager at Risk or a Design-Build firm.

PROJECT NAME AND LOCATION: Enter the name and location of the Project, including the county or counties where the Project is located.

CONTRACTING AUTHORITY: Enter the name and address of the public authority responsible for maintaining prevailing wage records. This may be the Project Owner.

WEEK ENDING: Indicate month, day, and year for last day of reporting period.

PAYROLL NUMBER: Indicate first, second, third, etc. payroll filed by the company for the project.

PAGE: Indicate number of pages included in the report.

PROJECT / CONTRACT NUMBER: Indicate the Project number or Contract number determined by the public authority. If there is no number leave blank.

1. NAME AND INDIVIDUAL IDENTIFYING NUMBER OF WORKER: Enter the name and a unique number for each employee. The full name, social security number, and address may be provided on Part B, which must be provided with each report to be considered valid. This information must be provided for all employees that perform physical labor on the Project. Corporate officers, partners, and salaried employees are considered employees and must be paid the prevailing rate. Individual sole proprietors do not have to pay themselves prevailing rate but must report their hours on the Project.

2. WORK CLASSIFICATION: List classification of work actually performed by employee. If unsure of work classification, consult the Ohio Department of Commerce, Wage and Hour Bureau. Employees working more than one classification should have separate line entries for each classification. Indicate what year/level for Apprentices. Be specific when using laborer and operator classifications; for example, Backhoe Operator or Asphalt Laborer.

3. RACE AND SEX: Provide the race and sex of each worker. This information is requested to facilitate review by the Construction Compliance Unit of the Equal Opportunity Division in the Ohio Department of Administrative Services pursuant to Chapter 123:2 of the Ohio Administrative Code. This information is not required by Chapter 4115 of the Ohio Revised Code.

4. HOURS WORKED - DAY AND DATE: In the first row of column 4 enter the days of the pay period. For example: S M T W T H F S. The second row is for the date that corresponds with each day for the pay period. In the employee information section enter the number of hours worked on the prevailing wage Project and which day(s) the hours were worked. Separate rows are labeled for (ST) straight time hours and (OT) overtime hours. All hours worked beyond 40 hours must be paid at the appropriate overtime rate.

5. TOTAL PROJECT HOURS: Total the hours entered for the pay period.

6. BASE WAGE RATE: Enter actual rate per hour paid to the employee. The overtime hourly rate is time and one-half the base rate listed in the prevailing wage schedule plus fringe benefits at straight time rate. The prevailing wage schedule lists the base rate plus fringe benefit amounts. These amounts added together equal the total prevailing wage rate. Employers must pay this total amount in one of three ways: (1) total rate may be paid in entirety in the base rate to the employee; in which case, the cash designation will be checked for fringe benefits; (2) total rate may be paid as listed in prevailing wage rate schedule with total fringe amounts paid approved plans; or (3) total rate may be paid with a combination of base rate and fringe payments to approved plans in amounts other than those listed in schedule.

7. PROJECT GROSS: Enter total gross wages earned on the Project for straight time and overtime. Project hours multiplied by base rate should equal the Project gross.

8. FRINGES: If fringe benefits are paid in the hourly base rate, indicate this by marking the cash space. If fringe benefits are paid to approved plans as listed in the prevailing wage rate schedule, mark the space for Approved Plans. If fringe benefits are paid partially in the base rate and partially to approved plans, mark the space for Cash & Approved plans. List the hourly amount paid to approved plans for each fringe. If payments are not made on a per-hour basis, calculate the hourly fringe credit by dividing the yearly employer contribution by the lesser of hours actually worked in the year (these must be documented) or 2080. Fringe benefits include: Employer's share of health insurance, life insurance, retirement plan, bonus/profit sharing, sick pay, holiday pay, personal leave, vacation, and education/training programs.

9. TOTAL HOURS ALL JOBS: Total all hours worked during the pay period including non-prevailing wage jobs.

10. TOTAL GROSS ALL JOBS: Gross amount earned in the pay period for all hours worked.

ITEMS 11., 12., AND 13. ARE SELF-EXPLANATORY

*For Public Records Requests, redact Social Security Numbers.

*Attach additional pages as necessary.

*If Subcontractor, provide Contractor name in space provided.

End of Exhibit

Prevailing Wage Rate Skilled Crafts

Name of Union: **Asbestos Local 207**

Change # : LCR01-2024ibLoc207

Craft : Asbestos Worker Effective Date : 07/24/2024 Last Posted : 07/24/2024

	BHR		Fringe Benefit Payments						Irrevocable Fund		Total PWR	Overtime Rate
			H&W	Pension	App Tr.	Vac.	Annuity	Other	LECET (*)	MISC (*)		
Classification												
Asbestos Abatement	\$30.00		\$10.45	\$7.00	\$0.65	\$3.25	\$0.00	\$0.00	\$0.00	\$0.00	\$51.35	\$66.35
Trainee	Percent											
Trainee	65.15	\$19.55	\$10.45	\$1.60	\$0.65	\$1.00	\$0.00	\$0.00	\$0.00	\$0.00	\$33.25	\$43.02

Special Calculation Note :

Ratio :

3 Journeymen to 1 Trainee

Jurisdiction (* denotes special jurisdictional note) :

ADAMS, ASHLAND, ASHTABULA*, ATHENS, AUGLAIZE, BROWN, BUTLER*, CARROLL, CHAMPAIGN, CLARK, CLERMONT, CLINTON, COLUMBIANA, COSHOCTON, CRAWFORD, CUYAHOGA, DARKE, DELAWARE, ERIE*, FAIRFIELD, FAYETTE, FRANKLIN, GEAUGA, GREENE, GUERNSEY, HAMILTON, HARDIN, HARRISON, HIGHLAND, HOCKING, HOLMES, HURON, KNOX, LAKE, LICKING, LOGAN, LORAIN, MADISON, MAHONING, MARION, MEDINA, MIAMI, MONTGOMERY, MORGAN, MORROW, MUSKINGUM, NOBLE, PERRY, PICKAWAY, PORTAGE, PREBLE, RICHLAND, ROSS, SHELBY, STARK, SUMMIT, TRUMBULL, TUSCARAWAS, UNION, VINTON, WARREN*, WAYNE

Special Jurisdictional Note : Ashtabula County: (post offices & townships of Ashtabula, Austinburg, Geneva, Harperfield, Jefferson, Plymouth & Saybrook) (townships of Andover, Cherry Valley, Colbrook, Canneaut, Denmark, Dorset, East Orwell, Hartsgrove, Kingville, Lenox, Monroe, Morgan, New Lyme, North Kingsville, Orwell, Pierpoint, Richmond Rock Creek, Rome, Sheffield, Trumbull, Wayne, Williamsfield & Windsor)

Butler County: (townships of Fairfield, Hanover, Liberty, Milford, Morgan, Oxford, Ripley, Ross, St. Clair, Union & Wayne) (Lemon & Madison)

Erie County: (post offices & townships of Berlin, Berlin Heights, Birmingham, Florence, Huron, Milan,

Shinrock & Vermilion)

Warren County: (townships of: Deerfield, Hamilton, Harlan, Salem, Union & Washington) (Clear Creek, Franklin, Mossie, Turtle Creek & Wayne)

Details :

Asbestos & lead paint abatement including, but not limited to the removal or encapsulation of asbestos & lead paint, all work in conjunction with the preparation of the removal of same & all work in conjunction with the clean up after said removal. The removal of all insulation materials, whether they contain asbestos or not, from mechanical systems (pipes, boilers, ducts, flues, breaching, etc.) is recognized as being the exclusive work of the Asbestos Abatement Workers.

On all mechanical systems (pipes, boilers, ducts, flues, breaching, etc.) that are going to be demolished, the removal of all insulating materials whether they contain asbestos or not shall be the exclusive work of the Laborers.

An Abatement Journeyman is anyone who has more than 600 hours in the Asbestos Abatement field.

Prevailing Wage Rate Skilled Crafts

Name of Union: Asbestos Local 3 Heat & Frost Insulators

Change # : LCN01-2023ibLoc3

Craft : Asbestos Worker Effective Date : 10/04/2023 Last Posted : 10/04/2023

	BHR		Fringe Benefit Payments					Irrevocable Fund		Total PWR	Overtime Rate	
			H&W	Pension	App Tr.	Vac.	Annuity	Other	LECET (*)			MISC (*)
Classification												
Asbestos Insulation Worker	\$41.58		\$15.30	\$10.50	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$67.38	\$88.17
Fire Stop Specialist	\$41.58		\$15.30	\$10.50	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$67.38	\$88.17
Fire Stop Technician	\$34.35		\$15.30	\$4.25	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$53.90	\$71.07
Apprentice	Percent											
1st year	49.32	\$20.51	\$15.30	\$1.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$36.81	\$47.06
2nd year	63.12	\$26.25	\$15.30	\$2.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$43.55	\$56.67
3rd year	68.82	\$28.62	\$15.30	\$3.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$46.92	\$61.22
4th year	82.60	\$34.35	\$15.30	\$4.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$53.65	\$70.82

Special Calculation Note : There are no special calculations for this classification.

Ratio :

3 Journeymen to 1 Apprentice per shop

Jurisdiction (* denotes special jurisdictional note) :

ASHLAND, ASHTABULA*, CARROLL, COLUMBIANA, COSHOCTON, CUYAHOGA, ERIE*, GEAUGA, HARRISON, HOLMES, HURON, LAKE, LORAIN, MAHONING, MEDINA, PORTAGE, RICHLAND, STARK, SUMMIT, TRUMBULL, TUSCARAWAS, WAYNE

Special Jurisdictional Note : Ashtabula (the townships of Ashtabula, Austinburg, Geneva, Jefferson, Plymouth & Saybrook), The remainder of Ashtabula County will be considered open counties on a 90 day basis automatically renewable unless revoked by the Union upon 15 day written notice by the employers. Erie (to Sandusky limits)

Details :

Mechanics & apprentices engaged in the manufacture, fabrication, assembling, molding, handling, erection, spraying, pouring, mixing, hanging, clean-up, preparation, application, adjusting, alteration, repairing, dismantling, reconditioning, testing & maintenance of Heat & Frost Insulation such as Magnesia, Asbestos, Hair Felt, Wool Felt, Cork, Mineral Wool, Infusorial Earth, Mercerized Silk, Flax, Fiber, Fire Felt, Asbestos Paper, Asbestos Curtain, Asbestos Millboard, Fiberglass, Foam glass, Styrofoam, Polyurethane, fire stopping, smoke stopping, all recyclable material, soundproofing, all

penetrations,any flexible or rigid fireproofing,all jacketing systems including metal,lead,and PVC or other material.

Prevailing Wage Rate Skilled Crafts

Name of Union: **Boilermaker Local 744**

Change # : LCN01-2024ibLoc744

Craft : Boilermaker Effective Date : 06/05/2024 Last Posted : 06/05/2024

	BHR		Fringe Benefit Payments					Irrevocable Fund		Total PWR	Overtime Rate	
			H&W	Pension	App Tr.	Vac.	Annuity	Other	LECET (*)			MISC (*)
Classification												
Boilermaker	\$42.70		\$7.07	\$17.74	\$0.78	\$0.00	\$9.56	\$0.34	\$0.00	\$0.00	\$78.19	\$99.54
Apprentice	Percent											
1st 6 months	70.00	\$29.89	\$7.07	\$17.74	\$0.78	\$0.00	\$9.56	\$0.34	\$0.00	\$0.00	\$65.38	\$80.32
2nd 6 months	72.50	\$30.96	\$7.07	\$17.74	\$0.78	\$0.00	\$9.56	\$0.34	\$0.00	\$0.00	\$66.45	\$81.93
3rd 6 months	75.00	\$32.03	\$7.07	\$17.74	\$0.78	\$0.00	\$9.56	\$0.34	\$0.00	\$0.00	\$67.52	\$83.53
4th 6 months	77.50	\$33.09	\$7.07	\$17.74	\$0.78	\$0.00	\$9.56	\$0.34	\$0.00	\$0.00	\$68.58	\$85.13
5th 6 months	80.00	\$34.16	\$7.07	\$17.74	\$0.78	\$0.00	\$9.56	\$0.34	\$0.00	\$0.00	\$69.65	\$86.73
6th 6 months	85.00	\$36.30	\$7.07	\$17.74	\$0.78	\$0.00	\$9.56	\$0.34	\$0.00	\$0.00	\$71.79	\$89.93
7th 6 months	90.00	\$38.43	\$7.07	\$17.74	\$0.78	\$0.00	\$9.56	\$0.34	\$0.00	\$0.00	\$73.92	\$93.14
8th 6 months	95.00	\$40.57	\$7.07	\$17.74	\$0.78	\$0.00	\$9.56	\$0.34	\$0.00	\$0.00	\$76.06	\$96.34

Special Calculation Note : Other: Training Fund

Ratio :

3 Journeymen to 1 Apprentice

Jurisdiction (* denotes special jurisdictional note) :

ASHTABULA, CARROLL, COSHOCTON, CUYAHOGA, GEAUGA, HARRISON, HOLMES, LAKE, LORAIN, MAHONING, MEDINA, PORTAGE, STARK, SUMMIT, TRUMBULL, TUSCARAWAS, WAYNE

Special Jurisdictional Note :

Details :

Prevailing Wage Rate Skilled Crafts

Name of Union: **Bricklayer Local 23 (Cleveland)**

Change # : LCN01-2024ibLoc23Clev

Craft : Bricklayer Effective Date : 05/01/2024 Last Posted : 05/01/2024

	BHR		Fringe Benefit Payments					Irrevocable Fund		Total PWR	Overtime Rate	
			H&W	Pension	App Tr.	Vac.	Annuity	Other	LECET (*)			MISC (*)
Classification												
Bricklayer	\$38.18		\$11.40	\$9.45	\$0.79	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$59.82	\$78.91
Stone Mason	\$38.18		\$11.40	\$9.45	\$0.79	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$59.82	\$78.91
Pointer Caulker Cleaner	\$38.18		\$11.40	\$9.45	\$0.79	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$59.82	\$78.91
Marble Mason	\$38.18		\$11.40	\$9.45	\$0.79	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$59.82	\$78.91
Terrazzo Worker	\$38.18		\$11.40	\$9.45	\$0.79	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$59.82	\$78.91
Cement Mason	\$38.18		\$11.40	\$9.45	\$0.79	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$59.82	\$78.91
Sandblaster	\$38.43		\$11.40	\$9.45	\$0.79	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$60.07	\$79.29
Sewer Stack	\$38.68		\$11.40	\$9.45	\$0.79	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$60.32	\$79.66
Swing Scaffold	\$39.18		\$11.40	\$9.45	\$0.79	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$60.82	\$80.41
Masonry Maintenance Specialist	\$19.09		\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$19.09	\$28.63
Apprentice	Percent											
1st 6 Months	60.00	\$22.91	\$11.40	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$34.31	\$45.76
2nd 6 Months	65.00	\$24.82	\$11.40	\$9.45	\$0.79	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$46.46	\$58.87
3rd 6 Months	70.00	\$26.73	\$11.40	\$9.45	\$0.79	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$48.37	\$61.73
4th 6 Months	75.00	\$28.63	\$11.40	\$9.45	\$0.79	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$50.28	\$64.59
5th 6 Months	80.00	\$30.54	\$11.40	\$9.45	\$0.79	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$52.18	\$67.46
6th 6 Months	85.00	\$32.45	\$11.40	\$9.45	\$0.79	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$54.09	\$70.32
7th 6 Months	90.00	\$34.36	\$11.40	\$9.45	\$0.79	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$56.00	\$73.18

8th 6 Months	95.00	\$36.27	\$11.40	\$9.45	\$0.79	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$57.91	\$76.05
TRAINEES 1st 90 Days	45.00	\$17.18	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$17.18	\$25.77
1st Year AFTER 90 Days	45.00	\$17.18	\$11.40	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$28.58	\$37.17
2nd Year	50.00	\$19.09	\$11.40	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$30.49	\$40.03

Special Calculation Note :

Ratio :

- 1-2 Journeyman to 1 Apprentice 1 Trainee
- 3-4 Journeyman to 2 Apprentices 1 Trainee
- 5-6 Journeyman to 2 Apprentices 2 Trainees
- 6-10 Journeyman to 3 Apprentices 2 Trainees

Jurisdiction (* denotes special jurisdictional note) :

CUYAHOGA, LORAIN, MEDINA

Special Jurisdictional Note : Apprentice must be hired prior to hiring Mason Trainees

Details :

Masonry Maintenance Specialist * * - in partnership with a local education organization employer may employ School to Work students providing said employee is a full time student and that no conflicts exist with any Federal or State Laws. Employer must be party to an apprentice program duly registered with the DOL and Ohio State Apprentice Compliance (OSAC). Wages for Masonry Maintenance Specialist shall be fifty-five percent (55%) of the journeyperson base rate with no fringe benefits.

Prevailing Wage Rate Skilled Crafts

Name of Union: Bricklayer Local 23 (Cleveland Terrazzo Finisher)

Change # : LCN01-2024ibLoc23ClevTerFin

Craft : Bricklayer Effective Date : 05/01/2024 Last Posted : 05/01/2024

	BHR		Fringe Benefit Payments					Irrevocable Fund		Total PWR	Overtime Rate	
			H&W	Pension	App Tr.	Vac.	Annuity	Other	LECET (*)			MISC (*)
Classification												
Bricklayer Terrazzo Finisher	\$30.52		\$11.40	\$5.15	\$0.66	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$47.73	\$62.99
Apprentice Terrazzo Finishers												
Percent												
1st 6 months	60.00	\$18.31	\$11.40	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$29.71	\$38.87
2nd 6 months	70.00	\$21.36	\$11.40	\$5.15	\$0.66	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$38.57	\$49.26
3rd 6 months	75.00	\$22.89	\$11.40	\$5.15	\$0.66	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$40.10	\$51.54
4th 6 months	80.00	\$24.42	\$11.40	\$5.15	\$0.66	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$41.63	\$53.83
5th 6 months	85.00	\$25.94	\$11.40	\$5.15	\$0.66	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$43.15	\$56.12
6th 6 months	90.00	\$27.47	\$11.40	\$5.15	\$0.66	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$44.68	\$58.41

Special Calculation Note : Classification title contains "Bricklayer" because contract originates within the Bricklayer Local.

Note that the classification description is clarified after the local union number at the top of the page.

Ratio :

- 1-2 Journeymen to 1 Apprentice
- 3- 4 Journeymen to 2 Apprentices
- 5- 6 Journeymen to 3 Apprentices
- 7- 8 Journeymen to 4 Apprentices

Jurisdiction (* denotes special jurisdictional note) :

ASHTABULA, CUYAHOGA, GEAUGA, LAKE, LORAIN, MEDINA, PORTAGE, SUMMIT

Special Jurisdictional Note :

Details :

Tile Finishers:do all the cleaning, acid washing,grouting,by any methods or means. Also unpacking of all tiles,opening of all mastic containers,mixing of all mortar,thin-set and epoxy materials,also the distribution of it. They shall handle and distribute all materials such as sand,cement,lime,tile,all types of tile panels,prefabricated

tile units, plastic materials and protective covering of all tile. Clean up and removal of always used in connection of said work.

Terrazzo Finishers:Assisting in grinding, and handling of material whether by hand or wheel barrow, or power buggies, including sand Portland cement, resinous cement and admixtures, aggregates of marble, stone or other compositions, bonding adhesives, sealers, waxes, and coatings used for Terrazzo Mosaic work, preparing, mixing by hand or machine, and distributing (spreading) all kinds of underbed or underlayment necessary and all scratch coat used for terrazzo and mosaic work. Also the rubbing, grinding, cleaning, sealing and polishing same either by hand or machine. will assist in the installation of the sand bed, tar paper, wire lath, divider strips, and rolling procedures and acid etching of all concrete floors that require it before installation. Shall handle all materials and assist in the installation of all types of terrazzo floors whether conventional or thin-set variety.

Marble Finishers:Loading and unloading handling and distributing of marble materials including the mixing of all materials used for the installation of marble, such as cement underbeds for the floors, thin-set or epoxies including but not limited to plastic materials. Clean up and removal of all waster material of said work. Cleaning and grouting of all marble and slate, and all polishing of marble and slate floors.

Prevailing Wage Rate Skilled Crafts

Name of Union: Bricklayer Local 23 (Cleveland Marble Mason)

Change # : LCN01-2024ibLoc23ClevMarMas

Craft : Bricklayer Effective Date : 05/01/2024 Last Posted : 05/01/2024

	BHR		Fringe Benefit Payments					Irrevocable Fund		Total PWR	Overtime Rate	
			H&W	Pension	App Tr.	Vac.	Annuity	Other	LECET (*)			MISC (*)
Classification												
Bricklayer Horizontal Marble Mason	\$27.16		\$11.40	\$9.45	\$0.67	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$48.68	\$62.26
Masonry Maintenance Specialist	\$13.58		\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$13.58	\$20.37
Apprentice	Percent											
1st 6 Months	60.00	\$16.30	\$11.40	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$27.70	\$35.84
2nd 6 Months	65.00	\$17.65	\$11.40	\$1.60	\$0.67	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$31.32	\$40.15
3rd 6 Months	70.00	\$19.01	\$11.40	\$9.45	\$0.67	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$40.53	\$50.04
4th 6 Months	75.00	\$20.37	\$11.40	\$9.45	\$0.67	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$41.89	\$52.08
5th 6 Months	80.00	\$21.73	\$11.40	\$9.45	\$0.67	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$43.25	\$54.11
6th 6 Months	85.02	\$23.09	\$11.40	\$9.45	\$0.67	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$44.61	\$56.16
MASON TRAINEES												
1st 90 Days	45.00	\$12.22	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$12.22	\$18.33
1st year after 90 Days	45.00	\$12.22	\$11.40	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$23.62	\$29.73
2nd Year	50.00	\$13.58	\$11.40	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$24.98	\$31.77

Special Calculation Note : No special calculations for this skilled craft wage rate are required at this time.

Classification title contains "Bricklayer" because contract originates within the Bricklayer Local.

Ratio :

1-2 Journeyman to 1 Apprentice
3-4 Journeyman to 2 Apprentices
5-6 Journeyman to 2 Apprentices
6-10 Journeyman to 3 Apprentices

1 Apprentice permits 1 Mason Trainee
2 Apprentice permits 1 Mason Trainee
3 Apprentice permits 2 Mason Trainee
4 Apprentice permits 2 Mason Trainee

Jurisdiction (* denotes special jurisdictional note) :

ASHTABULA, CUYAHOGA, GEAUGA, LAKE,
LORAIN, MEDINA, PORTAGE, SUMMIT

Special Jurisdictional Note :**Details :**

In the mutual interest of both Employer and Union and to promote the masonry industry, it is agreed that the Employer may work with the Union and the Local Educational Partners in the jurisdiction of this agreement to employ School to work students provided that no conflicts exist with any Federal or State Laws. Employer must be party to a bonified Apprenticeship and Training program registered with the State of Ohio (OSAC). It is further agreed by both parties that the wages for the Masonry Maintenance Specialist shall be forty-five percent (45%) of the journeyman rate with no fringe benefits or as specified by the Local Educational Partner in the jurisdiction of the agreement.

Prevailing Wage Rate Skilled Crafts

Name of Union: Bricklayer Local 23 (Cleveland Marble Finisher)

Change # : LCN01-2024ibLoc23ClevMarFin

Craft : Bricklayer Effective Date : 05/01/2024 Last Posted : 05/01/2024

	BHR		Fringe Benefit Payments						Irrevocable Fund		Total PWR	Overtime Rate
			H&W	Pension	App Tr.	Vac.	Annuity	Other	LECET (*)	MISC (*)		
Classification												
Bricklayer Tile Marble Finisher	\$30.52		\$11.40	\$5.15	\$0.66	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$47.73	\$62.99
Apprentice Tile Marble Finishers												
Percent												
1st 6 months	60.00	\$18.31	\$11.40	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$29.71	\$38.87
2nd 6 months	70.00	\$21.36	\$11.40	\$5.15	\$0.66	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$38.57	\$49.26
3rd 6 months	75.00	\$22.89	\$11.40	\$5.15	\$0.66	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$40.10	\$51.54
4th 6 months	80.00	\$24.42	\$11.40	\$5.15	\$0.66	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$41.63	\$53.83
5th 6 months	85.00	\$25.94	\$11.40	\$5.15	\$0.66	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$43.15	\$56.12
6th 6 months	90.00	\$27.47	\$11.40	\$5.15	\$0.66	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$44.68	\$58.41

Special Calculation Note : Classification title contains "Bricklayer" because contract originates within the Bricklayer Local.

Note that the classification description is clarified after the local union number at the top of the page.

Ratio :

- 1-2 Journeymen to 1 Apprentice
- 3- 4 Journeymen to 2 Apprentice
- 5-6 Journeymen to 3 Apprentice
- 7-8 Journeymen to 4 Apprentice

Jurisdiction (* denotes special jurisdictional note) :

ASHTABULA, CUYAHOGA, GEAUGA, LAKE, LORAIN, MEDINA, PORTAGE, SUMMIT

Special Jurisdictional Note :

Details :

Tile Finishers:do all the cleaning, acid washing,grouting,by any methods or means. Also unpacking of all tiles,opening of all mastic containers,mixing of all mortar,thin-set and epoxy materials,also the distribution of it.

They shall handle and distribute all materials such as sand, cement, lime, tile, all types of tile panels, prefabricated tile units, plastic materials and protective covering of all tile. Clean up and removal of always used in connection of said work.

Terrazzo Finishers: Assisting in grinding, and handling of material whether by hand or wheel barrow, or power buggies, including sand Portland cement, resinous cement and admixtures, aggregates of marble, stone or other compositions, bonding adhesives, sealers, waxes, and coatings used for Terrazzo Mosaic work, preparing, mixing by hand or machine, and distributing (spreading) all kinds of underbed or underlayment necessary and all scratch coat used for terrazzo and mosaic work. Also the rubbing, grinding, cleaning, sealing and polishing same either by hand or machine. will assist in the installation of the sand bed, tar paper, wire lath, divider strips, and rolling procedures and acid etching of all concrete floors that require it before installation. Shall handle all materials and assist in the installation of all types of terrazzo floors whether conventional or thin-set variety.

Marble Finishers: Loading and unloading handling and distributing of marble materials including the mixing of all materials used for the installation of marble, such as cement underbeds for the floors, thin-set or epoxies including but not limited to plastic materials. Clean up and removal of all waster material of said work. Cleaning and grouting of all marble and slate, and all polishing of marble and slate floors.

Prevailing Wage Rate Skilled Crafts

Name of Union: Bricklayer Local 23 (Cleveland Zone 1 Tile Layer)

Change # : LCN01-2024ibLoc23ClevZone1TL

Craft : Bricklayer Effective Date : 05/01/2024 Last Posted : 05/01/2024

	BHR		Fringe Benefit Payments					Irrevocable Fund		Total PWR	Overtime Rate	
			H&W	Pension	App Tr.	Vac.	Annuity	Other	LECET (*)			MISC (*)
Classification												
Bricklayer Tile Layer	\$36.07		\$9.20	\$2.43	\$0.76	\$0.00	\$7.10	\$0.00	\$0.00	\$0.00	\$55.56	\$73.60
Apprentice	Percent											
1st 30 days	60.00	\$21.64	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$21.64	\$32.46
1st 6 months	60.00	\$21.64	\$9.20	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$30.84	\$41.66
2nd 6 months	65.00	\$23.45	\$9.20	\$2.43	\$0.76	\$0.00	\$7.10	\$0.00	\$0.00	\$0.00	\$42.94	\$54.66
3rd 6 months	70.00	\$25.25	\$9.20	\$2.43	\$0.76	\$0.00	\$7.10	\$0.00	\$0.00	\$0.00	\$44.74	\$57.36
4th 6 months	75.00	\$27.05	\$9.20	\$2.43	\$0.76	\$0.00	\$7.10	\$0.00	\$0.00	\$0.00	\$46.54	\$60.07
5th 6 months	80.00	\$28.86	\$9.20	\$2.43	\$0.76	\$0.00	\$7.10	\$0.00	\$0.00	\$0.00	\$48.35	\$62.77
6th 6 months	85.00	\$30.66	\$9.20	\$2.43	\$0.76	\$0.00	\$7.10	\$0.00	\$0.00	\$0.00	\$50.15	\$65.48
7th 6 months	90.00	\$32.46	\$9.20	\$2.43	\$0.76	\$0.00	\$7.10	\$0.00	\$0.00	\$0.00	\$51.95	\$68.18
8th 6 months	95.00	\$34.27	\$9.20	\$2.43	\$0.76	\$0.00	\$7.10	\$0.00	\$0.00	\$0.00	\$53.76	\$70.89

Special Calculation Note : Classification title contains "Bricklayer" because contract originates within the Bricklayer Local.

Note that the classification description is clarified after the local union number at the top of the page.

Ratio :

- 1-4 Journeymen to 1 Apprentice
- 5-10 Journeymen to 2 Apprentice
- 11-16 Journeymen to 3 Apprentice

Jurisdiction (* denotes special jurisdictional note) :

- ASHTABULA, CUYAHOGA, GEAUGA, LAKE, LORAIN, MEDINA

Special Jurisdictional Note :

Details :

Prevailing Wage Rate Skilled Crafts

Name of Union: Bricklayer Local 23 (Cleveland Zone 1 Tile Finisher)

Change # : LCN01-2024ibLoc23ClevZone1TF

Craft : Bricklayer Effective Date : 05/01/2024 Last Posted : 05/01/2024

	BHR		Fringe Benefit Payments					Irrevocable Fund		Total PWR	Overtime Rate	
			H&W	Pension	App Tr.	Vac.	Annuity	Other	LECET (*)			MISC (*)
Classification												
Bricklayer Tile Finisher	\$31.50		\$9.20	\$1.35	\$0.68	\$0.00	\$5.00	\$0.00	\$0.00	\$0.00	\$47.73	\$63.48
Apprentice Tile Finishers	Percent											
1st 6 months	60.00	\$18.90	\$9.20	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$28.10	\$37.55
2nd 6 months	70.00	\$22.05	\$9.20	\$1.35	\$0.68	\$0.00	\$5.00	\$0.00	\$0.00	\$0.00	\$38.28	\$49.30
3rd 6 months	75.00	\$23.62	\$9.20	\$1.35	\$0.68	\$0.00	\$5.00	\$0.00	\$0.00	\$0.00	\$39.86	\$51.67
4th 6 months	80.00	\$25.20	\$9.20	\$1.35	\$0.68	\$0.00	\$5.00	\$0.00	\$0.00	\$0.00	\$41.43	\$54.03
5th 6 months	85.02	\$26.78	\$9.20	\$1.35	\$0.68	\$0.00	\$5.00	\$0.00	\$0.00	\$0.00	\$43.01	\$56.40
6th 6 months	90.00	\$28.35	\$9.20	\$1.35	\$0.68	\$0.00	\$5.00	\$0.00	\$0.00	\$0.00	\$44.58	\$58.76

Special Calculation Note :

Ratio :

1-4 Journeymen to 1 Apprentice
 5-10 Journeymen to 2 Apprentice
 11-16 Journeymen to 3 Apprentice

Jurisdiction (* denotes special jurisdictional note) :

ASHTABULA, CUYAHOGA, GEAUGA, LAKE, LORAIN, MEDINA

Special Jurisdictional Note :

Details :

Tile Finishers:do all the cleaning, acid washing,grouting,by any methods or means. Also unpacking of all tiles,opening of all mastic containers,mixing of all mortar,thin-set and epoxy materials,also the distribution of it. They shall handle and distribute all materials such as sand,cement,lime,tile,all types of tile panels,prefabricated tile units, plastic materials and protective covering of all tile.Clean up and removal of always used in connection of said work.

Prevailing Wage Rate Skilled Crafts

Name of Union: Bricklayer Local 23 Heavy Hwy (A)

Change # : LCN01-2024ibLoc23HevHwyA

Craft : Bricklayer Effective Date : 06/05/2024 Last Posted : 06/05/2024

	BHR		Fringe Benefit Payments					Irrevocable Fund		Total PWR	Overtime Rate	
			H&W	Pension	App Tr.	Vac.	Annuity	Other	LECET (*)			MISC (*)
Classification												
Cement Mason Bricklayer Sewer Water Works A	\$33.39		\$10.00	\$9.53	\$0.53	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$53.45	\$70.14
Apprentice	Percent											
1st year	70.00	\$23.37	\$10.00	\$9.53	\$0.53	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$43.43	\$55.12
2nd year	80.00	\$26.71	\$10.00	\$9.53	\$0.53	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$46.77	\$60.13
3rd year	90.00	\$30.05	\$10.00	\$9.53	\$0.53	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$50.11	\$65.14

Special Calculation Note : NOT FOR BUILDING CONSTRUCTION.

Ratio :

- 3 Journeymen to 1 Apprentice
- 6 Journeymen to 2 Apprentice
- 9 Journeymen to 3 Apprentice
- 12 Journeymen to 4 Apprentice
- 15 Journeymen to 5 Apprentice

Jurisdiction (* denotes special jurisdictional note) :

- ADAMS, ALLEN, ASHLAND, ASHTABULA, ATHENS, AUGLAIZE, BELMONT, BROWN, BUTLER, CARROLL, CHAMPAIGN, CLARK, CLERMONT, CLINTON, COLUMBIANA, COSHOCTON, CRAWFORD, CUYAHOGA, DARKE, DEFIANCE, DELAWARE, ERIE, FAIRFIELD, FAYETTE, FRANKLIN, FULTON, GALLIA, GEauga, GREENE, GUERNSEY, HAMILTON, HANCOCK, HARDIN, HARRISON, HENRY, HIGHLAND, HOCKING, HOLMES, HURON, JACKSON, JEFFERSON, KNOX, LAKE, LAWRENCE, LICKING, LOGAN, LORAIN, LUCAS, MADISON, MAHONING, MARION, MEDINA, MEIGS, MERCER, MIAMI, MONROE, MONTGOMERY, MORGAN, MORROW, MUSKINGUM, NOBLE, OTTAWA, PAULDING, PERRY, PICKAWAY, PIKE, PORTAGE, PREBLE, PUTNAM, RICHLAND, ROSS, SANDUSKY, SCIOTO, SENECA, SHELBY, STARK, SUMMIT, TRUMBULL, TUSCARAWAS, UNION, VAN WERT, VINTON, WARREN, WASHINGTON, WAYNE

Special Jurisdictional Note :

Details :

(A) Highway Construction, Sewer, Waterworks And Utility Construction, Industrial & Building Site Heavy Construction, Airport Construction Or Railroad Construction Work.

(B) Power Plant, Tunnels, Amusement Park, Athletic Stadium Site Work ,Pollution Control,Sewer Plant, Waste Plant, & Water Treatment Facilities, Construction.

Prevailing Wage Rate Skilled Crafts

Name of Union: Bricklayer Local 23 Heavy Hwy (B)

Change # : LCN01-2024ibLoc23HevHwyB

Craft : Bricklayer Effective Date : 06/05/2024 Last Posted : 06/05/2024

	BHR		Fringe Benefit Payments					Irrevocable Fund		Total PWR	Overtime Rate	
			H&W	Pension	App Tr.	Vac.	Annuity	Other	LECET (*)			MISC (*)
Classification												
Cement Mason Bricklayer Power Plants Tunnels Amusement Parks B	\$34.39		\$10.00	\$9.52	\$0.54	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$54.45	\$71.65
Apprentice	Percent											
1st year	70.00	\$24.07	\$10.00	\$9.52	\$0.54	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$44.13	\$56.17
2nd year	80.00	\$27.51	\$10.00	\$9.52	\$0.54	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$47.57	\$61.33
3rd year	90.00	\$30.95	\$10.00	\$9.52	\$0.54	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$51.01	\$66.49

Special Calculation Note : NOT FOR BUILDING CONSTRUCTION.

Ratio :

- 3 Journeymen to 1 Apprentice
- 6 Journeymen to 2 Apprentice
- 9 Journeymen to 2 Apprentice
- 12 Journeymen to 4 Apprentice
- 15 Journeymen to 5 Apprentice

Jurisdiction (* denotes special jurisdictional note) :

- ADAMS, ALLEN, ASHLAND, ASHTABULA,
- ATHENS, AUGLAIZE, BELMONT, BROWN,
- BUTLER, CARROLL, CHAMPAIGN, CLARK,
- CLERMONT, CLINTON, COLUMBIANA,
- COSHOCTON, CRAWFORD, CUYAHOGA, DARKE,
- DEFIANCE, DELAWARE, ERIE, FAIRFIELD,
- FAYETTE, FRANKLIN, FULTON, GALLIA,
- GEAUGA, GREENE, GUERNSEY, HAMILTON,
- HANCOCK, HARDIN, HARRISON, HENRY,
- HIGHLAND, HOCKING, HOLMES, HURON,
- JACKSON, JEFFERSON, KNOX, LAKE,
- LAWRENCE, LICKING, LOGAN, LORAIN, LUCAS,
- MADISON, MAHONING, MARION, MEDINA,
- MEIGS, MERCER, MIAMI, MONROE,
- MONTGOMERY, MORGAN, MORROW,
- MUSKINGUM, NOBLE, OTTAWA, PAULDING,
- PERRY, PICKAWAY, PIKE, PORTAGE, PREBLE,
- PUTNAM, RICHLAND, ROSS, SANDUSKY,
- SCIOTO, SENECA, SHELBY, STARK, SUMMIT,

TRUMBULL, TUSCARAWAS, UNION, VAN WERT,
VINTON, WARREN, WASHINGTON, WAYNE

Special Jurisdictional Note :

Details :

(A) Highway Construction, Sewer, Waterworks And Utility Construction, Industrial & Building Site Heavy Construction, Airport Construction Or Railroad Construction Work.

(B) Power Plant, Tunnels, Amusement Park, Athletic Stadium Site Work ,Pollution Control,Sewer Plant, Waste Plant, & Water Treatment Facilities, Construction.

Prevailing Wage Rate Skilled Crafts

Name of Union: Bricklayer Local 36 Zone 1 Tile Finisher

Change # : LCN01-2022sksLoc5

Craft : Bricklayer Effective Date : 05/18/2022 Last Posted : 05/18/2022

	BHR		Fringe Benefit Payments					Irrevocable Fund		Total PWR	Overtime Rate	
			H&W	Pension	App Tr.	Vac.	Annuity	Other	LECET (*)			MISC (*)
Classification												
Bricklayer Tile Finisher	\$29.48		\$8.95	\$1.35	\$0.65	\$0.00	\$4.50	\$0.00	\$0.00	\$0.00	\$44.93	\$59.67
Apprentice Tile Finishers	Percent											
1st 6 months	60.00	\$17.69	\$8.95	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$26.64	\$35.48
2nd 6 months	70.00	\$20.64	\$8.95	\$1.35	\$0.65	\$0.00	\$4.50	\$0.00	\$0.00	\$0.00	\$36.09	\$46.40
3rd 6 months	75.00	\$22.11	\$8.95	\$1.35	\$0.65	\$0.00	\$4.50	\$0.00	\$0.00	\$0.00	\$37.56	\$48.61
4th 6 months	80.00	\$23.58	\$8.95	\$1.35	\$0.65	\$0.00	\$4.50	\$0.00	\$0.00	\$0.00	\$39.03	\$50.83
5th 6 months	85.00	\$25.06	\$8.95	\$1.35	\$0.65	\$0.00	\$4.50	\$0.00	\$0.00	\$0.00	\$40.51	\$53.04
6th 6 months	90.00	\$26.53	\$8.95	\$1.35	\$0.65	\$0.00	\$4.50	\$0.00	\$0.00	\$0.00	\$41.98	\$55.25

Special Calculation Note :

Ratio :

1-4 Journeymen to 1 Apprentice
 5-10 Journeymen to 2 Apprentice
 11-16 Journeymen to 3 Apprentice

Jurisdiction (* denotes special jurisdictional note) :

ASHTABULA, CUYAHOGA, GEAUGA, LAKE,
 LORAIN, MEDINA

Special Jurisdictional Note :

Details :

Tile Finishers:do all the cleaning, acid washing,grouting,by any methods or means. Also unpacking of all tiles,opening of all mastic containers,mixing of all mortar,thin-set and epoxy materials,also the distribution of it. They shall handle and distribute all materials such as sand,cement,lime,tile,all types of tile panels,prefabricated tile units, plastic materials and protective covering of all tile.Clean up and removal of always used in connection of said work.

Prevailing Wage Rate Skilled Crafts

Name of Union: Bricklayer Local 36 Zone 1 Tile Layer

Change # : LCN01-2022sksLoc36

Craft : Bricklayer Effective Date : 05/18/2022 Last Posted : 05/18/2022

	BHR		Fringe Benefit Payments					Irrevocable Fund		Total PWR	Overtime Rate	
			H&W	Pension	App Tr.	Vac.	Annuity	Other	LECET (*)			MISC (*)
Classification												
Bricklayer Tile Layer	\$33.60		\$8.95	\$2.43	\$0.73	\$0.00	\$6.60	\$0.00	\$0.00	\$0.00	\$52.31	\$69.11
Apprentice	Percent											
1st 30 days	60.00	\$20.16	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$20.16	\$30.24
1st 6 months	60.00	\$20.16	\$8.95	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$29.11	\$39.19
2nd 6 months	65.00	\$21.84	\$8.95	\$2.43	\$0.73	\$0.00	\$6.60	\$0.00	\$0.00	\$0.00	\$40.55	\$51.47
3rd 6 months	70.00	\$23.52	\$8.95	\$2.43	\$0.73	\$0.00	\$6.60	\$0.00	\$0.00	\$0.00	\$42.23	\$53.99
4th 6 months	75.00	\$25.20	\$8.95	\$2.43	\$0.73	\$0.00	\$6.60	\$0.00	\$0.00	\$0.00	\$43.91	\$56.51
5th 6 months	80.00	\$26.88	\$8.95	\$2.43	\$0.73	\$0.00	\$6.60	\$0.00	\$0.00	\$0.00	\$45.59	\$59.03
6th 6 months	85.00	\$28.56	\$8.95	\$2.43	\$0.73	\$0.00	\$6.60	\$0.00	\$0.00	\$0.00	\$47.27	\$61.55
7th 6 months	90.00	\$30.24	\$8.95	\$2.43	\$0.73	\$0.00	\$6.60	\$0.00	\$0.00	\$0.00	\$48.95	\$64.07
8th 6 months	95.00	\$31.92	\$8.95	\$2.43	\$0.73	\$0.00	\$6.60	\$0.00	\$0.00	\$0.00	\$50.63	\$66.59

Special Calculation Note : Classification title contains "Bricklayer" because contract originates within the Bricklayer Local.

Note that the classification description is clarified after the local union number at the top of the page.

Ratio :

- 1-4 Journeymen to 1 Apprentice
- 5-10 Journeymen to 2 Apprentice
- 11-16 Journeymen to 3 Apprentice

Jurisdiction (* denotes special jurisdictional note) :

- ASHTABULA, CUYAHOGA, GEAUGA, LAKE, LORAIN, MEDINA

Special Jurisdictional Note :

Details :

Prevailing Wage Rate Skilled Crafts

Name of Union: Bricklayer Local 5

Change # : LCN01-2021fbLoc5

Craft : Bricklayer Effective Date : 06/01/2021 Last Posted : 04/28/2021

	BHR		Fringe Benefit Payments					Irrevocable Fund		Total PWR	Overtime Rate	
			H&W	Pension	App Tr.	Vac.	Annuity	Other	LECET (*)			MISC (*)
Classification												
Bricklayer	\$36.62		\$8.59	\$9.45	\$0.76	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$55.42	\$73.73
Stone Mason	\$36.62		\$8.59	\$9.45	\$0.76	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$55.42	\$73.73
Pointer Caulker Cleaner	\$36.62		\$8.59	\$9.45	\$0.76	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$55.42	\$73.73
Marble Mason	\$36.62		\$8.59	\$9.45	\$0.76	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$55.42	\$73.73
Terrazzo Worker	\$36.62		\$8.59	\$9.45	\$0.76	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$55.42	\$73.73
Cement Mason	\$36.62		\$8.59	\$9.45	\$0.76	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$55.42	\$73.73
Sandblaster	\$36.87		\$8.59	\$9.45	\$0.76	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$55.67	\$74.10
Sewer Stack	\$37.12		\$8.59	\$9.45	\$0.76	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$55.92	\$74.48
Swing Scaffold	\$37.62		\$8.59	\$9.45	\$0.76	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$56.42	\$75.23
Masonry Maintenance Specialist	\$18.31		\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$18.31	\$27.46
Apprentice	Percent											
1st 6 Months	60.00	\$21.97	\$8.59	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$30.56	\$41.55
2nd 6 Months	65.00	\$23.80	\$8.59	\$9.45	\$0.76	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$42.60	\$54.50
3rd 6 Months	70.00	\$25.63	\$8.59	\$9.45	\$0.76	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$44.43	\$57.25
4th 6 Months	75.00	\$27.46	\$8.59	\$9.45	\$0.76	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$46.26	\$60.00
5th 6 Months	80.00	\$29.30	\$8.59	\$9.45	\$0.76	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$48.10	\$62.74
6th 6 Months	85.00	\$31.13	\$8.59	\$9.45	\$0.76	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$49.93	\$65.49
7th 6 Months	90.00	\$32.96	\$8.59	\$9.45	\$0.76	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$51.76	\$68.24
8th 6	95.00	\$34.79	\$8.59	\$9.45	\$0.76	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$53.59	\$70.98

Months												
TRAINEES 1st 90 Days	45.00	\$16.48	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$16.48	\$24.72
1st Year AFTER 90 Days	45.00	\$16.48	\$8.59	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$25.07	\$33.31
2nd Year	50.00	\$18.31	\$8.59	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$26.90	\$36.05

Special Calculation Note :

Ratio :

- 1-2 Journeyman to 1 Apprentice 1 Trainee
- 3-4 Journeyman to 2 Apprentices 1 Trainee
- 5-6 Journeyman to 2 Apprentices 2 Trainees
- 6-10 Journeyman to 3 Apprentices 2 Trainees

Jurisdiction (* denotes special jurisdictional note) :

CUYAHOGA, LORAIN, MEDINA

Special Jurisdictional Note : Apprentice must be hired prior to hiring Mason Trainees

Details :

Masonry Maintenance Specialist * * - in partnership with a local education organization employer may employ School to Work students providing said employee is a full time student and that no conflicts exist with any Federal or State Laws. Employer must be party to an apprentice program duly registered with the DOL and Ohio State Apprentice Compliance (OSAC). Wages for Masonry Maintenance Specialist shall be fifty-five percent (55%) of the journeyman base rate with no fringe benefits.

Prevailing Wage Rate Skilled Crafts

Name of Union: **Bricklayer Local 5 Marble Mason**

Change # : **LCN01-2022sksLoc5**

Craft : **Bricklayer** Effective Date : **06/01/2022** Last Posted : **06/01/2022**

	BHR		Fringe Benefit Payments					Irrevocable Fund		Total PWR	Overtime Rate	
			H&W	Pension	App Tr.	Vac.	Annuity	Other	LECET (*)			MISC (*)
Classification												
Bricklayer Horizontal Marble Mason	\$25.91		\$9.70	\$9.45	\$0.66	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$45.72	\$58.67
Masonry Maintenance Specialist	\$12.96		\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$12.96	\$19.44
Apprentice	Percent											
1st 6 Months	60.00	\$15.55	\$9.70	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$25.25	\$33.02
2nd 6 Months	65.00	\$16.84	\$9.70	\$1.60	\$0.66	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$28.80	\$37.22
3rd 6 Months	70.00	\$18.14	\$9.70	\$9.45	\$0.66	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$37.95	\$47.02
4th 6 Months	75.00	\$19.43	\$9.70	\$9.45	\$0.66	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$39.24	\$48.96
5th 6 Months	80.00	\$20.73	\$9.70	\$9.45	\$0.66	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$40.54	\$50.90
6th 6 Months	85.00	\$22.02	\$9.70	\$9.45	\$0.66	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$41.83	\$52.85
MASON TRAINEES												
1st 90 Days	45.00	\$11.66	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$11.66	\$17.49
1st year after 90 Days	45.00	\$11.66	\$9.70	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$21.36	\$27.19
2nd Year	50.00	\$12.96	\$9.70	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$22.66	\$29.13

Special Calculation Note : No special calculations for this skilled craft wage rate are required at this time.

Classification title contains "Bricklayer" because contract originates within the Bricklayer Local.

Ratio :

1-2 Journeyman to 1 Apprentice
3-4 Journeyman to 2 Apprentices
5-6 Journeyman to 2 Apprentices
6-10 Journeyman to 3 Apprentices

1 Apprentice permits 1 Mason Trainee
2 Apprentice permits 1 Mason Trainee
3 Apprentice permits 2 Mason Trainee
4 Apprentice permits 2 Mason Trainee

Special Jurisdictional Note :**Details :**

In the mutual interest of both Employer and Union and to promote the masonry industry, it is agreed that the Employer may work with the Union and the Local Educational Partners in the jurisdiction of this agreement to employ School to work students provided that no conflicts exist with any Federal or State Laws. Employer must be party to a bonified Apprenticeship and Training program registered with the State of Ohio (OSAC). It is further agreed by both parties that the wages for the Masonry Maintenance Specialist shall be forty-five percent (45%) of the journeyman rate with no fringe benefits or as specified by the Local Educational Partner in the jurisdiction of the agreement.

Jurisdiction (* denotes special jurisdictional note) :

ASHTABULA, CUYAHOGA, GEAUGA, LAKE,
LORAIN, MEDINA, PORTAGE, SUMMIT

Prevailing Wage Rate Skilled Crafts

Name of Union: Bricklayer Local 5 Tile & Marble Finisher

Change # : LCN01-2022sksLoc5

Craft : Bricklayer Effective Date : 05/18/2022 Last Posted : 05/18/2022

	BHR		Fringe Benefit Payments					Irrevocable Fund		Total PWR	Overtime Rate	
			H&W	Pension	App Tr.	Vac.	Annuity	Other	LECET (*)			MISC (*)
Classification												
Bricklayer Tile Marble Finisher	\$29.43		\$9.70	\$5.15	\$0.65	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$44.93	\$59.64
Apprentice Tile Marble Finishers												
Percent												
1st 6 months	60.00	\$17.66	\$9.70	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$27.36	\$36.19
2nd 6 months	70.00	\$20.60	\$9.70	\$5.15	\$0.65	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$36.10	\$46.40
3rd 6 months	75.00	\$22.07	\$9.70	\$5.15	\$0.65	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$37.57	\$48.61
4th 6 months	80.00	\$23.54	\$9.70	\$5.15	\$0.65	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$39.04	\$50.82
5th 6 months	85.00	\$25.02	\$9.70	\$5.15	\$0.65	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$40.52	\$53.02
6th 6 months	90.00	\$26.49	\$9.70	\$5.15	\$0.65	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$41.99	\$55.23

Special Calculation Note : Classification title contains "Bricklayer" because contract originates within the Bricklayer Local.

Note that the classification description is clarified after the local union number at the top of the page.

Ratio :

- 1-2 Journeymen to 1 Apprentice
- 3- 4 Journeymen to 2 Apprentice
- 5-6 Journeymen to 3 Apprentice
- 7-8 Journeymen to 4 Apprentice

Jurisdiction (* denotes special jurisdictional note) :

ASHTABULA, CUYAHOGA, GEAUGA, LAKE, LORAIN, MEDINA, PORTAGE, SUMMIT

Special Jurisdictional Note :

Details :

Tile Finishers:do all the cleaning, acid washing,grouting,by any methods or means. Also unpacking of all tiles,opening of all mastic containers,mixing of all mortar,thin-set and epoxy materials,also the distribution of it. They shall handle

and distribute all materials such as sand,cement,lime,tile,all types of tile panels,prefabricated tile units, plastic materials and protective covering of all tile.Clean up and removal of always used in connection of said work.

Terrazzo Finishers:Assisting in grinding, and handling of material whether by hand or wheel barrow, or power buggies, including sand Portland cement, resinous cement and admixtures, aggregates of marble, stone or other compositions, bonding adhesives, sealers, waxes, and coatings used for Terrazzo Mosaic work, preparing, mixing by hand or machine, and distributing (spreading) all kinds of underbed or underlayment necessary and all scratch coat used for terrazzo and mosaic work. Also the rubbing, grinding, cleaning, sealing and polishing same either by hand or machine. will assist in the installation of the sand bed, tar paper, wire lath, divider strips, and rolling procedures and acid etching of all concrete floors that require it before installation. Shall handle all materials and assist in the installation of all types of terrazzo floors whether conventional or thin-set variety.

Marble Finishers:Loading and unloading handling and distributing of marble materials including the mixing of all materials used for the installation of marble, such as cement underbeds for the floors, thin-set or epoxies including but not limited to plastic materials. Clean up and removal of all waster material of said work. Cleaning and grouting of all marble and slate, and all polishing of marble and slate floors.

Prevailing Wage Rate Skilled Crafts

Name of Union: Bricklayer Local 5 Terrazzo Finisher

Change # : LCN01-2022sksLoc5

Craft : Bricklayer Effective Date : 05/18/2022 Last Posted : 05/18/2022

	BHR		Fringe Benefit Payments					Irrevocable Fund		Total PWR	Overtime Rate	
			H&W	Pension	App Tr.	Vac.	Annuity	Other	LECET (*)			MISC (*)
Classification												
Bricklayer Terrazzo Finisher	\$29.43		\$9.70	\$5.15	\$0.65	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$44.93	\$59.64
Apprentice Terrazzo Finishers												
Percent												
1st 6 months	60.00	\$17.66	\$9.70	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$27.36	\$36.19
2nd 6 months	70.00	\$20.60	\$9.70	\$5.15	\$0.65	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$36.10	\$46.40
3rd 6 months	75.00	\$22.07	\$9.70	\$5.15	\$0.65	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$37.57	\$48.61
4th 6 months	80.00	\$23.54	\$9.70	\$5.15	\$0.65	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$39.04	\$50.82
5th 6 months	85.00	\$25.02	\$9.70	\$5.15	\$0.65	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$40.52	\$53.02
6th 6 months	90.00	\$26.49	\$9.70	\$5.15	\$0.65	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$41.99	\$55.23

Special Calculation Note : Classification title contains "Bricklayer" because contract originates within the Bricklayer Local.

Note that the classification description is clarified after the local union number at the top of the page.

Ratio :

- 1-2 Journeymen to 1 Apprentice
- 3- 4 Journeymen to 2 Apprentices
- 5- 6 Journeymen to 3 Apprentices
- 7- 8 Journeymen to 4 Apprentices

Jurisdiction (* denotes special jurisdictional note) :

ASHTABULA, CUYAHOGA, GEAUGA, LAKE, LORAIN, MEDINA, PORTAGE, SUMMIT

Special Jurisdictional Note :

Details :

Tile Finishers:do all the cleaning, acid washing,grouting,by any methods or means. Also unpacking of all tiles,opening of all mastic containers,mixing of all mortar,thin-set and epoxy materials,also the distribution of it. They shall handle and distribute all materials such as sand,cement,lime,tile,all types of tile panels,prefabricated tile units, plastic materials

and protective covering of all tile. Clean up and removal of always used in connection of said work.

Terrazzo Finishers:Assisting in grinding, and handling of material whether by hand or wheel barrow, or power buggies, including sand Portland cement, resinous cement and admixtures, aggregates of marble, stone or other compositions, bonding adhesives, sealers, waxes, and coatings used for Terrazzo Mosaic work, preparing, mixing by hand or machine, and distributing (spreading) all kinds of underbed or underlayment necessary and all scratch coat used for terrazzo and mosaic work. Also the rubbing, grinding, cleaning, sealing and polishing same either by hand or machine. will assist in the installation of the sand bed, tar paper, wire lath, divider strips, and rolling procedures and acid etching of all concrete floors that require it before installation. Shall handle all materials and assist in the installation of all types of terrazzo floors whether conventional or thin-set variety.

Marble Finishers:Loading and unloading handling and distributing of marble materials including the mixing of all materials used for the installation of marble, such as cement underbeds for the floors, thin-set or epoxies including but not limited to plastic materials. Clean up and removal of all waster material of said work. Cleaning and grouting of all marble and slate, and all polishing of marble and slate floors.

Prevailing Wage Rate Skilled Crafts

Name of Union: Carpenter Commercial Zone NEO 1C

Change # : LCN01-2024ibLocNEZone1C

Craft : Carpenter Effective Date : 08/07/2024 Last Posted : 08/07/2024

	BHR		Fringe Benefit Payments					Irrevocable Fund		Total PWR	Overtime Rate	
			H&W	Pension	App Tr.	Vac.	Annuity	Other	LECET (*)			MISC (*)
Classification												
Carpenter	\$37.55		\$8.20	\$10.83	\$0.62	\$0.00	\$2.91	\$0.14	\$0.00	\$0.00	\$60.25	\$79.02
Apprentice	Percent											
1st 3 Months	60.00	\$22.53	\$8.20	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$30.73	\$41.99
2nd 3 Months	60.00	\$22.53	\$8.20	\$0.00	\$0.62	\$0.00	\$2.91	\$0.14	\$0.00	\$0.00	\$34.40	\$45.66
2nd 6 Months	65.00	\$24.41	\$8.20	\$0.00	\$0.62	\$0.00	\$2.91	\$0.14	\$0.00	\$0.00	\$36.28	\$48.48
3rd 6 Months	70.00	\$26.28	\$8.20	\$0.00	\$0.62	\$0.00	\$2.91	\$0.14	\$0.00	\$0.00	\$38.16	\$51.30
4th 6 Months	75.00	\$28.16	\$8.20	\$0.00	\$0.62	\$0.00	\$2.91	\$0.14	\$0.00	\$0.00	\$40.03	\$54.11
5th 6 Months	80.00	\$30.04	\$8.20	\$8.66	\$0.62	\$0.00	\$2.91	\$0.14	\$0.00	\$0.00	\$50.57	\$65.59
6th 6 Months	85.00	\$31.92	\$8.20	\$9.21	\$0.62	\$0.00	\$2.91	\$0.14	\$0.00	\$0.00	\$53.00	\$68.96
7th 6 Months	90.00	\$33.80	\$8.20	\$9.75	\$0.62	\$0.00	\$2.91	\$0.14	\$0.00	\$0.00	\$55.42	\$72.31
8th 6 Months	95.00	\$35.67	\$8.20	\$10.29	\$0.62	\$0.00	\$2.91	\$0.14	\$0.00	\$0.00	\$57.83	\$75.67

Special Calculation Note : *Other is International Training

Ratio :

1 Journeymen to 1 Apprentice

Jurisdiction (* denotes special jurisdictional note) :

LORAIN

Special Jurisdictional Note :

Details :

Prevailing Wage Rate Skilled Crafts

Name of Union: Carpenter Commercial NE Zone 1B

Change # : OCR01-2022sksLocNEZone1B

Craft : Carpenter Effective Date : 06/15/2022 Last Posted : 06/15/2022

	BHR		Fringe Benefit Payments					Irrevocable Fund		Total PWR	Overtime Rate	
			H&W	Pension	App Tr.	Vac.	Annuity	Other	LECET (*)			MISC (*)
Classification												
Carpenter	\$33.46		\$7.85	\$10.83	\$0.50	\$0.00	\$1.69	\$0.12	\$0.00	\$0.00	\$54.45	\$71.18
Apprentice	Percent											
1st 3 Months	60.00	\$20.08	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$20.08	\$30.11
2nd 3 Months	60.00	\$20.08	\$7.85	\$0.00	\$0.50	\$0.00	\$0.00	\$0.12	\$0.00	\$0.00	\$28.55	\$38.58
2nd 6 Months	60.00	\$20.08	\$7.85	\$0.00	\$0.50	\$0.00	\$0.00	\$0.12	\$0.00	\$0.00	\$28.55	\$38.58
3rd 6 Months	60.00	\$20.08	\$7.85	\$0.00	\$0.50	\$0.00	\$0.00	\$0.12	\$0.00	\$0.00	\$28.55	\$38.58
4th 6 Months	60.00	\$20.08	\$7.85	\$0.00	\$0.50	\$0.00	\$0.00	\$0.12	\$0.00	\$0.00	\$28.55	\$38.58
5th 6 Months	70.00	\$23.42	\$7.85	\$7.58	\$0.50	\$0.00	\$1.18	\$0.12	\$0.00	\$0.00	\$40.65	\$52.36
6th 6 Months	75.02	\$25.10	\$7.85	\$8.12	\$0.50	\$0.00	\$1.27	\$0.12	\$0.00	\$0.00	\$42.96	\$55.51
7th 6 Months	80.00	\$26.77	\$7.85	\$8.66	\$0.50	\$0.00	\$1.35	\$0.12	\$0.00	\$0.00	\$45.25	\$58.63
8th 6 Months	85.00	\$28.44	\$7.85	\$9.21	\$0.50	\$0.00	\$1.44	\$0.12	\$0.00	\$0.00	\$47.56	\$61.78

Special Calculation Note : *Other is International Training

Ratio :

2 Journeymen to 1 Apprentice

Jurisdiction (* denotes special jurisdictional note) :

LORAIN

Special Jurisdictional Note :

Details :

Prevailing Wage Rate Skilled Crafts

Name of Union: Carpenter Floorlayer Zone NEO 1C

Change # : LCN01-2024ibLocNEZone1C

Craft : Carpenter Effective Date : 08/07/2024 Last Posted : 08/07/2024

	BHR		Fringe Benefit Payments					Irrevocable Fund		Total PWR	Overtime Rate	
			H&W	Pension	App Tr.	Vac.	Annuity	Other	LECET (*)			MISC (*)
Classification												
Carpenter Floorlayer	\$37.55		\$8.20	\$10.83	\$0.62	\$0.00	\$2.91	\$0.16	\$0.00	\$0.00	\$60.27	\$79.04
Apprentice	Percent											
1st 3 Months	60.00	\$22.53	\$8.20	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$30.73	\$41.99
2nd 3 Months	60.00	\$22.53	\$8.20	\$0.00	\$0.62	\$0.00	\$2.91	\$0.16	\$0.00	\$0.00	\$34.42	\$45.68
2nd 6 Months	65.00	\$24.41	\$8.20	\$0.00	\$0.62	\$0.00	\$2.91	\$0.16	\$0.00	\$0.00	\$36.30	\$48.50
3rd 6 Months	70.02	\$26.29	\$8.20	\$0.00	\$0.62	\$0.00	\$2.91	\$0.16	\$0.00	\$0.00	\$38.18	\$51.33
4th 6 Months	75.00	\$28.16	\$8.20	\$0.00	\$0.62	\$0.00	\$2.91	\$0.16	\$0.00	\$0.00	\$40.05	\$54.13
5th 6 Months	80.00	\$30.04	\$8.20	\$8.66	\$0.62	\$0.00	\$2.91	\$0.16	\$0.00	\$0.00	\$50.59	\$65.61
6th 6 Months	85.00	\$31.92	\$8.20	\$9.21	\$0.62	\$0.00	\$2.91	\$0.16	\$0.00	\$0.00	\$53.02	\$68.98
7th 6 Months	90.00	\$33.80	\$8.20	\$9.75	\$0.62	\$0.00	\$2.91	\$0.16	\$0.00	\$0.00	\$55.44	\$72.33
8th 6 Months	95.00	\$35.67	\$8.20	\$10.29	\$0.62	\$0.00	\$2.91	\$0.16	\$0.00	\$0.00	\$57.85	\$75.69

Special Calculation Note : *Other is International Training

Ratio :

1 Journeymen to 1 Apprentice

Jurisdiction (* denotes special jurisdictional note) :

LORAIN

Special Jurisdictional Note :

Details :

Prevailing Wage Rate

Skilled Crafts

Name of Union: Carpenter Floorlayer NE Zone 1B

Change # : OCR02-2022sksLocNEZone1B

Craft : Carpenter Effective Date : 06/29/2022 Last Posted : 06/29/2022

	BHR		Fringe Benefit Payments					Irrevocable Fund		Total PWR	Overtime Rate	
			H&W	Pension	App Tr.	Vac.	Annuity	Other	LECET (*)			MISC (*)
Classification												
Carpenter Floorlayer	\$33.46		\$7.85	\$10.83	\$0.50	\$0.00	\$1.69	\$0.14	\$0.00	\$0.00	\$54.47	\$71.20
Apprentice	Percent											
1st 3 Months	60.00	\$20.08	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$20.08	\$30.11
2nd 3 Months	60.00	\$20.08	\$7.85	\$0.00	\$0.50	\$0.00	\$0.00	\$0.14	\$0.00	\$0.00	\$28.57	\$38.60
2nd 6 Months	60.00	\$20.08	\$7.85	\$0.00	\$0.50	\$0.00	\$0.00	\$0.14	\$0.00	\$0.00	\$28.57	\$38.60
3rd 6 Months	60.00	\$20.08	\$7.85	\$0.00	\$0.50	\$0.00	\$0.00	\$0.14	\$0.00	\$0.00	\$28.57	\$38.60
4th 6 Months	60.00	\$20.08	\$7.85	\$0.00	\$0.50	\$0.00	\$0.00	\$0.14	\$0.00	\$0.00	\$28.57	\$38.60
5th 6 Months	70.00	\$23.42	\$7.85	\$7.58	\$0.50	\$0.00	\$1.18	\$0.14	\$0.00	\$0.00	\$40.67	\$52.38
6th 6 Months	75.02	\$25.10	\$7.85	\$8.12	\$0.50	\$0.00	\$1.27	\$0.14	\$0.00	\$0.00	\$42.98	\$55.53
7th 6 Months	80.00	\$26.77	\$7.85	\$8.66	\$0.50	\$0.00	\$1.35	\$0.14	\$0.00	\$0.00	\$45.27	\$58.65
8th 6 Months	85.00	\$28.44	\$7.85	\$9.21	\$0.50	\$0.00	\$1.44	\$0.14	\$0.00	\$0.00	\$47.58	\$61.80

Special Calculation Note : *Other is International Training

Ratio :

2 Journeymen to 1 Apprentice

Jurisdiction (* denotes special jurisdictional note) :

LORAIN

Special Jurisdictional Note :

Details :

Prevailing Wage Rate Skilled Crafts

Name of Union: Carpenter Hev Hwy Zone NHH C1-D

Change # : LCN01-2024ibLocNEZoneNHH-C1-D

Craft : Carpenter Effective Date : 08/07/2024 Last Posted : 08/07/2024

	BHR		Fringe Benefit Payments					Irrevocable Fund		Total PWR	Overtime Rate	
			H&W	Pension	App Tr.	Vac.	Annuity	Other	LECET (*)			MISC (*)
Classification												
Carpenter	\$37.57		\$8.26	\$10.83	\$0.62	\$0.00	\$2.58	\$0.14	\$0.00	\$0.00	\$60.00	\$78.79
Apprentice	Percent											
1st 3 Months	60.00	\$22.54	\$8.26	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$30.80	\$42.07
2nd 3 Months	60.00	\$22.54	\$8.26	\$0.00	\$0.62	\$0.00	\$2.58	\$0.14	\$0.00	\$0.00	\$34.14	\$45.41
2nd 6 Months	65.00	\$24.42	\$8.26	\$0.00	\$0.62	\$0.00	\$2.58	\$0.14	\$0.00	\$0.00	\$36.02	\$48.23
3rd 6 Months	70.00	\$26.30	\$8.26	\$0.00	\$0.62	\$0.00	\$2.58	\$0.14	\$0.00	\$0.00	\$37.90	\$51.05
4th 6 Months	75.00	\$28.18	\$8.26	\$0.00	\$0.62	\$0.00	\$2.58	\$0.14	\$0.00	\$0.00	\$39.78	\$53.87
5th 6 Months	80.00	\$30.06	\$8.26	\$8.66	\$0.62	\$0.00	\$2.58	\$0.14	\$0.00	\$0.00	\$50.32	\$65.34
6th 6 Months	85.00	\$31.93	\$8.26	\$9.21	\$0.62	\$0.00	\$2.58	\$0.14	\$0.00	\$0.00	\$52.74	\$68.71
7th 6 Months	90.00	\$33.81	\$8.26	\$9.75	\$0.62	\$0.00	\$2.58	\$0.14	\$0.00	\$0.00	\$55.16	\$72.07
8th 6 Months	95.00	\$35.69	\$8.26	\$10.29	\$0.62	\$0.00	\$2.58	\$0.14	\$0.00	\$0.00	\$57.58	\$75.43

Special Calculation Note : Other: Training

Ratio :

1 Journeymen to 1 Apprentice

Jurisdiction (* denotes special jurisdictional note) :

LORAIN

Special Jurisdictional Note :

Details :

Any construction work as performed within the definitions listed here below, all of which, taken together are “Heavy-Highway Construction” work:

“HIGHWAY CONSTRUCTION” work is defined as work performed to provide a facility to accommodate vehicular or pedestrian traffic and includes, but is not limited to, the construction of all streets, roads,

expressways, turnpikes, bridges, drainage structures, grade separations, parking lots, rest areas, alleys, sidewalks, guardrails, fences, and sound barriers, but shall not include construction of buildings.

“AIRPORT CONSTRUCTION” work is defined as including site preparation, grading, paving, drainage, fences, sidewalks, driveways, parking areas and similar work incidental to the construction of airfields but shall not include the construction of buildings.

“HEAVY CONSTRUCTION” work is defined as including, but not limited to grade separations, foundations (does not include building foundations), abutments, retaining walls, shafts, tunnels, subways, elevators, drainage projects, flood control projects, reclamation projects, reservoirs, water supply projects, water development projects, hydro-electric development, utility transmission lines, including right-of-way clearing, locks, dams, dikes, levees, revetments, channels, channel cutoffs, intakes, dredging projects, jetties, breakwater, docks, harbors; and all municipal and utility construction except construction classified as building construction.

“RAILROAD CONSTRUCTION” work is defined as including, grading, drainage, placing of rails, crossties, ballast and the construction of bridges, and other incidentals for railroads, street railways construction projects and rapid transit system projects, but shall not include the construction of buildings.

“SEWER WATERWORKS AND UTILITY CONSTRUCTION” work is defined as including construction of all storm sewers, sanitary sewers, supplying and distributing waterlines, gas lines, telephone and television conduit, underground electrical lines, and similar utility construction. Main waterline and trunk sewers connecting water works and/or sewage disposal plants are included within this definition.

”SUPPORTIVE EXCAVATION AND DEEP FOUNDATIONS” work is all driven and drilled foundations within the building site.

“POWER PLANT SITE” work is defined as all work which is inside the property line, but outside the actual building construction. Such work shall include, but is not limited to, the grading and installation of sewer lines, drainage lines, gas lines, telephone and television conduit, underground electrical lines and similar utility construction, parking lots, bridges, roads, streets, sidewalks, reservoirs, ash pits, storage tanks, ramps and other such construction work performed on the work site, but shall not include the actual excavation for the buildings, foundations or footers or construction of the buildings.

“POLLUTION CONTROL, SEWAGE PLANT, WASTE PLANT AND WATER TREATMENT FACILITIES CONSTRUCTION” WORK shall be all work in construction of pumping stations, waste and sewage disposal plants, incinerator plants, water treatment plants, filtration plants, solid waste disposal and similar pollution control facilities.

“SOLAR & WIND FARM” WORK is considered “HEAVY CONSTRUCTION” and includes all work in the construction of solar fields/farms and wind fields/farms (not installations on buildings).

Prevailing Wage Rate Skilled Crafts

Name of Union: Carpenter Insulation NE Zone 1B

Change # : LCN01-2022sksLocNEZone1B

Craft : Carpenter Effective Date : 06/15/2022 Last Posted : 06/15/2022

	BHR		Fringe Benefit Payments					Irrevocable Fund		Total PWR	Overtime Rate	
			H&W	Pension	App Tr.	Vac.	Annuity	Other	LECET (*)			MISC (*)
Classification												
Carpenter Insulation	\$26.77		\$7.85	\$10.83	\$0.50	\$0.00	\$1.69	\$0.12	\$0.00	\$0.00	\$47.76	\$61.14
Apprentice	Percent											
1st 3 Months	50.00	\$13.39	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$13.39	\$20.08
2nd 3 Months	50.00	\$13.39	\$7.85	\$0.00	\$0.50	\$0.00	\$0.00	\$0.12	\$0.00	\$0.00	\$21.85	\$28.55
2nd 6 Months	50.00	\$13.39	\$7.85	\$0.00	\$0.50	\$0.00	\$0.00	\$0.12	\$0.00	\$0.00	\$21.85	\$28.55
3rd 6 Months	55.00	\$14.72	\$7.85	\$0.00	\$0.50	\$0.00	\$0.00	\$0.12	\$0.00	\$0.00	\$23.19	\$30.56
4th 6 Months	60.00	\$16.06	\$7.85	\$0.00	\$0.50	\$0.00	\$0.00	\$0.12	\$0.00	\$0.00	\$24.53	\$32.56
5th 6 Months	70.00	\$18.74	\$7.85	\$7.58	\$0.50	\$0.00	\$1.18	\$0.12	\$0.00	\$0.00	\$35.97	\$45.34
6th 6 Months	75.00	\$20.08	\$7.85	\$8.12	\$0.50	\$0.00	\$1.27	\$0.12	\$0.00	\$0.00	\$37.94	\$47.98
7th 6 Months	80.00	\$21.42	\$7.85	\$8.66	\$0.50	\$0.00	\$1.35	\$0.12	\$0.00	\$0.00	\$39.90	\$50.60
8th 6 Months	85.00	\$22.75	\$7.85	\$9.21	\$0.50	\$0.00	\$1.44	\$0.12	\$0.00	\$0.00	\$41.87	\$53.25

Special Calculation Note : *Other is Training

Ratio :

2 Journeymen to 1 Apprentice

Jurisdiction (* denotes special jurisdictional note) :

LORAIN

Special Jurisdictional Note :

Details :

Prevailing Wage Rate Skilled Crafts

Name of Union: Carpenter Insulation Zone NEO 1C

Change # : LCN01-2024ibLocNEZone1C

Craft : Carpenter Effective Date : 08/21/2024 Last Posted : 08/21/2024

	BHR		Fringe Benefit Payments					Irrevocable Fund		Total PWR	Overtime Rate	
			H&W	Pension	App Tr.	Vac.	Annuity	Other	LECET (*)			MISC (*)
Classification												
Carpenter Insulation	\$30.04		\$8.20	\$10.83	\$0.62	\$0.00	\$2.91	\$0.14	\$0.00	\$0.00	\$52.74	\$67.76
Apprentice	Percent											
1st 3 Months	60.00	\$18.02	\$8.20	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$26.22	\$35.24
2nd 3 Months	60.00	\$18.02	\$8.20	\$0.00	\$0.62	\$0.00	\$2.91	\$0.14	\$0.00	\$0.00	\$29.89	\$38.91
2nd 6 Months	65.00	\$19.53	\$8.20	\$0.00	\$0.62	\$0.00	\$2.91	\$0.14	\$0.00	\$0.00	\$31.40	\$41.16
3rd 6 Months	70.00	\$21.03	\$8.20	\$0.00	\$0.62	\$0.00	\$2.91	\$0.14	\$0.00	\$0.00	\$32.90	\$43.41
4th 6 Months	75.00	\$22.53	\$8.20	\$0.00	\$0.62	\$0.00	\$2.91	\$0.14	\$0.00	\$0.00	\$34.40	\$45.67
5th 6 Months	80.00	\$24.03	\$8.20	\$8.66	\$0.62	\$0.00	\$2.91	\$0.14	\$0.00	\$0.00	\$44.56	\$56.58
6th 6 Months	85.00	\$25.53	\$8.20	\$9.21	\$0.62	\$0.00	\$2.91	\$0.14	\$0.00	\$0.00	\$46.61	\$59.38
7th 6 Months	90.00	\$27.04	\$8.20	\$9.75	\$0.62	\$0.00	\$2.91	\$0.14	\$0.00	\$0.00	\$48.66	\$62.17
8th 6 Months	95.00	\$28.54	\$8.20	\$10.29	\$0.62	\$0.00	\$2.91	\$0.14	\$0.00	\$0.00	\$50.70	\$64.97

Special Calculation Note : *Other is Training

Ratio :

1 Journeymen to 1 Apprentice

Jurisdiction (* denotes special jurisdictional note) :

LORAIN

Special Jurisdictional Note :

Details :

Prevailing Wage Rate Skilled Crafts

Name of Union: Carpenter Millwright NE Zone M1-A

Change # : LCN01-2024ibLocNEZoneM1-A

Craft : Carpenter Effective Date : 08/07/2024 Last Posted : 08/07/2024

	BHR		Fringe Benefit Payments					Irrevocable Fund		Total PWR	Overtime Rate	
			H&W	Pension	App Tr.	Vac.	Annuity	Other	LECET (*)			MISC (*)
Classification												
Carpenter Millwright	\$35.33		\$8.25	\$11.33	\$0.62	\$0.00	\$5.87	\$0.19	\$0.00	\$0.00	\$61.59	\$79.26
Certified Welder	\$36.33		\$8.25	\$11.33	\$0.62	\$0.00	\$5.87	\$0.19	\$0.00	\$0.00	\$62.59	\$80.76
Layout man on Monorail	\$37.98		\$8.25	\$11.33	\$0.62	\$0.00	\$5.87	\$0.19	\$0.00	\$0.00	\$64.24	\$83.23
Apprentice	Percent											
1st 6 months	60.00	\$21.20	\$8.25	\$11.33	\$0.62	\$0.00	\$5.87	\$0.19	\$0.00	\$0.00	\$47.46	\$58.06
2nd 6 months	65.00	\$22.96	\$8.25	\$11.33	\$0.62	\$0.00	\$5.87	\$0.19	\$0.00	\$0.00	\$49.22	\$60.71
3rd 6 months	70.00	\$24.73	\$8.25	\$11.33	\$0.62	\$0.00	\$5.87	\$0.19	\$0.00	\$0.00	\$50.99	\$63.36
4th 6 months	75.00	\$26.50	\$8.25	\$11.33	\$0.62	\$0.00	\$5.87	\$0.19	\$0.00	\$0.00	\$52.76	\$66.01
5th 6 months	80.00	\$28.26	\$8.25	\$11.33	\$0.62	\$0.00	\$5.87	\$0.19	\$0.00	\$0.00	\$54.52	\$68.66
6th 6 months	85.00	\$30.03	\$8.25	\$11.33	\$0.62	\$0.00	\$5.87	\$0.19	\$0.00	\$0.00	\$56.29	\$71.31
7th 6 months	90.00	\$31.80	\$8.25	\$11.33	\$0.62	\$0.00	\$5.87	\$0.19	\$0.00	\$0.00	\$58.06	\$73.96
8th 6 months	95.00	\$33.56	\$8.25	\$11.33	\$0.62	\$0.00	\$5.87	\$0.19	\$0.00	\$0.00	\$59.82	\$76.61

Special Calculation Note : Other is Training.

Ratio :

1 Journeymen to 1 Apprentice

Jurisdiction (* denotes special jurisdictional note) :

ASHLAND, ASHTABULA, CUYAHOGA, ERIE, GEauga, HURON, LAKE, LORAIN, MEDINA, PORTAGE, RICHLAND, SUMMIT

Special Jurisdictional Note :

Details :

The term “Millwright and Machine Erectors” jurisdiction shall mean the unloading, hoisting, rigging, skidding, moving, dismantling, aligning, erecting, assembling, repairing, maintenance and adjusting of all structures, processing areas either under cover, under ground or elsewhere, required to process material, handle, manufacture or service, be it powered or receiving power manually, by steam, gas, electricity, gasoline, diesel, nuclear, solar, water, air or chemically, and in industries such as and including, which are identified for the purpose of description, but not limited to, the following: woodworking plants; canning industries; steel mills; coffee roasting plants; paper and pulp; cellophane; stone crushing; gravel and sand washing and handling; refineries; grain storage and handling; asphalt plants; sewage disposal; water plants; laundries; bakeries; mixing plants; can, bottle and bag packing plants; textile mills; paint mills; breweries; milk processing plants; power plants; aluminum processing or manufacturing plants; and amusement and entertainment fields. The installation of mechanical equipment in atomic energy plants; installation of reactors in power plants; installation of control rods and equipment in reactors; and installation of mechanical equipment in rocket missile bases, launchers, launching gantry, floating bases, hydraulic escape doors and any and all component parts thereto, either assembled, semi-assembled or disassembled. The installation of, but not limited to, the following: setting-up of all engines, motors, generators, air compressors, fans, pumps, scales, hoppers, conveyors of all types, sizes and their supports; escalators; man lifts; moving sidewalks; hoists; dumb waiters; all types of feeding machinery; amusement devices; mechanical pin setters and spotters in bowling alleys; refrigeration equipment; and the installation of all types of equipment necessary and required to process material either in the manufacturing or servicing. The handling and installation of pulleys, gears, sheaves, fly wheels, air and vacuum drives, worm drives and gear drives directly or indirectly coupled to motors, belts, chains, screws, legs, boots, guards, booth tanks, all bin valves, turn heads and indicators, shafting, bearings, cable sprockets, cutting all key seats in new and old work, troughs, chippers, filters, calendars, rolls, winders, rewinders, slitters, cutters, wrapping machines, blowers, forging machines, rams, hydraulic or otherwise, planing, extruder, ball, dust collectors, equipment in meat packing plants, splicing of ropes and cables. The laying-out, fabrication and installation of protection equipment including machinery guards, making and setting of templates for machinery, fabrication of bolts, nuts, pans, drilling of holes for any equipment which the Millwrights install regardless of materials; all welding and burning regardless of type, fabrication of all lines, hose or tubing used in lubricating machinery installed by Millwrights; grinding, cleaning, servicing and any machine work necessary for any part of any equipment installed by the Millwrights; and the break-in and trial run of any equipment or machinery installed by the Millwrights. It is agreed the Millwrights shall use the layout tools and optic equipment necessary to perform their work.

Prevailing Wage Rate Skilled Crafts

Name of Union: Carpenter Pile Driver Hev Hwy Zone NHH P2-B

Change # : LCN01-2024ibLocNEZoneP2-B

Craft : Carpenter Effective Date : 08/07/2024 Last Posted : 08/07/2024

	BHR		Fringe Benefit Payments					Irrevocable Fund		Total PWR	Overtime Rate	
			H&W	Pension	App Tr.	Vac.	Annuity	Other	LECET (*)			MISC (*)
Classification												
Carpenter Pile Driver	\$35.71		\$8.20	\$11.33	\$0.62	\$0.00	\$5.54	\$0.19	\$0.00	\$0.00	\$61.59	\$79.45
Diver	\$53.57		\$8.20	\$11.33	\$0.62	\$0.00	\$5.54	\$0.19	\$0.00	\$0.00	\$79.45	\$106.24
Certified Welder	\$36.76		\$8.20	\$11.33	\$0.62	\$0.00	\$5.54	\$0.19	\$0.00	\$0.00	\$62.64	\$81.02
Apprentice	Percent											
1st 6 months	60.00	\$21.43	\$8.20	\$11.33	\$0.62	\$0.00	\$5.54	\$0.19	\$0.00	\$0.00	\$47.31	\$58.02
2nd 6 months	65.00	\$23.21	\$8.20	\$11.33	\$0.62	\$0.00	\$5.54	\$0.19	\$0.00	\$0.00	\$49.09	\$60.70
3rd 6 months	70.00	\$25.00	\$8.20	\$11.33	\$0.62	\$0.00	\$5.54	\$0.19	\$0.00	\$0.00	\$50.88	\$63.38
4th 6 months	75.00	\$26.78	\$8.20	\$11.33	\$0.62	\$0.00	\$5.54	\$0.19	\$0.00	\$0.00	\$52.66	\$66.05
5th 6 months	80.00	\$28.57	\$8.20	\$11.33	\$0.62	\$0.00	\$5.54	\$0.19	\$0.00	\$0.00	\$54.45	\$68.73
6th 6 months	85.00	\$30.35	\$8.20	\$11.33	\$0.62	\$0.00	\$5.54	\$0.19	\$0.00	\$0.00	\$56.23	\$71.41
7th 6 months	90.00	\$32.14	\$8.20	\$11.33	\$0.62	\$0.00	\$5.54	\$0.19	\$0.00	\$0.00	\$58.02	\$74.09
8th 6 months	95.00	\$33.92	\$8.20	\$11.33	\$0.62	\$0.00	\$5.54	\$0.19	\$0.00	\$0.00	\$59.80	\$76.77

Special Calculation Note : *Other is Training

Ratio :

1 Journeymen to 1 Apprentice

Jurisdiction (* denotes special jurisdictional note) :

ASHLAND, ASHTABULA, CUYAHOGA, ERIE, GEAUGA, HURON, LAKE, LORAIN, MEDINA, PORTAGE, RICHLAND, SUMMIT

Special Jurisdictional Note :

Details :

Pile Drivers duties shall include but not limited to: Pile driving, milling, fashioning, joining assembling,

erecting, fastening, or dismantling of all material of wood, plastic, metal, fiber, cork and composition and all other substitute materials: pile driving, cutting, fitting and placing of lagging, and the handling, cleaning, erecting, installing and dismantling of machinery, equipment and erecting pre-engineered metal buildings. Pile Drivers work but not limited to: unloading, assembling, erection, repairs, operation, signaling, dismantling and reloading all equipment that is used for pile driving including pile butts is defined as sheeting or scrap piling. Underwater work that may be required in connection with the installation of piling. The driver and his tender work as a team and shall arrive at their own financial arrangements with the contractor. Any configuration of wood, steel, concrete or composite that is jetted, driven or vibrated onto the ground by conventional pile driving equipment for the purpose of supporting a future load that may be permanent or temporary. The construction of all wharves and docks, including the fabrication and installation of floating docks. Driving bracing, plumbing, cutting off and capping of all piling whether wood, metal, pipe piling or composite, loading, unloading, erecting, framing, dismantling, moving and handling of pile driving equipment piling used in the construction and repair of all wharves, docks, piers, trestles, caissons, cofferdams and erection of all sea walls and breakwaters. All underwater and marine work on bulkheads, wharves, docks, shipyards, caissons, piers, bridges, pipeline, work, viaducts, marine cable and trestles, as well as salvage and reclamation work where divers are employed. Rate shall include carpenters, acoustic and ceiling installers, drywall installers, pile drivers and floorlayers.

Prevailing Wage Rate Skilled Crafts

Name of Union: Carpenter Pile Driver NE Zone P1

Change # : OCR01-2022sksLocNEZoneP1

Craft : Carpenter Effective Date : 06/15/2022 Last Posted : 06/15/2022

	BHR		Fringe Benefit Payments					Irrevocable Fund		Total PWR	Overtime Rate	
			H&W	Pension	App Tr.	Vac.	Annuity	Other	LECET (*)			MISC (*)
Classification												
Carpenter Pile Driver	\$31.68		\$7.84	\$11.33	\$0.50	\$0.00	\$4.78	\$0.17	\$0.00	\$0.00	\$56.30	\$72.14
Diver	\$47.52		\$7.84	\$11.33	\$0.50	\$0.00	\$4.78	\$0.17	\$0.00	\$0.00	\$72.14	\$95.90
Certified Welder	\$32.73		\$7.84	\$11.33	\$0.50	\$0.00	\$4.78	\$0.17	\$0.00	\$0.00	\$57.35	\$73.71
Apprentice	Percent											
1st 6 months	60.00	\$19.01	\$7.84	\$11.33	\$0.50	\$0.00	\$4.78	\$0.17	\$0.00	\$0.00	\$43.63	\$53.13
2nd 6 months	60.00	\$19.01	\$7.84	\$11.33	\$0.50	\$0.00	\$4.78	\$0.17	\$0.00	\$0.00	\$43.63	\$53.13
3rd 6 months	62.00	\$19.64	\$7.84	\$11.33	\$0.50	\$0.00	\$4.78	\$0.17	\$0.00	\$0.00	\$44.26	\$54.08
4th 6 months	65.50	\$20.75	\$7.84	\$11.33	\$0.50	\$0.00	\$4.78	\$0.17	\$0.00	\$0.00	\$45.37	\$55.75
5th 6 months	69.00	\$21.86	\$7.84	\$11.33	\$0.50	\$0.00	\$4.78	\$0.17	\$0.00	\$0.00	\$46.48	\$57.41
6th 6 months	72.50	\$22.97	\$7.84	\$11.33	\$0.50	\$0.00	\$4.78	\$0.17	\$0.00	\$0.00	\$47.59	\$59.07
7th 6 months	76.00	\$24.08	\$7.84	\$11.33	\$0.50	\$0.00	\$4.78	\$0.17	\$0.00	\$0.00	\$48.70	\$60.74
8th 6 months	80.00	\$25.34	\$7.84	\$11.33	\$0.50	\$0.00	\$4.78	\$0.17	\$0.00	\$0.00	\$49.96	\$62.64

Special Calculation Note : *Other is Training

Ratio :

2 Journeymen to 1 Apprentice

Jurisdiction (* denotes special jurisdictional note) :

ASHLAND, ASHTABULA, CUYAHOGA, ERIE, GEAUGA, HURON, LAKE, LORAIN, MEDINA, PORTAGE, RICHLAND, SUMMIT

Special Jurisdictional Note :

Details :

Pile Drivers duties shall include but not limited to: Pile driving, milling, fashioning, joining assembling,

erecting, fastening, or dismantling of all material of wood, plastic, metal, fiber, cork and composition and all other substitute materials: pile driving, cutting, fitting and placing of lagging, and the handling, cleaning, erecting, installing and dismantling of machinery, equipment and erecting pre-engineered metal buildings. Pile Drivers work but not limited to: unloading, assembling, erection, repairs, operation, signaling, dismantling and reloading all equipment that is used for pile driving including pile butts is defined as sheeting or scrap piling. Underwater work that may be required in connection with the installation of piling. The driver and his tender work as a team and shall arrive at their own financial arrangements with the contractor. Any configuration of wood, steel, concrete or composite that is jetted, driven or vibrated onto the ground by conventional pile driving equipment for the purpose of supporting a future load that may be permanent or temporary. The construction of all wharves and docks, including the fabrication and installation of floating docks. Driving bracing, plumbing, cutting off and capping of all piling whether wood, metal, pipe piling or composite, loading, unloading, erecting, framing, dismantling, moving and handling of pile driving equipment piling used in the construction and repair of all wharves, docks, piers, trestles, caissons, cofferdams and erection of all sea walls and breakwaters. All underwater and marine work on bulkheads, wharves, docks, shipyards, caissons, piers, bridges, pipeline, work, viaducts, marine cable and trestles, as well as salvage and reclamation work where divers are employed. Rate shall include carpenters, acoustic and ceiling installers, drywall installers, pile drivers and floorlayers.

Prevailing Wage Rate Skilled Crafts

Name of Union: Carpenter NE District Industrial Dock & Door

Change # : LCN01-2014fbCarpNEStatewide

Craft : Carpenter Effective Date : 03/05/2014 Last Posted : 03/05/2014

	BHR		Fringe Benefit Payments					Irrevocable Fund		Total PWR	Overtime Rate	
			H&W	Pension	App Tr.	Vac.	Annuity	Other	LECET (*)			MISC (*)
Classification												
Carpenter	\$19.70		\$5.05	\$1.00	\$0.15	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$25.90	\$35.75
Trainee	Percent											
1st Year	60.00	\$11.82	\$5.05	\$1.00	\$0.15	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$18.02	\$23.93
2nd Year	80.20	\$15.80	\$5.05	\$1.00	\$0.15	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$22.00	\$29.90

Special Calculation Note : No special calculations for this skilled craft wage rate are required at this time.

Ratio :

1 Journeymen to 1 Trainee

Jurisdiction (* denotes special jurisdictional note) :

ADAMS, ALLEN, ASHLAND, ASHTABULA, ATHENS, AUGLAIZE, BELMONT, BROWN, BUTLER, CARROLL, CHAMPAIGN, CLARK, CLERMONT, CLINTON, COLUMBIANA, COSHOCTON, CRAWFORD, CUYAHOGA, DARKE, DEFIANCE, DELAWARE, ERIE, FAIRFIELD, FAYETTE, FRANKLIN, FULTON, GALLIA, GEAUGA, GREENE, GUERNSEY, HAMILTON, HANCOCK, HARDIN, HARRISON, HENRY, HIGHLAND, HOCKING, HOLMES, HURON, JACKSON, JEFFERSON, KNOX, LAKE, LAWRENCE, LICKING, LOGAN, LORAIN, LUCAS, MADISON, MAHONING, MARION, MEDINA, MEIGS, MERCER, MIAMI, MONROE, MONTGOMERY, MORGAN, MORROW, MUSKINGUM, NOBLE, OTTAWA, PAULDING, PERRY, PICKAWAY, PIKE, PORTAGE, PREBLE, PUTNAM, RICHLAND, ROSS, SANDUSKY, SCIOTO, SENECA, SHELBY, STARK, SUMMIT, TRUMBULL, TUSCARAWAS, UNION, VAN WERT, VINTON, WARREN, WASHINGTON, WAYNE, WILLIAMS, WOOD, WYANDOT

Special Jurisdictional Note : Industrial Dock and Door is the installation of overhead doors, roll up doors and dock leveling equipment

Prevailing Wage Rate Skilled Crafts

Name of Union: Cement Mason Bricklayer Local 97 HevHwy A

Change # : LCN01-2022sksHvyHwy

Craft : Bricklayer Effective Date : 06/08/2022 Last Posted : 06/08/2022

	BHR		Fringe Benefit Payments					Irrevocable Fund		Total PWR	Overtime Rate	
			H&W	Pension	App Tr.	Vac.	Annuity	Other	LECET (*)	MISC (*)		
Classification												
Cement Mason Bricklayer Sewer Water Works A	\$31.40		\$9.75	\$8.30	\$0.50	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$49.95	\$65.65
Apprentice	Percent											
1st year	70.00	\$21.98	\$9.75	\$8.30	\$0.50	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$40.53	\$51.52
2nd year	80.00	\$25.12	\$9.75	\$8.30	\$0.50	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$43.67	\$56.23
3rd year	90.00	\$28.26	\$9.75	\$8.30	\$0.50	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$46.81	\$60.94

Special Calculation Note : NOT FOR BUILDING CONSTRUCTION.

Ratio :

3 Journeymen to 1 Apprentice
6 Journeymen to 2 Apprentice
9 Journeymen to 3 Apprentice
12 Journeymen to 4 Apprentice
15 Journeymen to 5 Apprentice

Jurisdiction (* denotes special jurisdictional note) :

ADAMS, ALLEN, ASHLAND, ASHTABULA, ATHENS, AUGLAIZE, BELMONT, BROWN, BUTLER, CARROLL, CHAMPAIGN, CLARK, CLERMONT, CLINTON, COLUMBIANA, COSHOCTON, CRAWFORD, CUYAHOGA, DARKE, DEFIANCE, DELAWARE, ERIE, FAIRFIELD, FAYETTE, FRANKLIN, FULTON, GALLIA, GEauga, GREENE, GUERNSEY, HAMILTON, HANCOCK, HARDIN, HARRISON, HENRY, HIGHLAND, HOCKING, HOLMES, HURON, JACKSON, JEFFERSON, KNOX, LAKE, LAWRENCE, LICKING, LOGAN, LORAIN, LUCAS, MADISON, MAHONING, MARION, MEDINA, MEIGS, MERCER, MIAMI, MONROE, MONTGOMERY, MORGAN, MORROW, MUSKINGUM, NOBLE, OTTAWA, PAULDING, PERRY, PICKAWAY, PIKE, PORTAGE, PREBLE, PUTNAM, RICHLAND, ROSS, SANDUSKY, SCIOTO, SENECA, SHELBY, STARK, SUMMIT, TRUMBULL, TUSCARAWAS, UNION, VAN WERT, VINTON, WARREN, WASHINGTON, WAYNE

Special Jurisdictional Note :

Details :

(A) Highway Construction, Sewer, Waterworks And Utility Construction, Industrial & Building Site Heavy Construction, Airport Construction Or Railroad Construction Work.

(B) Power Plant, Tunnels, Amusement Park, Athletic Stadium Site Work ,Pollution Control,Sewer Plant, Waste Plant, & Water Treatment Facilities, Construction.

Prevailing Wage Rate Skilled Crafts

Name of Union: Cement Mason Bricklayer Local 97 HevHwy B

Change # : LCN01-2022sksHvyHwy

Craft : Bricklayer Effective Date : 06/08/2022 Last Posted : 06/08/2022

	BHR		Fringe Benefit Payments					Irrevocable Fund		Total PWR	Overtime Rate	
			H&W	Pension	App Tr.	Vac.	Annuity	Other	LECET (*)	MISC (*)		
Classification												
Cement Mason Bricklayer Power Plants Tunnels Amusement Parks B	\$32.39		\$9.75	\$8.30	\$0.51	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$50.95	\$67.15
Apprentice	Percent											
1st year	70.00	\$22.67	\$9.75	\$8.30	\$0.51	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$41.23	\$52.57
2nd year	80.00	\$25.91	\$9.75	\$8.30	\$0.51	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$44.47	\$57.43
3rd year	90.00	\$29.15	\$9.75	\$8.30	\$0.51	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$47.71	\$62.29

Special Calculation Note : NOT FOR BUILDING CONSTRUCTION.

Ratio :

- 3 Journeymen to 1 Apprentice
- 6 Journeymen to 2 Apprentice
- 9 Journeymen to 2 Apprentice
- 12 Journeymen to 4 Apprentice
- 15 Journeymen to 5 Apprentice

Jurisdiction (* denotes special jurisdictional note) :

- ADAMS, ALLEN, ASHLAND, ASHTABULA, ATHENS, AUGLAIZE, BELMONT, BROWN, BUTLER, CARROLL, CHAMPAIGN, CLARK, CLERMONT, CLINTON, COLUMBIANA, COSHOCTON, CRAWFORD, CUYAHOGA, DARKE, DEFIANCE, DELAWARE, ERIE, FAIRFIELD, FAYETTE, FRANKLIN, FULTON, GALLIA, GEAUGA, GREENE, GUERNSEY, HAMILTON, HANCOCK, HARDIN, HARRISON, HENRY, HIGHLAND, HOCKING, HOLMES, HURON, JACKSON, JEFFERSON, KNOX, LAKE, LAWRENCE, LICKING, LOGAN, LORAIN, LUCAS, MADISON, MAHONING, MARION, MEDINA, MEIGS, MERCER, MIAMI, MONROE, MONTGOMERY, MORGAN, MORROW, MUSKINGUM, NOBLE, OTTAWA, PAULDING, PERRY, PICKAWAY, PIKE, PORTAGE, PREBLE, PUTNAM, RICHLAND, ROSS, SANDUSKY, SCIOTO, SENECA, SHELBY, STARK, SUMMIT,

TRUMBULL, TUSCARAWAS, UNION, VAN WERT,
VINTON, WARREN, WASHINGTON, WAYNE

Special Jurisdictional Note :

Details :

(A) Highway Construction, Sewer, Waterworks And Utility Construction, Industrial & Building Site Heavy Construction, Airport Construction Or Railroad Construction Work.

(B) Power Plant, Tunnels, Amusement Park, Athletic Stadium Site Work ,Pollution Control,Sewer Plant, Waste Plant, & Water Treatment Facilities, Construction.

Prevailing Wage Rate Skilled Crafts

Name of Union: Cement Mason Local 404

Change # : LCN01-2024ibLoc404

Craft : Cement Effective Date : 05/01/2024 Last Posted : 05/01/2024

	BHR		Fringe Benefit Payments					Irrevocable Fund		Total PWR	Overtime Rate	
			H&W	Pension	App Tr.	Vac.	Annuity	Other	LECET (*)			MISC (*)
Classification												
Cement Mason	\$34.88		\$9.40	\$7.10	\$0.63	\$0.00	\$5.95	\$0.08	\$0.00	\$0.00	\$58.04	\$75.48
Apprentice	Percent											
1st yr	58.51	\$20.41	\$9.40	\$7.10	\$0.63	\$0.00	\$2.98	\$0.08	\$0.00	\$0.00	\$40.60	\$50.80
2nd yr	73.50	\$25.64	\$9.40	\$7.10	\$0.63	\$0.00	\$2.98	\$0.08	\$0.00	\$0.00	\$45.83	\$58.65
3rd yr	83.51	\$29.13	\$9.40	\$7.10	\$0.63	\$0.00	\$2.98	\$0.08	\$0.00	\$0.00	\$49.32	\$63.88
4th yr	98.50	\$34.36	\$9.40	\$7.10	\$0.63	\$0.00	\$2.98	\$0.08	\$0.00	\$0.00	\$54.55	\$71.73

Special Calculation Note : Other is Training Fund

Ratio :

5 Journeymen to 1 Apprentice
2 Journeymen to 1 Apprentice

Jurisdiction (* denotes special jurisdictional note) :

ASHTABULA, CUYAHOGA, GEAUGA, LAKE, LORAIN

Special Jurisdictional Note :

Details :

Prevailing Wage Rate Skilled Crafts

Name of Union: Cement Mason Local 5 (Lorain Only)

Change # : LCN01-2010jcLoc5

Craft : Cement Effective Date : 07/14/2010 Last Posted : 07/14/2010

	BHR		Fringe Benefit Payments						Irrevocable Fund		Total PWR	Overtime Rate
			H&W	Pension	App Tr.	Vac.	Annuity	Other	LECET (*)	MISC (*)		
Classification												
Cement Mason	\$30.41		\$6.35	\$5.23	\$0.63	\$0.00	\$0.00	\$0.00			\$42.62	\$57.83
Apprentice	Percent											
1st 6 months	50.00	\$15.21	\$6.35	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00			\$21.55	\$29.16
2nd 6 months	55.00	\$16.73	\$6.35	\$5.23	\$0.63	\$0.00	\$0.00	\$0.00			\$28.94	\$37.30
3rd 6 months	60.00	\$18.25	\$6.35	\$5.23	\$0.63	\$0.00	\$0.00	\$0.00			\$30.46	\$39.58
4th 6 months	65.00	\$19.77	\$6.35	\$5.23	\$0.63	\$0.00	\$0.00	\$0.00			\$31.98	\$41.86
5th 6 months	70.00	\$21.29	\$6.35	\$5.23	\$0.63	\$0.00	\$0.00	\$0.00			\$33.50	\$44.14
6th 6 months	75.00	\$22.81	\$6.35	\$5.23	\$0.63	\$0.00	\$0.00	\$0.00			\$35.02	\$46.42
7th 6 months	80.00	\$24.33	\$6.35	\$5.23	\$0.63	\$0.00	\$0.00	\$0.00			\$36.54	\$48.70
8th 6 months	85.00	\$25.85	\$6.35	\$5.23	\$0.63	\$0.00	\$0.00	\$0.00			\$38.06	\$50.98

Special Calculation Note : No special calculations for this skilled craft wage rate are required at this time.

Ratio :

- 5 Journeyman to 1 Apprentice
- 10 Journeyman to 2 Apprentices
- 15 Journeyman to 2 Apprentices
- 20 Journeyman to 4 Apprentices
- 25 Journeyman to 5 Apprentices

Jurisdiction (* denotes special jurisdictional note) :
LORAIN

Special Jurisdictional Note :

Details :

Worker shall finish all concrete construction, such as buildings, bridges, silos, elevators, smokestacks, curbs, gutters, sidewalks, roofs, mass reinforced concrete slabs and

all flat surfaces of cement.

The operation and control of all type's of vacuum mats used in the drying of cement floors in preparing same for machines, mastic or composition flooring, when laid free hand. Finishing or washing of all concrete construction, using any color pigment when mixed with cement in any other form composition, magnesite rubbing and grinding and nail coat weather done by brush, broom, trowel float or any other process including operation of machine for the scoring of floors, or any other purpose they may be used for in connection with the trade.

Rodding, spreading and tamping of all concrete spreading off all top materials, sills, copings, steps, stairs, and risers and running all cement magnesite composition, oxide chloride & plastic materials (6" base or less). All preparatory work on concrete construction to be finished or rubbed, such as cutting nails, wires, wall ties, etc. machine or carborundum stone on all concrete construction, setting of all strips, stakes and grades. The operation or all cement guns, the cement nozzle and finishing all material applied by gun. Laying and finishing gypsum material roof.

.All dry packing, grouting & finishing in connection with setting all machinery, such as engines, pumps, generators, air compressors tanks and so fourth that are set on concrete foundations. Waterproofing concrete foundations when using a cement base.

The work of grading concrete with a rake when brought to grade. Curing finished concrete by chemical compounds. Setting and nailing all expansion strips for concrete floors in buildings, sidewalks, and driveways, setting all metal forms regardless of height, cutting and sawing joints, whether done by hand or machine, filling of all joints, grouting of all machinery, plates and anchor bolts. Worker shall have the right to use all the tools necessary to complete his work. All form work not composed of any more than one piece of material shall be set by worker.

When pouring concrete slabs or any concrete, the surface of which is to be struck off to a given line, all workers necessary to finish same shall start at work when the pour begins. This applies also to pouring of topping on old slabs or any other surface. Curing, hardeners and sealers used on finished concrete wherever necessary, whether by chemical compounds or otherwise, shall be the work of cement mason.

Spreading, darbying, trowelling, screeding or all types of magnesium oxychloride cement composition floors, shall be work of cement mason. The preparation of all sub-floor surfaces, bonding, the preparation and installation of ground not be defeated.

No restriction on the use of the finishing or floating machines.

Using concrete saws for cutting construction joints on new work, and filling such joints with material such as latex, epoxies, lead, mastic, tar and similar material shall be done. Curing of all kinds water, burlap, and all emulsion spray cures.

Prevailing Wage Rate Skilled Crafts

Name of Union: Cement Mason Statewide HevHwy

Change # : LCN01-2024ibCementHevHwy

Craft : Cement Mason Effective Date : 05/01/2024 Last Posted : 05/01/2024

	BHR		Fringe Benefit Payments					Irrevocable Fund		Total PWR	Overtime Rate	
			H&W	Pension	App Tr.	Vac.	Annuity	Other	LECET (*)			MISC (*)
Classification												
Cement Mason	\$34.74		\$8.80	\$7.65	\$0.75	\$0.00	\$2.25	\$0.07	\$0.00	\$0.00	\$54.26	\$71.63
Apprentice	Percent											
1st Year	70.00	\$24.32	\$8.80	\$7.65	\$0.75	\$0.00	\$2.25	\$0.07	\$0.00	\$0.00	\$43.84	\$56.00
2nd Year	80.00	\$27.79	\$8.80	\$7.65	\$0.75	\$0.00	\$2.25	\$0.07	\$0.00	\$0.00	\$47.31	\$61.21
3rd Year	90.00	\$31.27	\$8.80	\$7.65	\$0.75	\$0.00	\$2.25	\$0.07	\$0.00	\$0.00	\$50.79	\$66.42
4th Year	95.00	\$33.00	\$8.80	\$7.65	\$0.75	\$0.00	\$3.25	\$0.07	\$0.00	\$0.00	\$53.52	\$70.02

Special Calculation Note : Other \$0.07 is for International Training Fund

4th Year Apprentice Rate (95%) is only applicable to the jurisdiction of Local 404, this includes Ashtabula, Cuyahoga, Geauga, Lake, and Lorain counties.

Ratio :

1 Journeymen to 1 Apprentice
2 to 1 thereafter

Jurisdiction (* denotes special jurisdictional note) :

ADAMS, ALLEN, ASHLAND, ASHTABULA*, ATHENS, AUGLAIZE, BELMONT, BROWN, BUTLER, CARROLL, CHAMPAIGN, CLARK, CLERMONT, CLINTON, COLUMBIANA, COSHOCTON, CRAWFORD, CUYAHOGA*, DARKE, DEFIANCE, DELAWARE, ERIE, FAIRFIELD, FAYETTE, FRANKLIN, FULTON*, GALLIA, GEAUGA*, GREENE, GUERNSEY, HAMILTON, HANCOCK*, HARDIN, HARRISON, HENRY*, HIGHLAND, HOCKING, HOLMES, HURON, JACKSON, JEFFERSON, KNOX, LAKE*, LAWRENCE, LICKING, LOGAN, LORAIN, LUCAS*, MADISON, MAHONING, MARION, MEDINA, MEIGS, MERCER, MIAMI, MONROE, MONTGOMERY, MORGAN, MORROW, MUSKINGUM, NOBLE, OTTAWA, PAULDING, PERRY, PICKAWAY, PIKE, PORTAGE, PREBLE, PUTNAM*, RICHLAND, ROSS, SANDUSKY, SCIOTO, SENECA, SHELBY, STARK, SUMMIT, TRUMBULL, TUSCARAWAS, UNION, VAN WERT, VINTON, WARREN, WASHINGTON, WAYNE, WILLIAMS, WOOD*, WYANDOT

Special Jurisdictional Note : (A) Highway Construction, Sewer, Waterworks And Utility Construction, Industrial & Building Site, Heavy Construction, Airport Construction Or Railroad Construction Work, Power Plant, Tunnels, Amusement Park, Athletic Stadium Site Work, Pollution Control, Sewer Plant, Waste & Water Plant, Water Treatment Facilities Construction.

*For Power Plant, Tunnels, Amusement Park, Athletic Stadium Site Work, Pollution Control, Sewer Plant, Waste & Water Plant, Water Treatment Facility Construction work in the following Counties: Ashtabula, Cuyahoga, Fulton, Geauga, Hancock, Henry, Lake, Lucas, Putnam and Wood Counties, those counties will use the Cement Mason Statewide Heavy Highway Exhibit B District 1 Wage Rate.

Details :

This rate replaces the previous Cement Mason Heavy Highway Statewide Rates (Exhibit A and Exhibit B rates), except for Cement Mason Statewide Heavy Highway Exhibit B Dist 1. sks

Prevailing Wage Rate Skilled Crafts

Name of Union: Electrical Local 71 DOT Traffic Signal Highway Lighting Cleveland

Change # : LCN01-2024ibLoc71DOTClev

Craft : Lineman **Effective Date :** 02/07/2024 **Last Posted :** 02/07/2024

	BHR		Fringe Benefit Payments					Irrevocable Fund		Total PWR	Overtime Rate	
			H&W	Pension	App Tr.	Vac.	Annuity	Other	LECET (*)			MISC (*)
Classification												
Electrical Lineman	\$42.20		\$7.25	\$1.27	\$0.42	\$0.00	\$9.28	\$0.50	\$0.00	\$0.00	\$60.92	\$82.02
Traffic Signal & Lighting Journeyman	\$42.20		\$7.25	\$1.27	\$0.42	\$0.00	\$9.28	\$0.50	\$0.00	\$0.00	\$60.92	\$82.02
Equipment Operator	\$38.43		\$7.25	\$1.15	\$0.38	\$0.00	\$8.45	\$0.50	\$0.00	\$0.00	\$56.16	\$75.37
Groundman 0 to 1 Year	\$25.63		\$7.25	\$0.77	\$0.26	\$0.00	\$5.64	\$0.50	\$0.00	\$0.00	\$40.05	\$52.87
Groundman 1 Year or more	\$29.90		\$7.25	\$0.90	\$0.30	\$0.00	\$6.58	\$0.50	\$0.00	\$0.00	\$45.43	\$60.38
Traffic Apprentice	Percent											
1st 1,000 Hours	60.00	\$25.32	\$7.25	\$0.76	\$0.25	\$0.00	\$5.57	\$0.50	\$0.00	\$0.00	\$39.65	\$52.31
2nd 1,000 Hours	65.00	\$27.43	\$7.25	\$0.82	\$0.27	\$0.00	\$6.03	\$0.50	\$0.00	\$0.00	\$42.30	\$56.02
3rd 1,000 Hours	70.00	\$29.54	\$7.25	\$0.89	\$0.30	\$0.00	\$6.50	\$0.50	\$0.00	\$0.00	\$44.98	\$59.75
4th 1,000 Hours	75.00	\$31.65	\$7.25	\$0.95	\$0.32	\$0.00	\$6.96	\$0.50	\$0.00	\$0.00	\$47.63	\$63.46
5th 1,000 Hours	80.00	\$33.76	\$7.25	\$1.01	\$0.34	\$0.00	\$7.43	\$0.50	\$0.00	\$0.00	\$50.29	\$67.17
6th 1,000 Hours	90.00	\$37.98	\$7.25	\$1.14	\$0.38	\$0.00	\$8.36	\$0.50	\$0.00	\$0.00	\$55.61	\$74.60

Special Calculation Note : Other: Health Reimbustment Fund

Ratio :

1 Journeymen to 1 Apprentice

Jurisdiction (* denotes special jurisdictional note) :

ASHTABULA, CUYAHOGA, GEAUGA, LAKE, LORAIN

Special Jurisdictional Note :

Details :

A groundman when directed shall assist a Journeyman in the performance of his/her work on the ground, including the use of hand tools. Under no circumstances shall this classification climb poles, towers, ladders, or work from an elevated platform or bucket truck. This classification shall not perform work normally assigned to an apprentice lineman. There shall be no more than one (1) Groundman for each two (2) Journeyman except when performing DOT Traffic Signal or Highway lighting work where the ratio can be two (2) Groundman for each Journeyman or Operator.

Prevailing Wage Rate Skilled Crafts

Name of Union: Electrical Local 71 Cleveland Commercial Projects

Change # : LCN1-2024ibLoc71Clev

Craft : Lineman Effective Date : 02/07/2024 Last Posted : 02/07/2024

	BHR		Fringe Benefit Payments					Irrevocable Fund		Total PWR	Overtime Rate	
			H&W	Pension	App Tr.	Vac.	Annuity	Other	LECET (*)			MISC (*)
Classification												
Electrical Lineman	\$57.10		\$7.25	\$1.71	\$0.57	\$0.00	\$13.70	\$0.45	\$0.00	\$0.00	\$80.78	\$109.33
Cable Splicer	\$57.10		\$7.25	\$1.71	\$0.57	\$0.00	\$13.70	\$0.45	\$0.00	\$0.00	\$80.78	\$109.33
Equip. Operator	\$51.39		\$7.25	\$1.54	\$0.51	\$0.00	\$12.33	\$0.45	\$0.00	\$0.00	\$73.47	\$99.17
Groundman 0 to 12 months	\$34.26		\$7.25	\$1.03	\$0.34	\$0.00	\$8.22	\$0.45	\$0.00	\$0.00	\$51.55	\$68.68
Groundman 1 year plus	\$39.97		\$7.25	\$1.20	\$0.40	\$0.00	\$9.59	\$0.45	\$0.00	\$0.00	\$58.86	\$78.85
Apprentice Linemen	Percent											
1st 1000 Hrs	60.00	\$34.26	\$7.25	\$1.03	\$0.34	\$0.00	\$8.22	\$0.45	\$0.00	\$0.00	\$51.55	\$68.68
2nd 1000 Hrs	65.00	\$37.12	\$7.25	\$1.11	\$0.37	\$0.00	\$8.91	\$0.45	\$0.00	\$0.00	\$55.21	\$73.76
3rd 1000 Hrs	70.00	\$39.97	\$7.25	\$1.20	\$0.40	\$0.00	\$9.59	\$0.45	\$0.00	\$0.00	\$58.86	\$78.85
4th 1000 Hrs	75.00	\$42.83	\$7.25	\$1.28	\$0.43	\$0.00	\$10.28	\$0.45	\$0.00	\$0.00	\$62.52	\$83.93
5th 1000 Hrs	80.00	\$45.68	\$7.25	\$1.37	\$0.46	\$0.00	\$10.96	\$0.45	\$0.00	\$0.00	\$66.17	\$89.01
6th 1000 Hrs	85.00	\$48.53	\$7.25	\$1.46	\$0.49	\$0.00	\$11.65	\$0.45	\$0.00	\$0.00	\$69.84	\$94.10
7th 1000 Hrs	90.00	\$51.39	\$7.25	\$1.54	\$0.51	\$0.00	\$12.33	\$0.45	\$0.00	\$0.00	\$73.47	\$99.17

Special Calculation Note : Other is Health Reimbursement Account

Ratio :

1 Journeymen to 1 Apprentice

Jurisdiction (* denotes special jurisdictional note) :

ASHTABULA, CUYAHOGA, GEAUGA, LAKE, LORAIN

Special Jurisdictional Note :

Details :

A groundman when directed shall assist a Journeyman in the performance of his/her work on the ground, including the use of hand tools. Under no circumstances shall this classification climb poles, towers, ladders, or work from an elevated platform or bucket truck. This classification shall not perform work normally assigned to an apprentice lineman. There shall be no more than one (1) Groundman for each two (2) Journeyman except when performing DOT Traffic Signal or Highway lighting work where the ratio can be two (2) Groundman for each Journeyman or Operator.

Prevailing Wage Rate Skilled Crafts

Name of Union: Electrical Local 71 Cleveland Municipal Power & Transit

Change # : LCN01-2024ibLoc71Clev

Craft : Lineman Effective Date : 02/07/2024 Last Posted : 02/07/2024

	BHR		Fringe Benefit Payments					Irrevocable Fund		Total PWR	Overtime Rate	
			H&W	Pension	App Tr.	Vac.	Annuity	Other	LECET (*)			MISC (*)
Classification												
Electrical Lineman	\$53.18		\$7.25	\$1.60	\$0.53	\$0.00	\$12.23	\$0.40	\$0.00	\$0.00	\$75.19	\$101.78
Cable Splicer	\$53.18		\$7.25	\$1.60	\$0.53	\$0.00	\$12.23	\$0.40	\$0.00	\$0.00	\$75.19	\$101.78
Equip. Operator	\$47.86		\$7.25	\$1.44	\$0.48	\$0.00	\$11.01	\$0.40	\$0.00	\$0.00	\$68.44	\$92.37
Groundman 0 to 12 months	\$31.91		\$7.25	\$0.96	\$0.32	\$0.00	\$7.34	\$0.40	\$0.00	\$0.00	\$48.18	\$64.14
Groundman 1 Year or More	\$37.23		\$7.25	\$1.12	\$0.37	\$0.00	\$8.56	\$0.40	\$0.00	\$0.00	\$54.93	\$73.55
Apprentice Linemen	Percent											
1st 1000 Hrs	60.00	\$31.91	\$7.25	\$0.96	\$0.32	\$0.00	\$7.34	\$0.40	\$0.00	\$0.00	\$48.18	\$64.13
2nd 1000 Hrs	65.00	\$34.57	\$7.25	\$1.04	\$0.35	\$0.00	\$7.95	\$0.40	\$0.00	\$0.00	\$51.56	\$68.84
3rd 1000 Hrs	70.00	\$37.23	\$7.25	\$1.12	\$0.37	\$0.00	\$8.56	\$0.40	\$0.00	\$0.00	\$54.93	\$73.54
4th 1000 Hrs	75.00	\$39.89	\$7.25	\$1.20	\$0.40	\$0.00	\$9.17	\$0.40	\$0.00	\$0.00	\$58.31	\$78.25
5th 1000 Hrs	80.00	\$42.54	\$7.25	\$1.28	\$0.43	\$0.00	\$9.78	\$0.40	\$0.00	\$0.00	\$61.68	\$82.96
6th 1000 Hrs	85.00	\$45.20	\$7.25	\$1.36	\$0.45	\$0.00	\$10.40	\$0.40	\$0.00	\$0.00	\$65.06	\$87.66
7th 1000 Hrs	90.00	\$47.86	\$7.25	\$1.44	\$0.48	\$0.00	\$11.01	\$0.40	\$0.00	\$0.00	\$68.44	\$92.37

Special Calculation Note : Other is Health Reimbursement Account

Ratio :

1 Journeymen to 1 Apprentice

Jurisdiction (* denotes special jurisdictional note) :

ASHTABULA, CUYAHOGA, GEAUGA, LAKE, LORAIN

Special Jurisdictional Note :**Details :**

A groundman when directed shall assist a Journeymen in the performance of his/her work on the ground, including the use of hand tools. Under no circumstances shall this classification climb poles, towers, ladders, or work from an elevated platform or bucket truck. This classification shall not perform work normally assigned to an apprentice lineman. There shall be no more than one (1) Groundman for each two (2) Journeyman except when performing DOT Traffic Signal or Highway lighting work where the ratio can be two (2) Groundman for each Journeyman or Operator.

Prevailing Wage Rate Skilled Crafts

Name of Union: Electrical Local 71 High Tension Pipe Type Cable

Change # : LCN01-2024ibLoc71HighTension

Craft : Lineman Effective Date : 02/07/2024 Last Posted : 02/07/2024

	BHR	Fringe Benefit Payments						Irrevocable Fund		Total PWR	Overtime Rate
		H&W	Pension	App Tr.	Vac.	Annuity	Other	LECET (*)	MISC (*)		
Classification											
Electrical Lineman	\$50.66	\$7.25	\$1.52	\$0.51	\$0.00	\$12.16	\$0.75	\$0.00	\$0.00	\$72.85	\$98.18
Certified Lineman Welder	\$50.66	\$7.25	\$1.52	\$0.51	\$0.00	\$12.16	\$0.75	\$0.00	\$0.00	\$72.85	\$98.18
Certified Cable Splicer	\$50.66	\$7.25	\$1.52	\$0.51	\$0.00	\$12.16	\$0.75	\$0.00	\$0.00	\$72.85	\$98.18
Operator A	\$45.39	\$7.25	\$1.36	\$0.45	\$0.00	\$10.89	\$0.75	\$0.00	\$0.00	\$66.09	\$88.79
Operator B	\$40.18	\$7.25	\$1.21	\$0.40	\$0.00	\$9.64	\$0.75	\$0.00	\$0.00	\$59.43	\$79.52
Operator C	\$32.29	\$7.25	\$0.97	\$0.32	\$0.00	\$7.75	\$0.75	\$0.00	\$0.00	\$49.33	\$65.47
Groundman 0-12 months Exp	\$25.33	\$7.25	\$0.76	\$0.25	\$0.00	\$6.08	\$0.75	\$0.00	\$0.00	\$40.42	\$53.08
Groundman 0-12 months Exp w/CDL	\$27.86	\$7.25	\$0.84	\$0.28	\$0.00	\$6.69	\$0.75	\$0.00	\$0.00	\$43.67	\$57.60
Groundman 1 yr or more	\$27.86	\$7.25	\$0.84	\$0.28	\$0.00	\$6.69	\$0.75	\$0.00	\$0.00	\$43.67	\$57.60
Groundman 1 yr or more w/CDL	\$32.92	\$7.25	\$0.99	\$0.33	\$0.00	\$7.90	\$0.75	\$0.00	\$0.00	\$50.14	\$66.60
Equipment Mechanic A	\$40.18	\$7.25	\$1.21	\$0.40	\$0.00	\$9.64	\$0.75	\$0.00	\$0.00	\$59.43	\$79.52
Equipment Mechanic B	\$36.23	\$7.25	\$1.09	\$0.36	\$0.00	\$8.70	\$0.75	\$0.00	\$0.00	\$54.38	\$72.50
Equipment Mechanic C	\$32.29	\$7.25	\$0.97	\$0.32	\$0.00	\$7.75	\$0.75	\$0.00	\$0.00	\$49.33	\$65.47

X-Ray Technician	\$50.66	\$7.25	\$1.52	\$0.51	\$0.00	\$12.16	\$0.75	\$0.00	\$0.00	\$72.85	\$98.18	
Apprentice	Percent											
1st 1000 hrs	60.00	\$30.40	\$7.25	\$0.91	\$0.30	\$0.00	\$7.30	\$0.75	\$0.00	\$0.00	\$46.91	\$62.10
2nd 1000 hrs	65.00	\$32.93	\$7.25	\$0.99	\$0.33	\$0.00	\$7.90	\$0.75	\$0.00	\$0.00	\$50.15	\$66.61
3rd 1000 hrs	70.00	\$35.46	\$7.25	\$1.06	\$0.35	\$0.00	\$8.51	\$0.75	\$0.00	\$0.00	\$53.38	\$71.11
4th 1000 hrs	75.00	\$38.00	\$7.25	\$1.14	\$0.38	\$0.00	\$9.12	\$0.75	\$0.00	\$0.00	\$56.64	\$75.63
5th 1000 hrs	80.00	\$40.53	\$7.25	\$1.22	\$0.41	\$0.00	\$9.73	\$0.75	\$0.00	\$0.00	\$59.89	\$80.15
6th 1000 hrs	85.00	\$43.06	\$7.25	\$1.29	\$0.43	\$0.00	\$10.33	\$0.75	\$0.00	\$0.00	\$63.11	\$84.64
7th 1000 hrs	90.00	\$45.59	\$7.25	\$1.37	\$0.46	\$0.00	\$10.94	\$0.75	\$0.00	\$0.00	\$66.36	\$89.16

Special Calculation Note : Other is Health Reimbursement Account

Operator "A"

John Henry Rock Drill, D-6 (or equivalent) and above, Trackhoe Digger, (320 Track excavator), Cranes (greater than 25 tons and less than 45 tons).

Operator "B"

Cranes (greater than 6 tons and up to 25 tons), Backhoes, Road Tractor, Dozer up to D-5, Pressure Digger- wheeled or tracked, all Tension wire Stringing equipment.

Operator "C"

Trench, Backhoe, Riding type vibratory Compactor, Ground Rod Driver, Boom Truck (6 ton & below), Skid Steer Loaders, Material Handler.

*All Operators of cranes 45 ton or larger shall be paid the journeyman rate of pay.

Ratio :

1 Journeyman to 1 Apprentice

Jurisdiction (* denotes special jurisdictional note) :

ADAMS, ASHLAND, ASHTABULA, ATHENS, AUGLAIZE, BELMONT, BROWN, BUTLER, CARROLL, CHAMPAIGN, CLARK, CLERMONT, CLINTON, COLUMBIANA, COSHOCTON, CRAWFORD, CUYAHOGA, DARKE, DELAWARE, FAIRFIELD, FAYETTE, FRANKLIN, GALLIA, GEAUGA, GREENE, GUERNSEY, HAMILTON, HARRISON, HIGHLAND, HOCKING, HOLMES, JACKSON, JEFFERSON, KNOX, LAKE, LAWRENCE, LICKING, LOGAN, LORAIN, MADISON, MAHONING, MARION, MEDINA, MEIGS, MERCER, MIAMI, MONROE, MONTGOMERY, MORGAN, MORROW, MUSKINGUM, NOBLE, PERRY, PICKAWAY, PIKE, PORTAGE, PREBLE, RICHLAND, ROSS, SCIOTO, SHELBY, STARK, SUMMIT, TRUMBULL,

TUSCARAWAS, UNION, VINTON, WARREN,
WASHINGTON, WAYNE

Special Jurisdictional Note :

Details :

Heli - Arc Welding will be paid \$.30 above Journeyman rate. Additional compensation of 10% over the Journeyman Lineman and Journeyman Technician for performing work on structures outside of buildings such as water towers, smoke stacks, radio and television towers, more than 75' above the ground.

Prevailing Wage Rate Skilled Crafts

Name of Union: **Electrical Local 71 Outside Utility Power**

Change # : LCN01-2024ibLoc7OutsideUtility

Craft : Lineman Effective Date : 02/07/2024 Last Posted : 02/07/2024

	BHR	Fringe Benefit Payments						Irrevocable Fund		Total PWR	Overtime Rate
		H&W	Pension	App Tr.	Vac.	Annuity	Other	LECET (*)	MISC (*)		
Classification											
Electrical Lineman	\$47.99	\$7.25	\$1.44	\$0.48	\$0.00	\$11.52	\$0.75	\$0.00	\$0.00	\$69.43	\$93.42
Substation Technician	\$47.99	\$7.25	\$1.44	\$0.48	\$0.00	\$11.52	\$0.75	\$0.00	\$0.00	\$69.43	\$93.42
Cable Splicer	\$50.26	\$7.25	\$1.51	\$0.50	\$0.00	\$12.06	\$0.75	\$0.00	\$0.00	\$72.33	\$97.46
Operator A	\$43.01	\$7.25	\$1.29	\$0.43	\$0.00	\$10.32	\$0.75	\$0.00	\$0.00	\$63.05	\$84.56
Operator B	\$38.02	\$7.25	\$1.14	\$0.38	\$0.00	\$9.12	\$0.75	\$0.00	\$0.00	\$56.66	\$75.67
Operator C	\$30.52	\$7.25	\$0.92	\$0.31	\$0.00	\$7.32	\$0.75	\$0.00	\$0.00	\$47.07	\$62.33
Groundman 0-12 months Exp	\$24.00	\$7.25	\$0.72	\$0.24	\$0.00	\$5.76	\$0.75	\$0.00	\$0.00	\$38.72	\$50.72
Groundman 0-12 months Exp w/CDL	\$26.40	\$7.25	\$0.79	\$0.26	\$0.00	\$6.33	\$0.75	\$0.00	\$0.00	\$41.78	\$54.98
Groundman 1 yr or more	\$26.40	\$7.25	\$0.79	\$0.26	\$0.00	\$6.33	\$0.75	\$0.00	\$0.00	\$41.78	\$54.98
Groundman 1 yr or more w/CDL	\$31.19	\$7.25	\$0.94	\$0.31	\$0.00	\$7.49	\$0.75	\$0.00	\$0.00	\$47.93	\$63.53
Equipment Mechanic A	\$38.02	\$7.25	\$1.14	\$0.38	\$0.00	\$9.12	\$0.75	\$0.00	\$0.00	\$56.66	\$75.67
Equipment Mechanic B	\$34.28	\$7.25	\$1.03	\$0.34	\$0.00	\$8.23	\$0.75	\$0.00	\$0.00	\$51.88	\$69.02
Equipment Mechanic C	\$30.52	\$7.25	\$0.92	\$0.31	\$0.00	\$7.32	\$0.75	\$0.00	\$0.00	\$47.07	\$62.33
Line Truck w/uuger	\$33.65	\$7.25	\$1.01	\$0.34	\$0.00	\$8.08	\$0.75	\$0.00	\$0.00	\$51.08	\$67.90

Apprentice	Percent											
1st 1000 hrs	60.00	\$28.79	\$7.25	\$0.86	\$0.29	\$0.00	\$6.91	\$0.75	\$0.00	\$0.00	\$44.85	\$59.25
2nd 1000 hrs	65.00	\$31.19	\$7.25	\$0.94	\$0.31	\$0.00	\$7.49	\$0.75	\$0.00	\$0.00	\$47.93	\$63.53
3rd 1000 hrs	70.00	\$33.59	\$7.25	\$1.01	\$0.34	\$0.00	\$8.06	\$0.75	\$0.00	\$0.00	\$51.00	\$67.80
4th 1000 hrs	75.00	\$35.99	\$7.25	\$1.08	\$0.36	\$0.00	\$8.64	\$0.75	\$0.00	\$0.00	\$54.07	\$72.07
5th 1000 hrs	80.00	\$38.39	\$7.25	\$1.15	\$0.38	\$0.00	\$9.21	\$0.75	\$0.00	\$0.00	\$57.13	\$76.33
6th 1000 hrs	85.00	\$40.79	\$7.25	\$1.22	\$0.41	\$0.00	\$9.79	\$0.75	\$0.00	\$0.00	\$60.21	\$80.61
7th 1000 hrs	90.00	\$43.19	\$7.25	\$1.30	\$0.43	\$0.00	\$10.37	\$0.75	\$0.00	\$0.00	\$63.29	\$84.89

Special Calculation Note : Other is Health Reimbursement Account

Operator "A"

John Henry Rock Drill, D-6 (or equivalent) and above, Trackhoe Digger, (320 Track excavator), Cranes (greater than 25 tons and less than 45 tons).

Operator "B"

Cranes (greater than 6 tons and up to 25 tons), Backhoes, Road Tractor, Dozer up to D-5, Pressure Digger- wheeled or tracked, all Tension wire Stringing equipment.

Operator "C"

Trench, Backhoe, Riding type vibratory Compactor, Ground Rod Driver, Boom Truck (6 ton & below), Skid Steer Loaders, Material Handler.

Ratio :

(1) Journeyman Lineman to (1) Apprentice

Jurisdiction (* denotes special jurisdictional note) :

ADAMS, ASHLAND, ASHTABULA, ATHENS, AUGLAIZE, BELMONT, BROWN, BUTLER, CARROLL, CHAMPAIGN, CLARK, CLERMONT, CLINTON, COLUMBIANA, COSHOCTON, CRAWFORD, CUYAHOGA, DARKE, DELAWARE, FAIRFIELD, FAYETTE, FRANKLIN, GALLIA, GEAUGA, GREENE, GUERNSEY, HAMILTON, HARRISON, HIGHLAND, HOCKING, HOLMES, JACKSON, JEFFERSON, KNOX, LAKE, LAWRENCE, LICKING, LOGAN, LORAIN, MADISON, MAHONING, MARION, MEDINA, MEIGS, MERCER, MIAMI, MONROE, MONTGOMERY, MORGAN, MORROW, MUSKINGUM, NOBLE, PERRY, PICKAWAY, PIKE, PORTAGE, PREBLE, RICHLAND, ROSS, SCIOTO, SHELBY, STARK, SUMMIT, TRUMBULL, TUSCARAWAS, UNION, VINTON, WARREN, WASHINGTON, WAYNE

Special Jurisdictional Note :

Details :

Heli - Arc Welding will be paid \$.30 above Journeyman rate. Additional compensation of 10% over the

Journeyman Lineman and Journeyman Technician for performing work on structures outside of buildings such as water towers, smoke stacks, radio and television towers, more than 75' above the ground.

Prevailing Wage Rate Skilled Crafts

Name of Union: Electrical Local 71 Voice Data Video Outside

Change # : LCN02-2024ibLoc71VDV

Craft : Voice Data Video Effective Date : 03/06/2024 Last Posted : 03/06/2024

	BHR		Fringe Benefit Payments					Irrevocable Fund		Total PWR	Overtime Rate	
			H&W	Pension	App Tr.	Vac.	Annuity	Other	LECET (*)			MISC (*)
Classification												
Electrical Installer Technician I	\$35.39		\$7.25	\$1.06	\$0.00	\$0.00	\$1.77	\$0.00	\$0.00	\$0.00	\$45.47	\$63.17
Installer Technician II	\$33.37		\$7.25	\$1.00	\$0.00	\$0.00	\$1.67	\$0.00	\$0.00	\$0.00	\$43.29	\$59.97
Installer Repairman	\$33.37		\$7.25	\$1.00	\$0.00	\$0.00	\$1.67	\$0.00	\$0.00	\$0.00	\$43.29	\$59.97
Equipment Operator II	\$24.98		\$7.25	\$0.75	\$0.00	\$0.00	\$1.25	\$0.00	\$0.00	\$0.00	\$34.23	\$46.72
Cable Splicer	\$35.39		\$7.25	\$1.06	\$0.00	\$0.00	\$1.77	\$0.00	\$0.00	\$0.00	\$45.47	\$63.17
Ground Driver W/CDL	\$16.69		\$7.25	\$0.50	\$0.00	\$0.00	\$0.83	\$0.00	\$0.00	\$0.00	\$25.27	\$33.62
Groundman	\$14.57		\$7.25	\$0.44	\$0.00	\$0.00	\$0.73	\$0.00	\$0.00	\$0.00	\$22.99	\$30.28
Trainees	Percent											
Trainee F	50.02	\$17.70	\$7.25	\$0.53	\$0.00	\$0.89	\$0.00	\$0.00	\$0.00	\$0.00	\$26.37	\$35.22
Trainee E	58.00	\$20.53	\$7.25	\$0.62	\$0.00	\$1.03	\$0.00	\$0.00	\$0.00	\$0.00	\$29.43	\$39.69
Trainee D	66.00	\$23.36	\$7.25	\$0.70	\$0.00	\$1.17	\$0.00	\$0.00	\$0.00	\$0.00	\$32.48	\$44.16
Trainee C	74.00	\$26.19	\$7.25	\$0.79	\$0.00	\$1.31	\$0.00	\$0.00	\$0.00	\$0.00	\$35.54	\$48.63
Trainee B	82.00	\$29.02	\$7.25	\$0.87	\$0.00	\$1.45	\$0.00	\$0.00	\$0.00	\$0.00	\$38.59	\$53.10
Trainee A	90.00	\$31.85	\$7.25	\$0.96	\$0.00	\$1.59	\$0.00	\$0.00	\$0.00	\$0.00	\$41.65	\$57.58

Special Calculation Note :

Ratio :

1 Trainee to 1 Journeyman

Jurisdiction (* denotes special jurisdictional note) :

ADAMS, ASHLAND, ASHTABULA, ATHENS, AUGLAIZE, BELMONT, BROWN, BUTLER, CARROLL, CHAMPAIGN, CLARK, CLERMONT, CLINTON, COLUMBIANA, COSHOCTON, CRAWFORD, CUYAHOGA, DARKE, DELAWARE, FAIRFIELD, FAYETTE, FRANKLIN, GALLIA,

GEAUGA, GREENE, GUERNSEY, HAMILTON, HARRISON, HIGHLAND, HOCKING, HOLMES, JACKSON, JEFFERSON, KNOX, LAKE, LAWRENCE, LICKING, LOGAN, LORAIN, MADISON, MAHONING, MARION, MEDINA, MEIGS, MERCER, MIAMI, MONROE, MONTGOMERY, MORGAN, MORROW, MUSKINGUM, NOBLE, PERRY, PICKAWAY, PIKE, PORTAGE, PREBLE, RICHLAND, ROSS, SCIOTO, SHELBY, STARK, SUMMIT, TRUMBULL, TUSCARAWAS, UNION, VINTON, WARREN, WASHINGTON, WAYNE

Special Jurisdictional Note :

Details :

Cable Splicer: Inspect and test lines or cables, analyze results, and evaluate transmission characteristics. Cover conductors with insulation or seal splices with moisture-proof covering. Install, splice, test, and repair cables using tools or mechanical equipment. This will include the splicing of fiber.

Installer Technician I: Must know all aspects of telephone and cable work. This is to include aerial, underground, and manhole work. Must know how to climb and run bucket. Must have all the tools required to perform these tasks. Must be able to be responsible for the safety of the crew at all times. Must also have CDL license and have at least 5 years experience.

Installer Repairman: Perform tasks of repairing, installing, and testing phone and CATV services.

Installer Technician II: Have at least three years of telephone and CATV experience. Must have the knowledge of underground, aerial, and manhole work. Must be able to climb and operate bucket. Must have CDL. Must have all tools needed to perform these tasks.

Equipment Operator II: Able to operate a digger derrick or bucket truck. Have at least 3 years of experience and must have a valid CDL license.

Groundman W/CDL: Must have a valid CDL license and be able to perform tasks such as: climbing poles, pulling down guys, making up material, and getting appropriate tools for the job. Must have at least 5 year's experience.

Groundman: Perform tasks such as: climbing poles, pulling down guys, making up material, and getting appropriate tools for the job. Experience 0-5 years.

Prevailing Wage Rate Skilled Crafts

Name of Union: Electrical Local 71 Underground Residential Distribution

Change # : LCN01-2024ibLoc7URD

Craft : Lineman Effective Date : 02/07/2024 Last Posted : 02/07/2024

	BHR		Fringe Benefit Payments					Irrevocable Fund		Total PWR	Overtime Rate	
			H&W	Pension	App Tr.	Vac.	Annuity	Other	LECET (*)			MISC (*)
Classification												
URD Electrician	\$36.41		\$7.25	\$1.09	\$0.36	\$0.00	\$8.74	\$0.75	\$0.00	\$0.00	\$54.60	\$72.80
Equipment Operator A	\$32.57		\$7.25	\$0.98	\$0.33	\$0.00	\$7.82	\$0.75	\$0.00	\$0.00	\$49.70	\$65.98
Equipment Operator B	\$29.91		\$7.25	\$0.90	\$0.30	\$0.00	\$7.18	\$0.75	\$0.00	\$0.00	\$46.29	\$61.25
Directional Drill Locator	\$32.57		\$7.25	\$0.98	\$0.33	\$0.00	\$7.82	\$0.75	\$0.00	\$0.00	\$49.70	\$65.98
Directional Drill Operator	\$29.91		\$7.25	\$0.90	\$0.30	\$0.00	\$7.18	\$0.75	\$0.00	\$0.00	\$46.29	\$61.25
Groundman 0-12 months Exp	\$23.64		\$7.25	\$0.71	\$0.24	\$0.00	\$5.76	\$0.75	\$0.00	\$0.00	\$38.35	\$50.17
Groundman 0-12 months Exp w/CDL	\$26.07		\$7.25	\$0.78	\$0.26	\$0.00	\$6.26	\$0.75	\$0.00	\$0.00	\$41.37	\$54.41
Groundman 1 yr or more	\$26.07		\$7.25	\$0.78	\$0.26	\$0.00	\$6.26	\$0.75	\$0.00	\$0.00	\$41.37	\$54.41
Groundman 1 yr or more w/CDL	\$30.96		\$7.25	\$0.93	\$0.31	\$0.00	\$7.43	\$0.75	\$0.00	\$0.00	\$47.63	\$63.11
Apprentice	Percent											
1st 1000 hrs	80.00	\$29.13	\$7.25	\$0.87	\$0.29	\$0.00	\$6.99	\$0.75	\$0.00	\$0.00	\$45.28	\$59.84
2nd 1000 hrs	85.00	\$30.95	\$7.25	\$0.93	\$0.31	\$0.00	\$7.43	\$0.75	\$0.00	\$0.00	\$47.62	\$63.09
3rd 1000 hrs	90.00	\$32.77	\$7.25	\$0.98	\$0.33	\$0.00	\$7.86	\$0.75	\$0.00	\$0.00	\$49.94	\$66.32

4th 1000 hrs	95.00	\$34.59	\$7.25	\$1.04	\$0.35	\$0.00	\$8.28	\$0.75	\$0.00	\$0.00	\$52.26	\$69.55
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Special Calculation Note : Other: Health Reimbursement Account

Ratio :

(1) Journeyman Lineman to (1) Apprentice

Jurisdiction (* denotes special jurisdictional note) :

ADAMS, ASHLAND, ASHTABULA, ATHENS, AUGLAIZE, BELMONT, BROWN, BUTLER, CARROLL, CHAMPAIGN, CLARK, CLERMONT, CLINTON, COLUMBIANA, COSHOCTON, CRAWFORD, CUYAHOGA, DARKE, DELAWARE, FAIRFIELD, FAYETTE, FRANKLIN, GALLIA, GEAUGA, GREENE, GUERNSEY, HAMILTON, HARRISON, HIGHLAND, HOCKING, HOLMES, JACKSON, JEFFERSON, KNOX, LAKE, LAWRENCE, LICKING, LOGAN, LORAIN, MADISON, MAHONING, MARION, MEDINA, MEIGS, MERCER, MIAMI, MONROE, MONTGOMERY, MORGAN, MORROW, MUSKINGUM, NOBLE, PERRY, PICKAWAY, PIKE, PORTAGE, PREBLE, RICHLAND, ROSS, SCIOTO, SHELBY, STARK, SUMMIT, TRUMBULL, TUSCARAWAS, UNION, VINTON, WARREN, WASHINGTON, WAYNE

Special Jurisdictional Note :

Details :

This work applies to projects designated for any outside Underground Residential Distribution construction work for electrical utilities, municipalities and rural electrification projects.

Prevailing Wage Rate Skilled Crafts

Name of Union: Elevator Local 17

Change # : LCN01-2024ibLoc17

Craft : Elevator Effective Date : 04/10/2024 Last Posted : 04/10/2024

	BHR		Fringe Benefit Payments					Irrevocable Fund		Total PWR	Overtime Rate	
			H&W	Pension	App Tr.	Vac.	Annuity	Other	LECET (*)			MISC (*)
Classification												
Elevator Mechanic	\$61.18		\$16.17	\$10.86	\$0.75	\$4.89	\$10.10	\$2.30	\$0.00	\$0.00	\$106.25	\$136.84
Helper	\$42.83		\$16.07	\$10.86	\$0.75	\$3.43	\$10.10	\$1.61	\$0.00	\$0.00	\$85.65	\$107.06
Apprentice	Percent											
0-6months Probation	50.00	\$30.59	\$0.00	\$0.00	\$0.00	\$1.84	\$0.00	\$0.00	\$0.00	\$0.00	\$32.43	\$47.73
1st year	55.00	\$33.65	\$16.07	\$10.86	\$0.75	\$2.02	\$10.10	\$1.27	\$0.00	\$0.00	\$74.72	\$91.54
2nd year	65.00	\$39.77	\$16.07	\$10.86	\$0.75	\$2.39	\$10.10	\$1.50	\$0.00	\$0.00	\$81.44	\$101.32
3rd year	70.00	\$42.83	\$16.07	\$10.86	\$0.75	\$2.57	\$10.10	\$1.61	\$0.00	\$0.00	\$84.79	\$106.20
4th year and Assistant Mechanic	80.00	\$48.94	\$16.07	\$10.86	\$0.75	\$2.94	\$10.10	\$1.84	\$0.00	\$0.00	\$91.50	\$115.98

Special Calculation Note : Vacation 6% for employees under 5 years based on regular hourly rate for all hours worked. 8% for employees over 5 years based on regular hourly rate for all hours worked. Other is Holiday Pay

Ratio :

- 1 Journeyman to 1 Apprentice
- 1 Journeyman to 1 Helper
- 1 Journeyman to 1 Assistant Mechanic

Jurisdiction (* denotes special jurisdictional note) :

ASHTABULA, CUYAHOGA, ERIE, GEAUGA, LAKE, LORAIN

Special Jurisdictional Note :

Details :

Prevailing Wage Rate Skilled Crafts

Name of Union: **Glazier Local 181**

Change # : LCN01-2024ibLoc181

Craft : Glazier Effective Date : 05/08/2024 Last Posted : 05/08/2024

	BHR		Fringe Benefit Payments					Irrevocable Fund		Total PWR	Overtime Rate	
			H&W	Pension	App Tr.	Vac.	Annuity	Other	LECET (*)			MISC (*)
Classification												
Glazier	\$34.82		\$9.12	\$11.58	\$0.45	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$55.97	\$73.38
Apprentice	Percent											
1st Year	60.00	\$20.89	\$9.12	\$1.02	\$0.45	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$31.48	\$41.93
2nd Year	70.00	\$24.37	\$9.12	\$3.52	\$0.45	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$37.46	\$49.65
3rd Year	80.00	\$27.86	\$9.12	\$7.69	\$0.45	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$45.12	\$59.04
4th Year	90.00	\$31.34	\$9.12	\$8.53	\$0.45	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$49.44	\$65.11

Special Calculation Note : No special calculations for this classification.

Ratio :

1 Journeymen to 1 Apprentice

Jurisdiction (* denotes special jurisdictional note) :

ASHTABULA, CUYAHOGA, ERIE*, GEAUGA, HURON, LAKE, LORAIN, MEDINA*, PORTAGE*, SUMMIT*

Special Jurisdictional Note : Start at the intersection of Route 305 and the eastern boundary line of Portage County. Follow Route 305 west onto Route 82, follow Route 82 west to the intersection of Routes 82,8 and 271, follow Route 271 south to Medina County line west to Route 94, follow Route 94 south to Route 303, follow Route 303 west to Route 252, follow Route 252 south to Route 18, follow Route 18 west to Route 301, follow 301 south to Route 162, follow Route 162 west to Route 58, follow Route 58 south to the Ashland County line, follow the Ashland County line. The eastern part of Route 4 north to Lake Erie is the jurisdiction of Local 181. Local 181 has the jurisdiction on all projects built on the property which borders on the above Routes and/or intersections, wherever a County line is the divider between Local 181 and another Union, the jurisdiction is only to the county line.

Details :

High Pay: All work is defined for the purpose of the agreement as being work which requires that the employee be supported by equipment that hangs from or suspends from the wall or roof of a building or structure. This work shall receive an additional \$1.50 per hour.

Prevailing Wage Rate Skilled Crafts

Name of Union: Ironworker Local 17

Change # : LCN01-2020fbLoc17

Craft : Ironworker Effective Date : 12/24/2020 Last Posted : 12/24/2020

	BHR		Fringe Benefit Payments					Irrevocable Fund		Total PWR	Overtime Rate	
			H&W	Pension	App Tr.	Vac.	Annuity	Other	LECET (*)			MISC (*)
Classification												
Ironworker	\$33.83		\$7.94	\$10.00	\$0.67	\$2.10	\$4.50	\$0.00	\$0.00	\$0.00	\$59.04	\$75.95
Apprentice	Percent											
1st 6 Months	50.00	\$16.91	\$7.94	\$10.00	\$0.67	\$2.10	\$4.50	\$0.00	\$0.00	\$0.00	\$42.13	\$50.58
2nd 6 Months	55.00	\$18.61	\$7.94	\$10.00	\$0.67	\$2.10	\$4.50	\$0.00	\$0.00	\$0.00	\$43.82	\$53.12
2nd Year 1st 6 Months	70.00	\$23.68	\$7.94	\$10.00	\$0.67	\$2.10	\$4.50	\$0.00	\$0.00	\$0.00	\$48.89	\$60.73
2nd Year 2nd 6 Months	75.00	\$25.37	\$7.94	\$10.00	\$0.67	\$2.10	\$4.50	\$0.00	\$0.00	\$0.00	\$50.58	\$63.27
3rd Year 1st 6 Months	80.00	\$27.06	\$7.94	\$10.00	\$0.67	\$2.10	\$4.50	\$0.00	\$0.00	\$0.00	\$52.27	\$65.81
3rd Year 2nd 6 Months	85.00	\$28.76	\$7.94	\$10.00	\$0.67	\$2.10	\$4.50	\$0.00	\$0.00	\$0.00	\$53.97	\$68.34
4th Year 1st 6 Months	90.00	\$30.45	\$7.94	\$10.00	\$0.67	\$2.10	\$4.50	\$0.00	\$0.00	\$0.00	\$55.66	\$70.88
4th Year 2nd 6 Months	95.00	\$32.14	\$7.94	\$10.00	\$0.67	\$2.10	\$4.50	\$0.00	\$0.00	\$0.00	\$57.35	\$73.42

Special Calculation Note : No special calculations for this skilled craft wage rate are required at this time.

Ratio :

- 4 Journeymen to 1 Apprentice on Structural Work
- 3 Journeymen to 1 Apprentice on Rod Work
- 2 Journeymen to 1 Apprentice on Finishing, Steel Sash, Stairway and Ornamental Work
- 1 Apprentice for every Sheeting Gang
- 1 Journeymen to 2 Apprentice Roadway Signage and Sound Barriers

Jurisdiction (* denotes special jurisdictional note):

- ASHTABULA, CUYAHOGA, ERIE, GEAUGA, HURON, LAKE, LORAIN, MEDINA, PORTAGE, SUMMIT

2 Journeymen to 2 Apprentice Unloading and Erection of Light Gauge Metal Trusses

Special Jurisdictional Note : West Boundary Line :Sandusky, Ohio: Boundary lines between Local 17 & Local 55 are as follows: Columbus Ave north to Sandusky Bay (and/or Lake Erie): Columbus Ave South to present Route 4: Route 4 South to present Route 99: from Route 99 south to old Route 224-all territory to the west of the boundary line to be the jurisdiction of Local 55.All territory to the East of the boundary line to be the jurisdiction of Local 17.Kelly's Island to be within jurisdiction of Local 17.All bridges,tunnels,viaducts,etc, relative to these boundary lines shall be the jurisdiction of Local 17

South Boundary Line:Canton, Ohio: Boundary lines between Local 17 & Local 550 are as follows: All territory north of old Route 224 line to be the jurisdiction of Local 17. All bridges,tunnels,viaducts,signs,etc, relative to old Route 224 line to be within the jurisdiction of Local 17. All territory south of old Route 224 line is to be within the jurisdiction of Local 550, except for everything within the city limits of Barberton which shall be the jurisdiction of Local 17.

Reading from West to East: Route old 224 line: Greenwich Ave-Wooster Road or East Ave. Route old 224 line: New 224 line including Cloverleaf: East Waterloo Road: New 224 line-Attwood Road-Old 224. This will be considered to be the old Route 224 line,except for the city limits of Barberton, Ohio which shall be the jurisdiction of Local 17

Southeast Boundary : Between local 17 and Local 207 are as follows: West of a line from Middlefield to Shalersville to Deerfield, shall be under the jurisdiction of local 17. East of a line from Middlefield, to Shalersville to Deerfield, shall be under the jurisdiction of Local 207.

Local 17 & Local 207 have agreed that the Ohio County of Ashtabula shall be as follows: Everything North of Route 6, starting at the Geauga County line, proceeding east to State Route 45, shall be under the jurisdiction of Local 17. Everything South, starting at the Geauga County line shall be under local 207.

North Boundary: The East boundary line and the West boundary line continuing North halfway across Lake Erie.

Details :

Prevailing Wage Rate Skilled Crafts

Name of Union: Labor HevHwy 2

Change # : LCN01-2024ibLaborHevHwy2

Craft : Laborer Group 1 Effective Date : 05/01/2024 Last Posted : 05/01/2024

	BHR		Fringe Benefit Payments					Irrevocable Fund		Total PWR	Overtime Rate	
			H&W	Pension	App Tr.	Vac.	Annuity	Other	LECET (*)			MISC (*)
Classification												
Laborer Group 1	\$35.95		\$8.40	\$4.15	\$0.45	\$0.00	\$1.50	\$0.00	\$0.10	\$0.00	\$50.55	\$68.53
Group 2	\$36.12		\$8.40	\$4.15	\$0.45	\$0.00	\$1.50	\$0.00	\$0.10	\$0.00	\$50.72	\$68.78
Group 3	\$36.45		\$8.40	\$4.15	\$0.45	\$0.00	\$1.50	\$0.00	\$0.10	\$0.00	\$51.05	\$69.28
Group 4	\$36.90		\$8.40	\$4.15	\$0.45	\$0.00	\$1.50	\$0.00	\$0.10	\$0.00	\$51.50	\$69.95
Watch Person	\$28.25		\$8.40	\$4.15	\$0.45	\$0.00	\$1.50	\$0.00	\$0.10	\$0.00	\$42.85	\$56.98
Apprentice	Percent											
0-1000 hrs	60.00	\$21.57	\$8.40	\$4.15	\$0.45	\$0.00	\$1.50	\$0.00	\$0.10	\$0.00	\$36.17	\$46.96
1001-2000 hrs	70.02	\$25.17	\$8.40	\$4.15	\$0.45	\$0.00	\$1.50	\$0.00	\$0.10	\$0.00	\$39.77	\$52.36
2001-3000 hrs	80.00	\$28.76	\$8.40	\$4.15	\$0.45	\$0.00	\$1.50	\$0.00	\$0.10	\$0.00	\$43.36	\$57.74
3001-4000 hrs	90.00	\$32.36	\$8.40	\$4.15	\$0.45	\$0.00	\$1.50	\$0.00	\$0.10	\$0.00	\$46.96	\$63.13
More Than 4000 hrs	100.00	\$35.95	\$8.40	\$4.15	\$0.45	\$0.00	\$1.50	\$0.00	\$0.10	\$0.00	\$50.55	\$68.53

Special Calculation Note : Watchman has no Apprentices. Tunnel Laborer rate with air-pressurized add \$1.00 to the above wage rate.

Ratio :

1 Journeymen to 1 Apprentice
3 Journeymen to 1 Apprentice thereafter

Jurisdiction (* denotes special jurisdictional note) :

ASHTABULA, ERIE, HURON, LORAIN, LUCAS, MAHONING, MEDINA, OTTAWA, PORTAGE, SANDUSKY, STARK, SUMMIT, TRUMBULL, WOOD

Special Jurisdictional Note : Hod Carriers and Common Laborers - Heavy, Highway, Sewer, Waterworks, Utility, Airport, Railroad, Industrial and Building Site, Sewer Plant, Waste Water Treatment Facilities Construction

Details :

Group 1

Laborer (Construction); Plant Laborer or Yardman, Right-of-way Laborer, Landscape Laborer, Highway Lighting Worker, Signalization Worker, (Swimming) Pool Construction Laborer, Utility Man, *Bridge Man, Handyman, Joint Setter, Flagperson, Carpenter Helper, Waterproofing Laborer, Slurry Seal, Seal Coating, Surface Treatment or Road Mix Laborer, Riprap Laborer & Grouter, Asphalt Laborer, Dump Man (batch trucks), Guardrail & Fence Installer, Mesh Handler & Placer, Concrete Curing Applicator, Scaffold Erector, Sign Installer, Hazardous Waste (level D), Diver Helper, Zone Person and Traffic Control.

*Bridge Man will perform work as per the October 31, 1949, memorandum on concrete forms, by and between the United Brotherhood of Carpenters and Joiners of America and the Laborers' International Union of North America, which states in; "the moving, cleaning, oiling and carrying to the next point of erection, and the stripping of forms which are not to be re-used, and forms on all flat arch work shall be done by members of the Laborers' International Union of North America."

Group 2

Asphalt Raker, Screwman or Paver, Concrete Puddler, Kettle Man (pipeline), All Machine-Driven Tools (Gas, Electric, Air), Mason Tender, Brick Paver, Mortar Mixer, Skid Steer, Sheeting & Shoring Person, Surface Grinder Person, Screedperson, Water Blast, Hand Held Wand, Power Buggy or Power Wheelbarrow, Paint Striper, Plastic fusing Machine Operator, Rodding Machine Operator, Pug Mill Operator, Operator of All Vacuum Devices Wet or Dry, Handling of all Pumps 4 inches and under (gas, air or electric), Diver, Form Setter, Bottom Person, Welder Helper (pipeline), Concrete Saw Person, Cutting with Burning Torch, Pipe Layer, Hand Spiker (railroad), Underground Person (working in sewer and waterline, cleaning, repairing and reconditioning). Tunnel Laborer (without air), Caisson, Cofferdam (below 25 feet deep), Air Track and Wagon Drill, Sandblaster Nozzle Person, Hazardous Waste (level B), ***Lead Abatement, Hazardous Waste (level C)

***Includes the erecting of structures for the removal, including the encapsulation and containment of Lead abatement process.

Group 3

Blast and Powder Person, Muckers will be defined as shovel men working directly with the miners, Wrencher (mechanical joints & utility pipeline), Yarnier, Top Lander, Hazardous Waste (level A), Concrete Specialist, Curb Setter and Cutter, Grade Checker, Concrete Crew in Tunnels. Utility pipeline Tappers, Waterline, Caulker, Signal Person will receive the rate equal to the rate paid the Laborer classification for which the Laborer is signaling.

Group 4

Miner, Welder, Gunitite Nozzle Person

A.) The Watchperson shall be responsible to patrol and maintain a safe traffic zone including but not limited to barrels, cones, signs, arrow boards, message boards etc.

The responsibility of a watchperson is to see that the equipment, job and office trailer etc. are secure.

Prevailing Wage Rate Skilled Crafts

Name of Union: Labor Local 758 Building

Change # : LCN01-2024ibLoc758

Craft : Laborer Effective Date : 05/01/2024 Last Posted : 05/01/2024

	BHR		Fringe Benefit Payments					Irrevocable Fund		Total PWR	Overtime Rate	
			H&W	Pension	App Tr.	Vac.	Annuity	Other	LECET (*)			MISC (*)
Classification												
Laborer Group 1	\$34.17		\$8.40	\$4.15	\$0.40	\$0.00	\$1.00	\$0.17	\$0.10	\$0.00	\$48.39	\$65.47
Laborer Group 2	\$34.37		\$8.40	\$4.15	\$0.40	\$0.00	\$1.00	\$0.17	\$0.10	\$0.00	\$48.59	\$65.77
Laborer Group 3	\$34.77		\$8.40	\$4.15	\$0.40	\$0.00	\$1.00	\$0.17	\$0.10	\$0.00	\$48.99	\$66.37
Apprentice	Percent											
0-1000 hrs	60.00	\$20.50	\$8.40	\$4.15	\$0.40	\$0.00	\$1.00	\$0.17	\$0.10	\$0.00	\$34.72	\$44.97
1001-2000	70.00	\$23.92	\$8.40	\$4.15	\$0.40	\$0.00	\$1.00	\$0.17	\$0.10	\$0.00	\$38.14	\$50.10
2001-3000	80.00	\$27.34	\$8.40	\$4.15	\$0.40	\$0.00	\$1.00	\$0.17	\$0.10	\$0.00	\$41.56	\$55.22
3001-4000	90.00	\$30.75	\$8.40	\$4.15	\$0.40	\$0.00	\$1.00	\$0.17	\$0.10	\$0.00	\$44.97	\$60.35
More than 4000 hrs	100.00	\$34.17	\$8.40	\$4.15	\$0.40	\$0.00	\$1.00	\$0.17	\$0.10	\$0.00	\$48.39	\$65.47

Special Calculation Note : No special calculations for this skilled craft wage rate are required at this time.

Ratio :

1 Journeyman to 1 Apprentice
3 Journeyman to 1 Apprentice

Jurisdiction (* denotes special jurisdictional note) :

LORAIN

Special Jurisdictional Note :

Details :

Classification Description :

Group 1

Building and Construction Laborer, Asbestos Removal, Lead Abatement, Hazardous Waste Removal, Signalman, Tool Cribman, Carpenter Tenders, Finisher Tender, Deep Cleaning, Concrete Handler, Utility Construction Laborer, Guard Rail Erector, Grading, Landscaping and Cleanup.

Group 2

Bottom man, Scaffold Builders, Tunnel Laborer, Pipe Layer, Air and Power Driven Tools, Burner on Demolition Work, Swinging Scaffold, Mucker, Caisson Worker, Cofferdam Worker, Powder Man and Dynamite Blasters, Creosote Work, Mortar Mixer, Form Setter, Mason Tender, Plaster Tender, Laser Beam Set-up Man, Concrete

Tender. All work involving refractory materials including demolition of refractory materials.

Group 3

Gunnite Operation, Lancer, Bellman, Hook-up Man on Blast Furnace Work and Toxic/Hazardous Waste

Other is for Drug Testing

Prevailing Wage Rate Skilled Crafts

Name of Union: Operating Engineers - Building Local 18 - Zone I (A)

Change # : LCN01-2024ibLoc18

Craft : Operating Engineer Effective Date : 06/05/2024 Last Posted : 06/05/2024

	BHR		Fringe Benefit Payments					Irrevocable Fund		Total PWR	Overtime Rate	
			H&W	Pension	App Tr.	Vac.	Annuity	Other	LECET (*)			MISC (*)
Classification												
Operator Group A	\$46.71		\$9.26	\$6.25	\$0.90	\$0.00	\$0.00	\$0.09	\$0.00	\$0.10	\$63.31	\$86.67
Operator Group B	\$46.56		\$9.26	\$6.25	\$0.90	\$0.00	\$0.00	\$0.09	\$0.00	\$0.10	\$63.16	\$86.44
Operator Group C	\$45.11		\$9.26	\$6.25	\$0.90	\$0.00	\$0.00	\$0.09	\$0.00	\$0.10	\$61.71	\$84.26
Operator Group D	\$44.33		\$9.26	\$6.25	\$0.90	\$0.00	\$0.00	\$0.09	\$0.00	\$0.10	\$60.93	\$83.10
Operator Group E	\$44.01		\$9.26	\$6.25	\$0.90	\$0.00	\$0.00	\$0.09	\$0.00	\$0.10	\$60.61	\$82.62
Operator Group F	\$36.93		\$9.26	\$6.25	\$0.90	\$0.00	\$0.00	\$0.09	\$0.00	\$0.10	\$53.53	\$72.00
Master Mechanic	\$47.71		\$9.26	\$6.25	\$0.90	\$0.00	\$0.00	\$0.09	\$0.00	\$0.10	\$64.31	\$88.17
Crane 200'-299'	\$47.71		\$9.26	\$6.25	\$0.90	\$0.00	\$0.00	\$0.09	\$0.00	\$0.10	\$64.31	\$88.17
Crane 300' and over	\$48.21		\$9.26	\$6.25	\$0.90	\$0.00	\$0.00	\$0.09	\$0.00	\$0.10	\$64.81	\$88.92
Mobile Concrete Pumps 200'-299'	\$47.71		\$9.26	\$6.25	\$0.90	\$0.00	\$0.00	\$0.09	\$0.00	\$0.10	\$64.31	\$88.17
Mobile Concrete Pumps 300' and over	\$48.21		\$9.26	\$6.25	\$0.90	\$0.00	\$0.00	\$0.09	\$0.00	\$0.10	\$64.81	\$88.92
Apprentice	Percent											
1st Year	59.81	\$27.94	\$9.26	\$6.25	\$0.90	\$0.00	\$0.00	\$0.09	\$0.00	\$0.10	\$44.54	\$58.51
2nd Year	69.77	\$32.59	\$9.26	\$6.25	\$0.90	\$0.00	\$0.00	\$0.09	\$0.00	\$0.10	\$49.19	\$65.48
3rd Year	79.74	\$37.25	\$9.26	\$6.25	\$0.90	\$0.00	\$0.00	\$0.09	\$0.00	\$0.10	\$53.85	\$72.47
4th Year	89.70	\$41.90	\$9.26	\$6.25	\$0.90	\$0.00	\$0.00	\$0.09	\$0.00	\$0.10	\$58.50	\$79.45

Special Calculation Note : Other & Misc is Education & Safety and National Training Fund.

Ratio :

For every (3) Operating Engineer Journeymen employed by the company ,there may be employed (1) Registered Apprentice. An apprentice, while employed as part of a crew per Article VIII, paragraph77, will not be subject to the apprenticeship ratios in this collective bargaining agreement.

Jurisdiction (* denotes special jurisdictional note) :

ASHTABULA, CUYAHOGA, ERIE, GEAUGA, HURON, LAKE, LORAIN, MEDINA

Special Jurisdictional Note :**Details :**

Note: There will be a 5% increase for the apprentices on top of the percentages listed above provided they are operating mobile equipment. Operating Engineers employed on any piece of equipment requiring a Certified Crane Operator (CCO) certification or employed on cranes involved in pile driving operations shall be paid a premium of one dollar (\$1.00) per hour in addition to the crane rate or any escalated rate that may be in effect.

Group A - A-Frames; " Boiler Operators, Compressor Operators, Hydraulic Pumps & Power Pacs when mounted on a crane or regardless of where said equipment is mounted (piggy-back operatotion)"; Boom Trucks (all types); Cableways; Cherry Pickers; Combination - Concrete Mixers & Towers; Concrete Pumps; Cranes (all types); Cranes- compact: Track or rubber over 4000lbs. capacity; Cranes- self erecting: stationary, track or truck (all configurations); Derricks (all types); Draglines; Dredges (dipper, clam or suction) 3-man crew; Elevating Graders or Euclid Loaders; Floating Equipment; Gradalls; Helicopter Operators, hoisting building materials; Helicopter Winch Operators, hoisting building materials; Hoes (All types); Hoists (two or more drums); Lift Slab or Panel Jack Operators; Locomotives (all types); Maintenance Engineers (Maintenance Operators and/or Welder); Mixers, paving (multiple drum); Mobile Concrete Pumps with booms; Panelboards, (all types on site); Pile Drivers; Power Shovels; Robotics Equipment Operator/Mechanic; Rotary Drills (all), used on caissons work, wells (all types), Geothermal work and sub-structure work; Rough Terrain Forklifts with Winch/Hoist (when used as a crane); Side Booms; Slip Form Pavers; Straddle Carriers (Building Construction on site); Trench Machines (over 24" wide); Tug Boats; Tunnel Boring Machine (TBM).

Group B - Asphalt Pavers; Bulldozers; CMI type Equipment; End Loaders; Horizontal Directional Drill Locator; Horizontal Directional Drill Operator; Instrument Man; Kolman-type Loaders (Dirt Loading); Lead Greasemen; Mucking Machines; Power Graders; Power Scoops; Power Scrapers; Push Cats; Rotomills; Vermeer Type Concrete Saw.

Group C - Air Compressors, Pressurizing Shafts or Tunnels; Articulating/Straight bed end dumps if assigned by the employer (minus \$4.00 per hour from Group C); All Asphalt Rollers; Fork Lifts; Hoists (with one drum); House Elevators (except those automatic call button controlled); Hydro Excavator (all types C rate) (F rate if a second person is needed) Helper rate; Laser Screeds and like equipment; Man Lifts; Modular Moving and Placement machine (C Rate) (F Rate if second person is needed); Mud Jacks; Portable Hydraulic Gantry (lift system C rate) (F Rate if a second person is needed); Power Boilers (over 15 lbs. pressure); Pump Operators (installing or operating Well Points or other types of Dewatering Systems); Pressure Grouting; Trenchers (24" and under); Utility Operators.

Group D – Brokks with a manufacture’s weight of 3,500 lbs. and above; Compressors, on building construction; Conveyors, used for handling building materials; Generators; Gunite Machines; Mixers, more than one bag capacity; Mixers, one bag capacity (side loader); Pavement Breakers (hydraulic or cable); Post Drivers; Post Hole Diggers; Road Widening Trenchers; Rollers; Welder Operators.

Group E - Backfillers and Tampers; Batch Plants; Bar and Joint Installing Machines; Bull Floats; Burlap and Curing Machines; Cleaning Machine Operator (decontamination included); Clefplanes; Concrete Spreading Machines; Crushers; Deckhands; Drum Fireman (asphalt); Farm-type, Tractor, pulling attachments; Finishing

Machines; Forklifts (masonry work only); Form Trenchers; High Pressure Pumps (over 1/2" discharge); Hydro Seeders; Pumps (4" and over discharge), provided it is not part of a de-watering system discharged into a common header; Self-Propelled Power Spreaders; Self-Propelled Sub Graders; Submersible Pump (4" and over discharge), provided it is not part of a dewatering system discharged into a common header; Tire Repairman; Tractors, pulling sheepfoot rollers or graders; Vibratory Compactors with integral power.

Group F - Apprentice/Helpers, Oiler, Signalmen; Barrier Moving Machines (additional duty, paid same rate); Bobcat-type and/or Skid Steer Loader; Bobcat-type and/or Skid Steer Loader with any and all attachments; Brokks with a manufacture's weight less than 3,500 lbs.; Cranes – compact, track or rubber under 4000 lbs. capacity; Geodimeter; Grade Checker; Grinders (all); Inboard/Outboard Motor Boat Launches; Light Plant Operators; Planers (all types); Power Boilers (less than 15 lbs. pressure); Power Driven Heaters (oil fired); Power Scrubbers; Power Sweepers; Pumps (under 4 inch discharge); Rod Man; Rotomills; Saw (concrete Vermeer-type); Submersible Pumps (under 4 inch discharge); Vac Alls; Cutting, burning and fabricating on equipment and their attachments.

Master Mechanic - Master Mechanic

Crane 200' -299' - Boom & Jib 200' feet and over

Crane 300' and Over - Boom & Jib 300' and over

Prevailing Wage Rate Skilled Crafts

Name of Union: Operating Engineers - HevHwy Zone I

Change # : LCN01-2024ibLoc18hevhwyl

Craft : Operating Engineer Effective Date : 06/05/2024 Last Posted : 06/05/2024

	BHR		Fringe Benefit Payments					Irrevocable Fund		Total PWR	Overtime Rate	
			H&W	Pension	App Tr.	Vac.	Annuity	Other	LECET (*)			MISC (*)
Classification												
Operator Class A	\$45.63		\$9.26	\$6.25	\$0.90	\$0.00	\$0.00	\$0.09	\$0.00	\$0.10	\$62.23	\$85.05
Operator Class B	\$45.53		\$9.26	\$6.25	\$0.90	\$0.00	\$0.00	\$0.09	\$0.00	\$0.10	\$62.13	\$84.90
Operator Class C	\$44.49		\$9.26	\$6.25	\$0.90	\$0.00	\$0.00	\$0.09	\$0.00	\$0.10	\$61.09	\$83.34
Operator Class D	\$43.27		\$9.26	\$6.25	\$0.90	\$0.00	\$0.00	\$0.09	\$0.00	\$0.10	\$59.87	\$81.51
Operator Class E	\$37.98		\$9.26	\$6.25	\$0.90	\$0.00	\$0.00	\$0.09	\$0.00	\$0.10	\$54.58	\$73.57
Master Mechanic	\$46.63		\$9.26	\$6.25	\$0.90	\$0.00	\$0.00	\$0.09	\$0.00	\$0.10	\$63.23	\$86.55
Crane and Mobile Concrete Pump 150' - 179'	\$46.13		\$9.26	\$6.25	\$0.90	\$0.00	\$0.00	\$0.09	\$0.00	\$0.10	\$62.73	\$85.80
Crane and Mobile Concrete Pump 180' - 249'	\$46.63		\$9.26	\$6.25	\$0.90	\$0.00	\$0.00	\$0.09	\$0.00	\$0.10	\$63.23	\$86.55
Crane and Mobile Concrete Pump 250' and Over	\$46.88		\$9.26	\$6.25	\$0.90	\$0.00	\$0.00	\$0.09	\$0.00	\$0.10	\$63.48	\$86.92
Apprentice	Percent											
1st Year	50.00	\$22.82	\$9.26	\$6.25	\$0.90	\$0.00	\$0.00	\$0.09	\$0.00	\$0.10	\$39.42	\$50.82
2nd Year	60.00	\$27.38	\$9.26	\$6.25	\$0.90	\$0.00	\$0.00	\$0.09	\$0.00	\$0.10	\$43.98	\$57.67
3rd Year	70.00	\$31.94	\$9.26	\$6.25	\$0.90	\$0.00	\$0.00	\$0.09	\$0.00	\$0.10	\$48.54	\$64.51
4th Year	80.00	\$36.50	\$9.26	\$6.25	\$0.90	\$0.00	\$0.00	\$0.09	\$0.00	\$0.10	\$53.10	\$71.36
Field Mech Trainee												
1st year	50.00	\$22.82	\$9.26	\$6.25	\$0.90	\$0.00	\$0.00	\$0.09	\$0.00	\$0.10	\$39.42	\$50.82

2nd year	60.00	\$27.38	\$9.26	\$6.25	\$0.90	\$0.00	\$0.00	\$0.09	\$0.00	\$0.10	\$43.98	\$57.67
3rd year	70.00	\$31.94	\$9.26	\$6.25	\$0.90	\$0.00	\$0.00	\$0.09	\$0.00	\$0.10	\$48.54	\$64.51
4th year	80.00	\$36.50	\$9.26	\$6.25	\$0.90	\$0.00	\$0.00	\$0.09	\$0.00	\$0.10	\$53.10	\$71.36

Special Calculation Note : Other: Education & Safety Fund

Misc: National Training

Ratio :

For every (3) Operating Engineer Journeymen employed by the company, there may be employed (1) Registered Apprentice or Trainee Engineer through the referral when they are available. An Apprentice, while employed as part of a crew per Article VIII, paragraph 69 will not be subject to the apprenticeship ratios in this collective bargaining agreement

Jurisdiction (* denotes special jurisdictional note) :

ASHTABULA, CUYAHOGA, ERIE, GEAUGA, LAKE, LORAIN, MEDINA, PORTAGE, SUMMIT

Special Jurisdictional Note :

Details :

**Apprentices will receive a 10% increase on top of the percentages listed above provided they are operating mobile equipment. Mechanic Trainees will receive 10% if required to have a CDL.

Class A - Air Compressors on Steel Erection; Asphalt Plant Engineers (Cleveland District Only); Barrier Moving Machine; Boiler Operators, Compressor Operators, or Generators, when mounted on a rig; Boom Trucks (all types); Cableways; Cherry Pickers; Combination- Concrete Mixers & Towers; Concrete Plants (over 4 yd capacity); Concrete Pumps; Cranes (all types); Compact Cranes track or rubber over 4,000 pounds capacity; Cranes self-erecting stationary, track or truck; Derricks (all types); Draglines; Dredges dipper, clam or suction; Elevating Graders or Euclid Loaders; Floating Equipment (all types); Gradalls; Helicopter Crew (Operator- hoist or winch); Hoes (all types); Hoisting Engines; Hoisting Engines, on shaft or tunnel work; Hydraulic Gantry (lifting system); Industrial-type Tractors; Jet Engine Dryer (D8 or D9) diesel Tractors; Locomotives (standard gauge); Maintenance Operators/Technicians (class A); Mixers, paving (single or double drum); Mucking Machines; Multiple Scrapers; Piledriving Machines (all types); Power Shovels, Prentice Loader; Quad 9 (double pusher); Rail Tamper (with automatic lifting and aligning device); Refrigerating Machines (freezer operation); Rotary Drills, on caisson work; Rough Terrain Fork Lift with winch/hoist; Side Booms; Slip Form Pavers; Survey Crew Party Chiefs; Tower Derricks; Tree Shredders; Trench Machines (over 24" wide); Truck Mounted Concrete Pumps; Tug Boats; Tunnel Machines and /or Mining Machines; Wheel Excavators.

Class B - Asphalt Pavers; Automatic Subgrade Machines, self-propelled (CMI-type); Bobcat-type and /or Skid Steer Loader with hoe attachment greater than 7000 lbs.; Boring Machine Operators (more than 48 inches); Bulldozers; Concrete Saws, Vermeer type; Endloaders; Horizontal Directional Drill (50,000 ft. lbs. thrust and over); Hydro Milling Machine; Kolman-type Loaders (production type-dirt); Lead Greasemen; Lighting and Traffic Signal Installation Equipment includes all groups or classifications; Maintenance Operators/Technicians, Class B; Material Transfer Equipment (shuttle buggy) Asphalt; Pettibone-Rail Equipment; Power Graders; Power Scrapers; Push Cats; Rotomills (all), Grinders and Planners of all types, Groovers (excluding walk-behinds); Trench Machines (24 inch wide and under).

Class C - A-Frames; Air Compressors, on tunnel work (low Pressure); Articulating/straight bed end dumps if assigned (minus \$4.00 per hour); Asphalt Plant Engineers (Portage and Summit Counties only); Bobcat-type and/or skid steer loader with or without attachments; Drones; Highway Drills (all types); HydroVac/Excavator (when a second person is needed, the rate of pay will be "Class E"); Locomotives (narrow gauge); Material Hoist/Elevators; Mixers, concrete (more than one bag capacity); Mixers, one bag capacity (side loader); Power Boilers (over 15 lbs. pressure); Pump Operators (installing or operating well Points); Pumps (4 inch and over discharge); Railroad Tie Inserter/Remover; Rollers, Asphalt; Rotovator (lime-soil Stabilizer); Switch & Tie

Tampers (without lifting and aligning device); Utilities Operators, (small equipment); Welding Machines and Generators.

Class D – Backfillers and Tampers; Ballast Re-locator; Bar and Joint Installing Machines; Batch Plant Operators; Boring Machine Operators (48 inch or less); Bull Floats; Burlap and Curing Machines; Concrete Plants (capacity 4 yds. and under); Concrete Saws (multiple); Conveyors (highway); Crushers; Deckhands; Farm type tractors, with attachments (highway); Finishing Machines; Firemen, Floating Equipment (all types); Fork Lifts (highway), except masonry; Form Trenchers; Hydro Hammers; Hydro Seeders; Pavement Breakers (hydraulic or cable); Plant Mixers; Post Drivers; Post Hole Diggers; Power Brush Burners; Power Form Handling Equipment; Road Widening Trenchers; Rollers (brick, grade, macadam); Self-Propelled Power Spreaders; Self-Propelled Sub-Graders; Steam Firemen; Survey Instrument men; Tractors, pulling sheepsfoot rollers or graders; Vibratory Compactors, with integral power.

Class E - Compressors (portable, Sewer, Heavy and Highway); Cranes-Compact, track or rubber under 4,000 pound capacity; Drum Firemen (asphalt plant); Fueling and greasing (Primary Operator with Specialized CDL Endorsement Add \$3.00/hr); Generators; Inboard-Outboard Motor Boat Launches; Masonry Fork Lifts; Oil Heaters (asphalt plant); Oilers/Helpers; Power Driven Heaters (oil fired); Power Scrubbers; Power Sweepers; Pumps (under 4 inch discharge); Signalperson; Survey Rodmen or Chairmen; Tire Repairmen; VAC/ALLS.

Master Mechanic - Master Mechanic

Cranes and Mobile Concrete Pumps 150' -179' - Boom & Jib 150 - 179 feet

Cranes and Mobile Concrete Pumps 180' - 249' - Boom & Jib 180 - 249 feet

Cranes and Mobile Concrete Pumps 250' and over - Boom & Jib 250 feet or over

Prevailing Wage Rate Skilled Crafts

Name of Union: Painter Local 505

Change # : LCN01-2024ibLoc505

Craft : Drywall Finisher Effective Date : 05/01/2024 Last Posted : 05/01/2024

	BHR		Fringe Benefit Payments					Irrevocable Fund		Total PWR	Overtime Rate	
			H&W	Pension	App Tr.	Vac.	Annuity	Other	LECET (*)			MISC (*)
Classification												
Painter Drywall Finisher	\$32.00		\$9.12	\$6.08	\$0.45	\$0.00	\$4.66	\$0.00	\$0.00	\$0.00	\$52.31	\$68.31
Apprentice	Percent											
1st 6 months	55.00	\$17.60	\$9.12	\$1.84	\$0.45	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$29.01	\$37.81
2nd 6 months	55.00	\$17.60	\$9.12	\$1.94	\$0.45	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$29.11	\$37.91
3rd 6 months	55.00	\$17.60	\$9.12	\$2.39	\$0.45	\$0.00	\$2.56	\$0.00	\$0.00	\$0.00	\$32.12	\$40.92
4th 6 months	65.00	\$20.80	\$9.12	\$2.49	\$0.45	\$0.00	\$3.03	\$0.00	\$0.00	\$0.00	\$35.89	\$46.29
5th 6 months	75.00	\$24.00	\$9.12	\$2.94	\$0.45	\$0.00	\$3.50	\$0.00	\$0.00	\$0.00	\$40.01	\$52.01
6th 6 months	85.00	\$27.20	\$9.12	\$3.04	\$0.45	\$0.00	\$3.96	\$0.00	\$0.00	\$0.00	\$43.77	\$57.37

Special Calculation Note : No special calculation for this classification.

Ratio :

2 Journeyman to 1 Apprentice
3 Journeyman to 1 Apprentice after 9 total tapers

Jurisdiction (* denotes special jurisdictional note) :

ASHTABULA, CUYAHOGA, GEAUGA, LAKE, LORAIN, PORTAGE*, SUMMIT*

Special Jurisdictional Note : Portage & Summit North of the East-West Turnpike.

Details :

Prevailing Wage Rate Skilled Crafts

Name of Union: Painter Local 639

Change # : LCNO1-2015fbLoc639

Craft : Painter Effective Date : 06/10/2015 Last Posted : 06/10/2015

	BHR	Fringe Benefit Payments						Irrevocable Fund		Total PWR	Overtime Rate
		H&W	Pension	App Tr.	Vac.	Annuity	Other	LECET (*)	MISC (*)		
Classification											
Painter Metal Finisher/Helpers											
Top Helper Class A	\$19.09	\$3.65	\$0.00	\$0.00	\$0.66	\$0.00	\$0.00	\$0.00	\$0.00	\$23.40	\$32.94
Top Helper Class B	\$19.09	\$3.65	\$0.65	\$0.00	\$1.03	\$0.00	\$0.37	\$0.00	\$0.00	\$24.79	\$34.33
Top Helper Class C	\$19.09	\$3.65	\$1.00	\$0.00	\$1.76	\$0.00	\$0.37	\$0.00	\$0.00	\$25.87	\$35.41
Helper Class A	\$14.69	\$3.65	\$0.00	\$0.00	\$0.51	\$0.00	\$0.00	\$0.00	\$0.00	\$18.85	\$26.19
Helper Class B	\$14.69	\$3.65	\$0.65	\$0.00	\$0.79	\$0.00	\$0.28	\$0.00	\$0.00	\$20.06	\$27.40
Helper Class C	\$14.69	\$3.65	\$1.00	\$0.00	\$1.64	\$0.00	\$0.28	\$0.00	\$0.00	\$21.26	\$28.60
New Hire 90 Days	\$11.00	\$3.65	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$14.65	\$20.15

Special Calculation Note : Other is Sick and Personal Time

Ratio :

Jurisdiction (* denotes special jurisdictional note) :

ADAMS, ALLEN, ASHLAND, ASHTABULA, ATHENS, AUGLAIZE, BELMONT, BROWN, BUTLER, CARROLL, CHAMPAIGN, CLARK, CLERMONT, CLINTON, COLUMBIANA, COSHOCTON, CRAWFORD, CUYAHOGA, DARKE, DEFIANCE, DELAWARE, ERIE, FAIRFIELD, FAYETTE, FRANKLIN, FULTON, GALLIA, GEauga, GREENE, GUERNSEY, HAMILTON, HANCOCK, HARDIN, HARRISON, HENRY, HIGHLAND, HOCKING, HOLMES, HURON, JACKSON, JEFFERSON, KNOX, LAKE, LAWRENCE, LICKING, LOGAN, LORAIN, LUCAS, MADISON, MAHONING, MARION, MEDINA, MEIGS, MERCER, MIAMI, MONROE, MONTGOMERY, MORGAN, MORROW, MUSKINGUM, NOBLE, OTTAWA, PAULDING, PERRY, PICKAWAY, PIKE, PORTAGE, PREBLE, PUTNAM, RICHLAND, ROSS, SANDUSKY,

SCIOTO, SENECA, SHELBY, STARK, SUMMIT,
TRUMBULL, TUSCARAWAS, UNION, VAN WERT,
VINTON, WARREN, WASHINGTON, WAYNE,
WILLIAMS, WOOD, WYANDOT

Special Jurisdictional Note :

Details :

Top Helper: Shall perform the responsibilities of a Helper and be responsible for the setup, break down, safety and quality of the company's product.

Helper : Shall be responsible for performing tasks in refinishing, compliance with safety procedures, setting up and breaking down job sites, scaffolding and swing stages and preparing surfaces for refinishing including but not limited to, masking and stripping and cleaning, oxidizing, polishing and scratch removal on various surfaces

Class A Workers: Less than 1 Year of Service.

Class B Workers: More than 1 and less than 8 Years of Service.

Class C Workers: More than 8 Years of Service.

Metal Polisher Scope of Work: Polishing, buffing, stripping, coloring, lacquering, spraying, cleaning and maintenance of ornamental and architectural metals, iron, bronze, nickel, aluminum and stainless steel and in mental specialty work, various stone finishes, stone specialty work and any other work pertaining to the finishing of metal, stones, woods, and any window washing/cleaning done in conjunction with this work, using chemicals, solvents, coatings and hand applied lacquer thinner, removing scratches from mirror finished metals, burnishing of bronze, statuary finishes on exterior and interior surfaces and the use of all tools required to perform such work, including but not limited to polishes, spray equipment and scaffolding.

Swing State Rate: All work on scaffold 4 sections or higher, including any boom lifts and swing stage scaffolds including the rigging and derigging of hanging/suspended swing stage systems and rappelling/bolson chair work, ADD \$1.50 per hour.

Prevailing Wage Rate Skilled Crafts

Name of Union: Painter Local 639 Zone 2 Sign

Change # : LCN01-2023ibLoc639

Craft : Painter Effective Date : 03/22/2023 Last Posted : 03/22/2023

	BHR	Fringe Benefit Payments						Irrevocable Fund		Total PWR	Overtime Rate
		H&W	Pension	App Tr.	Vac.	Annuity	Other	LECET (*)	MISC (*)		
Classification											
Painter Sign Journeyman Tech/Team Leader Class A	\$25.28	\$1.70	\$0.21	\$0.00	\$0.00	\$0.00	\$0.68	\$0.00	\$0.00	\$27.87	\$40.51
Painter Sign Journeyman Tech/Team Leader Class B	\$25.28	\$1.70	\$0.21	\$0.00	\$0.49	\$0.00	\$0.68	\$0.00	\$0.00	\$28.36	\$41.00
Painter Sign Journeyman Tech/Team Leader Class C	\$25.28	\$1.70	\$0.21	\$0.00	\$0.97	\$0.00	\$0.68	\$0.00	\$0.00	\$28.84	\$41.48
Painter Sign Journeyman Tech/Team Leader Class D	\$25.28	\$1.70	\$0.21	\$0.00	\$1.46	\$0.00	\$0.68	\$0.00	\$0.00	\$29.33	\$41.97
Sign Journeyman Class A	\$25.00	\$1.70	\$0.21	\$0.00	\$0.00	\$0.00	\$0.67	\$0.00	\$0.00	\$27.58	\$40.08
Sign Journeyman Class B	\$25.00	\$1.70	\$0.21	\$0.00	\$0.48	\$0.00	\$0.67	\$0.00	\$0.00	\$28.06	\$40.56
Sign Journeyman Class C	\$25.00	\$1.70	\$0.21	\$0.00	\$0.96	\$0.00	\$0.67	\$0.00	\$0.00	\$28.54	\$41.04
Sign Journeyman Class D	\$25.00	\$1.70	\$0.21	\$0.00	\$1.44	\$0.00	\$0.67	\$0.00	\$0.00	\$29.02	\$41.52
Tech Sign Fabrication/ Erector Class A	\$19.67	\$1.70	\$0.21	\$0.00	\$0.00	\$0.00	\$0.53	\$0.00	\$0.00	\$22.11	\$31.95

Tech Sign Fabrication/ Erector Class B	\$19.67	\$1.70	\$0.21	\$0.00	\$0.38	\$0.00	\$0.53	\$0.00	\$0.00	\$22.49	\$32.33
Tech Sign Fabrication/ Erector Class C	\$19.67	\$1.70	\$0.21	\$0.00	\$0.76	\$0.00	\$0.53	\$0.00	\$0.00	\$22.87	\$32.71
Tech Sign Fabrication/ Erector Class D	\$19.67	\$1.70	\$0.21	\$0.00	\$1.13	\$0.00	\$0.53	\$0.00	\$0.00	\$23.24	\$33.08

Special Calculation Note : Other is for paid holidays.

Ratio :

Jurisdiction (* denotes special jurisdictional note) :

ADAMS, ALLEN, AUGLAIZE, BROWN, BUTLER, CARROLL, CHAMPAIGN, CLARK, CLERMONT, CLINTON, COLUMBIANA, COSHOCTON, CRAWFORD, DARKE, DEFIANCE, DELAWARE, ERIE, FAIRFIELD, FAYETTE, FRANKLIN, FULTON, GREENE, HAMILTON, HANCOCK, HARDIN, HENRY, HIGHLAND, HOLMES, HURON, JACKSON, KNOX, LICKING, LOGAN, LORAIN, LUCAS, MADISON, MAHONING, MARION, MERCER, MIAMI, MONTGOMERY, MORROW, MUSKINGUM, OTTAWA, PAULDING, PERRY, PICKAWAY, PIKE, PREBLE, PUTNAM, ROSS, SANDUSKY, SCIOTO, SENECA, SHELBY, STARK, TRUMBULL, TUSCARAWAS, UNION, VAN WERT, WARREN, WAYNE, WILLIAMS, WOOD, WYANDOT

Special Jurisdictional Note :

Details :

Class A: less that 1 year.

Class B: 1-3 years.

Class C; 3-10 years.

Class D: More than 10 years.

Prevailing Wage Rate Skilled Crafts

Name of Union: Painter Local 707

Change # : LCN02-2024ibLoc707

Craft : Painter Effective Date : 05/01/2024 Last Posted : 05/01/2024

	BHR		Fringe Benefit Payments					Irrevocable Fund		Total PWR	Overtime Rate	
			H&W	Pension	App Tr.	Vac.	Annuity	Other	LECET (*)			MISC (*)
Classification												
Painter Brush Roll	\$32.35		\$9.12	\$6.08	\$0.45	\$0.00	\$4.15	\$0.00	\$0.00	\$0.00	\$52.15	\$68.32
Paperhanger	\$32.35		\$9.12	\$6.08	\$0.45	\$0.00	\$4.15	\$0.00	\$0.00	\$0.00	\$52.15	\$68.32
Spray Painting	\$33.05		\$9.12	\$6.08	\$0.45	\$0.00	\$4.15	\$0.00	\$0.00	\$0.00	\$52.85	\$69.37
Sandblasting & Buffing	\$32.75		\$9.12	\$6.08	\$0.45	\$0.00	\$4.15	\$0.00	\$0.00	\$0.00	\$52.55	\$68.93
REPAINT Brush Roll & Paperhanger	\$30.85		\$9.12	\$6.08	\$0.45	\$0.00	\$4.15	\$0.00	\$0.00	\$0.00	\$50.65	\$66.07
REPAINT Spray Painting	\$31.55		\$9.12	\$6.08	\$0.45	\$0.00	\$4.15	\$0.00	\$0.00	\$0.00	\$51.35	\$67.12
REPAINT Sandblasting & Buffing	\$31.25		\$9.12	\$6.08	\$0.45	\$0.00	\$4.15	\$0.00	\$0.00	\$0.00	\$51.05	\$66.67
Apprentice - Painter	Percent											
1st Year	65.00	\$21.03	\$9.12	\$1.64	\$0.45	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$32.24	\$42.75
2nd Year	75.00	\$24.26	\$9.12	\$2.25	\$0.45	\$0.00	\$2.91	\$0.00	\$0.00	\$0.00	\$38.99	\$51.12
3rd Year	85.00	\$27.50	\$9.12	\$2.70	\$0.45	\$0.00	\$3.32	\$0.00	\$0.00	\$0.00	\$43.09	\$56.84
4th Year	95.00	\$30.73	\$9.12	\$3.75	\$0.45	\$0.00	\$3.74	\$0.00	\$0.00	\$0.00	\$47.79	\$63.16

Special Calculation Note : Apprentice pay based on percentage of above appropriate classification.

Ratio :

1 Apprentice to 1 Journeyman

Jurisdiction (* denotes special jurisdictional note) :

ASHTABULA, CUYAHOGA, GEAUGA, LAKE, LORAIN, PORTAGE*, SUMMIT*

Special Jurisdictional Note : Portage & Summit North of the East-West Turnpike.

Details :

Application of Catalytic materials under class 3 hazardous per MSDS - .65 per hour above the Job Classification basic hourly rate.

Application of Catalytic materials under class 4 hazardous per MSDS - 1.00 per hour above the Job Classification basic hourly rate.

Repaint: 20% or less of new surfaces.

Prevailing Wage Rate Skilled Crafts

Name of Union: Painter Local 707 HvyHwy

Change # : LCN02-2024ibLoc707HvyHwy

Craft : Painter Effective Date : 05/01/2024 Last Posted : 05/01/2024

	BHR		Fringe Benefit Payments					Irrevocable Fund		Total PWR	Overtime Rate	
			H&W	Pension	App Tr.	Vac.	Annuity	Other	LECET (*)			MISC (*)
Classification												
Painter Bridge Class 1 Bridge Blaster	\$38.61		\$9.12	\$6.08	\$0.45	\$0.00	\$4.15	\$0.00	\$0.00	\$0.00	\$58.41	\$77.71
Class 2 Bridge Painter, Rigger Containment Builder, Spot Blaster	\$35.61		\$9.12	\$6.08	\$0.45	\$0.00	\$4.15	\$0.00	\$0.00	\$0.00	\$55.41	\$73.21
Class 3 Equipment Operator/Field Mechanic, Grit Reclamation, Paint Mixer, Traffic Control Boat Person, Driver (0-5 Years Exp.)	\$28.61		\$9.12	\$6.08	\$0.45	\$0.00	\$4.15	\$0.00	\$0.00	\$0.00	\$48.41	\$62.71
Class 3 Equipment Operator/Field Mechanic, Grit Reclamation, Paint Mixer, Traffic Control Boat Person, Driver (5 Plus Years Exp.)	\$31.61		\$9.12	\$6.08	\$0.45	\$0.00	\$4.15	\$0.00	\$0.00	\$0.00	\$51.41	\$67.21
Class 4 Concrete Sealing, Concrete Blasting/Power Washing/Etc	\$27.61		\$9.12	\$6.08	\$0.45	\$0.00	\$4.15	\$0.00	\$0.00	\$0.00	\$47.41	\$61.21
Class 5 Quality Control. Quality Assurance, Traffic Safety, Competent Person	\$31.61		\$9.12	\$6.08	\$0.45	\$0.00	\$4.15	\$0.00	\$0.00	\$0.00	\$51.41	\$67.21
Apprentice - Painter	Percent											
1st Year	60.00	\$23.17	\$9.12	\$1.64	\$0.45	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$34.38	\$45.96
2nd Year	75.00	\$28.96	\$9.12	\$2.25	\$0.45	\$0.00	\$2.91	\$0.00	\$0.00	\$0.00	\$43.69	\$58.17

3rd Year	85.00	\$32.82	\$9.12	\$2.70	\$0.45	\$0.00	\$3.32	\$0.00	\$0.00	\$0.00	\$48.41	\$64.82
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Special Calculation Note : Apprentice pay based on percentage of above appropriate classification.

Ratio :

1 Apprentice to 1 Journeyman

Jurisdiction (* denotes special jurisdictional note) :

ASHTABULA, CUYAHOGA, GEAUGA, LAKE, LORAIN, PORTAGE*, SUMMIT*

Special Jurisdictional Note : Portage & Summit North of the East-West Turnpike.

Details :

Painter Bridge Class 2 is Defined as; Bridge Painter, Rigger, Containment Builder

Application of Catalytic materials under class 3 hazardous per MSDS - .65 per hour above the Job Classification basic hourly rate.

Application of Catalytic materials under class 4 hazardous per MSDS - 1.00 per hour above the Job Classification basic hourly rate.

* Concrete Sealing: on highway work, scaling of concrete surfaces, the treating and sealing of bridge decks, the painting and staining of concrete, including the abutments, barricades, noise barriers, lane dividers, etc.

Prevailing Wage Rate Skilled Crafts

Name of Union: Plasterer Local 526

Change # : LCN01-2023ibLoc526

Craft : Plaster Effective Date : 05/31/2023 Last Posted : 05/31/2023

	BHR		Fringe Benefit Payments					Irrevocable Fund		Total PWR	Overtime Rate	
			H&W	Pension	App Tr.	Vac.	Annuity	Other	LECET (*)			MISC (*)
Classification												
Plasterer	\$31.00		\$8.15	\$6.65	\$0.50	\$0.00	\$5.58	\$0.19	\$0.00	\$0.00	\$52.07	\$67.57
Apprentice	Percent											
1st Year	50.00	\$15.50	\$8.15	\$6.65	\$0.50	\$0.00	\$5.58	\$0.19	\$0.00	\$0.00	\$36.57	\$44.32
2nd Year	60.00	\$18.60	\$8.15	\$6.65	\$0.50	\$0.00	\$5.58	\$0.19	\$0.00	\$0.00	\$39.67	\$48.97
3rd Year	75.00	\$23.25	\$8.15	\$6.65	\$0.50	\$0.00	\$5.58	\$0.19	\$0.00	\$0.00	\$44.32	\$55.94
4th Year	90.00	\$27.90	\$8.15	\$6.65	\$0.50	\$0.00	\$5.58	\$0.19	\$0.00	\$0.00	\$48.97	\$62.92

Special Calculation Note : Other is for Substance abuse and training.

Ratio :

1 Journeymen to 1 Apprentice
3 Journeymen to 1 Apprentice.

Jurisdiction (* denotes special jurisdictional note) :

ASHTABULA, CUYAHOGA, GEAUGA, LAKE, LORAIN

Special Jurisdictional Note :

Details :

Prevailing Wage Rate Skilled Crafts

Name of Union: Pipefitter Local 120

Change # : LCN01-2024ibLoc120

Craft : Sprinkler Fitter Effective Date : 05/08/2024 Last Posted : 05/08/2024

	BHR		Fringe Benefit Payments					Irrevocable Fund		Total PWR	Overtime Rate	
			H&W	Pension	App Tr.	Vac.	Annuity	Other	LECET (*)			MISC (*)
Classification												
Sprinkler Fitter	\$47.07		\$12.75	\$11.70	\$1.22	\$0.00	\$3.50	\$0.20	\$0.00	\$0.00	\$76.44	\$99.98
Apprentice	Percent											
1st year	48.93	\$23.03	\$5.55	\$0.00	\$1.22	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$29.80	\$41.32
2nd year	49.97	\$23.52	\$11.93	\$7.10	\$1.22	\$0.00	\$0.88	\$0.20	\$0.00	\$0.00	\$44.85	\$56.61
3rd year	57.96	\$27.28	\$11.93	\$7.10	\$1.22	\$0.00	\$0.88	\$0.20	\$0.00	\$0.00	\$48.61	\$62.25
4th year	69.13	\$32.54	\$11.93	\$7.10	\$1.22	\$0.00	\$0.88	\$0.20	\$0.00	\$0.00	\$53.87	\$70.14
5th year	77.14	\$36.31	\$11.93	\$7.10	\$1.22	\$0.00	\$0.88	\$0.20	\$0.00	\$0.00	\$57.64	\$75.79

Special Calculation Note : OTHER IS :SUPPLEMENTAL UNEMPLOYMENT BENEFITS

Ratio :

- 1 Journeymen to 1 Apprentice per project
- 2 - 4 Journeymen to 2 Apprentices
- 5 - 7 Journeymen to 3 Apprentices

Jurisdiction (* denotes special jurisdictional note) :

CUYAHOGA, GEAUGA, LAKE, LORAIN

- 3 Journeymen to 1 Apprentice on jobs with 9 or more journeymen

Special Jurisdictional Note :

Details :

Sprinklerfitter duties shall include: installation, dismantling, maintenance, repairs, adjustments and corrections of all fire protection and extinguishing systems; consist of handling and installing of all piping and appurtenances pertaining to sprinkler equipment including both overhead and underground water mains, fire hydrants and hydrants mains, stand pipes, hose connections, tank heaters, air lines, thermal systems and their connections; all operating and actuating lines and devices and their protective covering; all fire stopping of sprinkler piping systems; all tanks, pumps and city connections; fire protection systems using emulsify, spray, water fog, CO2 gas, foam and other fire control agents, settling of all fire pumps and tank filling pumps, air compressors and their connections; all work related to sprinkler inspections (included but not limited to: adjustments, maintenance, repair, testing, etc.)

Prevailing Wage Rate Skilled Crafts

Name of Union: **Plumber Pipefitter Local 42**

Change # : LCN01-2024ibLoc42

Craft : Plumber/Pipefitter Effective Date : 07/10/2024 Last Posted : 07/10/2024

	BHR		Fringe Benefit Payments					Irrevocable Fund		Total PWR	Overtime Rate	
			H&W	Pension	App Tr.	Vac.	Annuity	Other	LECET (*)			MISC (*)
Classification												
Plumber Pipefitter	\$39.12		\$12.62	\$11.85	\$1.21	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$64.80	\$84.36
Plumber Pipefitter Heavy Industrial	\$40.62		\$12.62	\$11.85	\$1.21	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$66.30	\$86.61
Apprentice Heavy Industrial												
1st Year	\$21.47		\$8.92	\$0.00	\$1.21	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$31.60	\$42.34
2nd Year	\$25.55		\$12.62	\$11.85	\$1.21	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$51.23	\$64.00
3rd Year	\$29.61		\$12.62	\$11.85	\$1.21	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$55.29	\$70.09
4th Year	\$32.67		\$12.62	\$11.85	\$1.21	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$58.35	\$74.68
5th Year	\$35.73		\$12.62	\$11.85	\$1.21	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$61.41	\$79.27
Apprentice	Percent											
1st Year	53.27	\$20.84	\$8.92	\$0.00	\$1.21	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$30.97	\$41.39
2nd Year	63.29	\$24.76	\$12.62	\$7.63	\$1.21	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$46.22	\$58.60
3rd Year	73.28	\$28.67	\$12.62	\$7.63	\$1.21	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$50.13	\$64.46
4th Year	80.75	\$31.59	\$12.62	\$8.63	\$1.21	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$54.05	\$69.84
5th Year	88.16	\$34.49	\$12.62	\$9.63	\$1.21	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$57.95	\$75.19

Special Calculation Note : No special calculations for this skilled craft wage rate are required at this time.

Ratio :

- 1 Journeyman to 1 Apprentice
- 2 Journeymen to 2 Apprentices
- 3 Journeymen to 3 Apprentices
- 4-6 Journeymen to 4 Apprentices
- 7-10 Journeymen to 5 Apprentices
- 11-13 Journeymen to 6 Apprentices
- 14-15 Journeymen to 7 Apprentices
- 16-18 Journeymen to 8 Apprentices

Jurisdiction (* denotes special jurisdictional note) :

ASHLAND, CRAWFORD, ERIE, HURON, KNOX, LORAIN, MORROW, RICHLAND, WYANDOT

19-20 Journeymen to 9 Apprentices
21-23 Journeymen to 10 Apprentices
24-26 Journeymen to 11 Apprentices
27-30 Journeymen to 12 Apprentices
31-34 Journeymen to 13 Apprentices
35-38 Journeymen to 14 Apprentices
39-40 Journeymen to 15 Apprentices

Then 1 Journeyman to 5 Apprentices thereafter

Water Treatment Work described below is a ratio of:

1 Journeyman to 1 Apprentice

Special Jurisdictional Note :

Details :

Includes but not limited to : all water services from main to building including water meters and water meter foundations, all lawn sprinkler work including piping, fittings, and lawn sprinkler heads, all power plant piping of every description. All fire extinguishing systems and piping whether by water, steam, gas, or chemical, fire alarm piping and control tubing.

On Water Treatment Plants, waste water treatment plants, prefabricated water treatment plants, lift stations, elevated water tanks, meter vaults, underground work on site at treatment, water mains and fire protection external mains, all construction work on public utilities obtained by employer other than plumbing and heating.

On all construction projects wherein the work involves sanitary sewers, storm sewers and water lines (site work) performed outside the structure of the building.

Prevailing Wage Rate Skilled Crafts

Name of Union: Sheet Metal Local 33 Industrial Door

Change # : LCN01-2024ibLoc33IndustrialDoor

Craft : Sheet Metal Worker Effective Date : 08/01/2024 Last Posted : 07/31/2024

	BHR		Fringe Benefit Payments					Irrevocable Fund		Total PWR	Overtime Rate	
			H&W	Pension	App Tr.	Vac.	Annuity	Other	LECET (*)			MISC (*)
Classification												
Sheet Metal Worker	\$26.27		\$9.37	\$5.55	\$0.17	\$0.00	\$2.15	\$0.00	\$0.00	\$0.00	\$43.51	\$56.64
Trainees												
	Percent											
1st 60 days Probationary Perios	52.00	\$13.66	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$13.66	\$20.49
61st day -12 months	58.00	\$15.24	\$9.37	\$1.92	\$0.17	\$0.00	\$1.41	\$0.00	\$0.00	\$0.00	\$28.11	\$35.72
2nd yr	68.00	\$17.86	\$9.37	\$1.92	\$0.17	\$0.00	\$1.59	\$0.00	\$0.00	\$0.00	\$30.91	\$39.85
3rd yr	73.00	\$19.18	\$9.37	\$1.92	\$0.17	\$0.00	\$1.69	\$0.00	\$0.00	\$0.00	\$32.33	\$41.92
4th yr	80.00	\$21.02	\$9.37	\$1.92	\$0.17	\$0.00	\$1.80	\$0.00	\$0.00	\$0.00	\$34.28	\$44.78
5th yr	86.00	\$22.59	\$9.37	\$1.92	\$0.17	\$0.00	\$1.91	\$0.00	\$0.00	\$0.00	\$35.96	\$47.26

Special Calculation Note :

Ratio :

Jurisdiction (* denotes special jurisdictional note) :

ASHLAND, ASHTABULA, CARROLL, COLUMBIANA, COSHOCTON, CRAWFORD, CUYAHOGA, DEFIANCE, ERIE, FULTON, GEAUGA, HANCOCK, HENRY, HOLMES, HURON, LAKE, LORAIN, LUCAS, MAHONING, MEDINA, OTTAWA, PAULDING, PORTAGE, PUTNAM, RICHLAND, SANDUSKY, SENECA, STARK, SUMMIT, TRUMBULL, TUSCARAWAS, WAYNE, WILLIAMS, WOOD

Special Jurisdictional Note :

Details :

Prevailing Wage Rate Skilled Crafts

Name of Union: Sheet Metal Local 33 (Vermilion)

Change # : LCN01-2024ibLoc33Ver

Craft : Sheet Metal Worker Effective Date : 06/01/2024 Last Posted : 05/29/2024

	BHR		Fringe Benefit Payments					Irrevocable Fund		Total PWR	Overtime Rate	
			H&W	Pension	App Tr.	Vac.	Annuity	Other	LECET (*)			MISC (*)
Classification												
Sheet Metal Worker	\$34.62		\$10.70	\$12.41	\$0.94	\$0.00	\$5.49	\$0.00	\$0.00	\$0.00	\$64.16	\$81.47
Apprentice	Percent											
1st Year	60.00	\$20.77	\$10.70	\$7.45	\$0.18	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$39.10	\$49.49
2nd Year	65.00	\$22.50	\$10.70	\$8.07	\$0.94	\$0.00	\$2.75	\$0.00	\$0.00	\$0.00	\$44.96	\$56.21
3rd Year	75.02	\$25.97	\$10.70	\$9.31	\$0.94	\$0.00	\$2.75	\$0.00	\$0.00	\$0.00	\$49.67	\$62.66
4th Year	80.00	\$27.70	\$10.70	\$9.93	\$0.94	\$0.00	\$2.75	\$0.00	\$0.00	\$0.00	\$52.02	\$65.86

Special Calculation Note : No special calculations for this skilled craft wage rate are required at this time.

Ratio :

- 1 Journeyman to 1 Apprentice
- 2 Journeymen to 1 Apprentice
- 3 Journeymen to 2 Apprentice
- 5 Journeymen to 3 Apprentice
- 7 Journeymen to 4 Apprentice
- 9 Journeymen to 5 Apprentice
- 11 Journeymen to 6 Apprentices
- 14 Journeymen to 7 Apprentices
- 17 Journeymen to 8 Apprentices
- 19 Journeymen to 8 Apprentices
- Thereafter
- 3 Journeymen to 1 Apprentice Ratio

Jurisdiction (* denotes special jurisdictional note) :

ERIE, HURON, LORAIN, SANDUSKY

Special Jurisdictional Note :

Details :

Prevailing Wage Rate Skilled Crafts

**Name of Union: Truck Driver Bldg & HevHwy Class 1
Locals 20,40,92,92b,100,175,284,438,377,637,908,957**

Change # : LCN01-2024ibBldgHevHwy

Craft : Truck Driver Effective Date : 05/01/2024 Last Posted : 05/01/2024

	BHR		Fringe Benefit Payments					Irrevocable Fund		Total PWR	Overtime Rate	
			H&W	Pension	App Tr.	Vac.	Annuity	Other	LECET (*)	MISC (*)		
Classification												
Truck Driver CLASS 1 4 wheel service, dump, and batch trucks; drivers on tandems; truck sweepers (not to include power sweepers & scrubbers)	\$31.84		\$8.00	\$9.60	\$0.40	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$49.84	\$65.76
Apprentice	Percent											
First 6 months	80.00	\$25.47	\$8.00	\$9.60	\$0.40	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$43.47	\$56.21
7-12 months	85.00	\$27.06	\$8.00	\$9.60	\$0.40	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$45.06	\$58.60
13-18 months	90.00	\$28.66	\$8.00	\$9.60	\$0.40	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$46.66	\$60.98
19-24 months	95.00	\$30.25	\$8.00	\$9.60	\$0.40	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$48.25	\$63.37
25-30 months	100.00	\$31.84	\$8.00	\$9.60	\$0.40	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$49.84	\$65.76

Special Calculation Note : No special calculations for this skilled craft wage rate are required at this time.

Ratio :

3 Journeymen to 1 Apprentice

Jurisdiction (* denotes special jurisdictional note) :

ADAMS, ALLEN, ASHLAND, ASHTABULA, ATHENS, AUGLAIZE, BELMONT, BROWN, BUTLER, CARROLL, CHAMPAIGN, CLARK,

CLERMONT, CLINTON, COLUMBIANA,
COSHOCTON, CRAWFORD, DARKE, DEFIANCE,
DELAWARE, ERIE, FAIRFIELD, FAYETTE,
FRANKLIN, FULTON, GALLIA, GREENE,
GUERNSEY, HAMILTON, HANCOCK, HARDIN,
HARRISON, HENRY, HIGHLAND, HOCKING,
HOLMES, HURON, JACKSON, JEFFERSON,
KNOX, LAWRENCE, LICKING, LOGAN, LORAIN,
LUCAS, MADISON, MAHONING, MARION,
MEDINA, MEIGS, MERCER, MIAMI, MONROE,
MONTGOMERY, MORGAN, MORROW,
MUSKINGUM, NOBLE, OTTAWA, PAULDING,
PERRY, PICKAWAY, PIKE, PORTAGE, PREBLE,
PUTNAM, RICHLAND, ROSS, SANDUSKY,
SCIOTO, SENECA, SHELBY, STARK, SUMMIT,
TRUMBULL, TUSCARAWAS, UNION, VAN WERT,
VINTON, WARREN, WASHINGTON, WAYNE,
WILLIAMS, WOOD, WYANDOT

Special Jurisdictional Note :

Details :

Prevailing Wage Rate Skilled Crafts

**Name of Union: Truck Driver Bldg & HevHwy Class 2
Locals 20,40,92,92b,100,175,284,438,377,637,908,957**

Change # : LCN01-2024ibBldgHevHwy

Craft : Truck Driver Effective Date : 05/01/2024 Last Posted : 05/01/2024

	BHR		Fringe Benefit Payments					Irrevocable Fund		Total PWR	Overtime Rate	
			H&W	Pension	App Tr.	Vac.	Annuity	Other	LECET (*)	MISC (*)		
Classification												
Truck Driver CLASS 2 Tractor Trailer-Semi Tractor Trucks; Pole Trailers; Ready Mix Trucks; Fuel Trucks; 5 Axle & Over; Belly Dumps; Low boys - Heavy duty Equipment(irrespective of load carried) when used exclusively for transportation; Truck Mechanics (when needed)	\$32.26		\$8.00	\$9.60	\$0.40	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$50.26	\$66.39
Apprentice		Percent										
First 6 months	80.00	\$25.81	\$8.00	\$9.60	\$0.40	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$43.81	\$56.71
7-12 months	85.00	\$27.42	\$8.00	\$9.60	\$0.40	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$45.42	\$59.13
13-18 months	90.00	\$29.03	\$8.00	\$9.60	\$0.40	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$47.03	\$61.55
19-24 months	95.00	\$30.65	\$8.00	\$9.60	\$0.40	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$48.65	\$63.97
25-30 months	100.00	\$32.26	\$8.00	\$9.60	\$0.40	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$50.26	\$66.39

Special Calculation Note : No special calculations for this skilled craft wage rate are required at this time.

Ratio :

3 Journeymen to 1 Apprentice

Jurisdiction (* denotes special jurisdictional note) :

ADAMS, ALLEN, ASHLAND, ASHTABULA, ATHENS, AUGLAIZE, BELMONT, BROWN, BUTLER, CARROLL, CHAMPAIGN, CLARK, CLERMONT, CLINTON, COLUMBIANA, COSHOCTON, CRAWFORD, DARKE, DEFIANCE, DELAWARE, ERIE, FAIRFIELD, FAYETTE, FRANKLIN, FULTON, GALLIA, GREENE, GUERNSEY, HAMILTON, HANCOCK, HARDIN, HARRISON, HENRY, HIGHLAND, HOCKING, HOLMES, HURON, JACKSON, JEFFERSON,

KNOX, LAWRENCE, LICKING, LOGAN, LORAIN,
LUCAS, MADISON, MAHONING, MARION,
MEDINA, MEIGS, MERCER, MIAMI, MONROE,
MONTGOMERY, MORGAN, MORROW,
MUSKINGUM, NOBLE, OTTAWA, PAULDING,
PERRY, PICKAWAY, PIKE, PORTAGE, PREBLE,
PUTNAM, RICHLAND, ROSS, SANDUSKY,
SCIOTO, SENECA, SHELBY, STARK, SUMMIT,
TRUMBULL, TUSCARAWAS, UNION, VAN WERT,
VINTON, WARREN, WASHINGTON, WAYNE,
WILLIAMS, WOOD, WYANDOT

Special Jurisdictional Note :

Details :

Prevailing Wage Rate Skilled Crafts

**Name of Union: Truck Driver Bldg & HevHwy Class 3
Locals 20,40,92,92b,100,175,284,438,377,637,908,957**

Change # : LCN01-2024ibBldgHevHwy3

Craft : Truck Driver Effective Date : 05/01/2024 Last Posted : 05/01/2024

	BHR		Fringe Benefit Payments					Irrevocable Fund		Total PWR	Overtime Rate	
			H&W	Pension	App Tr.	Vac.	Annuity	Other	LECET (*)	MISC (*)		
Classification												
Truck Driver CLASS 3 Articulated Dump Trucks; Ridge-Frame Rock Trucks; Distributor Trucks)	\$33.26		\$8.00	\$9.60	\$0.40	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$51.26	\$67.89
Apprentice	Percent											
First 6 months	80.00	\$26.61	\$8.00	\$9.60	\$0.40	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$44.61	\$57.91
7-12 months	85.00	\$28.27	\$8.00	\$9.60	\$0.40	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$46.27	\$60.41
13-18 months	90.00	\$29.93	\$8.00	\$9.60	\$0.40	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$47.93	\$62.90
19-24 months	94.96	\$31.58	\$8.00	\$9.60	\$0.40	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$49.58	\$65.38
25-30 months	100.00	\$33.26	\$8.00	\$9.60	\$0.40	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$51.26	\$67.89

Special Calculation Note : No special calculations for this skilled craft wage rate are required at this time.

Ratio :

3 Journeymen to 1 Apprentice

Jurisdiction (* denotes special jurisdictional note) :

ADAMS, ALLEN, ASHLAND, ASHTABULA, ATHENS, AUGLAIZE, BELMONT, BROWN, BUTLER, CARROLL, CHAMPAIGN, CLARK, CLERMONT, CLINTON, COLUMBIANA, COSHOCTON, CRAWFORD, DARKE, DEFIANCE, DELAWARE, ERIE, FAIRFIELD, FAYETTE, FRANKLIN, FULTON, GALLIA, GREENE,

GUERNSEY, HAMILTON, HANCOCK, HARDIN,
HARRISON, HENRY, HIGHLAND, HOCKING,
HOLMES, HURON, JACKSON, JEFFERSON,
KNOX, LAWRENCE, LICKING, LOGAN, LORAIN,
LUCAS, MADISON, MAHONING, MARION,
MEDINA, MEIGS, MERCER, MIAMI, MONROE,
MONTGOMERY, MORGAN, MORROW,
MUSKINGUM, NOBLE, OTTAWA, PAULDING,
PERRY, PICKAWAY, PIKE, PORTAGE, PREBLE,
PUTNAM, RICHLAND, ROSS, SANDUSKY,
SCIOTO, SENECA, SHELBY, STARK, SUMMIT,
TRUMBULL, TUSCARAWAS, UNION, VAN WERT,
VINTON, WARREN, WASHINGTON, WAYNE,
WILLIAMS, WOOD, WYANDOT

Special Jurisdictional Note :

Details :

Prevailing Wage Rate Skilled Crafts

Name of Union: **Electrical Local 129 Inside**

Change # : LCN01-2024ibLoc129in

Craft : Electrical Effective Date : 06/05/2024 Last Posted : 06/05/2024

	BHR		Fringe Benefit Payments					Irrevocable Fund		Total PWR	Overtime Rate	
			H&W	Pension	App Tr.	Vac.	Annuity	Other	LECET (*)			MISC (*)
Classification												
Electrician	\$41.00		\$9.25	\$5.20	\$0.57	\$0.00	\$2.50	\$0.00	\$0.00	\$0.00	\$58.52	\$79.02
Apprentice	Percent											
1st 6 months	45.00	\$18.45	\$8.85	\$0.55	\$0.57	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$28.42	\$37.64
2nd 6 months	50.00	\$20.50	\$8.85	\$0.62	\$0.57	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$30.54	\$40.79
2nd Year	55.00	\$22.55	\$8.85	\$8.38	\$0.57	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$40.35	\$51.63
3rd Year	65.00	\$26.65	\$8.85	\$8.55	\$0.57	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$44.62	\$57.95
4th Year	75.00	\$30.75	\$8.85	\$8.67	\$0.57	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$48.84	\$64.21
5th Year	85.00	\$34.85	\$8.85	\$8.75	\$0.57	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$53.02	\$70.44

Special Calculation Note : No special calculations for this skilled craft wage rate are required at this time.

Ratio :

1-3 Journeymen to 2 Apprentices
4-6 Journeymen to 4 Apprentices

Jurisdiction (* denotes special jurisdictional note) :

ERIE, HURON*, LORAIN*, MEDINA*

Special Jurisdictional Note : In Huron County the following townships are included: Bronson, Clarksfield, Fairfield, Fitchville, Greenfield, Hartland, Lyme, New London, Norwalk, Norwich, Peru, Ridgefield, Sherman, Townsend and Wakeman.

In Lorain County the following township is excluded: Columbia Township

In Medina County the following townships are included: Litchfield and Liverpool.

Details :

Prevailing Wage Rate Skilled Crafts

Name of Union: Electrical Local 129 Inside Lt Commercial Northern

Change # : LCN01-2023ibLoc129in

Craft : Electrical Effective Date : 03/06/2024 Last Posted : 03/06/2024

	BHR		Fringe Benefit Payments					Irrevocable Fund		Total PWR	Overtime Rate	
			H&W	Pension	App Tr.	Vac.	Annuity	Other	LECET (*)			MISC (*)
Classification												
Electrician	\$39.30		\$8.80	\$8.88	\$0.57	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$57.55	\$77.20
CE-3 12,001-14,000 Hrs	\$28.89		\$6.67	\$0.87	\$0.88	\$0.00	\$0.81	\$0.10	\$0.00	\$0.00	\$38.22	\$52.67
CE-2 10,001-12,000 Hrs	\$22.70		\$6.67	\$0.68	\$0.88	\$0.00	\$0.63	\$0.10	\$0.00	\$0.00	\$31.66	\$43.01
CE-1 8,001-10,000 Hrs	\$20.64		\$6.67	\$0.62	\$0.88	\$0.00	\$0.58	\$0.10	\$0.00	\$0.00	\$29.49	\$39.81
CW-4 6,001-8,000 Hrs	\$18.57		\$6.67	\$0.56	\$0.88	\$0.00	\$0.52	\$0.10	\$0.00	\$0.00	\$27.30	\$36.59
CW-3 4,001-6,000 Hrs	\$16.51		\$6.67	\$0.50	\$0.88	\$0.00	\$0.46	\$0.10	\$0.00	\$0.00	\$25.12	\$33.38
CW-2 2,001-4,000 Hrs	\$15.48		\$6.67	\$0.46	\$0.88	\$0.00	\$0.43	\$0.10	\$0.00	\$0.00	\$24.02	\$31.76
CW-1 0-2,000 Hrs	\$14.44		\$6.67	\$0.43	\$0.88	\$0.00	\$0.40	\$0.10	\$0.00	\$0.00	\$22.92	\$30.14
Apprentice	Percent											
1st 6 months	47.40	\$18.63	\$8.85	\$0.56	\$0.57	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$28.61	\$37.92
2nd 6 months	52.67	\$20.70	\$8.85	\$0.62	\$0.57	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$30.74	\$41.09
2nd yr	57.93	\$22.77	\$8.85	\$8.38	\$0.57	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$40.57	\$51.95
3rd yr	68.47	\$26.91	\$8.85	\$8.51	\$0.57	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$44.84	\$58.29
4th yr	79.00	\$31.05	\$8.85	\$8.63	\$0.57	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$49.10	\$64.62
5th yr	89.54	\$35.19	\$8.85	\$8.76	\$0.57	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$53.37	\$70.96

Special Calculation Note : Other is Administration Fee.

Ratio :

Jurisdiction (* denotes special jurisdictional note) :

1-3 Journeymen to 2 Apprentice
4-6 Journeyman to 4 Apprentices

ERIE, HURON*, LORAIN*, MEDINA*

Construction Electrician and Construction Wireman Ratio

There shall be a minimum ratio of one inside Journeyman Wireman to every (4) employees of different classifications per jobsite. An Inside Journeyman Wireman is required on the project as the fifth (5th) worker or when apprentices are used.

Special Jurisdictional Note : In Huron County the following townships are included: Bronson, Clarksfield, Fairfield, Fitchville, Greenfield, Hartland, Lyme, New London, Norwalk, Norwich, Peru, Ridgefield, Sherman, Townsend and Wakeman. In Medina County the following townships are included: Litchfield and Liverpool.

In Lorain County the following township is excluded: Columbia.

The scope of work for the light commercial agreement shall apply to the following small medical clinics, stand-alone doctor and dentist offices with up to 600 amp service (not attached to a hospital), gas stations/convenience stores, fast food restaurants and franchised chain restaurants including independent bars and taverns, places of worship, funeral homes, nursing homes, assisted living facilities and day-care facilities under 15,000 sq ft, small office, retail/wholesale facilities under 15,000 sq ft with less than 10 units attached, storage units, car washes, express hotels and motels (4 stories or less) without conference or restaurants facilities, residential units (subject to Davis Bacon Rates) small stand-alone manufacturing facilities when free standing and not part of a larger facility (less than 15,000 sq ft) solar projects (500 panels or less) unless other wise covered under this agreement, lighting retrofits (when not associated with remodels involving branch re-circuiting) Lighting retrofits shall be defined as the changing of lamps and ballasts in existing light fixtures and shall also include the one for one replacement of existing fixtures.

Details :

Prevailing Wage Rate Skilled Crafts

Name of Union: Electrical Local 129 Lightning Protection

Change # : LCN01-2024ibLoc129in

Craft : Electrical Effective Date : 10/30/2024 Last Posted : 10/30/2024

	BHR		Fringe Benefit Payments					Irrevocable Fund		Total PWR	Overtime Rate	
			H&W	Pension	App Tr.	Vac.	Annuity	Other	LECET (*)			MISC (*)
Classification												
Electrical Lightning Protection Installer (w/ 10+ Years Experience)	\$35.15		\$7.75	\$1.05	\$0.00	\$3.28	\$2.11	\$0.00	\$0.00	\$0.00	\$49.34	\$66.91
Electrical Lightning Protection Installer	\$35.15		\$7.75	\$1.05	\$0.00	\$2.50	\$2.11	\$0.00	\$0.00	\$0.00	\$48.56	\$66.13
Trainee Level of Experience	Percent											
1st 6 months	50.02	\$17.58	\$7.75	\$0.53	\$0.00	\$0.47	\$1.05	\$0.00	\$0.00	\$0.00	\$27.38	\$36.17
2nd 6 months	55.00	\$19.33	\$7.75	\$0.58	\$0.00	\$0.52	\$1.16	\$0.00	\$0.00	\$0.00	\$29.34	\$39.01
3rd 6 months	60.00	\$21.09	\$7.75	\$0.63	\$0.00	\$1.03	\$1.27	\$0.00	\$0.00	\$0.00	\$31.77	\$42.32
4th 6 months	65.00	\$22.85	\$7.75	\$0.69	\$0.00	\$1.12	\$1.37	\$0.00	\$0.00	\$0.00	\$33.78	\$45.20
3rd year	70.02	\$24.61	\$7.75	\$0.74	\$0.00	\$1.75	\$1.48	\$0.00	\$0.00	\$0.00	\$36.33	\$48.64
4th year	80.00	\$28.12	\$7.75	\$0.84	\$0.00	\$2.00	\$1.69	\$0.00	\$0.00	\$0.00	\$40.40	\$54.46
5th year	90.02	\$31.64	\$7.75	\$0.94	\$0.00	\$2.25	\$1.90	\$0.00	\$0.00	\$0.00	\$44.48	\$60.30

Special Calculation Note :

Ratio :

No Ratio

Jurisdiction (* denotes special jurisdictional note) :

ERIE, HURON*, LORAIN*, MEDINA*

Special Jurisdictional Note : In Huron County the following townships are included: Bronson, Clarksfield, Fairfield, Fitchville, Greenfield, Hartland, Lyme, New London, Norwalk, Norwich, Peru, Ridgefield, Sherman, Townsend and Wakeman.

In Medina County the following townships are included: Litchfield and Liverpool.

In Lorain County the following township is excluded: Columbia.

Details :

Prevailing Wage Rate Skilled Crafts

Name of Union: **Electrical Local 38 Lightning Rod**

Change # : **LCN01-2023ibLoc38LR**

Craft : **Electrical Effective Date : 07/05/2023 Last Posted : 07/05/2023**

	BHR		Fringe Benefit Payments						Irrevocable Fund		Total PWR	Overtime Rate
			H&W	Pension	App Tr.	Vac.	Annuity	Other	LECET (*)	MISC (*)		
Classification												
Electrical Lightning Protection Installer	\$33.15		\$7.75	\$0.99	\$0.00	\$3.09	\$1.99	\$0.00	\$0.00	\$0.00	\$46.97	\$63.54
Trainee Experience Level	Percent											
Lightning Protection Installer 1st day-6 months	50.02	\$16.58	\$7.75	\$0.50	\$0.00	\$0.44	\$0.99	\$0.00	\$0.00	\$0.00	\$26.26	\$34.55
Lightning Protection Installer 2nd 6 months	55.00	\$18.23	\$7.75	\$0.55	\$0.00	\$0.49	\$1.09	\$0.00	\$0.00	\$0.00	\$28.11	\$37.23
Lightning Protection Installer 3rd 6th months	60.00	\$19.89	\$7.75	\$0.60	\$0.00	\$0.97	\$1.19	\$0.00	\$0.00	\$0.00	\$30.40	\$40.34
Lightning Protection Installer 4th 6 months	65.00	\$21.55	\$7.75	\$0.65	\$0.00	\$1.05	\$1.29	\$0.00	\$0.00	\$0.00	\$32.29	\$43.06
Lightning Protection Installer 3rd Year	70.02	\$23.21	\$7.75	\$0.70	\$0.00	\$1.65	\$1.39	\$0.00	\$0.00	\$0.00	\$34.70	\$46.31
Lightning Protection Installer 4th Year	80.00	\$26.52	\$7.75	\$0.80	\$0.00	\$1.89	\$1.59	\$0.00	\$0.00	\$0.00	\$38.55	\$51.81

Lightning Protection Installer 5th Year	90.02	\$29.84	\$7.75	\$0.90	\$0.00	\$2.12	\$1.79	\$0.00	\$0.00	\$0.00	\$42.40	\$57.32
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Special Calculation Note : Other is Holiday.

Ratio :

3 Journeyman to 1 Trainee

Jurisdiction (* denotes special jurisdictional note) :

CUYAHOGA, GEAUGA*, LORAIN*

Special Jurisdictional Note : In Geauga County the following townships are included: (Bainbridge, Chester and Russell). In Lorain County the following township is included (Columbia).

Details :

Scope of work but not limited to: The installation, operation, maintenance, repair and service of equipment and appliances used in a system of lightning protection systems.

Intermediate Journeymen to be trained by the employer to meet all standards in the industry.

Prevailing Wage Rate Skilled Crafts

Name of Union: Electrical Local 129 Voice Data Video

Change # : LCN01-2023ibLoc129VDV

Craft : Voice Data Video Effective Date : 04/12/2023 Last Posted : 04/12/2023

	BHR		Fringe Benefit Payments					Irrevocable Fund		Total PWR	Overtime Rate	
			H&W	Pension	App Tr.	Vac.	Annuity	Other	LECET (*)			MISC (*)
Classification												
Electrical Installer Technician	\$30.30		\$7.75	\$3.86	\$0.42	\$1.36	\$0.00	\$0.00	\$0.00	\$0.00	\$43.69	\$58.84
Communications Technician	\$31.55		\$7.75	\$3.90	\$0.42	\$1.42	\$0.00	\$0.00	\$0.00	\$0.00	\$45.04	\$60.82
Senior Technician	\$32.55		\$7.75	\$3.93	\$0.42	\$1.46	\$0.00	\$0.00	\$0.00	\$0.00	\$46.11	\$62.39
Security Technician Level I	\$30.30		\$7.75	\$3.86	\$0.42	\$1.36	\$0.00	\$0.00	\$0.00	\$0.00	\$43.69	\$58.84
Security Technician Level II	\$31.55		\$7.75	\$3.90	\$0.42	\$1.42	\$0.00	\$0.00	\$0.00	\$0.00	\$45.04	\$60.82
Security Technician Level III	\$32.55		\$7.75	\$3.93	\$0.42	\$1.46	\$0.00	\$0.00	\$0.00	\$0.00	\$46.11	\$62.39
Audio/Visual Technician Level I	\$30.30		\$7.75	\$3.86	\$0.42	\$1.36	\$0.00	\$0.00	\$0.00	\$0.00	\$43.69	\$58.84
Audio/Visual Technician Level II	\$31.55		\$7.75	\$3.90	\$0.42	\$1.42	\$0.00	\$0.00	\$0.00	\$0.00	\$45.04	\$60.82
Audio/Visual Technician Level III	\$32.55		\$7.75	\$3.93	\$0.42	\$1.46	\$0.00	\$0.00	\$0.00	\$0.00	\$46.11	\$62.39
Apprentice	Percent											
1st 750 hours	55.00	\$16.67	\$7.75	\$3.45	\$0.42	\$0.75	\$0.00	\$0.00	\$0.00	\$0.00	\$29.04	\$37.37
2nd 750 hours	65.02	\$19.70	\$7.75	\$3.54	\$0.42	\$0.89	\$0.00	\$0.00	\$0.00	\$0.00	\$32.30	\$42.15
3rd 750 hours	75.00	\$22.73	\$7.75	\$3.63	\$0.42	\$1.02	\$0.00	\$0.00	\$0.00	\$0.00	\$35.55	\$46.91
4th 750 hours	80.00	\$24.24	\$7.75	\$3.68	\$0.42	\$1.09	\$0.00	\$0.00	\$0.00	\$0.00	\$37.18	\$49.30
5th 750 hours	85.02	\$25.76	\$7.75	\$3.72	\$0.42	\$1.16	\$0.00	\$0.00	\$0.00	\$0.00	\$38.81	\$51.69
6th 750 hours	90.00	\$27.27	\$7.75	\$3.77	\$0.42	\$1.23	\$0.00	\$0.00	\$0.00	\$0.00	\$40.44	\$54.08

Special Calculation Note : No special calculations for this skilled craft wage rate are required at this time.

Ratio :

1 Journeyman to 1 Apprentice

Jurisdiction (* denotes special jurisdictional note) :

ERIE, HURON*, LORAIN*, MEDINA*

Special Jurisdictional Note : In Huron County the following townships are included: (Lyme, Ridgefield, Norwalk, Townsend, Wakeman, Sherman, Peru, Bronson, Hartland, Clarksfield, Norwich, Greenfield, Fairfield, Fitchville and New London). In Lorain County the following townships are excluded: (Columbia). In Medina County the following townships are included: (Litchfield and Liverpool).

Details :

An employee who is required to wear a pager after hours will receive an additional 1.00 per hour for all hours worked.

Vacation: 1 week for 1 year

2 weeks for 2 years or more

Holidays: Memorial Day - Fourth of July - Labor Day - Thanksgiving Day - Christmas Day - New Years Day

The following work is excluded from the Teledata Technician work scope:

The installation of computer systems in industrial applications such as assembly lines, robotics, computer controller manufacturing systems.

The installation of conduit and/ or raceways shall be installed by Inside Wireman . On sites where there is no Inside Wireman employed, the Teledata Technician may install raceway, or conduit not greater then 10 ft.

Fire Alarm work is excluded on all new construction sites or wherever the fire alarm system is installed in conduit

All HVAC control work.

Prevailing Wage Rate Skilled Crafts

Name of Union: **Electrical Local 38**

Change # : LCN01-2024ibLoc38

Craft : Electrical Effective Date : 05/01/2024 Last Posted : 05/01/2024

	BHR		Fringe Benefit Payments					Irrevocable Fund		Total PWR	Overtime Rate	
			H&W	Pension	App Tr.	Vac.	Annuity	Other	LECET (*)			MISC (*)
Classification												
Electrician	\$45.23		\$9.55	\$10.05	\$0.42	\$0.00	\$2.50	\$1.36	\$0.00	\$0.00	\$69.11	\$91.72
Apprentice	Percent											
1st year 1st 6 Months	35.00	\$15.83	\$9.55	\$0.00	\$0.42	\$0.00	\$2.50	\$0.47	\$0.00	\$0.00	\$28.77	\$36.69
1st year 2nd 6 Months	40.00	\$18.09	\$9.55	\$0.00	\$0.42	\$0.00	\$2.50	\$0.54	\$0.00	\$0.00	\$31.10	\$40.15
2nd year 3rd 6 Months	45.00	\$20.35	\$9.55	\$6.53	\$0.42	\$0.00	\$2.50	\$0.61	\$0.00	\$0.00	\$39.96	\$50.14
2nd year 4th 6 Months	50.02	\$22.62	\$9.55	\$6.53	\$0.42	\$0.00	\$2.50	\$0.68	\$0.00	\$0.00	\$42.30	\$53.62
3rd year 5th 6 Months	55.00	\$24.88	\$9.55	\$6.53	\$0.42	\$0.00	\$2.50	\$0.75	\$0.00	\$0.00	\$44.63	\$57.06
3rd year 3rd year 6th 6 Months	60.00	\$27.14	\$9.55	\$6.53	\$0.42	\$0.00	\$2.50	\$0.81	\$0.00	\$0.00	\$46.95	\$60.52
4th year 7th 6 Months	65.00	\$29.40	\$9.55	\$6.53	\$0.42	\$0.00	\$2.50	\$0.88	\$0.00	\$0.00	\$49.28	\$63.98
4th year 8th 6 Months	70.00	\$31.66	\$9.55	\$6.53	\$0.42	\$0.00	\$2.50	\$0.95	\$0.00	\$0.00	\$51.61	\$67.44
4th year 9th 6 Months	75.00	\$33.92	\$9.55	\$6.53	\$0.42	\$0.00	\$2.50	\$1.02	\$0.00	\$0.00	\$53.94	\$70.90
5th year 10th 6 Months	80.00	\$36.18	\$9.55	\$6.53	\$0.42	\$0.00	\$2.50	\$1.09	\$0.00	\$0.00	\$56.27	\$74.37

Special Calculation Note : OTHER: National Electrical Benefit Fund (NEBF).

Ratio :

1 to 3 Journeyman up to 2 Apprentice
4 to 6 Journeymen up to 4 Apprentice
7 to 9 Journeymen up to 6 Apprentice
and continue as above per job site

Jurisdiction (* denotes special jurisdictional note) :

CUYAHOGA, GEAUGA*, LORAIN*

Special Jurisdictional Note : In Geauga County the following townships are included: (Bainbridge, Chester and Russell). In Lorain County the following township is included (Columbia Twp).

Details :

Prevailing Wage Rate Skilled Crafts

Name of Union: **Electrical Local 38 Voice Data Video**

Change # : LCN01-2024ibLoc38VDV

Craft : Voice Data Video Effective Date : 07/10/2024 Last Posted : 07/10/2024

	BHR		Fringe Benefit Payments					Irrevocable Fund		Total PWR	Overtime Rate	
			H&W	Pension	App Tr.	Vac.	Annuity	Other	LECET (*)			MISC (*)
Classification												
Electrical Installer Technician	\$31.05		\$7.75	\$3.20	\$0.42	\$1.40	\$2.00	\$0.97	\$0.00	\$0.00	\$46.79	\$62.32
Communication Technician	\$32.30		\$7.75	\$3.20	\$0.42	\$1.45	\$2.00	\$1.01	\$0.00	\$0.00	\$48.13	\$64.28
Senior Technician	\$33.30		\$7.75	\$3.20	\$0.42	\$1.50	\$2.00	\$1.04	\$0.00	\$0.00	\$49.21	\$65.86
Security Technician Level I	\$31.05		\$7.75	\$3.20	\$0.42	\$1.40	\$2.00	\$0.97	\$0.00	\$0.00	\$46.79	\$62.32
Security Technician Level II	\$32.30		\$7.75	\$3.20	\$0.42	\$1.45	\$2.00	\$1.01	\$0.00	\$0.00	\$48.13	\$64.28
Security Technician Level III	\$33.30		\$7.75	\$3.20	\$0.42	\$1.50	\$2.00	\$1.04	\$0.00	\$0.00	\$49.21	\$65.86
Audio/Visual Technician Level I	\$31.05		\$7.75	\$3.20	\$0.42	\$1.40	\$2.00	\$0.97	\$0.00	\$0.00	\$46.79	\$62.32
Audio/Visual Technician Level II	\$32.30		\$7.75	\$3.20	\$0.42	\$1.45	\$2.00	\$1.01	\$0.00	\$0.00	\$48.13	\$64.28
Audio/Visual Technician Level III	\$33.30		\$7.75	\$3.20	\$0.42	\$1.50	\$2.00	\$1.04	\$0.00	\$0.00	\$49.21	\$65.86
Apprentice	Percent											
1st 6 months	65.00	\$20.18	\$7.75	\$3.20	\$0.42	\$0.91	\$2.00	\$0.63	\$0.00	\$0.00	\$35.09	\$45.18
2nd 6 months	70.02	\$21.74	\$7.75	\$3.20	\$0.42	\$0.98	\$2.00	\$0.68	\$0.00	\$0.00	\$36.77	\$47.64
3rd 6 months	75.00	\$23.29	\$7.75	\$3.20	\$0.42	\$1.05	\$2.00	\$0.73	\$0.00	\$0.00	\$38.44	\$50.08
4th 6 months	80.00	\$24.84	\$7.75	\$3.20	\$0.42	\$1.12	\$2.00	\$0.78	\$0.00	\$0.00	\$40.11	\$52.53
5th 6 months	85.00	\$26.39	\$7.75	\$3.20	\$0.42	\$1.19	\$2.00	\$0.83	\$0.00	\$0.00	\$41.78	\$54.98
6th 6 months	90.00	\$27.94	\$7.75	\$3.20	\$0.42	\$1.26	\$2.00	\$0.88	\$0.00	\$0.00	\$43.46	\$57.43

Special Calculation Note : Other is National Electrical Benefit Fund.

Ratio :

1 Journeyman to 1 Apprentice

Jurisdiction (* denotes special jurisdictional note) :

CUYAHOGA, GEAUGA*, LORAIN*

Special Jurisdictional Note : In Geauga County the following townships are included (Bainbridge, Chester and Russell). In Lorain County the following township is included (Columbia Twp.).

Details :

*Installer Technician - Successful completion of the Installer/Tech Apprenticeship Program or have been certified by an IBEW/NECA Joint apprenticeship Program as a Installer/Technician.

* Communications Technician - At least (2) years experience as a Installer/Technician and a minimum of 12 hours continuous related education or have been certified by an IBEW/NECA Joint Apprenticeship and Training Program as a Communications/Technician.

The following work is excluded from the Teledata Technician work scope:

The installation of computer systems in industrial applications such as assembly lines, robotics, computer controller manufacturing systems.

The installation of conduit and/ or raceways shall be installed by Inside Wireman . On sites where there is no Inside Wireman employed, the Teledata Technician may install raceway, or conduit not greater then 10 ft.

Fire Alarm work is excluded on all new construction sites or wherever the fire alarm system is installed in conduit

All HVAC control work.

Prevailing Wage Rate Skilled Crafts

Name of Union: Electrical Local 38 Lt Commercial Northern

Change # : LCN01-2024ibLoc38

Craft : Electrical Effective Date : 03/13/2024 Last Posted : 03/13/2024

	BHR		Fringe Benefit Payments					Irrevocable Fund		Total PWR	Overtime Rate	
			H&W	Pension	App Tr.	Vac.	Annuity	Other	LECET (*)			MISC (*)
Classification												
Electrician	\$43.13		\$9.55	\$11.34	\$0.42	\$0.00	\$2.00	\$0.00	\$0.00	\$0.00	\$66.44	\$88.01
CE-3 12,001- 14,000 Hrs	\$28.89		\$6.67	\$0.87	\$0.88	\$0.00	\$0.87	\$0.00	\$0.00	\$0.10	\$38.28	\$52.73
CE-2 10,001- 12,000 Hrs	\$22.70		\$6.67	\$0.68	\$0.88	\$0.00	\$0.68	\$0.00	\$0.00	\$0.10	\$31.71	\$43.06
CE-1 8,001- 10,000 Hrs	\$20.64		\$6.67	\$0.62	\$0.88	\$0.00	\$0.62	\$0.00	\$0.00	\$0.10	\$29.53	\$39.85
CW-4 6,001- 8,000 Hrs	\$18.57		\$6.67	\$0.56	\$0.88	\$0.00	\$0.56	\$0.00	\$0.00	\$0.10	\$27.34	\$36.63
CW-3 4,000- 6,000 Hrs	\$16.51		\$6.67	\$0.50	\$0.88	\$0.00	\$0.50	\$0.00	\$0.00	\$0.10	\$25.16	\$33.42
CW-2 2,001- 4,000 Hrs	\$15.48		\$6.67	\$0.46	\$0.88	\$0.00	\$0.46	\$0.00	\$0.00	\$0.10	\$24.05	\$31.79
CW-1 0- 2,000 Hrs	\$14.44		\$6.67	\$0.43	\$0.88	\$0.00	\$0.43	\$0.00	\$0.00	\$0.10	\$22.95	\$30.17
Apprentice	Percent											
1st 6 Months	35.00	\$15.10	\$9.55	\$0.00	\$0.42	\$0.00	\$2.00	\$0.45	\$0.00	\$0.00	\$27.52	\$35.06
2nd 6 Months	40.00	\$17.25	\$9.55	\$0.00	\$0.42	\$0.00	\$2.00	\$0.52	\$0.00	\$0.00	\$29.74	\$38.37
3rd 6 Months	45.00	\$19.41	\$9.55	\$6.53	\$0.42	\$0.00	\$2.00	\$0.58	\$0.00	\$0.00	\$38.49	\$48.19
4th 6 Months	50.00	\$21.57	\$9.55	\$6.53	\$0.42	\$0.00	\$2.00	\$0.65	\$0.00	\$0.00	\$40.72	\$51.50
5th 6 Months	55.00	\$23.72	\$9.55	\$6.53	\$0.42	\$0.00	\$2.00	\$0.71	\$0.00	\$0.00	\$42.93	\$54.79
6th 6 Months	60.00	\$25.88	\$9.55	\$6.53	\$0.42	\$0.00	\$2.00	\$0.78	\$0.00	\$0.00	\$45.16	\$58.10

7th 6 Months	65.00	\$28.03	\$9.55	\$6.53	\$0.42	\$0.00	\$2.00	\$0.84	\$0.00	\$0.00	\$47.37	\$61.39
8th 6 Months	70.00	\$30.19	\$9.55	\$6.53	\$0.42	\$0.00	\$2.00	\$0.91	\$0.00	\$0.00	\$49.60	\$64.70
9th 6 Months	75.00	\$32.35	\$9.55	\$6.53	\$0.42	\$0.00	\$2.00	\$0.97	\$0.00	\$0.00	\$51.82	\$67.99
10th 6 Months	80.00	\$34.50	\$9.55	\$6.53	\$0.42	\$0.00	\$2.00	\$1.04	\$0.00	\$0.00	\$54.04	\$71.30

Special Calculation Note : OTHER: National Electrical Benefit Fund (NEBF).

Ratio :

1 to 3 Journeyman to 2 Apprentice
 4 to 6 Journeymen to 4 Apprentice
 7 to 9 Journeymen to 6 Apprentice
 and continue as above per job site

Jurisdiction (* denotes special jurisdictional note) :

CUYAHOGA, GEAUGA*, LORAIN*

Construction Electrician and Construction Wireman Ratio

There shall be a minimum ratio of one inside Journeyman Wireman to every (4) employees of different classifications per jobsite. An Inside Journeyman Wireman is required on the project as the fifth (5th) worker or when apprentices are used.

Special Jurisdictional Note : In Geauga County the following townships are included: (Bainbridge, Chester and Russell). In Lorain County the following township is included (Columbia).

The scope of work for the light commercial agreement shall apply to the following small medical clinics, stand-alone doctor and dentist offices with up to 600 amp service (not attached to a hospital), gas stations/convenience stores, fast food restaurants and franchised chain restaurants including independent bars and taverns, places of worship, funeral homes, nursing homes, assisted living facilities and day-care facilities under 15,000 sq ft, small office, retail/wholesale facilities under 15,000 sq ft with less than 10 units attached, storage units, car washes, express hotels and motels (4 stories or less) without conference or restaurants facilities, residential units (subject to Davis Bacon Rates) small stand-alone manufacturing facilities when free standing and not part of a larger facility (less than 15,000 sq ft) solar projects (500 panels or less) unless other wise covered under this agreement, lighting retrofits (when not associated with remodels involving branch re-circuiting) Lighting retrofits shall be defined as the changing of lamps and ballasts in existing light fixtures and shall also include the one for one replacement of existing fixtures.

Details :

Prevailing Wage Rate Skilled Crafts

Name of Union: **Roofer Local 44**

Change # : LCN01-2024ibLoc44

Craft : Roofer Effective Date : 05/08/2024 Last Posted : 05/08/2024

	BHR		Fringe Benefit Payments					Irrevocable Fund		Total PWR	Overtime Rate	
			H&W	Pension	App Tr.	Vac.	Annuity	Other	LECET (*)			MISC (*)
Classification												
Roofer	\$38.95		\$9.51	\$11.00	\$0.47	\$0.00	\$0.00	\$0.06	\$0.00	\$0.00	\$59.99	\$79.46
Applicant & Helper Trainees												
0 to 1851 hrs	\$17.53		\$0.55	\$0.50	\$0.47	\$0.00	\$0.00	\$0.06	\$0.00	\$0.00	\$19.11	\$27.87
1852 to 3350 hrs	\$21.42		\$9.51	\$11.00	\$0.47	\$0.00	\$0.00	\$0.06	\$0.00	\$0.00	\$42.46	\$53.17
3351 to 4850 hrs	\$27.27		\$9.51	\$11.00	\$0.47	\$0.00	\$0.00	\$0.06	\$0.00	\$0.00	\$48.31	\$61.95
4851 to 6350 hrs	\$31.16		\$9.51	\$11.00	\$0.47	\$0.00	\$0.00	\$0.06	\$0.00	\$0.00	\$52.20	\$67.78
6351 to 7550 hrs	\$35.06		\$9.51	\$11.00	\$0.47	\$0.00	\$0.00	\$0.06	\$0.00	\$0.00	\$56.10	\$73.63
7551 hrs	\$38.95		\$9.51	\$11.00	\$0.47	\$0.00	\$0.00	\$0.06	\$0.00	\$0.00	\$59.99	\$79.46
Apprentice	Percent											
Start of school	50.02	\$19.48	\$0.55	\$0.50	\$0.47	\$0.00	\$0.00	\$0.06	\$0.00	\$0.00	\$21.06	\$30.80
600 hrs worked/72 school hrs	55.00	\$21.42	\$0.55	\$0.50	\$0.47	\$0.00	\$0.00	\$0.06	\$0.00	\$0.00	\$23.00	\$33.71
1200 hrs worked/144 school hrs	60.00	\$23.37	\$9.51	\$11.00	\$0.47	\$0.00	\$0.00	\$0.06	\$0.00	\$0.00	\$44.41	\$56.10
1800 hrs worked/216 school hrs	65.00	\$25.32	\$9.51	\$11.00	\$0.47	\$0.00	\$0.00	\$0.06	\$0.00	\$0.00	\$46.36	\$59.02
2400 hrs worked/288 school hrs	70.02	\$27.27	\$9.51	\$11.00	\$0.47	\$0.00	\$0.00	\$0.06	\$0.00	\$0.00	\$48.31	\$61.95
3000 hrs worked/360 school hrs	75.00	\$29.21	\$9.51	\$11.00	\$0.47	\$0.00	\$0.00	\$0.06	\$0.00	\$0.00	\$50.25	\$64.86

3600 hrs worked/432 school hrs	80.00	\$31.16	\$9.51	\$11.00	\$0.47	\$0.00	\$0.00	\$0.06	\$0.00	\$0.00	\$52.20	\$67.78
4200 hrs worked/504 school hrs	90.02	\$35.06	\$9.51	\$11.00	\$0.47	\$0.00	\$0.00	\$0.06	\$0.00	\$0.00	\$56.10	\$73.63
4800 hrs/576 school hrs	100.00	\$38.95	\$9.51	\$11.00	\$0.47	\$0.00	\$0.00	\$0.06	\$0.00	\$0.00	\$59.99	\$79.46

Special Calculation Note : Other is for Drug Testing.

Ratio :

2 Journeymen to 1 Apprentice
 1 Applicant/Helper Trainee

Jurisdiction (* denotes special jurisdictional note) :

ASHTABULA, CUYAHOGA, ERIE, GEAUGA,
 LAKE, LORAIN*, SANDUSKY

Special Jurisdictional Note : Lorain (The Ohio Turnpike North)

Details :

Prevailing Wage Rate Skilled Crafts

Name of Union: **Roofer Local 88**

Change # : LCN01-2024ibLoc88

Craft : Roofer Effective Date : 06/05/2024 Last Posted : 06/05/2024

	BHR		Fringe Benefit Payments					Irrevocable Fund		Total PWR	Overtime Rate	
			H&W	Pension	App Tr.	Vac.	Annuity	Other	LECET (*)			MISC (*)
Classification												
Roofer	\$32.10		\$9.56	\$9.80	\$0.40	\$0.00	\$1.60	\$0.21	\$0.00	\$0.00	\$53.67	\$69.72
HELPERS												
Helper -500 Hrs. 1st 6 months	\$20.00		\$2.25	\$0.00	\$0.40	\$0.00	\$1.60	\$0.21	\$0.00	\$0.00	\$24.46	\$34.46
Helper - 500 Hrs. 2nd 6 months	\$20.87		\$9.56	\$9.80	\$0.40	\$0.00	\$1.60	\$0.21	\$0.00	\$0.00	\$42.44	\$52.88
2nd year Helper	\$22.47		\$9.56	\$9.80	\$0.40	\$0.00	\$1.60	\$0.21	\$0.00	\$0.00	\$44.04	\$55.28
3rd year Helper	\$24.08		\$9.56	\$9.80	\$0.40	\$0.00	\$1.60	\$0.21	\$0.00	\$0.00	\$45.65	\$57.69
4th year Helper	\$25.68		\$9.56	\$9.80	\$0.40	\$0.00	\$1.60	\$0.21	\$0.00	\$0.00	\$47.25	\$60.09
5th year Helper	\$27.29		\$9.56	\$9.80	\$0.40	\$0.00	\$1.60	\$0.21	\$0.00	\$0.00	\$48.86	\$62.51
Apprentice	Percent											
1st 6 months w/500 hrs	65.00	\$20.87	\$9.56	\$9.80	\$0.40	\$0.00	\$1.60	\$0.21	\$0.00	\$0.00	\$42.44	\$52.87
2nd 6 months w/500 hrs	70.00	\$22.47	\$9.56	\$9.80	\$0.40	\$0.00	\$1.60	\$0.21	\$0.00	\$0.00	\$44.04	\$55.28
3rd 6 months w/500 hrs	75.00	\$24.08	\$9.56	\$9.80	\$0.40	\$0.00	\$1.60	\$0.21	\$0.00	\$0.00	\$45.65	\$57.68
4th 6 months w/500 hrs	80.00	\$25.68	\$9.56	\$9.80	\$0.40	\$0.00	\$1.60	\$0.21	\$0.00	\$0.00	\$47.25	\$60.09
5th 6 months w/500 hrs	85.02	\$27.29	\$9.56	\$9.80	\$0.40	\$0.00	\$1.60	\$0.21	\$0.00	\$0.00	\$48.86	\$62.51

6th 6 months w/500 hrs	90.00	\$28.89	\$9.56	\$9.80	\$0.40	\$0.00	\$1.60	\$0.21	\$0.00	\$0.00	\$50.46	\$64.90
7th 6 months w/500 hrs	95.00	\$30.50	\$9.56	\$9.80	\$0.40	\$0.00	\$1.60	\$0.21	\$0.00	\$0.00	\$52.07	\$67.31

Special Calculation Note : Roofers working in any form of coal tar pitch, whether hot or cold, installing and/or removing will be paid \$.25 more per hour.

Other: \$0.07 Drug Education, \$0.05 Construction Industry Development Board, \$0.09 International Training Fund

Ratio :

No helper shall be used on any one job unless 1 Journeymen, and 1 Apprentices are working on said job .

One (1) Journeymen to One (1) Apprentice to One (1) Helper

Jurisdiction (* denotes special jurisdictional note) :

ASHLAND, CARROLL, COSHOCTON, CRAWFORD, HOLMES, HURON, LORAIN*, MEDINA, PORTAGE, RICHLAND, STARK, SUMMIT, TUSCARAWAS, WAYNE

Special Jurisdictional Note : In Lorain County (South of the Turnpike)

Details :