

**CITY OF BUFFALO
DEPARTMENT OF PUBLIC WORKS, PARKS AND STREETS
DIVISION OF WATER**

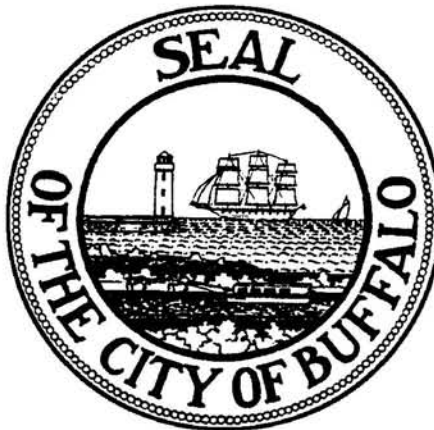
PROPOSAL

**Colonial Ward Pumping Station Stone Storage Building
and
Boiler House Renovations**

**Sean M. Ryan
Mayor**

**Nolan Skipper
Commissioner of Public Works,
Parks and Streets**

**Peter Merlo, P.E.
Principal Engineer**



Exp. 6/30/29



September 2026



Colonel Ward Pump Station Stone Storage Building and Boiler House Renovations

CITY OF BUFFALO DEPARTMENT OF PUBLIC WORKS – DIVISION OF WATER

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MAYOR BYRON W. BROWN

LCP TRACKER INC. AND B2G NOW ELECTRONIC REPORTING SOFTWARE

Please be advised that in the near future, construction contractors and lower-tier subcontractors and suppliers doing business with the City of Buffalo will be required to electronically submit compliance data at the discretion of and the manner specified by the City of Buffalo.

The electronic reporting system is designed to streamline the contract compliance process, reduce or eliminate paperwork, and assist contractors and subcontractors in complying with the City's reporting requirements. Utilizing the electronic system will reduce the amount of time currently required to submit hard copy documentation and is provided for use by contractors and subcontractors at no cost.

Procedural differences between the previous conventional reporting and the new web-based system include:

- M/WBE subcontractor utilization schedules will be entered into the web-based system;
- Contractors will be required to enter data for payments made to subcontractors, and subcontractors will be required to enter data for payments received into the web-based system;
- Forms reporting minorities, women, city resident and apprentice workforce participation will be entered into the web-based system;
Certified payroll records will be entered into the web-based system;
- The City may require additional information related to the contract to be provided electronically through the system at any time before, during, or after contract award;
- Paper copies of these and other reporting forms will no longer be accepted.

This requirement will 'flow down' to every lower-tier subcontractor and vendor required to provide documentation. Each contractor and subcontractor will be given a Log On identification and password to access the City of Buffalo reporting system.

The City will provide several training opportunities prior to implementation of the system. The City will likewise be available to assist with any reasonable additional training and support requested by any Contractor or subcontractor.



CITY OF BUFFALO

Mayor's Office of Contract and Compliance

ATP-1 FORM

APPRENTICESHIP TRAINING PROGRAM CONTRACTOR BID SUBMISSION

All bidders must submit the following form with their bid. Failure to include this form may result in rejection of the bid as non-responsive.

PROJECT NAME AND NUMBER:	DATE:
BIDDER NAME:	

SUMMARY OF LAW

Pursuant to City Code Chapter 96-13(H)(2), any contractor or subcontractor entering into a construction contract with the City of Buffalo that exceeds \$100,000 shall participate, at the time of bid, in a NYS Department of Labor Registered Apprenticeship Training Program. The Apprenticeship Training Program must be applicable to at least one trade performing work on site. The Program must be either internal to the contractor or through a union or non-union training program servicing several contractors.

Once a bidder is determined to be the apparent low bidder, the bidder must secure and submit proof of Apprenticeship Program participation from all subcontractors with agreements in excess of \$100,000 as a condition of award. Subcontracts with a value less than \$100,000 are not subject to the Apprenticeship Program requirements.

Once the award is made and work has begun, the Contractor must ensure that 10% of all hours worked on site are hours performed by persons enrolled in the NYS DOL registered Apprenticeship Training Program. Contractors should aim to employ City of Buffalo resident apprentices. Achievement of goals will be measured by total work hours performed across the Contractor's as well as any subcontractors' employees.

Violation of any provision of this ordinance may constitute cause, grounds, or other legal justification for termination of any contractual agreement with any contractor or subcontractor engaged in a construction contract or construction subcontract with the City of Buffalo.



CITY OF BUFFALO

Mayor's Office of Contract and Compliance

ATP-1 FORM

APPRENTICESHIP TRAINING PROGRAM CONTRACTOR BID SUBMISSION

All bidders must submit the following form with their bid. Failure to include this form may result in rejection of the bid as non-responsive.

PROCEDURE

AT BID

1. Submit the ATP-1.
2. Submit the ATP-2 with NYSDOL ATP-10 attached.

POST-AWARD

1. Submit the ATP-3 on behalf of all subcontractors with subcontracts in excess of \$100,000.

DURING CONSTRUCTION

1. Submit certified payroll records reflecting the employment of apprentices on site as required.
2. Submit Compliance Voucher with application for payment indicating apprentice hours worked.
3. Contractors should document request apprentices from Union Halls or any other State registered Apprenticeship Training Organization to which the contractor is signatory.
4. If the Contractor is unable to meet the 10% goal, the Contractor should submit an Application for Waiver and contact the City of Buffalo Compliance Officer as soon as possible.

CONTRACTOR ATTESTATION

I have read the foregoing and understand that this contract requires compliance with the Apprenticeship Law as condition of contract. If I am awarded this contract, I will comply with the Apprenticeship Training Program requirements.

ss//: _____
Contractor Principal Name

Contractor Principal Signature

Date: _____



CITY OF BUFFALO

Mayor's Office of Contract and Compliance

ATP-2 FORM

APPRENTICESHIP TRAINING PROGRAM CONTRACTOR BID SUBMISSION

Contractors must fill out the ATP-2 Form and submit NYSDOL AT-10 Form(s) with their bid.

CONTRACTOR:	CITY OF BUFFALO CONTRACT:
APPRENTICESHIP TRAINING PROGRAM SPONSOR(S): Attach valid NYSDOL AT-10 form(s)	

THE BIDDER AND SPONSOR AGREE AS FOLLOWS:

1. If the Bidder is the Awardee on this Contract, the Sponsor will supply apprentices for employment in the following trade(s) as requested by the contractor and as available. Each apprentice is enrolled in a n active apprenticeship that is registered and approved by New York State Department of Labor.

Trade(s):[INSERT TRADE TO BE EMPLOYED]

2. Every effort will be made to employ City of Buffalo resident, minority, and female apprentices on site. The Sponsor agrees to indenture apprentices to assist in this effort.

Attach a copy of the sponsor's currently valid New York State Department of Labor form AT-10 "Apprentice Training Program Registration Agreement" for the occupation listed above.

ss/ _____
Contractor Principal Signature

ss/ _____
Sponsor Representative¹

Date: _____

Date: _____

¹ If Contractor is the Sponsor, leave blank.



CITY OF BUFFALO

Mayor's Office of Contract and Compliance

ATP-3 FORM

APPRENTICESHIP TRAINING PROGRAM SUBCONTRACTOR(S) SUBMISSION

**SUBCONTRACTORS¹ to fill out the ATP-3 Form and submit the
NYSDOL AT-10 to Contractor as a condition of Award.**

CONTRACTOR:	SUBCONTRACTOR:
APPRENTICESHIP TRAINING PROGRAM SPONSOR(S): Attach valid NYSDOL AT-10 form(s)	CITY OF BUFFALO CONTRACT:

THE SUBCONTRACTOR AND SPONSOR AGREE AS FOLLOWS:

1. If the Subcontractor performs work on this Contract, the Sponsor will supply apprentices for employment in the following trade(s) as requested by the subcontractor and as available. Each apprentice is enrolled in an active apprenticeship that is registered and approved by New York State Department of Labor.

Trade(s):[INSERT TRADE TO BE EMPLOYED]

2. Every effort will be made to employ City of Buffalo resident apprentices on site. The Sponsor agrees to indenture City resident apprentices to assist in this effort.

**Attach a copy of the sponsor's currently valid New York State Department of Labor form AT-10
"Apprentice Training Program Registration Agreement" for the occupation listed above.**

ss/ _____
Subcontractor Principal

ss/ _____
Sponsor Representative²

Date: _____

Date: _____

¹Applicable only subcontractors with contracts in excess of \$100,000.

²If Contractor is the Sponsor, leave blank.



CITY OF BUFFALO

Mayor's Office of Contract and Compliance

ATP-W FORM

APPLICATION FOR APPRENTICESHIP WAIVER

CONTRACTOR NAME:

DATE:

CONTRACT NUMBER:

This form shall be submitted with monthly vouchers for payment if New York State Department of Labor registered apprentice employment falls below the **10% hours** worked during the month for which payment is requested. **This form will be used to evaluate the extent to which a good faith effort has been made to employ apprentices.** The undersigned submits the following data with respect to the firm's efforts to employ apprentices.

1. List pre-bid conference(s) you firm attended where apprenticeship employment discussed.

2. Describe why apprentice employment was not achieved on this project to date.

3. List specific actions undertaken to recruit and employ apprentice employees. Be specific about the date, form of communication (phone call, email etc.), organization contacted and outcome. Examples include communication with the following organizations:

- Local Union Hiring Halls
- Non-Joint Apprenticeship Training Programs

Attach letters from union halls and workforce training organizations indicating that no minority/women/city resident apprentices were available for dispatch.

Date of Communication	Form of Communication	Union/Organization	Request and Outcome

Based on the above stated good faith efforts made to employ apprentices, the contractor hereby requests that the City of Buffalo waive, for this month's voucher for payment only. The contractor will attempt to meet goals on the remainder of the contract. If goals cannot be met despite good faith efforts, a new "Application for Apprenticeship Waiver" is required with the contractor's voucher for payment.

The undersigned hereby certifies, having read the answers contained in the foregoing Application for Waiver, that they are true and correct to the best of his /her knowledge, information and belief.

Signature _____ Date _____

Name: _____

Title: _____

Company: _____

.....

FOR OFFICIAL USE ONLY

☐ Good faith effort demonstrated

☐ Good faith effort not demonstrated.

☐ Granted Waiver.

Signature of Contract Compliance Officer: _____

Date: _____ Contract Number: _____

The following advertisement for bids shall be published in the City of Buffalo City Record and The Buffalo News on the following date: **WEDNESDAY, SEPTEMBER 16, 2026**

**CITY OF BUFFALO
DEPARTMENT OF PUBLIC WORKS
ADVERTISEMENT FOR BIDS**

Sealed proposals for:
**COLONEL WARD PUMP STATION STONE STORAGE BUILDING AND BOILER HOUSE
RENOVATIONS**

will be received by the Commissioner of Public Works no later than:

WEDNESDAY, OCTOBER 14, 2026, AT 11:00 AM

It is the bidder's responsibility to ensure the sealed proposal is delivered before the bid opening and bidders must utilize one of the following methods:

- 1.) Drop off the sealed proposal to Room 502 of City Hall, Buffalo, New York, 14202 on **Wednesday, October 14, 2026**, between the hours of 9:00 AM and 11:00 AM. The DPW will set a bid box up just inside Room 502 for the bidder to deposit the sealed proposal. There may be multiple bids on this date; it is the bidder's responsibility to properly label the sealed proposal and place the proposal inside the correct box.
- 2.) Mail the sealed proposals to Room 502, City Hall, Buffalo, New York, 14202 with ATTN to the Commissioner of Public Works. Bidders should allow for delivery before the bid opening (highly encouraged to schedule for delivery on or prior to **Tuesday, October 13, 2026**). It is also highly encouraged that bidders track delivery of their mailed proposals and use appropriate priority mail as necessary. City of Buffalo staff is available to accept deliveries on standard business days Monday-Friday from 8:00 AM to 4:00 PM.

Bids will be opened by City of Buffalo Representatives on Wednesday, October 14, 2026, at 11:00 AM LOCAL TIME via video/phone conference call. Bidder representatives can view the public bid opening by emailing Eryn Hopkins at ehopkins@wendelcompanies.com by 5:00 PM on Tuesday, October 13, 2026, to be added to the meeting invitation. An updated meeting invitation will be sent prior to the bid opening to all who request it to be added.

Proposal documents can be viewed and ordered at www.avalonbuff-planroom.com in the Public Jobs section. If you do not have internet access or have questions about ordering from the website, please contact Avalon Document Services at (716) 995-7777. Proposal documents may be obtained from Avalon Document Services, 40 La Riviere Dr, Suite 150, Buffalo, NY 14202, upon a **non-refundable** payment of **FIFTY-EIGHT DOLLARS (\$58.00) per set**. Payment can be submitted only by company check or money order made payable to the City of Buffalo, Dept. of Public Works. **NO CASH AND NO PERSONAL CHECKS.**

Addenda will be emailed from Avalon Document Services to Bidders listed on the official Plan Holders List. Bidders must acknowledge receipt of all Addenda by securely stapling in place all addenda within the front or back covers of the proposal book. All Addenda so issued shall become part of the Contract Documents.

The City of Buffalo will not be responsible for full or partial set of Contract Documents, including any Addenda obtained from any other source. The City of Buffalo reserves the right to reject any and all bids and to waive any informalities therein.

A pre-bid conference will be held at the Colonel Ward Pump Station Conference Room, 2 Porter Avenue, Buffalo, New York on Wednesday, September 23, 2026, at 10:00 a.m. It is strongly recommended that all prospective bidders attend the pre-bid conference.

Questions regarding the Contract Documents should be directed to Timothy Walck, PE at twalck@wendelcompanies.com. Bidders shall promptly notify Timothy Walck, PE at twalck@wendelcompanies.com of any errors, omissions, conflicts or ambiguity within the Contract Documents. No questions or inquiries regarding this bid will be accepted within three (3) business days prior to the bid opening.

Each bidder's attention is called to the General Municipal Law, which requires a bidder's Certification of Non-Collusion. Copies of such Certificates are part of the Proposal Form and, unless complied with, the bid will not be accepted.

Pursuant to New York State Department of Labor (NYSDOL) requirements for public work projects: **Contractors and Subcontractors need to register before submitting any new bids or commencing new work on a covered project on or after December 30, 2024.** NYSDOL encourages all contractors and subcontractors to register as soon as possible to obtain a Certificate of Registration to avoid negatively impacting a bidding period or project schedule. **Proof of Certificate of Registration must be submitted with each bid.**

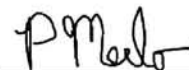
BIDDERS MUST SUBMIT PRIOR TO AWARDING OF A CONTRACT A STATEMENT INDICATING THAT THEY WILL WORK TOWARD A MINORITY WORKFORCE GOAL OF 25% AND A WOMEN WORKFORCE GOAL OF 5%. IN ADDITION, A STATEMENT MUST BE SUBMITTED PRIOR TO THE AWARDING OF A CONTRACT INDICATING THAT THE BIDDER WILL WORK TOWARD A BUSINESS UTILIZATION GOAL FOR MINORITY BUSINESS ENTERPRISE OF 25% AND WOMEN BUSINESS ENTERPRISE OF 5%.

City of Buffalo Contact

Fouad A. Arab
Associate Engineer
Department of Public Works, Buffalo Water
2 Porter Avenue
Buffalo, New York 14201
farab@buffalony.gov

Engineer's Contact

Timothy Walck, PE
Project Manager
Wendel WD Architecture, Engineering,
Surveying & Landscape Architecture, PC
375 Essjay Road, Suite 200
Williamsville, NY 14221
twalck@wendelcompanies.com



Peter Merlo, P.E.
Principal Engineer

ARTICLE 200 – INSTRUCTIONS TO BIDDERS

ARTICLE 201 – Receipt, Opening, and Withdrawal of Proposal

201-01 Receipt. Proposals will be received by the Commissioner at his office, Room 502 City Hall, Buffalo, New York, until the time and date stated in the advertisement for bids. The time for which proposals will be received will be found in the published notice calling for proposals. Detailed plans of the work, standard sheets and proposals may be examined in the Department of Public Works Main Office or the Consulting Engineer's Office as specified in the Advertisement for Bids.

201-02 Envelope. The envelope containing the Proposal must be sealed, addressed to the Commissioner. The envelope must also state on its exterior that it contains a Proposal for work, also described as to its nature and location, and the name of the Bidder.

201-03 Informalities. The City may consider informal any Proposal not prepared and submitted in accordance with these instructions and may waive any informalities in any bid or may reject any or all Proposals.

201-04 Late Proposals. Any Proposal received after the time and date specified for opening will not be considered.

201-05 Withdraw Prior To Opening. Any Proposal may be withdrawn prior to the scheduled time for the opening of bids or authorized postponed date thereof.

201-06 Withdraw After Opening. AFTER THE OPENING OF THE PROPOSALS, NO BIDDER MAY WITHDRAW HIS PROPOSAL WITHIN FORTY-FIVE (45) DAYS AFTER THE DATE OF SUCH OPENING. AFTER THE EXPIRATION OF THE SAID FORTY-FIVE (45) DAYS, ANY BIDDER WISHING TO WITHDRAW HIS PROPOSAL MUST SO STATE IN WRITING TO THE COMMISSIONER. UNTIL THE COMMISSIONER RECEIVES SUCH WRITTEN NOTICE OF WITHDRAWAL, THE CITY MAY ACCEPT ANY PROPOSAL EVEN THOUGH THE FORTY-FIVE (45) DAY PERIOD HAS EXPIRED.

ARTICLE 202 – Preparation of Proposal.

202-01 General. Proposals must be submitted on the forms provided by the City. Unless instructed otherwise all blank spaces in the forms shall be filled in and amounts shall be stated both in words and in numerals. The signatures shall be in longhand and the completed forms shall be without erasure, interlineation, alteration or any conditions inserted by the Bidder. No limitation letters of any kind will be accepted with the Proposal.

Status. The Proposal shall state whether the Bidder is a corporation, partnership, or individual. If it is a corporation, it must be stated under the laws of what state it is incorporated and the Proposal must have the corporate seal affixed thereto. If it is a partnership, then the full name of all members of the partnership and the name of the partnership must be stated.

ARTICLE 203 – Discrepancies or Omissions in Contract Documents.

Should a Bidder find discrepancies or omissions in the drawings, Specifications, or other Contract Documents, or should a Bidder fail to understand any part of the drawings, Specifications, or other Contract Documents, the Contractor shall at once notify the Commissioner. If the Commissioner deems it necessary, the Commissioner shall at once send a written Addenda or instructions to all Bidders and to all other parties known to the Commissioner to be potential Bidders. The City will not be responsible for any oral Addenda

or instructions given by any officer, agent, or employee nor shall the City be responsible for the failure of any Bidder to receive such written Addenda or additional instructions.

ARTICLE 204 – Addenda.

All Addenda or additional instructions issued during the time of bidding shall be included in the Proposal and shall become part of the Contract Documents.

ARTICLE 205 – Site and Examine Contract Documents.

205-01 Examine Documents. Before submitting Proposals, Bidders shall carefully examine the Specifications and drawings, the form of Contract, and all other Contract Documents.

The Contractor is responsible for possessing or obtaining the most recent and updated copy of the Standard Specifications for Construction & Materials.

205-02 Site Visit. Bidders shall visit the site and acquaint themselves with the existing conditions and limitations and assure themselves of the ability to perform the work. The Proposal shall contain a statement to this effect.

ARTICLE 206 – Subsurface Conditions.

Subsurface information obtained by the City is available for the Bidder's inspection upon the Bidder's request. It should be understood that it was obtained with reasonable care and recorded in good faith with reasonable interpretations placed in the results and character of materials and conditions to be expected.

The Bidder must interpret this information according to its own judgment and not rely upon such information as accurately descriptive of subsurface conditions which may be found to exist. The information is made available to the Bidder only in order that the Bidder may have access to the information available to the City.

The Bidder must verify all utility locations within the job limits by contacting the Underground Facilities Protective Organization (UFPO) before digging.

The Bidder must verify all sewer locations with the Buffalo Sewer Authority, in Room 1023 of City Hall, and all Water locations with the Water authority, in Room 601 of City Hall.

ARTICLE 207 – Security to Accompany Proposals.

207-01 Amount in Form. The Proposal shall be accompanied by either:

- A. Proposal bond for bids greater than two-hundred fifty thousand dollars (\$250,000.00) or
- B. Proposal bond, certified check or bank draft for bids less than or equal to two-hundred fifty thousand dollars (\$250,000.00).

A proposal bond shall run to the City and be executed by the Bidder or Contractor as the case may be as principal and by a duly incorporated company authorized to guarantee the performance of contracts and to do business in the State of New York as Surety.

A certified check or bank draft shall run to the City as payee and shall be drawn upon a bank authorized to do business in the State of New York.

The proposal bond, certified check or bank draft shall be in the penal amount of not less than ten percent (10%) of the bid if based upon a lump sum price or ten percent (10%) of the total arrived at by multiplying the unit prices by the quantities estimated in the drawings and Specifications; and shall be conditioned that the principal named on the bond, certified check or bank draft will enter into a written

contract for the performance of the work or improvement in accordance with the terms and conditions as provided in the Specifications; and upon execution of such Contract, the principal will furnish a bond for the faithful performance of the Contract Documents.

In the event that the Bidder fails to enter into a contract for the work or improvement or fails to furnish a performance bond in the amount of the contract price, then one-hundred percent (100%) of the penal sum of the proposal bond, certified check or bank draft shall be and become the minimum amount of liquidated damages suffered by the City as a result of such failure.

All bids are subject to whichever of the following provisions is applicable to the particular the Contract Documents.

207-02 Award of Contracts Which Must be Reported to the Common Council. Within five (5) days after being notified by the City's Department of Public Works that the Contractor's bid is being recommended to the Common Council as the lowest responsible bid, a Bidder shall furnish to the City a letter from the qualified Surety company that such Surety company will furnish the Bidder with a performance bond in the amount and form required by the Specifications. Failure to do so will result in the withdrawal by the City's Department of Public Works of such recommendation.

207-03 Contracts Which do not Have to be Reported to the Common Council. Within five (5) days after being notified that the Contractor's bid has been approved by the City's Department of Public Works as the lowest responsible bid, a Bidder shall furnish to the City a letter from a qualified Surety company that such Surety company will furnish the Bidder with a performance bond in the amount and form required by the Specifications. Failure to do so will result in the withdrawal by the City's Department of Public Works of such approval.

207-04 For Informal Contracts. The required performance bond and insurance shall be submitted to the City for approval by the lowest Bidder within five (5) days after receipt of bids. Failure to do so will give the City the right to reject the bid and either award the Contract to the next lowest Bidder or re-advertise the work.

ARTICLE 208 – Proposal Bond, Certified Check or Bank Draft.

The proposal bond, certified check or bank draft must be approved as to form by the City's Corporation Counsel and as to sufficiency the Comptroller of the City prior to the award of the Contract.

ARTICLE 209 – Return of Proposal Bond, Certified Check or Bank Draft.

The proposal bond will be returned to each respective Bidder, except the lowest three bidders within three days of the formal openings of the Proposals. The remaining proposal bonds will be returned within forty-eight hours (48) after the City and the accepted Bidder have executed the Contract.

In the event that a Certified Check or Bank Draft is submitted in lieu of a Proposal Bond, a refund check equal to the amount of the Certified Check or Bank Draft will be mailed to the unsuccessful bidders by the City of Buffalo within Four (4) weeks after the bid date.

ARTICLE 210 – Contract and Bonds.

The Contract, the Performance Bond, the Maintenance and Guaranty Bond, as required, shall be executed in accordance with the forms prepared by the Commissioner and made a part of the Contract Documents herein. The Contract and the Bonds must be executed in quadruplicate.

ARTICLE 211 – Statement of Experience.

The Bidder must complete the experience questionnaire included within the Proposal.

ARTICLE 212 – Award of Contract.

The Contract will be awarded to the lowest responsible Bidder in accordance with the terms and conditions of the Contract Documents.

The ability of any Bidder to obtain a performance bond shall not be regarded as the sole test of such Bidder's competency or responsibility.

Such award shall be contingent on the grant of authority to commence construction of the work of this Contract by any federal, state or local agency having jurisdiction.

ARTICLE 213 – Equivalent Quality.

Unless otherwise noted, wherever the Contract Documents specifies an article, material, apparatus, equipment or process by trade name or by the name of a patentee, manufacturer, dealer, or by reference to a catalog of a manufacturer or dealer, it shall be understood as intending to mean and specify the article, material, apparatus, equipment or process designated, or any equal thereto in quality, finish, design, efficiency and durability and equally serviceable for the purpose for which it is intended. The opinion of the Commissioner as to equivalence shall be final. The Bidder must submit with Bidder's Proposal the name of all articles, materials, apparatus, equipment or process being offered as equivalents.

Upon rejection of any article, material, apparatus, equipment or process submitted as the equivalent of that specifically named in the Contract Documents, the Bidder shall be given a reasonable opportunity to state in writing that Bidder will furnish the specified article, material, apparatus, equipment, or process at no increase in the contract cost.

In the event that the Contract Documents call for a particular article, material, apparatus, equipment or process, and no other, the Bidder must submit a base bid for the particular item. Any Bidder, however, may submit an alternate Proposal either in the Proposal form or on the Bidder's letterhead for any item which he believes to be equivalent or superior to that specifically called for by the Contract Documents. Alternate Proposals must be accompanied by full description and technical data on the item proposed together with a statement of the amount of addition to or deduction from the base bid if such alternate is accepted.

ARTICLE 214 – Estimates of Quantities.

With respect to only unit price bids, Bidders are cautioned that the estimate of quantities listed in the schedule of quantities will serve, as far as the Contract Documents are concerned, only for the purpose of comparing bids and as a basis for computing the amounts of the bid bond, performance bond, and maintenance bonds. The actual quantities may be greater or less. Payment will be made by the City only for the actual quantity of authorized work performed under each scheduled item and only at the unit bid price.

ARTICLE 215 – Section 103-D of the General Municipal Law.

Section 103-d of the General Municipal Law, requires a non-collusion clause to be inserted by Bidders in Proposals for the furnishing of work, labor or services or supplying goods to municipalities. If the Bidder is a corporation, the execution of the non-collusive certification in the Proposal shall be deemed to have been authorized by the Board of Directors of the Bidder, and such authorization shall be deemed to include the signing and submission of the bid and the inclusion therein of the certificate as to non-collusion as the act and deed of the corporation. No bid shall be considered if the Proposal does not include the statement as to non-collusion. However, if the Bidder cannot make the foregoing certification, the Bidder shall so state and furnish a signed statement which sets forth the reasons in detail.

In this event the bid shall not be considered for award nor shall any award be made unless the Commissioner determines that such disclosure was not made for the purpose of restricting competition. In this connection it should be noted that a Bidder who has published price lists, rates or tariffs covering items being procured or has informed prospective customers of the proposed or pending publication of new or

revised price list for such items, or has sold the same items to other customers at the same price as being bid, does not constitute, without more, a disclosure to any other Bidder or to any competitor within the meaning of the non-collusive certification included in the form of Proposal. Please note that it is not necessary to adopt an authorizing resolution for the person executing the Proposal on behalf of the corporation.

ARTICLE 216 – Payment of Taxes, Generally.

The Contractor shall pay any and all Federal, State, County or City taxes which may be applicable to the Contract Documents.

ARTICLE 217 – Sales and Compensating Use Tax.

217-01 City Exemption. The City is exempt from payment of sales and compensating use taxes imposed by the State of New York or by any County, school district, or City within the State on all supplies and materials furnished by the Contractor for incorporation into the work pursuant to the provisions of the Contract Documents.

The purchase by the Contractor of the supplies and materials sold hereunder will be a purchase or procurement for an exempt project pursuant to Section 115 (a) (15) of the New York State Tax Law and, therefore, not subject to any sales or compensating use taxes. No such taxes shall be included in the bids.

217-02 Contractor's Responsibility. The Contractor shall comply with all acceptable laws and regulations concerning exemption from sales and compensating use taxes, and the Contractor shall cause the Subcontractor to do the same.

217-03 Non-exempt Materials. The Contractor's attention is called to the fact that materials not actually incorporated into the work will not be exempt from the payment of a sales tax. This will apply to such things as:

- A. Construction machinery and equipment including rentals or repair parts.
- B. Contractor's office supplies.
- C. Contractor's supplies, tools and miscellaneous equipment, including forms, materials and scaffolding (whether purchased or rented).
- D. Temporary heat.
- E. Telephone and electric services.
- F. Any other items purchased or rented by the Contractor for use in performing the Contract Documents and not incorporated into the realty.

217-04 Materials. The term "materials" shall be deemed to include "Supplies" and "Equipment" incorporated into the work.

ARTICLE 218 – Excise Taxes.

Excise tax exemption certificates will be issued by the City, when requested by the Contractor, for items which fall within the scope of the Contract Documents and may properly be exempt from the Federal Excise Tax. Bidders shall not include amounts for such taxes in any bids submitted by them, and all Bidders shall so instruct their Subcontractors and material men.

ARTICLE 219 – Federal, State and Local Taxes.

219-01 City's Status. The City is exempt from payment of all Federal excise taxes and all State and Local Sales and Compensating Use Taxes on all materials physically incorporated into the real property.

219-02 Excluding Taxes In Bid Price. The Contractor and each of the Subcontractors warrant and represent that the said Taxes are not included in the bid or contract price.

ARTICLE 220 – Adjustments for Federal, State and Local Taxes.

220-01 General. If the Contractor is required to pay or bear the burden of any tax or duty which was not to be included in the contract price pursuant to the requirements of ARTICLE 216, 217, and 218 or any interest or penalty on any tax or duty, the contract price shall be increased by the amount of such tax, duty, interest, or penalty allocated to the Contract Documents provided:

A. The Contractor has warranted in writing that no amount of such tax or duty was included in the contract price as a contingency reserve or otherwise; and

B. Liability for such tax, duty, interest or penalty was not incurred through the fault of negligence of the Contractor or his failure to follow instructions of the City; and

C. The Contractor and its Subcontractors and Buyers obtain any and all necessary resale exemption certificates from the appropriate governmental agency or agencies; and furnish a resale certificate to all persons, firms or corporations from which they purchase supplies and materials for the performance of the work covered by the Contract Documents; and

D. The City is afforded the opportunity, before any payment of tax is made, to contest said claim in the manner and to the extent that the City may choose and to settle or satisfy said claims and such attorney as the City may designate is authorized to act for the purpose of contesting, settling and satisfying said claim; and

E. The Contractor and its Subcontractors give immediate notice to the City and its designated attorney in contesting said claim and furnish promptly to the City and said attorney all information and documents necessary or convenient for contesting said claim, said information and documents to be preserved for six years after the date of final payment for the sale, or longer if such a claim is pending or threatened at the end of such six years. If the City elects to contest any such claim, it will bear the expense of such contest.

220-02 Invoices & Vouchers. Invoices or vouchers covering any adjustment of the contract price pursuant to ARTICLE 219 shall set forth the amount thereof as a separate item and shall identify the particular tax or duty involved.

220-03 Social Security, Income, and Franchise Taxes. ARTICLE 220 shall not be applicable to social security taxes on income and franchise taxes, other than those levied on or measured by (i) sales of receipts from sales, or (ii) the Contractor's possession of interest in or use of property, title to which is the City, excess profits taxes, capital stock taxes, unemployment compensation taxes, or property taxes, other than such property taxes, allocated to the Contract Documents as are assessed either on the Contractor's possession of, interest in, or use of property, title to which is in the City.

220-04 Aggregate Amount Over \$100.00. No adjustment pursuant to ARTICLE 220 will be made under the Contract Documents unless the aggregate amount thereof is or may reasonably be expected to be over \$100.00.

220-05 Establishing Exemption. Unless there does not exist any reasonable basis to sustain an exemption, the City, upon request of the Contractor, without further liability, agrees, except as otherwise provided in the Contract Documents, to furnish evidence appropriate to establish exemption from any tax which the contract warrants in writing was excluded from the contract price. In addition, the City may furnish evidence

appropriate to establish exemption from any tax that may, pursuant to this clause, give rise to an increase in the contract price.

220-06 Equitably Adjusted. The Contractor shall promptly notify the City all matters pertaining to Federal, State and local taxes, and duties that reasonably can be expected to result in an increase in the contract price. Whenever an increase in the contract price may be required under this clause, the Contractor shall take action as directed by the City and the contract price shall be equitably adjusted to cover the costs of such taxes including any interest, penalty, and necessary attorney's fees.

ARTICLE 221 Compliance with City of Buffalo Apprenticeship Training Program Ordinance

The Contractor shall comply with the City of Buffalo Apprenticeship Training Ordinance if applicable which states:

§ 96-13 (G) (1) Apprenticeship Training Program

Pursuant to New York State Labor Law 816-b, the City of Buffalo hereby requires all contractors and subcontractors entering into any construction contracts with the City of Buffalo, to have established apprenticeship agreements appropriate for the type and scope of work to be performed under the contract, that has been approved by the NYS Commissioner of Labor. Construction contracts shall mean any contract, which involves construction, reconstruction, improvement, rehabilitation, installation, alteration, renovation, demolition, or otherwise providing for any building, facility, or physical structure of any kind with a value in excess of \$100,000.

§ 96-13 (H) Workforce Development and Diversification Apprenticeship Training Program.

Definitions: "Worker Training Program" shall mean: a state registered apprenticeship program through New York State Department of Labor that includes the following standards:

- (a) An organized, written plan in place that embodies the terms and conditions of employment, and the training and supervision of one or more workers; and
- (b) A schedule of wages to be paid to the worker consistent with the skills required and approved by the New York State Department of Labor; and
- (c) Equal opportunity and affirmative action plans; and
- (d) Workforce development and diversification goals ensuring that the contractor will work toward a minority workforce goal of 25%, and women workforce goal of 5% combined in project personnel including trades people, trainees, journeymen, apprentices, and supervisory staff; and
- (e) A minimum of ten (10%) percent of the workforce employed by any and all contractors and subcontractors be done by a person or persons participating in an apprenticeship program which has been registered with and approved by the New York State Commissioner of Labor in accordance with Article 23 of the NEW YORK LABOR LAW; and
- (f) Residency goals ensuring that the contractor will work toward a minimum of twenty-five (25%) percent of the workforce to include qualified residents from the City of Buffalo.

"Commissioner" shall mean the Commissioner of the City of Buffalo Department of Public Works.

“Construction contract” shall mean any contract to which the City of Buffalo shall be a signatory, which involves the construction, reconstruction, improvement, rehabilitation, installation, alteration, renovation, demolition, or otherwise providing for any building, facility, roads, highways, bridges, or physical structure of any kind.

“Construction subcontract” shall mean any subcontract between a contractor who has a construction contract with the City of Buffalo which involves the construction, reconstruction, improvement, rehabilitation, installation, alteration, renovation, demolition, or otherwise providing for any building, facility, roads, highways, bridges, or physical structure of any kind.

“Contractor” or “subcontractor” shall mean a contractor or subcontractor that directly employs workers under a construction contract or construction subcontract, as defined herein, for which a worker-training program, registered through New York State Department of Labor is required.

“Construction worker” shall mean an individual directly involved in the construction, reconstruction, improvement, rehabilitation, installation, alteration, renovation, demolition, or otherwise providing for any building, facility, roads, highways, bridges, or physical structure of any kind.

(1) Requirements and Exceptions

(a) Any contractor, prior to entering into a construction contract, as defined herein, with the City of Buffalo, or any subcontractor entering into a construction contract as defined herein, with a contractor who has a construction contract, as defined herein with the City of Buffalo, is required to have in place at the time of bid a NYS Department of Labor apprenticeship training program, as defined herein, either internally to the contractor or subcontractor and/or through an organization servicing several contractors or subcontractors, appropriate for the type and scope of work to be performed.

(b) The Commissioner shall file reports on a quarterly basis with the Mayor of Buffalo and the Common Council as the training of workers and certification.

(c) Any contractor with the City of Buffalo, or any subcontractor entering into a construction subcontract with a contractor who has a construction contract with the City of Buffalo, is required to ensure that the workforce which it engages to perform work in execution of the contract or subcontract meets the minimal workforce diversification standards as defined above, such contractors and/or shall provide the Commissioner or designated compliance officer with the following:

(i) A monthly workforce census and such other employment and/or payroll records necessary to verify achievement of the workforce diversity goals and the demonstrate compliance with the minimum standards.

(ii) Access and cooperation to the project compliance officer to review records on-site and/or at worksite premises to validate workforce participation.

(iii) With bid submission, a statement committing to providing apprenticeship training opportunities to workers, as well as details of workforce diversification recruiting programs directed at attracting candidates to fill positions to meet such requirements.

(2) Rules & Regulations

The Commissioner of the City of Buffalo Department of Public Works is hereby authorized to promulgate such rules and regulations that are lawful, necessary and appropriate to implement, enforce, or otherwise carry out the purpose of this section.

(3) Equal Employment Opportunity Oversight

The Commissioner of Community Services and Recreational Programming for the City of Buffalo shall conduct oversight and review functions over apprenticeship training programs operated in accordance with the provisions of this section to ensure compliance with federal, state, and local laws and regulations concerning minority and women participation, and shall report to the Common Council annually concerning such compliance.

(4) Penalties

Violation of any provision of this section may constitute cause, grounds or other legal justification for termination of any contractual agreement with any contractor or subcontractor engaged in a construction contract or construction subcontract with the City of Buffalo, in accordance with city, county, and state laws, rules, and regulations governing the termination of such contractual agreements.

(5) Severability

If any clause, sentence, paragraph, subdivision, section or part of this section or the application thereof, to any person, individual, corporation, firm, partnership, entity or circumstance, shall be adjudged by any court of competent jurisdiction to be invalid or unconstitutional such order of judgment shall not affect, impair, or invalidate the remainder thereof, but shall be confined in its operation to the clause, sentence, paragraph, subdivision, section, or part of this section or in its application to the person, individual, corporation, firm, partnership, entity, or circumstance directly involved in the controversy in which such judgment or order shall be rendered.

(6) Expiration

The Apprenticeship Training Program ordinance as contained in § 96-13(G) and § 96-13(H) of this chapter, and all enforcement thereof shall expire on July 1, 2007. The Common Council, by a majority vote, may extend this ordinance and its enforcement beyond the expiration date.

SUPPLEMENTAL INSTRUCTIONS TO BIDDERS

1. GENERAL

Persons desiring to make a proposal shall use the Proposal blanks by the Department and contained herein for each individual Contract. THE SPECIFICATIONS ADOPTED JANUARY 1, 1998 (except modified in the Plans or in this Proposal) BY THE CITY DEPARTMENT OF PUBLIC WORKS ARE TO BE CONSIDERED AS AND FORM A PART OF THE AGREEMENT. The time for which Proposals will be received is in the published notice calling for Proposals. Any proposal received after the hour specified in the published notice shall not be accepted. Detailed Plans of the work, Standard Sheets and Proposals may be examined in the Department of Public Works Main Office or at the office of the Consultant as specified in the Advertisement for Bids.

Initially capitalized terms used herein shall have the same meanings specified in the Standard Specification for Construction and Materials promulgated by the Commissioner of Public Works for the City of Buffalo from time to time, unless the context otherwise required.

The Contractor shall obtain and pay for all permits and licenses required, shall give all notices, pay all fees and comply with all laws, ordinances, rules and regulations affecting conduct of the work.

2. REVISIONS TO STANDARD SPECIFICATIONS

None.

3. ADDITION OF FEDERAL CLAUSES

None.

4. NATURE OF WORK

Sealed Proposals are invited by the City for all plant, labor, services, materials, supplies, equipment, tools, transportation and other facilities and things necessary or proper for or incidental to the work.

5. WORK INCLUDED

The work will be done under one Contract: General Construction and the proposal shall include the following:

- a) Required temporary shoring of existing wall construction at the Stone Storage Building and existing first floor construction at the Boiler House Building.
- b) Partial demolition of existing masonry and concrete construction in the Stone Storage Building basement.

- c) Demolition of existing steel lintels and concrete infill of openings through the Stone Storage Basement walls.
- d) Infill of existing Stone Storage Basement with a low density cellular concrete fill. Miscellaneous existing MEP removals and rerouting.
- e) Demolishing of existing first floor slab and framing at the Stone Storage Building.
- f) New interior and exterior slab on grades and concrete retaining walls.
- g) New asphalt sections.
- h) Electrical work within the Stone Storage Building.
- i) Plumbing work within the Stone Storage Building.
- j) Restoration and clean-up of all disturbed areas.
- k) All other miscellaneous work necessary or proper for performing and completing the work as shown on the plans and specified in the Contract Documents.

6. LOCATION OF WORK

The work is located at the Colonel Ward Pump Station property located at 2 Porter Avenue, Buffalo, New York 14202.

7. CONTRACT DRAWINGS

Refer to Specification Section 011000, Summary of Work.

8. LIQUIDATED DAMAGES

Pursuant to General Conditions, Article 120 – “DEFAULT OF CONTRACTOR”, and in order to avoid all controversy and the determination of actual damages or expenses for the delay in completion of the work by reason of the City’s election not to terminate the right of the Contractor to proceed, the Contractor and his Surety shall be liable for and shall pay or allow to the City the sum of:

FIVE HUNDRED DOLLARS (\$500.00)

per day as fixed and agreed liquidated damages for each and every working day, Sundays and Holidays excluded, after the date fixed for the completion of work. During this time damages and expenses may be deducted by the City from any payment or payment then due to thereafter failing due to the Contractor.

9. TIME OF COMPLETION

A. The Contractor shall complete the work within 250 consecutive working days from the issuance of “Notice to Proceed” subject to the provisions for extension of time as contained in General Conditions, Article 119, “DELAYS AND EXTENSIONS OF TIME”.

B. **Mobilization Clause – Damages** Upon notification from the Commissioner, the Contractor shall mobilize and commence work, whatever nature as outlined in this proposal, within seven (7) working days from notification. Noncompliance shall result in the Contractor to be liable for and shall pay or allow to the City the sum of five hundred (\$500.00) dollars per day.

10. AUTHORITY TO CONDUCT BUSINESS IN N.Y.S.

A. All vendors competing for City contracts by whatever means of award, be required to submit proof of their authority to conduct business within New York State as part of their offer documentation. Proof for partnerships and corporations could consist of providing a copy of the most recent business filing with N.Y.S. Department of State.

11. SPECIAL NOTES

A. ***With this bid*** the Contractor shall supply the name of the Contractor's proposed superintendent and proof of previous experience in reference to work on similar projects. This shall include the project name, description, Owner's name, contact person and telephone number. Should sufficient evidence of previous successful experience not be provided it shall be considered grounds for rejecting the Contractors bid.

B. Contract and Bonds – additional or modified requirements

- a. Labor and Material Payment Bond – the required form of security furnished by the Contractor and his surety as guarantee of the payment of all employees and materialmen, in an amount not less than 100% or the total amount payable to the Contractor by the terms of the Contract, executed in quadruplicate in accordance with the forms made a part of the Contract Documents herein.
 - b. Guarantee – two (2) year period after completion and acceptance of work.
 - c. Maintenance Bond – in an amount not less than 10% of the total amount payable to the Contractor by the terms of the Contract.
- C. Within 30 calendar days after receipt of the Notice of Award, the contractor shall submit a comprehensive bar-chart type progress schedule indicating a time bar for each significant category or unit of work to be performed on the project. Arrange schedule to indicate required sequencing of units, and to show time allowances for submittals, inspections, testing and similar time margins. Show critical dates related to each time bar or prepare separate coordinated listing of critical dates.
- a. Following initial revision of the schedule after the Engineer's review, print and distribute schedule to entities with a need-to-know responsibility, including 3 copies to the Engineer. Post in temporary office space. Revise at intervals matching payment requests, and redistribute/repost. Provide copies required with payment requests.
- D. The plans and specifications for this project have been prepared with care and are intended to show as clearly as practicable the work required to be done. The Contractor must realize, however, that construction details cannot always be accurately anticipated and that in executing the work, field conditions may require reasonable modifications in the details of plans and quantities of work involved. All work must be carried out to meet actual field conditions to the satisfaction of the Engineer and in accordance with his instructions.
- E. Material submittals, specifications and/or catalog cuts will be required for the items of the contract. These submittals must be approved by the Engineer and the City prior to the Contractor's ordering materials. The Contractor shall schedule a sufficient period for review and approval into his progress plan for this work. No claims or complaint for delays shall be allowed due to the late or untimely delivery and acceptance of material submittals. Furthermore, no materials of any kind shall be placed on the project without prior written approval of each item.
- F. A standard City of Buffalo Department of Public Works subcontractor approval form shall be submitted for each and every subcontractor that is proposed to work on the project. No subcontractor shall perform any work without prior approval by the Engineer and the City.
- G. The drawings and specifications contain information relating to conditions below the ground surface at the site of proposed work, but such information is furnished without express or implied guarantee as to its being complete or correct. The Contractor shall

assume all risks and responsibilities and shall complete the work in whatever manner and under whatever conditions he may encounter or create, without extra cost to the City. The Contractor shall excavate test pits in advance of the existing utilities that may interfere with the work to be performed under this contract. The cost for test pits shall be included in the price bid for the other items of the contract. No additional payment will be considered for test pit excavation as required to complete the work as directed by the Engineer.

- H. The Contractor shall be responsible for all repairs made of all damages incurred by the Contractor during construction at the Contractor's sole expense.
- I. The Fire and Police Authorities for the area concerned in this Contract shall be notified in advance of the beginning of construction of the proposed schedule and shall be kept apprised of the progress of the work in order to coordinate and maintain sufficient Fire and Police Protection.

The Contractor shall file with the above agencies a list of names, addresses and telephone numbers of the principles or their authorized representatives who can be contacted at any time in the event of an emergency. The Contractor shall also provide the Engineer with a copy of the list noted above.

- J. If the Contractor intends to utilize a landfill within the City limits for the disposal of excavated materials, a landfill license must be requested. See additional forms and requirements herein.
- K. This entire proposal book shall be submitted in its entirety. Any addenda or attachments shall be stapled securely in place within the front or back covers or as appropriately located throughout the book.
- L. Landscape contractors must now be licensed to do business in the City of Buffalo. Applications and information regarding the license procedure are available from the Division of Licenses, Room 313, City Hall, 851-4078.
- M. The Buffalo Common Council has enacted an Apprenticeship Training Program as part of Section 96-13 of the City's Ordinance. All bidders are encouraged to carefully review Article 107, Laws and Ordinances, of this specification. Failure to abide by the requirements of this section may result in your bid being declared non-responsive.
- N. The Contractor shall be advised that an Engineer's Field Office is not required for this project.
- O. The successful bidder for this project will be the lowest responsible bidder based on the Base Bid.
 - a. The City's intent is to enter into a contract with the successful bidder. This contract will reflect only the base bid amount, and funding available.

- b. The City is not obligated to fund the based bid completely and may reduce, or increase project quantities based on funding available.

Document Checklist

Below is a compiled list of required submittals that will need to be provided at time of bid, completed and included with the proposal, unless otherwise noted.

Section	Description of Requirement	Form Code	Required Time of Submittal	Check
ATP-1	Apprenticeship Training Program Contractor Bid Submission	ATP-1	With Bid	
ATP-2	Apprenticeship Training Program Contractor Bid Submission	ATP-2	With Bid	
AT P-3	Apprenticeship Training Program Contractor Bid Submission	ATP-10	With Bid	
AD-2	Proof of Certification of Registration with NYSDOL <i>[See AD Section]</i>	n/a	With Bid	
SIB-3	Proof of business filings with NYSDOS <i>[See SIB section 10 A]</i>	n/a	With Bid	
SIB-3	Contractor's Proposed Superintendent <i>[See SIB section 11 A]</i>	n/a	With Bid	
PF	Proposal	PF	With Bid	
PTB-1	General Construction Proposal Total Bid Sheet	PTB	With Bid	
UBP-1	Unit Bid Price Sheet for General Construction	UBP	With Bid	
AA	Addendum Acknowledgment	AA-1	With Bid	
EX	Experience Questionnaire	EX	With Bid	
BD	Bidders Declaration	BD	With Bid	
M/WBE-1	M/WBE Contracting Goals	M/WBE-1	With Bid	
WPG-1	Chapter 96-13 Minority, Female, and City Resident Workforce Goals	WPG-1	With Bid	
GCS-1	General Contractor's Statement of Compliance	GCS-1	With Bid	
BC	Bidders Certification	BC-1	With Bid	
LLA	Landfill License Application	LLA	With Bid	
PB	Proposal Bond	PB	With Bid	
M/WBE-W	Application for M/WBE Waiver	M/WBE-W	With Bid or Within 24 Hours of Low Bid	
DDP-1	Schedule of M/WBE Participation	DDP-1	With Bid or Within 24 Hours of Low Bid	
WPG-2	Chapter 96-13 Minority, Female, and City Resident Workforce Goals (Contractors)	WPG-2	Within 24 hours of Bid	

Document Checklist

LLR	Proof of Landscaper License with City of Buffalo <i>[See LLR Section]</i>	<i>n/a</i>	Once deemed Low Bidder	
GC-24	Federal ID <i>[See GC Section 130 a.]</i>	<i>n/a</i>	Once deemed Low Bidder	
GC-24	Copy of Companies Certificate of Incorporation <i>[See GC Section 130 b.]</i>	<i>n/a</i>	Once deemed Low Bidder	
GC-24	Photocopy of current valid City of Buffalo Contractor's License <i>[See GC Section 130 c.]</i>	<i>n/a</i>	Once deemed Low Bidder	
GC-24	Four (4) Contract Documents	<i>n/a</i>	Once deemed Low Bidder	
ATP-3	Apprenticeship Training Program Subcontractor(s) Submission	ATP-3	Upon Notice of Award	
	Apprenticeship Training Program Subcontractor(s) Submission	ATP-10	Upon Notice of Award	
WPG-2	Chapter 96-13 Minority, Female, and City Resident Workforce Goals (Subcontractors)	WPG-2	Upon Notice of Award	
DDP-2	M/WBE Letter of Commitment to Preform	DDP-2	Within 3 Calendar Days of Notice of Award	
PEB	Performance Bond	PEB	At Contract Time	
LMPB	Labor and Material Payment Bond	LMPB	At Contract Time	
MB	Maintenance Bond	MB	At Contract Time	
INS	Required Insurance <i>[See INS Section]</i>	<i>n/a</i>	At Contract Time	

**BUFFALO WATER BOARD
DEPARTMENT OF PUBLIC WORKS
DIVISION OF WATER
CITY OF BUFFALO, NEW YORK**

PROPOSAL

To the Commissioner of Public Works, Buffalo, NY _____, 2026

Pursuant to and in compliance with your Advertisement for Bids, dated the 16th of September, the undersigned hereby offers to enter into an agreement in the form annexed to the specifications for furnishing all plant, labor, material supplies, equipment, and other facilities and things necessary and proper for or incidental to the work as specified in the contract documents for:

**COLONEL WARD PUMP STATION STONE STORAGE BUILDING AND BOILER
HOUSE RENOVATIONS**

As required by and in strict accordance with the plans and specifications and with all addenda issued by the Commissioner of Public Works prior to the date of opening bids, whether received by the undersigned or not, for the following prices, to wit:

Bidder's Name

Signature of authorized representative of bidder

Bidders are hereby advised that the Buffalo Water Board, Department of Public Works, Division of Water may exercise its rights to reject any proposal in which unit bid prices appear in the Commissioner's judgment to constitute an unbalanced bid for the work. The Buffalo Water Board, Department of Public Works, Division of Water reserves the right to reject any or all bids and waive any informalities therein.

**COLONEL WARD PUMP STATION STONE STORAGE BUILDING AND
BOILER HOUSE RENOVATIONS**

PROPOSAL TOTAL BID SHEET – GENERAL CONSTRUCTION

BIDS TO BE WRITTEN IN BOTH WORDS AND FIGURES

TOTAL BID:

The sum of the bid amount for the related UNIT PRICE SHEETS

TOTAL BID: _____
(Written in Words)

DOLLARS AND _____ CENTS

(\$ _____)
(In Figures)

CONTRACTOR'S COMPANY NAME
(Please print or type)

UNIT BID PRICE SHEET INSTRUCTIONS

The Contractor must assume all risk of variance in any computation or statement of amounts or quantities necessary to complete said work in accordance with the Plans and Specifications for the price bid. Any item of work contained either in the Unit Bid Price Sheet or on the Plans but omitted from the others respectively will be considered part of the work.

The Unit Bid Price Sheet, although stated with as much accuracy as is possible in advance, is approximate only, and is assumed only for the purposes of comparing bids. The quantities on which payment will be made to the Contractor are to be determined by measurements of the work actually performed by the Contractor as specified in the Contract Documents.

The quantities estimated and used for taking bids represents the best judgment of the Department of Public Works, Division of Water based upon past experience and an on site inspection. However, such quantities are not guaranteed, and the amount of work which the Contractor will be required to do under this Contract may vary considerably from such estimated quantities.

Bidders shall not at any time after submission of their Proposal dispute or complain of the aforesaid schedule or assert that there was a misunderstanding in regard to the amount or character of the work to be done, and shall not make any claim for damages or for loss of profits because of a difference between the quantities of the various classes of work assumed for comparison of bids and the quantities of work actually performed.

The Commissioner of Public Works reserves the right to increase or decrease the amount of work under the bid items.

Proposal for Colonel Ward Pump Station Stone Storage Building and Boiler House Renovations

General Construction

ITEM NO.	ITEMS WITH UNIT BID PRICE WRITTEN IN WORDS	APPROX. QUANTITY	UNIT	UNIT BID PRICE		TOTAL	
				DOLLARS	CENTS	DOLLARS	CENTS
1G	Stone Storage Building Infill	1	LS				
	at _____ _____ per Lump Sum						
2G	Boiler House Floor Shoring	1	LS				
	at _____ _____ per Lump Sum						
7G	Contingency Allowance	1	LS	\$50,000	00	\$50,000	00
	Fifty Thousand Dollars and no cents per Lump Sum						
PLEASE BE SURE A BID IS ENTERED FOR EACH ITEM.							
TOTAL BASE BID SUM WRITTEN IN WORDS:				\$ _____			

DESCRIPTION OF BID ITEMS

PART I - GENERAL

1.1 Description

- A. The items listed below, beginning with Part 2, refer to and are the same bid items listed in the Bidder's Proposal. They constitute all of the bid items for the completion of the Work. No direct or separate payment will be made for providing miscellaneous temporary or accessory works, plant, services, Contractor's field offices, layout surveys, job signs, sanitary requirements, testing, safety devices, approval and record drawings, water supplies, power, removal of waste, watchmen, bonds, insurance, permit compliance, and all other requirements of the General Conditions and the Special Conditions. Compensation for all such services and materials including overhead and profit shall be included in the prices stipulated for the lump sum and unit price items listed herein.
- B. The Contractor shall furnish all labor, materials, tools, equipment, services, and all appurtenances necessary to perform all work required, at the unit or lump sum prices for the items listed in the Bidder's Proposal. Each bid item shall include all costs to perform all work to complete each item. Work shall include everything described in the plans, specifications, and contract documents. If individual required work tasks are not specifically stated in the bid item descriptions below, the Contractor is to include the cost of those items in the bid item most closely associated with that work task.
- C. Each of the bid items shall also include the cost required in supporting and protecting existing structures, utilities and equipment while working under, over, or alongside or near the structure, utility or piece of equipment. Also included are the protection of overhead telephone, cable, electric power or other lines and the supporting of poles, if required. The cost of repairing any damage to the various structures, utilities or equipment done during construction activities shall be included in the various bid items.

PART 2 - BID ITEMS

A. General Construction Contract

1. Item 1G – Stone Storage Building Infill

This item shall be used to provide a lump sum price for work which includes temporary shoring of existing masonry wall construction, demolition of existing masonry and concrete materials, wall infills, basement infill, concrete slabs and retaining walls, asphalt construction, electrical and plumbing work, and all other work shown, specified, or otherwise necessary.

Progress payments will be made on a percentage basis comparable to the amount of work completed as the contract progresses and in accordance with the Contractor's approved Schedule of Values.

2. Item 2G – Boiler House Floor Shoring

This item shall be used to provide a lump sum price for work which includes Boiler House first floor shoring plans and details, and all other work shown, specified, or otherwise necessary.

Progress payments will be made on a percentage basis comparable to the amount of work completed as the contract progresses and in accordance with the Contractor's approved Schedule of Values.

3. Item 3G – Contingency Allowance

This item is included in the Contract Base Bid to cover the cost of additional work which may be requested by the Owner that is beyond the original scope of the Contract Documents. This work shall consist of the costs incurred due to the construction of any item not specifically detailed in any plan or specification but which is necessary to construct the project or is directly related to the new work and/or adjacent facilities. This item includes but is not limited to all bonds, insurance, mobilization, labor, supervision, tools, equipment, and all other materials not included elsewhere but needed to complete the work contemplated. Work under this item shall be performed on an as needed basis as directed by the Owner and/or Architect.

The amount to be paid for under this item shall be as determined by the actual materials, labor, and equipment billing invoices and any other expense incurred for completed work not specifically identified in other pay items as submitted by the Contractor to the Architect for review; or will be determined by a fixed lump sum price, negotiated prior to starting the work, which lump sum shall include all labor, supervision, tools, materials, equipment, and any other expense incurred to complete the work not specifically identified in other pay items.

The Contingency Allowance shall be allocated by a Field Order and shall be used only upon written authorization by the Owner. Field Orders authorizing use of funds from the Contingency Allowance will include the Contractor's related costs and reasonable overhead and profit margins as per the General Conditions.

Progress payments will be made equal to the cost incurred by the Contractor as the Contract progresses, as determined by the actual billing invoices, including overhead and profit within the limits allowed by the Contract Documents; or for Lump Sum agreements, payment will be made on a percentage basis comparable to the amount of work completed for this item each month. Retainage will be applied to this item in monthly payment requests.

ADDENDUM ACKNOWLEDGMENT

The undersigned Bidder hereby acknowledges they have received and considered the following Addenda to the Contract Documents:

Addendum No.

Date of Issue

Firm Name: _____

By: _____

Title: _____

Date: _____

EXPERIENCE QUESTIONNAIRE

Approved and recommended by the Joint Conference on Construction Practices for use in investigating the responsibility of Bidders

Submitted to _____

By _____

_____ Corporation _____ Partnership _____ An Individual

Principal Office _____

The signatory of this questionnaire guarantees the truth and accuracy of all statements and of all answers to interrogatories hereinafter made.

1. How many years has your organization been in business as a general contractor under your present business name?

2. How many years experience in _____ construction work has your organization had:

(a) As a general Contractor _____

(b) As a Sub-Contractor _____

3. What projects has your organization completed?

Contract Amount	Class of Work	Date Completed	Name and Address of Owner
--------------------	------------------	-------------------	------------------------------

_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

4. Have you ever failed to complete any work awarded to you? Yes/No: _____

If so, where and why?

Experience Questionnaire – continued

5. Has any officer or partner of your organization ever been officer or partner of some other organization that failed to complete a construction contract? Yes/No: _____.

If so, state name of individual, other organization and reason therefore:

6. Has any officer or partner of your organization ever failed to complete a construction contract in his own name? Yes/No: _____

If so, state name of individual, name of owner, and reason therefore.

7. In what other lines of business do you have financial interest in?

8. For what corporations or individuals have you performed work, and who should be contacted for references?

9. For what Municipalities have you performed work, and who should be contacted for references?

10. For what counties have you performed work, and who should be contacted for references?

11. For what State Bureaus or Departments have you performed work, and who should be contacted for references?

12. Have you ever performed work for the U.S. Government? If so, who should be contacted for references?

13. Have you filed performance record reports with the Bureau of Contract Information, Inc., Washington, D.C.? Yes/No: _____

Experience Questionnaire – continued

14. What is the construction experience of all principal individuals of your organization?

INDIVIDUAL'S NAME	PRESENT POSITION OR OFFICE	YEARS OF CONSTRUCTION EXPERIENCE	MAGNITUDE & TYPE OF WORK	IN WHAT CAPACITY

15. Is any principal of this Corporation (partnership) or a member of his immediate family employed by the City of Buffalo? Yes/No: ____ If yes:

What Department? _____
Name of City Employee: _____

Dated at _____ this ____ day of _____, 20 ____

Name of Organization: _____

By _____

Title of Person Signing _____

.....
State of _____

County of _____ ss: -

_____ being duly sworn deposes and says that he is

_____ of _____
Name of Organization

and that answers to the foregoing questions and all statements therein contained are true and correct.

Sworn to me before this _____ day of _____, 20 ____

_____ (signature)

Notary Public My commission expires _____

BIDDERS DECLARATION

The undersigned hereby declares that he has carefully examined the Specifications, drawings, plans and schedules, subsurface information and the Contract and other Contract Documents on file in the office of the Commissioner, has visited the site and has fully informed himself of all existing conditions and limitations affecting the work to be done and the labor and material to be furnished, and that the Contractor accepts all such existing conditions and limitations; and that no claim for damages or additional compensation will be made by the Contractor against the City by reason of any such conditions or limitations, or by reason of any estimates of quantities, tests, or representations made by any officer, employee or agent of the City; and that the Contractor is satisfied with his ability to perform the work of the Contract Documents in strict accordance with the Plans and Specifications therefore.

I agree to obtain and pay for all permits and licenses required, shall give all notices, pay all fees and comply with laws, ordinances, rules and regulations affecting the conduct of the work.

That no officer, agent or employee of the City is interested directly or indirectly in this Proposal or in any labor or materials to which it relates; that this Proposal is made without collusion with any other Bidder or other person and that it is in all respects fair and just.

By submission of this bid, each Bidder and each person signing on behalf of any Bidder certifies, and in the case of a joint bid each party thereto certifies as to its own organization, under penalty of perjury, that to the best of their knowledge and belief:

- (1) The prices in this bid have been arrived at independently without collusion, consultation, communication, or competition, as to any matter relating to such prices with any other Bidder or with any competitor;
- (2) Unless otherwise required by law, the prices which have been quoted in this bid have not been knowingly disclosed by the Bidder and will not knowingly be disclosed by the Bidder prior to opening, directly or indirectly, to any other Bidders or to any competitor; and
- (3) No attempt has been made or will be made by the Bidder to induce any other person, partnership or corporation; to submit or not to submit a bid for the purpose of restricting competition.

SIGNATURE OF BIDDER _____

(SEAL)

TITLE _____

ADDRESS _____

Bidders Declaration – continued

To facilitate correct drawing and execution of contracts; Bidders shall supply full information concerning legal status as follows:

NAME: _____
Corporation – Partnership – An Individual – Trade Name
(Strike out classifications not applicable)

FEDERAL TREASURY NO. _____

ADDRESS OF PRINCIPAL OFFICE:

Street _____

City _____ State _____ Zip Code _____

BUFFALO BRANCH OFFICE ADDRESS:

Street _____

City _____ State _____ Zip Code _____

CONTRACTOR MUST SUBMIT CERTIFICATION OF INCORPORATION IN NEW YORK STATE OR MUST PROVIDE PROOF OF AUTHORIZATION TO DO BUSINESS IN NEW YORK STATE.

If Foreign Corporation, state if authorized to do business in the State of New York

Yes No

PRINCIPAL OFFICERS:

_____ (Title)	_____ (Name)	_____ (Address)
_____ (Title)	_____ (Name)	_____ (Address)
_____ (Title)	_____ (Name)	_____ (Address)
_____ (Title)	_____ (Name)	_____ (Address)

Bidders Declaration – continued

PRINCIPAL STOCKHOLDERS:

_____	_____	_____
(Title)	(Name)	(Address)
_____	_____	_____
(Title)	(Name)	(Address)
_____	_____	_____
(Title)	(Name)	(Address)
_____	_____	_____
(Title)	(Name)	(Address)

IF PARTNERSHIP: Name of Partners and addresses are:

NAME	ADDRESS
_____	_____
_____	_____
_____	_____

IF DOING BUSINESS UNDER TRADE NAME, ASSUMED NAME OR FIRM STYLE:

Name of Owner _____

Certificate Filed _____
(Place and date)

PROPOSAL SURETY BOND

Accompanying this proposal is a surety company bond in the penal amount of

_____ DOLLARS. (\$_____)

which is not less than ten percent (10%) of the amount of this Proposal.



CITY OF BUFFALO

Mayor's Office of Contract and Compliance

MWBE-1 FORM

M/WBE CONTRACTING GOALS

All bidders must submit the following form with bid. Failure to include this form may result in rejection of the bid as non-responsive.

PROJECT NAME AND NUMBER:	DATE:
BIDDER NAME:	

SUMMARY OF LAW

This Contract is subject to City of Buffalo Code Chapter 96-13 and Mayor Byron Brown's Executive Order # 17-03 establishing and strengthening Minority and Women Owned Business Enterprises (M/WBE) Participation goals as follows:

- 25% of the total dollar value of the contract contracted to Minority Owned Business Enterprises (MBEs).
- 5% of the total dollar value of the contract contracted to Woman Owned Business Enterprises (WBEs).

Contractors must demonstrate good faith efforts to achieve these goals. MBEs and WBEs must be certified by the Erie County and City of Buffalo Joint Commission. More information on the certification and for a list of certified contracts please visit website at <http://www2.erie.gov/eeo/index.php?q=mbewbe-resources>.

PROCEDURE

AT BID

1. Submit this form (M/WBE-1 Form).

WITHIN 24 HOURS OF LOW-BID

1. Submit DDP-1 form (may also be submitted at bid).
2. Submit Application for M/WBE Waiver Form, if applicable. Schedule meeting with Contract Compliance Officer to discuss waiver.

POST-AWARD

1. Submit DDP-2 Forms within 3 days of Notice of Award.
2. Submit revised DDP-1 Form, if applicable (See Mayor's Executive Order on M/WBE Substitution).

DURING CONSTRUCTION

1. Submit Compliance Vouchers with each application for payment. Attach cancelled checks to certified M/WBE contractors with each voucher for payment.
2. Follow Mayor Byron Brown's Executive Order on M/WBE Subcontractor Substitution.
3. Follow guidelines on Good Faith Efforts.
4. Fill out Semi-Annual Contract Compliance Report, as applicable.



CITY OF BUFFALO

Mayor's Office of Contract and Compliance

M/WBE-1 FORM

M/WBE CONTRACTING GOALS

All bidders must submit the following form with bid. Failure to include this form may result in rejection of the bid as non-responsive.

MAYOR'S EXECUTIVE ORDER ON M/WBE SUBCONTRACTOR SUBSTITUTION

Contractors must comply with the Mayor Byron Brown's Executive Order regarding M/WBE Substitution ("M/WBE Substitution Policy").

- Subcontractors listed on the DDP-2 Forms are designated as "certified" contractors under the Executive Order.
- Contractors who seek to change the DDP-1 Form - either by substituting the certified contractor, or self-performing the work that had been allocated to a certified contractor - must provide notice and justification for substitution to the Contract Compliance Officer as soon as possible, but no less than 3 weeks prior to the desired substitution/self-performance, unless an emergency arises.
- If the Contract Compliance Officer determines that the substitution is justified, the Contractor shall endeavor to substitute a certified contractor with an M/WBE, regardless of whether the original plan included M/WBE contracts.
- The City reserves the right to examine all paperwork, request records and engage in reasonable investigation with respect to M/WBE Substitution Policy compliance.

GOOD FAITH EFFORTS

Contractors bidding on construction work subject to these requirements must demonstrate good faith efforts made to M/WBE goals.

Good faith efforts include but are not limited to:

1. Documented outreach efforts to certified M/WBE contractors prior to bid with reasonable time to respond, including emails, phone calls, advertisement in minority publications, and open houses. Include the out-come of such efforts.
2. Copies of cancelled checks provided to certified M/WBE contractors with vouchers for payment.
3. Compliance with the M/WBE Substitution Policy.
4. If an M/WBE contractor is not utilized in a certain month, the Contractor's invoice to the City shall reflect the reason why no work was performed by the M/WBE, including evidence of communication between the parties, as necessary.
5. Willingness to meet within a reasonable time with City upon request to discuss reports, goals, outreach or any related matter.

CONTRACTOR ATTESTATION

I understand that this contract requires good faith efforts to meet M/WBE goals and compliance with the M/WBE Substitution Policy. If I am awarded this Contract, I am required comply with the City's M/WBE policies as a condition of this Contract.

ss// _____
Contractor Name

Date



CITY OF BUFFALO / Mayor's Office of Contract and Compliance
**SCHEDULE OF M/WBE PARTICIPATION TO BE
SUBMITTED AT BID OR WITHIN 24 HOURS OF BID**

DDP-1 FORM

1. PROJECT NAME:	2. BIDDING ON CONTRACT NO./ CONTRACT DESCRIPTION
3. CONTRACTOR NAME / ADDRESS / PHONE:	4. SUBMITTAL DATE (MM/DD/YYYY) _____/_____/_____
	5. ORIGINAL FORM _____ REVISED FORM _____

PROJECT GOALS: MBE 25% AND WBE 5%

6. NAME / ADDRESS / PHONE OF PROPOSED MBE OR WBE	7. CERTIFIED AS MBE OR WBE	8. PERFORMANCE CATEGORY	9. SCOPE OF WORK TO BE PROVIDED	10. PROPOSED DOLLAR AMOUNT
TOTAL AMOUNT OF DOLLARS MBE AND % OF TOTAL BID PRICE				
TOTAL AMOUNT OF DOLLARS WBE AND % OF TOTAL BID PRICE				

CERTIFICATION STATEMENT: The below signature, being an authorized representative of the bidding company, hereby certifies that the above is accurate and has been discussed with the proposed MBE or WBE prior to the submission of the accompanying bid proposal.

11. BIDDING COMPANY OFFICIAL PRINTED NAME AND TITLE	12. BIDDING COMPANY OFFICIAL'S SIGNATURE	13. DATE SIGNED	14. PAGE
_____	_____	_____/_____/_____	_____ of _____

POINT OF INFORMATION: The Office of Contract Compliance is the only one permitted to make changes to this form after it has been signed. Mayor's Office of Contract Compliance - 502 City Hall Buffalo, New York 14202 - Tel# (716) 851-4162 email: lrodriguez@city-buffalo.com



CITY OF BUFFALO

Mayor's Office of Contract and Compliance

DDP-2 FORM

M/WBE LETTER OF COMMITMENT TO PERFORM

The Bidding Contractor must submit this form for each proposed M/WBE within three (3) calendar days of the Notice of Award

PROJECT NAME:

CONTRACTOR NAME :

CONTRACT #

Based on pre-bid negotiations, the below indicated bidding contractor and proposed M/WBE intend to enter into a formal agreement for services indicated below, relative to the above referenced project contract. This pending agreement is contingent upon prior contract execution between the bidding contractor and the Office of Contract Compliance.

Under this pending agreement, the proposed M/WBE shall provide the following labor, materials, equipment, supplies, or services: (identify the full intended scope of the M/WBE in sufficient detail.)

at the approximate price of \$

The proposed MBE/WBE under this pending agreement is being declared as (check one): ☐ MBE or ☐ WBE

Under this pending agreement, the MBE/WBE is being declared under the following performance category: (check one)

☐ Subcontractor (labor only) ☐ Subcontractor (labor & material) ☐ Service Provider

☐ Bona Fide Supplier * ☐ Broker - Supplier

Please attach the following documents: ☐ Certification Letter from the Erie County/City Joint M/WBE Commission

☐ Any relevant City licenses for construction ☐ Certificate of General Liability and Worker's Compensation Insurance

* If declared as a Bona Fide - Supplier; bidding contractor is to ensure the proper substantiating information is attached to the submission of this form. This includes but is not necessarily limited to a letter from the product manufacturer indicating that the proposed M/WBE is a recognized distributor, vendor, representative, etc. of the applicable products. Failure to include said substantiation to the satisfaction of the C.C. Officer is grounds for rejection of the proposed M/WBE.

This M/WBE is currently certified as either a bona-fide MBE or WBE in the above indicated performance category by the City County Joint Certification Committee, the certification letter attached hereto. Failure to attach the certification letter may be grounds for rejection of the M/WBE.

Should any revisions to this pending agreement be necessary after the submission of this form, the bidding contractor shall be responsible to immediately resubmit the necessary revised forms for approval to the Contract Compliance Officer.

Company Name

Proposed M/WBE Company Name

Address

Address

Phone Number

Phone Number

Company Officer Name & Title (Print)

Company Officer Name & Title (Print)

Company Officer Signature

Date

Company Officer Signature

Date

OFFICE OF CONTRACT COMPLIANCE USE
ONLY

Company Officer Signature

Date

DDP-2 • 03/18



CITY OF BUFFALO

Mayor's Office of Contract and Compliance

M/WBE-W FORM

APPLICATION FOR M/WBE WAIVER

This form shall be submitted with the Contractor's bid submission AT BID or WITHIN 24 HOURS OF BID if M/WBE goals cannot be met on the contract. Contractors wishing to be considered for award are required to demonstrate that a good faith effort has been made to include minority/woman-owned enterprises as subcontractors. **This form will be used to evaluate the extent to which a good faith effort has been made by the contractor to meet M/WBE goals. The contractor must schedule a meeting with the Contract Compliance Officer upon submission of this form.**

The undersigned submits the following data with respect to the contractor's efforts to meet the goal for M/WBE Participation.

ATTACH ADDITIONAL PAGES AS NECESSARY.

1. List pre-bid conferences your firm attended where M/WBE requirements were discussed.

2. Identify advertising efforts undertaken by your company which were intended to solicit potential minority/women subcontractors for various aspects of this project. Provide names of websites or newspapers, dates of advertisements and copies of notices or advertisements that were run.

3. Note specific efforts to contact in writing or by telephone those M/WBE capable of and likely to participate as subcontractors for this project.

4. Describe steps taken by your company to divide work into areas in which M/WBE would be capable of performing.

5. What efforts were taken to negotiate with prospective M/WBEs for specific sub-bids? Include the names of M/WBEs that responded to your firm's advertisement or outreach efforts and a statement as to why additional agreements were not made with M/WBEs.

Name of MBE/WBE	Response Date	Follow-up Date	Reason no contract was agreed upon

6. List any additional reasons for not contracting with M/WBEs that responded to the request for bids, including any information on contract price negotiated and/or rejected.

7. Describe efforts your firm may have taken to assist an M/WBE in overcoming legal or other requirements which may have to be met.

8. Describe the efforts made by your firm to provide interested M/WBEs with sufficiently detailed information about the plans, specifications and requirements of the contract.

9. Describe the follow-up contacts with M/WBEs made by your firm after the initial solicitation.

10. Describe any other barriers to meeting the M/WBE goals.

Based on the above stated good faith efforts made to locate and supply M/WBEs, the bidder hereby requests that the original M/WBE percentage goal be waived and that the percentage goal for this project be set at:

_____ **MBE %** _____ **WBE%**

The undersigned hereby certifies, having read the answers contained in the foregoing Application for Waiver, that they are true and correct to the best of his /her knowledge, information and belief.

Signature _____ Date _____

Name: _____ Title: _____

_____ Company: _____

.....

FOR OFFICIAL USE ONLY

_____ Good Faith effort demonstrated and waiver accepted.

_____ Good Faith effort not demonstrated and waiver rejected.

Signature of Contract Compliance Officer: _____

Date: _____ Contract Number: _____



CITY OF BUFFALO

Mayor's Office of Contract and Compliance

WPG-1 FORM

CHAPTER 96-13 MINORITY, FEMALE AND CITY RESIDENT WORKFORCE GOALS CITY AND STATE FUNDED CONTRACTS

All bidders must submit the following form with their bid. Failure to include this form may result in rejection

PROJECT NAME AND NUMBER:	DATE:
CONTRACTOR:	

SUMMARY OF LAW

This Contract is subject to City of Buffalo Code Chapter 96-13 and Mayor Byron Brown's Executive Order # 17-05 establishing minority, female and resident participation goals as follows:

- 25% of all work hours to be performed by minorities (as defined herein)
- 5% of all work hours to be performed by women
- 25% of all work hour to be performed by City of Buffalo residents for contracts under \$250,000
- 30% of all work hours to be performed by City of Buffalo residents for contracts over \$250,000

"Minorities" include the following persons:

1. Black (all persons having origin in any of the Black African racial groups not of Hispanic origin).
2. Hispanic (all persons of Mexican, Puerto Rican, Cuban, Central or South American or other Spanish culture or origin regardless of race).
3. Asian and Pacific Islander (all persons having origins in any of the original peoples of the Far East, Southeast Asia, the Indian Subcontinent or the Pacific Islands).
4. American Indian or Alaskan Native (all persons having origins in any of the original people of North America and maintaining identifiable tribal affiliations through membership and participation or community identification).

PROCEDURE

AT BID

1. Submit WPG-1.

WITHIN 24 HOURS OF LOW-BID

1. Submit WPG-2.

POST-AWARD

1. Contractor must submit subcontractors WPG-2 forms as a condition of Award.

DURING CONSTRUCTION

1. Submit WPG-3 monthly Utilization Report Form.
If workforce goals are not met, explain plan to achieve goals pursuant to Workforce Diversification Plan.
2. Submit Compliance Voucher with application for payment.
3. Provide copies of correspondence generated in an effort to recruit.
4. Follow guidelines on Good Faith Effort.



CITY OF BUFFALO

Mayor's Office of Contract and Compliance

WPG-1 FORM

CHAPTER 96-13 MINORITY, FEMALE AND CITY RESIDENT WORKFORCE GOALS CITY AND STATE FUNDED CONTRACTS

All bidders must submit the following form with their bid. Failure to include this form may result in rejection

GOOD FAITH EFFORTS

Contractors bidding on construction work subject to the City of Buffalo's minority, female and City resident hiring goals must demonstrate good faith efforts as a condition of contract.

Good faith efforts include but are not limited to:

1. Documented efforts to recruit qualified minority, female, City resident and apprentice employees including:
 - a. Documented communication with unions, as applicable, requesting qualified referrals and outcome of such request.
 - b. Documented communication with the Buffalo Employment Training Center (BETC) and other community-based construction training organizations requesting qualified referrals and outcome of such request.
 - c. Other efforts to seek qualified applicants
2. Timely submission of monthly workforce utilization reports in the format requested by the City's Office of Contract Compliance;
3. Willingness to meet within a reasonable time with City Office of Contract Compliance upon request to discuss reports, goals, recruitment or any related matter.

CONTRACTOR ATTESTATION

I understand that this contract requires good faith efforts to meet minority, female and City Resident workforce goals as defined above. I understand that if I am awarded this contract, I am required to demonstrate good faith efforts as a condition of this contract.

ss// _____
Contractor Principal Signature

Date



CITY OF BUFFALO

Mayor's Office of Contract and Compliance

WPG-2 FORM

CHAPTER 96-13 MINORITY, FEMALE AND CITY RESIDENT WORKFORCE GOALS CITY AND STATE FUNDED CONTRACTS

Contractors must submit this form **WITHIN 24 HOURS OF BID**. Failure to include this form may result in rejection of bid. Contractors must submit subcontractor's WPG-2 upon notice of award.

PROJECT NAME AND NUMBER:	DATE:
CONTRACTOR OR SUBCONTRACTOR:	

WORKFORCE DISCLOSURE FORM

Please fill out the attached Workforce Disclosure Document on Page 2. If you do not have a steady construction workforce, please disclose information about your workforce on the most recent project completed. Please disclose information about your direct employees only.

WORKFORCE DIVERSIFICATION PLAN

If current workforce fails to meet the minority, female and resident workforce goals for this Contract, Contractor will engage in the following activities to increase the minority, female and resident participation.

CHECK ONE OR MORE:

1. ☐ Contractor will contact the following Union halls seeking qualified minority, female and resident employees. Contractor should retain documentation of communication.

[Insert Name of Union Hall(s)]

2. ☐ Contractor will contact the following Construction Workforce Training organizations seeking qualified minority, female and resident employees. Contractor should retain documentation of communication.

[Insert Name of Workforce Training Organization(s)]

3. ☐ Contractor will recruit qualified employee in the following manner:



CITY OF BUFFALO / Mayor's Office of Contract and Compliance
**CONTRACTOR AND SUBCONTRACTOR WORKFORCE DISCLOSURE
FORM**

WPG-2 FORM

CONTRACTOR:	PROJECT NAME AND NUMBER:	DATE:
-------------	--------------------------	-------

ARE YOU A ___ CONTRACTOR OR ___ SUBCONTRACTOR ON THIS PROJECT? (CHECK ONE) ARE YOU A UNION CONTRACTOR? ___ YES ___ NO

JOB CATEGORIES	Total All Employees	White		Black		Hispanic		Asian Pacific or Islander		Native Am. or Alaskan Native		Minority Percent of Construction Workforce	Total Section 3 (if applicable)	Total City of Buffalo Residents
		M	F	M	F	M	F	M	F	M	F			
Principals														
Working Foremen														
Unskilled Labor														
Skilled Labor														
Apprentices														
Other [Please List]														
Subtotals														
OVERALL TOTAL														

CERTIFIED CORRECT BY:

Name

Signature

Title

Date



CITY OF BUFFALO / Mayor's Office of Contract and Compliance
**CONTRACTOR AND SUBCONTRACTOR MONTHLY
WORKFORCE UTILIZATION REPORT FORM**

WPG-3 FORM

CONTRACTOR:	PROJECT NAME AND NUMBER:	DATE:
-------------	--------------------------	-------

ARE YOU A ☐ CONTRACTOR OR ☐ SUBCONTRACTOR ON THIS PROJECT? (CHECK ONE) ARE YOU A UNION CONTRACTOR? ☐ YES ☐ NO

JOB CATEGORIES	Total All Employees	White		Black		Hispanic		Asian Pacific or Islander		Native Am. or Alaskan Native		Total Section 3 (if applicable)	Total City of Buffalo Residents
		M	F	M	F	M	F	M	F	M	F		
Principals													
Working Foremen													
Unskilled Laborer													
Skilled Labor													
Apprentices													
Other [Please List]													
Subtotals													
OVERALL TOTAL													

CERTIFIED CORRECT BY:

Name

Signature

Title

Date



CITY OF BUFFALO

Mayor's Office of Contract and Compliance

WPG-W FORM

APPLICATION FOR WORKFORCE PARTICIPATION WAIVER

CONTRACTOR NAME:	DATE:
CONTRACT NUMBER:	

This form will be used to evaluate the extent to which a good faith effort has been made to meet workforce goals.

The undersigned submits the following data with respect to the firm's efforts to meet the goal for workforce participation goals.

1. List pre-bid conference(s) you firm attended where workforce participation goals discussed.

2. Identify advertising efforts undertaken by your firm, if applicable, which were intended to recruit potential minorities/women/City resident employees for this project.

3. List specific actions undertaken to recruit and employ minorities, women and city resident employees. Be specific about the date, form of communication (phone call, email etc.), organization contacted and outcome. Examples include communication with the following organizations:

- Local Union Hiring Halls
- Workforce Training Organizations¹
- Other sources of labor

Attach letters from union halls and workforce training organizations indicating that no minorities/women/ city residents were available for dispatch.

Date of Communication	Form of Communication	Union/Organization	Request and Outcome

¹ A list of workforce training organizations can be found at www.city-buffalo.com

Based on the above stated good faith efforts made to locate and employ minority, women and city resident employees, the contractor hereby requests that the City of Buffalo waive, for this month's voucher for payment only, the original workforce participation goals for [circle all applicable]:

1. MINORITIES
2. WOMEN
3. CITY RESIDENTS

The contractor will attempt to meet goals on the remainder of the contract. If goals cannot be met despite good faith efforts, a new "Application for Workforce Participation Waiver" is required with the contractor's voucher for payment.

The undersigned hereby certifies, having read the answers contained in the foregoing Application for Waiver, that they are true and correct to the best of his /her knowledge, information and belief.

Signature _____ Date _____
Name: _____
Title: _____
Company: _____

.....

**FOR OFFICIAL USE
ONLY**

____ Good Faith Effort demonstrated.
____ Good Faith effort not showed.
____ Granted Waiver.

Signature of Contract Compliance Officer: _____
Date: _____ Contract Number: _____

GENERAL CONTRACTOR'S STATEMENT OF COMPLIANCE

The _____ hereby
(Company Name)

agrees to comply with:

“Title VI of the Civil Rights Act of 1964 as amended,
UMTA Circular 1155.1. Presidential Executive Order
11246 as amended, 49 CFR Part 23 and all other
applicable Equal Opportunity and Minority Business
Enterprise laws, regulations, orders, and guidelines.”

The _____ also
(Company Name)

agrees to achieve the minority and/or women-owned business goals assigned to this contract.

(Signature of Company Official)

BIDDER'S CERTIFICATION

_____ certifies that:
(Bidder)

1. It is not on the U.S. Comptroller General's list of ineligible Contractors for Federal financed or assisted construction; and
2. It will obtain from each of its subcontractors and submit to the contracting or administering agency prior to the award of any subcontract under this contract a certification that the subcontractor is not on the U.S. Comptroller General's list of ineligible Contractors for Federal financed or assisted construction.

(Signature of authorized representative of Bidder)

Dated: _____

(Exact name of Individual, Firm, or Corporation)

(CORPORATE SEAL) by: _____
(Name and Title)

NOTE: If the Bidder be a corporation and this Proposal be signed by an Officer other than the President or a Vice President, the Bidder shall furnish a certified copy of by-law or resolution authorizing said Officer to sign, unless same has previously been furnished to the Authority.

BIDS FAILING TO INCLUDE OR COMPLETE ANY OF THE ABOVE ITEMS WILL BE CONSIDERED NON-RESPONSIVE AND WILL NOT BE ACCEPTED.

**DEPARTMENT OF PUBLIC WORKS
LANDFILL LICENSE APPLICATION
(DISREGARD IF LANDFILL IS OUTSIDE OF CITY LIMITS)**

DATE: _____ FEE (\$25.00) _____

LOCATION OF LANDFILL: _____

NAME OF OWNER OF PROPERTY: _____

RESPONSIBLE PARTIES:

Name: _____

Address: _____

Phone: _____

TYPE OF MATERIAL: _____

SOURCE OF MATERIAL: _____

TRUCKING CONTRACTOR: _____

(Written authorization issued by the license holder and attached to this application must be in the possession of every driver entering this landfill and must be produced on request of the enforcement agency.)

NAME AND ADDRESS OF SUPERVISOR OR GUARD ASSIGNED TO

PREMISES: _____

PLOT PLAN: Sketch to be provided showing entrance and exits of adjacent property.

DEPARTMENT OF PUBLIC WORKS RECOMMENDATIONS: (Attached)

**CERTIFICATION BY THE DEPT. OF ASSESSMENT THAT THERE ARE NO DELINQUENT
GENERAL OR REAL ESTATE TAXES AGAINST THE LAND:**

NEWSPAPER NOTIFICATION DATE: _____

PUBLIC HEARING DATE: _____

CITY PLANNING BOARD: APPROVE _____ REJECT _____

APPROVE WITH CONDITIONS _____

CASH BOND AMOUNT _____ **DATE** _____

GRADING PLAN _____

EXPIRATION DATE _____

BY: MR. PITTS

Ordinance Amendment -
New Section 29 of Chapter IV

The Common Council of the City of Buffalo does hereby ordain as follows:

That section 29 of Chapter IV of the ordinances of the City of Buffalo be repealed in its entirety and the following new section be added thereto:

Sec. 29 Regulation of Landfills and Prohibition of Dumping.

(a.) Dumping Prohibited. No person shall dispose of inert fill or waste materials except at a landfill licensed hereunder.

(b.) Restricted Locations. No landfill shall be hereafter established within or directly adjacent to a residential area; within or directly adjacent to any marsh or wetland area or the flood ways as indicated on the National Flood Program boundary and rate maps.

(c.) License Required. Operation of Landfill. It shall be unlawful for any person, firm or corporation to conduct, operate, maintain or use any piece or parcel of land in the City of Buffalo as landfill area or any other type of place for the perception or disposition of any type of inert fill or waste materials for either temporary storage or final disposal without first having obtained a license for each such premises from the Commissioner of Public Works. The owner or operator of any landfill presently being operated at the effective date of this ordinance under an active permit issued by the Commissioner of Public Works shall not be affected by this ordinance for the remaining of the twelve (12) month life of said permit.

(d.) License Application Procedure. Each application shall be filed with the Commissioner of Public Works using forms supplied by the Commissioner and shall be accompanied by a filing fee of twenty-five dollars (\$25.00).

The Commissioner of Public Works shall cause copies of the completed application to be forwarded to the Commissioners of Fire and Police and to the Environmental Management Commission for their recommendations. A copy shall be transmitted to the Common Council for its information. Said recommendations shall be made within thirty (30) days and returned to the Commissioner of Public Works.

The Commissioner shall forward the completed application, the department's recommendations, his own recommendation and any additional pertinent information concerning the application to the City Planning Board.

(e.) Review by City Planning Board. Upon receipt of the application and accompanying information, the City Planning Board shall schedule a public hearing thereon as soon as practicable.

Said hearing shall be preceded by a notice published at least once in a newspaper of general circulation containing the name and address of the landfill and the time and location of the public hearing.

The City Planning Board may approve the application with or without conditions or may reject it. Upon stated written reasons therefor. In making its decision, the City Planning Board shall consider the landfill's impact on the health, safety and welfare of the City's inhabitants as well as its impact upon the neighboring environment. The Board shall forward its decision, if positive, to the Commissioner of Public Works.

(f.) Issuance of License. Upon receipt of approach by the City Planning Board, the Commissioner of Public Works shall require applicant to supply a cash bond or a bond issue by a surety corporation and a grading plan.

The cash bond or bond issued by a surety corporation shall secure performance in accordance with the provisions of these ordinances and shall be in the penal sum computed as follows: fifty thousand dollars (\$50,000) for any site up to one (1) acre, plus twenty-five thousand dollars (\$25,000) per acre thereafter. Said bond shall be acceptable to the Corporation Counsel and the Comptroller.

The grading plan shall be prepared and stamped by a licensed land surveyor and shall show existing grades, drainage courses and final design grades for the site. The grading plan shall be acceptable to the Commissioner of Public Works.

Upon completion of all requirements, the Commissioner of Public Works shall issue a license to the applicant to operate a landfill on the site described in the application for a period of twelve (12) months.

(g.) Renewal of License. Licenses issued hereunder may be renewed upon application therefor if the Commissioner of Public Works determines that the landfill is being operated in strict accordance with the terms of the license and this ordinance.

(h.) Revocation of License. The Commissioner of Public Works may revoke licenses issued hereunder upon notice and after affording the licensee an opportunity to be heard. Licenses would be subject to revocation for failure to correct violations after hearing an opportunity to do so or for failure to abide by any conditions of the license.

(i.) Correction of Violations. In addition to the penalty of revocation, the Commissioner of Public Works may cause violations of this ordinance to be corrected and the cost thereof to be charged against the property and the bond required hereunder. Such correction shall be subject to notice and a reasonable opportunity to correct same.

Prohibitions. The dumping of garbage or any other material that is capable of putrefaction or becoming filthy, noxious or unhealthy is prohibited.

The placing or mixing of any combustible materials in any landfill or, in any way, mixing in or covering such materials with the fill material is prohibited.

The placing or mixing of any chemical or chemical waste of any kind within any landfill is prohibited.

Penalties: Reward. A violation of the provisions of this section by a person, firm or corporation shall be deemed a nuisance, punishable by fine or other penalty. The Commissioner of Police is hereby authorized to impound vehicles engaged in illegal dumping.

The Commissioner of Police is authorized to offer a reward of not less than fifty dollars (\$50.00) or more than two hundred fifty dollars (\$250.00) for any information leading to the apprehension and conviction of any person violating this section.

(j.) Cessation of Operation. Return of Bonds. Upon completion of the landfill operation, the landfill operator shall completely cover the site with six (6) inches of topsoil and shall seed the entire area.

The cash bond or surety bond will be returned to the applicant after the Commissioner of Public Works has confirmed that the following requirements have been satisfactorily met:

The licensee has complied with all the specifications, provisions and any specific detailed conditions contained in the permit that is part of the license; and

The licensee or his agent have faithfully operated the landfill area in accordance with the spirit and intent of the provisions of this ordinance; and

Final grading and seeding have been completed.

IT IS HEREBY CERTIFIED, pursuant to Section 34 of the Charter, that the immediate passage of the foregoing ordinance is necessary.

APPROVED AS TO FORM.

SARA O. NAPLES
Corporation Counsel

Referred to the Committee on Legislation.

LANDSCAPE LICENSE REQUIREMENT

Landscape contractors must now be licensed to do business in the City of Buffalo. Applications and information regarding the license procedure are available from the Division of Licenses, Room 313, City Hall, 851-4078.

Lowest responsible bidder on this project must provide proof of being licensed to perform landscape work within the City of Buffalo prior to being awarded the contract.

**DEPARTMENT OF PUBLIC WORKS
DIVISION OF WATER**

PROPOSAL BOND

Approved by
Corporation Counsel
9/26/78

KNOW ALL MEN BY THESE PRESENTS, That we _____

(name) _____ as principal, and

(address)

(name) _____ (address) _____
a corporation authorized to guarantee the performance of contracts and to do business in the City of Buffalo,
County of Erie, and State of New York as surety ARE HELD AND FIRMLY BOUND UNTO THE CITY OF
BUFFALO; THE BUFFALO WATER BOARD; AND THE BUFFALO MUNICIPAL WATER FINANCE
AUTHORITY in the penal sum of 10% of the amount of the proposal to be paid to the said City of Buffalo,
its certain attorney or assigns, for which payment, well and truly to be made, we bind ourselves, our heirs,
executors, administrators, successors and assigns, jointly and severally, firmly by these presents.

Sealed with our seals. Dated the _____ day of _____, 2026.

WHEREAS, the said principal obligor _____

has herewith presented a proposal in writing to the City of Buffalo _____

_____ in accordance with plans and specifications prepared under the direction of the Commissioner of Public
Works of the City of Buffalo.

NOW, THEREFORE, the condition of this obligation is such that if the said principal obligor, in case said proposal is accepted by the City of Buffalo, shall and will whenever required enter into a written contract with the City of Buffalo for the performance of the work or improvement mentioned in said proposal in accordance with the terms and conditions as provided in the plans and specifications, and upon the execution of such contract, shall and will furnish a bond for the faithful performance of the same, then this obligation shall be void, otherwise of full force; provided, however, and it is expressly stipulated and agreed that the penal sum of this bond in the amount of one hundred percent (100%) thereof shall be and become the minimum amount of damage suffered by the City of Buffalo as liquidated damages if said principal obligor shall fail to enter into such contract and to give the security for the performance of the same, as herein required.

_____(L.S.)

_____(L.S.)

_____(L.S.)

_____(L.S.)

INDIVIDUAL ACKNOWLEDGMENT

STATE OF NEW YORK :
COUNTY OF ERIE : ss:-
CITY OF BUFFALO :

On the _____ day of _____, 2026, before me appeared _____

to me personally known to be the individual _____ described in and who executed the foregoing bond, and duly acknowledged to me that _____ executed the same.

Notary Public, Erie County, New York
Commissioner of Deeds in and for the City of Buffalo, NY

PARTNERSHIP ACKNOWLEDGMENT

STATE OF NEW YORK :
COUNTY OF ERIE : ss:-
CITY OF BUFFALO :

On the _____ day of _____, 2026, before me personally appeared

to me known and known to me to be one of the members of the firm of _____

described in and who executed the foregoing instrument, and he thereupon acknowledged to me that he executed the same as and for the act and deed of said firm.

Notary Public, Erie County, New York
Commissioner of Deeds in and for the City of Buffalo, NY

CORPORATE ACKNOWLEDGMENT

STATE OF NEW YORK :
COUNTY OF ERIE : ss:-
CITY OF BUFFALO :

On the _____ day of _____, 2026, before me personally appeared

to me known, who, being by me duly sworn, did depose and say that he resides in _____ that he (or she) is the _____ of

the _____

the corporation described in and which executed the above instrument, that he knows the seal of such corporation; that the seal affixed to said instrument was such corporate seal; and that it was so affixed by order of the Board of Directors of said corporation, and that he signed his name thereto by like order.

Notary Public, Erie County, New York
Commissioner of Deeds in and for the City of Buffalo, NY

SURETY ACKNOWLEDGMENT

STATE OF _____

SS:-

COUNTY OF _____

On the _____ day of _____, 2026, before me, a Notary Public in and for said State and County, residing therein, duly commissioned and sworn, personally appeared

_____, known to me to be the

Attorney-in-Fact of _____
the corporation described in and that executed the within foregoing instrument and known to me to be the person who executed the said instrument in behalf of the said corporation, and he/she duly acknowledged to me that said corporation executed the same.

IN WITNESS WHEREOF, I have hereunto set my hand and affixed my official seal, the day and year hereinabove set forth.

Notary Public

If the foregoing bond is acknowledged without the State of New York a certificate as to the genuineness of the signature of the officer taking the acknowledgment must be attached.

PERFORMANCE BOND

Approved by
Corporation Counsel
9/26/78

KNOW ALL MEN BY THESE PRESENTS, that we _____

(name)
_____ as principal, and
(address)

(name) (address)
a corporation authorized to guarantee the performance of contracts and to do business in the City of Buffalo,
County of Erie, and the State of New York as surety ARE HELD AND FIRMLY BOUND UNTO THE CITY
OF BUFFALO, BUFFALO WATER BOARD, AND BUFFALO MUNICIPAL WATER FINANCE
AUTHORITY in the penal sum of _____

lawful money of the United States of America, to be paid to the City of Buffalo, its successors or assigns, for
which payment, well and truly to be made, we bind ourselves, our heirs, executors, administrators, successors
and assigns, jointly and severally, firmly by these presents.

Sealed with our seals. Dated the _____ day of _____, 2026.

WHEREAS, the said principal obligor _____

has entered or is about to enter into contract with the City of Buffalo for _____

a copy of which contract is made a part hereof by reference with the same effect as if set forth herein in full.

NOW, THEREFORE, the condition of this obligation is such, that if the said principal obligor shall
well and truly and in good and sufficient manner faithfully and completely perform the same contract, in
accordance with the terms and stipulations therein contained, and shall in every respect strictly comply with

and be bound by the said contract and the plans and specifications (if any) therein referred to; and shall well and truly perform all the labor and furnish all the material necessary to fully complete the work or improvements therein contemplated; and shall well and truly pay for all materials used and services rendered in the execution of such contract, then this obligation shall be void, otherwise of full force; provided, however, and it is expressly stipulated and agreed that any person or corporation furnishing material or rendering services in or about the execution of such contract may maintain an action to recover for the same against the obligors in this bond as though such person or corporation were named therein, provided such action is brought within one year after the time the cause of action occurred.

The right of a person rendering services or furnishing materials to maintain an action on such bond shall be subject, however, to the prior rights of the City of Buffalo against the obligors in said bond.

principal obligor shall fail to enter into such contract and to give the security for the performance of the same, as herein required.

_____(L.S.)
_____(L.S.)
_____(L.S.)
_____(L.S.)

INDIVIDUAL ACKNOWLEDGMENT

STATE OF NEW YORK :
COUNTY OF ERIE : ss:-
CITY OF BUFFALO :

On the _____ day of _____, 2026, before me appeared _____

to me personally known to be the individual _____ described in and who executed the foregoing bond, and duly acknowledged to me that _____ executed the same.

Notary Public, Erie County, New York
Commissioner of Deeds in and for the City of Buffalo, NY

PARTNERSHIP ACKNOWLEDGMENT

STATE OF NEW YORK :
COUNTY OF ERIE : ss:-
CITY OF BUFFALO :

On the _____ day of _____, 2026, before me personally appeared _____

to me known and known to me to be one of the members of the firm of _____

described in and who executed the foregoing instrument, and he thereupon acknowledged to me that he executed the same as and for the act and deed of said firm.

Notary Public, Erie County, New York
Commissioner of Deeds in and for the City of Buffalo, NY

CORPORATE ACKNOWLEDGMENT

STATE OF NEW YORK :
COUNTY OF ERIE : ss:-
CITY OF BUFFALO :

On the _____ day of _____, 2026, before me personally appeared _____

to me known, who, being by me duly sworn, did depose and say that he resides in _____
_____ that he (or she) is the _____ of _____

the _____
the corporation described in and which executed the above Bond, that he knows the seal of such corporation;
that the seal affixed to said Bond was such corporate seal; and that it was so affixed by order of the Board of
Directors of said corporation, and that he signed his name thereto by like order.

Notary Public, Erie County, New York
Commissioner of Deeds in and for the City of Buffalo, NY

SURETY ACKNOWLEDGMENT

STATE OF _____

SS:-

COUNTY OF _____

On the _____ day of _____, 2026, before me, a Notary Public in and for said State and County, residing therein, duly commissioned and sworn, personally appeared

_____, known to me to be the

Attorney-in-Fact of _____
the corporation described in and that executed the within foregoing instrument and known to me to be the person who executed the said instrument in behalf of the said corporation, and he/she duly acknowledged to me that said corporation executed the same.

IN WITNESS WHEREOF, I have hereunto set my hand and affixed my official seal, the day and year hereinabove set forth.

Notary Public

If the foregoing bond is acknowledged without the State of New York a certificate as to the genuineness of the signature of the officer taking the acknowledgment must be attached.

LABOR AND MATERIAL PAYMENT BOND

KNOW ALL MEN BY THESE PRESENTS, that we _____
(name)
_____ as principal, and
(address)

(name) (address)
a corporation authorized to guarantee the performance of contracts and to do business in the City of Buffalo,
County of Erie, and the State of New York as surety ARE HELD AND FIRMLY BOUND UNTO THE CITY
OF BUFFALO, BUFFALO WATER BOARD, AND BUFFALO MUNICIPAL WATER FINANCE
AUTHORITY in the penal sum of _____

lawful money of the United States of America, to be paid to the City of Buffalo, its successors or assigns, for
which payment, well and truly to be made, we bind ourselves, our heirs, executors, administrators, successors
and assigns, jointly and severally, firmly by these presents.

Sealed with our seals. Dated the _____ day of _____, 2026.

WHEREAS, the said principal obligor _____

has entered or is about to enter into contract with the City of Buffalo for _____

a copy of which contract is made a part hereof by reference with the same effect as if set forth herein in full.

NOW, THEREFORE, the condition of this obligation is such, that if the said principal obligor shall well and truly pay for all materials used and services rendered in the execution of such contract, then this obligation shall be void, otherwise of full force; provided, however, and it is expressly stipulated and agreed that any person or corporation furnishing material or rendering services in or about the execution of such contract may maintain an action to recover for the same against the obligors in this bond as though such person or corporation were named therein, provided such action is brought within one year after the time the cause of action occurred.

The right of a person rendering services or furnishing materials to maintain an action on such bond shall be subject, however, to the prior rights of the City of Buffalo against the obligors in said bond.

principal obligor shall fail to enter into such contract and to give the security for the performance of the same, as herein required.

_____ (L.S.)

_____ (L.S.)

_____ (L.S.)

_____ (L.S.)

INDIVIDUAL ACKNOWLEDGMENT

STATE OF NEW YORK :
COUNTY OF ERIE : ss:-
CITY OF BUFFALO :

On the _____ day of _____, 2026, before me appeared _____

to me personally known to be the individual _____ described in and who executed the foregoing bond, and duly acknowledged to me that _____ executed the same.

Notary Public, Erie County, New York
Commissioner of Deeds in and for the City of Buffalo, NY

PARTNERSHIP ACKNOWLEDGMENT

STATE OF NEW YORK :
COUNTY OF ERIE : ss:-
CITY OF BUFFALO :

On the _____ day of _____, 2026, before me personally appeared _____

to me known and known to me to be one of the members of the firm of _____

described in and who executed the foregoing instrument, and he thereupon acknowledged to me that he executed the same as and for the act and deed of said firm.

Notary Public, Erie County, New York
Commissioner of Deeds in and for the City of Buffalo, NY

CORPORATE ACKNOWLEDGMENT

STATE OF NEW YORK :
COUNTY OF ERIE : ss:-
CITY OF BUFFALO :

On the _____ day of _____, 2026, before me personally appeared _____

to me known, who, being by me duly sworn, did depose and say that he resides in _____
_____ that he (or she) is the _____ of _____

the _____

the corporation described in and which executed the above Bond, that he knows the seal of such corporation; that the seal affixed to said Bond was such corporate seal; and that it was so affixed by order of the Board of Directors of said corporation, and that he signed his name thereto by like order.

Notary Public, Erie County, New York
Commissioner of Deeds in and for the City of Buffalo, NY

SURETY ACKNOWLEDGMENT

STATE OF _____

SS:-

COUNTY OF _____

On the _____ day of _____, 2026, before me, a Notary Public in and for said State and County, residing therein, duly commissioned and sworn, personally appeared

_____, known to me to be the

Attorney-in-Fact of _____
the corporation described in and that executed the within foregoing instrument and known to me to be the person who executed the said instrument in behalf of the said corporation, and he/she duly acknowledged to me that said corporation executed the same.

IN WITNESS WHEREOF, I have hereunto set my hand and affixed my official seal, the day and year hereinabove set forth.

Notary Public

If the foregoing bond is acknowledged without the State of New York a certificate as to the genuineness of the signature of the officer taking the acknowledgment must be attached.

MAINTENANCE BOND

Approved by
Corporation Counsel _____

KNOW ALL MEN BY THESE PRESENTS, that we _____

(name)
_____ as principal, and
(address)

(name) (address)
a corporation authorized to guarantee the performance of contracts and to do business in the City of Buffalo, County of Erie, and the State of New York as surety ARE HELD AND FIRMLY BOUND UNTO THE CITY OF BUFFALO, BUFFALO WATER BOARD, AND BUFFALO MUNICIPAL WATER FINANCE AUTHORITY in the penal sum of

lawful money of the United States of America, to be paid to the City of Buffalo, its successors or assigns, for which payment, well and truly to be made, we bind ourselves, our heirs, executors, administrators, successors and assigns, jointly and severally, firmly by these presents.

Sealed with our seals. Dated the _____ day of _____, 2026.

WHEREAS, the said principal obligor _____

has entered or is about to enter into contract with the City of Buffalo for _____

a copy of which contract is made a part hereof by reference with the same effect as if set forth in full.

WHEREAS, it is provided in the said contract and the specifications forming a part thereof, that the Contractor shall without expense to the City of Buffalo, keep and maintain the _____

from the completion of the same in accordance with the conditions of the specifications and contract, and shall furnish to the City of Buffalo a bond as security for the observance of such provisions.

NOW, THEREFORE, the condition of this obligation is such that if the _____

_____ shall be durable, and if the said principal obligor

_____ shall and will keep and maintain the

_____ in good condition, order and repair at all times for the period of two year from the completion of the same, and leave the same in good condition, order and repair at the end of said period, without any cost or expense to the City of Buffalo, and shall and will in all respects comply with and be bound by the terms and provisions of the same contract and specifications so far as the same relate to the _____

_____ and to the repair and maintenance thereof, then this obligation shall be void, otherwise of force; provided, however, and it is hereby expressly stipulated and agreed, that the liability of the obligors on this bond shall not terminate until the filing with the Comptroller of the City of Buffalo of the certificate of the Commissioner of Public Works of the City of Buffalo that the conditions thereof have been fully satisfied.

_____(L.S.)

_____(L.S.)

_____(L.S.)

_____(L.S.)

INDIVIDUAL ACKNOWLEDGMENT

STATE OF NEW YORK :
COUNTY OF ERIE : ss:-
CITY OF BUFFALO :

On the _____ day of _____, 2026, before me appeared _____

_____ to me personally known to be the individual _____ described in and who executed the foregoing bond, and duly acknowledged to me that _____ executed the same.

Notary Public, Erie County, New York
Commissioner of Deeds in and for the City of Buffalo, NY

PARTNERSHIP ACKNOWLEDGMENT

STATE OF NEW YORK :
COUNTY OF ERIE : ss:-
CITY OF BUFFALO :

On the _____ day of _____, 2026, before me appeared _____

to me and known to me to be one of the members of the firm of _____

described in and who executed the foregoing Bond, and he thereupon acknowledged to me that he executed the same as and for the act and deed of said firm.

Notary Public, Erie County, New York
Commissioner of Deeds in and for the City of Buffalo, NY

CORPORATE ACKNOWLEDGMENT

STATE OF NEW YORK :
COUNTY OF ERIE : ss:-
CITY OF BUFFALO :

On the _____ day of _____, 2026, before me personally appeared _____

to me known, who, being by me duly sworn, did depose and say that he resides in _____ of _____ that he (or she) is the _____

the _____

the corporation described in and which executed the above Bond, that he knows the seal of such corporation; that the seal affixed to said Bond was such corporate seal; and that it was so affixed by order of the Board of Directors of said corporation, and that he signed his name thereto by like order.

Notary Public, Erie County, New York
Commissioner of Deeds in and for the City of Buffalo, NY

SURETY ACKNOWLEDGMENT

STATE OF _____

SS:-

COUNTY OF _____

On the _____ day of _____, 2026, before me, a Notary Public in and for said State and County, residing therein, duly commissioned and sworn, personally appeared

_____, known to me to be the

Attorney-in-Fact of _____
the corporation described in and that executed the within foregoing instrument and known to me to be the person who executed the said instrument in behalf of the said corporation, and he/she duly acknowledged to me that said corporation executed the same.

IN WITNESS WHEREOF, I have hereunto set my hand and affixed my official seal, the day and year hereinabove set forth.

Notary Public

If the foregoing bond is acknowledged without the State of New York a certificate as to the genuineness of the signature of the officer taking the acknowledgment must be attached.

1. CASUALTY INSURANCE

The Contractor shall procure and maintain at the Contractor's own expense, without cost to the City, casualty insurance, as distinguished from fire insurance, for liability for damages arising from operations under the Contract until final acceptance by the City, and resulting in bodily injury, sickness and disease, including but not limited to death, and for damage to or loss of property.

The Contractor shall procure insurance coverages as hereinafter indicated by the "X" mark opposite each form of insurance policy required. Unless otherwise indicated, the City of Buffalo, the Buffalo Municipal Water Finance Authority, the Buffalo Water Board, and Veolia Water North America-Northeast, LLC shall be named as additional insureds on each policy, including but not limited to any excess umbrella liability insurance policy(ies) carried by Contractor with the exception of Owners Protective Liability Insurance.

X Evidence of WORKMAN'S COMPENSATION AND EMPLOYER'S LIABILITY INSURANCE AND DISABILITY INSURANCE COVERAGE provided on the New York form of insurance certificates

Insurance to cover the Contractor as named insured for Contractor's liability under the law.

X PUBLIC LIABILITY AND PROPERTY DAMAGE LIABILITY

Insurance to cover the Contractor as named insured, and including hereunder as hereafter required.

(a) Blasting and explosion

X (b) Collapse or structural injury to any building or structure.

X (c) Injury or destruction to underground property.

X (d) Completed operations insurance between date of completion of the work and its final acceptance by the City.

X (e) "Broad Form Property Damage" insurance, where Contract involves work on existing structures.

X (f) "Broad Form" Contractual Liability Insurance to indemnify the City for liability assumed by the Contractor on behalf of the owner under the terms of the Contract.

X "ALL RISK" BUILDERS RISK POLICY

The Contractor shall provide an "All Risk" Builders Risk Policy in an amount equal to the contract price.

X AUTOMOBILE LIABILITY AND PROPERTY DAMAGE

Comprehensive automobile liability insurance to cover the Contractor, as named insured, for Contractor's ownership, maintenance or use, including but not limited to loading and unloading, of any owned, hired or non-owned automobile or vehicle used under this Contract agreement both at and away from the job site.

X OWNERS PROTECTIVE LIABILITY INSURANCE

The Contractor shall also take out, pay for and maintain until completion and acceptance by City of the work required by this Contract, a separate policy of insurance naming the City of Buffalo, the Buffalo Municipal Water Finance Authority, and the Buffalo Water Board as the only named insureds. The original policy shall be submitted for retention by the City. Said separate policy shall be in Dollar coverage amount of \$2,000,000.00 per occurrence for bodily injury, and per occurrence for property damage, and shall provide coverage for the City of Buffalo, the Buffalo Municipal Water Finance Authority, and the Buffalo Water Board and their respective officers and employees, with respect to said work. Said policy shall provide that the coverage afforded thereby shall be primary coverage to the full limits of liability stated in the declarations, and if said City of Buffalo, the Buffalo Municipal Water Finance Authority, and the Buffalo Water Board, their respective officers and employees have other insurance against the loss covered

by said policy, that other insurance shall be excess insurance only.

2. POLICY LIMITS

At least the following amounts on policy limits shall be provided:

Automobiles - Bodily Injury and Property Damage combined per occurrence -
at least \$2,000,000.00.

Comprehensive General Liability including Contractual Liability, Bodily Injury and Property
Damage combined per occurrence – at least \$2,000,000.00.

3. SUBCONTRACTOR'S INSURANCE

Any subcontractor performing work under this Contract shall procure and maintain statutory insurance and other insurance as determined by the Contractor so as to properly cover the liability of both the Contractor and Subcontractor(s). The policy limits shall be the same as required of the Contractor and certificates of insurance shall be delivered to the Contractor.

4. OTHER INSURANCE PROVISIONS

(a) Certificate of Effective Insurance

The Contractor shall furnish or have on file with the City a certified copy of each kind of insurance policy herein required of the Contractor and or shall furnish the City with certificates of insurance evidencing that the required insurance coverages are in effect for the Contract. The Contractor shall also furnish a certificate of insurance on the forms provided by the City substantially in the form attached herein if so attached.

(b) Cancellation Notice

Each insurance policy and certificate of insurance shall contain a provision providing that it shall not be canceled, changed in any respect or not renewed without thirty (30) days prior of written notice to the City of the intention to cancel, change or not renew.

(c) Renewal of Policy

All required insurance policies shall be kept in full form and effect until the satisfactory completion of the work to be performed under the Contract Documents and the Contractor shall provide the City with satisfactory evidence of renewal of such policies and the payment of applied premiums at least thirty (30) days prior to the stated expiration date.

(d) State Authorization

Insurance policies shall only be written on insurance companies authorized to do such business in the State of New York and admitted in the State of New York.

ARTICLE 100 – GENERAL CONDITIONS

Article 101 – Definitions and Terms

When used herein or in the Contract Documents (as hereafter defined) the following terms shall have the meanings specified unless the context otherwise requires:

101.01 Abbreviations. Whenever the following abbreviations are used in Specifications or on the plans, they shall have the Respective meanings following:

A.A.S.H.T.O. - American Association of State Highway and
Transportation Officials
A.S.T.M. - American Society for Testing and Materials
A.W.P.A. - American Wood-Preservers Association
A.W.W.A. - American Water Works Association
A.O.B.E. - As Ordered by Engineer
E.I.C. - Engineer in Charge
NYSDOT - New York State Department of Transportation

101.02 Addenda. Additions, deletions, and modifications to the provisions the Standard Specifications which are in effect on the date of advertisement.

101.03 Best. The first grade or quality of the material or equipment specified.

101.04 Bidder. An individual, firm or corporation formally submitting a Proposal for the work contemplated acting directly or through a duly authorized representative.

101.05 Calendar Day. Any day shown on the calendar.

101.06 City. The City of Buffalo, New York.

101.07 Commissioner. The Commissioner of Public Works of the City, or the Employee of one of the Divisions in the Department of Public Works of the City, designated by such Commissioner of Public Works to act in the Commissioners place during the performance of the Contract.

101.08 Consultant. The engineer or architect, with the status of independent contractor, retained by the City under a contract to prepare plans and specifications for the work and to monitor and inspect the performance thereof if so required by the City.

101.09 Contract. The agreement covering the performance of the work and furnishing of labor and materials in the construction of the work in conformance with the requirements of the Contract Documents.

101.10 Contract Documents. The advertisement for bids, schedule of quantities, supplemental instructions to bidders, required insurance, proposal, proposal bond, experience questionnaire, Contract, bonds to accompany contract, instructions to bidders, the general conditions, the specifications, the contract items, the affirmative action program, the plans, the drawings, together with all the addenda issued prior to the opening of bids and all notifications thereof recorded in the documents, and all provisions required by law to be inserted in the contract whether actually inserted or not.

101.11 Contract Item. A specifically described unit of work for which a price is provided in the Contract and which shall be sometimes referred to as "Pay Item".

101.12 Contractor. The person, firm or corporation who has contracted with the City for the execution of work specified.

101.13 Employee. Any person working on the project mentioned in the Contract of which these specifications are a part, and who is under the direction or control, or receives compensation from the Contractor or Subcontractor.

101.14 Equipment. All machinery and equipment, together with the necessary supplies for upkeep and maintenance, and also tools and apparatus necessary for the proper construction and acceptable completion of the work.

101.15 Execution. The sole and exact compliance or conformity with the provisions and requirements expressed or implied in the Contract Documents and the completion of the work in accordance therewith.

101.16 Extra Work. An item of work not provided for in the Contract as awarded but found essential to the satisfactory completion of the Contract within its intended scope.

101.17 Maintenance Contract. A Contract issued by the Division of Engineering – Street Paving for maintenance of streets and sidewalks and sometimes described as following: Reclamation & Overlay Phase I and II, Repair of City Pavements, Crack Filling, Heater/Scarifying, Cold Milling, Curb Replacement, Construction of Sidewalk and Water cut Repair.

101.18 Material. Any approved material acceptable to the Commissioner and conforming to the requirements of the specifications.

101.19 Plans. The official contract drawings and applicable standard sheets, which show the location, character, dimension and details of the work to perform.

101.20 Project. The construction work to be performed under one or more construction contracts to complete an undertaking.

101.21 Proposal. The offer of the bidder for the work, when executed and submitted on the prescribed approved form on which the City requires formal bids to be prepared and submitted for the work.

101.22 Right-of-Way (R.O.W.). A general term denoting land, property, or interest therein, usually in a strip, acquired for or devoted to a street.

101.23 Specifications. The body of directions, requirements, etc., contained in the Standard Specifications, together with all documents of any description and agreements made (or to be made), pertaining to the methods (or manner) of performing the work or to the quantities and quality as shown by the test records of accepted materials to be furnished under a contract. Within these specifications there are two formats for numbering. One is used for the Specifications and the other for the Contract Pay Items.

A. Specifications use a format which always include a dash and occasionally a decimal (for example XX-XXX.X). This format never denotes a pay item.

B. Contract pay items use a format which includes one decimal point only. The basic format contains digits just to the left of the decimal point denoting the specification section to which it relates and digits to the right of the decimal point denoting the particular pay item within the specification. (For example XX.XXX). When a pay item has three or more digits just left of the decimal these items are to be found in the Standard Specifications of the New York State Department of Transportation.

101.24 Standard Sheets. The standard drawings approved for repetitive use, showing details to be used where appropriate.

101.25 Standard Specifications. The Standard Specifications for Construction & Materials (New York State and/or City of Buffalo) promulgated from time to time by the Commissioner.

101.26 Subcontractor. Any person, firm, or corporation, other than employees of the Contractor who act for or on behalf of the Contractor as an independent contractor in executing any part of the Contract Documents but does not include one who furnished only materials.

101.27 Surety. The corporate body bound with and for the Contractor, for the full and complete performance of the Contract, and for the payment of the debts, pertaining to the work.

101.28 Test. Methods adopted by the Commissioner to ascertain the quality, character and acceptability of the materials and processes utilized in performing the Contract.

101.29 Ton. Short ton of 2,000 pounds.

101.30 Utility. A public, privately, or cooperatively owned agency or agencies operated by one or more persons or corporations for public service.

101.31 Work. The furnishing of labor, materials, and equipment.

101.32 Work Day. A calendar day, exclusive of Saturday, Sunday and City recognized legal holidays, on which weather and other conditions not under the control of the Contractor, will permit construction operations to proceed for the major part of the day on the principal item or items of work which normally are in progress at the time.

101.33 Written Notice. Written notice shall be considered to have been duly served upon the Contractor under this Contract if delivered in person to the individual Contractor or to a member of the firm or to an officer of the corporation for whom it is intended, or if delivered at or sent by registered mail to the last business address of the Contractor known to the City. Written notice to the City shall be considered to have been duly served if delivered or sent by registered mail to the office of the Commissioner of Public Works, Parks and Streets 502 City Hall, Buffalo, New York, 14202.

ARTICLE 102 – STATUS OF THE COMMISSIONER

102-01 INTERPRETATION OF CONTRACT DOCUMENTS. The Commissioner shall have authority to make decisions which shall be final, binding, and conclusive upon the City and Contractor with respect to the following matters, except where questions of law are involved.

The true intent and meaning of any of the provisions or stipulations in the drawings, plans, specifications and addenda thereto, and

Any inconsistencies or conflicts in the Contract Documents, and

All claims of the City or Contractor, and

All other matters relating to the execution and rate of progress of work.

102-02 INSPECTION. The Commissioner shall monitor the proper performance of the work and shall inspect the quality of material and condition of the work and require the same to be executed in strict conformity with all the terms of the Contract Documents. The Commissioner shall determine the amount, quality, acceptability and fitness of all parts of the work and reject all materials and work which do not conform to the terms of the Contract Documents.

102-03 NOTICES AND ORDERS. The Commissioner shall give all notices and orders required of the Commissioner in the Contract Documents. Upon request, the Commissioner shall confirm in writing any oral order, direction, requirement or determination. If the City has not employed a Consultant in connection with this work, any reference in the Contract Documents to "Engineer" or "Architect" should be deemed to refer to the Commissioner, or to the Director of one of the Divisions in the Department of Public Works designated by the Commissioner to act in the Commissioner's place on such work.

102-04 WORK STOPPAGE. The Commissioner shall have the authority to stop the work, wholly or in part, as the Commissioner may deem necessary to insure proper execution of the Contract Documents. The Contractor shall not suspend any operations without the permission of the Commissioner.

102-05 PERFORMANCE BY CONTRACTOR. The Contractor shall abide by all orders, directions, requirements and perform all work under the Contract Documents to the satisfaction of the Commissioner.

102.06 EMPLOYMENT OF CONSULTANT. When the City shall have employed the professional services of a Consultant in connection with the work, then all of the rights and responsibilities of the Commissioner referred to in ARTICLE 102 shall be transferred to and assumed by the Consultant, provided however, the City reserves the absolute right to make final decisions in all matters as defined under articles herein entitled:

- A. Changes in Order of Work..... (Article 114-04)
- B. Additions and Deductions..... (Article 115)
- C. Extra Work..... (Article 116)
- D. Delays and Extension of Time... (Article 119)
- E. Default of Contractor..... (Article 120)

102.07 EXERCISE OF OPTIONS. Wherever in the Contract Documents the City is authorized or entitled to exercise an option, the Commissioner shall have the power and right to exercise the same on behalf of the City.

102.08 ACCEPTANCE OF COMPLETED WORK. The completed work shall be to the satisfaction of the Commissioner in accordance with the duties and responsibilities imposed upon by Article 10 of the Charter of the City of Buffalo, and shall be fit for its intended purposes as provided in the Contract Documents.

ARTICLE 103 – STATUS OF CONSULTANT

When the City has employed a Consultant to prepare the Contract Documents, including drawings and specifications, together with monitoring and inspection of the work while in progress, but subject to the reservation of the rights and obligations of the Commissioner, then the status of the Consultant shall be as hereinafter stated.

103-01 INTERPRETATION OF CONTRACT DOCUMENTS. The Consultant shall have the authority to make decisions which shall be final, binding, and conclusive upon the City and Contractor with respect to the following matters, except where questions of law are involved:

- A. The true intent and meaning of any of the provisions or stipulations in the drawings, plans, specifications and addenda thereto, and
- B. Any inconsistencies or conflicts in the Contract Documents, and
- C. All claims of the City or Contractor, and
- D. All other matters relating to the execution and rate of the progress of the work.

103.02 INSPECTION. The Consultant shall monitor the proper performance of the work and shall inspect the quality of material and conditions of the work and require the same to be done in strict conformity with all of the terms of the Contract Documents. The Consultant shall determine the amount, quality, acceptability and fitness of all parts of the work and reject all materials and work which do not conform to the terms of the Contract Documents.

103.03 NOTICES AND ORDERS. The Consultant shall give all notices and orders required of the Consultant in the Contract Documents; upon request the Consultant shall confirm in writing any oral order, direction, requirement, or determination.

103.04 WORK STOPPAGE. The Consultant shall have the authority to stop the work, wholly or in part, as he may deem necessary to insure proper execution of the Contract Documents. The Contractor shall not suspend any operations without the permission of the Consultant.

103-05 PERFORMANCE BY CONTRACTOR. The Contractor shall abide by all orders, directions and requirements and perform all work under the Contract Documents to the satisfaction of the Consultant.

ARTICLE 104 – DRAWINGS, SPECIFICATIONS AND RELATED DATA

104.01 DRAWINGS, SPECIFICATIONS AND INSTRUCTIONS FURNISHED. Unless otherwise provided in the Contract Documents, the City shall furnish to the Contractor, free of charge, all copies of drawings and specifications reasonably necessary for the execution of the work. The City shall furnish the Contractor, with reasonable promptness, additional instruction, by means of drawings or otherwise, necessary for the proper execution of the work. All such drawings and instructions shall be consistent with the Contract Documents, true developments thereof, and reasonably inferable therefrom. The work shall be executed in conformity therewith and the Contractor shall not commence work without proper drawings and instructions.

104-02 SHOP DRAWINGS. The Contractor shall submit to the City, with such promptness as to cause no delay in the Contractor's own work or in that of any other contractor employed in such work, three copies of all shop or setting drawings required for the proper execution of the work herein specified.

Each shipment of drawings must be accompanied by a letter of transmittal, giving name of contractor, list of drawings included with each drawing marked with the name and location of structure and each series of drawings numbered consecutively.

Shop drawings shall be submitted in the order and time required for construction. Shop drawings submitted ahead of time will be held by the City for checking in the order as set forth above.

Under no condition will any claim for delay in the completion of contracts, because of shop drawings being held by the City for checking, be recognized.

If it is found necessary to make changes in shop drawings, two prints will be returned to the Contractor, who, after making corrections indicated, shall furnish without charge three additional copies. The Contractor shall continue to furnish the drawings, as above mentioned, until all drawings are satisfactory to the City who, however, will not be responsible for their accuracy.

If during the checking and return of checked prints, the Contractor makes any additional changes or corrections on the original shop drawings, the Contractor shall call attention to such markings on the prints by a letter written to the Commissioner.

Shop drawings without the approval of the Commissioner will not be permitted on the premises. Actual fabrication of the work shall not proceed until these shop drawings have received the approval of the Commissioner.

It is understood that the approval of any shop drawings by the Commissioner in no way relieves the Contractor from assuming the responsibility for the accuracy of same, nor does it relieve the Contractor from any of the required conditions as set forth in these specifications or accompanying drawings.

104-03 DRAWINGS AND SPECIFICATIONS AT JOB SITE. One complete set of Contract drawings and details, and one copy of the specifications shall be kept on the work site, in good order, by the Contractor.

104-04 OWNERSHIP OF DRAWINGS, SPECIFICATIONS AND MODELS. All drawings, specifications and copies thereof furnished the Contractor by the City, with the exception of the signed Contract, shall be returned to the City at the completion of the work, and shall not be used by the Contractor or any Subcontractor on any other work. All models are the property of the City.

104-05 LAYOUT OF WORK AND MEASUREMENTS EXAMINATION OF DRAWINGS. Before ordering any materials or commencing any work hereunder, the Contractor shall thoroughly examine the drawings and specifications, carefully check the figured dimensions therein and shall take his own measurements of the work.

The Contractor shall report to the Commissioner any discrepancy or error or defect appearing therein and shall not order any materials or proceed with any work until the Commissioner shall have advised the Contractor with respect to such discrepancy, error or defect.

No extra compensation shall be allowed to the Contractor on account of any difference between the actual dimensions and measurements and those indicated on the drawings and specifications. The Contractor shall lay out the work or employ a competent engineer to do so, doing all necessary leveling and measuring. If so requested, the Contractor shall furnish the Commissioner with competent personnel for checking the work after it has been laid out.

104-06 LINES AND GRADES. All work under the Contract Documents shall be built in accordance with the lines and grades shown on the plans or as given by the City. The Contractor will set all stakes necessary for line and grade unless otherwise noted. The Contractor shall carefully protect and maintain such stakes and keep the same uncovered for examination during the progress of the work.

The Contractor shall inform the Commissioner at least twenty-four (24) hours in advance of the Contractor need for additional grades and lines. Work shall be suspended for such reasonable time as the City may require to provide such information.

All work done without lines, levels or instructions will not be estimated or paid for unless such work is authorized in writing by the Commissioner. Work done without authority from the Commissioner, may be ordered removed and replaced at the Contractor's sole cost and expense.

ARTICLE 105 – CONTRACTOR’S RESPONSIBILITIES

105-01 MATERIALS, METHODS, EQUIPMENT AND APPLIANCES. Unless otherwise specified, the Contractor shall provide and pay for all materials, labor, tools, equipment, water, power, transportation and other facilities necessary for the proper and safe execution and completion of the work in full accordance with the Contract Documents and the true intent thereof. The Contractor shall provide without extra charge all incidental items required as part of the work even though not particularly specified or indicated.

The Contractor shall be responsible for each and every part of the work under the Contract Documents. The Contractor will be held responsible for the execution of a satisfactory and complete piece of work in accordance with the true intent of the drawings and specifications.

If the Contractor has good reason for objecting to the use of any material, equipment, appliance or method of construction as shown or specified, the Contractor must make a written report of such objection to the Commissioner before execution of the form of Contract and obtain a determination by the Commissioner before such execution.

Unless otherwise specified, all materials shall be new and both workmanship and materials shall be of the best quality. The Contractor shall, if required, furnish satisfactory evidence as to the kind and quality of materials to be furnished.

The Contractor is responsible for possessing or obtaining the most recent and updated copy of the Standard Specifications for Construction & Materials.

105-02 SAMPLES. Whenever directed by the Commissioner, the Contractor, at the Contractor’s own expense, shall furnish for approval, samples of materials to be incorporated in the work. The samples shall be properly identified and submitted sufficiently in advance of the time when such materials are to be incorporated in the work so that rejections thereof will not cause delay in the performance of the work. A letter of transmittal from the Contractor requesting approval shall accompany all samples.

105-03 DELIVERY OF MATERIALS. The Contractor shall arrange for the delivery of materials at such times and in such quantities that the progress of the work shall not be interrupted and that the work shall be completed within the specified time. The Contractor shall also coordinate the deliveries of materials with the work of other contractors in order to avoid delay.

105-04 PATENT RIGHTS. As part of the Contractor’s obligation hereunder and without any additional compensation, the Contractor shall and will indemnify and at all times save harmless the City against any and all loss and damage, claims or demands, costs and charges that may arise or accrue by reason of the adoption or use by the Contractor of any patented article, device or improvement or by reason of the acceptance, adoption or use by the City of any patented article, device or improvement furnished or delivered by the Contractor. The Contractor shall not adopt or make use of any patented article, device or improvement unless the Contractor first obtains the right and privilege to do so and also the right and privilege of the owner to use such patented article, device, or improvement without infringing the rights of the patentee.

105-05 PERMITS. The Contractor shall obtain and pay for all permits and licenses required for work inside or outside of the property of the City and shall give all notices, pay all fees and comply with all laws, ordinances, rules and regulations affecting the conduct of the work. All work on water service lines and sewer laterals require permits issued by the proper City Department. All work on water and sewer lines must be performed by a plumber licensed by the City.

105-06 PROTECTION OF WORK AND PROPERTY. The Contractor shall continuously maintain adequate protection of all his work from damage or loss and shall protect the City’s property from damage or loss during the performance of this work. Any damage caused by the Contractor during construction shall be corrected by the Contractor at no expense or cost to the City. The Contractor shall be responsible for all

parts of the work, both temporary and permanent, until the entire work under the Contract Documents are accepted by the City. The Contractor shall make good any such damage or loss, including fire loss, whether or not covered by insurance.

The Contractor shall provide and maintain all passage ways, guard fences, lights and other facilities for protection required by public authority or by the nature of the work. The Contractor shall adequately protect adjacent property as provided by law and by the Contract Documents.

105-07 SAFETY – UNREASONABLE HAZARDS. The Contractor shall be responsible at all times for the carrying out of all operations hereunder in a safe and prudent manner so that workmen and the general public will be protected from unreasonable hazards.

The Contractor shall not load nor permit any part of any structure to be loaded with a weight that will endanger its safety.

The Contractor shall keep upon the premises, at each location where work is going on, a completely equipped first aid kit and shall provide ready access thereto at all times when men are employed on the work. The Contractor shall designate some proper person in each shift to be in charge of first-aid work and shall cause such persons to receive proper instructions therein.

105-08 STORAGE AND PROTECTION OF MATERIALS, EQUIPMENT AND TOOLS. The Contractor shall be solely responsible for the proper care and protection of all of the materials, equipment, tools and other like items on the site and the Contractor shall make no claim against the City on account of damage to or loss of such materials and other items.

Materials, equipment, tools and related items may be stored on the premises but the placing of the same shall be subject to the direction of the Commissioner or the Consultant.

105-09 SUPERVISION AND EMPLOYEES. The Contractor shall give the work adequate personal supervision and keep a competent superintendent constantly on the site from the commencement of work until the completion to receive instructions in the absence of other representatives of the Contractor.

None but competent superintendents, foremen, and workmen, are to be employed on any part of the work. Upon notice to the Contractor that the Commissioner deems any employee incompetent or negligent or for any cause unfit for duty, the Contractor shall immediately require such employee to correct his conduct and if he is unable to do so, the Contractor shall immediately remove him from employment on the work.

No officer or employee of the City shall be employed by the Contractor or any Subcontractor or agent to do any of the work or engage in any of the services included within the Contract Documents.

105-10 USE AND CARE OF PREMISES. The Contractor shall confine the Contractor's apparatus, the storage of materials and the operations of the Contractor's workmen to limits indicated by law, ordinances, permits, or direction of the City authorities and shall not unreasonably encumber the premises with the materials.

The Contractor shall not enter or occupy with tools, materials, or equipment any land outside of the boundaries of the work site except as the City may otherwise specifically permit.

The Contractor may display only its name and the names of other contractors engaged on the work. The Contractor shall not permit other persons without the consent of the Commissioner, to display any advertising matter in or upon the site of the work.

The Contractor shall enforce the Commissioner's instructions regarding fire, smoking and sanitation. Adequate sanitary facilities shall be provided by the Contractor for the use of all workers on the site prior to beginning any contract work. The Contractor shall rigorously prohibit the committing of any nuisances upon the lands of the City, about the work or upon adjacent property. Any employee found violating these provisions shall be discharged upon the request of the Commissioner.

The Contractor shall, from time to time, and at least once a week remove all dirt, rubbish, and waste material resulting from the Contractor's operations. At the completion of this work, the Contractor shall leave the work and site clean and fit for the use intended, and the Contractor shall leave the premises and streets about the work clean, free from obstructions and otherwise fit for the normal use thereof.

105-11 SHORING AND SUPPORTS. All temporary shoring necessary for the removal of existing work or for the installation of new work shall be deemed to be required by the Contract Documents and must be done in accordance with the directions and to the satisfaction of the Commissioner. The Contractor must assume all responsibility for this work and make good any damage caused by improper supports or failure of shoring in any respect. On completion of permanent supports, all temporary shoring shall be removed. The Contract Documents shall be deemed to require all necessary cutting and patching of masonry, plaster, wood, steel and similar items as may be required for the installation of shoring and supports.

105-12 LAWNS, SHRUBBERY AND TREES. Lawns, shrubbery and trees In the vicinity of the work shall not be damaged or destroyed except as may be permitted by the City for the purposes of construction within the lines and dimensions shown on the Plans or other contract drawings. All trees and shrubs, except those ordered to be removed, shall be adequately protected by boxes or otherwise. No excavated material shall be placed so as to injure trees or shrubs. All trees or shrubs damaged or destroyed by the Contractor shall be replaced with new, live growing stock of similar size and age at the proper season for planting. Lawns and parkways shall be left in as good condition as before the commencement of the work or shall be restored to their former condition at the proper season for planting.

105-13 STREETS AND TRAFFIC. The Contractor will be required to arrange the work so as to obstruct traffic as little as possible. Whenever the performance of the work under the Contract Documents requires the closing or obstruction of a portion of a street or other public way, the Contractor shall provide signs, barriers, lights, and other similar items which conform with the instructions outlined in the New York State Manual of Uniform Traffic Control Devices of July 1, 1983 and such may be amended from time to time, and as directed by the Commissioner of Police and the Commissioner of Public Works.

The Contractor shall carry out without delay any instructions of the Commissioner of Police or of the Commissioner of Public Works as they deem necessary to maintain the flow of traffic on such street or other public way. The Contractor shall notify the Commissioner of Police and the Commissioner of Fire at least forty-eight hours in advance of the need for the closing of any such street or other public way by reason of work hereunder. No street or other public way shall be entirely closed to traffic without the prior approval of the Commissioner of Police and the Commissioner of Fire and the Commissioner of Public Works.

105-14 SPECIAL PRECAUTIONS. In the event that the performance of the work hereunder requires blasting or other operations involving an unusually high degree of danger to persons and property, the Contractor shall comply with all the terms of the Specifications and all laws and ordinances relating to the storage, handling, and use of explosives and inflammable materials and the protection of the work, the workmen, the general public, and the property of other persons from injuries or damages. The Contractor shall promptly comply with any other instructions, written or verbal, which the Commissioner or the Consultant shall give to the Contractor with respect to the storage, handling and use of explosives and inflammable materials as the work progresses.

The amount of explosives and inflammable materials stored on the premises shall be kept at all times to the minimum required by the nature of the work.

105-15 PUBLIC SERVICE AND GOVERNMENTAL STRUCTURES AND INSTALLATIONS. The Contractor's attention is directed to ARTICLE 205 and 206 of the Instructions to Bidders, entitled "Visit Site and Examine the Contract Documents" and "Subsurface Conditions" and to the contract drawings.

At least one week before commencing operations, the Contractor shall notify all public service corporations and governmental bodies whose buildings, tracks, wires, pipes, conduits, poles or other structures will or may be affected. When required by law or by the terms of the franchise or other agreement, such removed and replaced or relocated by the parties owning or controlling the same at their own cost and expense. Otherwise, the cost of such removal and replacement or relocation shall be borne by the Contractor. Also, the cost of relocation of any street lighting plant (i.e. manhole, foundation, etc.) within the right-of-way, exclusive of the area within the curb line, will be borne by the Contractor.

The Contractor shall allow reasonable opportunity and access for such public service corporation and governmental bodies to accomplish such removal and replacement or relocation.

Such structures which adjoin the proposed work but which do not obstruct the carrying out of the work shall be carefully protected by the Contractor in such a manner as to secure the safety of the public and the structures. The use of pipes, conduits, wires, poles and other structures shall not be interrupted without the consent of the parties owning or controlling the same.

105-16 LAYOUT OF WORK. The Contractor shall layout the work or employ a competent engineer to do so, doing all necessary leveling and measuring and shall locate and layout all utility devices in the pavement. If so requested, the Contractor shall furnish the Commissioner with competent personnel for checking the work after it has been laid out.

ARTICLE 106 – REMOVAL OF CITY OWNED EQUIPMENT AND MATERIALS

Unless otherwise specified or unless written approval is obtained from the City to the contrary, all existing City-owned equipment and materials that are removed during the process of the work of this Contract will remain the property of the City and are to be delivered by the Contractor to a location designated by the City.

ARTICLE 107 – LAWS AND ORDINANCES

The laws of the State of New York and the ordinances of the City of Buffalo, now in force or which may be adopted hereafter applicable to the Contract Documents and to the work thereunder, shall govern construction of the Contract.

The Contract Documents are subject to the provisions of Article 8 of the Labor Law of the State of New York, as amended, particularly paragraphs 200, 220A, 220B, 220E and 222, thereof, and the Contractor and each Subcontractor performing work at the site of the project shall comply with the provisions thereof.

In addition to each and every provision of law required by law to be inserted in the contract documents, compliance with the City of Buffalo Apprenticeship Training Program Ordinance shall be required if applicable which states:

§ 96-13 (G) (1) Apprenticeship Training Program

Pursuant to New York State Labor Law 816-b, the City of Buffalo hereby requires all contractors and subcontractors entering into any construction contracts with the City of Buffalo, to have established apprenticeship agreements appropriate for the type and scope of work to be performed under the contract, that has been approved by the NYS Commissioner of Labor. Construction contracts shall mean any contract, which involves construction, reconstruction, improvement, rehabilitation, installation, alteration, renovation, demolition, or otherwise providing for any building, facility, or physical structure of any kind with a value in excess of \$100,000.

§ 96-13 (H) Workforce Development and Diversification Apprenticeship Training Program.

Definitions: “Worker Training Program” shall mean: a state registered apprenticeship program through New York State Department of Labor that includes the following standards:

- (a) An organized, written plan in place that embodies the terms and conditions of employment, and the training and supervision of one or more workers; and
- (b) A schedule of wages to be paid to the worker consistent with the skills required and approved by the New York State Department of Labor; and
- (c) Equal opportunity and affirmative action plans
- (d) Workforce development and diversification goals ensuring that the contractor will work toward a minority workforce goal of 25%, and women workforce goal of 5% combined in project personnel including trades people, trainees, journeymen, apprentices, and supervisory staff; and
- (e) A minimum of ten (10%) percent of the workforce employed by any and all contractors and subcontractors be done by a person or persons participating in an apprenticeship program which has been registered with and approved by the New York State Commissioner of Labor in accordance with Article 23 of the NEW YORK LABOR LAW; and
- (f) Residency goals ensuring that the contractor will work toward a minimum of twenty-five (25%) percent of the workforce to include qualified residents from the City of Buffalo.

“Commissioner” shall mean the Commissioner of the City of Buffalo Department of Public Works.

“Construction contract” shall mean any contract to which the City of Buffalo shall be a signatory, which involves the construction, reconstruction, improvement, rehabilitation, installation, alteration, renovation, demolition, or otherwise providing for any building, facility, roads, highways, bridges, or physical structure of any kind.

“Construction subcontract” shall mean any subcontract between a contractor who has a construction contract with the City of Buffalo which involves the construction, reconstruction, improvement, rehabilitation, installation, alteration, renovation, demolition, or otherwise providing for any building, facility, roads, highways, bridges, or physical structure of any kind.

“Contractor” or “subcontractor” shall mean a contractor or subcontractor that directly employs workers under a construction contract or construction subcontract, as defined herein, for which a worker-training program, registered through New York State Department of Labor is required.

“Construction worker” shall mean an individual directly involved in the construction, reconstruction, improvement, rehabilitation, installation, alteration, renovation, demolition, or otherwise providing for any building, facility, roads, highways, bridges, or physical structure of any kind.

(1) Requirements and Exceptions

- (a) Any contractor, prior to entering into a construction contract, as defined herein, with the City of Buffalo, or any subcontractor entering into a construction contract as defined herein, with a contractor who has a construction contract, as defined herein with the City of Buffalo, is required to have in place at the time of bid a NYS Department of Labor apprenticeship training program, as defined herein, either internally to the

contractor or subcontractor and/or through an organization servicing several contractors or subcontractors, appropriate for the type and scope of work to be performed.

(b) The Commissioner shall file reports on a quarterly basis with the Mayor of Buffalo and the Common Council as the training of workers and certification.

(c) Any contractor with the City of Buffalo, or any subcontractor entering into a construction subcontract with a contractor who has a construction contract with the City of Buffalo, is required to ensure that the workforce which it engages to perform work in execution of the contract or subcontract meets the minimal workforce diversification standards as defined above, such contractors and/or shall provide the Commissioner or designated compliance officer with the following:

(i) A monthly workforce census and such other employment and/or payroll records necessary to verify achievement of the workforce diversity goals and the demonstrate compliance with the minimum standards.

(ii) Access and cooperation to the project compliance officer to review records on-site and/or at worksite premises to validate workforce participation.

(iii) With bid submission, a statement committing to providing apprenticeship training opportunities to workers, as well as details of workforce diversification recruiting programs directed at attracting candidates to fill positions to meet such requirements.

(2) Rules & Regulations

The Commissioner of the City of Buffalo Department of Public Works is hereby authorized to promulgate such rules and regulations that are lawful, necessary and appropriate to implement, enforce, or otherwise carry out the purpose of this section.

(3) Equal Employment Opportunity Oversight

The Commissioner of Community Services and Recreational Programming for the City of Buffalo shall conduct oversight and review functions over apprenticeship training programs operated in accordance with the provisions of this section to ensure compliance with federal, state, and local laws and regulations concerning minority and women participation, and shall report to the Common Council annually concerning such compliance.

(4) Penalties

Violation of any provision of this section may constitute cause, grounds or other legal justification for termination of any contractual agreement with any contractor or subcontractor engaged in a construction contract or construction subcontract with the City of Buffalo, in accordance with city, county, and state laws, rules, and regulations governing the termination of such contractual agreements.

(5) Severability

If any clause, sentence, paragraph, subdivision, section or part of this section or the application thereof, to any person, individual, corporation, firm, partnership, entity or circumstance, shall be adjudged by any court of competent jurisdiction to be invalid or unconstitutional such order of judgment shall not affect, impair, or invalidate the remainder thereof, but shall be confined in its operation to the clause, sentence, paragraph, subdivision, section, or part of this section or in its application to the person, individual, corporation, firm, partnership, entity, or circumstance directly involved in the controversy in which such judgment or order shall be rendered.

(6) Expiration

The Apprenticeship Training Program ordinance as contained in § 96-13(G) and § 96-13(H) of this chapter, and all enforcement thereof shall expire on July 1, 2007. The Common Council, by a majority vote, may extend this ordinance and its enforcement beyond the expiration date.

ARTICLE 108 – PROVISIONS REQUIRED BY LAW DEEMED INSERTED

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

ARTICLE 109 – GUARANTEE

The Contractor shall, at the Contractor's own cost and expense for a period of two (2) years after the completion and acceptance of the work, herein,

- A. Maintain the work and its appurtenances, including back fill, disturbed City utilities and structures and restored pavement, in good condition and repair;
- B. Remedy any defects of material or workmanship which may become apparent in any of the work performed or material furnished by the Contractor, and
- C. Remedy or repair any settlements of ground surfaces, disturbed City utilities and structures or pavement resulting from said work.

The Contractor shall at the Contractor's own expense, for a period of three years from the completion of the work keep and maintain concrete curbing (if included in the Contract Documents) in good condition, in accordance with the conditions of the Contract Documents; and leave the same in good condition, order and repair at the end of said period.

The Contractor shall replace or repair at the Contractor's own expense any work of any other contractor, removed or damaged as a result of the carrying out of this obligation by the contractor.

The Contractor shall commence any work required under this Article within five (5) days after receipt of written notice so to do by the City; and if the contractor shall fail or neglect to carry out this obligation under this Article within thirty (30) days from the service of such notice, the City shall have the right to employ such other contractors as the City may deem necessary to do such work, and shall charge the expense thereof to the Contractor or the Contractor's Surety or both on the performance or maintenance bond or both.

Neither the final payment by the City, the Certificate of completion, the acceptance of the work by the City, the mention of the years guarantee period herein, nor any other provisions of the Contract Documents shall constitute a waiver by the City of any period of time fixed by law for the bringing of an action for breach of contract hereunder, nor shall release the Contractor or the Contractor's Surety from the responsibility for negligence in the performance of the work or for providing faulty materials or workmanship within the extent and period provided by law.

ARTICLE 110 – MAINTENANCE BOND

The Bidder whose Proposal is accepted shall furnish a maintenance bond running to the City in the penal amount of ten (10%) percent of the contract price, to be approved as required by the Charter of the City of Buffalo, and to be executed by the Bidder as principal and by a duly incorporated company authorized to guarantee the performance of contractors and to do business in the State of New York, as Surety, conditioned that the Contractor will at his own cost and expense, keep and maintain the sidewalks, pavement and appurtenance work included in this Contract in good condition, order and repair for the period specified from the completion of said work in accordance with the conditions of the Contract Documents and leave the same in good condition, order and repair at the end of said period. The bond shall be as specified in ARTICLE 109.

ARTICLE 111 – PERFORMANCE BOND

- A. When required a performance and labor and material bond shall be in the penal amount of the contract price if based on a lump-sum price or of the unit-price bid multiplied by the number of units estimated in the plans and specifications if based upon a unit price and shall be conditioned for the faithful and complete performance of the contract for the work or improvement or the furnishing of the materials, supplies or equipment in strict compliance with the provisions of the contract documents. A labor and material bond shall also be required, and the bond shall contain a clause that the bidder entering into the contract with a city agency will pay for all services rendered and materials used in the execution of the contract and that a person rendering services or furnishing materials in or about the execution of the contract may maintain an action to recover for the services rendered or the materials furnished against the obligors in the bond as though the person were named therein, provided that such action shall be brought within one (1) year after the cause of action accrued. The obligors in the bond shall be liable and may be sued accordingly. Notice of the commencement of the action and of all proceedings therein shall be given to the Corporation Counsel, and in default of such notice, no recovery shall be had in the action. The Director of Purchasing has the authority to waive the requirement of this section in his/her discretion, up to the contract amount of Two Hundred and Fifty Thousand Dollars (\$250,000.00). Any waivers under this section in excess of \$250,000.00 must be approved by the Common Council.
- B. The right of a person rendering services or furnishing materials to maintain an action on such labor and material bond shall be subject, however, to the prior rights to the City of Buffalo against the obligors in said bond.

ARTICLE 112 – INDEMNITY

112-01 Indemnity of the City. The Contractor shall, to the fullest extent permitted by law, indemnify, defend and hold harmless the City, to be named as additionally insured, its officers, agents and employees from and against all claims, suits actions, damages, losses and costs of every name and description to which the City may be subjected or put by reason of injury to the person or property of another, or the property of the City, resulting from or relating to or in connection with Contractor's activities in the performance of or failure to perform this Contract. This provision shall include, but not be limited to, all losses, costs and damages which the City may suffer by reason of injury to the person or property of another, or the property of the City resulting from but not limited to the negligence or carelessness, active or passive, of the Contractor or the joint negligence, active or passive, of the Contractor and or third parties under the direction or control of the Contractor, its or their employees, agents or subcontractors, in the performance of any work under the Contract Documents, or in the delivery of materials and supplies. The whole, or so much money to become due under the Contract Documents as shall be considered necessary by the City, may be retained by

it until all suites or claims for damages shall have been settled or otherwise disposed of any evidence to that effect furnished to the satisfaction of the City.

112 – 02 Indemnity of other Agencies, Authorities or Entities. Additionally, the Contractor shall indemnify, defend and hold harmless all other Agencies, Authorities or Entities named as additionally insured for this project, it's or their officers, agents and employees from all claims, suits, actions, damages, losses and costs of every name and description for which the Agencies, Authorities or Entities may be subjected or put by reason of injury to the person or property of another, or the property of the Agencies, Authorities or Entities, resulting from or relating to or in connection with Contractor's activities in the performance of or failure to perform this Contract. This provision shall include, but not be limited to, all losses, costs and damages which the City may suffer by reason of injury to the person or property of another, or the property of the such Agencies, Authorities or Entities resulting from, but not limited to, the negligence or carelessness, active or passive, of the Contractor or the joint negligence, active or passive, of the Contractor and or third parties under the direction or control of the Contractor, it's or their employees, agents or Subcontractors, in the performance of any work under the Contract Documents, or in the delivery of materials and supplies. The whole, or so much of the money to become due under the Contract Documents as shall be considered necessary by the Agencies, Authorities or Entities, may be retained by them (or by the City) until all suits or claims for damages shall have been settled or otherwise disposed of and evidence to that effect furnished to the satisfaction of the Agencies, Authorities or Entities.

ARTICLE 113 – REPORT OF ACCIDENTS AND OTHER OCCURRENCES

113-01 WRITTEN REPORT. Within 48 hours after the happening of any accident or other occurrence on the site of the work involving personal injuries or property damage or both, the Contractor shall make a full report, in writing, of such accident or occurrence to the Commissioner or to the Consultant. Such report should include the time, place of the accident or occurrence, the nature thereof, persons or property involved or both, the extent of injuries or damages, the witnesses, if any, the cause of such accident or occurrence if the same be known to the Contractor, and any other pertinent information which would enable the City to conduct a proper investigation of such matter.

113-02 VERBAL REPORT. In the event of serious accident or occurrence warranting immediate investigation, a verbal report to the Commissioner or to the Corporation Counsel of the City should be made by the Contractor as soon after the happening of such accident or occurrence as may be reasonably possible.

113-03 COPY OF INSURANCE REPORT. The Contractor shall furnish the City with a copy of all accident reports submitted by it to its insurance carriers.

ARTICLE 114 – RIGHTS OF CITY

114-01 INSPECTION OF WORK. The City and its representatives shall at all times have access to the work wherever it is in preparation or progress and the Contractor shall provide proper facilities for such access and for inspection. The Contractor shall keep the Commissioner informed of the progress of the work.

No work shall be closed or covered until it has been duly inspected by the City. Should any uninspected work be covered, the Contractor shall, at the Contractor's own expense, uncover all such work so that it can be properly inspected. After such inspection, the Contractor shall repair and replace at the Contractor's own expense all work interfered with including the work of other contractors.

Re-examination of work may be ordered by the Commissioner and, if so ordered, the work must be uncovered by the Contractor. If such work is found to be in accordance with the Contract Documents, the City shall pay the cost of re-examination and replacement. If the work is not in accordance with the Contract Documents the Contractor shall pay such cost including the cost of repairing or replacing the work of other contractors.

114-02 TESTING. Wherever in the Specifications inspection and testing of materials is called for, such inspection and testing shall be done by the Department of Public Works Laboratory or by a laboratory designated by the Commissioner unless otherwise specified.

Satisfactory documentary evidence that the material has passed the required inspection and testing must be furnished to the Commissioner prior to its incorporation in the work and rejected materials must be promptly removed from the premises.

114-03 DEFECTIVE WORK AND MATERIALS. Any material or work found on inspection to be defective or not in strict conformity with requirements of the drawings and specifications, or defaced or injured through the acts of fire or elements or any other cause shall be removed immediately from the premises and satisfactory materials or work, or both, substituted therefore without delay. This shall include the making good of all work of other contractors destroyed or damaged by such removal or replacement. Cost of the above removal and replacement shall be at the sole expense of the Contractor's responsible for the defective work or materials.

If the Contractor does not remove such work or materials disapproved by the Commissioner within the time fixed by written notice, the City may cause the same to be done and may store all materials at the expense of such removal within ten (10) days thereafter, the City may, upon (10) days written notice, sell such materials at auction or at a private sale and shall account for the net proceeds thereof after deducting all costs and expenses that should have been borne by the Contractor.

114-04 CHANGES IN ORDER OF WORK. If, in the judgment of the Commissioner, it becomes necessary to change the schedule of operations in order to accelerate the work, each Contractor or Subcontractor, when so ordered by the Commissioner, shall cease work at any particular point and transfer the Contractor's workmen and equipment to such points and execute such portions of the work as the Commissioner may direct. Any such changes in the schedule of operations shall not entitle the Contractor to an extension of time not to extra compensation.

114-05 POSSESSION AND USE. The City shall have the right to take possession and use any completed or partially completed portion of the work. Such possession or use, however, shall not be considered an acceptance of work so taken or used.

ARTICLE 115 – ADDITIONS AND DEDUCTIONS

Wherever it becomes impossible or impractical to perform the work strictly in accordance with the Plans and Specifications, the City reserves the right to make changes in the work not inconsistent with, but, for the purpose of completing the work or improvement, in accordance with the Contract Documents. No changes by altering, adding to, or deducting from the work pursuant to this article shall be made without the prior written order of the City by its Commissioner. The value of the changes shall be determined by the City and the Contractor in one of the following ways:

- A. By estimate and acceptance in a lump sum; or
- B. By unit prices named in the Contract Documents or, if not named therein subsequently agreed upon by the Commissioner and the Contractor; or
- C. If neither one of the above methods is agreed upon, the Contractor, upon written order of the City by its Commissioner, shall proceed with the additional work or the work as altered and shall keep and present, in such form as the Commissioner may direct, a correct account of the net cost of labor, equipment and materials together with vouchers in support thereof. In such event, it is agreed by the City and the Contractor that said additional work or said work as altered shall be performed by the Contractor pursuant to the following general terms and conditions together with such further detailed stipulations as may be required to govern fully the manner in which said payment under this third alternative will be made by the City.
 - 1. The actual cost for direct labor, material and use of equipment, plus ten (10) percent of the total overhead.
 - 2. Plus actual cost of workmen's compensation and liability insurance, health and welfare benefits, Social Security deductions and unemployment compensation benefits.
 - 3. Plus six (6) percent of the total of (1) and (2) plus actual proportionate cost or surety bond. For work performed for the Contractor by a Subcontractor, dealer or vendor, the Contractor shall accept as full payment, therefore, an amount equal to the actual cost to the Contractor of such work or services as determined by the City plus ten (10) percent of such cost. No allowance shall be made for general supervision and the use of small tools and manual equipment.
 - 4. Where a change involves the omission of work, the net cost of the work omitted shall be computed in one of the above mentioned ways, except that no allowance for overhead and profit shall be figured, and a credit shall be allowed the City for such omitted work.

ARTICLE 116 – EXTRA WORK

No claim for work outside the scope of the Contract Documents shall be made and no additional work performed unless the same be done in pursuance of a written order from the City, as approved by the Commissioner, and given to the Contractor prior to the doing of said additional work and, except as provided in ARTICLE 115 unless and until such additional work shall have been ordered by the Common Council in conformity with the provisions of Paragraph 403 of the Charter of the City. The value of said extra work shall be determined by one of the methods provided for in ARTICLE 115.

ARTICLE 117 – DEDUCTIONS FOR WORK NOT CORRECTED

If the City determines not to correct work which is damaged or work which is not in accordance with the contract provisions an equitable deduction from the contract price shall be made in the manner provided in ARTICLE 116.

ARTICLE 118 – POWER OF CONTRACTOR TO ACT IN EMERGENCY

In case of an emergency which threatens the loss of or injury to property and/or life, the Contractor shall act as instructed or authorized by the Commissioner or his duly authorized representative. In the absence of instructions or authorization from the Commissioner or duly authorized representative, the Contractor shall be allowed to act as he deems advisable. The Contractor shall notify the City of such emergency and the action taken as soon as possible and within twenty-four (24) hours thereafter.

The amount of any reimbursement claimed by the Contractor on account of such emergency action under this paragraph shall be determined in the manner provided in ARTICLE 116.

ARTICLE 119 – DELAYS AND EXTENSIONS OF TIME

ALL TIME LIMITS STATED IN THE CONTRACT DOCUMENTS FOR PERFORMANCE BY THE CONTRACTOR ARE OF THE ESSENCE OF THE CONTRACT. If, however, the Contractor is delayed in the progress of the work by any act or neglect of the City or any of its officers, employees, or agents, or by changes in the work, or by any neglect, default, or delay of any other Contractor upon such work, or by weather, fire, earthquake or other unavoidable occurrence, or any other causes beyond the control of the Contractor, the time of completion of the work shall be extended for such reasonable time as the Commissioner may decide.

No extension shall be granted for a delay that occurs more than seven (7) days before a written request by the Contractor is given to the City. In the case of a continuing cause or delay only one such request for extension is necessary.

Claims by the Contractor against the City for damages or for additional compensation by reason of any such delay will not be allowed. Any such extension of time granted by the Commissioner shall release the Contractor from the payment of stipulated damages for the additional work certified and no more.

With respect to any time limits stated in the Contract Documents for performance by the City, such time limits shall not be of the essence of the Contract unless otherwise specifically stated.

ARTICLE 120 – DEFAULT OF CONTRACTOR

RIGHT OF CANCELLATION. The City may, at its option, declare the Contractor in default and cancel this Contract for any one or more of the following reasons:

- a. Failure to commence work. If the Contractor fails to begin work when notified to do so.
- b. Insolvency. If the Contractor becomes insolvent.
- c. Bankruptcy. If proceedings in bankruptcy are instituted by or against the Contractor or if the Contractor makes any assignment for benefit of creditors.
- d. Supplementary Proceedings. If proceedings relating to the Contractor supplementary to judgment are issued against the City.
- e. Abandonment of Work. If the Contractor shall cease operations on the work or improvement herein specified for three (3) consecutive working days.
- f. Assignment of Contract. If the Contractor shall assign, transfer, convey, sublet, or otherwise dispose of the Contract Documents or the Contractor's right, title or interest therein, or the Contractor's power to execute the same to any other person, company or corporation without the previous consent in writing of the City.

- g. Delay in Progress of Work. If at any time during the progress of the work it should appear that the force employed, the quantity or quality of the tools, appliances or workmen provided, or that the progress of character of the work or materials furnished are not sufficient, in the opinion of the Commissioner, to insure the completion of the work under the Contract Documents within the time stipulated, or are not in accordance with the specifications; or if the Contractor shall make default or shall violate any of the provisions of the Contract Documents, then, in any of such cases, the City may serve written notice on the Contractor to at once apply such improvements in the character of the work or materials to be made as may be required to make the same conform to the stipulations of the specifications, or to remedy any and all defects and default.

120-02 REMEDY IN CASE OF DEFAULT. In the event of default by the Contractor for any of the reasons stated in Section 120-01 and in addition to the right of the City to cancel the Contract, the City may enter and take possession of said work, or any part thereof, and other appurtenances thereon. The City shall hold the same as security for any and all damages or liabilities that may arise by reason of the Contractor's failure to fulfill the contents of the Contract Documents or by reason of the Contractor's failure to complete the work within the time therein stipulated.

Furthermore, the City may employ the said tools, materials, plans, appliances, buildings, machinery, and other appurtenances and all materials belonging to said Contractor delivered on the site and, at the cost and expense of said Contractor, may complete or have completed the said work. In the event that the cost thereof shall exceed the amounts then due or thereafter falling due to the Contractor, the said Contractor and Contractor's sureties on the bond given for the faithful performance of the Contract Documents shall be liable for such excess and for any and all other breaches of the Contract Documents by the Contractor.

The remedies herein provided shall not be exclusive and the City may enforce other provisions of the Contract Documents in the event of any default, and it may pursue other remedies allowed by law. In the event the City undertakes to perform the work, or any part thereof, the certificate of the Commissioner regarding the amount of the work to be done and the amount of liquidated damages shall be binding and conclusive upon the Contractor, its assigns, its sureties and upon all other claimants. The certificate of the Commissioner shall be filed with the Comptroller of the City.

120-03 LIQUIDATED DAMAGES. If the Contractor fails to complete the work within the time agreed upon or within any extensions granted in accordance with the Contract Documents, the City may elect to permit the Contractor to proceed with and complete the work provided that such permission not be deemed a waiver by the City of the Contractor's liability for damages or expenses incurred by the City as a result of the Contractor's failure to complete the work within the specified time. Such liability shall continue in full force against the Contractor as if such permission had not been granted.

In order to avoid all controversy and the determination of actual damages or expenses for the delay in completion of the work by reason of the City's election not to terminate the right of the Contractor to proceed, the Contractor and the Contractor's Surety shall be liable for and shall pay or allow to the City the sums specified in the Supplemental Instructions to Bidders, as fixed and agreed liquidated damages for each and every working day, Sundays and Holidays excluded, after the date fixed for the completion of the work. During this time damages and expenses may be deducted by the City from any payment or payments then due or thereafter falling due to the Contractor.

If the work has reached or thereafter reaches such a degree of completion that, in the City's opinion, makes the work reasonably safe, fit and convenient for the use for which it was intended, the City may take possession of the work although uncompleted and not accepted. In this case the Contractor shall not be charged thereafter with liquidated damages, but the City thereafter may assess against the Contractor and the Contractor's Sureties only the actual damages or expenses caused to the City by the delay in completion after the City has taken possession of the work.

ARTICLE 121 – PAYMENTS

121-01 RETENTION. Where the cost of the work or improvement exceeds the sum of five thousand dollars (\$5,000), payment shall be made upon monthly estimates of the officer of the city agency charged with the supervision of the work or improvement and upon the certificate of the head of the city agency charged with the execution of the work or improvement as the work or improvement progresses, based on the value of the labor and materials incorporated in the work or improvement, less five percent (5%) of such estimates, which latter amount shall be retained until the work or improvements is completed by the contractor and accepted by the city.

121-02 SCHEDULE OF VALUES. Before the first monthly estimate is submitted all estimates referred to in this section shall be subject to the approval of the Commissioner. The Contractor shall furnish a schedule of values, the total thereof equaling the contract price in such a form as may be directed by the Commissioner. This schedule shall be for the use of the Commissioner in preparing estimates for payments, but he may alter the same at any time before or after payments are started if it appears to him that any items are unreasonable or do not represent the fair cost of such items in proportion to the total amount of the contract price.

121-03 APPROVAL OF CONTRACTOR'S ESTIMATES. On or before the 5th day of each month, during the progress of the work, the Contractor shall submit an estimate of the work performed and materials furnished during the previous month, properly dated and signed, and in such form as directed by Commissioner. This estimate will be checked by the Commissioner, and if approved, will be submitted to the Comptroller of the City for payment. If not approved, it will be returned to the Contractor for correction and no payment shall be made to the Contractor until such monthly estimate has been approved and submitted by the Commissioner to the Comptroller as stated above.

NO PAYMENTS WILL BE MADE BY THE CITY FOR MATERIALS NOT ACTUALLY INCORPORATED IN THE WORK, EXCEPT WHERE PAYMENT FOR SUCH MATERIALS IS SPECIFICALLY AUTHORIZED BY THE COMMON COUNCIL OF THE CITY OF BUFFALO AT OR PRIOR TO THE TIME IT ORDERS THE WORK HEREIN TO BE ADVERTISED FOR BIDS PURSUANT TO THE REQUIREMENTS OF PAR. 90, ARTICLE X, CHARTER III OF THE ORDINANCES OF THE CITY OF BUFFALO.

121-04 WITHHOLDING OF PAYMENTS. Any payment may be withheld by the City, pending correction, when work is not progressing to the satisfaction of the Commissioner or when any required insurance policy or bond is not in force. Payment will not be made for work which is required to be covered by fire insurance and allied line insurance until policies of such insurance have been filed with and approved by the City.

121-05 LIENS OR CLAIMS AGAINST THE CONTRACTOR. If at any time the City shall have evidence of a lien or claim against the Contractor, or any Subcontractors for materials furnished or for services or labor performed under the Contract Documents, the City shall have the right to retain out of any payment an amount to completely indemnify the City against such lien or claim. Before final payment is made, the Contractor shall furnish satisfactory evidence that there are no claims or liens against him or Subcontractors, for materials furnished or for services or labor performed under the Contract Documents. Should there prove to be such a lien or claim after final payment is made, the Contractor agrees to pay the City promptly all money the Contractor may be compelled to pay in discharging the same.

The City may retain sufficient money, as it may believe necessary, to protect itself from any other claims filed against the City arising out of the performance of this work.

121-06 FINAL PAYMENT BY CITY. Final payment to the Contractor shall not become due until after the final inspection and acceptance of the work by the City and after the Contractor has furnished the City with satisfactory maintenance bonds or guarantees as may be called for under the Contract Documents.

121-07 NON-WAIVER OF CITY'S RIGHTS UNDER CONTRACT. No certificate of the Commissioner of Public Works or the Consultant, or any acceptance of the work, or any part thereof, by the City, or any payment, final or partial, shall operate to release the Contractor, or the Contractor's Sureties, from any obligation under these Contract Documents to furnish sound materials and to perform satisfactory work in accordance with the contract requirements.

No such certificate or approval or acceptance shall be deemed to be an acceptance on the part of the City of defective workmanship or improper materials used by the Contractor in the performance of this work, or a waiver on the part of the City of any claims or demands for or on account of such defective workmanship or improper materials or for or on account of any other breach of the Contract Documents.

121-08 FINAL PAYMENT TO RELEASE CITY. Acceptance by the Contractor of final payment shall be and operate as a release by the Contractor to the City of all claims and all liability for all things done or performed by the Contractor or in any manner relating to the work herein, including any claims for extra work, labor, or materials under ARTICLE 116 and any claims on account of changes in the work under ARTICLE 115 and of all claims and all liabilities for any act or alleged neglect of the City, its officers, employees, or agents, relating to or arising out of the work.

ARTICLE 122 – SEPARATE CONTRACTS

The City reserves the right to let other contracts in connection with the work contemplated hereby. The Contractor shall afford other contractors reasonable opportunity for the introduction and storage of their materials in the execution of their work and shall properly coordinate and connect the Contractor's work with theirs. The Contractor and other contractors of record shall have equal rights on the premises for the performance of their work.

If any part of the Contractor's work depends upon the work of any other contractor, the Contractor shall inspect and promptly report to the Commissioner any defects in such work that render it unsuitable. The Contractor's failure to inspect and report shall constitute an acceptance of the other contractor's work as fit and proper, except as to defects which may develop in the other contractor's work after the execution of the Contractor's own work. To insure the proper execution of the Contractor's work, the Contractor shall measure the work of other contractor's already in place and shall at once report to the Commissioner any discrepancy between the executed work and the drawings or specifications. Copies of drawings and specifications relating to these separate contracts will be furnished to the Contractor on request for information in carrying out the above provisions. The Contractor will be held responsible for any damages, additional work, or defective work resulting from failure or neglect to comply with the foregoing requirements.

ARTICLE 123 – SUBCONTRACTORS

The successful Bidder shall submit a list of proposed Subcontractors to the Commissioner for his approval and obtain his written consent thereto prior to the execution of the form of Contract. The subcontracting of any part of the work or services under the Contract Documents to any person, firm or corporation by whom a Proposal was submitted to the City for the same Contract Documents shall be absolutely prohibited.

Subcontractors shall comply with all the provisions set forth in the Contract Documents relating to their work. The Contractor shall cause appropriate provisions to be inserted in all subcontracts relative to the work to bind the subcontractors to the Contract Documents by the terms of the Specifications, General Conditions, and other Contract Documents in so far as applicable to the work of the Subcontractor; and to

give the Contractor the same power with respect to the terms of any subcontract that the City may exercise over the Contractor under any provision of these Contract Documents.

The Contractor shall be fully responsible to the City for the acts and omissions of the subcontractors and the persons directly or indirectly employed by them as he is for the acts and omissions of persons directly employed by the Contractor. It is the responsibility of the Contractor and the Subcontractors to see that appropriate provisions are inserted in all contracts or purchase orders for supplies and materials requiring the suppliers or material men to make delivery within such time as will enable the Contractor to meet the time of completion. Failure of the Contractor or a Subcontractor to comply with the requirements of this article shall be sufficient reason for the Commissioner to deny a request for an extension of time by the Contractor on account of failure of a Subcontractor, supplier or material man to complete the work or to deliver supplies or materials on time.

The Contractor shall perform with the Contractor's own organization contract work amounting to not less than 50 percent of the original total contract price. "the Contractor's own organization" shall be construed to include only workmen employed and paid directly by the Contractor and equipment owned or rented by the Contractor, with or without operators.

ARTICLE 124 – WAGE SCALE

The prevailing rate as officially established by the State of New York Department of Labor for all classes of workers is bound in the Proposal. It shall be examined by the Contractor and paid by the Contractor to employees as a minimum wage during the life of the Contract Documents, except as a higher rate of wage is required to be paid by the Contractor as set forth in this Contract.

The Contractor shall, at the time of filing each request for payment, file a statement in writing, certifying that the rate of wages paid to any and all laborers, mechanics, etc., employed on this Project has been and are being paid the prevailing scale of wages as herein specified.

With each application for payment under this Contract, the Contractor and every Subcontractor shall deliver to the City a written verified statement in a form satisfactory to the City.

The submission shall show in detail all amounts then due and unpaid by such Contractor or Subcontractor to all laborers for daily or weekly wages, employed by him under the Contract Documents for the performance of the work at the site thereof, or to other persons for materials, equipment or supplies delivered at the site of the work. The term "laborers" as used herein shall include workmen and mechanics.

Article 8, Section 220 of the Labor Law, as amended by Chapter 750 of the Laws of 1956, provides, among other things, that it shall be the duty of the fiscal officer to make a determination of the schedule of wages and supplements to be paid to all laborer, workmen and mechanics employed on public work projects. The amount for supplements listed on the schedule does not necessarily include all types. The Industrial Commissioner may require the Contractor to provide additional supplements.

The Contractor shall make provisions for disability benefits, workmen's compensation, unemployment insurance and social security, as required by law.

An authorized officer or representative of the Contractor shall certify to the Commissioner of Public Works substantially in the form as follows:

"I hereby certify that in accordance with Par. 220 of the Labor Law, as amended by Chapter 731 of the Laws of 1933, I ascertained and determined the schedule of wages to be paid workmen, laborers, and mechanics on this Contract. The said wages so ascertained and determined by me to be paid workmen, laborers, and mechanics are as follows: (make appropriate insertions)". The wage scale set forth in the Proposal is in accordance with rates fixed by the State of New York, Department of Labor, see Proposal for Wage Rate Schedules.

In case it becomes necessary for the Contractor or any Subcontractor to employ on the Project under this Contract any person in a trade or occupation (except executive, supervisory, administrative, clerical or other non-manual as such) for which no minimum wage rate is herein specified, the Contractor shall immediately notify the City who will promptly thereafter furnish the Contractor with the minimum rate. The

minimum rate thus furnished shall be applicable as the minimum for such trade or occupation from the time of the initial employment of the person affected and during the continuance of such employment.

ARTICLE 125 – POSTING WAGE SCALE

The Contractor shall post, at conspicuous points on the site of the project, a schedule showing all determined minimum wage rates and all authorized deductions, if any, from unpaid wages actually earned.

ARTICLE 126 – OVERTIME WORK AND HOLIDAYS

The regular work week for the project inspection forces is 8:00 to 4:30 daily, 5 days per week, holidays as follows excluded:

New Year's Day	Labor Day
Martin Luther King, Jr.	Columbus Day
President's Day	Election Day
Good Friday	Veteran's Day
Memorial Day	Thanksgiving Day & Following Friday
Independence Day	Christmas Day

If the Contractor elects to work any time other than the regular working hours, the Contractor must do so only with permission of the Commissioner.

In case of overtime, permission must be requested twenty- four (24) hours in advance, except for any Maintenance Contract which permission must be requested four (4) hours in advance.

ARTICLE 127 – PROGRESS REPORTS

After filing the necessary certificates of insurance and before starting the work the Contractor shall submit to the Commissioner, for approval, an outline of proposed methods and manner of executing the work including sequences of operation and a time schedule of performing the same. If found satisfactory, the Commissioner shall approve, and the work shall be done in accordance with, such schedules or approved amendments thereto.

When requested by the Commissioner, the Contractor shall furnish weekly work schedules indicating number of personnel, kind of equipment and location and nature of work to be performed.

ARTICLE 128 – VAULTS

The location of subterranean vaults as shown on the plans represent the best information available to the City. The City is not responsible for number and actual locations of such vaults which may vary from those indicated on the drawings.

Prior to construction in areas adjacent to vaults, the Contractor shall schedule inspection of all vaults. This inspection shall be made jointly by representatives of the Contractor, the City and the registered owners and/or users of the vault. At this inspection, the structural integrity and general condition of each vault shall be determined.

The owners of such vaults not in conformance with City standards and ordinances shall be given notices by the City to repair such vaults immediately at the owner's expense. The Contractor shall inform the City of any potential delays in his work resulting from incomplete rehabilitation of deteriorated vaults.

The Contractor is responsible for ascertaining the location of all vaults within the project area. The Contractor is responsible to protect and preserve all vaults in the project area. The Contractor is responsible for damage to any vaults occurring as a result of the execution of the work under this contract and such repairs shall be made at no cost to the owner or the City.

The Contractor shall notify the City of any vaults that are located during construction.

ARTICLE 129 – CURB CUTS

A cut into or lowering of the street curbing to permit access by vehicles to private property is allowed only after a permit is filed, approved and the fee paid. Written application must be made to the Commissioner to alter any curbing.

Any curb cut wider than twelve (12') feet or for entrance or exit to a commercial establishment must be approved by the Traffic Engineer of the Division of Engineering before the issuance of a permit by the Commissioner.

The cut in the curb must be made according to the instructions in the Specifications of Department of Public Works. (See Standard Sheet S.S. # 3.)

Normally the curb in the central section of the cut should be set 1 1/2" above the street asphalt. There should be two transition sections in each cut area, one on each side of the central section.

ARTICLE 130 – OTHER REQUIRED DOCUMENTS

The LOW BIDDER shall provide the following documents along with the return of the completed Four (4) Contract Documents:

- a. Federal I.D. Number
- b. Copy of Companies Certificate of Incorporation
- c. Photocopy of Current and Valid City of Buffalo Contractor's License, which must be in force for the entire length of the Contract period.

SECTION 011000 - SUMMARY

PART 1 GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

1.2 PROJECT INFORMATION

- A. Project Identification: Colonel Ward Pump Station Stone Storage Building and Boiler House Renovations
 - 1. Project Location: 2 Porter Avenue; Buffalo, New York 14202
- B. Owner: City of Buffalo, Department of Public Works, Parks and Streets; City Hall, Room 502; Buffalo, NY 14202
- C. Architect: Wendel WD Architecture, Engineering, Surveying and Landscape Architecture, P.C. (Wendel), a Wendel Company, Centerpointe Corporate Park, 375 Essjay Rd, Suite 200; Williamsville, NY 14221.

1.3 WORK COVERED BY CONTRACT DOCUMENTS

- A. The Work of Project is defined by the Contract Documents and consists of the following:
 - 1. Basement infill and existing first floor framing demolition at the Stone Storage Building.
 - 2. First floor slab and retaining wall construction at the first floor of the Stone Storage Building and at the exterior stone loading ramp.
 - 3. Installation of purchased shoring system at the first floor of the Boiler House Building.

1.4 CONSTRUCTION SEQUENCING

- A. Refer to contract documents for sequencing of work.

1.5 WORK UNDER SEPARATE CONTRACTS

- A. General: Cooperate fully with separate contractors so work on those contracts may be carried out smoothly, without interfering with or delaying work under this Contract or other contracts. Coordinate the Work of this Contract with work performed under separate contracts.

B. The project will be constructed by a single prime contract, including:

1. General Construction

1.6 GENERAL CONSTRUCTION

A. The Work consists of, but is not limited to, the following (Refer to Drawings and the remainder of the Contract Documents for complete scope of work):

1. General Construction Work:

- a. Coordination of all work as necessary with other Contractor(s), plant personnel and operations.
- b. Other requirements as defined in the Contract Documents.
- c. Maintaining of all Project Record Documents as detailed in this Contract Document.
- d. Provide protection for all Owners' existing equipment, structures, and utilities.
- e. Provide Contractor's office and storage trailers.
- f. Delivery of equipment and materials to job site.
- g. Provide storage and insurance for material.
- h. Removal of all waste generated by Work per EPA requirements, NYSDEC and local authority regulations.
- i. Provide all rigging necessary to remove existing materials and set new materials in place.
- j. Contractor is responsible for all cutting and patching associated with the work.
- k. Provide complete start-up services for all new equipment provided under this Contract.
- l. Test, adjust, and place into continuous service all equipment and materials provided under this Contract.
- m. Provide operator training and operational and maintenance manuals for all equipment provided under this Contract.
- n. Contractor shall be responsible for all site restoration work.

2. Work associated with the General Construction Bid shall generally include, but not be limited to, the following (Refer to Drawings and the remainder of the Contract Documents for complete scope of work):

- a. Required temporary shoring of existing wall construction at the Stone Storage Building and existing first floor construction at the Boiler House Building. Shoring in the Boiler House shall be purchased, not rented.
- b. Partial demolition of existing masonry and concrete construction in the Stone Storage Building basement.
- c. Demolition of existing steel lintels and concrete infill of openings through the Stone Storage Basement walls.
- d. Infill of existing Stone Storage Basement with a low density cellular concrete fill. Miscellaneous existing MEP removals and rerouting.
- e. Demolishing of existing first floor slab and framing at the Stone Storage Building.
- f. New interior and exterior slab on grades and concrete retaining walls.
- g. New asphalt sections
- h. Electrical work within Stone Storage Building.

- i. Plumbing work within the Stone Storage Building.
 - j. Restoration and clean-up of all disturbed areas.
 - k. All other miscellaneous work necessary or proper for performing and completing the work as shown on the plans and specified in the Contract Documents.
- 3. The following Contract Documents apply but are not limited to the General Construction Contract Project Manual:
 - a. Instructions to Bidders
 - b. Supplemental Instructions to Bidders
 - c. Proposal Form and Total Bid Sheet
 - d. Unit Bid Price Sheet Instructions and Unit Bid Price Sheets
 - e. Description of Bid Items
 - f. All required forms, licenses, and bonds in Project Manual
 - g. Affirmative Action Program – City of Buffalo
 - h. Required Insurance
 - i. General Conditions
 - j. City of Buffalo Living Wage Commission
 - k. New York State Schedule of Prevailing Wage Rates
 - l. Division 1 - General Requirements
 - m. Division 2 – Existing Conditions
 - n. Division 3 – Concrete
 - o. Division 5 – Metals
 - p. Division 9 - Finishes
 - q. Division 22 – Plumbing
 - r. Division 26 – Electrical
 - s. Division 31 – Earthwork
 - t. Division 32 – Exterior Improvements
 - u. All other division specifications referenced by Sections noted above.
- 4. Drawings:
 - a. Sheet G000 – Cover Sheet
 - b. All Civil “C” Drawings
 - c. All Structural “S” Drawings
 - d. All Electrical “E” Drawings
 - e. All Plumbing “P” Drawings
 - f. Contractor shall be required to review all drawings, including all contracts, to coordinate with the work of other contractors.

1.7 ACCESS TO SITE

- A. Use of Site: Limit use of Project site to work in areas indicated. Do not disturb portions of Project site beyond areas in which the Work is indicated.
- B. Schedule deliveries to minimize use of driveways and entrances by construction operations

- C. Schedule deliveries to minimize space and time requirements for storage construction operations.
- D. Condition of Existing Building: Maintain portions of existing building affected by construction operations in a weathertight condition throughout construction period. Repair damage caused by construction operations.

1.8 COORDINATION WITH OCCUPANTS

- A. Full Owner Occupancy: Owner will occupy site and existing building(s) during entire construction period. Cooperate with Owner during construction operations to minimize conflicts and facilitate Owner usage. Perform the Work so as not to interfere with Owner's day-to-day operations. Maintain existing exits unless otherwise indicated.
- B. Maintain access to existing walkways, corridors, and other adjacent occupied or used facilities. Do not close or obstruct walkways, corridors, or other occupied or used facilities without written permission from Owner and approval of authorities having jurisdiction.
- C. Notify Owner not less than 72 hours in advance of activities that will affect the Owner's operations.

1.9 CONTRACTOR USE OF PREMISES

- A. Use of the Site: Limit use of the premises to work in areas indicated. Confine operations to areas within contract limits indicated. Do not disturb portions of the site beyond the areas in which the Work is indicated.
- B. Owner Occupancy: Allow for Owner occupancy and use by the public for the entire duration of the project. Owner's operations are continuous, 24 hours per day, 7 days per week, 365 days per year.
 - 1. Driveways and Entrances: Keep driveways and entrances serving the premises clear and available to the Owner, the Owner's employees, and emergency vehicles at all times. Do not use these areas for parking or storage of materials. Schedule deliveries to minimize space and time requirements for storage of materials and equipment on-site.
 - 2. Owner's existing parking lots are not to be used for staging of materials or equipment, unless authorized specifically by the Owner.
 - 3. All deliveries to the Contractor at the site must be accepted at the site by the Contractor, regardless of time of delivery. The Owner will not accept deliveries for the Contractor at any time.
- C. Use of the Existing Building: Maintain the existing building in a weathertight condition throughout the construction period.
 - 1. Repair any damage caused by weather or construction operations. Take all precautions necessary to protect the building and its occupants during the construction period.

Restore to new condition any lawn, pavement, sidewalk, etc., damaged by construction and staging operations.

1.10 WORK RESTRICTIONS

- A. General: Comply with restrictions on construction operations. Comply with limitations on use of public streets with all other requirements of authorities having jurisdiction.
- B. On-Site Work Hours: Limit work in the existing building to normal business working hours of 7:00 a.m. to 3:30 p.m., Monday through Friday, unless otherwise indicated.
- C. Existing Utility Interruptions: Do not interrupt utilities serving facilities occupied by Owner or others unless permitted under the following conditions and then only after providing temporary utility services according to requirements indicated:
 - 1. Notify Architect not less than seven (7) days in advance of proposed utility interruptions. Obtain Architect's written permission before proceeding with utility interruptions.
- D. Noise, Vibration, and Odors: Coordinate operations that may result in high levels of noise and vibration, odors, or other disruption to Owner occupancy with Owner.
- E. Nonsmoking Building: Smoking is not permitted within the building at any time. There will be no exceptions.
- F. Controlled Substances: Use of tobacco products and other controlled substances within the building is not permitted.
- G. Employee Identification: Provide identification tags for Contractor personnel working on Project site. Require personnel to use identification tags at all times.

1.11 SPECIFICATION AND DRAWING CONVENTIONS

- A. Specification Content: The Specifications use certain conventions for the style of language and the intended meaning of certain terms, words, and phrases when used in particular situations.
- B. These conventions are as follows:
 - 1. Abbreviated Language: Language used in the Specifications and other Contract Documents are abbreviated. Words and meanings shall be interpreted as appropriate. Words implied, but not stated, shall be inferred as the sense requires. Singular words shall be interpreted as plural, and plural words shall be interpreted as singular where applicable as the context of the Contract Documents indicates.
 - 2. Imperative mood and streamlined language are generally used in the Specifications. Requirements expressed in the imperative mood are to be performed by Contractor. Occasionally, the indicative or subjunctive mood may be used in the Section Text for clarity to describe responsibilities that must be fulfilled indirectly by Contractor or by others when so noted.

3. The words "Shall", "Shall Be" or "Shall Comply With," depending on the context, are implied where a colon (:) is used within a sentence or phrase.
 4. Specification requirements are to be performed by Contractor unless specifically stated otherwise.
- C. Division 01 General Requirements: Requirements of Sections in Division 01 apply to the Work of all Sections in the Specifications.
- D. Drawing Coordination: Requirements for materials and products identified on Drawings are described in detail in the Specifications. One or more of the following are used on Drawings to identify materials and products:
1. Terminology: Materials and products are identified by the typical generic terms used in the individual Specifications Sections.
 2. Abbreviations: Materials and products are identified by abbreviations scheduled on Drawings.
 3. Keynoting: Materials and products are identified by reference keynotes referencing Specification Section numbers found in this Project Manual.

1.12 MISCELLANEOUS PROVISIONS

- A. Project Superintendent: The Owner must approve the Contractor's project superintendent for the work. Submit resume of proposed superintendent together with Bid.
1. Full Time Superintendent: The Contractor's project superintendent is required to be on site full time for the duration of the project or until such time as mutually agreed upon by the Owner, Architect, and Contractor. No substitution of project superintendents by the Contractor after work begins will be allowed without prior approval by Architect and Owner.
- B. Licensed Contractors/Subcontractors: Prime Contractor and all Subcontractors must be licensed to work at Buffalo, New York in each of their perspective fields of work on the Project.
- C. Permits and Licenses: Prime Contractor shall obtain and pay for all permits and licenses required to complete the scope of work per the City of Buffalo. Review application number will be provided by the Architect.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION (NOT USED)

END OF SECTION 011000

SECTION 012100 - ALLOWANCES

PART 1 GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract including General and Supplementary Conditions and other Division 01 Specification Sections apply to this Section.

1.2 SUMMARY

- A. Section includes administrative and procedural requirements governing allowances.
- B. Types of allowances include the following:
 - 1. Contingency allowances.

1.3 INFORMATIONAL SUBMITTALS

- A. Coordinate and process submittals for allowance items in same manner as for other portions of the Work.

1.4 COORDINATION

- A. Coordinate allowance items with other portions of the Work. Furnish templates as required to coordinate installation.

1.5 CONTINGENCY ALLOWANCES

- A. Use the contingency allowance only as directed by Architect for Owner's purposes and only by Approval from the Owner prior to proceeding that indicate amounts to be charged to the allowance.
- B. Approval from the Owner authorizing use of funds from the contingency allowance will include Contractor's related costs and reasonable overhead and profit margins.
- C. At Project closeout, credit unused amounts remaining in the contingency allowance to Owner by Change Order.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION

3.1 SCHEDULE OF ALLOWANCES

- A. Allowance No. 1: CONTINGENCY Allowance: Include the sum of \$50,000. for General Contract.

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1. This allowance includes material cost, receiving, handling, and installation, and Contractor overhead and profit.

END OF SECTION 012100

SECTION 013100 - PROJECT MANAGEMENT AND COORDINATION

PART 1 GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section includes administrative provisions for coordinating construction operations on Project including, but not limited to, the following:
 - 1. General coordination procedures.
 - 2. Coordination drawings.
 - 3. Requests for Information (RFIs).
 - 4. Project meetings.
- B. Each contractor shall cooperate and participate in coordination requirements. Certain areas of responsibility are assigned to a specific contractor.

1.3 DEFINITIONS

- A. RFI: Request from Owner, Construction Manager, Architect, or Contractor seeking information required by or clarifications of the Contract Documents.

1.4 INFORMATIONAL SUBMITTALS

- A. Subcontract List: Prepare a written summary identifying individuals or firms proposed for each portion of the Work, including those who are to furnish products or equipment fabricated to a special design. Include the following information in tabular form:
 - 1. Name, address, and telephone number of entity performing subcontract or supplying products.
- B. Key Personnel Names: Within 10 calendar days of starting construction operations, submit a list of key personnel assignments, including superintendent and other personnel in attendance at Project site. Identify individuals and their duties and responsibilities; list addresses and telephone numbers, including home, office, and cellular telephone numbers and e-mail addresses. Provide names, addresses, and telephone numbers of individuals assigned as alternates in the absence of individuals assigned to Project.

1.5 GENERAL COORDINATION PROCEDURES

- A. Coordination: Each contractor shall coordinate its construction operations with those of other contractors and entities to ensure efficient and orderly installation of each part of the Work. Each contractor shall coordinate its operations with 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 with other contractors to ensure maximum performance and accessibility for required maintenance, service, and repair.
 - 3. Make adequate provisions to accommodate items scheduled for later installation.
- B. Prepare memoranda for distribution to each party involved, outlining special procedures required for coordination. Include such items as required notices, reports, and list of attendees at meetings.
 - 1. Prepare similar memoranda for Owner and separate contractors if coordination of their Work is required.
- C. Administrative Procedures: Coordinate scheduling and timing of required administrative procedures with other construction activities and activities of other contractors 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.

1.6 COORDINATION DRAWINGS

- A. Coordination Drawings, General: Prepare coordination drawings according to requirements in individual Sections, and additionally where installation is not completely shown on Shop Drawings, where limited space availability necessitates coordination, or if coordination is required to facilitate integration of products and materials fabricated or installed by more than one entity.
 - 1. Content: Project-specific information, drawn accurately to a scale large enough to indicate and resolve conflicts. Do not base coordination drawings on standard printed data. Include the following information, as applicable:
 - a. Use applicable Drawings as a basis for preparation of coordination drawings. Prepare sections, elevations, and details as needed to describe relationship of various systems and components.

- b. Coordinate the addition of trade-specific information to the coordination drawings by multiple contractors in a sequence that best provides for coordination of the information and resolution of conflicts between installed components before submitting for review.
 - c. Indicate required installation sequences.
 - d. Indicate dimensions shown on the Drawings. Specifically note dimensions that appear to be in conflict with submitted equipment and minimum clearance requirements. Provide alternate sketches to Architect indicating proposed resolution of such conflicts. Minor dimension changes and difficult installations will not be considered changes to the Contract.
- B. Coordination Digital Data Files: Prepare coordination digital data files according to the following requirements:
 - 1. File Submittal Format: Submit or post coordination drawing files using Portable Data File (PDF) format.
 - 2. Architect will furnish Contractor one set of digital data files of Drawings for use in preparing coordination digital data files.
 - a. Architect makes no representations as to the accuracy or completeness of digital data files as they relate to Drawings.
 - b. Digital Data Software Program: Drawings are available in AutoCAD 2018 operating in Microsoft Windows.
 - c. Contractor shall execute a data licensing agreement in the form of Agreement included in this Project Manual.
 - d. The signed Agreement and handling and administration fee for the full set of CAD files must be received by the Architect before digital data drawings are furnished to the Contractor.

1.7 REQUESTS FOR INFORMATION (RFIS)

- A. General: Immediately on discovery of the need for additional information or interpretation of the Contract Documents, Contractor shall prepare and submit an RFI in the form specified.
 - 1. Architect will return RFIs submitted to Architect by other entities controlled by Contractor with no response.
 - 2. Coordinate and submit RFIs in a prompt manner so as to avoid delays in Contractor's work or work of subcontractors.
 - 3. Architect will not review RFI's submitted via fax or verbal requests.
- B. Content of the RFI: Include a detailed, legible description of item needing information or interpretation and the following:
 - 1. Project name.
 - 2. Project number.
 - 3. Date.
 - 4. Name of Contractor.
 - 5. Name of Architect.
 - 6. RFI number, numbered sequentially.
 - 7. RFI subject.
 - 8. Specification Section number and title and related paragraphs, as appropriate.
 - 9. Drawing number and detail references, as appropriate.
 - 10. Field dimensions and conditions, as appropriate.

11. Contractor's suggested resolution. If Contractor's suggested resolution impacts the Contract Time or the Contract Sum, Contractor shall state impact in the RFI.
 12. Contractor's signature.
 13. Attachments: Include sketches, descriptions, measurements, photos, Product Data, Shop Drawings, coordination drawings, and other information necessary to fully describe items needing interpretation.
 - a. Include dimensions, thicknesses, structural grid references, and details of affected materials, assemblies, and attachments on attached sketches.
- C. RFI Forms: Form immediately following this section.
- D. Architect's Action: Architect will review each RFI, determine action required, and respond. Allow five business days for Architect's response for each RFI. RFIs received by Architect after 1:00 p.m. will be considered as received the following business day.
1. Architect's action may include a request for additional information, in which case Architect's time for response will date from time of receipt of additional information.
 2. 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 10 business 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 within Architect five business days if Contractor disagrees with response.
1. Identification of related Minor Change in the Work, Construction Change Directive, and Proposal Request, as appropriate.

1.8 PROJECT MEETINGS

- A. General: Where indicated, the Owner's Representative shall schedule and conduct meetings and conferences at Project site unless otherwise indicated.
1. Attendees: Owner's Representative shall inform participants and others involved, and individuals whose presence is required, of date and time of each meeting. Notify Owner and Architect of scheduled meeting dates and times.
 2. Agenda: Owner's Representative shall prepare the meeting agenda. Distribute the agenda to all invited attendees.

3. Minutes: Owner's Representative shall be responsible for conducting meeting and will record significant discussions and agreements achieved. Owner's Representative shall distribute the meeting minutes to everyone concerned, including Owner, Contractor, and Architect within three business days of the meeting.
- B. Preconstruction Conference: Owner's Representative will schedule and conduct a preconstruction conference before starting construction, at a time convenient to Owner and Architect, but no later than 15 business days after execution of the Agreement.
1. Conduct the conference to review responsibilities and personnel assignments.
 2. Attendees: Authorized representatives of Owner, Owner's Representative; 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.
 3. Agenda: Discuss items of significance that could affect progress, including the following:
 - a. Tentative construction schedule.
 - b. Critical work sequencing and long-lead items.
 - c. Designation of key personnel and their duties.
 - d. Procedures for processing field decisions and Change Orders.
 - e. Procedures for RFIs.
 - f. Procedures for testing and inspecting.
 - g. Procedures for processing Applications for Payment.
 - h. Submittal procedures.
 - i. Preparation of record documents.
 - j. Use of the premises and existing building.
 - k. Working hours.
 - l. Owner's occupancy requirements.
 - m. Responsibility for temporary facilities and controls.
 - n. Procedures for moisture and mold control.
 - o. Procedures for disruptions and shutdowns.
 - p. Parking availability.
 - q. Office, work, and storage areas.
 - r. Equipment deliveries and priorities.
 - s. First aid.
 - t. Security.
 - u. Progress cleaning.
 4. Minutes: Entity responsible for conducting meeting will record and distribute meeting minutes.
- C. Preinstallation Conferences: Contractor shall conduct a preinstallation conference at Project site before each construction activity that requires coordination with other construction. Preinstallation conferences shall include conferences identified in individual Specification Sections.
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, Owner's Representative, 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. Related RFIs.
 - c. Deliveries.
 - d. Review of mockups.
 - e. Possible conflicts.
 - f. Compatibility requirements.
 - g. Time schedules.
 - h. Weather limitations.
 - i. Manufacturer's written instructions.
 - j. Warranty requirements.
 - k. Compatibility of materials.
 - l. Acceptability of substrates.
 - m. Temporary facilities and controls.
 - n. Space and access limitations.
 - o. Regulations of authorities having jurisdiction.
 - p. Testing and inspecting requirements.
 - q. Installation procedures.
 - r. Coordination with other work.
 - s. Required performance results.
 - t. Protection of adjacent work.
 - u. Protection of construction and personnel.
 3. Reporting: Distribute minutes of the meeting to each party present and to other parties requiring information.
 4. 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: Owner's Representative shall conduct progress meetings at biweekly intervals minimally.
1. Coordinate dates of meetings with preparation of payment requests.
 2. Attendees: In addition to representatives of Owner, Owner's Representative; 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) Sequence of operations.
 - 2) Status of submittals.
 - 3) Access.
 - 4) Site utilization.
 - 5) Temporary facilities and controls.
 - 6) Progress cleaning.
 - 7) Quality and work standards.
 - 8) Status of correction of deficient items.
 - 9) Field observations.
 - 10) Status of RFIs.
 - 11) Status of proposal requests.
 - 12) Pending changes.
 - 13) Status of Change Orders.
 - 14) Pending claims and disputes.
4. Minutes: Owner's Representative shall 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.
- E. Coordination Meetings: Owner's Representative shall conduct Project coordination meetings at bi-weekly intervals, minimally. Project coordination meetings are in addition to specific meetings held for other purposes, such as progress meetings and preinstallation conferences.
1. Attendees: In addition to representatives of Owner, Owner's Representative; 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 meetings shall be familiar with Project and authorized to conclude matters relating to the Work.
 2. Agenda: Review and correct or approve minutes of the previous coordination meeting. Review other items of significance that could affect progress. Include topics for discussion as appropriate to status of Project.
 - a. Schedule Updating: Revise combined Contractor's construction schedule after each coordination meeting where revisions to the schedule have been made or recognized. Issue revised schedule concurrently with report of each meeting.
 - b. Review present and future needs of each contractor present, including the following:
 - 1) Interface requirements.
 - 2) Sequence of operations.
 - 3) Status of submittals.
 - 4) Off-site fabrication.
 - 5) Access.
 - 6) Site utilization.
 - 7) Temporary facilities and controls.
 - 8) Work hours.
 - 9) Hazards and risks.
 - 10) Progress cleaning.
 - 11) Quality and work standards.
 - 12) Change Orders.

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Stone Storage Building and Boiler House Renovations
Wendel Project No. 462806

3. Reporting: Record meeting results and distribute copies to everyone in attendance and to others affected by decisions or actions resulting from each meeting.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION (NOT USED)

END OF SECTION 013100

Buffalo Waterboard
Colonel Ward Pumping Station
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Wendel Project No. 462806

REQUEST FOR INFORMATION

Contractor's Name:
Address:
City, State, Zip:
Phone:
Email:

Contractor's RFI No.: _____ Date: _____
RFI Title: _____ Job No.: _____

PROJECT: Colonel Ward Pumping Station Stone Storage Building and Boiler House Renovations
PROJECT No. 462806

TO: Wendel
375 Essjay Road, Suite 200
Williamsville, New York, 14221
ATTN: Eryn Hopkins
ehopkins@wendelcompanies.com

QUESTION:

ANSWER:

SECTION 013200 - CONSTRUCTION PROGRESS DOCUMENTATION

PART 1 GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section includes administrative and procedural requirements for documenting the progress of construction during performance of the Work, including but not limited to, the following:
 - 1. Preliminary construction schedule.
 - 2. Contractor's construction schedule.
 - 3. Submittal schedule.
 - 4. Material location reports.
 - 5. Site condition reports.
 - 6. Special reports.

1.3 DEFINITIONS

- A. Activity: A discrete part of a project that can be identified for planning, scheduling, monitoring, and controlling the construction project. Activities included in a construction schedule consume time and resources.
 - 1. Critical Activity: An activity on the critical path that must start and finish on the planned early start and finish times.
 - 2. Predecessor Activity: An activity that precedes another activity in the network.
 - 3. Successor Activity: An activity that follows another activity in the network.
- B. CPM: Critical path method, which is a method of planning and scheduling a construction project where activities are arranged based on activity relationships. Network calculations determine when activities can be performed and the critical path of Project.
- C. Critical Path: The longest connected chain of interdependent activities through the network schedule that establishes the minimum overall Project duration and contains no float.
- D. Event: The starting or ending point of an activity.
- E. Float: The measure of leeway in starting and completing an activity.
 - 1. Float time belongs to Owner.
 - 2. Free float is the amount of time an activity can be delayed without adversely affecting the early start of the successor activity.
 - 3. Total float is the measure of leeway in starting or completing an activity without adversely affecting the planned Project completion date.

1.4 INFORMATIONAL SUBMITTALS

- A. Format for Submittals: Submit required submittals in the following format:
 - 1. Working electronic copy of schedule file, where indicated.
 - 2. PDF electronic file.
 - 3. Two (2) paper copies.
- B. Preliminary construction schedule.
 - 1. Approval of startup construction schedule will not constitute approval of schedule of values for cost-loaded activities.
- C. Submittals Schedule: Submit submittals schedule, conforming to dates on the Contractor's Construction Schedule. Include any required submittals not included on the schedule. Arrange the following information in a tabular format:
 - 1. Scheduled dates for first submittal.
 - 2. Specification Section number and title.
 - 3. Submittal category (action or informational)
 - 4. Name of subcontractor.
 - 5. Description of the Work covered.
 - 6. Scheduled date for Architect's and Owner's final release or approval.
- D. Contractor's Construction Schedule: Submit on 11"x17" paper for review as required to display entire schedule for entire construction period.
 - 1. Submit a working electronic copy of schedule, using software indicated, and labeled to comply with requirements for submittals. Include type of schedule (initial or updated) and date on label.
- E. Material Location Reports: Submit at monthly intervals.
- F. Site Condition Reports: Submit at time of discovery of differing conditions.
- G. Special Reports: Submit at time of unusual event.
- H. Two Week Look-Ahead Schedules: Submit at weekly intervals.

1.5 QUALITY ASSURANCE

- A. Prescheduling Conference: Conduct conference at Project site to comply with requirements in Section 013100 "Project Management and Coordination". Review methods and procedures related to the preliminary construction schedule and Contractor's construction schedule, including, but not limited to, the following:
 - 1. Review software limitations and content and format for reports.
 - 2. Verify availability of qualified personnel needed to develop and update schedule.
 - 3. Discuss constraints, including phasing, work stages, area separations, interim milestones, and partial Owner occupancy .
 - 4. Review schedule for work of Owner's separate contracts.
 - 5. Review submittal requirements and procedures.
 - 6. Review time required for review of submittals and resubmittals.
 - 7. Review requirements for tests and inspections by independent testing and inspecting agencies.

8. Review time required for Project closeout and Owner startup procedures, including commissioning activities.
9. Review and finalize list of construction activities to be included in schedule.
10. Review procedures for updating schedule.

1.6 COORDINATION

- A. Coordinate Contractor's construction schedule with the schedule of values, list of subcontracts, submittal schedule, progress reports, payment requests, and other required schedules and reports.
 1. Secure time commitments for performing critical elements of the Work from entities involved.
 2. Coordinate each construction activity in the network with other activities and schedule them in proper sequence.

PART 2 PRODUCTS

2.1 SUBMITTAL SCHEDULE

- A. Preparation: Submit a schedule of submittals, arranged in chronological order by dates required per construction schedule. Include time required for review, resubmittal, ordering, manufacturing, fabrication, and delivery when establishing dates.
 1. Coordinate Submittals Schedule with list of subcontracts, the Schedule of Values, and Contractor's Construction Schedule.
 2. Initial Submittal: Submit within 10 business days of Notice to Proceed. Include submittals required during the first 60 calendar days of construction. List those required to maintain orderly progress of the Work and those required early because of long lead time for manufacture or fabrication.
 3. Final Submittal: Submit concurrently with the first complete submittal of Contractor's Construction Schedule. Update monthly as required.

2.2 CONTRACTOR'S CONSTRUCTION SCHEDULE, GENERAL

- A. Time Frame: Extend schedule from date established for Notice to Proceed to date of Substantial Completion .
 1. Contract completion date(s) shall not be changed by submission of a schedule that shows an early completion date, unless specifically authorized by Change Order.
- B. Activities: Treat each story or separate area as a separate numbered activity for each main element of the Work. Include the following:
 1. Activity Duration
 2. Procurement Activities
 3. Submittal Review Time
 4. Startup and Testing Time
 5. Commissioning
 6. Substantial Completion
 7. Punch List and Final Completion

- C. Constraints: Include constraints and work restrictions indicated in the Contract Documents and as follows in schedule, and show how the sequence of the Work is affected.
1. Phasing: Arrange list of activities on schedule by phase.
 2. Work under More Than One Contract: Include a separate activity for each contract.
 3. Work by Owner: Include a separate activity for each portion of the Work performed by Owner.
 4. Products Ordered in Advance: Include a separate activity for each product. Include delivery date as provided or as indicated in Section 011000 "Summary." Delivery dates indicated stipulate the earliest possible delivery date.
 5. Work Restrictions: Show the effect of the following items on the schedule:
 - a. Coordination with existing construction.
 - b. Limitations of continued occupancies.
 - c. Uninterruptible services.
 - d. Partial occupancy before Substantial Completion.
 - e. Use of premises restrictions.
 - f. Provisions for future construction.
 - g. Seasonal variations.
 - h. Environmental control.
 6. Work Stages: Indicate important stages of construction for each major portion of the Work, including, but not limited to, the following:
 - a. Subcontract awards.
 - b. Submittals.
 - c. Purchases.
 - d. Mockups.
 - e. Fabrication.
 - f. Sample testing.
 - g. Deliveries.
 - h. Installation.
 - i. Tests and inspections.
 - j. Adjusting.
 - k. Curing.
 - l. Building flush-out.
 - m. Startup and placement into final use and operation.
 - n. Commissioning
 7. Construction Areas: Identify each major area of construction for each major portion of the Work. Indicate where each construction activity within a major area must be sequenced or integrated with other construction activities to provide for the following:
 - a. Structural completion.
 - b. Temporary enclosure and space conditioning.
 - c. Permanent space enclosure.
 - d. Completion of mechanical installation.
 - e. Completion of electrical installation.
 - f. Substantial Completion.
 - g. Final Completion.
 8. Other Constraints: .

- D. Milestones: Include milestones indicated in the Contract Documents in schedule, including, but not limited to, the Notice to Proceed, Substantial Completion, and final completion and the following interim milestones:
 - 1. Temporary enclosure and space conditioning.
- E. Recovery Schedule: When periodic update indicates the Work is 14 or more calendar days behind the current approved schedule, submit a separate recovery schedule indicating means by which Contractor intends to regain compliance with the schedule. Indicate changes to working hours, working days, crew sizes, and equipment required to achieve compliance, and date by which recovery will be accomplished.
- F. Computer Scheduling Software: Prepare schedules using current version of a program that has been developed specifically to manage construction schedules.

2.3 PRELIMINARY CONSTRUCTION SCHEDULE

- A. Bar-Chart Schedule: Submit startup, horizontal, bar-chart-type construction schedule within calendar days of date established for Notice to Proceed .

2.4 CONTRACTOR'S CONSTRUCTION SCHEDULE (GANTT CHART)

- A. Gantt-Chart Schedule: Submit a comprehensive, fully developed, horizontal, Gantt-chart-type, Contractor's construction schedule within 30 calendar days of date established for Notice to Proceed . Base schedule on the startup construction schedule and additional information received since the start of Project .
- B. Preparation: Indicate each significant construction activity separately.

2.5 REPORTS

- A. Material Location Reports: At monthly intervals, prepare and submit a comprehensive list of materials delivered to and stored at Project site. List shall be cumulative, showing materials previously reported plus items recently delivered. Include with list a statement of progress on and delivery dates for materials or items of equipment fabricated or stored away from Project site. Indicate the following categories for stored materials:
 - 1. Material stored prior to previous report and remaining in storage.
 - 2. Material stored prior to previous report and since removed from storage and installed.
 - 3. Material stored following previous report and remaining in storage.
- B. Site Condition Reports: Immediately on discovery of a difference between site conditions and the Contract Documents, prepare and submit a detailed report. Submit with a Request for Information. Include a detailed description of the differing conditions, together with recommendations for changing the Contract Documents.

2.6 SPECIAL REPORTS

- A. General: Submit special reports directly to Owner within one day of an occurrence. Distribute copies of report to parties affected by the occurrence.

- B. Reporting Unusual Events: When an event of an unusual and significant nature occurs at Project site, whether or not related directly to the Work, prepare and submit a special report. List chain of events, persons participating, response by Contractor's personnel, evaluation of results or effects, and similar pertinent information. Advise Owner in advance when these events are known or predictable.
- C. Two Week Look-Ahead Schedules: Contractor will submit a 2 week look-ahead schedule each week on a specific day of the week to be determined at the Preconstruction meeting. Each schedule will show specific work activities over that 2 week period and also areas of coordination required with other contractors and involved entities. These schedules will also show delivery dates of critical material or equipment items.
 - 1. Revise schedule immediately after each meeting or other activity where revisions have been recognized or made. Issue updated schedule concurrently with the report of each such meeting.

PART 3 EXECUTION

3.1 CONTRACTOR'S CONSTRUCTION SCHEDULE

- A. Contractor's Construction Schedule Updating: At monthly intervals, update schedule to reflect actual construction progress and activities. Issue schedule one week before each regularly scheduled progress meeting.
 - 1. Revise schedule immediately after each meeting or other activity where revisions have been recognized or made. Issue updated schedule concurrently with the report of each such meeting.
 - 2. Include a report with updated schedule that indicates every change, including, but not limited to, changes in logic, durations, actual starts and finishes, and activity durations.
 - 3. As the Work progresses, indicate final completion percentage for each activity.
- B. Distribution: Distribute copies of approved schedule to Architect, , Owner, separate contractors, testing and inspecting agencies, and other parties identified by Owner with a need-to-know schedule responsibility.
 - 1. Post copies in Project meeting rooms and temporary field offices.
 - 2. When revisions are made, distribute updated schedules to the same parties and post in the same locations. Delete parties from distribution when they have completed their assigned portion of the Work and are no longer involved in performance of construction activities.

END OF SECTION 013200

SECTION 013233 - PHOTOGRAPHIC DOCUMENTATION

PART 1 GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section includes administrative and procedural requirements for the following:
 - 1. Preconstruction photographs.
 - 2. Periodic construction photographs.
 - 3. Final completion construction photographs.

1.3 INFORMATIONAL SUBMITTALS

- A. Key Plan: Submit key plan of Project site and building with notation of vantage points marked for location and direction of each photograph. Indicate elevation or story of construction. Include same information as corresponding photographic documentation.
- B. Digital Photographs: Submit image files within three business days of taking photographs.
 - 1. Digital Camera: Minimum sensor resolution of 8 megapixels.
 - 2. Format: Minimum 3200 by 2400 pixels, in unaltered original files, with same aspect ratio as the sensor, uncropped, date and time stamped, in folder named by date of photograph, accompanied by key plan file.
 - 3. Identification: Provide the following information with each image description in file metadata tag:
 - a. Name of Project.
 - b. Name and contact information for photographer.
 - c. Name of Construction Manager .
 - d. Name of Contractor.
 - e. Date photograph was taken.
 - f. Description of vantage point, indicating location, direction (by compass point), and elevation or story of construction.
 - g. Unique sequential identifier keyed to accompanying key plan.

PART 2 PRODUCTS

2.1 PHOTOGRAPHIC MEDIA

- A. Digital Images: Provide images in JPG format, produced by a digital camera with minimum sensor size of 8 megapixels, and at an image resolution of not less than 3200 by 2400 pixels.

3.1 CONSTRUCTION PHOTOGRAPHS

- A. General: Take photographs using the maximum range of depth of field, and that are in focus, to clearly show the Work. Photographs with blurry or out-of-focus areas will not be accepted.
 - 1. Maintain key plan with each set of construction photographs that identifies each photographic location.
- B. Digital Images: Submit digital images exactly as originally recorded in the digital camera, without alteration, manipulation, editing, or modifications using image-editing software.
 - 1. Date and Time: Include date and time in file name for each image.
 - 2. Field Office Images: Maintain one set of images accessible in the field office at Project site, available at all times for reference. Identify images in the same manner as those submitted to Architect .
- C. Preconstruction Photographs: Before starting construction, take photographs of Project site and surrounding properties, including existing items to remain during construction, from different vantage points, as directed by Construction Manager .
 - 1. Flag excavation areas and construction limits before taking construction photographs.
 - 2. Take minimum 20 photographs to show existing conditions adjacent to property before starting the Work.
 - 3. Take minimum 20 photographs of existing buildings either on or adjoining property to accurately record physical conditions at start of construction.
 - 4. Take additional photographs as required to record settlement or cracking of adjacent structures, pavements, and improvements.
- D. Periodic Construction Photographs: Take minimum 20 photographs weekly, as required to document construction progress, with timing each month adjusted to coincide with the cutoff date associated with each Application for Payment. Select vantage points to show status of construction and progress since last photographs were taken.
- E. Final Completion Construction Photographs: Take 20 color photographs after date of Substantial Completion for submission as project record documents. Construction Manager will inform photographer of desired vantage points.
- F. Additional Photographs: Construction Manager may request photographs in addition to periodic photographs specified..
 - 1. Three days' notice will be given, where feasible.
 - 2. In emergency situations, take additional photographs within 24 hours of request.
 - 3. Circumstances that could require additional photographs include, but are not limited to, the following:
 - a. Immediate follow-up when on-site events result in construction damage or losses.
 - b. Photographs to clarify Contractor's "Request for Information."
 - c. Photographs to be taken at fabrication locations away from Project site.
 - d. Substantial Completion of a major phase or component of the Work.

END OF SECTION 013233

SECTION 013300 - SUBMITTAL PROCEDURES

PART 1 GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract including General and Supplementary Conditions and other Division 01 Specification Sections apply to this Section.

1.2 SUMMARY

- A. Section includes requirements for the submittal schedule and administrative and procedural requirements for submitting Shop Drawings, Product Data, Samples and other submittals.

1.3 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."
- C. File Transfer Protocol (FTP): Communications protocol that enables transfer of files to and from another computer over a network and that serves as the basis for standard Internet protocols. An FTP site is a portion of a network located outside of network firewalls within which internal and external users are able to access files.
- D. Portable Document Format (PDF): An open standard for electronic documents, licensed by Adobe Systems, used for representing documents in a device-independent and display resolution-independent fixed-layout document format.
- E. Cloud-Based Construction Management Software Application (CMSA): Any of a number of proprietary file management collaborative systems intended for internet-connected device use. The intent of these applications is to enable dispersed users access to shared documents for storage, organization, retrieval, editing, tracking, reporting or other functions, with such access usually controlled by invitation and security protocols. More than one such application type or specific programs may be used, depending on Owner preferences.
 - 1. Owner's preferred CMSA:.
 - 2. Project preferred CMSA: Procore

1.4 SUBMITTAL PROCEDURES

- A. Architect's Digital Data Files: Electronic digital data files of the Contract Drawings will be provided by Architect for Contractor's use in preparing submittals.

1. Architect will furnish Contractor one set of digital data drawing files of the Contract Drawings for use in preparing Shop Drawings and Project Record Drawings.
 - a. Architect makes no representations as to the accuracy or completeness of digital data drawing files as they relate to the Contract Drawings.
 - b. Digital Drawing Software Program: The Contract Drawings are available in .
 - c. Contractor shall execute a data licensing agreement in the form included in Project Manual.
 - 1) To request electronic files, complete "Request Form for Electronic Files".
 - 2) Include "Processing Fee" in amount as indicated on the request form.
- 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.
 4. Coordinate transmittal of different types of submittals for related parts of the Work so processing will not be delayed because of need to review submittals concurrently for coordination.
 - a. Architect reserve(s) the right to withhold action on a submittal requiring coordination with other submittals until related submittals are received.
- C. Buy American Requirements: Contractors should note that this project is funded in part through the US Department of, Transportation Investment Generating Economic Recovery also known as the "TIGER" Discretionary Grant program. This project is administered under the Passenger Rail Investment and Improvement Act of 2008 (PRIIA) according to Federal Rail Administration's (FRA) High-Speed Intercity Passenger Rail (HSIPR) program. Spending authorized under PRIIA is subject to the Buy America provision of 49 U.S.C. § 24405(a). Contractors will be required to comply with the requirements of Buy America provision of 49 U.S.C. § 24405(a) and execute a certification of compliance for all selected products.
- D. LEED submittals are in addition to other submittals. LEED submittal documentation may be identical to documentation submitted to comply with other technical requirements. LEED submittals shall be a separate file within the product submittal. Contractor shall verify compliancy prior to submitting to LEED Administrator.
- E. Processing Time: Allow time for submittal review, including time for resubmittals, as follows. Time for review shall commence upon 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 business days for initial review of each submittal. Allow additional time if coordination with subsequent submittals is required. Construction Manager will advise Contractor when a submittal being processed must be delayed for coordination.
 2. Intermediate Review: If intermediate submittal is necessary, process it in same manner as initial submittal.

3. Resubmittal Review: Allow 15 business days for review of each resubmittal.
 4. Sequential Review: Where sequential review of submittals by Architect's consultants, Owner, or other parties is indicated, allow 20 additional business days for initial review of each submittal.
 5. Concurrent Consultant Review: Where the Contract Documents indicate that submittals may be transmitted simultaneously to Architect and to Architect's consultants, allow 15 business days for review of each submittal. Submittal will be returned to Architect before being returned to Contractor.
 6. Transmittal for Sample Submittals: Assemble each submittal individually and appropriately for transmittal and handling. Transmit each submittal using a transmittal form. Architect will return without review or discard submittals received from sources other than Contractor. Transmit each submittal using the transmittal form at the end of this section.
- F. Electronic Submittals: Identify and incorporate information in each electronic submittal file as follows:
1. Assemble complete submittal package into a single indexed file incorporating submittal requirements of a single Specification Section and transmittal form with links enabling navigation to each item.
 2. Name file with submittal number or other unique identifier, including revision identifier.
 - a. File name shall use project identifier and Specification Section number followed by a decimal point and then a sequential number (e.g., LNHS-061000.01). Resubmittals shall include an alphabetic suffix after another decimal point (e.g., LNHS-061000.01.A).
 3. Provide means for insertion to permanently record Contractor's review and approval markings and action taken by Architect.
 4. Transmittal Form for Electronic Submittals: Use Software-generated from electronic project management software or electronic form acceptable to Owner and Architect, containing the following information:
 - a. Project name.
 - b. Date.
 - c. Name and address of Architect.
 - d. Name of Construction Manager.
 - e. Name of Contractor.
 - f. Name of firm or entity that prepared submittal.
 - g. Names of subcontractor, manufacturer, and supplier.
 - h. Category and type of submittal.
 - i. Submittal purpose and description.
 - j. Specification Section number and title.
 - k. Specification paragraph number or drawing designation and generic name for each of multiple items.
 - l. Drawing number and detail references, as appropriate.
 - m. Location(s) where product is to be installed, as appropriate.
 - n. Related physical samples submitted directly.
 - o. Indication of full or partial submittal.
 - p. Transmittal number, numbered consecutively.
 - q. Submittal and transmittal distribution record.
 - r. Other necessary identification.

- s. Remarks.
- 5. Metadata: Include the following information as keywords in the electronic submittal file metadata:
 - a. Project name.
 - b. Number and title of appropriate Specification Section.
 - c. Manufacturer name.
 - d. Product name.
- G. Options: Identify options requiring selection by Architect.
- H. Deviations and Additional Information: On an attached separate sheet, prepared on Contractor's letterhead, record relevant information, requests for data, revisions other than those requested by Architect on previous submittals, and deviations from requirements in the Contract Documents, including minor variations and limitations. Include same identification information as related submittal.
- I. Resubmittals: Make resubmittals in same form and number of copies as initial submittal.
 - 1. Note date and content of previous submittal.
 - 2. Note date and content of revision in label or title block and clearly indicate extent of revision.
 - 3. Resubmit submittals until they are marked with approval notation from Architect's action stamp[s].
- J. Distribution: Furnish copies of final submittals to manufacturers, subcontractors, suppliers, fabricators, and installers, authorities having jurisdiction, and others as necessary for performance of construction activities. Show distribution on transmittal forms.
- K. 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[s].

PART 2 PRODUCTS

2.1 ACTION SUBMITTALS

- A. General: Prepare and submit Action Submittals required by individual Specification Sections.
- B. Product Data: Collect information into a single submittal for each element of construction and type of product or equipment.
 - 1. If information must be specially prepared for submittal because standard printed data are not suitable for use, submit as Shop Drawings, not as Product Data.
 - 2. Mark each copy of each submittal to show which products and options are applicable.
 - 3. Include the following information, as applicable:
 - a. Manufacturer's written recommendations.
 - b. Manufacturer's product specifications.
 - c. Color charts showing full range of available colors.
 - d. Manufacturer catalog cuts.
 - e. Wiring diagrams showing factory-installed wiring.
 - f. Printed performance curves.
 - g. Operational range diagrams.

- h. Mill reports.
 - i. Standard product operating and maintenance manuals.
 - j. Compliance with recognized trade association standards.
 - k. Compliance with recognized testing agency standards.
 - l. Application of testing agency labels and seals.
 - m. Notation of coordination requirements.
 - 4. For equipment, include the following in addition to the above, as applicable:
 - a. Wiring diagrams showing factory-installed wiring.
 - b. Printed performance curves.
 - c. Operational range diagrams.
 - d. Clearances required to other construction, if not indicated on accompanying Shop Drawings.
- C. Shop Drawings: Prepare Project-specific information, drawn accurately to scale. Do not base Shop Drawings on reproductions of the Contract Documents or standard printed data.
 - 1. Preparation: Include the following information, as applicable:
 - a. Dimensions.
 - b. Identification of products.
 - c. Fabrication and installation drawings.
 - d. Roughing-in and setting diagrams.
 - e. Wiring diagrams showing field-installed wiring, including power, signal, and control wiring.
 - f. Shop work manufacturing instructions.
 - g. Templates and patterns.
 - h. Schedules.
 - i. Design calculations.
 - j. Compliance with specified standards.
 - k. Notation of coordination requirements.
 - l. Notation of dimensions established by field measurement.
 - 2. Wiring Diagrams: Differentiate between manufacturer-installed and field-installed wiring.
 - 3. Sheet Size: Except for templates, patterns, and similar full-size drawings, submit Shop Drawings on sheets at least 8-1/2 by 11 inches (215 by 280 mm) but no larger than sheet size used for Contract Document Drawings.
 - 4. Number of Copies: Submit two black-line prints and one electronic file copy of each submittal. Architect will return the one print marked with action taken to the Contractor for distribution. Contractor shall make necessary copies from the returned print.
- D. Samples: Prepare physical units of materials or products, including the following:
 - 1. 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.

2. **Samples for Verification:** Submit full-size units or Samples of size indicated, prepared from the same material to be used for the Work, cured and finished in manner specified, and physically identical with the 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.
 3. **Preparation:** Mount, display, or package Samples in manner specified to facilitate review of qualities indicated. Prepare Samples to match Architect's sample where so indicated. Attach label on unexposed side that includes the following:
 - a. Generic description of Sample.
 - b. Product name or name of manufacturer.
 - c. Sample source.
 4. **Submit Samples for review of kind, color, pattern, and texture for a final check of these characteristics with other elements and for a comparison of these characteristics between final submittal and actual component as delivered and installed.**
 - a. If variation in color, pattern, texture, or other characteristic is inherent in the product represented by a Sample, submit at least three sets of paired units that show approximate limits of the variations.
 - b. Refer to individual Specification Sections for requirements for Samples that illustrate workmanship, fabrication techniques, and details of assembly, connections, operation, and similar construction characteristics.
 5. **Number of Samples for Initial Selection:** Submit two full sets of available choices where color, pattern, texture, or similar characteristics are required to be selected from manufacturer's product line. Architect will return one submittal with options selected.
 6. **Number of Samples for Verification:** Submit two full sets of Samples. Architect will retain one Sample set; remainder will be returned marked with action taken to the Contractor for distribution.
 - a. Submit a single Sample where assembly details, workmanship, fabrication techniques, connections, operation, and other similar characteristics are to be demonstrated.
 7. **Disposition:** Contractor to maintain one set 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.
- E. **Submittals requiring compliance with other sections in the Project Manual.**
1. Contractor's Construction Schedule.
 2. Submittals Schedule.
 3. Application for Payment.
 4. Schedule of Values.
 5. Subcontract List.

2.2 INFORMATIONAL SUBMITTALS

- A. General: Prepare and submit Informational Submittals required by individual Specification Sections and elsewhere in the Contract Documents.
 - 1. Number of Copies: Submit two copies of each submittal, unless otherwise indicated. Architect will not return copies, unless they are rejected for noncompliance with the Contract Documents.
 - 2. Certificates and Certifications: Provide a notarized 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.
 - 3. Test and Inspection Reports: Comply with requirements in Division 1 Section "Quality Requirements."
- B. Qualification Data: Prepare written information that demonstrates capabilities and experience of firm or person. Include lists of completed projects with project names and addresses, names and addresses of architects and owners, and other information specified.
- C. Product Certificates: Prepare written statements on manufacturer's letterhead certifying that product complies with requirements.
- D. Welding Certificates: Prepare written certification that welding procedures and personnel comply with requirements. Submit record of Welding Procedure Specification (WPS) and Procedure Qualification Record (PQR) on AWS forms. Include names of firms and personnel certified.
- E. Installer Certificates: Prepare written statements on manufacturer's letterhead certifying that Installer complies with requirements and, where required, is authorized for this specific Project.
- F. Manufacturer Certificates: Prepare written statements on manufacturer's letterhead certifying that manufacturer complies with requirements. Include evidence of manufacturing experience where required.
- G. Material Certificates: Prepare written statements on manufacturer's letterhead certifying that material complies with requirements.
- H. Material Test Reports: Prepare reports written by a qualified testing agency, on testing agency's standard form, indicating and interpreting test results of material for compliance with requirements.
- I. Preconstruction Test Reports: Prepare 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.
- J. Compatibility Test Reports: Prepare reports written by a qualified testing agency, on testing agency's standard form, indicating and interpreting results of compatibility tests performed before installation of product. Include written recommendations for primers and substrate preparation needed for adhesion.

- K. Field Test Reports: Prepare reports written by a qualified testing agency, on testing agency's standard form, 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.
- L. Product Test Reports: Prepare written reports indicating current product produced by manufacturer complies with requirements. 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.
- M. Research/Evaluation Reports: Prepare 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:
 - 1. Name of evaluation organization.
 - 2. Date of evaluation.
 - 3. Time period when report is in effect.
 - 4. Product and manufacturers' names.
 - 5. Description of product.
 - 6. Test procedures and results.
 - 7. Limitations of use.
- N. Maintenance Data: Prepare written and graphic instructions and procedures for operation and normal maintenance of products and equipment.
- O. Design Data: Prepare written and graphic information, including, but not limited to, performance and design criteria, list of applicable codes and regulations, and calculations. Include list of assumptions and other performance and design criteria and a summary of loads. Include load diagrams if applicable. Provide name and version of software, if any, used for calculations. Include page numbers.
- P. Manufacturer's Instructions: Prepare written or published information that documents manufacturer's recommendations, guidelines, and procedures for installing or operating a product or equipment. Include name of product and name, address, and telephone number of manufacturer. Include the following, as applicable:
 - 1. Preparation of substrates.
 - 2. Required substrate tolerances.
 - 3. Sequence of installation or erection.
 - 4. Required installation tolerances.
 - 5. Required adjustments.
 - 6. Recommendations for cleaning and protection.
- Q. Manufacturers Field Reports: Prepare written information documenting factory-authorized service representative's tests and inspections. Include the following, as applicable:
 - 1. Name, address, and telephone number of factory-authorized service representative making report.
 - 2. Statement on condition of substrates and their acceptability for installation of product.
 - 3. Statement that products at Project site comply with requirements.
 - 4. Summary of installation procedures being followed, whether they comply with requirements and, if not, what corrective action was taken.

5. Results of operational and other tests and a statement of whether observed performance complies with requirements.
 6. Statement whether conditions, products, and installation will affect warranty.
 7. Other required items indicated in individual Specification Sections.
- R. Insurance Certificates and Bonds: Prepare written information indicating current status of insurance or bonding coverage. Include name of entity covered by insurance or bond, limits of coverage, amounts of deductibles, if any, and term of the coverage.
- S. Material Safety Data Sheets: Keep on site and submit information directly to Owner. If submitted to Architect, Architect will not review this information but will return it with no action taken.

2.3 DELEGATED-DESIGN SERVICES

- A. Performance and Design Criteria: Where professional design services or certifications by a design professional are specifically required of Contractor by the Contract Documents, provide products and systems complying with specific performance and design criteria indicated.
1. If criteria indicated are not sufficient to perform services or certification required, submit a written request for additional information to Architect
- B. Delegated-Design Services Certification: In addition to Shop Drawings, Product Data, and other required submittals, submit digitally signed PDF file or three (3) paper copies of certificate, signed and sealed by the responsible design professional licensed in the jurisdiction of the Project for each product, assembly or system specifically assigned to Contractor to be designed or certified by a design professional.
1. Indicate that products and systems comply with performance and design criteria in the Contract Documents. Include list of codes, loads and other factors used in performing these services.

PART 3 EXECUTION

3.1 CONTRACTOR'S REVIEW

- A. Action and Informational Submittals: Review each submittal and check for coordination with other Work of the Contract and for compliance with the Contract Documents. Note corrections and field dimensions. Mark with approval stamp before submitting to Architect .
- B. Project Closeout and Maintenance Material Submittals: See requirements in Section 017700 "Closeout Procedures."
- C. Approval Stamp: Stamp each submittal with a uniform, approval stamp. Include Project name and location, submittal number, Specification Section title and number, name of reviewer, date of Contractor's approval, and statement certifying that submittal has been reviewed, checked, and approved for compliance with the Contract Documents.

3.2 ARCHITECT'S ACTION

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

- B. **Action Submittals:** Architect will review each submittal, make marks to indicate corrections or modifications required, and return it. Architect will stamp each submittal with an action stamp and will mark stamp appropriately to indicate action taken, as follows:
1. **Architect's Action:**
 - a. **Final Unrestricted Release:** When the Architect marks a submittal "No Exceptions Taken" the Work covered by the submittal may proceed provided it complies with requirements of the Contract Documents. Final payment depends on that compliance.
 - b. **Final-But-Restricted Release:** When the Architect marks a submittal "Provide as Corrected," the Work covered by the submittal may proceed provided it complies with notations or corrections on the submittal and requirements of the Contract Documents. Final payment depends on that compliance.
 - c. **Returned for Resubmittal:** When the Architect marks a submittal "Revise and Resubmit," do not proceed with Work covered by the submittal, including purchasing, fabrication, delivery, or other activity. Revise or prepare a new submittal according to the notations; resubmit without delay.
 - 1) Do not use, or allow others to use, submittals marked "Revise and Resubmit" at the Project Site or elsewhere where Work is in progress.
 - d. **Returned for Resubmittal:** When the Architect marks a submittal "Rejected", the Architect has not completed a full review, because it is clear that the submittal does not reflect the requirements of the Contract Documents. Do not proceed with work covered by the submittal, including purchasing, fabrication, delivery or other activity. Revise or prepare a new submittal that complies with the Contract Documents.
 - e. **Other Action:** If the submittal is primarily for information purposes, record purposes, special processing, or other contractor activity, the submittal will be returned marked "Reviewed for General Conformance Only". These submittals have been received and processed for information only and not approved or disapproved by the architect.
- C. **Informational Submittals:** Architect will review each submittal and will not return it, or will reject and return it if it does not comply with Contract Document requirements.
- D. **Submittals not required by the Contract Documents** will not be reviewed and will be discarded or returned without action.

END OF SECTION 013300



Submittal No. _____

Submittal Transmittal

PROJECT: BWB Colonel Ward Pumping Station Storage Building and Boiler House Renovations PROJECT # 462806

OWNER: City of Buffalo A/E: Wendel WDAESLA

CONTRACT# & NAME _____

CONTRACTOR: _____
(NAME, ADDRESS, TELEPHONE & FAX NUMBERS)

☐ NEW SUBMITTAL ☐ RESUBMITTAL Date: _____

This submittal is: ☐ AS SPECIFIED REMARKS: _____

NUMBER OF COPIES SUBMITTED: (8 maximum) _____

TYPE OF SUBMITTAL: **(CHECK ALL THAT APPLY)**

☐ PRODUCT DATA/CATALOG CUT

☐ SHOP DRAWINGS

☐ SCHEDULE

☐ RECORD DOCUMENT

☐ SAMPLE

☐ WARRANTY

☐ PERFORMANCE DATA

☐ COLOR SELECTION

☐ TEST REPORT

☐ OPERATIONS & MAINTENANCE DATA

☐ OTHER _____

SPEC. SECTION: _____

PARAGRAPH(S): _____

DWG. REF. NO.: _____

CERTIFICATION

SUBMITTER CERTIFIES THAT THE INFORMATION
SUBMITTED COMPLIES WITH THE SUBMITTER'S
PROJECT CONTRACT DOCUMENT REQUIREMENTS.

By: _____

Date: _____

**NOTE: Submitter shall apply an approval stamp to
each copy of each submittal.**

DESCRIPTION OF SUBMITTAL: _____

PRODUCT NAME: _____

MANUFACTURER: _____

ADDRESS: _____ TEL. NO.: _____

CONTRACTOR or SUBCONTRACTOR: _____ TEL. NO.: _____

SUPPLIER: _____ TEL. NO.: _____

SECTION 014000 - QUALITY REQUIREMENTS

PART 1 GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section includes administrative and procedural requirements for quality assurance and quality control.
- B. Testing and inspecting services are required to verify compliance with requirements specified or indicated. These services do not relieve Contractor of responsibility for compliance with the Contract Document requirements.
 - 1. Specific quality-assurance and -control requirements for individual construction activities are specified in the Sections that specify those activities. Requirements in those Sections may also cover production of standard products.
 - 2. Specified tests, inspections, and related actions do not limit Contractor's other quality-assurance and -control procedures that facilitate compliance with the Contract Document requirements.
 - 3. Requirements for Contractor to provide quality-assurance and -control services required by Architect, Owner, and Owner's Representative or authorities having jurisdiction are not limited by provisions of this Section.
 - 4. Specific test and inspection requirements are not specified in this Section.

1.3 DEFINITIONS

- A. Quality-Assurance Services: Activities, actions, and procedures performed before and during execution of the Work to guard against defects and deficiencies and substantiate that proposed construction will comply with requirements.
- B. Quality-Control Services: Tests, inspections, procedures, and related actions during and after execution of the Work to evaluate that actual products incorporated into the Work and completed construction comply with requirements. Services do not include contract enforcement activities performed by Construction Manager.
- C. 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.
- D. Product Testing: Tests and inspections that are performed by an NRTL, an NVLAP, or a testing agency qualified to conduct product testing and acceptable to authorities having jurisdiction, to establish product performance and compliance with specified requirements.

- E. Source Quality-Control Testing: Tests and inspections that are performed at the source, e.g., plant, mill, factory, or shop.
- F. Field Quality-Control Testing: Tests and inspections that are performed on-site for installation of the Work and for completed Work.
- G. Testing Agency: An entity engaged to perform specific tests, inspections, or both. Testing laboratory shall mean the same as testing agency.
- H. Installer/Applicator/Erector: Contractor or another entity engaged by Contractor as an employee, Subcontractor, or Sub-subcontractor, to perform a particular construction operation, including installation, erection, application, and similar operations.
 - 1. Use of trade-specific terminology in referring to a trade or entity does not require that certain construction activities be performed by accredited or unionized individuals, or that requirements specified apply exclusively to specific trade(s).
- I. Experienced: Unless otherwise indicated in individual Specification sections, when used with an entity or individual, "experienced" 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.

1.4 CONFLICTING REQUIREMENTS

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

1.5 INFORMATIONAL SUBMITTALS

- A. Contractor's Quality-Control Plan: For quality-assurance and quality-control activities and responsibilities.
- B. Qualification Data: For Contractor's quality-control personnel.
- C. 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.
- D. Schedule of Tests and Inspections: Prepare in tabular form and include the following:
 - 1. Specification Section number and title.
 - 2. Entity responsible for performing tests and inspections.
 - 3. Description of test and inspection.

4. Identification of applicable standards.
5. Identification of test and inspection methods.
6. Number of tests and inspections required.
7. Time schedule or time span for tests and inspections.
8. Requirements for obtaining samples.
9. Unique characteristics of each quality-control service.

1.6 CONTRACTOR'S QUALITY-CONTROL PLAN

- A. Quality-Control Plan, General: Submit quality-control plan within 14 calendar days of Notice to Proceed, and not less than seven calendar days prior to preconstruction conference. Submit in format acceptable to Architect. Identify personnel, procedures, controls, instructions, tests, records, and forms to be used to carry out Contractor's quality-assurance and quality-control responsibilities. Coordinate with Contractor's construction schedule.
- B. Testing and Inspection: In quality-control plan, include a comprehensive schedule of Work requiring testing or inspection, including the following:
 1. Contractor-performed tests and inspections including subcontractor-performed tests and inspections. Include required tests and inspections and Contractor-elected tests and inspections.
 2. Special inspections required by authorities having jurisdiction and indicated on the "Statement of Special Inspections." Refer to Section 014100 "Special Inspections and Structural Testing".
- C. Continuous Inspection of Workmanship: Describe process for continuous inspection during construction to identify and correct deficiencies in workmanship in addition to testing and inspection specified. Indicate types of corrective actions to be required to bring work into compliance with standards of workmanship established by Contract requirements and approved mockups.
- D. Monitoring and Documentation: Maintain testing and inspection reports including log of approved and rejected results. Include work Architect has indicated as nonconforming or defective. Indicate corrective actions taken to bring nonconforming work into compliance with requirements. Comply with requirements of authorities having jurisdiction.

1.7 REPORTS AND DOCUMENTS

- A. Test and Inspection Reports: Prepare and submit certified written reports specified in other Sections. Include the following:
 1. Date of issue.
 2. Project title and number.
 3. Name, address, and telephone number of testing agency.
 4. Dates and locations of samples and tests or inspections.
 5. Names of individuals making tests and inspections.
 6. Description of the Work and test and inspection method.
 7. Identification of product and Specification Section.
 8. Complete test or inspection data.
 9. Test and inspection results and an interpretation of test results.

10. Record of temperature and weather conditions at time of sample taking and testing and inspecting.
 11. Comments or professional opinion on whether tested or inspected Work complies with the Contract Document requirements.
 12. Name and signature of laboratory inspector.
 13. Recommendations on retesting and reinspecting.
- B. **Manufacturer's 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. Name, address, and telephone number of technical representative making report.
 2. Statement on condition of substrates and their acceptability for installation of product.
 3. Statement that products at Project site comply with requirements.
 4. Summary of installation procedures being followed, whether they comply with requirements and, if not, what corrective action was taken.
 5. Results of operational and other tests and a statement of whether observed performance complies with requirements.
 6. Statement whether conditions, products, and installation will affect warranty.
 7. Other required items indicated in individual Specification Sections.
- 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. Name, address, and telephone number of factory-authorized service representative making report.
 2. Statement that equipment complies with requirements.
 3. Results of operational and other tests and a statement of whether observed performance complies with requirements.
 4. Statement whether conditions, products, and installation will affect warranty.
 5. Other required items indicated in individual Specification Sections.
- D. **Permits, Licenses, and Certificates:** For Owner's records, submit copies of permits, licenses, certifications, inspection reports, releases, jurisdictional settlements, notices, receipts for fee payments, judgments, correspondence, records, and similar documents, established for compliance with standards and regulations bearing on performance of the Work.

1.8 QUALITY ASSURANCE

- A. **General:** Qualifications paragraphs in this article establish the minimum qualification levels required; individual Specification Sections specify additional requirements.
- B. **Manufacturer Qualifications:** A firm experienced in manufacturing products or systems similar to those indicated for this Project and with a record of successful in-service performance, as well as sufficient production capacity to produce required units.
- C. **Fabricator Qualifications:** A firm experienced in producing products similar to those indicated for this Project and with a record of successful in-service performance, as well as sufficient production capacity to produce required units.

- D. **Installer Qualifications:** A firm or individual experienced in installing, erecting, or assembling work similar in material, design, and extent to that indicated for this Project, whose work has resulted in construction with a record of successful in-service performance.
- E. **Professional Engineer Qualifications:** A professional engineer who is legally qualified to practice in jurisdiction where Project is located and who is experienced in providing engineering services of the kind indicated. Engineering services are defined as those performed for installations of the system, assembly, or product that are similar in material, design, and extent to those indicated for this Project.
- F. **Specialists:** Certain Specification Sections require that specific construction activities shall be performed by entities who are recognized experts in those operations. Specialists shall satisfy qualification requirements indicated and shall be engaged for the activities indicated.
 - 1. Requirements of authorities having jurisdiction shall supersede requirements for specialists.
- G. **Testing Agency Qualifications:** An NRTL, an NVLAP, or an independent agency with the experience and capability to conduct testing and inspecting indicated, as documented according to ASTM E 329; and with additional qualifications specified in individual Sections; and, where required by authorities having jurisdiction, that is acceptable to authorities.
 - 1. NRTL: A nationally recognized testing laboratory according to 29 CFR 1910.7.
 - 2. NVLAP: A testing agency accredited according to NIST's National Voluntary Laboratory Accreditation Program.
- H. **Manufacturer's 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.
- I. **Factory-Authorized Service Representative Qualifications:** An authorized representative of manufacturer who is trained and approved by manufacturer to inspect installation of manufacturer's products that are similar in material, design, and extent to those indicated for this Project.
- J. **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. Provide sizes and configurations of test assemblies, mockups, and laboratory mockups to adequately demonstrate capability of products to comply with performance requirements.
 - 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.

1.9 QUALITY CONTROL

- A. **Owner Responsibilities:** Where quality-control services are indicated as Owner's responsibility, Owner will engage a qualified testing agency to perform these services.
 - 1. Owner will furnish Contractor with names, addresses, and telephone numbers of testing agencies engaged and a description of types of testing and inspecting they are engaged to perform.
 - 2. Costs for retesting and reinspecting construction that replaces or is necessitated by work that failed to comply with the Contract Documents will be charged to Contractor, and 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 required to verify that the Work complies with requirements, whether specified or not.
 - 1. Unless otherwise indicated, provide quality-control services specified and those required by authorities having jurisdiction. Perform quality-control services required of Contractor by authorities having jurisdiction, whether specified or not.
 - 2. Where services are indicated as Contractor's responsibility, engage a qualified testing agency to perform these quality-control services.
 - a. Contractor shall not employ same entity engaged by Owner, unless agreed to in writing by Owner.
 - 3. Notify testing agencies at least 24 hours in advance of time when Work that requires testing or inspecting will be performed.
 - 4. Where quality-control services are indicated as Contractor's responsibility, submit a certified written report, in duplicate, of each quality-control service.
 - 5. Testing and inspecting requested by Contractor and not required by the Contract Documents are Contractor's responsibility.
 - 6. Submit additional copies of each written report directly to authorities having jurisdiction, when they so direct.
- C. **Manufacturer's Field Services:** Where indicated, engage a factory-authorized service representative to inspect field-assembled components and equipment installation, including service connections.
- D. **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.
- E. **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.
- F. **Associated Services:** Cooperate with agencies performing required tests, inspections, and similar quality-control services, and provide reasonable auxiliary services as requested. Notify agency sufficiently in advance of operations to permit assignment of personnel. Provide the following:

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1. Access to the Work.
 2. Incidental labor and facilities necessary to facilitate tests and inspections.
 3. Adequate quantities of representative samples of materials that require testing and inspecting. Assist agency in obtaining samples.
 4. Facilities for storage and field curing of test samples.
- G. Coordination: Coordinate sequence of activities to accommodate required quality-assurance and -control services with a minimum of delay and to avoid necessity of removing and replacing construction to accommodate testing and inspecting.
1. Schedule times for tests, inspections, obtaining samples, and similar activities.
- H. Schedule of Tests and Inspections: Prepare a schedule of tests, inspections, and similar quality-control services required by the Contract Documents. Coordinate and submit concurrently with Contractor's construction schedule. Update as the Work progresses.
1. Distribution: Distribute schedule to Owner, Architect and Owner's Representative testing agencies, and each party involved in performance of portions of the Work where tests and inspections are required.

1.10 SPECIAL TESTS AND INSPECTIONS

- A. Special Tests and Inspections: Refer to Specification Section 014533 "Code Required Special Inspections and Procedures".

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 and Owner's Representative reference during normal working hours.

3.2 REPAIR AND PROTECTION

- A. General: On completion of testing, inspecting, sample taking, and similar services, repair damaged construction and restore substrates and finishes.
1. Provide materials and comply with installation requirements specified in other Specification Sections or matching existing substrates and finishes. Restore patched areas and extend restoration into adjoining areas with durable seams that are as invisible as possible. Comply with the Contract Document requirements for cutting and patching in Section 017300 "Execution."

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- B. Protect construction exposed by or for quality-control service activities.
- C. Repair and protection are Contractor's responsibility, regardless of the assignment of responsibility for quality-control services.

END OF SECTION 014000

SECTION 014200 - REFERENCES

PART 1 GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

1.2 DEFINITIONS

- A. General: Basic Contract definitions are included in the Conditions of the Contract.
- B. "Approved": When used to convey Architect's action on Contractor's submittals, applications, and requests, "approved" is limited to Architect's duties and responsibilities as stated in the Conditions of the Contract.
- C. "Directed": A command or instruction by Architect, Construction Manager, or Owner. Other terms including "requested," "authorized," "selected," "approved," "required," and "permitted" have the same meaning as "directed."
- D. "Indicated": Requirements expressed by graphic representations or in written form on Drawings, in Specifications, and in other Contract Documents. Other terms including "shown," "noted," "scheduled," and "specified" have the same meaning as "indicated."
- E. "Regulations": Laws, ordinances, statutes, and lawful orders issued by authorities having jurisdiction, and rules, conventions, and agreements within the construction industry that control performance of the Work.
- F. "Furnish": Supply and deliver to Project site, ready for unloading, unpacking, assembly, installation, and similar operations.
- G. "Install": Operations at Project site including unloading, temporarily storing, unpacking, assembling, erecting, placing, anchoring, applying, working to dimension, finishing, curing, protecting, cleaning, and similar operations.
- H. "Provide": Furnish and install, complete and ready for the intended use.
- I. "Project Site": Space available for performing construction activities. The extent of Project site is shown on Drawings and may or may not be identical with the description of the land on which Project is to be built.
- J. "Installer": Contractor or another entity engaged by Contractor as an employee, Subcontractor, or Sub-subcontractor, to perform a particular construction operation, including installation, erection, application, and similar operations.
 - 1. Using a term such as "carpentry" does not imply that certain construction activities must be performed by accredited or unionized individuals of a corresponding generic name, such as "carpenter." It also does not imply that requirements specified apply exclusively to tradespeople of the corresponding generic name.

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- K. "Experienced": When used with an entity, "experienced" means having successfully completed a minimum of five previous projects similar in size and scope to this Project; being familiar with special requirements indicated; and having complied with requirements of authorities having jurisdiction.

1.3 INDUSTRY STANDARDS

- A. Applicability of Standards: Unless the Contract Documents include more stringent requirements, applicable construction industry standards have the same force and effect as if bound or copied directly into the Contract Documents to the extent referenced. Such standards are made a part of the Contract Documents by reference.
- B. Publication Dates: Comply with standards in effect as of date of the Contract Documents unless otherwise indicated.
- C. Copies of Standards: Each entity engaged in construction on Project should be familiar with industry standards applicable to its construction activity. Copies of applicable standards are not bound with the Contract Documents.
 - 1. Where copies of standards are needed to perform a required construction activity, obtain copies directly from publication source.

1.4 ABBREVIATIONS AND ACRONYMS

- A. Industry Organizations: Where abbreviations and acronyms are used in Specifications or other Contract Documents, they shall mean the recognized name of the entities indicated in Gale's "Encyclopedia of Associations: National Organizations of the U.S." or in Columbia Books' "National Trade & Professional Associations of the United States."
- B. Code Agencies: Where abbreviations and acronyms are used in Specifications or other Contract Documents, they shall mean the recognized name of the entities.
- C. Federal Government Agencies: Where abbreviations and acronyms are used in Specifications or other Contract Documents, they shall mean the recognized name of the entities.
- D. Standards and Regulations: Where abbreviations and acronyms are used in Specifications or other Contract Documents, they shall mean the recognized name of the standards and regulations.
- E. State Government Agencies: Where abbreviations and acronyms are used in Specifications or other Contract Documents, they shall mean the recognized name of the entities.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION (NOT USED)

END OF SECTION 014200

SECTION 014533 - CODE-REQUIRED SPECIAL INSPECTIONS AND PROCEDURES

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Code-required special inspections.
- B. Testing services incidental to special inspections.
- C. Submittals.

1.2 DEFINITIONS

- A. Code or Building Code: ICC (IBC), International Building Code, most recent edition adopted by authority having jurisdiction, including all applicable amendments and supplements without limitation, and specifically Chapter 17 - Special Inspections and Tests.
- B. Authority Having Jurisdiction (AHJ): Agency or individual officially empowered to enforce the building, fire and life safety code requirements of the permitting jurisdiction in which the Project is located.
- C. NIST: National Institute of Standards and Technology.
- D. Special Inspections and Tests: Inspections and testing of materials, installation, fabrication, erection, or placement of components and connections mandated by Building Code to safeguard public welfare.
 - 1. Special inspections and tests are separate from and independent of tests and inspections conducted by Owner or Contractor for purposes of quality assurance and contract administration.

1.3 GENERAL REQUIREMENTS

- A. Provide Special Inspections and Structural Testing in accordance with Building Code.
- B. Special Inspections and Structural Testing shall be in accordance with CASE National Practice Guideline for Special Inspections.
- C. The program of Special Inspection and Structural Testing is a Quality Assurance program intended to ensure that the work is performed in accordance with the Contract Documents.
- D. This specification section is intended to inform the Contractor of the Owner's quality assurance program and the extent of the Contractor's responsibilities. This specification section is also intended to notify the Special Inspector, Testing Laboratory, and other Agents of the Special Inspector of their requirements and responsibilities.

1.4 RELATED REQUIREMENTS

- A. Section 014000 - Quality Requirements: for testing agency procedures and administrative requirements.
- B. Section 033000 - Cast-in-Place Concrete : for Field Quality Control.
- C. Section 055000 - Metal Fabrications for Field Quality Control.
- D. Section 311000 - Site Clearing, Preparation & Removals and 312000 - Earth Moving : for Field Quality Control.

1.5 REFERENCE STANDARDS

- A. ASTM E329 - Standard Specification for Agencies Engaged in Construction Inspection, Testing, or Special Inspection.
- B. IAS AC89 - Accreditation Criteria for Testing Laboratories.
- C. IAS AC291 - Accreditation Criteria for Special Inspection Agencies AC291.
- D. ICC (IBC) - International Building Code.

1.6 SCHEDULE OF INSPECTIONS AND TESTS

- A. Required inspections and tests are described in the individual Specification Sections for the items to be inspected or tested and the “Schedule of Special Inspection Services”, which is included at the end of this Section.
- B. The services and quantities of testing specified are approximate. Actual services and quantities of testing will be determined by the Owner and/or Structural Engineer of Record (SER) during construction.
- C. The Architect and Structural Engineer of Record (SER) will determine the locations for taking sample specimens for testing in accordance with the specifications.

1.7 QUALIFICATIONS

- A. The Special Inspector shall be a licensed Professional Engineer or Structural Engineer who is approved by the Structural Engineer of Record (SER) and Building Official.
- B. The Testing Laboratory and individual technicians shall be approved by the Structural Engineer of Record (SER) and Building Official.
- C. The testing laboratory shall maintain a full-time licensed Professional Engineer or Structural Engineer on staff who shall certify all test reports. The Engineer shall be responsible for the training of the testing technicians and shall be in responsible charge of the field and laboratory testing operations.

- D. Special Inspections shall be performed by inspectors who are either licensed Professional Engineers (P.E.), Structural Engineers (S.E.), or Engineers-In-Training (EIT) with an education and background in structural engineering except as indicated below.
1. Special Inspections of soils and foundations may be performed by inspectors with an education and background in geotechnical engineering in lieu of a background in structural engineering.
 2. Technicians performing sampling and testing of concrete shall be ACI certified Concrete Field Testing Technicians – Grade 1.
 3. Inspectors performing inspections of concrete work such as inspections of concrete placement, batching, reinforcing placement, curing and protection, may be ACI certified Concrete Construction Inspectors or ICC certified Reinforced Concrete Special Inspector in lieu of being a licensed P.E., S.E., or EIT.
 4. Technicians performing visual inspection of welding shall be AWS *Certified Welding Inspectors* or ICC certified *Structural Welding Special Inspectors* with one year relevant experience, technicians performing non-destructive testing such as ultrasonic testing, radiographic testing, magnetic particle testing, or dye-penetrant testing shall be certified as an ASNT-TC Level II or Level III technician.
 5. Inspectors performing visual inspections of steel framing and high-strength bolting may be ICC certified *Structural Steel and Bolting Special Inspector* with one year relevant experience, in lieu of being a licensed P.E., S.E., or EIT.
 6. Technicians performing standard tests described by specific ASTM Standards shall have training in the performance of such tests and must be able to demonstrate either by oral or written examination competence for the test to be conducted. They shall be under the supervision of a licensed Professional Engineer and shall not be permitted to independently evaluate test results.

1.8 SUBMITTALS

- A. See Section 013300 - Submittal procedures for submittal procedures and requirements.
- B. Special Inspection Agency Qualifications: Prior to start of work, Special Inspection Agency is required to:
1. Submit agency name, address, and telephone number, names of full time registered Engineer and responsible officer.
 2. Submit copy of report of laboratory facilities inspection made by NIST Construction Materials Reference Laboratory during most recent inspection, with memorandum of remedies of any deficiencies reported by the inspection.
 3. Submit certification that Special Inspection Agency is acceptable to AHJ.
 4. Submit documentation that Special Inspection Agency is accredited by IAS according to IAS AC291.
- C. Testing Agency Qualifications: Prior to start of work, Testing Agency is required to:
1. Submit agency name, address, and telephone number, and names of full time registered Engineer and responsible officer.
 2. Submit copy of report of laboratory facilities inspection made by NIST Construction Materials Reference Laboratory during most recent inspection, with memorandum of remedies of any deficiencies reported by the inspection.
 3. Submit certification that Testing Agency is acceptable to AHJ.
 4. Submit documentation that Testing Agency is accredited by IAS according to IAS AC89.

- D. **Special Inspection Reports:** After each special inspection, Special Inspector is required to promptly submit at least two copies of report; one to Architect and one to the AHJ.
1. Include:
 - a. Date issued.
 - b. Project title and number.
 - c. Name of Special Inspector.
 - d. Date and time of special inspection.
 - e. Identification of product and specifications section.
 - f. Location in the Project.
 - g. Weather conditions.
 - h. Type of special inspection.
 - i. Date of special inspection.
 - j. Results of special inspection.
 - k. Compliance with contract documents.
 - l. Signature of Special Inspector or Technician.
 2. Final Special Inspection Report: Document special inspections and correction of discrepancies prior to the start of the work.
 3. The Special Inspector shall submit interim reports to the Building Official, as required, which include all inspections and test reports received during that period. Copies shall be sent to the Owner, SER, Architect, and Contractor **[and Construction Manager]**.
 4. Any discrepancies from the Contract Documents found during a Special Inspection shall be immediately reported to the Contractor **[and Construction Manager]**. If the discrepancies are not corrected, the Special Inspector shall notify the Owner, SER, Architect, and Building Official. Reports shall document all discrepancies identified and the corrective action taken.
 5. The Testing Laboratory shall immediately notify the Special Inspector and the SER by telephone, fax, or e-mail of any results which fail to comply with the requirements of the Contract Documents.
 6. Reports shall be submitted to the Special Inspector within 7 calendar days of the inspection or test. Hand written reports may be submitted if final typed copies are not available.
 7. At the completion of the work requiring Special Inspections, each inspection agency and testing laboratory shall provide a statement to the Special Inspector that all work was completed in substantial conformance with the Contract Documents and that all appropriate inspections and tests were performed.
- E. **Certificates:** When required by AHJ, Special Inspector will submit certification by manufacturer, fabricator, and installation subcontractor to Architect and AHJ.
1. Indicate material or product complies with or exceeds specified requirements. Submit supporting reference data, affidavits, and certifications as appropriate.
 2. Certificates may be recent or previous test results on material or product, but must be acceptable to Architect and AHJ.

1.9 SPECIAL INSPECTION AND TESTING AGENCY

- A. Owner will employ services of a Special Inspection Agency to perform inspections and associated testing and sampling in accordance with ASTM E329 and required by the building code.

- B. Special Inspection Agency may delegate to independent testing agency to perform testing and sampling associated with special inspections and required by building code.
- C. Employment of agency in no way relieves Contractor of obligation to perform work in accordance with requirements of contract documents.
- D. The Special Inspector and Testing Laboratory shall disclose any past or present business relationship or potential conflict of interest with the Contractor or any of the Subcontractors whose work will be inspected or tested.

1.10 TESTING AND INSPECTION AGENCIES

- A. Owner may employ services of an independent testing agency to perform additional testing and sampling associated with special inspections but not required by the building code.
- B. Employment of agency in no way relieves Contractor of obligation to perform work in accordance with requirements of contract documents.

1.11 PAYMENT

- A. The Owner shall engage and pay for the services of the Special Inspector, Agents of the Special Inspector, and Testing Laboratory.
- B. If any materials which require Special Inspections are fabricated in a plant which is not located within 100 miles of the project, the Contractor shall be responsible for the travel expenses of the Special Inspector or Testing Laboratory.
- C. The Contractor shall be responsible for the cost of any retesting or reinspection of work which fails to comply with the requirements of the Contract Documents.

1.12 QUALITY ASSURANCE

- A. Special Inspection Agency Qualifications:
 - 1. Independent firm specializing in performing testing and inspections of the type specified in this section.
 - 2. Accredited by IAS according to IAS AC291.
- B. Testing Agency Qualifications:
 - 1. Independent firm specializing in performing testing and inspections of the type specified in this section.
 - 2. Accredited by IAS according to IAS AC89.
- C. Copies of Documents at Project Site: Maintain at the project site a copy of each referenced document.

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION

3.1 SPECIAL INSPECTIONS AND TESTING

- A. The Code requires special inspections and testing of certain materials, components, assemblies, and connections used in constructing the project. Special inspections and testing will be performed in accordance with the Code.
- B. Special inspections and testing will be performed in accordance with the Code for the following materials and project components:
 - 1. Steel.
 - 2. Concrete.
 - 3. Soils.

3.2 SPECIAL INSPECTION AGENCY DUTIES AND RESPONSIBILITIES

- A. Special Inspection Agency shall:
 - 1. Provide qualified personnel at site. Cooperate with Architect and Contractor in performance of services.
 - 2. Perform specified sampling and testing of products in accordance with specified reference standards.
 - 3. Ascertain compliance of materials and products with requirements of Contract Documents.
 - 4. Promptly notify Architect and Contractor of observed irregularities or non-compliance of work or products.
 - 5. Perform additional tests and inspections required by Architect.
 - 6. Attend preconstruction meetings and progress meetings.
 - 7. Submit reports of all tests or inspections specified.
- B. Limits on Special Inspection Agency Authority:
 - 1. Agency may not release, revoke, alter, or enlarge on requirements of Contract Documents.
 - 2. Agency may not approve or accept any portion of the work.
 - 3. Agency may not assume any duties of Contractor and will not have control over the Contractor's means and methods of construction.
 - 4. Agency has no authority to stop the work.
 - 5. Agency is not responsible for construction site safety.
- C. Re-testing required because of non-compliance with specified requirements shall be performed by the same agency on instructions by Architect.
- D. Re-testing required because of non-compliance with specified requirements shall be paid for by Contractor.
- E. Statement of Special Inspections: The *Statement of Special Inspections* will be prepared by the Structural Engineer of Record (SER) and shall be submitted with the application for Building Permit.

- F. Final Report of Special Inspections: The *Final Report of Special Inspections* shall be completed by the Special Inspector and submitted to the Owner, Contractor, SER and Building Official prior to the issuance of a Certificate of Use and Occupancy. The *Final Report of Special Inspections* will certify that all required inspections have been performed and will itemize any discrepancies that were not corrected or resolved.

3.3 TESTING AGENCY DUTIES AND RESPONSIBILITIES

- A. Testing Agency Duties:
1. Provide qualified personnel at site. Cooperate with Architect and Contractor in performance of services.
 2. Perform specified sampling and testing of products in accordance with specified standards.
 3. Ascertain compliance of materials and mixes with requirements of Contract Documents.
 4. Promptly notify Architect and Contractor of observed irregularities or non-compliance of work or products.
 5. Perform additional tests and inspections required by Architect.
 6. Submit reports of all tests or inspections specified.
- B. Limits on Testing or Inspection Agency Authority:
1. Agency may not release, revoke, alter, or enlarge on requirements of Contract Documents.
 2. Agency may not approve or accept any portion of the work.
 3. Agency may not assume any duties of Contractor.
 4. Agency has no authority to stop the work.
 5. Agency is not responsible for construction site safety.
- C. On instructions by Architect, perform re-testing required because of non-compliance with specified requirements, using the same agency.
- D. Contractor will pay for re-testing required because of non-compliance with specified requirements.

3.4 CONTRACTOR DUTIES AND RESPONSIBILITIES

- A. **Without exception, work which fails to comply with the requirements of the Contract Documents or work which has not been inspected is to be immediately removed and replaced, at the Contractor's cost.**
- B. Contractor Responsibilities, General:
1. Deliver to agency at designated location, adequate samples of materials for special inspections that require material verification. The Contractor shall cooperate with the Special Inspector and his agents so that the Special Inspections and testing may be performed without hindrance.
 2. Cooperate with agency and laboratory personnel; provide access to approved documents at project site, to the work, to manufacturers' facilities, and to fabricators' facilities.
 3. The Contractor shall provide incidental labor and facilities to provide access to the work to be inspected or tested, to obtain and handle samples at the site or at source of products to be tested, to facilitate tests and inspections, storage and curing of test samples:

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- a. To provide access to work to be tested or inspected.
 - b. To obtain and handle samples at the site or at source of Products to be tested or inspected.
 - c. When source, quality or characteristic of an approved material changes or indicates lack of compliance with Contract requirements, submit additional samples of materials to testing laboratory.
 - d. To facilitate tests or inspections.
 - e. To provide storage and curing of test samples.
 - f. Patch area where samples are taken for purposes of testing to the satisfaction of the Architect and SER.
4. The Contractor shall review the Statement of Special Inspections and shall be responsible for coordinating and scheduling inspections and tests. Notify Architect and laboratory 24 hours prior to expected time for operations requiring testing or inspection services. Uninspected work that required inspection may be rejected solely on failure of notification.
5. Arrange with Owner's agency and pay for additional samples, tests, and inspections required by Contractor beyond specified requirements.
6. Retain special inspection records.
7. The Special Inspection program shall in no way relieve the Contractor of his obligation to perform work in accordance with the requirements of the Contract Documents or from implementing an effective Quality Control program. All work that is to be subjected to Special Inspections shall first be reviewed by the Contractor's quality control personnel.
8. The Contractor shall be solely responsible for construction site safety.

SCHEDULE OF SPECIAL INSPECTION SERVICES

Project: Buffalo Water Board Stone Storage Bldg.

Location: 2 Porter Ave, Buffalo NY, 14201

- A. The following sheets comprise the required schedule of special inspections for this project. The construction divisions which require special inspections for this project are as follows:

1. Soils and Foundations
2. Concrete Construction
3. Steel Construction

- B.

Inspection Agents:	Firm:	Address:
Special Inspector:		
Testing Agency:		
Testing Agency:		
Other:		

- C. The qualifications of all personnel performing Special Inspection activities are subject to the approval of the Building Official.
- D. The inspectors and testing agencies shall be engaged by the Owner or the Owner's Agent, and not by the Contractor or Subcontractor whose work is to be inspected or tested. Any conflict of interest must be disclosed to the Building Official, prior to commencing work.
- E. The credentials of all Inspectors and testing technicians shall be provided if requested.
- F. It is recommended that the person administering the Special Inspections program be a Professional Engineer experienced in the design of buildings.
- G.

Minimum Qualifications	Key for Minimum Qualifications of Inspection Agents (where indicated on Schedules)
PE/SE	Structural Engineer – a licensed SE or PE specializing in the design of building structures
PE/GE	Geotechnical Engineer – a licensed PE specializing in soil mechanics and foundations
EIT	Engineering in Training – a graduate engineer who has passed the FE exam
ACI-CFTT	American Concrete Institute Certified Concrete Field Testing Technician
ACI-CCI	American Concrete Institute Certified Concrete Field Testing Technician
ACI-LTT	American Concrete Institute Certified Concrete Field Testing Technician
ACI-STT	American Concrete Institute Certified Concrete Field Testing Technician

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Minimum Qualifications	Key for Minimum Qualifications of Inspection Agents (where indicated on Schedules)
AWS-CWI	American Welding Society Certified Welding Inspector
AWS/AISC-SSI	American Welding Society Certified Structural Steel Inspector
ASNT	American Society of Non-Destructive Testing - Level II or III
ICC-SMSI	International Code Council Certified Structural Masonry Special Inspector
ICC -SWSI	International Code Council Certified Structural Steel and Welding Special Inspector
ICC -SFSI	International Code Council Certified Spray-Applied Fireproofing Special Inspector
ICC -PCSI	International Code Council Certified Prestressed Concrete Special Inspector
ICC -RCSI	International Code Council Certified Reinforced Concrete Special Inspector
NICET-CT	Concrete Technician – Levels I, II, III & IV
NICET -ST	Soils Technician – Levels I, II, III & IV
NICET -GET	Geotechnical Engineering Technician – Levels I, II, III & IV
EDI-EIFS	EIFS Third Party Inspector

H. Soils and Foundation Schedule

Verification & Inspection Task	Continuous	Periodic	Referenced Standard	Bldg Code Reference	Agent No.(Qualif.)
SOILS INSPECTIONS			Specification Section 312000	1705.6	
Verify materials below footings and foundations are adequate to achieve the design bearing capacity.	-	X			PE/GE
Verify excavations are extended to proper depth and have reached proper material.	-	X			PE/GE
Perform classification and testing of compacted fill materials.	-	X			PE/GE
Verify use of proper materials, densities and lift thicknesses during placement and compaction of compacted fill.	X	-			PE/GE
Prior to placement of compacted fill, inspect subgrade and verify that site has been prepared properly.	-	X			PE/GE

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I. Concrete Construction Schedule

Verification & Inspection Task	Continuous	Periodic	Referenced Standard	Bldg Code Reference	Agent No.(Qualif.)
CONCRETE CONSTRUCTION			Specification Section 033000	1705.3	
Inspection of reinforcing steel, including prestressing tendons, and placement.	-	X	ACI 318 Ch. 20, 25.2, 25.3, 26.5.1-26.5.3	1908.4	ACI-CCI ICC-RCSI
Reinforcing bar welding: a. Verify weldability of reinforcing bars other than ASTM A706;	-	X	AWS D1.4ACI 318: 26.5.4	1705.3.1	
b. Inspect single-pass fillet welds, maximum 5/16"; and	-	X			
c. Inspect all other welds.	X	-			
Inspect anchors cast in concrete.	-	X	ACI 318: 17.8.2		
Inspect anchors post-installed in hardened concrete members. a. Adhesive anchors installed in horizontally or upwardly inclined orientations to resist sustained tension loads.	X	-	ACI 318: 17.8.2.4ACI 318: 17.8.2		
b. Mechanical anchors and adhesive anchors not defined in section "a".	-	X			
Verifying use of required design mix.	-	X	ACI 318: Ch. 19, 26.4.3, 26.4.4	1904.1, 1904.2, 1908.2, 1908.3	ACI-CCI ICC-RCSI
Prior to concrete placement, fabricate specimens for strength tests, perform slump and air content tests, and determine the temperature of the concrete.	X	-	ASTM C 172ASTM C 31ACI 318: 26.4.5, 26.12	1908.10	ACI-CCI ICC-RCSI
Inspect concrete and shotcrete placement for proper application techniques.	X	-	ACI 318: 26.4.5	1908.6, 1908.7, 1908.8	ACI-CCI ICC-RCSI
Verify maintenance of specified curing temperature and techniques.	-	X	ACI 318: 26.4.7-26.4.9	1908.9	ACI-CCI ICC-RCSI

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Verification & Inspection Task	Continuous	Periodic	Referenced Standard	Bldg Code Reference	Agent No.(Qualif.)
Inspect prestressed concrete for: a. Application of prestressing forces b. Grouting of bonded prestressing tendons.	X X	- -	ACI 318: 26.9.2.1ACI 318: 26.9.2.3		
Inspect erection of precast concrete members.	-	X	ACI 318: Ch. 26.8		
Verify in-situ concrete strength, prior to stressing of tendons in post-tensioned concrete and prior to removal of shores and forms from beams and structural slabs.	-	X	ACI 318: 26.10.2		
Inspect formwork for shape, location and dimensions of concrete member being formed.	-	X	ACI 318: 26.10.1(b)		

J. Structural Steel Construction

Verification & Inspection Task	Continuous	Periodic	Referenced Standard	Bldg Code Reference	Agent No. (Qualif.)
STRUCTURAL STEEL CONSTRUCTION			Specification Section 051200	1705.2	
Material verification of high-strength bolts, nuts, and washers: a. Identification markings to conform to ASTM standards specified in the approved construction documents. b. Manufacturer's certificate of compliance required.	- -	X X	AISC 360, Section A3.3;Applicable ASTM material standards		AWS/ AISC SSI ICC-SWSI
Inspection of high-strength bolting:			AISC 360, Section M2.5		AWS/ AISC SSI ICC-SWSI
a. Snug-tight joints. b. Pretensioned and slip-critical joints using turn-of-nut with match-marking, twist-off bolt or	- - X	X X -			

Verification & Inspection Task	Continuous	Periodic	Referenced Standard	Bldg Code Reference	Agent No. (Qualif.)
direct tension indicator methods of installation. c. Pretensioned and slip-critical joints using turn-of-nut without match-marking or calibrated wrench methods of installation.					
Material verification of structural steel:					AWS/ AISC SSI ICC-SWSI
a. Identification markings to conform to ASTM standards specified in the approved construction documents. b. Manufacturers' certified mill test reports.	- -	X X	AISC 360, Section M5.5; Applicable ASTM material standards		
Material verification of weld filler materials:			AISC 360, Section A3.5; Applicable AWS A5 documents		AWS/ AISC SSI ICC-SWSI
a. Identification markings to conform to AWS specification in the approved construction documents. b. Manufacturer's certificate of compliance required.	- -	X X			
Inspection of welding:			AWS D1.1	1705.2	AWS- CWI ASNT
a. Structural steel and cold-formed deck:					
1) Complete and partial penetration groove welds.	X	-			
2) Multi-pass fillet welds.	X	-			
3) Single-pass fillet welds > 5/16".	X	-			
4) Single-pass fillet welds < 5/16".	-	X			
5) Floor and roof deck welds.	-	X	AWS D1.3		
b. Reinforcing steel:			AWS D1.4	1705.3.1	

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Verification & Inspection Task	Continuous	Periodic	Referenced Standard	Bldg Code Reference	Agent No. (Qualif.)
1) Verification of weldability of reinforcing steel other than ASTM A 706.	-	X	ACI 318: 3.5.2		
2) Reinforcing steel-resisting flexural and axial forces in intermediate and special moment frames, and boundary elements of special structural walls of concrete and shear reinforcement.	X	-			
3) Shear reinforcement.	X	-			
4) Other reinforcing steel.	-	X			
Inspection of steel frame joint details for compliance with approved construction documents:				2204	PE/SE
a. Details such as bracing and stiffening.	-	X			
b. Member location.	-	X			
c. Application of joint details at each connection.	-	X			

STATEMENT OF SPECIAL INSPECTIONS

Project: Buffalo Water Board Stone Storage Bldg.

Location: 2 Porter Ave, Buffalo NY, 14201

Architect of Record:

Structural Engineer of Record: Wendel WD Architecture, Engineering, Surveying and Landscape Architecture, P.C.

This Statement of Special Inspections is submitted as a condition for permit issuance in accordance with the Special Inspection requirements of the Building Code. It includes the Schedule of Special Inspection Services applicable to this project as well as the name of the Special Inspector and the identity of other approved agencies intended to be retained for conducting these inspections.

The Special Inspector shall keep records of all inspections and shall furnish inspection reports to the Building Official, Structural Engineer and Architect of Record. Discovered

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discrepancies shall be brought to the immediate attention of the Contractor for correction. If such discrepancies are not corrected, the discrepancies shall be brought to the attention of the Building Official, Structural Engineer and Architect of Record. The Special Inspection program does not relieve the Contractor of his or her responsibilities.

Interim reports shall be submitted to the Building Official, Owner, Structural Engineer and Architect of Record.

A Final Report of Special Inspections documenting completion of all required Special Inspections and correction of any discrepancies noted in the inspections shall be submitted prior to issuance of a Certificate of Use and Occupancy.

Job site safety and means and methods of construction are solely the responsibility of the Contractor.

Prepared by:

(Type or print name)

Signature Date

Design Professional's Seal

Owner's Authorization:

Building Official's Acceptance:

Signature Date

Signature Date

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FINAL REPORT OF SPECIAL INSPECTIONS
Project: Buffalo Water Board Stone Storage Bldg.
Location: 2 Porter Ave, Buffalo NY, 14201
Special Inspector:
To the best of my information, knowledge and belief, the Special Inspections required for this project, and itemized in the <u><i>Statement of Special Inspections</i></u> submitted for permit, have been performed and all discovered discrepancies have been reported and resolved other than the following:
Comments: (Attach continuation sheets if required to complete the description of corrections.)
Interim reports submitted prior to this final report form a basis for and are to be considered an integral part of this final report.
Respectfully Submitted, Special Inspector

(Type or print name)

Signature Date

Design Professional's Seal

END OF SECTION 014533

SECTION 015000 - TEMPORARY FACILITIES AND CONTROLS

PART 1 GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

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

1.3 USE CHARGES

- A. General: Installation and removal of and use charges for temporary facilities shall be included in the Contract Sum unless otherwise indicated. Allow other entities to use temporary services and facilities without cost, including, but not limited to Architect, testing agencies, and authorities having jurisdiction.
- B. Water and Sewer Service from Existing System: Water from Owner's existing water system is available for use without metering and without payment of use charges. Provide connections and extensions of services as required for construction operations.
- C. Electric Power Service from Existing System: Electric power from Owner's existing system is available for use without metering and without payment of use charges. Provide connections and extensions of services as required for construction operations.

1.4 INFORMATIONAL SUBMITTALS

- A. Site Plan: Show temporary facilities, utility hookups, staging areas, and parking areas for construction personnel.
- B. Erosion- and Sedimentation-Control Plan: Show compliance with requirements of EPA Construction General Permit or authorities having jurisdiction, whichever is more stringent.
- C. Fire-Safety Program: Show compliance with requirements of NFPA 241 and authorities having jurisdiction. Indicate Contractor personnel responsible for management of fire-prevention program.
- D. Moisture-Protection Plan: Describe procedures and controls for protecting materials and construction from water absorption and damage.
 - 1. Describe delivery, handling, and storage provisions for materials subject to water absorption or water damage.
 - 2. Indicate procedures for discarding water-damaged materials, protocols for mitigating water intrusion into completed Work, and replacing water-damaged Work.

3. Indicate sequencing of work that requires water, such as sprayed fire-resistive materials, plastering, and terrazzo grinding, and describe plans for dealing with water from these operations. Show procedures for verifying that wet construction has dried sufficiently to permit installation of finish materials.
- E. Dust- and HVAC-Control Plan: Submit coordination drawing and narrative that indicates the dust- and HVAC-control measures proposed for use, proposed locations, and proposed time frame for their operation. Identify further options if proposed measures are later determined to be inadequate. Include the following:
 1. Locations of dust-control partitions at each phase of work.
 2. HVAC system isolation schematic drawing.
 3. Location of proposed air-filtration system discharge.
 4. Waste handling procedures.
 5. Other dust-control measures.
- F. Underground Utility Plan: Submit site plan locating all underground services and utilities within the exterior stone loading area (ramp) at the Stone Storage Building.

1.5 QUALITY ASSURANCE

- A. Electric Service: Comply with NECA, NEMA, and UL standards and regulations for temporary electric service. Install service to comply with NFPA 70.
- B. Tests and Inspections: Arrange for authorities having jurisdiction to test and inspect each temporary utility before use. Obtain required certifications and permits.
- C. Accessible Temporary Egress: Comply with applicable provisions in the U.S. Architectural & Transportation Barriers Compliance Board's ADA-ABA Accessibility Guidelines, ICC/ANSI A117.1 and local jurisdictional requirements, whichever is more stringent.

1.6 PROJECT CONDITIONS

- A. Temporary Use of Permanent Facilities: Engage Installer of each permanent service to assume responsibility for operation, maintenance, and protection of each permanent service during its use as a construction facility before Owner's acceptance, regardless of previously assigned responsibilities.

PART 2 PRODUCTS

2.1 MATERIALS

- A. Chain-Link Fencing: Minimum 2-inch, 0.148-inch-thick, galvanized-steel, chain-link fabric fencing; minimum 6 feet high with galvanized-steel pipe posts; minimum 2-3/8-inch-OD line posts and 2-7/8-inch- OD corner and pull posts, with 1-5/8-inch- OD top rails.
- B. Polyethylene Sheet: Reinforced, fire-resistive sheet, 10-mil minimum thickness, with flame-spread rating of 15 or less per ASTM E 84 and passing NFPA 701 Test Method 2.
- C. Dust-Control Adhesive-Surface Walk-off Mats: Provide mats minimum 36 by 60 inches.

- D. Insulation: Unfaced mineral-fiber blanket, manufactured from glass, slag wool, or rock wool; with maximum flame-spread and smoke-developed indexes of 25 and 50, respectively.

2.2 TEMPORARY FACILITIES

- A. Field Offices, General: Prefabricated or mobile units with serviceable finishes, temperature controls, and foundations adequate for normal loading.
- B. Contractor's Field Office: Of sufficient size to accommodate needs of construction personnel office activities. Keep office clean and orderly. Furnish and equip offices as follows:
 - 1. Furniture required for Project-site documents including file cabinets, plan tables, plan racks, and bookcases.
 - 2. Drinking water and private toilet.
 - 3. Coffee machine and supplies.
 - 4. Heating and cooling equipment necessary to maintain a uniform indoor temperature of 68 to 72 deg F.
 - 5. Lighting fixtures capable of maintaining average illumination of 20 fc at desk height.
- C. Storage and Fabrication Sheds: Provide sheds sized, furnished, and equipped to accommodate materials and equipment for construction operations.
 - 1. Store combustible materials apart from building.

2.3 EQUIPMENT

- A. Fire Extinguishers: Portable, UL rated; with class and extinguishing agent as required by locations and classes of fire exposures.
- B. HVAC Equipment: Unless Owner authorizes use of permanent HVAC system, provide vented, self-contained, liquid-propane-gas or fuel-oil heaters with individual space thermostatic control.
 - 1. Use of gasoline-burning space heaters, open-flame heaters, or salamander-type heating units is prohibited.
 - 2. Heating Units: Listed and labeled for type of fuel being consumed, by a qualified testing agency acceptable to authorities having jurisdiction, and marked for intended location and application.

PART 3 EXECUTION

3.1 INSTALLATION, GENERAL

- A. Locate facilities where they will serve Project adequately and result in minimum interference with performance of the Work. Relocate and modify facilities as required by progress of the Work.
- B. Provide each facility ready for use when needed to avoid delay. Do not remove until facilities are no longer needed or are replaced by authorized use of completed permanent facilities.

3.2 TEMPORARY UTILITY INSTALLATION

- A. General: Install temporary service or connect to existing service.

1. Arrange with utility company, Owner, and existing users for time when service can be interrupted, if necessary, to make connections for temporary services.
- B. Sewers and Drainage: Provide temporary utilities to remove effluent lawfully.
 1. Connect temporary sewers to municipal system as directed by authorities having jurisdiction.
- C. Water Service: Connect to Owner's existing water service facilities. Clean and maintain water service facilities in a condition acceptable to Owner. At Substantial Completion, restore these facilities to condition existing before initial use.
- D. Sanitary Facilities: Provide temporary toilets, wash facilities, and drinking water for use of construction personnel. Comply with requirements of authorities having jurisdiction for type, number, location, operation, and maintenance of fixtures and facilities.
- E. Heating: Provide temporary heating required by construction activities for curing or drying of completed installations or for protecting installed construction and/or existing equipment and infrastructure from adverse effects of low temperatures or high humidity. Select equipment that will not have a harmful effect on completed installations or elements being installed.
- F. Isolation of Work Areas in Occupied Facilities: Prevent dust, fumes, and odors from entering occupied areas.
 1. Maintain dust partitions during the Work. Use vacuum collection attachments on dust-producing equipment. Isolate limited work within occupied areas using portable dust-containment devices.
 2. Perform daily construction cleanup and final cleanup using approved, HEPA-filter-equipped vacuum equipment.
- G. Ventilation and Humidity Control: Provide temporary ventilation required by construction activities for curing or drying of completed installations or for protecting installed construction from adverse effects of high humidity. Select equipment that will not have a harmful effect on completed installations or elements being installed. Coordinate ventilation requirements to produce ambient condition required and minimize energy consumption.
- H. Electric Power Service: Provide electric power service and distribution system of sufficient size, capacity, and power characteristics required for construction operations.
 1. Install electric power service overhead or underground as arranged with the power company.
 2. Connect temporary service to Owner's existing power source, as directed by Owner.
- I. Lighting: Provide temporary lighting with local switching that provides adequate illumination for construction operations, observations, inspections, and traffic conditions.
 1. Install and operate temporary lighting that fulfills security and protection requirements without operating entire system.
 2. Install lighting for Project identification sign.

3.3 SUPPORT FACILITIES INSTALLATION

- A. General: Comply with the following:

1. Provide construction for temporary offices, shops, and sheds located within construction area or within 30 feet of building lines that is noncombustible according to ASTM E 136. Comply with NFPA 241.
 2. Maintain support facilities until Architect schedules Substantial Completion inspection. Remove before Substantial Completion. Personnel remaining after Substantial Completion will be permitted to use permanent facilities, under conditions acceptable to Owner.
- B. Temporary Roads and Paved Areas: Construct and maintain temporary roads and paved areas adequate for construction operations. Locate temporary roads and paved areas as indicated or within construction limits indicated on Drawings.
1. Provide dust-control treatment that is nonpolluting and nontracking. Reapply treatment as required to minimize dust.
- C. Temporary Use of Permanent Roads and Paved Areas: Locate temporary roads and paved areas in same location as permanent roads and paved areas. Construct and maintain temporary roads and paved areas adequate for construction operations. Extend temporary roads and paved areas, within construction limits indicated, as necessary for construction operations.
1. Coordinate elevations of temporary roads and paved areas with permanent roads and paved areas.
 2. Recondition base after temporary use, including removing contaminated material, regrading, proofrolling, compacting, and testing.
- D. Traffic Controls: Comply with requirements of authorities having jurisdiction.
1. Protect existing site improvements to remain including curbs, pavement, and utilities.
 2. Maintain access for fire-fighting equipment and access to fire hydrants.
- E. Dewatering Facilities and Drains: Comply with requirements of authorities having jurisdiction. Maintain Project site, excavations, and construction free of water.
1. Dispose of rainwater in a lawful manner that will not result in flooding Project or adjoining properties or endanger permanent Work or temporary facilities.
 2. Remove snow and ice as required to minimize accumulations.
- F. Project Identification and Temporary Signs: Prepare Project identification and other signs in sizes indicated. Install signs where indicated to inform public and persons seeking entrance to Project. Do not permit installation of unauthorized signs.
1. Engage an experienced sign painter to apply graphics for Project identification signs. Comply with details indicated, or if not indicated, provide 4 foot by 8 foot sign comprised of $\frac{3}{4}$ inch exterior grade plywood mounted on 4 x 4 preservative treated wood posts set 4 feet into the ground. Sign content and layout as directed by Architect. Submit shop drawings for approval prior to fabrication and installation.
 2. Prepare temporary signs to provide directional information to construction personnel and visitors.
 3. Construct signs of exterior-type Grade B-B high-density concrete form overlay plywood in sizes and thicknesses indicated. Support on posts or framing of preservative-treated wood or steel.
 4. Paint sign panel and applied graphics with exterior-grade alkyd gloss enamel over exterior primer.
 5. Maintain and touchup signs so they are legible at all times.

- G. Waste Disposal Facilities: Provide waste-collection containers in sizes adequate to handle waste from construction operations. Comply with requirements of authorities having jurisdiction. Comply with progress cleaning requirements in Section 017300 "Execution."
- H. Lifts and Hoists: Provide facilities necessary for hoisting materials and personnel.
 - 1. Truck cranes and similar devices used for hoisting materials are considered "tools and equipment" and not temporary facilities.
- I. Temporary Stairs: Until permanent stairs are available, provide temporary stairs where ladders are not adequate.
- J. Existing Stair Usage: Use of Owner's existing stairs will be permitted, provided stairs are cleaned and maintained in a condition acceptable to Owner. At Substantial Completion, restore stairs to condition existing before initial use.
 - 1. Provide protective coverings, barriers, devices, signs, or other procedures to protect stairs and to maintain means of egress. If stairs become damaged, restore damaged areas so no evidence remains of correction work.
- K. Temporary Use of Permanent Stairs: Use of new stairs for construction traffic will be permitted, provided stairs are protected and finishes restored to new condition at time of Substantial Completion.

3.4 SECURITY AND PROTECTION FACILITIES INSTALLATION

- A. Protection of Existing Facilities: Protect existing vegetation, equipment, structures, utilities, and other improvements at Project site and on adjacent properties, except those indicated to be removed or altered. Repair damage to existing facilities.
- B. Environmental Protection: Provide protection, operate temporary facilities, and conduct construction as required to comply with environmental regulations and that minimize possible air, waterway, and subsoil contamination or pollution or other undesirable effects.
 - 1. Comply with work restrictions specified in Section 011000 "Summary."
- C. Stormwater Control: Comply with requirements of authorities having jurisdiction. Provide barriers in and around excavations and subgrade construction to prevent flooding by runoff of stormwater from heavy rains.
- D. Barricades, Warning Signs, and Lights: Comply with requirements of authorities having jurisdiction for erecting structurally adequate barricades, including warning signs and lighting.
- E. Temporary Egress: Maintain temporary egress from existing occupied facilities as indicated and as required by authorities having jurisdiction.
- F. Temporary Fire Protection: Install and maintain temporary fire-protection facilities of types needed to protect against reasonably predictable and controllable fire losses. Comply with NFPA 241; manage fire-prevention program.
 - 1. Prohibit smoking in construction areas.
 - 2. Supervise welding operations, combustion-type temporary heating units, and similar sources of fire ignition according to requirements of authorities having jurisdiction.

3. Develop and supervise an overall fire-prevention and -protection program for personnel at Project site. Review needs with local fire department and establish procedures to be followed. Instruct personnel in methods and procedures. Post warnings and information.

3.5 MOISTURE AND MOLD CONTROL

- A. Contractor's Moisture-Protection Plan: Avoid trapping water in finished work. Document visible signs of mold that may appear during construction.
- B. Exposed Construction Phase: Before installation of weather barriers, when materials are subject to wetting and exposure and to airborne mold spores, protect as follows:
 1. Protect porous materials from water damage.
 2. Protect stored and installed material from flowing or standing water.
 3. Keep porous and organic materials from coming into prolonged contact with concrete.
 4. Remove standing water from decks.
 5. Keep deck openings covered or dammed.
- C. Partially Enclosed Construction Phase: After installation of weather barriers but before full enclosure and conditioning of building, when installed materials are still subject to infiltration of moisture and ambient mold spores, protect as follows:
 1. Do not load or install drywall or other porous materials or components, or items with high organic content, into partially enclosed building.
 2. Keep interior spaces reasonably clean and protected from water damage.
 3. Periodically collect and remove waste containing cellulose or other organic matter.
 4. Discard or replace water-damaged material.
 5. Do not install material that is wet.
 6. Discard, replace, or clean stored or installed material that begins to grow mold.
 7. Perform work in a sequence that allows any wet materials adequate time to dry before enclosing the material in drywall or other interior finishes.

3.6 OPERATION, TERMINATION, AND REMOVAL

- A. Supervision: Enforce strict discipline in use of temporary facilities. To minimize waste and abuse, limit availability of temporary facilities to essential and intended uses.
- B. Maintenance: Maintain facilities in good operating condition until removal.
 1. Maintain operation of temporary enclosures, heating, cooling, humidity control, ventilation, and similar facilities on a 24-hour basis where required to achieve indicated results and to avoid possibility of damage.
- C. Temporary Facility Changeover: Do not change over from using temporary security and protection facilities to permanent facilities until Substantial Completion.
- D. Termination and Removal: Remove each temporary facility when need for its service has ended, when it has been replaced by authorized use of a permanent facility, or no later than Substantial Completion. Complete or, if necessary, restore permanent construction that may have been delayed because of interference with temporary facility. Repair damaged Work, clean exposed surfaces, and replace construction that cannot be satisfactorily repaired.
 1. Materials and facilities that constitute temporary facilities are property of Contractor. Owner reserves right to take possession of Project identification signs.

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2. Remove temporary roads and paved areas not intended for or acceptable for integration into permanent construction. Where area is intended for landscape development, remove soil and aggregate fill that do not comply with requirements for fill or subsoil. Remove materials contaminated with road oil, asphalt and other petrochemical compounds, and other substances that might impair growth of plant materials or lawns. Repair or replace street paving, curbs, and sidewalks at temporary entrances, as required by authorities having jurisdiction.
3. At Substantial Completion, repair, renovate, and clean permanent facilities used during construction period. Comply with final cleaning requirements specified in Section 017700 "Closeout Procedures."

END OF SECTION 015000

SECTION 016000 - PRODUCT REQUIREMENTS

PART 1 GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract including General and Supplementary Conditions and other Division 01 Specification Sections apply to this Section.

1.2 SUMMARY

- A. Section includes administrative and procedural requirements for selection of products for use in Project, product delivery, storage, handling, manufacturers' standard warranties on products, special warranties and comparable products.

1.3 DEFINITIONS

- A. Products: Items obtained for incorporating into the Work, whether purchased for Project or taken from previously purchased stock. The term "product" includes the terms "material," "equipment," "system" and terms of similar intent.
 - 1. Named Products: Items identified by manufacturer's product name, including make or model number or other designation shown or listed in manufacturer's published product literature that is current as of date of the Contract Documents.
 - 2. New Products: Items that have not previously been incorporated into another project or facility. Products salvaged, reused or repurposed from other projects are not considered new products.
 - 3. Comparable Product: Product that is demonstrated and approved through submittal process to have the indicated qualities related to type, function, dimension, in-service performance, physical properties, appearance and other characteristics that are equivalent or exceed those of specified product.
- B. Basis-of-Design Product Specification: A specification in which a specific manufacturer's product is named and accompanied by the words "basis of design" or "basis of design product" including make, model number or other designation to establish the significant qualities related to type, function, dimension, in-service performance, physical properties, appearance and other characteristics for purposes of evaluating comparable products of additional manufacturers named in the specification.

1.4 ACTION SUBMITTALS

- A. Comparable Product Requests: Submit request for consideration of each comparable product. Identify product or fabrication or installation method to be replaced. Include Specification Section number and title and Drawing numbers and titles.
 - 1. Include data to indicate compliance with the requirements specified in "Comparable Products" Article.

2. Architect's Action: If necessary Architect will request additional information or documentation for evaluation within one week of receipt of a comparable product request. Architect will notify Contractor, through the Construction Manager of approval or rejection of proposed comparable product request within business ten (10) days of receipt of request, or five (5) business days of receipt of additional information or documentation, whichever is later.
 - a. Form of Approval: As specified in Section 013300 Submittal Procedures.
 - b. Use product specified if Architect does not issue a decision on use of a comparable product request within time allocated.

- B. Basis of Design Product Specification Submittal: Comply with requirements in Section 013300 Submittal Procedures. Show compliance with requirements.

1.5 QUALITY ASSURANCE

- A. Compatibility of Options: If Contractor is given option of selecting between two or more products for use on Project, select product compatible with products previously selected, even if previously selected products were also options.
 1. Each contractor is responsible for providing products and construction methods compatible with products and construction methods of other contractors.
 2. If a dispute arises between contractors over concurrently selectable but incompatible products, Architect will determine which products shall be used.

1.6 PRODUCT DELIVERY, STORAGE, AND HANDLING

- A. Deliver, store, and handle products using means and methods that will prevent damage, deterioration, and loss, including theft and vandalism. Comply with manufacturer's written instructions.
- B. Delivery and Handling:
 1. Schedule delivery to minimize long-term storage at Project site and to prevent overcrowding of construction spaces.
 2. Coordinate delivery with installation time to ensure minimum holding time for items that are flammable, hazardous, easily damaged, or sensitive to deterioration, theft, and other losses.
 3. Deliver products to Project site in an undamaged condition in manufacturer's original sealed container or other packaging system, complete with labels and instructions for handling, storing, unpacking, protecting and installing.
 4. Inspect products on delivery to determine compliance with the Contract Documents and to determine that products are undamaged and properly protected.
- C. Storage:
 1. Store products to allow for inspection and measurement of quantity or counting of units.
 2. Store materials in a manner that will not endanger Project structure.
 3. Store products that are subject to damage by the elements, under cover in a weather tight enclosure above ground, and with ventilation adequate to prevent condensation.
 4. Protect foam plastic from exposure to sunlight, except to extent necessary for period of installation and concealment by covering construction.

5. Comply with product manufacturer's written instructions for temperature, humidity, ventilation, and weather-protection requirements for storage.
6. Protect stored products from damage, and liquids from freezing.
7. Provide a secure location and enclosure at Project site for storage of materials and equipment by Owner's construction forces. Coordinate location and security procedures with Owner.

1.7 PRODUCT WARRANTIES

- A. Warranties specified in other Sections shall be in addition to, and run concurrent with, other warranties required by the Contract Documents. Manufacturer's disclaimers and limitations on product warranties do not relieve Contractor of obligations under requirements of the Contract Documents.
 1. Manufacturer's Warranty: Written warranty furnished by individual manufacturer for a particular product and specifically endorsed by manufacturer to Owner.
 2. Special Warranty: Written warranty required by the Contract Documents to provide specific rights for Owner.
- B. Special Warranties: Prepare a written document that contains appropriate terms and identification, ready for execution.
 1. Manufacturer's Standard Form: Modified to include Project-specific information and properly executed.
 2. Specified Form: When specified forms are included with the Specifications, prepare a written document using indicated form properly executed.
 3. See other Sections for specific content requirements and particular requirements for submitting special warranties.
- C. Submittal Time: Comply with requirements in Section 017700 Closeout Procedures.

PART 2 PRODUCTS

2.1 PRODUCT SELECTION PROCEDURES

- A. General Product Requirements: Provide products that comply with the Contract Documents, are undamaged and, unless otherwise indicated, are new at time of installation.
 1. Provide products complete with accessories, trim, finish, fasteners, and other items needed for a complete installation and indicated use and effect.
 2. Standard Products: If available, and unless custom products or nonstandard options are specified, provide standard products of types that have been produced and used successfully in similar situations on other projects.
 3. Owner reserves the right to limit selection to products with warranties not in conflict with requirements of the Contract Documents.
 4. Where products are accompanied by the term "as selected," Architect will make selection.
 5. Descriptive, performance, and reference standard requirements in the Specifications establish salient characteristics of products.

6. Or Equal: For products specified by name and accompanied by the term "or equal," "or approved equal," or "or approved," comply with requirements in "Comparable Products" Article to obtain approval for use of an unnamed product.
- B. Product Selection Procedures:
 1. Product: Where Specifications name a single manufacturer and product, provide the named product that complies with requirements. Comparable products for Contractor's convenience will not be considered.
 2. Manufacturer/Source: Where Specifications name a single manufacturer or source, provide a product by the named manufacturer or source that complies with requirements. Comparable products for Contractor's convenience will not be considered.
 3. Products:
 - a. Restricted List: Where Specifications include a list of names of both manufacturers and products, provide one of the products listed that complies with requirements. Comparable products for Contractor's convenience will not be considered, unless otherwise indicated.
 - b. Nonrestricted List: Where Specifications include a list of names of both available manufacturers and products, provide one of the products listed, or an unnamed product, that complies with requirements. Comply with requirements in "Comparable Products" Article for consideration of an unnamed product.
 4. Manufacturers:
 - a. Restricted List: Where Specifications include a list of manufacturers' names, provide a product by one of the manufacturers listed that complies with requirements. Comparable products for Contractor's convenience will not be considered, unless otherwise indicated.
 - b. Nonrestricted List: Where Specifications include a list of available manufacturers, provide a product by one of the manufacturers listed, or a product by an unnamed manufacturer, that complies with requirements. Comply with requirements in "Comparable Products" Article for consideration of an unnamed manufacturer's product.
 5. Basis of Design Product: Where Specifications name a product, or refer to a product indicated on Drawings, and include a list of manufacturers, provide the specified or indicated product or a comparable product by one of the other named manufacturers. Drawings and Specifications indicate sizes, profiles, dimensions, and other characteristics that are based on the product named. Comply with requirements in "Comparable Products" Article for consideration of an unnamed product by one of the other named manufacturers.
- C. Visual Matching Specification: Where Specifications require "match Architect's sample", provide a product that complies with requirements and matches Architect's sample. Architect's decision will be final on whether a proposed product matches.
- D. Visual Selection Specification: Where Specifications include the phrase "as selected by Architect from manufacturer's full range" or similar phrase, select a product that complies with requirements. Architect will select color, gloss, pattern, density, or texture from manufacturer's product line that includes both standard and premium items.

2.2 COMPARABLE PRODUCTS

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- A. Conditions for Consideration: Architect will consider Contractor's request for comparable product when the following conditions are satisfied. If the following conditions are not satisfied, Architect may return requests without action, except to record noncompliance with these requirements:
1. Evidence that the proposed product does not require revisions to the Contract Documents, and that it is consistent with the Contract Documents and will produce the indicated results, and that it is compatible with other portions of the Work.
 2. Detailed comparison of significant qualities of proposed product with those named in the Specifications. Significant qualities include attributes such as performance, weight, size, durability, visual effect, and specific features and requirements indicated.
 3. Evidence that proposed product provides specified warranty.
 4. List of similar installations for completed projects with project names and addresses and names and addresses of Architects, Construction Managers, and Owners, if requested.
 5. Samples, if requested.

PART 3 EXECUTION (NOT USED)

END OF SECTION 016000

SECTION 017300 - EXECUTION

PART 1 GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section includes general administrative and procedural requirements governing execution of the Work including, but not limited to, the following:
 - 1. Construction layout.
 - 2. Installation of the Work.
 - 3. Cutting and patching.
 - 4. Correction of the work.
 - 5. Coordination of Owner-installed products.
 - 6. Progress cleaning.
 - 7. Dust control.
 - 8. Starting and adjusting.
 - 9. Protection of installed construction.

1.3 DEFINITIONS

- A. Cutting: Removal of in-place construction necessary to permit installation or performance of other work.
- B. Patching: Fitting and repair work required to restore construction to original conditions after installation of other work.

1.4 INFORMATIONAL SUBMITTALS

- A. Qualification Data: For licensed land surveyor.
- B. Certificates: Submit certificate signed by licensed land surveyor or certifying that location and elevation of improvements comply with requirements.
- C. Cutting and Patching Plan: Submit plan describing procedures at least 14 calendar days prior to the time cutting and patching will be performed. Include the following information:
 - 1. Extent: Describe reason for and extent of each occurrence of cutting and patching.
 - 2. Changes to In-Place (Existing) Construction: Describe anticipated results. Include changes to structural elements and operating components as well as changes in building appearance and other significant visual elements.
 - 3. Products: List products to be used for patching and firms or entities that will perform patching work.

4. Dates: Indicate when cutting and patching will be performed.
 5. Utilities and Mechanical and Electrical Systems: List services and systems that cutting and patching procedures will disturb or affect. List services and systems that will be relocated and those that will be temporarily out of service. Indicate length of time permanent services and systems will be disrupted.
 - a. Include description of provisions for temporary services and systems during interruption of permanent services and systems.
 6. Structural Elements: Where cutting and patching involve adding reinforcement to structural elements, submit details and engineering calculations prepared by Contractor's licensed Professional Engineer showing integration of reinforcement with original structure.
 7. Describe cutting and patching procedures of lead based paint.
- D. Landfill Receipts: Submit copy of receipts issued by a landfill facility, licensed to accept hazardous materials, for hazardous waste disposal.

1.5 QUALITY ASSURANCE

- A. Cutting and Patching: Comply with requirements for and limitations on cutting and patching of construction elements.
1. Structural Elements: 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 and load-deflection ratio. Structural elements include the following:
 - a. Primary structural systems.
 - b. Secondary and miscellaneous structural systems.
 - c. Lintels.
 - d. Bearing walls and retaining walls.
 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. Operational elements include the following:
 - a. Primary operational systems and equipment.
 - b. Fire separation assemblies.
 - c. Air or smoke barriers.
 - d. Fire-suppression systems.
 - e. Mechanical systems piping and ducts.
 - f. Control systems.
 - g. Communication systems.
 - h. Fire-detection and -alarm systems.
 - i. Conveying systems.
 - j. Electrical wiring systems.
 - k. Operating systems of special construction.
 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. Other construction elements include but are not limited to the following:

- a. Water, moisture, or vapor barriers.
 - b. Membranes and flashings.
 - c. Exterior curtain-wall construction.
 - d. Sprayed fire-resistive material.
 - e. Equipment supports.
 - f. Piping, ductwork, vessels, and equipment.
 - g. Noise- and vibration-control elements and systems.
 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.
- B. Cutting and Patching Conference: Before proceeding, meet at Project site with parties involved in cutting and patching, including mechanical and electrical trades. Review areas of potential interference and conflict. Coordinate procedures and resolve potential conflicts before proceeding.
- C. Manufacturer's Installation Instructions: Obtain and maintain on-site manufacturer's written recommendations and instructions for installation of products and equipment.

PART 2 PRODUCTS

2.1 MATERIALS

- A. General: Comply with requirements specified in other Sections.
- B. In-Place (Existing) Materials: Use materials for patching identical to in-place (existing) materials. For exposed surfaces, use materials that visually match in-place (existing) 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 (existing) materials.

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, mechanical and electrical systems, and other construction affecting the Work.
1. Before construction, verify the location and invert elevation at points of connection of sanitary sewer, storm sewer, and water-service piping; underground electrical services, and other utilities.
 2. Furnish location data for work related to Project that must be performed by public utilities serving Project site.

- B. Examination and Acceptance of Conditions: Before proceeding with each component of the Work, examine substrates, areas, and conditions, with Installer or Applicator present where indicated, for compliance with requirements for installation tolerances and other conditions affecting performance. Record observations.
 - 1. Examine roughing-in for mechanical and electrical systems to verify actual locations of connections before equipment and fixture installation.
 - 2. Examine walls, floors, and roofs for suitable conditions where products and systems are to be installed.
 - 3. Verify compatibility with and suitability of substrates, including compatibility with existing finishes or primers.
- C. Written Report: Where a written report listing conditions detrimental to performance of the Work is required by other Sections, include the following:
 - 1. Description of the Work.
 - 2. List of detrimental conditions, including substrates.
 - 3. List of unacceptable installation tolerances.
 - 4. Recommended corrections.
- D. Proceed with installation only after unsatisfactory conditions have been corrected. Proceeding with the Work indicates acceptance of surfaces and conditions and the cost of any and all remedial work required due to installation on unacceptable surfaces and substrates or under improper conditions shall be borne by the Contractor.
- E. Examine surfaces to be cut and patched and conditions under which cutting and patching are to be performed.
 - 1. Compatibility: Before patching, verify compatibility with and suitability of substrates, including compatibility with existing finishes or primers.
 - 2. Proceed with installation only after unsafe or unsatisfactory conditions have been corrected.

3.2 PREPARATION

- A. Existing Utility Information: Furnish information to local utility and/or 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.
 - 1. Refer to Section 011000 "Summary of Work" for utility interruptions.
- 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 caused by differing field conditions outside the control of Contractor, submit a request for information to Architect according to 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. If discrepancies are discovered, notify Construction Manager promptly.
- B. Site Improvements: Locate and lay out site improvements, including pavements, grading, fill and topsoil placement, utility slopes, and rim and invert elevations.
- C. 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.
- D. 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 Construction Manager.

3.4 FIELD ENGINEERING

- A. Identification: Refer to drawings for 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. Benchmarks: Establish and maintain a minimum of two permanent benchmarks on Project site, referenced to data established by survey control points. Comply with authorities having jurisdiction for type and size of benchmark.
 - 1. Record benchmark locations, with horizontal and vertical data, on Project Record Documents.
 - 2. Where the actual location or elevation of layout points cannot be marked, provide temporary reference points sufficient to locate the Work.
 - 3. Remove temporary reference points when no longer needed. Restore marked construction to its original condition.

3.5 INSTALLATION

- A. General: Locate the Work and components of the Work accurately, in correct alignment and elevation, as indicated.
 - 1. Make vertical work plumb and make horizontal work level.
 - 2. Where space is limited, install components to maximize space available for maintenance and ease of removal for replacement.
 - 3. Conceal pipes, ducts, and wiring in finished areas unless otherwise indicated.
- B. Comply with manufacturer's written instructions and recommendations for installing products in applications indicated.
- C. Install products at the time and under conditions that will ensure the best possible results. Maintain conditions required for product performance until Substantial Completion.
- D. Conduct construction operations so no part of the Work is subjected to damaging operations or loading in excess of that expected during normal conditions of occupancy.
- E. Sequence the Work and allow adequate clearances to accommodate movement of construction items on site and placement in permanent locations.
- F. Tools and Equipment: Do not use tools or equipment that produce harmful 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 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.
 - 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. Fit exposed connections together to form hairline joints.
- J. Hazardous Materials: Use products, cleaners, and installation materials that are not considered hazardous.

3.6 CUTTING AND PATCHING

- A. Cutting and Patching, 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. Adjacent Occupied Areas: Where interference with use of adjoining areas or interruption of free passage to adjoining areas is unavoidable, coordinate cutting and patching according to requirements in Section 011000 "Summary."
- F. Existing Utility Services and Mechanical/Electrical Systems: Where existing services/systems are required to be removed, relocated, or abandoned, bypass such services/systems before cutting to prevent interruption to occupied areas.
- G. 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 and Masonry: 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.
 - 5. Mechanical and Electrical Services: Cut off pipe or conduit in walls or partitions to be removed. Cap, valve, or plug and seal remaining portion of pipe or conduit to prevent entrance of moisture or other foreign matter after cutting.
 - 6. Proceed with patching after construction operations requiring cutting are complete.
- H. 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. 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 minimize 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.
 3. Floors and Walls: Where walls or partitions that are removed extend one finished area into another, patch and repair floor and wall surfaces in the new space. Provide an even surface of uniform finish, color, texture, and appearance. Remove in-place floor and wall coverings and replace with new materials, if necessary, to achieve uniform color and appearance.
 - a. Where patching occurs in a painted surface, prepare substrate and apply primer and intermediate paint coats appropriate for substrate over the patch, and apply final paint coat over entire unbroken surface containing the patch. Provide additional coats until patch blends with adjacent surfaces.
- I. 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 CORRECTION OF THE WORK

- A. Repair or remove and replace defective construction. Restore damaged substrates and finishes. Comply with requirements in this Specification Section.
 1. Repairing includes replacing defective parts, refinishing damaged surfaces, touching up with matching materials, and properly adjusting operating equipment.
- B. Restore permanent facilities used during construction to their specified condition.
- C. Remove and replace damaged surfaces that are exposed to view if surfaces cannot be repaired without visible evidence of repair.
- D. Repair components that do not operate properly. Remove and replace operating components that cannot be repaired.
- E. Remove and replace chipped, scratched, and broken glass or reflective surfaces in kind.

3.8 PROGRESS CLEANING

- A. General: Maintain and clean Project site and work areas daily, including common areas. Coordinate progress cleaning for joint-use areas where more than one installer has worked. Enforce requirements strictly. Dispose of materials lawfully.
 1. Comply with requirements in NFPA 241 for removal of combustible waste materials and debris.
 2. Do not hold waste materials more than seven calendar days during normal weather or three calendar days if the temperature is expected to rise above 80 deg F.
 3. Containerize hazardous and unsanitary waste materials separately from other waste. Mark containers appropriately and dispose of legally, according to regulations.
 - a. Use containers intended for holding waste materials of type to be stored.

4. Coordinate progress cleaning for joint-use areas where Contractor and other contractors are working concurrently.
 5. Do not transport construction debris through occupied areas of existing facilities.
- B. Site: Maintain Project site free of waste materials and debris.
- C. Work Areas: Maintain and 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. Public Roads: Roads shall be cleared of all mud, dust, debris, etc. on a daily basis or as directed by Architect, Construction Manager, or Owner.
- E. 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.
- F. Concealed Spaces: Remove debris from concealed spaces before enclosing the space.
- G. Exposed Surfaces in Finished Areas: Clean exposed surfaces and protect as necessary to ensure freedom from damage and deterioration at time of Substantial Completion.
- H. 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 015000 "Temporary Facilities and Controls" or Section 017419 "Construction Waste Management and Disposal".
- I. During handling and installation, clean and protect construction in progress and adjoining materials already in place. Apply protective covering where required to ensure protection from damage or deterioration at Substantial Completion.
- J. Clean and provide maintenance on completed construction as frequently as necessary through the remainder of the construction period. Adjust and lubricate operable components to ensure operability without damaging effects.
- K. Limiting Exposures: Supervise construction operations to assure that no part of the construction, completed or in progress, is subject to harmful, dangerous, damaging, or otherwise deleterious exposure during the construction period.
- L. Responsibilities of the Construction Manager and Contractor(s) :
1. The Contractor shall provide and service dumpsters for the use of all Contractors.
 2. Dumpsters shall be located at each site, accessible to building and roads. Each Contractor may legally load acceptable construction debris into the Dumpsters from this project only. Cost of all disposal fees shall be by the Contractor and dumpsters shall remain on the project until project completion, or as directed by Owner. The Contractor shall secure dumpsters during off-hours. This excludes asbestos items.
 3. The Contractor is responsible for clean-up and disposal of waste materials, debris and rubbish on a daily basis.

4. The Owner may issue written notification of insufficient cleaning relative to the requirements of this Section. Upon issuance of the cleaning notice:
 - a. All waste and accumulation of trash containing the Contractor's debris shall be removed from the Owner's premises within 24 hours of notification.
 - b. All designated project areas containing the Contractor's debris or requiring general housekeeping shall be left fine broom clean (interior) or raked clean (exterior or rough surface). Sweeping compound shall be used for all interior broom cleaning to control dust.
 - c. Failure by the Contractor to comply with the 24 hour requirement of the notice to the satisfaction of the Owner will result in a cleaning program directed by the Owner at the expense of the Contractor. Cost of clean-up performed by the Owner will be deducted from the Contractor's Request for Payment.
5. Maintain areas under Contractor's control free of waste materials, debris, and rubbish. Maintain site in a clean and orderly condition.
6. Daily clean interior areas to provide suitable conditions for work.
7. Broom clean interior areas prior to start of surface finishing, and continue cleaning on an as-needed basis.
8. Control cleaning operations so that dust and other particles will not adhere to wet or newly-coated surfaces.
9. Remove waste materials, debris, and rubbish from site or to a dumpster provided by the Contractor daily.
10. The Contractor shall provide end-of-day clean-up of work areas of all prime contractors on a daily basis, conforming to requirements above.

3.9 DUST CONTROL

- A. The Contractor shall at all times control the spread of dust and dirt during the execution of the work. Use water mist, temporary closures, and other suitable methods. Use wet saws for cutting. Provide walk-off mats at entrances and exits to construction areas.
 1. Do not use water when it may damage existing construction or create hazardous or objectionable conditions.
 2. Wet mop floors to eliminate trackable dust and dirt and wipe down walls and doors of dust and dirt.

3.10 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."

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3.11 PROTECTION OF INSTALLED CONSTRUCTION

- A. Provide final protection and maintain conditions that ensure installed Work is without damage or deterioration at time of Substantial Completion.
- B. Comply with manufacturer's written instructions for temperature and relative humidity.
- C. Supervise construction operations to ensure that in progress work is not stored on and/or effects completed construction such as floors and walls, which are subject to harmful, dangerous, damaging, or otherwise deleterious exposure during the construction period.

END OF SECTION 017300

SECTION 017700 - CLOSEOUT PROCEDURES

PART 1 GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section includes administrative and procedural requirements for contract closeout, including, but not limited to, the following:
 - 1. Substantial Completion procedures.
 - 2. Final completion procedures.
 - 3. Warranties.
 - 4. Final cleaning.
 - 5. Repair of the Work.

1.3 ACTION SUBMITTALS

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

1.4 CLOSEOUT SUBMITTALS

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

1.5 MAINTENANCE MATERIAL SUBMITTALS

- A. Schedule of Maintenance Material Items: For maintenance material submittal items specified in other Sections.

1.6 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 business 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, final completion construction photographic documentation, 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 Construction Manager. Label with manufacturer's name and model number where applicable.
 - a. Schedule of Maintenance Material Items: Prepare and submit schedule of maintenance material submittal items, including name and quantity of each item and name and number of related Specification Section. Obtain Architect's signature for receipt of submittals.
 5. Submit test/adjust/balance records.
 6. Submit sustainable design submittals required in applicable individual "Sustainable" Section.
 7. 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 business 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. Instruct Owner's personnel in operation, adjustment, and maintenance of products, equipment, and systems.
 6. Advise Owner of changeover in heat and other utilities.
 7. Participate with Owner in conducting inspection and walkthrough with local emergency responders.
 8. Terminate and remove temporary facilities from Project site, along with mockups, construction tools, and similar elements.
 9. Complete final cleaning requirements, including touchup painting.
 10. Touch up 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 business days prior to date the work will be completed and ready for final inspection and tests. On receipt of request, Construction Manager will either proceed with inspection or notify Contractor of unfulfilled requirements. Architect will prepare the Certificate of Substantial Completion after inspection or will notify Contractor of items, either on Contractor's list or additional items identified by Architect, that must be completed or corrected before certificate will be issued.
 - 1. Reinspection: Request reinspection when the Work identified in previous inspections as incomplete is completed or corrected.
 - 2. Results of completed inspection will form the basis of requirements for final completion.

1.7 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 according to Article 100 - General Conditions.
 - 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.
 - 4. Submit pest-control final inspection report.
- B. Inspection: Submit a written request for final inspection to determine acceptance a minimum of 10 business days prior to date the work will be completed and ready for final inspection and tests. On receipt of request, Construction Manager will either proceed with inspection or notify Contractor of unfulfilled requirements. Architect will prepare a final Certificate for Payment after inspection or will notify Contractor of construction that must be completed or corrected before certificate will be issued.
 - 1. Reinspection: Request reinspection when the Work identified in previous inspections as incomplete is completed or corrected.

1.8 LIST OF INCOMPLETE ITEMS (PUNCH LIST)

- A. Organization of List: Contractor shall prepare Punch List to include the following: name and identification of each space and area affected by construction operations for incomplete items and items needing correction including, if necessary, areas disturbed by Contractor that are outside the limits of construction. Use Wendel's standard Punch List format or Procore format
 - 1. Organize list of spaces in sequential order, starting with exterior areas first and proceeding from lowest floor to highest floor.
 - 2. Organize items applying to each space by major element, including categories for ceiling, individual walls, floors, equipment, and building systems.
 - 3. Include the following information at the top of each page:
 - a. Project name.
 - b. Date.
 - c. Name of Architect
 - d. Name of Contractor.

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- e. Page number.
- 4. Submit list of incomplete items in the following format:
 - a. MS Excel electronic file. Architect, , will return annotated file.
 - b. PDF electronic file. Architect, will return annotated file.

1.9 SUBMITTAL OF PROJECT WARRANTIES

- A. Time of Submittal: Submit written warranties on request of Architect for designated portions of the Work where commencement of warranties other than date of Substantial Completion is indicated, or when delay in submittal of warranties might limit Owner's rights under warranty.
- B. Partial Occupancy: Submit properly executed warranties within 15 business days of completion of designated portions of the Work that are completed and occupied or used by Owner during construction period by separate agreement with Contractor.
- C. Organize warranty documents into an orderly sequence based on the table of contents of Project Manual.
 - 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 paper.
 - 2. Provide heavy paper dividers with plastic-covered tabs for each separate warranty. Mark tab to identify the product or installation. Provide a typed description of the product or installation, including the name of the product and the name, address, and telephone number of Installer.
 - 3. Identify each binder on the front and spine with the typed or printed title "WARRANTIES," Project name, and name of Contractor.
 - 4. Warranty Electronic File: Scan warranties and bonds and assemble complete warranty and bond submittal package into a single indexed electronic PDF file with links enabling navigation to each item. Provide bookmarked table of contents at beginning of document.
- D. Provide additional copies of each warranty to include in operation and maintenance manuals.

PART 2 PRODUCTS

2.1 MATERIALS

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

PART 3 EXECUTION

3.1 FINAL CLEANING

- A. General: Perform final cleaning. Conduct cleaning and waste-removal operations to comply with local laws and ordinances and Federal and local environmental and antipollution regulations.

- B. Cleaning: Employ experienced workers or professional cleaners for final cleaning. Clean each surface or unit to condition expected in an average commercial building cleaning and maintenance program. Comply with manufacturer's written instructions.
1. Complete the following cleaning operations before requesting inspection for certification of Substantial Completion for entire Project or for a designated portion of Project:
 - a. Clean Project site, yard, and grounds, in areas disturbed by construction activities, including landscape development areas, of rubbish, waste material, litter, and other foreign substances.
 - b. Sweep paved areas broom clean. Remove petrochemical spills, stains, and other foreign deposits.
 - c. Rake grounds that are neither planted nor paved to a smooth, even-textured surface.
 - d. Remove tools, construction equipment, machinery, and surplus material from Project site.
 - e. Remove snow and ice to provide safe access to building.
 - f. Clean exposed exterior and interior hard-surfaced finishes to a dirt-free condition, free of stains, films, and similar foreign substances. Avoid disturbing natural weathering of exterior surfaces. Restore reflective surfaces to their original condition.
 - g. Remove debris and surface dust from limited access spaces, including roofs, plenums, shafts, trenches, equipment vaults, manholes, attics, and similar spaces.
 - h. Sweep concrete floors broom clean in unoccupied spaces.
 - i. Vacuum carpet and similar soft surfaces, removing debris and excess nap; clean according to manufacturer's recommendations if visible soil or stains remain.
 - j. Clean transparent materials, including mirrors and glass in doors and windows. Remove glazing compounds and other noticeable, vision-obscuring materials. Polish mirrors and glass, taking care not to scratch surfaces.
 - k. Remove labels that are not permanent.
 - l. Wipe surfaces of mechanical and electrical equipment, elevator equipment, and similar equipment. Remove excess lubrication, paint and mortar droppings, and other foreign substances.
 - m. Clean plumbing fixtures to a sanitary condition, free of stains, including stains resulting from water exposure.
 - n. Replace disposable air filters and clean permanent air filters. Clean exposed surfaces of diffusers, registers, and grills.
 - o. Clean ducts, blowers, and coils if units were operated without filters during construction or that display contamination with particulate matter on inspection.
 - 1) Clean HVAC system in compliance with NADCA Standard 1992-01.
Provide written report on completion of cleaning.
 - p. Clean light fixtures, lamps, globes, and reflectors to function with full efficiency.
 - q. Leave Project clean and ready for occupancy.
- C. Pest Control: Comply with pest control requirements in Section 015000 "Temporary Facilities and Controls." Prepare written report.
- D. Construction Waste Disposal: Comply with waste disposal requirements in Section 015000 "Temporary Facilities and Controls"

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- E. Comply with safety standards for cleaning. Do not burn waste materials. Do not bury debris or excess materials on Owner's property. Do not discharge volatile, harmful, or dangerous materials into drainage systems. Remove waste materials from Project site and dispose of lawfully.

3.2 REPAIR OF THE WORK

- A. Complete repair and restoration operations before requesting inspection for determination of Substantial Completion.
- B. Repair or remove and replace defective construction. Repairing includes replacing defective parts, refinishing damaged surfaces, touching up with matching materials, and properly adjusting operating equipment. Where damaged or worn items cannot be repaired or restored, provide replacements. Remove and replace operating components that cannot be repaired. Restore damaged construction and permanent facilities used during construction to specified condition.
 - 1. Remove and replace chipped, scratched, and broken glass, reflective surfaces, and other damaged transparent materials.
 - 2. Touch up and otherwise repair and restore marred or exposed finishes and surfaces. Replace finishes and surfaces that already show evidence of repair or restoration.
 - a. Do not paint over "UL" and other required labels and identification, including mechanical and electrical nameplates. Remove paint applied to required labels and identification.
 - 3. Replace parts subject to operating conditions during construction that may impede operation or reduce longevity.
 - 4. Replace burned-out bulbs, bulbs noticeably dimmed by hours of use, and defective and noisy starters in fluorescent and mercury vapor fixtures to comply with requirements for new fixtures.

END OF SECTION 017700

SECTION 017839 - PROJECT RECORD DOCUMENTS

PART 1 GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract including General and Supplementary Conditions and other Division 01 Specification Sections apply to this Section.

1.2 SUMMARY

- A. Section includes administrative and procedural requirements for project record documents, including the following:
 - 1. Record Drawings.
 - 2. Record Specifications.
 - 3. Record Product Data.
 - 4. Miscellaneous record submittals.

1.3 CLOSEOUT SUBMITTALS

- A. Record Drawings: Comply with the following:
 - 1. Number of Copies: Submit copies of Project Record Drawings as follows:
 - a. Initial Submittal:
 - 1) Submit one (1) paper-copy set(s) of marked-up record prints.
 - 2) Submit PDF electronic files of scanned record prints.
 - 3) Architect will indicate whether general scope of changes, additional information recorded, and quality of drafting are acceptable.
 - b. Re-submittal:
 - 1) Submit one (1) paper-copy set(s) of marked-up record prints.
 - 2) Submit PDF electronic files of scanned record prints.
 - c. Final Submittal:
 - 1) Submit one (1) paper-copy set(s) of marked-up record prints.
 - 2) Submit PDF electronic files of scanned record prints.
- B. Miscellaneous Record Submittals: See other Specification Sections for miscellaneous record-keeping requirements and submittals in connection with various construction activities.
- C. Reports: Submit weekly written report indicating items incorporated into project record documents concurrent with progress of the Work, including revisions, concealed conditions, field changes, product selections, and other notations incorporated.

PART 2 PRODUCTS

2.1 RECORD DRAWINGS

- A. Record Prints: Maintain one set of marked-up paper copies of the Contract Drawings and Shop Drawings, incorporating new and revised drawings as modifications are issued.
 - 1. Preparation: Mark record prints to show the actual installation, when such installation varies from that shown originally. Require individual person or entity who obtained record data, whether that individual or entity is an installer, subcontractor or similar entity, to provide information for preparation of corresponding marked-up record prints.
 - a. Clearly record and identify information about concealed elements that would be difficult to identify, measure or record later.
 - b. Accurately record information in an acceptable drawing technique.
 - c. Record data immediately after revealing or obtaining it.
 - d. Record and check the markup before enclosing or concealing installations.
 - e. Cross-reference record prints to corresponding photographic documentation.
 - 2. Maintain on Project site at all times, in an approved location, and in a clean, dry and legible condition, one set of Project Drawings and one set of Submittals. These documents shall be used to record as-built conditions on a day-to-day basis, and shall be kept current and available for inspection by the Architect and Owner's Representative during working hours.
 - 3. Content: Types of items requiring marking include, but are not limited to, the following:
 - a. Dimensional changes to Drawings.
 - b. Concealed insulation types, thicknesses and R-Values.
 - c. Locations of discontinuous insulation, if any.
 - d. Revisions to details shown on Drawings.
 - e. Depths of foundations below first floor.
 - f. Locations and depths of underground utilities.
 - g. Revisions to routing of piping and conduits.
 - h. Revisions to electrical circuitry.
 - i. Actual equipment locations.
 - j. Duct size and routing.
 - k. Locations of concealed internal utilities.
 - l. Changes made by Change Order or Construction Change Directive.
 - m. Changes made following Architect's written orders.
 - n. Details not on the original Contract Drawings.
 - o. Field records for variable and concealed conditions.
 - p. Actual installed information about Work that is otherwise shown only schematically.
 - 4. Mark the Contract Drawings and Shop Drawings completely and accurately. Use personnel proficient at recording graphic information in production of marked-up record prints.
 - 5. Mark record sets with erasable, red-colored pencil. Use other colors to distinguish between changes for different categories of the Work at same location.
 - 6. Mark important additional information that was either shown schematically or omitted from original Drawings.

7. Note Construction Change Directive numbers, alternate numbers, Change Order numbers, and similar identification, where applicable.
- B. Record Digital Data Files: Immediately before inspection for Certificate of Substantial Completion, review marked-up record prints with Architect . When authorized, prepare a full set of corrected digital data files of the Contract Drawings:
 1. Format: Annotated electronic PDF with comment function enabled.
 2. Incorporate changes and additional information previously marked on record prints. Delete, redraw, and add details and notations where applicable.
 3. Refer instances of uncertainty to Architect for resolution.
 4. Architect will furnish Contractor one set of digital data files of the Contract Drawings for use in recording information.
 - a. See Section 013300 Submittal Procedures for requirements related to use of Architect 's digital data files.
- C. Format: Identify and date each record Drawing; include the designation "PROJECT RECORD DRAWING" in a prominent location.
 1. Format: Annotated electronic PDF, with comment function enabled.
 2. Identification:
 - a. Project name.
 - b. Date.
 - c. Designation "PROJECT RECORD DRAWINGS".
 - d. Name of Architect .
 - e. Name of Contractor.

2.2 MISCELLANEOUS RECORD SUBMITTALS

- A. Assemble miscellaneous records required by other Specification Sections for miscellaneous record keeping and submittal in connection with actual performance of the Work. Bind or file miscellaneous records and identify each, ready for continued use and reference.
- B. Format: Submit miscellaneous record submittals as paper copy, annotated electronic PDF(s) and directories, or scanned electronic PDF(s) of marked-up miscellaneous record submittals .

PART 3 EXECUTION

3.1 RECORDING AND MAINTENANCE

- A. Recording: Maintain one copy of each submittal during the construction period for project record document purposes. Post changes and revisions to project record documents as they occur; do not wait until end of Project.
- B. Maintenance of Record Documents and Samples: Store record documents and Samples in the field office apart from the Contract Documents used for construction. Do not use project record documents for construction purposes. Maintain record documents in good order and in a clean, dry, legible condition protected from deterioration and loss. Provide access to project record documents for Architect reference during normal working hours.

END OF SECTION 017839

SECTION 024100 - DEMOLITION

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Selective demolition of building elements for alteration purposes.

1.2 RELATED REQUIREMENTS

- A. Section 011000 - Summary of Work: Description of work or items to be salvaged or removed for re-use by Contractor.
- B. Section 015000 - Temporary Facilities and Controls: Site fences, security, protective barriers, and waste removal.
- C. Section 016000 - Product Requirements: Handling and storage of items removed for salvage and relocation.
- D. Section 017700 - Closeout Procedures: Project conditions; protection of bench marks, survey control points, and existing construction to remain; reinstallation of removed products; temporary bracing and shoring.
- E. Section 311000 - Site Clearing: Vegetation and existing debris removal; earth stripping and stockpiling.

PART 3 EXECUTION

2.1 DEMOLITION

- A. Remove other items indicated, for salvage, relocation, and recycling.
- B. Fill excavations, open pits, and holes in ground areas generated as result of removals, using specified fill; compact fill as specified in Section 312000 or as indicated on the contract drawings.

2.2 GENERAL PROCEDURES AND PROJECT CONDITIONS

- A. Comply with applicable codes and regulations for demolition operations and safety of adjacent structures and the public.
 - 1. Obtain required permits.
 - 2. Take precautions to prevent catastrophic or uncontrolled collapse of structures to be removed; do not allow worker or public access within range of potential collapse of unstable structures.
 - 3. Provide, erect, and maintain temporary barriers and security devices.
 - 4. Conduct operations to minimize effects on and interference with adjacent structures and occupants.

5. Do not close or obstruct roadways or sidewalks without permits from authority having jurisdiction.
 6. Conduct operations to minimize obstruction of public and private entrances and exits. Do not obstruct required exits at any time. Protect persons using entrances and exits from removal operations.
 7. Obtain written permission from owners of adjacent properties when demolition equipment will traverse, infringe upon, or limit access to their property.
- B. Do not begin removal until receipt of notification to proceed from Owner.
- C. Protect existing structures and other elements to remain in place and not removed.
1. Provide bracing and shoring.
 2. Prevent movement or settlement of adjacent structures.
 3. Stop work immediately if adjacent structures appear to be in danger.

2.3 EXISTING UTILITIES

- A. Coordinate work with utility companies. Notify utilities before starting work, comply with their requirements, and obtain required permits.
- B. Protect existing utilities to remain from damage.
- C. Do not disrupt public utilities without permit from authority having jurisdiction.
- D. Do not close, shut off, or disrupt existing life safety systems that are in use without at least 7 days prior written notification to Owner.
- E. Do not close, shut off, or disrupt existing utility branches or take-offs that are in use without at least 3 days prior written notification to Owner.
- F. Locate and mark utilities to remain; mark using highly visible tags or flags, with identification of utility type; protect from damage due to subsequent construction, using substantial barricades if necessary.
- G. Remove exposed piping, valves, meters, equipment, supports, and foundations of disconnected and abandoned utilities.

2.4 SELECTIVE DEMOLITION FOR ALTERATIONS

- A. Existing construction and utilities indicated on drawings are based on casual field observation and existing record documents only.
1. Verify construction and utility arrangements are as indicated.
 2. Report discrepancies to Architect before disturbing existing installation.
 3. Beginning of demolition work constitutes acceptance of existing conditions that would be apparent upon examination prior to starting demolition.
- B. Maintain weatherproof exterior building enclosure, except for interruptions required for replacement or modifications; prevent water and humidity damage.
- C. Remove existing work as indicated and required to accomplish new work.
1. Remove items indicated on drawings.

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- D. Services including, but not limited to, HVAC, Plumbing, Fire Protection, Electrical, and Telecommunications: Remove existing systems and equipment as indicated.
 - 1. Maintain existing active systems to remain in operation, and maintain access to equipment and operational components.
 - 2. Where existing active systems serve occupied facilities but are to be replaced with new services, maintain existing systems in service until new systems are complete and ready for service.
 - 3. Verify that abandoned services serve only abandoned facilities before removal.
 - 4. Remove abandoned pipe, ducts, conduits, and equipment, including those above accessible ceilings. Remove back to source of supply where possible, otherwise cap stub and tag with identification.
- E. Protect existing work to remain.
 - 1. Prevent movement of structure. Provide shoring and bracing as required.
 - 2. Perform cutting to accomplish removal work neatly and as specified for cutting new work.
 - 3. Repair adjacent construction and finishes damaged during removal work.
 - 4. Patch to match new work.

2.5 DEBRIS AND WASTE REMOVAL

- A. Remove debris, junk, and trash from site.
- B. Leave site in clean condition, ready for subsequent work.
- C. Clean up spillage and wind-blown debris from public and private lands.

END OF SECTION 024100

SECTION 033000 - CAST-IN-PLACE CONCRETE

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Concrete formwork.
- B. Floors and slabs on grade.
- C. Concrete foundation walls.
- D. Concrete reinforcement.
- E. Joint devices associated with concrete work.
- F. Concrete curing.

1.2 RELATED REQUIREMENTS

- A. Section 014533 - Code-Required Special Inspections and Procedures

1.3 REFERENCE STANDARDS

- A. ACI CODE-318 - Building Code Requirements for Structural Concrete and Commentary.
- B. ACI PRC-211.1 - Selecting Proportions for Normal-Density and High Density-Concrete - Guide.
- C. ACI PRC-302.1 - Guide to Concrete Floor and Slab Construction.
- D. ACI PRC-304 - Guide for Measuring, Mixing, Transporting, and Placing Concrete.
- E. ACI PRC-305 - Guide to Hot Weather Concreting.
- F. ACI PRC-306 - Guide to Cold Weather Concreting.
- G. ACI PRC-308 - Guide to External Curing of Concrete.
- H. ACI PRC-347 - Guide to Formwork for Concrete.
- I. ACI SPEC-117 - Specification for Tolerances for Concrete Construction and Materials.
- J. ACI SPEC-301 - Specifications for Concrete Construction.
- K. ASTM A194/A194M - Standard Specification for Carbon Steel, Alloy Steel, and Stainless Steel Nuts for Bolts for High Pressure or High Temperature Service, or Both.
- L. ASTM A615/A615M - Standard Specification for Deformed and Plain Carbon-Steel Bars for Concrete Reinforcement.

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- M. ASTM A1064/A1064M - Standard Specification for Carbon-Steel Wire and Welded Wire Reinforcement, Plain and Deformed, for Concrete.
- N. ASTM C33/C33M - Standard Specification for Concrete Aggregates.
- O. ASTM C39/C39M - Standard Test Method for Compressive Strength of Cylindrical Concrete Specimens.
- P. ASTM C94/C94M - Standard Specification for Ready-Mixed Concrete.
- Q. ASTM C109/C109M - Standard Test Method for Compressive Strength of Hydraulic Cement Mortars (Using 50 mm [2 in.] Cube Specimens).
- R. ASTM C143/C143M - Standard Test Method for Slump of Hydraulic-Cement Concrete.
- S. ASTM C150/C150M - Standard Specification for Portland Cement.
- T. ASTM C171 - Standard Specification for Sheet Materials for Curing Concrete.
- U. ASTM C173/C173M - Standard Test Method for Air Content of Freshly Mixed Concrete by the Volumetric Method.
- V. ASTM C260/C260M - Standard Specification for Air-Entraining Admixtures for Concrete.
- W. ASTM C348 - Standard Test Method for Flexural Strength of Hydraulic-Cement Mortars.
- X. ASTM C494/C494M - Standard Specification for Chemical Admixtures for Concrete.
- Y. ASTM C595/C595M - Standard Specification for Blended Hydraulic Cements.
- Z. ASTM C685/C685M - Standard Specification for Concrete Made by Volumetric Batching and Continuous Mixing.
- AA. ASTM C881/C881M - Standard Specification for Epoxy-Resin-Base Bonding Systems for Concrete.
- BB. ASTM C1059/C1059M - Standard Specification for Latex Agents for Bonding Fresh to Hardened Concrete.
- CC. ASTM C1107/C1107M - Standard Specification for Packaged Dry, Hydraulic-Cement Grout (Nonshrink).
- DD. ASTM C1602/C1602M - Standard Specification for Mixing Water Used in the Production of Hydraulic Cement Concrete.
- EE. ASTM D1751 - Standard Specification for Preformed Expansion Joint Filler for Concrete Paving and Structural Construction (Nonextruding and Resilient Asphalt Types).
- FF. ASTM D8139 - Standard Specification for Semi-Rigid, Closed-Cell Polypropylene Foam, Preformed Expansion Joint Fillers for Concrete Paving and Structural Construction.
- GG. ASTM E96/E96M - Standard Test Methods for Gravimetric Determination of Water Vapor Transmission Rate of Materials.

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- HH. ICC-ES AC308 - Acceptance Criteria for Post-Installed Adhesive Anchors in Concrete Elements.
- II. ICRI 310.2R - Selecting and Specifying Concrete Surface Preparation for Sealers, Coatings, Polymer Overlays, and Concrete Repair.

1.4 SUBMITTALS

- A. See Section 013300 - Submittal Procedures for submittal procedures and requirements.
- B. Product Data: Submit manufacturers' data on manufactured products showing compliance with specified requirements and installation instructions for each product indicated in the specification and drawings.
- C. Mix Design: Submit proposed concrete mix design.
 - 1. Indicate proposed mix design complies with requirements of ACI SPEC-301, Section 4 - Concrete Mixtures.
 - 2. Indicate proposed mix design complies with admixture manufacturer's written recommendations.
- D. Shop Drawings: Comply with requirements of ACI SP-66. Place drawings that detail fabrication, bending, and placement. Include bar sizes, lengths, material, grade, bar schedules, stirrup spacing, bent bar diagrams, bar arrangement, splices and laps, mechanical connections, tie spacing, hoop spacing, and supports for concrete reinforcement.
- E. Samples: Submit samples of underslab vapor retarder to be used.
- F. Test Reports: Submit report for each test or series of tests specified.
- G. Minutes of preinstallation conference.

1.5 QUALITY ASSURANCE

- A. Perform work of this section in accordance with ACI SPEC-301 and ACI CODE-318.
- B. Follow recommendations of ACI PRC-305 when concreting during hot weather.
 - 1. Hot-weather includes any combination of the following conditions: high ambient temperature, high concrete temperature, low relative humidity, high wind speed and solar radiation.
 - 2. Submit a hot-weather concrete plan complying with ACI PRC-305 for review and record. Plan shall be submitted at least 2-weeks prior to hot-weather concrete placement. The document shall identify the cold-weather practices to be implemented, duration of weather protection, and additional testing requirements. Examples of hot-weather practices include:
 - a. Adjusting the concrete mixture composition and proportions.
 - b. Chilled water or ice as part of mixing water.
 - c. Use of mist fogging.
 - d. Shade canopies, windbreaks, or temporary enclosures.
 - e. Water reducing and/or set retarding admixtures
- C. Follow recommendations of ACI PRC-306 when concreting during cold weather.

1. Cold-weather is defined as a period when for more than 3 consecutive days the average daily temperature is less than 40 deg F and the air temperature is not more than 50 deg F for more than one-half of any 24-hr period. These conditions warrant special precautions when placing, finishing, curing and protecting concrete against the effects of cold weather.
 2. Submit a cold-weather concrete plan complying with ACI PRC-306 for review and record. Plan shall be submitted at least 2-weeks prior to cold-weather concrete placement. The document shall identify the cold-weather practices to be implemented, duration of weather protection, and additional testing requirements. Examples of cold-weather practices include:
 - a. Heating materials.
 - b. Heating subgrade, formwork, and reinforcing bars (placing on frozen subgrade/materials is prohibited).
 - c. Use of insulating blankets or electric heating blankets.
 - d. Heated enclosures.
 - e. Accelerating admixtures
- D. Installer Qualifications:
1. A qualified installer who employs on Project personnel qualified as ACI-certified Flatwork Technician and Finisher and a supervisor who is an ACI-certified Concrete Flatwork Technician.
 2. An experienced installer who has completed concrete Work similar in material, design, and extent to that indicated for this Project and whose work has resulted in construction with a record of successful in-service performance
- E. Manufacturer Qualifications: A firm experienced in manufacturing ready-mixed concrete products and that complies with ASTM C 94 requirements for production facilities and equipment.
1. Manufacturer certified according to NRMCA's "Certification of Ready Mixed Concrete Production Facilities."
- F. Source Limitations: Obtain each type or class of cementitious material of the same brand from the same manufacturer's plant and obtain aggregate from one source. Obtain admixtures through one source from a single manufacturer, unless supplier certifies compatibility between admixtures from multiple manufacturers.
- G. Concrete Testing Service: Engage a qualified independent testing agency to perform material evaluation tests and to design concrete mixtures.
- H. Preinstallation Conference: Conduct conference at Project site to comply with requirements in Division 01 Section "Project Management and Coordination." The Contractor shall record, type, and distribute minutes of the meeting to all parties concerned within 5 days.
1. Before submitting design mixtures, review concrete design mixture and examine procedures for ensuring quality of concrete materials. Require representatives of each entity directly concerned with cast-in-place concrete to attend, including the following:
 - a. Contractor's superintendent.
 - b. Special Inspector.
 - c. Independent testing agency responsible for concrete design mixes.
 - d. Independent testing agency responsible for field quality control.
 - e. Ready-mix concrete manufacturer.

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- f. Concrete subcontractor.
 - g. Concrete pump supplier (if pumps are to be used).
 - h. Architect.
- 2. Review special inspection and testing and inspecting agency procedures for field quality control; concrete finishes and finishing; cold- and hot-weather concreting procedures; curing procedures; construction, contraction and isolation joints; joint-filler strips and semi-rigid joint fillers; forms and form removal limitations; shoring and reshoring procedures; vapor-retarder installation; anchor rod and anchorage device installation tolerances; steel reinforcement installation; floor and slab flatness and levelness measurement; concrete repair procedures; and concrete protection.

1.6 WARRANTY

- A. See Section 017700 - Closeout Procedures for additional warranty requirements.

1.7 DELIVERY, STORAGE, AND HANDLING

- A. Steel Reinforcement: Deliver, store, and handle steel reinforcement to prevent bending and damage.
- B. Waterstops: Store waterstops under cover to protect from moisture, sunlight, dirt, oil, and other contaminants.

PART 2 PRODUCTS

2.1 FORMWORK

- A. Formwork Design and Construction: Comply with guidelines of ACI PRC-347 to provide formwork that will produce concrete complying with tolerances of ACI SPEC-117.
- B. Form Materials: Contractor's choice of standard products with sufficient strength to withstand hydrostatic head without distortion in excess of permitted tolerances.
 - 1. Form Facing for Exposed Finish Concrete: Contractor's choice of materials that will provide smooth, stain-free final appearance.
 - 2. Form Coating: Release agent that will not adversely affect concrete or interfere with application of coatings.
 - 3. Form Ties: Cone snap type that will leave no metal within 1-1/2 inches of concrete surface.
- C. Void Forms: Biodegradable paper surface, treated for moisture resistance, structurally sufficient to support weight of plastic concrete and other superimposed loads.
- D. Chamfer Strips: Wood, metal, PVC, or rubber strips, 3/4 by 3/4 inch, minimum.

2.2 REINFORCEMENT MATERIALS

- A. Reinforcing Steel: ASTM A615/A615M, Grade 60 (60,000 psi).
 - 1. Type: Deformed billet-steel bars.
 - 2. Finish: Unfinished, unless otherwise indicated.

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- B. Steel Welded Wire Reinforcement (WWR): Plain type, ASTM A1064/A1064M.
 - 1. Form: Flat Sheets.
 - 2. WWR Style: As indicated on drawings.
- C. Reinforcement Accessories:
 - 1. Tie Wire: Annealed, minimum 16 gauge, 0.0508 inch.
 - 2. Chairs, Bolsters, Bar Supports, Spacers: Sized and shaped for adequate support of reinforcement during concrete placement.
 - 3. Provide stainless steel, galvanized, plastic, or plastic coated steel components for placement within 1-1/2 inches of weathering surfaces.

2.3 CONCRETE MATERIALS

- A. Cement: ASTM C150/C150M, Type I - Normal Portland type. , Color: Gray
 - 1. Acquire cement for entire project from same source.
 - 2. Supplemental cementitious materials (SCMs) added to the mix are not acceptable.
- B. Blended Hydraulic Cement: ASTM C595/C595M, Type IL(10).
 - 1. Additional supplemental cementitious materials (SCMs) added to the mix in conjunction with blended hydraulic cements are not acceptable.
- C. Fine and Coarse Aggregates: ASTM C33/C33M.
 - 1. Acquire aggregates for entire project from same source.
 - 2. Class 3S coarse aggregate or better, graded.
 - 3. Fine Aggregate: Free of materials with deleterious reactivity to alkali in cement.
- D. Water: ASTM C1602/C1602M; clean, potable, and not detrimental to concrete.

2.4 ADMIXTURES

- A. Do not use chemicals that will result in soluble chloride ions in excess of 0.1 percent by weight of cement.
- B. Air Entrainment Admixture: ASTM C260/C260M.
- C. High Range Water Reducing and Retarding Admixture: ASTM C494/C494M Type G.
- D. High Range Water Reducing Admixture: ASTM C494/C494M Type F.
- E. Water Reducing and Accelerating Admixture: ASTM C494/C494M Type E.
- F. Water Reducing and Retarding Admixture: ASTM C494/C494M Type D.
- G. Accelerating Admixture: ASTM C494/C494M Type C.
- H. Retarding Admixture: ASTM C494/C494M Type B.
- I. Water Reducing Admixture: ASTM C494/C494M Type A.
- J. Corrosion Inhibiting Admixture:
 - 1. ASTM C494/C494M, Type C.

2.5 ACCESSORY MATERIALS

- A. Non-Shrink Cementitious Grout: Premixed compound consisting of nonmetallic aggregate, cement, water reducing and plasticizing agents.
 - 1. Grout: Comply with ASTM C1107/C1107M.
 - 2. Minimum Compressive Strength at 48 Hours, ASTM C109/C109M: 2,000 pounds per square inch.
 - 3. Minimum Compressive Strength at 28 Days, ASTM C109/C109M: 7,000 pounds per square inch.
 - 4. Products containing aluminum powder are not permitted.

2.6 BONDING AND JOINTING PRODUCTS

- A. Latex Bonding Agent: Non-redispersable acrylic latex, complying with ASTM C1059/C1059M, Type II.
- B. Epoxy Bonding System:
 - 1. Complying with ASTM C881/C881M and of Type required for specific application.
- C. Hybrid Anchoring System:
 - 1. High performance injectable epoxy mortars are to be used for drilling and grouting steel rebar and threaded anchor rods into hardened concrete.
 - a. Base Materials: Concrete, cracked and un-cracked.
 - b. Base Material Condition: dry, submerged, water-filled, wet.
 - c. Epoxy suitable for all-year use; cures at base material temperature range of 23 - 104 degrees fahrenheit.
 - d. Allowable with hammer-drill, hollow drill bit system, and core drilling methods.
 - e. Adhesive: Complying with ASTM C881/C881M and of Type required for specific application; Type N, Grade 2 and 3, Class A, B, and C except gel times.
 - f. Anchor Rod:
 - 1) Moisture Exposed Anchors: ASTM F593, AISI Type 316 stainless steel, condition CW, with ASTM A194/A194M , Grade 8S (nitronic 60) stainless steel nuts and locknuts.
 - 2) Dry/Protected Anchors: ASTM F1554 Grade 36
 - 2. Adhesives shall have an evaluation report by ICC ES and be successfully tested in accordance with ICC-ES AC308.
 - 3. Minimum Embedment: 4 inches unless indicated otherwise on the Contract Drawings.
 - 4. Anchor capacity used in design shall be based on the technical data published by HILTI. Substitution requests for alternate products must be approved in writing by the structural engineer of record prior to use. Contractor shall provide calculations that have been sealed by another licensed engineer demonstrating that the substituted product is capable of meeting the performance of the specified product. Substitutions will be evaluated by their having an ICC ESR showing compliance with the relevant building code for seismic uses, load resistance, installation category, and installation instructions. Adhesive anchor evaluation will also consider creep, in-service temperature, installation temperature, moisture condition of the concrete, and drilling methods.

5. The contractor shall arrange an anchor manufacturer's representative to provide onsite installation training for all anchor products specified. The structural engineer of record must receive documented confirmation that all personnel who install anchors are trained prior to the commencement of anchor installation.
- D. Waterstops: Bentonite and butyl rubber.
 1. Configuration: As indicated on drawings.
 2. Products:
 - a. CETCO, a division of Minerals Technologies Inc; WATERSTOP RX:
www.mineralstech.com/#sle.
- E. Slab Isolation Joint Filler: 1/2-inch thick, height equal to slab thickness, with removable top section forming 1/2-inch deep sealant pocket after removal.
 1. Material: ASTM D1751, cellulose fiber.
- F. Slab Construction Joint Devices: Combination keyed joint form and screed, galvanized steel, with rectangular or round knockout holes for conduit or rebar to pass through joint form at 6 inches on center; ribbed steel stakes for setting.
- G. Dowel Sleeves: Plastic sleeve and nailable plastic base for smooth, round, steel load-transfer dowels.

2.7 CURING MATERIALS

- A. Evaporation Reducer: Liquid thin-film-forming compound that reduces rapid moisture loss caused by high temperature, low humidity, and high winds; intended for application immediately after concrete placement.
- B. Moisture-Retaining Sheet: ASTM C171.
 1. Polyethylene film, white opaque, minimum nominal thickness of 4 mil, 0.004 inch.
 2. White-burlap-polyethylene sheet, weighing not less than 3.8 ounces per square yard.
- C. Water: Potable, not detrimental to concrete.

2.8 CONCRETE MIX DESIGN

- A. Proportioning Normal Weight Concrete: Comply with ACI PRC-211.1 recommendations.
- B. Concrete Strength: Establish required average strength for each type of concrete on the basis of field experience or trial mixtures, as specified in ACI SPEC-301.
 1. For trial mixtures method, employ independent testing agency acceptable to Architect for preparing and reporting proposed mix designs.
- C. Admixtures: Add acceptable admixtures as recommended in ACI PRC-211.1 and at rates recommended or required by manufacturer.
 1. Provide corrosion inhibitor in all concrete mixes.
- D. When a mineral aggregate hardener is to be used, consult with the manufacturer prior to concrete mix design submittal in order to determine its compatibility with the hardener.
- E. Concrete Mix requirements:

Portion of Structure	28-day Minimum Strength (psi)	Slump (+/- 1")	Maximum Water/cement Ratio	Maximum Coarse Aggregate Size (ASTM C33)	Air Content (+/- 1.5%)	Fiber (type/dosage)
Foundation walls	5000	4"	0.45	#57	6%	n/a
Slabs-on-grade and floor infills	5000	4"	0.40	#57	6%	n/a
Topping slabs	5000	4"	0.50	#57	6%	n/a

2.9 FABRICATING REINFORCEMENT

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

2.10 MIXING

- A. On Project Site: Mix in drum type batch mixer, complying with ASTM C685/C685M. Mix each batch not less than 1-1/2 minutes and not more than 5 minutes.
- B. Transit Mixers: Comply with ASTM C94/C94M.
- C. Adding Water: If concrete arrives on-site with slump less than suitable for placement, do not add water that exceeds the maximum water-cement ratio or exceeds the maximum permissible slump.
- D. Furnish batch ticket information.
- E. When air temperature is between 85 and 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 EXAMINATION

- A. Verify lines, levels, and dimensions before proceeding with work of this section.

3.2 PREPARATION

- A. Formwork: Comply with requirements of ACI SPEC-301. Design and fabricate forms to support all applied loads until concrete is cured and for easy removal without damage to concrete.
- B. Verify that forms are clean and free of rust before applying release agent.

- C. Chamfer exterior corners and edges of permanently exposed concrete.
- D. Coordinate placement of embedded items with erection of concrete formwork and placement of form accessories.
- E. Prepare existing concrete surfaces to be repaired according to ICRI 310.2R, CSP 6.
- F. Where new concrete is to be bonded to previously placed concrete, prepare existing surface by cleaning and applying bonding agent in accordance with bonding agent manufacturer's instructions.
 - 1. Use epoxy bonding system for bonding to damp surfaces, for structural load-bearing applications, and where curing under humid conditions is required.
 - 2. Use latex bonding agent only for non-load-bearing applications.
- G. In locations where new concrete is doweled to existing work, drill holes in existing concrete, install adhesive anchor system material, and insert steel dowels.

3.3 INSTALLING REINFORCEMENT AND OTHER EMBEDDED ITEMS

- A. Comply with requirements of ACI SPEC-301. Clean reinforcement of loose rust and mill scale, and accurately position, support, and secure in place to achieve not less than minimum concrete coverage required for protection. 'Wet sticking' components in concrete is not acceptable.
- B. Install welded wire reinforcement in maximum possible lengths, and offset end laps in both directions. Splice laps with tie wire.
- C. Verify that anchors, seats, plates, reinforcement and other items to be cast into concrete are accurately placed, positioned securely, and will not interfere with concrete placement.
- D. Flexible Waterstops: Install in construction joints and at other joints indicated to form a continuous diaphragm. Install in longest lengths practicable. Support and protect exposed waterstops during progress of the Work. Field fabricate joints in waterstops according to manufacturer's written instructions.
- E. Self-Expanding Strip Waterstops and Non-Expanding Preformed Plastic Adhesive Waterstops: Install in construction joints and at other locations indicated, according to manufacturer's written instructions, adhesive bonding, mechanically fastening, and firmly pressing into place. Install in longest lengths practicable.

3.4 PLACING CONCRETE

- A. Place concrete in accordance with ACI PRC-304.
- B. Place concrete for floor slabs in accordance with ACI PRC-302.1.
- C. Notify Architect not less than 24 hours prior to commencement of placement operations.
- D. Maintain records of concrete placement. Record date, location, quantity, air temperature, and test samples taken.
- E. Ensure reinforcement, inserts, waterstops, embedded parts, and formed construction joint devices will not be disturbed during concrete placement.

- F. Place concrete continuously without construction (cold) joints wherever possible; where construction joints are necessary, before next placement prepare joint surface by removing laitance and exposing the sand and sound surface mortar, by sandblasting or high-pressure water jetting.
- G. Finish floors level and flat, unless otherwise indicated, within the tolerances specified below.
- H. Do not add water to concrete during delivery, at Project site, or during placement unless approved by Architect.

3.5 SLAB JOINTING

- A. Locate joints as indicated on drawings.
- B. Anchor joint fillers and devices to prevent movement during concrete placement.
- C. Isolation Joints: Use preformed joint filler with removable top section for joint sealant, total height equal to thickness of slab, set flush with top of slab.
- D. Load Transfer Construction and Contraction Joints: Install load transfer devices as indicated; saw cut joint at surface as indicated for contraction joints.
- E. Saw Cut Contraction Joints: Saw cut joints before concrete begins to cool, within 4 to 12 hours after placing; use 3/16 inch thick blade and cut at least 1 inch deep but not less than one quarter (1/4) the depth of the slab.
- F. Construction Joints: Where not otherwise indicated, use metal combination screed and key form, with removable top section for joint sealant.
- G. Doweled Joints: Install dowel bars and support assemblies at joints where indicated. Lubricate or asphalt coat one-half of dowel length to prevent concrete bonding to one side of joint.
 - 1. Application: Provide at all sidewalks, ramps, stoops, or any other site concrete abutting to building exterior doors/thresholds, and provide at all other locations indicated on the drawings.
 - 2. Unless noted otherwise, provide the following dowels:
 - a. Vehicular Traffic: 1 inch diameter x 18 inches long smooth dowels at 12 inches o.c. Drill and epoxy grout one end w/ 8 inch or 6 inch embedment.
 - 3. Coordinate dowel installation with the site concrete contractor.

3.6 SEPARATE FLOOR TOPPINGS

- A. Prior to placing floor topping, roughen substrate concrete surface and remove deleterious material. Broom and vacuum clean.
- B. Place required dividers, edge strips, reinforcing, and other items to be cast in.
- C. Apply bonding agent to substrate in accordance with manufacturer's instructions.
- D. Place concrete floor toppings to required lines and levels.
 - 1. Place topping in checkerboard panels not to exceed 20 feet in either direction.

3.7 FLOOR FLATNESS AND LEVELNESS TOLERANCES

- A. Maximum Variation of Surface Flatness:
 - 1. Exposed Concrete Floors: 1/4 inch in 10 feet.
- B. Correct the slab surface if tolerances are less than specified.
- C. Correct defects by grinding or by removal and replacement of the defective work. Areas requiring corrective work will be identified. Re-measure corrected areas by the same process.

3.8 CONCRETE FINISHING

- A. Repair surface defects, including tie holes, immediately after removing formwork.
- B. Unexposed Form Finish: Rub down or chip off fins or other raised areas 1/4 inch or more in height.
- C. Exposed Form Finish: Rub down or chip off and smooth fins or other raised areas 1/4 inch or more in height. Provide finish as follows:
 - 1. Smooth Rubbed Finish: Wet concrete and rub with carborundum brick or other abrasive, not more than 24 hours after form removal.
- D. Concrete Slabs: Finish to requirements of ACI PRC-302.1 and as follows:
 - 1. 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.
 - 2. Trowel and Fine-Broom Finish: Apply a first trowel finish to tops of concrete wearing slabs. While concrete is still plastic, slightly scarify surface with a fine broom.
 - 3. Scratch Finish: While still plastic, texture concrete surface that has been screeded and bull-floated or darbied. Use stiff brushes, brooms, or rakes to produce a profile amplitude of 1/4 inch in 1 direction.
 - a. Apply scratch finish to surfaces indicated and to receive concrete floor toppings or to receive mortar setting beds for bonded cementitious floor finishes.
 - 4. Other Surfaces to Be Left Exposed: Trowel as described in ACI PRC-302.1, minimizing burnish marks and other appearance defects.
 - 5. Shake on Hardener: See Section 033511 - Concrete Floor Finishes.
- E. In areas with floor drains, maintain floor elevation at walls; pitch surfaces uniformly to drains at 1:100 nominal.
- F. 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.

3.9 CURING AND PROTECTION

- A. Comply with requirements of ACI PRC-308. Immediately after placement, protect concrete from premature drying, excessively hot or cold temperatures, and mechanical injury.

- B. Maintain concrete with minimal moisture loss at relatively constant temperature for period necessary for hydration of cement and hardening of concrete.
 - 1. Normal concrete: Not less than seven days.
- C. Formed Surfaces: Cure by moist curing with forms in place for full curing period.
- D. Surfaces Not in Contact with Forms:
 - 1. Initial Curing: Start as soon as free water has disappeared and before surface is dry. Keep continuously moist for not less than three days by water ponding, water-saturated sand, water-fog spray, or saturated burlap.
 - a. Saturated Burlap: Saturate burlap-polyethylene and place burlap-side down over floor slab areas, lapping ends and sides; maintain in place.
 - 2. Final Curing: Begin after initial curing but before surface is dry.
 - a. Moisture-Retaining Sheet: Lap strips not less than 3 inches and seal with waterproof tape or adhesive; secure at edges.
 - 3. Wait a minimum of 48 hours after finishing slab before allowing foot traffic on slab. Do not allow construction traffic or loads to be applied to slabs on grade until the concrete is 7 days old.
- E. Slab Protection: protect concrete flatwork (that is exposed to view in the finished state) during construction. Use a protective covering like plastic sheet or sheathing products, ensuring the concrete cures properly while shielding it from damage from foot traffic, heavy equipment, and other construction debris.

3.10 JOINT FILLING

- A. Prepare, clean, and install joint filler according to manufacturer's written instructions.
- B. Remove dirt, debris, saw cuttings, curing compounds, and sealers from joints; leave contact faces of joint clean and dry.
- C. Install joint filler full depth in saw-cut joints and at least 2 inches deep in formed joints. Overfill joint and trim joint filler flush with top of joint after hardening.

3.11 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.
- B. Patching Mortar: Mix dry-pack patching mortar, consisting of one part portland cement to two and one-half parts fine aggregate passing a No. 16 sieve, using only enough water for handling and placing.
- C. Repairing Formed Surfaces: Surface defects include color and texture irregularities, cracks, spalls, air bubbles, honeycombs, rock pockets, fins and other projections on the surface, and stains and other discolorations that cannot be removed by cleaning.

1. Immediately after form removal, cut out honeycombs, rock pockets, and voids more than 1/2 inch in any dimension in solid concrete, but not less than 1 inch in depth. Make edges of cuts perpendicular to concrete surface. Clean, dampen with water, and brush-coat holes and voids with bonding agent. Fill and compact with patching mortar before bonding agent has dried. Fill form-tie voids with patching mortar or cone plugs secured in place with bonding agent.
 2. Repair defects on surfaces exposed to view by blending white portland cement and standard portland cement so that, when dry, patching mortar will match surrounding color. Patch a test area at inconspicuous locations to verify mixture and color match before proceeding with patching. Compact mortar in place and strike off slightly higher than surrounding surface.
 3. Repair defects on concealed formed surfaces that affect concrete's durability and structural performance as determined by Architect.
- D. Repairing Unformed Surfaces: Test unformed surfaces, such as floors and slabs, for finish and verify surface tolerances specified for each surface. Correct low and high areas. Test surfaces sloped to drain for trueness of slope and smoothness; use a sloped template.
1. Repair finished surfaces containing defects. Surface defects include spalls, popouts, honeycombs, rock pockets, crazing and cracks in excess of 0.01 inch wide or that penetrate to reinforcement or completely through unreinforced sections regardless of width, and other objectionable conditions.
 2. After concrete has cured at least 14 days, correct high areas by grinding.
 3. Correct localized low areas during or immediately after completing surface finishing operations by cutting out low areas and replacing with patching mortar. Finish repaired areas to blend into adjacent concrete.
 4. Correct other low areas scheduled to receive floor coverings with a repair underlayment. Prepare, mix, and apply repair underlayment and primer according to manufacturer's written instructions to produce a smooth, uniform, plane, and level surface. Feather edges to match adjacent floor elevations.
 5. Correct other low areas scheduled to remain exposed with a repair topping. Cut out low areas to ensure a minimum repair topping depth of 1/4 inch to match adjacent floor elevations. Prepare, mix, and apply repair topping and primer according to manufacturer's written instructions to produce a smooth, uniform, plane, and level surface.
 6. Repair defective areas, except random cracks and single holes 1 inch or less in diameter, by cutting out and replacing with fresh concrete. Remove defective areas with clean, square cuts and expose steel reinforcement with at least a 3/4-inch clearance all around. Dampen concrete surfaces in contact with patching concrete and apply bonding agent. Mix patching concrete of same materials and mixture as original concrete except without coarse aggregate. Place, compact, and finish to blend with adjacent finished concrete. Cure in same manner as adjacent concrete.
 7. Repair random cracks and single holes 1 inch or less in diameter with patching mortar. Groove top of cracks and cut out holes to sound concrete and clean off dust, dirt, and loose particles. Dampen cleaned concrete surfaces and apply bonding agent. Place patching mortar before bonding agent has dried. Compact patching mortar and finish to match adjacent concrete. Keep patched area continuously moist for at least 72 hours.
- E. Perform structural repairs of concrete, subject to Architect's approval, using epoxy adhesive and patching mortar.

- F. Repair materials and installation not specified above may be used, subject to Architect's approval.

3.12 FIELD QUALITY CONTROL

- A. An independent testing agency will perform field quality control tests, as specified in Section 014000 - Quality Requirements.
- B. Special Inspections: Special Inspections required are enumerated in the Schedule of Special Inspection Services contained in Section 014533 - Code-Required Special Inspections and Procedures.
- C. Provide free access to concrete operations at project site and cooperate with appointed firm.
- D. Submit proposed mix design of each class of concrete to inspection and testing firm for review prior to commencement of concrete operations.
- E. Tests of concrete and concrete materials may be performed at any time to ensure compliance with specified requirements.
- F. Testing Frequency: Obtain samples from the first three (3) batches at the start of placement for each day's pour of each concrete mixture exceeding 5 cu. yd., plus one (1) set for each additional 50 cu. yd. or fraction thereof.
 - 1. Should any portion of required testing and/or batch time not meet specified requirements, the concrete batch in question shall be rejected. Testing shall then be performed until three (3) consecutive batches of concrete meets all specified requirements, including batch time. Testing shall return to the specified frequency only when all testing requirements have been satisfied for three (3) consecutive batches of concrete.
 - a. All appropriate parties shall be notified immediately of each failed test.
 - b. Additional testing required due to concrete not meeting specified requirements shall be performed at contractor's expense.
 - 2. When frequency of testing will provide fewer than five (5) composite samples of each concrete mixture, testing shall be conducted from at least five (5) randomly selected batches or from each batch if fewer than five (5) are used.
- G. Compressive Strength Tests: ASTM C39/C39M, for each test, mold and cure three concrete test cylinders. Obtain test samples for every 50 cubic yards or less of each class of concrete placed.
- H. Take one additional test cylinder during cold weather concreting, cured on job site under same conditions as concrete it represents.
- I. When strength of field-cured cylinders is less than 85 percent of companion laboratory-cured cylinders, Contractor shall evaluate operations and provide corrective procedures for protecting and curing in-place concrete.
- J. Perform one slump test for each set of test cylinders taken, following procedures of ASTM C143/C143M. Perform additional tests when concrete consistency appears to change.
- K. Air Content: ASTM C 231, pressure method, for normal-weight concrete; ASTM C173/C173M, volumetric method, for structural lightweight concrete; one test for each composite sample, but not less than one test for each day's pour of each concrete mixture.

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- L. Concrete Temperature: ASTM C 1064; one test hourly when air temperature is 40 deg F and below and when 80 deg F and above, and one test for each composite sample.
- M. Nondestructive Testing: Impact hammer, sonoscope, or other nondestructive device may be permitted by Architect but will not be used as sole basis for approval or rejection of concrete.
- N. Additional Tests: Testing and inspecting agency shall make additional tests of concrete when test results indicate that slump, air entrainment, compressive strengths, or other requirements have not been met, as directed by Architect. Testing and inspecting agency may conduct tests to determine adequacy of concrete by cored cylinders complying with ASTM C 42 or by other methods as directed by Architect.
- O. Additional testing and inspecting, at Contractor's expense, will be performed to determine compliance of replaced or additional work with specified requirements.

3.13 DEFECTIVE CONCRETE

- A. Test Results: The testing agency shall report test results in writing to Architect and Contractor within 24 hours of test.
- B. Defective Concrete: Concrete not complying with required lines, details, dimensions, tolerances or specified requirements.
- C. Correct deficiencies in the Work that test reports and inspections indicate does not comply with the Contract Documents.
- D. Repair or replacement of defective concrete will be determined by the Architect. The cost of additional testing shall be borne by Contractor when defective concrete is identified.
- E. Do not patch, fill, touch-up, repair, or replace exposed concrete except upon express direction of Architect for each individual area.

3.14 PROTECTION

- A. Do not permit traffic over unprotected concrete floor surface until fully cured.

END OF SECTION 033000

SECTION 033511 - CONCRETE FLOOR FINISHES

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Dry shake hardeners.
- B. Penetrating sealers.

1.2 RELATED REQUIREMENTS

- A. Section 033000 - Cast-in-Place Concrete: Finishing of concrete surface to tolerance; floating, troweling, and similar operations; curing.

1.3 ADMINISTRATIVE REQUIREMENTS

- A. Coordination:
- B. Coordinate the work with concrete floor placement and concrete floor curing.

1.4 SUBMITTALS

- A. See Section 013300 - Submittal Procedures for submittal procedures and requirements.
- B. Product Data: Manufacturer's published data on each finishing product, including information on compatibility of different products and limitations.
- C. Manufacturer's Instructions: Indicate manufacturer's installation instructions for preparation of substrate, application of finishing products, and requirements for polishing and protection of finished surface.
- D. Maintenance Data: Provide data on maintenance and renewal of applied finishes.

1.5 DELIVERY, STORAGE, AND HANDLING

- A. Deliver materials in manufacturer's sealed packaging, including application instructions.

1.6 FIELD CONDITIONS

- A. Maintain ambient temperature of 50 degrees F minimum.

1.7 WARRANTY

- A. See Section 017700 - Closeout Procedures for additional warranty requirements.

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- B. Extended Correction Period: Correct defective work within 2-year period commencing on Date of Substantial Completion.

PART 2 PRODUCTS

2.1 APPLICATIONS

- A. Dry Shake Hardener:
 - 1. Use at the following locations: wearing slabs.
- B. Penetrating Sealer:
 - 1. Use at the following locations: wearing slabs.

2.2 DENSIFIERS AND HARDENERS

- A. Dry Shake Hardener: Premixed dry powder for spreading on and working into concrete surface prior to set.
 - 1. Composition: Non-metallic aggregate.
 - a. Products:
 - 1) Euclid Chemical Company; SURFLEX: www.euclidchemical.com/#sle.

2.3 COATINGS

- A. Penetrating Sealer: Transparent, nonyellowing, water- or solvent-based coating.
 - 1. Composition: Silane.
 - a. Products:
 - 1) Concrete Sealers USA; PS109 ; PS109: www.concretesealersusa.com/#sle.

PART 3 EXECUTION

3.1 EXAMINATION

- A. Verify that floor surfaces are acceptable to receive the work of this section.
- B. Verify that flaws in concrete have been patched and joints filled with methods and materials suitable for further finishes.

3.2 GENERAL

- A. Apply materials in accordance with manufacturer's instructions.

3.3 COATING APPLICATION

- A. Verify that surface is free of previous coatings, sealers, curing compounds, water repellents, laitance, efflorescence, fats, oils, grease, wax, soluble salts, residues from cleaning agents, and other impediments to adhesion.

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- B. Verify that water vapor emission from concrete and relative humidity in concrete are within limits established by coating manufacturer.
- C. Protect adjacent non-coated areas from drips, overflow, and overspray; immediately remove excess material.
- D. Apply coatings in accordance with manufacturer's instructions, matching approved mock-ups for color, special effects, sealing and workmanship.

3.4 PROTECTION

- A. Protect installed coatings from subsequent construction operations.
- B. Do not permit traffic over unprotected floor surface.

END OF SECTION 033511

SECTION 055000 - METAL FABRICATIONS

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Shop fabricated steel items, including: pipe bollards and components.

1.2 RELATED REQUIREMENTS

- A. Section 033000 - Cast-in-Place Concrete: Placement of metal fabrications in concrete.
- B. Section 099600- High-Performance Coatings: Paint finish.

1.3 REFERENCE STANDARDS

- A. ASTM A36/A36M - Standard Specification for Carbon Structural Steel.
- B. ASTM A53/A53M - Standard Specification for Pipe, Steel, Black and Hot-Dipped, Zinc-Coated, Welded and Seamless.
- C. ASTM A123/A123M - Standard Specification for Zinc (Hot-Dip Galvanized) Coatings on Iron and Steel Products.
- D. ASTM A501/A501M - Standard Specification for Hot-Formed Welded and Seamless Carbon Steel Structural Tubing.
- E. AWS A2.4 - Standard Symbols for Welding, Brazing, and Nondestructive Examination.
- F. AWS D1.1/D1.1M - Structural Welding Code - Steel.
- G. IAS AC172 - Accreditation Criteria for Fabricator Inspection Programs for Structural Steel AC172.
- H. SSPC-Paint 20 - Zinc-Rich Coating (Type I - Inorganic, and Type II - Organic).
- I. SSPC-SP 2 - Hand Tool Cleaning.

1.4 SUBMITTALS

- A. See Section 013300 - Submittal Procedures, for submittal procedures and requirements.
- B. Shop Drawings: Indicate profiles, sizes, connection attachments, reinforcing, anchorage, size and type of fasteners, and accessories. Include erection drawings, elevations, and details where applicable.
 - 1. Indicate welded connections using standard AWS A2.4 welding symbols. Indicate net weld lengths.

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- C. Welders' Certificates: Submit certification for welders employed on the project, verifying AWS qualification within the previous 12 months.
- D. Fabricator's Qualification Statement: Provide documentation showing steel fabricator is accredited under IAS AC172.

1.5 QUALITY ASSURANCE

- A. Fabricator Qualifications: A qualified steel fabricator that is accredited by IAS AC172.

PART 2 PRODUCTS

2.1 MATERIALS - STEEL

- A. Steel Sections: ASTM A36/A36M.
- B. Steel Tubing: ASTM A501/A501M hot-formed structural tubing.
- C. Plates: ASTM A36/A36M.
- D. Pipe: ASTM A53/A53M, Grade B Schedule 40, hot-dip galvanized finish.
- E. Mechanical Fasteners: Same material as or compatible with materials being fastened; type consistent with design and specified quality level.
- F. Welding Materials: AWS D1.1/D1.1M; type required for materials being welded.
- G. Touch-Up Primer for Galvanized Surfaces: SSPC-Paint 20, Type I - Inorganic, complying with VOC limitations of authorities having jurisdiction.

2.2 FABRICATION

- A. Fit and shop assemble items in largest practical sections, for delivery to site.
- B. Fabricate items with joints tightly fitted and secured.
- C. Grind exposed joints flush and smooth with adjacent finish surface. Make exposed joints butt tight, flush, and hairline. Ease exposed edges to small uniform radius.
- D. Supply components required for anchorage of fabrications. Fabricate anchors and related components of same material and finish as fabrication, except where specifically noted otherwise.

2.3 FABRICATED ITEMS

- A. Bollards: Steel pipe, concrete filled, crowned cap, as detailed; galvanized finish.

2.4 FINISHES - STEEL

- A. Prime paint steel items.

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1. Exceptions: Galvanize items to be embedded in concrete and items to be embedded in masonry.
- B. Prepare surfaces to be primed in accordance with SSPC-SP2.
- C. Clean surfaces of rust, scale, grease, and foreign matter prior to finishing.
- D. Prime Painting: One coat.
- E. Galvanizing of Structural Steel Members: Galvanize after fabrication to ASTM A123/A123M requirements. Provide minimum 1.7 oz/sq ft galvanized coating.

2.5 FABRICATION TOLERANCES

- A. Squareness: 1/8 inch maximum difference in diagonal measurements.
- B. Maximum Offset Between Faces: 1/16 inch.
- C. Maximum Misalignment of Adjacent Members: 1/16 inch.
- D. Maximum Bow: 1/8 inch in 48 inches.
- E. Maximum Deviation From Plane: 1/16 inch in 48 inches.

PART 3 EXECUTION

3.1 EXAMINATION

- A. Verify that field conditions are acceptable and are ready to receive work.

3.2 PREPARATION

- A. Clean and strip primed steel items to bare metal where site welding is required.

3.3 INSTALLATION

- A. Install items plumb and level, accurately fitted, free from distortion or defects.
- B. Provide for erection loads, and for sufficient temporary bracing to maintain true alignment until completion of erection and installation of permanent attachments.
- C. Obtain approval prior to site cutting or making adjustments not scheduled.

3.4 TOLERANCES

- A. Maximum Variation From Plumb: 1/4 inch per story, non-cumulative.
- B. Maximum Offset From True Alignment: 1/4 inch.
- C. Maximum Out-of-Position: 1/4 inch.

END OF SECTION 055000

SECTION 099600 - HIGH-PERFORMANCE COATINGS

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. High performance coatings.
- B. Surface preparation.

1.2 REFERENCE STANDARDS

- A. 40 CFR 59, Subpart D - National Volatile Organic Compound Emission Standards for Architectural Coatings; U.S. Environmental Protection Agency.
- B. MPI (APSM) - Master Painters Institute Architectural Painting Specification Manual.
- C. NFPA 101 - Life Safety Code.
- D. SSPC-SP 1 - Solvent Cleaning.
- E. SSPC-SP 6/NACE No.3 - Commercial Blast Cleaning.

1.3 SUBMITTALS

- A. See Section 013300 - Submittal Procedures for submittal procedures and requirements.
- B. Product Data: Provide complete list of all products to be used, with the following information for each:
 - 1. Manufacturer's name, product name and/or catalog number, and general product category (e.g. "alkyd enamel").
 - 2. MPI product number (e.g. MPI #47).
 - 3. Cross-reference to specified coating system(s) product is to be used in; include description of each system.
 - 4. Manufacturer's installation instructions.
- C. Manufacturer's Certificate: Certify that products meet or exceed specified requirements.
- D. Maintenance Data: Include cleaning procedures and repair and patching techniques.

1.4 DELIVERY, STORAGE, AND HANDLING

- A. Deliver products to site in sealed and labeled containers; inspect to verify acceptability.
- B. Container Label: Include manufacturer's name, type of coating, brand name, lot number, brand code, coverage, surface preparation, drying time, cleanup requirements, color designation, and instructions for mixing and reducing.

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- C. Coating Materials: Store at minimum ambient temperature of 45 degrees F and a maximum of 90 degrees F, in ventilated area, and as required by manufacturer's instructions.

1.5 FIELD CONDITIONS

- A. Do not apply exterior coatings during rain or snow, or when relative humidity is outside the humidity ranges required by the coating product manufacturer.
- B. Do not install materials when temperature is below 55 degrees F or above 90 degrees F.
- C. Maintain this temperature range, 24 hours before, during, and 72 hours after installation of coating.
- D. Restrict traffic from area where coating is being applied or is curing.

PART 2 PRODUCTS

2.1 MANUFACTURERS

- A. Provide high performance coating products from the same manufacturer to the greatest extent possible.
 - 1. In the event that a single manufacturer cannot provide specified products, minor exceptions will be permitted provided approval by Architect is obtained using the specified procedures for substitutions.
- B. High-Performance Coatings:
 - 1. Pittsburgh Paints: www.ppgpaints.com/#sle.
 - 2. Sherwin-Williams Company: www.protective.sherwin-williams.com/industries/#sle.
 - 3. Tnemec Company, Inc: www.tnemec.com/#sle.
 - 4. Substitutions: Section 016000 - Product Requirements.

2.2 HIGH-PERFORMANCE COATINGS

- A. Provide coating systems that meet the following minimum performance criteria, unless more stringent criteria are specified:
 - 1. NFPA 101, Class A rated.

2.3 TOP COAT MATERIALS

- A. Coatings - General: Provide complete multi-coat systems formulated and recommended by manufacturer for the applications indicated, in the thicknesses indicated; number of coats specified does not include primer or filler coat.
 - 1. Volatile Organic Compound (VOC) Content:
 - a. Provide coatings that comply with the most stringent requirements specified in the following:
 - 1) 40 CFR 59, Subpart D--National Volatile Organic Compound Emission Standards for Architectural Coatings.

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- b. Determination of VOC Content: Testing and calculation in accordance with 40 CFR 59, Subpart D (EPA Method 24), exclusive of colorants added to a tint base and water added at project site; or other method acceptable to authorities having jurisdiction.
 - 2. Colors: Selected from manufacturer's standard colors.
 - B. Epoxy Coating new steel:
 - 1. Number of coats: Two.
 - 2. Top Coat(s): Polyamide Epoxy.
 - a. Products:
 - 1) PPG Paints; Amerlock 600 Epoxy, AK-600 Series, Semi-Gloss: www.ppgpaints.com/#sle.
 - 2) Sherwin-Williams; Macropoxy 646 Fast Cure Epoxy: www.protective.sherwin-williams.com/#sle. (MPI #177)
 - 3) Tnemec Company, Inc; Series 287 Enviro-Pox: www.tnemec.com/#sle.
 - 4) Substitutions: Section 016000 - Product Requirements.

2.4 PRIMERS

- A. Primers: Provide the following unless other primer is required or recommended by coating manufacturer.
 - 1. Primer for Galvanized Metal, Water Based.
 - a. Products:
 - 1) Pittsburgh Paints; Pitt-Tech Plus EP DTM Industrial Enamel Primer/Finish, 90-1912 Series: www.ppgpaints.com/#sle. (MPI #134)
 - 2) Substitutions: Section 016000 - Product Requirements.

2.5 ACCESSORY MATERIALS

- A. Accessory Materials: Provide primers, sealers, cleaning agents, cleaning cloths, sanding materials, and clean-up materials as required for final completion of coated surfaces.

PART 3 EXECUTION

3.1 EXAMINATION

- A. Verify existing conditions before starting work.
- B. Do not begin application of coatings until substrates have been properly prepared.
- C. Verify that substrate surfaces are ready to receive work as instructed by the coating manufacturer. Obtain and follow manufacturer's instructions for examination and testing of substrates.
- D. Examine surfaces scheduled to be finished prior to commencement of work. Report any condition that may potentially affect proper application.

3.2 PREPARATION

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- A. Clean surfaces of loose foreign matter.
- B. Remove substances that would bleed through finished coatings. If unremovable, seal surface with shellac.
- C. Remove finish hardware, fixture covers, and accessories and store.
- D. Ferrous Metal:
 - 1. Solvent clean according to SSPC-SP 1.
 - 2. Remove rust, loose mill scale, and other foreign substances using methods recommended in writing by paint manufacturer and blast cleaning in accordance with SSPC-SP 6/NACE No.3, and protect from corrosion until coated.

3.3 PRIMING

- A. Apply primer to all surfaces, unless specifically not required by coating manufacturer. Apply in accordance with coating manufacturer's instructions.

3.4 COATING APPLICATION

- A. Apply coatings in accordance with manufacturer's written instructions, to thicknesses specified and recommendations in MPI - Architectural Painting and Specification Manual.
- B. Apply in uniform thickness coats, without runs, drips, pinholes, brush marks, or variations in color, texture, or finish. Finish edges, crevices, corners, and other changes in dimension with full coating thickness.

3.5 CLEANING

- A. Collect waste material that could constitute a fire hazard, place in closed metal containers, and remove daily from site.
- B. Clean surfaces immediately of overspray, splatter, and excess material.
- C. After coating has cured, clean and replace finish hardware, fixtures, and fittings previously removed.

3.6 PROTECTION

- A. Protect finished work from damage.

END OF SECTION 099600

SECTION 220500 - COMMON WORK RESULTS FOR PLUMBING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. This Section includes the following:

1. Piping materials and installation instructions common to most piping systems.
2. Transition fittings.
3. Dielectric fittings.
4. Mechanical sleeve seals.
5. Sleeves.
6. Escutcheons.
7. Grout.

1.3 DEFINITIONS

- A. Finished Spaces: Spaces other than mechanical and electrical equipment rooms, furred spaces, pipe chases, unheated spaces immediately below roof, spaces above ceilings, unexcavated spaces, crawlspace, and tunnels.
- B. Exposed, Interior Installations: Exposed to view indoors. Examples include finished occupied spaces and mechanical equipment rooms.
- C. Exposed, Exterior Installations: Exposed to view outdoors or subject to outdoor ambient temperatures and weather conditions. Examples include rooftop locations.
- D. Concealed, Interior Installations: Concealed from view and protected from physical contact by building occupants. Examples include above ceilings and in chases.
- E. Concealed, Exterior Installations: Concealed from view and protected from weather conditions and physical contact by building occupants but subject to outdoor ambient temperatures. Examples include installations within unheated shelters.
- F. The following are industry abbreviations for plastic materials:
 1. ABS: Acrylonitrile-butadiene-styrene plastic.
 2. CPVC: Chlorinated polyvinyl chloride plastic.
 3. PE: Polyethylene plastic.

4. PVC: Polyvinyl chloride plastic.

G. The following are industry abbreviations for rubber materials:

1. EPDM: Ethylene-propylene-diene terpolymer rubber.
2. NBR: Acrylonitrile-butadiene rubber.

1.4 SUBMITTALS

A. Product Data: For the following:

1. Transition fittings.
2. Dielectric fittings.
3. Mechanical sleeve seals.
4. Escutcheons.

B. Welding certificates.

1.5 QUALITY ASSURANCE

A. Steel Support Welding: Qualify processes and operators according to AWS D1.1, "Structural Welding Code--Steel."

B. Steel Pipe Welding: Qualify processes and operators according to ASME Boiler and Pressure Vessel Code: Section IX, "Welding and Brazing Qualifications."

1. Comply with provisions in ASME B31 Series, "Code for Pressure Piping."
2. Certify that each welder has passed AWS qualification tests for welding processes involved and that certification is current.

C. Electrical Characteristics for Plumbing Equipment: Equipment of higher electrical characteristics may be furnished provided such proposed equipment is approved in writing and connecting electrical services, circuit breakers, and conduit sizes are appropriately modified. If minimum energy ratings or efficiencies are specified, equipment shall comply with requirements.

1.6 DELIVERY, STORAGE, AND HANDLING

A. Deliver pipes and tubes with factory-applied end caps. Maintain end caps through shipping, storage, and handling to prevent pipe end damage and to prevent entrance of dirt, debris, and moisture.

1.7 COORDINATION

A. Arrange for pipe spaces, chases, slots, and openings in building structure during progress of construction, to allow for plumbing installations.

- B. Coordinate installation of required supporting devices and set sleeves in poured-in-place concrete and other structural components as they are constructed.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. In other Part 2 articles where subparagraph titles below introduce lists, the following requirements apply for product selection:
 - 1. Performance: The product shall meet the listed performance specifications.

2.2 PIPE, TUBE, AND FITTINGS

- A. Refer to individual Division 22 piping Sections for pipe, tube, and fitting materials and joining methods.
- B. Pipe Threads: ASME B1.20.1 for factory-threaded pipe and pipe fittings.

2.3 JOINING MATERIALS

- A. Refer to individual Division 22 piping Sections for special joining materials not listed below.
- B. Pipe-Flange Gasket Materials: Suitable for chemical and thermal conditions of piping system contents.
 - 1. ASME B16.21, nonmetallic, flat, asbestos-free, 1/8-inch maximum thickness unless thickness or specific material is indicated.
 - a. Full-Face Type: For flat-face, Class 125, cast-iron and cast-bronze flanges.
 - b. Narrow-Face Type: For raised-face, Class 250, cast-iron and steel flanges.
 - 2. AWWA C110, rubber, flat face, 1/8 inch thick, unless otherwise indicated; and full-face or ring type, unless otherwise indicated.
- C. Flange Bolts and Nuts: ASME B18.2.1, carbon steel, unless otherwise indicated.
- D. Solder Filler Metals: ASTM B 32, lead-free alloys. Include water-flushable flux according to ASTM B 813.
- E. Welding Filler Metals: Comply with AWS D10.12 for welding materials appropriate for wall thickness and chemical analysis of steel pipe being welded.

2.4 TRANSITION FITTINGS

- A. AWWA Transition Couplings: Same size as, and with pressure rating at least equal to and with ends compatible with, piping to be joined.
 - 1. Underground Piping NPS 1-1/2 and Smaller: Manufactured fitting or coupling.
 - 2. Underground Piping NPS 2 and Larger: AWWA C219, metal sleeve-type coupling.
 - 3. Aboveground Pressure Piping: Pipe fitting.
- B. Flexible Transition Couplings for Underground Nonpressure Drainage Piping: ASTM C 1173 with elastomeric sleeve, ends same size as piping to be joined, and corrosion-resistant metal band on each end.

2.5 DIELECTRIC FITTINGS

- A. Description: Combination fitting of copper alloy and ferrous materials with threaded, solder-joint, plain, or weld-neck end connections that match piping system materials.
- B. Insulating Material: Suitable for system fluid, pressure, and temperature.
- C. Dielectric Unions: Factory-fabricated, union assembly, for 250-psig minimum working pressure at 180°F.
- D. Dielectric Flanges: Factory-fabricated, companion-flange assembly, for 150- or 300-psig minimum working pressure as required to suit system pressures.
- E. Dielectric-Flange Kits: Companion-flange assembly for field assembly. Include flanges, full-face- or ring-type neoprene or phenolic gasket, phenolic or polyethylene bolt sleeves, phenolic washers, and steel backing washers.
 - 1. Separate companion flanges and steel bolts and nuts shall have 150- or 300-psig minimum working pressure where required to suit system pressures.
- F. Dielectric Couplings: Galvanized-steel coupling with inert and noncorrosive, thermoplastic lining; threaded ends; and 300-psig minimum working pressure at 225°F.
- G. Dielectric Nipples: Electroplated steel nipple with inert and noncorrosive, thermoplastic lining; plain, threaded, or grooved ends; and 300-psig minimum working pressure at 225°F.

2.6 MECHANICAL SLEEVE SEALS

- A. Description: Modular sealing element unit, designed for field assembly, to fill annular space between pipe and sleeve.
 - 1. Sealing Elements: EPDM interlocking links shaped to fit surface of pipe. Include type and number required for pipe material and size of pipe.
 - 2. Pressure Plates: Stainless steel. Include two for each sealing element.
 - 3. Connecting Bolts and Nuts: Stainless steel of length required to secure pressure plates to sealing elements. Include one for each sealing element.

2.7 SLEEVES

- A. Galvanized-Steel Sheet: 0.0239-inch minimum thickness; round tube closed with welded longitudinal joint.
- B. Steel Pipe: ASTM A 53, Type E, Grade B, Schedule 40, galvanized, plain ends.
- C. Cast Iron: Cast or fabricated "wall pipe" equivalent to ductile-iron pressure pipe, with plain ends and integral waterstop, unless otherwise indicated.
- D. Stack Sleeve Fittings: Manufactured, cast-iron sleeve with integral clamping flange. Include clamping ring and bolts and nuts for membrane flashing.
 - 1. Underdeck Clamp: Clamping ring with set screws.

2.8 ESCUTCHEONS

- A. Description: Manufactured wall and ceiling escutcheons and floor plates, with an ID to closely fit around pipe, tube, and insulation of insulated piping and an OD that completely covers opening.
- B. One-Piece, Deep-Pattern Type: Deep-drawn, box-shaped brass with polished chrome-plated finish.
- C. One-Piece, Stamped-Steel Type: With set screw or spring clips and chrome-plated finish.
- D. Split-Plate, Stamped-Steel Type: With concealed or exposed-rivet hinge, set screw or spring clips, and chrome-plated finish.
- E. One-Piece, Floor-Plate Type: Cast-iron floor plate.
- F. Split-Casting, Floor-Plate Type: Cast brass with concealed hinge and set screw.

2.9 GROUT

- A. Description: ASTM C 1107, Grade B, nonshrink and nonmetallic, dry hydraulic-cement grout.
 - 1. Characteristics: Post-hardening, volume-adjusting, nonstaining, noncorrosive, nongaseous, and recommended for interior and exterior applications.
 - 2. Design Mix: 5000-psi, 28-day compressive strength.
 - 3. Packaging: Premixed and factory packaged.

PART 3 - EXECUTION

3.1 PIPING SYSTEMS - COMMON REQUIREMENTS

- A. Install piping according to the following requirements and Division 22 Sections specifying piping systems.
- B. Drawing plans, schematics, and diagrams indicate general location and arrangement of piping systems. Indicated locations and arrangements were used to size pipe and calculate friction loss, expansion, pump sizing, and other design considerations. Install piping as indicated unless deviations to layout are approved on Coordination Drawings.
- C. Install piping in concealed locations, unless otherwise indicated and except in equipment rooms and service areas.
- D. Install piping indicated to be exposed and piping in equipment rooms and service areas at right angles or parallel to building walls. Diagonal runs are prohibited unless specifically indicated otherwise.
- E. Install piping above accessible ceilings to allow sufficient space for ceiling panel removal.
- F. Install piping to permit valve servicing.
- G. Install piping at slopes indicated on the drawings. If not specified slope piping as required by the plumbing code.
- H. Install piping free of sags and bends.
- I. Install fittings for changes in direction and branch connections.
- J. Install piping to allow application of insulation.
- K. Select system components with pressure rating equal to or greater than system operating pressure.
- L. Install escutcheons for penetrations of walls, ceilings, and floors according to the following:
 - 1. New Piping:
 - a. Piping with Fitting or Sleeve Protruding from Wall: One-piece, deep-pattern type.
 - b. Chrome-Plated Piping: One-piece, cast-brass type with polished chrome-plated finish.
 - c. Insulated Piping: One-piece, stamped-steel type with spring clips.
 - d. Bare Piping at Wall and Floor Penetrations in Finished Spaces: One-piece, stamped-steel type.
 - e. Bare Piping at Ceiling Penetrations in Finished Spaces: One-piece, stamped-steel type or split-plate, stamped-steel type with concealed hinge and set screw.
 - f. Bare Piping in Unfinished Service Spaces: One-piece, stamped-steel type with concealed or exposed-rivet hinge and set screw or spring clips.

- g. Bare Piping in Equipment Rooms: One-piece, stamped-steel type with set screw or spring clips.
 - h. Bare Piping at Floor Penetrations in Equipment Rooms: One-piece, floor-plate type.
- M. Sleeves are not required for core-drilled holes.
- N. Permanent sleeves are not required in floors for holes formed by removable sleeves.
- O. Install sleeves for pipes passing through concrete and masonry walls and concrete floor and roof slabs.
- P. Install sleeves for pipes passing through concrete and masonry walls, gypsum-board partitions, and concrete floor and roof slabs.
 - 1. Cut sleeves to length for mounting flush with both surfaces.
 - a. Exception: Extend sleeves installed in floors of mechanical equipment areas or other wet areas 2 inches above finished floor level. Extend cast-iron sleeve fittings below floor slab as required to secure clamping ring if ring is specified.
 - 2. Install sleeves in new walls and slabs as new walls and slabs are constructed.
 - 3. Install sleeves that are large enough to provide 1/4-inch annular clear space between sleeve and pipe or pipe insulation. Use the following sleeve materials:
 - a. Steel Pipe Sleeves: For pipes smaller than NPS 6.
 - b. Steel Sheet Sleeves: For pipes NPS 6 and larger, penetrating gypsum-board partitions.
 - c. Stack Sleeve Fittings: For pipes penetrating floors with membrane waterproofing. Secure flashing between clamping flanges. Install section of cast-iron soil pipe to extend sleeve to 2 inches above finished floor level. Refer to Division 076200 Section "Sheet Metal Flashing and Trim" for flashing.
 - 1) Seal space outside of sleeve fittings with grout.
- Q. Aboveground, Exterior-Wall Pipe Penetrations: Seal penetrations using sleeves and mechanical sleeve seals. Select sleeve size to allow for 1-inch annular clear space between pipe and sleeve for installing mechanical sleeve seals.
 - 1. Install steel pipe for sleeves smaller than 6 inches in diameter.
 - 2. Install cast-iron "wall pipes" for sleeves 6 inches and larger in diameter.
 - 3. Mechanical Sleeve Seal Installation: Select type and number of sealing elements required for pipe material and size. Position pipe in center of sleeve. Assemble mechanical sleeve seals and install in annular space between pipe and sleeve. Tighten bolts against pressure plates that cause sealing elements to expand and make watertight seal.
- R. Underground, Exterior-Wall Pipe Penetrations: Install cast-iron "wall pipes" for sleeves. Seal pipe penetrations using mechanical sleeve seals. Select sleeve size to allow for 1-inch annular clear space between pipe and sleeve for installing mechanical sleeve seals.

1. **Mechanical Sleeve Seal Installation:** Select type and number of sealing elements required for pipe material and size. Position pipe in center of sleeve. Assemble mechanical sleeve seals and install in annular space between pipe and sleeve. Tighten bolts against pressure plates that cause sealing elements to expand and make watertight seal.
- S. Verify final equipment locations for roughing-in.
- T. Refer to equipment specifications in other Sections of these Specifications for roughing-in requirements.

3.2 PIPING JOINT CONSTRUCTION

- A. Join pipe and fittings according to the following requirements and Division 22 Sections specifying piping systems.
- B. Ream ends of pipes and tubes and remove burrs. Bevel plain ends of steel pipe.
- C. Remove scale, slag, dirt, and debris from inside and outside of pipe and fittings before assembly.
- D. **Threaded Joints:** Thread pipe with tapered pipe threads according to ASME B1.20.1. Cut threads full and clean using sharp dies. Ream threaded pipe ends to remove burrs and restore full ID. Join pipe fittings and valves as follows:
 1. Apply appropriate tape or thread compound to external pipe threads unless dry seal threading is specified.
 2. **Damaged Threads:** Do not use pipe or pipe fittings with threads that are corroded or damaged. Do not use pipe sections that have cracked or open welds.
- E. **Welded Joints:** Construct joints according to AWS D10.12, using qualified processes and welding operators according to Part 1 "Quality Assurance" Article.
- F. **Flanged Joints:** Select appropriate gasket material, size, type, and thickness for service application. Install gasket concentrically positioned. Use suitable lubricants on bolt threads.

3.3 PIPING CONNECTIONS

- A. Make connections according to the following, unless otherwise indicated:
 1. Install unions, in piping NPS 2 and smaller, adjacent to each valve and at final connection to each piece of equipment.
 2. Install flanges, in piping NPS 2-1/2 and larger, adjacent to flanged valves and at final connection to each piece of equipment.
 3. **Dry Piping Systems:** Install dielectric unions and flanges to connect piping materials of dissimilar metals.
 4. **Wet Piping Systems:** Install dielectric coupling and nipple fittings to connect piping materials of dissimilar metals.

3.4 EQUIPMENT INSTALLATION - COMMON REQUIREMENTS

- A. Install equipment to allow maximum possible headroom unless specific mounting heights are indicated.
- B. Install equipment level and plumb, parallel and perpendicular to other building systems and components in exposed interior spaces, unless otherwise indicated.
- C. Install plumbing equipment to facilitate service, maintenance, and repair or replacement of components. Connect equipment for ease of disconnecting, with minimum interference to other installations. Extend grease fittings to accessible locations.
- D. Install equipment to allow right of way for piping installed at required slope.

3.5 GROUTING

- A. Mix and install grout for plumbing equipment base bearing surfaces, pump and other equipment base plates, and anchors.
- B. Clean surfaces that will come into contact with grout.
- C. Provide forms as required for placement of grout.
- D. Avoid air entrapment during placement of grout.
- E. Place grout, completely filling equipment bases.
- F. Place grout around anchors.
- G. Cure placed grout.

END OF SECTION 220500

SECTION 220529 - HANGERS AND SUPPORTS FOR PLUMBING PIPING AND EQUIPMENT

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section Includes:
 - 1. Metal pipe hangers and supports.
 - 2. Metal framing systems.
 - 3. Thermal-hanger shield inserts.
 - 4. Fastener systems.
 - 5. Pipe stands.
 - 6. Equipment supports.

1.3 DEFINITIONS

- A. MSS: Manufacturers Standardization Society of The Valve and Fittings Industry Inc.

1.4 PERFORMANCE REQUIREMENTS

- A. Structural Performance: Hangers and supports for plumbing piping and equipment shall withstand the effects of gravity loads and stresses within limits and under conditions indicated according to ASCE/SEI 7.
 - 1. Design supports for multiple pipes, including pipe stands, capable of supporting combined weight of supported systems, system contents, and test water.

1.5 ACTION SUBMITTALS

- A. Product Data: For each type of product indicated.
- B. Shop Drawings: Show fabrication and installation details and include calculations for the following; include Product Data for components:
 - 1. Metal framing systems.
 - 2. Pipe stands.

1.6 QUALITY ASSURANCE

- A. Pipe Welding Qualifications: Qualify procedures and operators according to ASME Boiler and Pressure Vessel Code.

PART 2 - PRODUCTS

2.1 METAL PIPE HANGERS AND SUPPORTS

- A. Carbon-Steel Pipe Hangers and Supports:

1. Description: MSS SP-58, Types 1 through 58, factory-fabricated components.
2. Galvanized Metallic Coatings: Pregalvanized or hot dipped.
3. Nonmetallic Coatings: Plastic coating, jacket, or liner.
4. Padded Hangers: Hanger with fiberglass or other pipe insulation pad or cushion to support bearing surface of piping.
5. Hanger Rods: Continuous-thread rod, nuts, and washer made of carbon steel.

- B. Copper Pipe Hangers:

1. Description: MSS SP-58, Types 1 through 58, copper-coated-steel, factory-fabricated components.
2. Hanger Rods: Continuous-thread rod, nuts, and washer made of copper-coated steel.

2.2 FASTENER SYSTEMS

- A. Powder-Actuated Fasteners: Threaded-steel stud, for use in hardened portland cement concrete with pull-out, tension, and shear capacities appropriate for supported loads and building materials where used.
- B. Mechanical-Expansion Anchors: Insert-wedge-type, stainless-steel anchors, for use in hardened portland cement concrete; with pull-out, tension, and shear capacities appropriate for supported loads and building materials where used.
- C. Coordinate building attachments with building construction.

2.3 PIPE STANDS

- A. General Requirements for Pipe Stands: Shop- or field-fabricated assemblies made of manufactured corrosion-resistant components to support roof-mounted piping.
- B. Compact Pipe Stand: One-piece plastic unit with integral-rod roller, pipe clamps, or V-shaped cradle to support pipe, for roof installation without membrane penetration.
- C. Low-Type, Single-Pipe Stand: One-piece plastic base unit with plastic roller, for roof installation without membrane penetration.

D. High-Type, Single-Pipe Stand:

1. Description: Assembly of base, vertical and horizontal members, and pipe support, for roof installation without membrane penetration.
2. Base: Plastic.
3. Vertical Members: Two or more cadmium-plated-steel or stainless-steel, continuous-thread rods.
4. Horizontal Member: Cadmium-plated-steel or stainless-steel rod with plastic or stainless-steel, roller-type pipe support.

E. High-Type, Multiple-Pipe Stand:

1. Description: Assembly of bases, vertical and horizontal members, and pipe supports, for roof installation without membrane penetration.
2. Bases: One or more; plastic.
3. Vertical Members: Two or more protective-coated-steel channels.
4. Horizontal Member: Protective-coated-steel channel.
5. Pipe Supports: Galvanized-steel, clevis-type pipe hangers.

F. Curb-Mounting-Type Pipe Stands: Shop- or field-fabricated pipe supports made from structural-steel shapes, continuous-thread rods, and rollers, for mounting on permanent stationary roof curb.

2.4 PIPE POSITIONING SYSTEMS

- A. Description: IAPMO PS 42, positioning system of metal brackets, clips, and straps for positioning piping in pipe spaces; for plumbing fixtures in commercial applications.

2.5 EQUIPMENT SUPPORTS

- A. Description: Welded, shop- or field-fabricated equipment support made from structural carbon-steel shapes.

2.6 MISCELLANEOUS MATERIALS

- A. Structural Steel: ASTM A 36/A 36M, carbon-steel plates, shapes, and bars; black and galvanized.
- B. Grout: ASTM C 1107, factory-mixed and -packaged, dry, hydraulic-cement, nonshrink and nonmetallic grout; suitable for interior and exterior applications.
1. Properties: Nonstaining, noncorrosive, and nongaseous.
 2. Design Mix: 5000-psi, 28-day compressive strength.

PART 3 - EXECUTION

3.1 HANGER AND SUPPORT INSTALLATION

- A. Metal Pipe-Hanger Installation: Comply with MSS SP-69 and MSS SP-89. Install hangers, supports, clamps, and attachments as required to properly support piping from the building structure.
- B. Fiberglass Pipe-Hanger Installation: Comply with applicable portions of MSS SP-69 and MSS SP-89. Install hangers and attachments as required to properly support piping from building structure.
- C. Metal Framing System Installation: Arrange for grouping of parallel runs of piping, and support together on field-assembled metal framing systems.
- D. Fiberglass Strut System Installation: Arrange for grouping of parallel runs of piping, and support together on field-assembled fiberglass struts.
- E. Thermal-Hanger Shield Installation: Install in pipe hanger or shield for insulated piping.
- F. Fastener System Installation:
 - 1. Install powder-actuated fasteners for use in lightweight concrete or concrete slabs less than 4 inches thick in concrete after concrete is placed and completely cured. Use operators that are licensed by powder-actuated tool manufacturer. Install fasteners according to powder-actuated tool manufacturer's operating manual.
 - 2. Install mechanical-expansion anchors in concrete after concrete is placed and completely cured. Install fasteners according to manufacturer's written instructions.
- G. Pipe Stand Installation:
 - 1. Pipe Stand Types except Curb-Mounted Type: Assemble components and mount on smooth roof surface. Do not penetrate roof membrane.
 - 2. Curb-Mounted-Type Pipe Stands: Assemble components or fabricate pipe stand and mount on permanent, stationary roof curb. See Section 077200 "Roof Accessories" for curbs.
- H. Pipe Positioning-System Installation: Install support devices to make rigid supply and waste piping connections to each plumbing fixture.
- I. Install hangers and supports complete with necessary attachments, inserts, bolts, rods, nuts, washers, and other accessories.
- J. Equipment Support Installation: Fabricate from welded-structural-steel shapes.
- K. Install hangers and supports to allow controlled thermal and seismic movement of piping systems, to permit freedom of movement between pipe anchors, and to facilitate action of expansion joints, expansion loops, expansion bends, and similar units.

- L. Install lateral bracing with pipe hangers and supports to prevent swaying.
- M. Install building attachments within concrete slabs or attach to structural steel. Install additional attachments at concentrated loads, including valves, flanges, and strainers, NPS 2-1/2 and larger and at changes in direction of piping. Install concrete inserts before concrete is placed; fasten inserts to forms and install reinforcing bars through openings at top of inserts.
- N. Load Distribution: Install hangers and supports so that piping live and dead loads and stresses from movement will not be transmitted to connected equipment.
- O. Pipe Slopes: Install hangers and supports to provide indicated pipe slopes and to not exceed maximum pipe deflections allowed by ASME B31.9 for building services piping.

3.2 ADJUSTING

- A. Hanger Adjustments: Adjust hangers to distribute loads equally on attachments and to achieve indicated slope of pipe.
- B. Trim excess length of continuous-thread hanger and support rods to 1-1/2 inches.

3.3 PAINTING

- A. Touchup: Clean field welds and abraded areas of shop paint. Paint exposed areas immediately after erecting hangers and supports. Use same materials as used for shop painting. Comply with SSPC-PA 1 requirements for touching up field-painted surfaces.
 - 1. Apply paint by brush or spray to provide a minimum dry film thickness of 2.0 mils.
- B. Touchup: Cleaning and touchup painting of field welds, bolted connections, and abraded areas of shop paint on miscellaneous metal are specified in Division 09 painting sections.
- C. Galvanized Surfaces: Clean welds, bolted connections, and abraded areas and apply galvanizing-repair paint to comply with ASTM A 780.

3.4 HANGER AND SUPPORT SCHEDULE

- A. Specific hanger and support requirements are in Sections specifying piping systems and equipment.
- B. Comply with MSS SP-69 for pipe-hanger selections and applications that are not specified in piping system Sections.
- C. Use hangers and supports with galvanized metallic coatings for piping and equipment that will not have field-applied finish.
- D. Use nonmetallic coatings on attachments for electrolytic protection where attachments are in direct contact with copper tubing.

- E. Use copper-plated pipe hangers and copper or stainless-steel attachments for copper piping and tubing.
- F. Horizontal-Piping Hangers and Supports: Unless otherwise indicated and except as specified in piping system Sections, install the following types:
 - 1. Adjustable, Steel Clevis Hangers (MSS Type 1): For suspension of noninsulated or insulated, stationary pipes NPS 1/2 to NPS 30.
 - 2. Carbon- or Alloy-Steel, Double-Bolt Pipe Clamps (MSS Type 3): For suspension of pipes NPS 3/4 to NPS 36, requiring clamp flexibility and up to 4 inches of insulation.
 - 3. Steel Pipe Clamps (MSS Type 4): For suspension of cold and hot pipes NPS 1/2 to NPS 24 if little or no insulation is required.
 - 4. Pipe Hangers (MSS Type 5): For suspension of pipes NPS 1/2 to NPS 4, to allow off-center closure for hanger installation before pipe erection.
 - 5. Adjustable, Swivel Split- or Solid-Ring Hangers (MSS Type 6): For suspension of noninsulated, stationary pipes NPS 3/4 to NPS 8.
 - 6. Adjustable, Steel Band Hangers (MSS Type 7): For suspension of noninsulated, stationary pipes NPS 1/2 to NPS 8.
- G. Vertical-Piping Clamps: Unless otherwise indicated and except as specified in piping system Sections, install the following types:
 - 1. Extension Pipe or Riser Clamps (MSS Type 8): For support of pipe risers NPS 3/4 to NPS 24.
 - 2. Carbon- or Alloy-Steel Riser Clamps (MSS Type 42): For support of pipe risers NPS 3/4 to NPS 24 if longer ends are required for riser clamps.
- H. Hanger-Rod Attachments: Unless otherwise indicated and except as specified in piping system Sections, install the following types:
 - 1. Steel Turnbuckles (MSS Type 13): For adjustment up to 6 inches for heavy loads.
 - 2. Steel Clevises (MSS Type 14): For 120 to 450 deg F piping installations.
 - 3. Swivel Turnbuckles (MSS Type 15): For use with MSS Type 11, split pipe rings.
 - 4. Malleable-Iron Sockets (MSS Type 16): For attaching hanger rods to various types of building attachments.
 - 5. Steel Weldless Eye Nuts (MSS Type 17): For 120 to 450 deg F piping installations.
- I. Building Attachments: Unless otherwise indicated and except as specified in piping system Sections, install the following types:
 - 1. Steel or Malleable Concrete Inserts (MSS Type 18): For upper attachment to suspend pipe hangers from concrete ceiling.
 - 2. Top-Beam C-Clamps (MSS Type 19): For use under roof installations with bar-joist construction, to attach to top flange of structural shape.
 - 3. Side-Beam or Channel Clamps (MSS Type 20): For attaching to bottom flange of beams, channels, or angles.
 - 4. Center-Beam Clamps (MSS Type 21): For attaching to center of bottom flange of beams.
 - 5. Welded Beam Attachments (MSS Type 22): For attaching to bottom of beams if loads are considerable and rod sizes are large.

6. C-Clamps (MSS Type 23): For structural shapes.
 7. Top-Beam Clamps (MSS Type 25): For top of beams if hanger rod is required tangent to flange edge.
 8. Side-Beam Clamps (MSS Type 27): For bottom of steel I-beams.
 9. Steel-Beam Clamps with Eye Nuts (MSS Type 28): For attaching to bottom of steel I-beams for heavy loads.
 10. Linked-Steel Clamps with Eye Nuts (MSS Type 29): For attaching to bottom of steel I-beams for heavy loads, with link extensions.
 11. Malleable-Beam Clamps with Extension Pieces (MSS Type 30): For attaching to structural steel.
 12. Welded-Steel Brackets: For support of pipes from below or for suspending from above by using clip and rod. Use one of the following for indicated loads:
 - a. Light (MSS Type 31): 750 lb.
 - b. Medium (MSS Type 32): 1500 lb.
 - c. Heavy (MSS Type 33): 3000 lb.
 13. Side-Beam Brackets (MSS Type 34): For sides of steel or wooden beams.
 14. Plate Lugs (MSS Type 57): For attaching to steel beams if flexibility at beam is required.
 15. Horizontal Travelers (MSS Type 58): For supporting piping systems subject to linear horizontal movement where headroom is limited.
- J. Comply with MFMA-103 for metal framing system selections and applications that are not specified in piping system Sections.
- K. Use powder-actuated fasteners or mechanical-expansion anchors instead of building attachments where required in concrete construction.
- L. Use pipe positioning systems in pipe spaces behind plumbing fixtures to support supply and waste piping for plumbing fixtures.

END OF SECTION 220529

SECTION 220553 - IDENTIFICATION FOR PLUMBING PIPING AND EQUIPMENT

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section Includes:
 - 1. Pipe labels.

1.3 ACTION SUBMITTALS

- A. Product Data: For each type of product indicated.
- B. Samples: For color, letter style, and graphic representation required for each identification material and device.

1.4 COORDINATION

- A. Coordinate installation of identifying devices with completion of covering and painting of surfaces where devices are to be applied.
- B. Coordinate installation of identifying devices with locations of access panels and doors.
- C. Install identifying devices before installing acoustical ceilings and similar concealment.

PART 2 - PRODUCTS

2.1 PIPE LABELS

- A. General Requirements for Manufactured Pipe Labels: Preprinted, color-coded, with lettering indicating service, and showing flow direction.
- B. Pretensioned Pipe Labels: Precoiled, semirigid plastic formed to cover full circumference of pipe and to attach to pipe without fasteners or adhesive.
- C. Self-Adhesive Pipe Labels: Printed plastic with contact-type, permanent-adhesive backing.

- D. Pipe Label Contents: Include identification of piping service using same designations or abbreviations as used on Drawings, pipe size, and an arrow indicating flow direction.
 - 1. Flow-Direction Arrows: Integral with piping system service lettering to accommodate both directions, or as separate unit on each pipe label to indicate flow direction.
 - 2. Lettering Size: At least 1-1/2 inches high.

PART 3 - EXECUTION

3.1 PREPARATION

- A. Clean piping surfaces of substances that could impair bond of identification devices, including dirt, oil, grease, release agents, and incompatible primers, paints, and encapsulants.

3.2 PIPE LABEL INSTALLATION

- A. Stenciled Pipe Label Option: Stenciled labels may be provided instead of manufactured pipe labels, at Installer's option. Install stenciled pipe labels with painted, color-coded bands or rectangles, complying with ASME A13.1, on each piping system.
 - 1. Identification Paint: Use for contrasting background.
 - 2. Stencil Paint: Use for pipe marking.
- B. Locate pipe labels where piping is exposed or above accessible ceilings in finished spaces; machine rooms; accessible maintenance spaces such as shafts, tunnels, and plenums; and exterior exposed locations as follows:
 - 1. Near each valve and control device.
 - 2. Near each branch connection, excluding short takeoffs for fixtures and terminal units. Where flow pattern is not obvious, mark each pipe at branch.
 - 3. Near penetrations through walls, floors, ceilings, and inaccessible enclosures.
 - 4. At access doors, manholes, and similar access points that permit view of concealed piping.
 - 5. Near major equipment items and other points of origination and termination.
 - 6. Spaced at maximum intervals of 10 feet along each run.
- C. Pipe Label Color Schedule:
 - 1. Sanitary Waste and Drain Piping:
 - a. Background Color: White.
 - b. Letter Color: Black.
 - 2. Storm Piping:
 - a. Background Color: White.
 - b. Letter Color: Black.

Buffalo Waterboard
Colonel Ward Pumping Station
Stone Storage Building and Boiler House Renovations
Wendel Project No. 462806

3. Gas Piping:
 - a. Background Color: Yellow
 - b. Letter Color: Black

END OF SECTION 220553

SECTION 221123 - FACILITY NATURAL-GAS PIPING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section Includes:
 - 1. Pipes, tubes, and fittings.
 - 2. Valves.

1.3 DEFINITIONS

- A. Finished Spaces: Spaces other than mechanical and electrical equipment rooms, furred spaces, pipe and duct shafts, unheated spaces immediately below roof, spaces above ceilings, unexcavated spaces, crawlspace, and tunnels.
- B. Exposed, Interior Installations: Exposed to view indoors. Examples include finished occupied spaces and mechanical equipment rooms.
- C. Exposed, Exterior Installations: Exposed to view outdoors or subject to outdoor ambient temperatures and weather conditions. Examples include rooftop locations.

1.4 PERFORMANCE REQUIREMENTS

- A. Minimum Operating-Pressure Ratings:
 - 1. Piping and Valves: 100 psig minimum unless otherwise indicated.
- B. Natural-Gas System Pressure within Buildings and on roof: Pressure 12"wc or less.

1.5 ACTION SUBMITTALS

- A. Product Data: For each type of the following:
 - 1. Pipes, tubes, and fittings.
 - 2. Valves. Include pressure rating, capacity, settings, and electrical connection data of selected models.

3. Dielectric fittings.

1.6 DELIVERY, STORAGE, AND HANDLING

- A. Handling Flammable Liquids: Remove and dispose of liquids from existing natural-gas piping according to requirements of authorities having jurisdiction.
- B. Deliver pipes and tubes with factory-applied end caps. Maintain end caps through shipping, storage, and handling to prevent pipe end damage and to prevent entrance of dirt, debris, and moisture.
- C. Store and handle pipes and tubes having factory-applied protective coatings to avoid damaging coating, and protect from direct sunlight.
- D. Protect stored PE pipes and valves from direct sunlight.

1.7 PROJECT CONDITIONS

- A. Perform site survey, research public utility records, and verify existing utility locations. Contact utility-locating service for area where Project is located.
- B. Interruption of Existing Natural-Gas Service: Do not interrupt natural-gas service to facilities occupied by Owner or others unless permitted under the following conditions and then only after arranging to provide purging and startup of natural-gas supply according to requirements indicated:
 1. Notify Owner no fewer than two days in advance of proposed interruption of natural-gas service.
 2. Do not proceed with interruption of natural-gas service without Owner's written permission.

PART 2 - PRODUCTS

2.1 PIPES, TUBES, AND FITTINGS

- A. Steel Pipe: ASTM A 53/A 53M, black steel, Schedule 40, Type E or S, Grade B.
 1. Malleable-Iron Threaded Fittings: ASME B16.3, Class 150, standard pattern.
 2. Wrought-Steel Welding Fittings: ASTM A 234/A 234M for butt welding and socket welding.
 3. Unions: ASME B16.39, Class 150, malleable iron with brass-to-iron seat, ground joint, and threaded ends.
 4. Forged-Steel Flanges and Flanged Fittings: ASME B16.5, minimum Class 150, including bolts, nuts, and gaskets of the following material group, end connections, and facings:

- a. Material Group: 1.1.
- b. End Connections: Threaded or butt welding to match pipe.
- c. Lapped Face: Not permitted underground.
- d. Gasket Materials: ASME B16.20, metallic, flat, asbestos free, aluminum o-rings, and spiral-wound metal gaskets.
- e. Bolts and Nuts: ASME B18.2.1, carbon steel aboveground and stainless steel underground.

5. Mechanical Couplings:

- a. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - 1) Dresser Piping Specialties; Division of Dresser, Inc.
 - 2) Smith-Blair, Inc.
- b. Stainless-steel flanges and tube with epoxy finish.
- c. Buna-nitrile seals.
- d. Stainless-steel bolts, washers, and nuts.
- e. Coupling shall be capable of joining PE pipe to PE pipe, steel pipe to PE pipe, or steel pipe to steel pipe.
- f. Steel body couplings installed underground on plastic pipe shall be factory equipped with anode.

2.2 JOINING MATERIALS

- A. Joint Compound and Tape: Suitable for natural gas.

2.3 MANUAL GAS SHUTOFF VALVES

- A. See "Aboveground Manual Gas Shutoff Valve Schedule" Articles for where each valve type is applied in various services.
- B. General Requirements for Metallic Valves, NPS 2 and Smaller: Comply with ASME B16.33.
 - 1. CWP Rating: 125 psig.
 - 2. Threaded Ends: Comply with ASME B1.20.1.
 - 3. Dryseal Threads on Flare Ends: Comply with ASME B1.20.3.
 - 4. Tamperproof Feature: Locking feature for valves indicated in "Underground Manual Gas Shutoff Valve Schedule" and "Aboveground Manual Gas Shutoff Valve Schedule" Articles.
 - 5. Listing: Listed and labeled by an NRTL acceptable to authorities having jurisdiction for valves 1 inch and smaller.
 - 6. Service Mark: Valves 1-1/4 inches to NPS 2 shall have initials "WOG" permanently marked on valve body.
- C. Two-Piece, lockable Full-Port, Bronze Ball Valves with Bronze Trim: MSS SP-110.

1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - a. BrassCraft Manufacturing Company; a Masco company.
 - b. Conbraco Industries, Inc.; Apollo Div.
 - c. Lyall, R. W. & Company, Inc.
 - d. McDonald, A. Y. Mfg. Co.
 - e. Perfection Corporation; a subsidiary of American Meter Company.
2. Body: Bronze, complying with ASTM B 584.
3. Ball: Chrome-plated bronze.
4. Stem: Bronze; blowout proof.
5. Seats: Reinforced TFE; blowout proof.
6. Packing: Threaded-body packnut design with adjustable-stem packing.
7. Ends: Threaded, flared, or socket as indicated in "Underground Manual Gas Shutoff Valve Schedule" and "Aboveground Manual Gas Shutoff Valve Schedule" Articles.
8. CWP Rating: 600 psig.
9. Listing: Valves NPS 1 and smaller shall be listed and labeled by an NRTL acceptable to authorities having jurisdiction.
10. Service: Suitable for natural-gas service with "WOG" indicated on valve body.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine roughing-in for natural-gas piping system to verify actual locations of piping connections before equipment installation.
- B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

- A. Close equipment shutoff valves before turning off natural gas to premises or piping section.
- B. Inspect natural-gas piping according to the New York State Fuel Gas Code to determine that natural-gas utilization devices are turned off in piping section affected.
- C. Comply with the New York State Fuel Gas Code requirements for prevention of accidental ignition.

3.3 INDOOR PIPING INSTALLATION

- A. Comply with the New York State Fuel Gas Code for installation and purging of natural-gas piping.

- B. Drawing plans, schematics, and diagrams indicate general location and arrangement of piping systems. Indicated locations and arrangements are used to size pipe and calculate friction loss, expansion, and other design considerations. Install piping as indicated unless deviations to layout are approved on Coordination Drawings.
- C. Arrange for pipe spaces, chases, slots, sleeves, and openings in building structure during progress of construction, to allow for mechanical installations.
- D. Install piping in concealed locations unless otherwise indicated and except in equipment rooms and service areas.
- E. Install piping indicated to be exposed and piping in equipment rooms and service areas at right angles or parallel to building walls. Diagonal runs are prohibited unless specifically indicated otherwise.
- F. Install piping above accessible ceilings to allow sufficient space for ceiling panel removal.
- G. Locate valves for easy access.
- H. Install natural-gas piping at uniform grade of 2 percent down toward drip and sediment traps.
- I. Install piping free of sags and bends.
- J. Install fittings for changes in direction and branch connections.
- K. Conceal pipe installations in walls, pipe spaces, utility spaces, and above ceilings unless indicated to be exposed to view.
- L. Concealed Location Installations:
 - 1. Above Accessible Ceilings: Natural-gas piping, fittings, valves, and regulators may be installed in accessible spaces without containment conduit.
 - 2. In Walls or Partitions: Protect tubing installed inside partitions or hollow walls from physical damage using steel striker barriers at rigid supports.
 - a. Exception: Tubing passing through partitions or walls does not require striker barriers.
 - 3. Prohibited Locations:
 - a. Do not install natural-gas piping in or through circulating air ducts, clothes or trash chutes, chimneys or gas vents (flues), ventilating ducts, or dumbwaiter or elevator shafts.
 - b. Do not install natural-gas piping in solid walls or partitions.
- M. Use eccentric reducer fittings to make reductions in pipe sizes. Install fittings with level side down.
- N. Connect branch piping from top or side of horizontal piping.

- O. Install unions in pipes NPS 2 and smaller, adjacent to each valve, at final connection to each piece of equipment. Unions are not required at flanged connections.
- P. Do not use natural-gas piping as grounding electrode.

3.4 PIPING JOINT CONSTRUCTION

- A. Ream ends of pipes and tubes and remove burrs.
- B. Remove scale, slag, dirt, and debris from inside and outside of pipe and fittings before assembly.
- C. Threaded Joints:
 - 1. Thread pipe with tapered pipe threads complying with ASME B1.20.1.
 - 2. Cut threads full and clean using sharp dies.
 - 3. Ream threaded pipe ends to remove burrs and restore full inside diameter of pipe.
 - 4. Apply appropriate tape or thread compound to external pipe threads unless dryseal threading is specified.
 - 5. Damaged Threads: Do not use pipe or pipe fittings with threads that are corroded or damaged. Do not use pipe sections that have cracked or open welds.

3.5 HANGER AND SUPPORT INSTALLATION

- A. Comply with requirements for pipe hangers and supports specified in Section 220529 "Hangers and Supports for Plumbing Piping and Equipment."
- B. Install hangers for horizontal steel piping with the following maximum spacing and minimum rod sizes:
 - 1. NPS 1 and Smaller: Maximum span, 96 inches; minimum rod size, 3/8 inch.
 - 2. NPS 1-1/4: Maximum span, 108 inches; minimum rod size, 3/8 inch.

3.6 CONNECTIONS

- A. Sediment Traps: Install tee fitting with capped nipple in bottom to form drip, as close as practical to inlet of each appliance.

3.7 FIELD QUALITY CONTROL

- A. Perform tests and inspections.
- B. Tests and Inspections:
 - 1. Test, inspect, and purge natural gas according to the New York State Fuel Gas Code and authorities having jurisdiction. Pressure test piping at 15psi for a duration of one hour.

- C. Natural-gas piping will be considered defective if it does not pass tests and inspections.
- D. Prepare test and inspection reports.

3.8 OUTDOOR PIPING SCHEDULE

- A. Underground natural-gas piping shall be one of the following:
 - 1. PE pipe and fittings joined by heat fusion, or mechanical couplings; service-line risers with tracer wire terminated in an accessible location.
- B. Aboveground natural-gas piping shall be one of the following:
 - 1. Steel pipe with malleable-iron fittings and threaded joints.
 - 2. Steel pipe with wrought-steel fittings and welded joints.

3.9 INDOOR PIPING SCHEDULE FOR SYSTEM PRESSURES LESS THAN 0.5 PSIG

- A. Aboveground, piping shall be the following:
 - 1. Steel pipe with malleable-iron fittings and threaded joints.

3.10 ABOVEGROUND MANUAL GAS SHUTOFF VALVE SCHEDULE

- A. Distribution piping valves for pipe sizes NPS 2 and smaller shall be one of the following:
 - 1. Two-piece, full-port, bronze ball valves with bronze trim.
 - 2. Bronze plug valve.

END OF SECTION 221123

SECTION 221316 - SANITARY WASTE AND VENT PIPING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section Includes:

- 1. Pipe, tube, and fittings.
- 2. Specialty pipe fittings.

- B. Related Sections:

- 1. Section 333000 "Sanitary Sewer System" for sanitary sewerage piping and structures outside the building.

1.3 PERFORMANCE REQUIREMENTS

- A. Components and installation shall be capable of withstanding the following minimum working pressure unless otherwise indicated:

- 1. Soil, Waste, and Vent Piping: 10-foot head of water.

1.4 ACTION SUBMITTALS

- A. Product Data: For each type of product indicated.
- B. Provide piping schedule indicating type of intended installation and installation location. Refer to piping schedule below.

1.5 PROJECT CONDITIONS

- A. Interruption of Existing Sanitary Waste 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 Construction Manager no fewer than three working days in advance of proposed interruption of sanitary waste service.
2. Do not proceed with interruption of sanitary waste service without Construction Manager's written permission.

PART 2 - PRODUCTS

2.1 PIPING MATERIALS

- A. Comply with requirements in "Piping Schedule" Article for applications of pipe, tube, fitting materials, and joining methods for specific services, service locations, and pipe sizes.
- B. Cast iron soil pipe and fittings shall be marked with the collective trademark of the cast iron soil pipe institute, and be listed by NSF International

2.2 HUBLESS, CAST-IRON SOIL PIPE AND FITTINGS

- A. Pipe and Fittings: ASTM A 888 or CISPI 301.
- B. Sovent Stack Fittings: ASME B16.45 or ASSE 1043, hubless, cast-iron aerator and deaerator drainage fittings.
- C. CISPI, Hubless-Piping Couplings:
 1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - a. ANACO-Husky.
 - b. Fernco Inc.
 - c. MIFAB, Inc.
 - d. Mission Rubber Company; a division of MCP Industries, Inc.
 - e. Tyler Pipe.
 2. Standards: ASTM C 1277 and CISPI 310.
 3. Description: Stainless-steel corrugated shield with stainless-steel bands and tightening devices; and ASTM C 564, rubber sleeve with integral, center pipe stop.

2.3 PVC PIPE AND FITTINGS

- A. Solid-Wall PVC Pipe: ASTM D 2665, drain, waste, and vent.
- B. PVC Socket Fittings: ASTM D 2665, made to ASTM D 3311, drain, waste, and vent patterns and to fit Schedule 40 pipe.
- C. Adhesive Primer: ASTM F 656.

1. Adhesive primer shall have a VOC content of 550 g/L or less when calculated according to 40 CFR 59, Subpart D (EPA Method 24).
2. Adhesive primer shall comply with the testing and product requirements of the California Department of Health Services' "Standard Practice for the Testing of Volatile Organic Emissions from Various Sources Using Small-Scale Environmental Chambers."

D. Solvent Cement: ASTM D 2564.

1. PVC solvent cement shall have a VOC content of 510 g/L or less when calculated according to 40 CFR 59, Subpart D (EPA Method 24).
2. Solvent cement shall comply with the testing and product requirements of the California Department of Health Services' "Standard Practice for the Testing of Volatile Organic Emissions from Various Sources Using Small-Scale Environmental Chambers."

2.4 COPPER TUBE AND FITTINGS

A. DWV Copper Tubing:

1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - a. Mueller Industries.
 - b. Cambridge-Lee Industries.
 - c. Cerro Flow Products
2. Standards: ASTM B 306, Type DWV
3. Description: Drainage tube, drawn temper.

B. Copper Drainage Fittings:

1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - a. Mueller Industries.
 - b. NIBCO.
 - c. Elkhart Products Corporation
 - d. Cello Products.
2. Standards: ASME B16.23 or ASME B16.29.
3. Description: Cast copper or wrought copper, solder-joint fittings.

C. Solder: ASTM B 32, lead free with ASTM B 813, water-flushable flux.

2.5 GALVANIZED-STEEL PIPE AND FITTINGS

- A. Galvanized-Steel Pipe: ASTM A 53/A 53M, Type E, Standard Weight class. Include square-cut-grooved or threaded ends matching joining method.

B. Steel Pipe Pressure Fittings:

1. Galvanized-Steel Pipe Nipples: ASTM A 733, made of ASTM A 53/A 53M or ASTM A 106/A 106M, Schedule 40, seamless steel pipe. Include ends matching joining method.
2. Malleable-Iron Unions: ASME B16.39; Class 150; hexagonal-stock body with ball-and-socket, metal-to-metal, bronze seating surface; and female threaded ends.
3. Galvanized-Gray-Iron, Threaded Fittings: ASME B16.4, Class 125, standard pattern.

2.6 SPECIALTY PIPE FITTINGS

A. Transition Couplings:

1. General Requirements: Fitting or device for joining piping with small differences in OD's or of different materials. Include end connections same size as and compatible with pipes to be joined.
2. Fitting-Type Transition Couplings: Manufactured piping coupling or specified piping system fitting.
3. Shielded, Nonpressure Transition Couplings:
 - a. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - 1) Cascade Waterworks Mfg. Co.
 - 2) Mission Rubber Company; a division of MCP Industries, Inc.
 - b. Standard: ASTM C 1460.
 - c. Description: Elastomeric or rubber sleeve with full-length, corrosion-resistant outer shield and corrosion-resistant-metal tension band and tightening mechanism on each end.
4. Pressure Transition Couplings:
 - a. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - 1) Cascade Waterworks Mfg. Co.
 - 2) Dresser, Inc.
 - 3) Smith-Blair, Inc.; a Sensus company.
 - 4) The Ford Meter Box Company, Inc.
 - 5) Viking Johnson.
 - b. Standard: AWWA C219.
 - c. Description: Metal, sleeve-type same size as, with pressure rating at least equal to, and ends compatible with, pipes to be joined.
 - d. Center-Sleeve Material: Manufacturer's standard.
 - e. Gasket Material: Natural or synthetic rubber.

f. Metal Component Finish: Corrosion-resistant coating or material.

B. Dielectric Fittings:

1. General Requirements: Assembly of copper alloy and ferrous materials with separating nonconductive insulating material. Include end connections compatible with pipes to be joined.
2. Dielectric Unions:
 - a. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - 1) Capitol Manufacturing Company.
 - 2) Central Plastics Company.
 - 3) Hart Industries International, Inc.
 - 4) Jomar International Ltd.
 - 5) Matco-Norca, Inc.
 - 6) McDonald, A. Y. Mfg. Co.
 - 7) Watts Regulator Co.; a division of Watts Water Technologies, Inc.
 - 8) Wilkins; a Zurn company.
 - b. Description:
 - 1) Standard: ASSE 1079.
 - 2) Pressure Rating: 125 psig minimum at 180 deg F
 - 3) End Connections: Solder-joint copper alloy and threaded ferrous.
3. Dielectric Flanges:
 - a. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - 1) Capitol Manufacturing Company.
 - 2) Central Plastics Company.
 - 3) Matco-Norca, Inc.
 - 4) Watts Regulator Co.; a division of Watts Water Technologies, Inc.
 - 5) Wilkins; a Zurn company.
 - b. Description:
 - 1) Standard: ASSE 1079.
 - 2) Factory-fabricated, bolted, companion-flange assembly.
 - 3) Pressure Rating: 125 psig minimum at 180 deg F.
 - 4) End Connections: Solder-joint copper alloy and threaded ferrous; threaded solder-joint copper alloy and threaded ferrous.
4. Dielectric-Flange Insulating Kits:

- a. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - 1) Advance Products & Systems, Inc.
 - 2) Calpico, Inc.
 - 3) Central Plastics Company.
 - 4) Pipeline Seal and Insulator, Inc.
 - b. Description:
 - 1) Nonconducting materials for field assembly of companion flanges.
 - 2) Pressure Rating: 150 psig.
 - 3) Gasket: Neoprene or phenolic.
 - 4) Bolt Sleeves: Phenolic or polyethylene.
 - 5) Washers: Phenolic with steel backing washers.
5. Dielectric Nipples:
- a. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - 1) Elster Perfection.
 - 2) Grinnell Mechanical Products.
 - 3) Matco-Norca, Inc.
 - 4) Precision Plumbing Products, Inc.
 - 5) Victaulic Company.
 - b. Description:
 - 1) Standard: IAPMO PS 66
 - 2) Electroplated steel nipple.
 - 3) Pressure Rating: 300 psig at 225 deg F.
 - 4) End Connections: Male threaded or grooved.
 - 5) Lining: Inert and noncorrosive, propylene.

2.7 ENCASEMENT FOR UNDERGROUND METAL PIPING

- A. Standard: ASTM A 674 or AWWA C105/A 21.5.
- B. Material: Linear low-density polyethylene film of 0.008-inch (0.20-mm) or high-density, cross-laminated polyethylene film of 0.004-inch (0.10-mm) minimum thickness.
- C. Form: Sheet or tube.
- D. Color: Black or natural.

PART 3 - EXECUTION

3.1 EARTH MOVING

- A. Comply with requirements for excavating, trenching, and backfilling specified in Section 312000 "Earth Moving" Site Work.

3.2 PIPING INSTALLATION

- A. Drawing plans, schematics, and diagrams indicate general location and arrangement of piping systems. Indicated locations and arrangements were used to size pipe and calculate friction loss, expansion, pump sizing, and other design considerations. Install piping as indicated unless deviations to layout are approved on coordination drawings.
- B. Install piping in concealed locations unless otherwise indicated and except in equipment rooms and service areas.
- C. Install piping indicated to be exposed and piping in equipment rooms and service areas at right angles or parallel to building walls. Diagonal runs are prohibited unless specifically indicated otherwise.
- D. Install piping above accessible ceilings to allow sufficient space for ceiling panel removal.
- E. Install piping to permit valve servicing.
- F. Install piping at indicated slopes.
- G. Install piping free of sags and bends.
- H. Install fittings for changes in direction and branch connections.
- I. Install piping to allow application of insulation.
- J. Make changes in direction for soil and waste drainage and vent piping using appropriate branches, bends, and long-sweep bends. Sanitary tees and short-sweep 1/4 bends may be used on vertical stacks if change in direction of flow is from horizontal to vertical. Use long-turn, double Y-branch and 1/8-bend fittings if two fixtures are installed back to back or side by side with common drain pipe. Straight tees, elbows, and crosses may be used on vent lines. Do not change direction of flow more than 90 degrees. Use proper size of standard increasers and reducers if pipes of different sizes are connected. Reducing size of drainage piping in direction of flow is prohibited.
- K. Lay buried building drainage piping beginning at low point of each system. Install true to grades and alignment indicated, with unbroken continuity of invert. Place hub ends of piping upstream. Install required gaskets according to manufacturer's written instructions for use of lubricants, cements, and other installation requirements. Maintain swab in piping and pull past each joint as completed.

- L. Install soil and waste drainage and vent piping at the following minimum slopes unless otherwise indicated:
 - 1. Building Sanitary Drain: 2 percent downward in direction of flow for piping NPS 3 and smaller; 1 percent downward in direction of flow for piping NPS 4 and larger.
 - 2. Horizontal Sanitary Drainage Piping: 2 percent downward in direction of flow.
 - 3. Vent Piping: 1 percent down toward vertical fixture vent or toward vent stack.
- M. Install cast-iron soil piping according to CISPI's "Cast Iron Soil Pipe and Fittings Handbook," Chapter IV, "Installation of Cast Iron Soil Pipe and Fittings."
- N. Install underground PVC piping according to ASTM D 2321.
- O. Install aboveground copper tubing according to CDA's "Copper Tube Handbook."
- P. Plumbing Specialties:
 - 1. Install cleanouts at grade and extend to where building sanitary drains connect to building sanitary sewers in sanitary drainage gravity-flow piping. Comply with requirements for cleanouts specified in Section 221319 "Sanitary Waste Piping Specialties."
 - 2. Install drains in sanitary drainage gravity-flow piping. Comply with requirements for drains specified in Section 221319 "Sanitary Waste Piping Specialties."
- Q. Do not enclose, cover, or put piping into operation until it is inspected and approved by authorities having jurisdiction.
- R. Install sleeves for piping penetrations of walls, ceilings, floors, and passing under foundation. Where pipes pass through or under a foundation wall provide sleeves two pipe sizes larger than carrier pipe.
- S. Install sleeve seals for piping penetrations of concrete walls and slabs.
- T. Install escutcheons for piping penetrations of walls and ceilings.

3.3 JOINT CONSTRUCTION

- A. Join hubless, cast-iron soil piping according to CISPI 310 and CISPI's "Cast Iron Soil Pipe and Fittings Handbook" for hubless-piping coupling joints.
- B. Join copper tube and fittings with soldered joints according to ASTM B 828. Use ASTM B 813, water-flushable, lead-free flux and ASTM B 32, lead-free-alloy solder.
- C. Flanged Joints: Align bolt holes. Select appropriate gasket material, size, type, and thickness. Install gasket concentrically positioned. Use suitable lubricants on bolt threads. Torque bolts in cross pattern.
- D. Plastic, Nonpressure-Piping, Solvent-Cement Joints: Clean and dry joining surfaces. Join pipe and fittings according to the following:

1. Comply with ASTM F 402 for safe-handling practice of cleaners, primers, and solvent cements.
2. PVC Piping: Join according to ASTM D 2855 and ASTM D 2665 Appendixes.

3.4 SPECIALTY PIPE FITTING INSTALLATION

A. Transition Couplings:

1. Install transition couplings at joints of piping with small differences in OD's.
2. In Drainage Piping: Shielded, nonpressure transition couplings.

B. Dielectric Fittings:

1. Install dielectric fittings in piping at connections of dissimilar metal piping and tubing.
2. Dielectric Fittings for NPS 2 and Smaller: Use dielectric nipples or unions.
3. Dielectric Fittings for NPS 2-1/2 to NPS 6: Use dielectric flange kits or nipples.

3.5 HANGER AND SUPPORT INSTALLATION

A. Comply with requirements for pipe hanger and support devices and installation specified in Section 220529 "Hangers and Supports for Plumbing Piping and Equipment."

1. Install carbon-steel pipe hangers for horizontal piping in noncorrosive environments.
2. Install carbon-steel pipe support clamps for vertical piping.
3. Install stainless-steel pipe support clamps for vertical piping in corrosive environments.
4. Vertical Piping: MSS Type 8 or Type 42, clamps.
5. Install individual, straight, horizontal piping runs:
 - a. 100 Feet and Less: MSS Type 1, adjustable, steel clevis hangers.
 - b. Longer Than 100 Feet: MSS Type 43, adjustable roller hangers.
 - c. Longer Than 100 Feet if Indicated: MSS Type 49, spring cushion rolls.
6. Multiple, Straight, Horizontal Piping Runs 100 Feet or Longer: MSS Type 44, pipe rolls. Support pipe rolls on trapeze.
7. Base of Vertical Piping: MSS Type 52, spring hangers.

B. Support horizontal piping and tubing within 12 inches of each fitting and coupling.

C. Support vertical piping and tubing at base and at each floor.

D. Rod diameter may be reduced one size for double-rod hangers, with 3/8-inch minimum rods.

E. Install hangers for cast-iron soil piping with the following maximum horizontal spacing and minimum rod diameters:

1. NPS 1-1/2 and NPS 2: 60 inches with 3/8-inch rod.
2. NPS 3: 60 inches with 1/2-inch rod.

3. NPS 4 and NPS 5: 60 inches with 5/8-inch rod.
 4. NPS 6 and NPS 8: 60 inches with 3/4-inch rod.
 5. Spacing for 10-foot lengths may be increased to 10 feet. Spacing for fittings is limited to 60 inches.
- F. Install supports for vertical cast-iron soil piping every 15 feet.
- G. Install hangers for copper tubing with the following maximum horizontal spacing and minimum rod diameters:
1. NPS 1-1/4: 72 inches with 3/8-inch rod.
 2. NPS 1-1/2 and NPS 2: 96 inches with 3/8-inch rod.
- H. Install supports for vertical copper tubing every 10 feet.
- I. Install hangers for PVC piping with the following maximum horizontal spacing and minimum rod diameters:
1. NPS 1-1/2 and NPS 2: 48 inches with 3/8-inch rod.
 2. NPS 3: 48 inches with 1/2-inch rod.
 3. NPS 4 and NPS 5: 48 inches (1200 mm) with 5/8-inch (16-mm) rod.
- J. Install supports for vertical PVC piping every 10 feet.
- K. Support piping and tubing not listed above according to MSS SP-69 and manufacturer's written instructions.

3.6 CONNECTIONS

- A. Drawings indicate general arrangement of piping, fittings, and specialties.
- B. Connect soil and waste piping to exterior sanitary sewerage piping. Use transition fitting to join dissimilar piping materials.
- C. Connect drainage and vent piping to the following:
1. Plumbing Fixtures: Connect drainage piping in sizes indicated, but not smaller than required by plumbing code.
 2. Plumbing Fixtures and Equipment: Connect atmospheric vent piping in sizes indicated, but not smaller than required by authorities having jurisdiction.
 3. Plumbing Specialties: Connect drainage and vent piping in sizes indicated, but not smaller than required by plumbing code.
 4. Comply with requirements for cleanouts and drains specified in Section 221319 "Sanitary Waste Piping Specialties."
 5. Equipment: Connect drainage piping as indicated. Provide shutoff valve if indicated and union for each connection. Use flanges instead of unions for connections NPS 2-1/2 and larger.

- D. Where installing piping adjacent to equipment, allow space for service and maintenance of equipment.

3.7 IDENTIFICATION

- A. Identify exposed sanitary waste and vent piping. Comply with requirements for identification specified in Section 220553 "Identification for Plumbing Piping and Equipment."

3.8 FIELD QUALITY CONTROL

- A. During installation, notify authorities having jurisdiction at least 48 hours before inspection must be made. Perform tests specified below in presence of authorities having jurisdiction.
 - 1. Roughing-in Inspection: Arrange for inspection of piping before concealing or closing-in after roughing-in and before setting fixtures.
 - 2. Final Inspection: Arrange for final inspection by authorities having jurisdiction to observe tests specified below and to ensure compliance with requirements.
- B. Reinspection: If authorities having jurisdiction find that piping will not pass test or inspection, make required corrections and arrange for reinspection.
- C. Reports: Prepare inspection reports and have them signed by authorities having jurisdiction.
- D. Test sanitary drainage and vent piping according to procedures of authorities having jurisdiction or, in absence of published procedures, as follows:
 - 1. Test for leaks and defects in new piping and parts of existing piping that have been altered, extended, or repaired. If testing is performed in segments, submit separate report for each test, complete with diagram of portion of piping tested.
 - 2. Leave uncovered and unconcealed new, altered, extended, or replaced drainage and vent piping until it has been tested and approved. Expose work that was covered or concealed before it was tested.
 - 3. Roughing-in Plumbing Test Procedure: Test drainage and vent piping except outside leaders on completion of roughing-in. Close openings in piping system and fill with water to point of overflow, but not less than 10-foot head of water. From 15 minutes before inspection starts to completion of inspection, water level must not drop. Inspect joints for leaks.
 - 4. Finished Plumbing Test Procedure: After plumbing fixtures have been set and traps filled with water, test connections and prove they are gastight and watertight. Plug vent-stack openings on roof and building drains where they leave building. Introduce air into piping system equal to pressure of 1-inch wg. Use U-tube or manometer inserted in trap of water closet to measure this pressure. Air pressure must remain constant without introducing additional air throughout period of inspection. Inspect plumbing fixture connections for gas and water leaks.
 - 5. Repair leaks and defects with new materials and retest piping, or portion thereof, until satisfactory results are obtained.

6. Prepare reports for tests and required corrective action.

3.9 CLEANING AND PROTECTION

- A. Clean interior of piping. Remove dirt and debris as work progresses.
- B. Protect drains during remainder of construction period to avoid clogging with dirt and debris and to prevent damage from traffic and construction work.
- C. Place plugs in ends of uncompleted piping at end of day and when work stops.

3.10 PIPING SCHEDULE

- A. Aboveground, soil, waste and vent piping NPS 4 and smaller shall be any of the following:
 1. Hubless, cast-iron soil pipe and fittings; CISPI hubless-piping couplings; and coupled joints.
 2. Copper DWV tube, copper drainage fittings, and soldered joints.
 3. Dissimilar Pipe-Material Couplings: Shielded, nonpressure transition couplings.
- B. Aboveground sanitary-sewage force mains NPS 4 and smaller shall be the following:
 1. Hard copper tube, Type L; copper pressure fittings; and soldered joints.
- C. Underground sanitary-sewage force mains NPS 4 and smaller shall be the following:
 1. Hard copper tube, Type L (Type B); wrought-copper pressure fittings; and soldered joints.

END OF SECTION

SECTION 221319 - SANITARY WASTE PIPING SPECIALTIES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section Includes:
 - 1. Cleanouts.
 - 2. Trench drains.
 - 3. Flashing materials.

1.3 DEFINITIONS

- A. ABS: Acrylonitrile-butadiene-styrene plastic.
- B. FRP: Fiberglass-reinforced plastic.
- C. HDPE: High-density polyethylene plastic.
- D. PE: Polyethylene plastic.
- E. PP: Polypropylene plastic.
- F. PVC: Polyvinyl chloride plastic.

1.4 ACTION SUBMITTALS

- A. Product Data: For each type of product indicated. Include rated capacities, operating characteristics, and accessories.

1.5 CLOSEOUT SUBMITTALS

- A. Operation and Maintenance Data: For drainage piping specialties to include in emergency, operation, and maintenance manuals.

1.6 QUALITY ASSURANCE

- A. Drainage piping specialties shall bear label, stamp, or other markings of specified testing agency.
- B. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, Article 100, by a testing agency acceptable to authorities having jurisdiction, and marked for intended use.
- C. Comply with NSF 14, "Plastics Piping Components and Related Materials," for plastic sanitary piping specialty components.

1.7 COORDINATION

- A. Coordinate size and location of concrete bases. Cast anchor-bolt inserts into bases. Concrete, reinforcement, and formwork requirements are specified in Section 033000 "Cast-in-Place Concrete."
- B. Coordinate size and location of roof penetrations.

PART 2 - PRODUCTS

2.1 CLEANOUTS

- A. Exposed Metal Cleanouts:
 - 1. ASME A112.36.2M, Cast-Iron Cleanouts:
 - a. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - 1) Josam Company.
 - 2) MIFAB, Inc.
 - 3) Smith, Jay R. Mfg. Co.
 - 4) Tyler Pipe.
 - 5) Watts Drainage Products.
 - 6) Zurn Plumbing Products Group.
 - 2. Refer to schedule on drawing.

2.2 TRENCH DRAINS

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

- a. Josam Company; Josam Div.
 - b. MIFAB, Inc.
 - c. Smith, Jay R. Mfg. Co.
 - d. Zurn Plumbing Products Group;
2. Refer to schedule on drawing.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. Install cleanouts in aboveground piping and building drain piping according to the following, unless otherwise indicated:
 1. Size same as drainage piping up to NPS 4. Use NPS 4 for larger drainage piping unless larger cleanout is indicated.
 2. Locate at each change in direction of piping greater than 45 degrees.
 3. Locate at minimum intervals of 50 feet for piping NPS 4 and smaller and 100 feet for larger piping.
 4. Locate at base of each vertical soil and waste stack.
- B. For floor cleanouts for piping below floors or otherwise shown, install cleanout deck plates with top flush with finished floor.
- C. For cleanouts located in concealed piping, install cleanout wall access covers, of types indicated, with frame and cover flush with finished wall.
- D. Install trench drains at low points of surface areas to be drained.
 1. Set grates of drains flush with finished surface, unless otherwise indicated.
- E. Install traps on plumbing specialty drain outlets.

3.2 CONNECTIONS

- A. Comply with requirements in Section 221316 "Sanitary Waste and Vent Piping" for piping installation requirements. Drawings indicate general arrangement of piping, fittings, and specialties.
- B. Install piping adjacent to equipment to allow service and maintenance.

3.3 FIELD QUALITY CONTROL

- A. Tests and Inspections:

1. Leak Test: After installation, charge system and test for leaks. Repair leaks and retest until no leaks exist.
2. Test and adjust controls and safeties. Replace damaged and malfunctioning controls and equipment.

3.4 PROTECTION

- A. Protect drains during remainder of construction period to avoid clogging with dirt or debris and to prevent damage from traffic or construction work.
- B. Place plugs in ends of uncompleted piping at end of each day or when work stops.

END OF SECTION 221319

SECTION 221413 - STORM DRAINAGE PIPING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section Includes:
 - 1. Pipe, tube, and fittings.
 - 2. Specialty pipe fittings.
 - 3. Encasement for underground metal piping.

1.3 PERFORMANCE REQUIREMENTS

- A. Components and installation shall be capable of withstanding the following minimum working pressure unless otherwise indicated:
 - 1. Storm Drainage Piping: 10-foot head of water.

1.4 ACTION SUBMITTALS

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

1.5 INFORMATIONAL SUBMITTALS

- A. Field quality-control reports.

1.6 QUALITY ASSURANCE

- A. Piping materials shall bear label, stamp, or other markings of specified testing agency.

1.7 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 three working days in advance of proposed interruption of storm-drainage service.
2. Do not proceed with interruption of storm-drainage service without Owner's written permission.

PART 2 - PRODUCTS

2.1 PIPING MATERIALS

- A. Comply with requirements in "Piping Schedule" Article for applications of pipe, tube, fitting materials, and joining methods for specific services, service locations, and pipe sizes.
- B. Cast iron soil pipe and fittings shall be marked with the collective trademark of the cast iron soil pipe institute, and be listed by NSF International.

2.2 HUB-AND-SPIGOT, CAST-IRON SOIL PIPE AND FITTINGS

- A. Pipe and Fittings:
 1. Marked with CISPI collective trademark and NSF certification mark.
 2. Class: ASTM A 74, Service class(es).
- B. Gaskets: ASTM C 564, rubber.
- C. Caulking Materials: ASTM B 29, pure lead and oakum or hemp fiber.

2.3 HUBLESS, CAST-IRON SOIL PIPE AND FITTINGS

- A. Pipe and Fittings: ASTM A 888 or CISPI 301.
- B. CISPI, Hubless-Piping Couplings:
 1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - a. ANACO-Husky.
 - b. Fernco Inc.
 - c. MIFAB, Inc.
 - d. Mission Rubber Company; a division of MCP Industries, Inc.
 - e. Tyler Pipe.
 2. Standards: ASTM C 1277 and CISPI 310.
 3. Description: Stainless-steel corrugated shield with stainless-steel bands and tightening devices; and ASTM C 564, rubber sleeve with integral, center pipe stop.

2.4 SPECIALTY PIPE FITTINGS

A. Transition Couplings:

1. General Requirements: Fitting or device for joining piping with small differences in OD's or of different materials. Include end connections same size as and compatible with pipes to be joined.
2. Fitting-Type Transition Couplings: Manufactured piping coupling or specified-piping-system fitting.
3. Shielded, Nonpressure Transition Couplings:
 - a. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - 1) Cascade Waterworks Mfg. Co.
 - 2) Mission Rubber Company; a division of MCP Industries, Inc.
 - b. Standard: ASTM C 1460.
 - c. Description: Elastomeric or rubber sleeve with full-length, corrosion-resistant outer shield and corrosion-resistant-metal tension band and tightening mechanism on each end.
4. Pressure Transition Couplings:
 - a. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - 1) Cascade Waterworks Mfg. Co.
 - 2) Dresser, Inc.
 - 3) EBAA Iron, Inc.
 - 4) Ford Meter Box Company, Inc. (The)
 - 5) JCM Industries, Inc.
 - 6) Romac Industries, Inc.
 - 7) Smith-Blair, Inc.; a Sensus company.
 - 8) Viking Johnson; c/o Mueller Co.
 - b. Standard: AWWA C219.
 - c. Description: Metal, sleeve-type couplings same size as, with pressure rating at least equal to and ends compatible with, pipes to be joined.
 - d. Center-Sleeve Material: Ductile iron.
 - e. Gasket Material: Natural or synthetic rubber.
 - f. Metal Component Finish: Corrosion-resistant coating or material.

B. Dielectric Fittings:

1. General Requirements: Assembly of copper alloy and ferrous materials with separating nonconductive insulating material. Include end connections compatible with pipes to be joined.
2. Dielectric-Flange Insulating Kits:

- a. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - 1) Advance Products & Systems, Inc.
 - 2) Calpico, Inc.
 - 3) Central Plastics Company.
 - 4) Pipeline Seal and Insulator, Inc.
 - b. Description:
 - 1) Nonconducting materials for field assembly of companion flanges.
 - 2) Pressure Rating: 150 psig.
 - 3) Gasket: Neoprene or phenolic.
 - 4) Bolt Sleeves: Phenolic or polyethylene.
 - 5) Washers: Phenolic with steel-backing washers.
3. Dielectric Nipples:
- a. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - 1) Elster Perfection.
 - 2) Grinnell Mechanical Products.
 - 3) Matco-Norca, Inc.
 - 4) Precision Plumbing Products, Inc.
 - 5) Victaulic Company.
 - b. Description:
 - 1) Electroplated steel nipple complying with ASTM F 1545.
 - 2) Pressure Rating: 300 psig at 225 deg F.
 - 3) End Connections: Male threaded or grooved.
 - 4) Lining: Inert and noncorrosive, propylene.

PART 3 - EXECUTION

3.1 PIPING INSTALLATION

- A. Drawing plans, schematics, and diagrams indicate general location and arrangement of piping systems. Indicated locations and arrangements were used to size pipe and calculate friction loss, expansion, pump sizing, and other design considerations. Install piping as indicated unless deviations from layout are approved on coordination drawings.
- B. Install piping in concealed locations unless otherwise indicated and except in equipment rooms and service areas.

- C. Install piping indicated to be exposed and piping in equipment rooms and service areas at right angles or parallel to building walls. Diagonal runs are prohibited unless specifically indicated otherwise.
- D. Install piping above accessible ceilings to allow sufficient space for ceiling panel removal.
- E. Install piping at indicated slopes.
- F. Install piping free of sags and bends.
- G. Install fittings for changes in direction and branch connections.
- H. Install piping to allow application of insulation.
- I. Make changes in direction for storm drainage piping using appropriate branches, bends, and long-sweep bends. Do not change direction of flow more than 90 degrees. Use proper size of standard increasers and reducers if pipes of different sizes are connected. Reducing size of drainage piping in direction of flow is prohibited.
- J. Lay buried building storm drainage piping beginning at low point of each system. Install true to grades and alignment indicated, with unbroken continuity of invert. Place hub ends of piping upstream. Install required gaskets according to manufacturer's written instructions for use of lubricants, cements, and other installation requirements. Maintain swab in piping and pull past each joint as completed.
- K. Install storm drainage piping at the following minimum slopes unless otherwise indicated:
 - 1. Building Storm Drain: 2 percent downward in direction of flow for piping NPS 2-1/2 and smaller; 1 percent downward in direction of flow for piping NPS 3 and larger.
- L. Install cast-iron soil piping according to CISPI's "Cast Iron Soil Pipe and Fittings Handbook," Chapter IV, "Installation of Cast Iron Soil Pipe and Fittings."
- M. Plumbing Specialties:
 - 1. Install cleanouts at grade and extend to where building storm drains connect to building storm sewers in storm drainage gravity-flow piping. Install cleanout fitting with closure plug inside the building in storm drainage force-main piping. Comply with requirements for cleanouts specified in Section 221423 "Storm Drainage Piping Specialties."
 - 2. Install drains in storm drainage gravity-flow piping. Comply with requirements for drains specified in Section 221423 "Storm Drainage Piping Specialties."
- N. Do not enclose, cover, or put piping into operation until it is inspected and approved by authorities having jurisdiction.
- O. Install sleeves for piping penetrations of walls, ceilings, and floors. Comply with requirements for sleeves specified in Section 220517 "Sleeves and Sleeve Seals for Plumbing Piping."

- P. Install sleeve seals for piping penetrations of concrete walls and slabs. Comply with requirements for sleeve seals specified in Section 220517 "Sleeves and Sleeve Seals for Plumbing Piping."
- Q. Install escutcheons for piping penetrations of walls, ceilings, and floors. Comply with requirements for escutcheons specified in Section 220518 "Escutcheons for Plumbing Piping."

3.2 JOINT CONSTRUCTION

- A. Hubless, Cast-Iron Soil Piping Coupled Joints: Join according to CISPI 310 and CISPI's "Cast Iron Soil Pipe and Fittings Handbook" for hubless-piping coupling joints.

3.3 SPECIALTY PIPE FITTING INSTALLATION

- A. Transition Couplings:
 - 1. Install transition couplings at joints of piping with small differences in OD's.
 - 2. In Drainage Piping: Shielded, nonpressure transition couplings.
- B. Dielectric Fittings:
 - 1. Install dielectric fittings in piping at connections of dissimilar metal piping and tubing.
 - 2. Dielectric Fittings for NPS 2 and Smaller: Use dielectric nipples.
 - 3. Dielectric Fittings for NPS 2-1/2 to NPS 4: Use dielectric flange kits or nipples.
 - 4. Dielectric Fittings for NPS 5 and Larger: Use dielectric flange kits.

3.4 HANGER AND SUPPORT INSTALLATION

- A. Comply with requirements for pipe hanger and support devices and installation specified in Section 220529 "Hangers and Supports for Plumbing Piping and Equipment."
 - 1. Install carbon-steel pipe hangers for horizontal piping in noncorrosive environments.
 - 2. Install carbon-steel pipe support clamps for vertical piping in noncorrosive environments.
 - 3. Vertical Piping: MSS Type 8 or Type 42, clamps.
 - 4. Individual, Straight, Horizontal Piping Runs:
 - a. 100 Feet and Less: MSS Type 1, adjustable, steel clevis hangers.
 - b. Longer Than 100 Feet: MSS Type 43, adjustable roller hangers.
 - 5. Multiple, Straight, Horizontal Piping Runs 100 Feet or Longer: MSS Type 44, pipe rolls. Support pipe rolls on trapeze.
 - 6. Base of Vertical Piping: MSS Type 52, spring hangers.
- B. Support horizontal piping and tubing within 12 inches of each fitting and coupling.
- C. Support vertical piping at the top of riser and at and coupling location. Approximately every 10 feet.

- D. Rod diameter may be reduced one size for double-rod hangers, with 3/8-inch minimum rods.
- E. Install hangers for cast-iron soil piping with the following maximum horizontal spacing and minimum rod diameters:
 - 1. NPS 1-1/2 and NPS 2: 60 inches with 3/8-inch rod.
 - 2. NPS 3: 60 inches with 1/2-inch rod.
 - 3. NPS 4 and NPS 5: 60 inches with 5/8-inch rod.
 - 4. NPS 6 and NPS 8: 60 inches with 3/4-inch rod.
 - 5. Spacing for 10-foot pipe lengths may be increased to 10 feet. Spacing for fittings is limited to 60 inches.
- F. Install supports for vertical cast-iron soil piping every 15 feet.

3.5 CONNECTIONS

- A. Drawings indicate general arrangement of piping, fittings, and specialties.
- B. Connect interior storm drainage piping to exterior storm drainage piping. Use transition fitting to join dissimilar piping materials.
- C. Connect storm drainage piping to roof drains and storm drainage specialties.
 - 1. Install test tees (wall cleanouts) in conductors near floor, and floor cleanouts with cover flush with floor.
 - 2. Comply with requirements for cleanouts and drains specified in Section 221423 "Storm Drainage Piping Specialties."

3.6 FIELD QUALITY CONTROL

- A. During installation, notify authorities having jurisdiction at least 24 hours before inspection must be made. Perform tests specified below in presence of authorities having jurisdiction.
 - 1. Roughing-in Inspection: Arrange for inspection of piping before concealing or closing-in after roughing-in.
 - 2. Final Inspection: Arrange for final inspection by authorities having jurisdiction to observe tests specified below and to ensure compliance with requirements.
- B. Reinspection: If authorities having jurisdiction find that piping will not pass test or inspection, make required corrections and arrange for reinspection.
- C. Reports: Prepare inspection reports and have them signed by authorities having jurisdiction.
- D. Test storm drainage piping according to procedures of authorities having jurisdiction or, in absence of published procedures, as follows:

1. Test for leaks and defects in new piping and parts of existing piping that have been altered, extended, or repaired. If testing is performed in segments, submit separate report for each test, complete with diagram of portion of piping tested.
2. Leave uncovered and unconcealed new, altered, extended, or replaced storm drainage piping until it has been tested and approved. Expose work that was covered or concealed before it was tested.
3. Test Procedure: Test storm drainage piping on completion of roughing-in. Close openings in piping system and fill with water to point of overflow, but not less than 10-foot head of water. From 15 minutes before inspection starts until completion of inspection, water level must not drop. Inspect joints for leaks.
4. Repair leaks and defects with new materials and retest piping, or portion thereof, until satisfactory results are obtained.
5. Prepare reports for tests and required corrective action.

3.7 CLEANING

- A. Clean interior of piping. Remove dirt and debris as work progresses.
- B. Protect drains during remainder of construction period to avoid clogging with dirt and debris and to prevent damage from traffic and construction work.
- C. Place plugs in ends of uncompleted piping at end of day and when work stops.

3.8 PIPING SCHEDULE

- A. Flanges and unions may be used on aboveground pressure piping unless otherwise indicated.
- B. Aboveground storm drainage piping shall be any of the following:
 1. Hubless, cast-iron soil pipe and fittings; CISPI, hubless-piping couplings; and coupled joints.
 2. Dissimilar Pipe-Material Couplings: Shielded, nonpressure transition couplings.
- C. Underground storm drainage piping shall be any of the following:
 1. Service class, cast-iron soil pipe and fittings; gaskets; and gasketed joints.
 2. Dissimilar Pipe-Material Couplings: Shielded, nonpressure transition couplings.

END OF SECTION

SECTION 260500 - COMMON WORK RESULTS FOR ELECTRICAL

PART 1 - GENERAL

1.1 GENERAL REQUIREMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.
- B. Examine all other Sections of the Specifications for requirements that affect work under this Section whether or not such work is specifically mentioned in this Section.
- C. Coordinate work with that of all other trades affecting or affected by work of this Section. Cooperate with such trades to assure the steady progress of all work under the Contract.

1.2 SUMMARY

- A. Section Includes:
 - 1. Electrical equipment coordination and installation.
 - 2. Common electrical installation requirements.

1.3 DEFINITIONS

- A. EPDM: Ethylene-propylene-diene terpolymer rubber.
- B. NBR: Acrylonitrile-butadiene rubber.

1.4 COORDINATION

- A. Coordinate arrangement, mounting, and support of electrical equipment:
 - 1. To allow maximum possible headroom unless specific mounting heights that reduce headroom are indicated.
 - 2. To provide for ease of disconnecting the equipment with minimum interference to other installations.
 - 3. To allow right of way for piping and conduit installed at required slope.
 - 4. So connecting raceways, cables, wireways, cable trays, and busways will be clear of obstructions and of the working and access space of other equipment.

PART 2 - PRODUCTS – Not Used

PART 3 - EXECUTION

3.1 COMMON REQUIREMENTS FOR ELECTRICAL INSTALLATION

- A. Comply with NECA 1.
- B. Measure indicated mounting heights to bottom of unit for suspended items and to center of unit for wall-mounting items.
- C. Headroom Maintenance: If mounting heights or other location criteria are not indicated, arrange and install components and equipment to provide maximum possible headroom consistent with these requirements.
- D. Equipment: Install to facilitate service, maintenance, and repair or replacement of components of both electrical equipment and other nearby installations. Connect in such a way as to facilitate future disconnecting with minimum interference with other items in the vicinity.
- E. Right of Way: Give to piping systems installed at a required slope.
- F. Intent:
 - 1. The Contractor shall furnish and install all the necessary materials, apparatus, and devices to complete the electrical equipment and systems installation herein specified, except such parts as are specifically exempted herein.
 - 2. If an item is either called for in the specification or shown on the plans, it shall be considered sufficient of the inclusion of said items in this contract. If a conflict exists within the Specifications or exists withing the Drawings, the Contractor shall furnish the item, system, or workmanship, which is the highest quality, largest, or most closely fits the Architects/Engineers intent.
 - 3. It must be understood that details and drawings are diagrammatic. The Contractor shall verify all dimensions at the project site and be responsible for their accuracy.
 - 4. All sizes as given are minimum except as noted elsewhere in the Contract Documents.
 - 5. Unless otherwise noted, material and labor shall be new, top class, and workmanlike.
 - 6. Named manufacturer products are intended to establish a level or quality and performance requirements unless more explicit restrictions are indicated to apply.

3.2 FIRESTOPPING

Apply firestopping to penetrations of fire-rated floor and wall assemblies for electrical installations to restore original fire-resistance rating of assembly. Firestopping materials must be approved for specific use.

END OF SECTION 260500

SECTION 260519 - LOW-VOLTAGE ELECTRICAL POWER CONDUCTORS AND CABLES

PART 1 - GENERAL

1.1 GENERAL REQUIREMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.
- B. Examine all other Sections of the Specifications for requirements that affect work under this Section whether or not such work is specifically mentioned in this Section.
- C. Coordinate work with that of all other trades affecting, or affected by work of this Section. Cooperate with such trades to assure the steady progress of all work under the Contract.

1.2 SUMMARY

- A. This Section includes the following:
 - 1. Building wires and cables rated 600 V and less.
 - 2. Connectors, splices, and terminations rated 600 V and less.

1.3 DEFINITIONS

- A. EPDM: Ethylene-propylene-diene terpolymer rubber.

1.4 SUBMITTALS

- A. Product Data: For each type of product indicated.
- B. Field quality-control test reports.

1.5 QUALITY ASSURANCE

- A. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, Article 100, by a testing agency acceptable to authorities having jurisdiction, and marked for intended use.
- B. Comply with NFPA 70.

PART 2 - PRODUCTS

2.1 CONDUCTORS AND CABLES

- A. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - 1. Alcan Products Corporation; Alcan Cable Division.
 - 2. American Insulated Wire Corp.; a Leviton Company.
 - 3. General Cable Corporation.
 - 4. Senator Wire & Cable Company.
 - 5. Southwire Company.
- B. Copper Conductors: Comply with NEMA WC 70.
- C. Conductor Insulation: Comply with NEMA WC 70 for Types THHN-THWN.
- D. Power conductor Size: Minimum size of power conductors shall be #12 AWG.
- E. Control conductor Size: Minimum size of control conductors shall be #14 AWG.

2.2 CONNECTORS AND SPLICES

- A. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - 1. AFC Cable Systems, Inc.
 - 2. Hubbell Power Systems, Inc.
 - 3. O-Z/Gedney; EGS Electrical Group LLC.
 - 4. 3M; Electrical Products Division.
 - 5. Tyco Electronics Corp.
- B. Description: Factory-fabricated connectors and splices of size, ampacity rating, material, type, and class for application and service indicated.

PART 3 - EXECUTION

3.1 CONDUCTOR MATERIAL APPLICATIONS

- A. Feeders: Copper. Stranded for all.
- B. Branch Circuits: Copper. Stranded for all.

3.2 CONDUCTOR INSULATION AND MULTICONDUCTOR CABLE APPLICATIONS AND WIRING METHODS

- A. Feeders Concealed in Ceilings, Walls, Partitions, and Crawlspace: Type THHN-THWN, single conductors in raceway.
- B. Branch Circuits Concealed in Ceilings, Walls, and Partitions: Type THHN-THWN, single conductors in raceway.
- C. Class 1 Control Circuits: Type THHN-THWN, in raceway.

3.3 INSTALLATION OF CONDUCTORS AND CABLES

- A. Use manufacturer-approved pulling compound or lubricant where necessary; compound used must not deteriorate conductor or insulation. Do not exceed manufacturer's recommended maximum pulling tensions and sidewall pressure values.
- B. Use pulling means, including fish tape, cable, rope, and basket-weave wire/cable grips, that will not damage cables or raceway.
- C. Support cables according to Division 26 Section "Hangers and Supports for Electrical Systems."

3.4 CONNECTIONS

- A. Tighten electrical connectors and terminals according to manufacturer's published torque-tightening values. If manufacturer's torque values are not indicated, use those specified in UL 486A and UL 486B.
- B. Make splices and taps that are compatible with conductor material and that possess equivalent or better mechanical strength and insulation ratings than unspliced conductors.
 - 1. Use oxide inhibitor in each splice and tap conductor for aluminum conductors.
- C. Wiring at Outlets: Install conductor at each outlet, with at least 6 inches (150 mm) of slack.

3.5 FIRESTOPPING

- A. Apply firestopping to electrical penetrations of fire-rated floor and wall assemblies to restore original fire-resistance rating of assembly.

3.6 FIELD QUALITY CONTROL

- A. Perform tests and inspections and prepare test reports.
- B. Test Reports: Prepare a written report to record the following:

Buffalo Waterboard
Colonel Ward Pumping Station
Stone Storage Building and Boiler House Renovations
Wendel Project No. 462806

1. Test procedures used.
2. Test results that comply with requirements.
3. Test results that do not comply with requirements and corrective action taken to achieve compliance with requirements.

C. Remove and replace malfunctioning units and retest as specified above.

END OF SECTION 260519

SECTION 260526 - GROUNDING AND BONDING FOR ELECTRICAL SYSTEMS

PART 1 - GENERAL

1.1 GENERAL REQUIREMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.
- B. Examine all other Sections of the Specifications for requirements that affect work under this Section whether or not such work is specifically mentioned in this Section.
- C. Coordinate work with that of all other trades affecting, or affected by work of this Section. Cooperate with such trades to assure the steady progress of all work under the Contract.

1.2 SUMMARY

- A. This Section includes methods and materials for grounding systems and equipment.

1.3 SUBMITTALS

- A. Product Data: For each type of product indicated.
- B. Field quality-control test reports.

1.4 QUALITY ASSURANCE

- A. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, Article 100, by a testing agency acceptable to authorities having jurisdiction, and marked for intended use.
- B. Comply with UL 467 for grounding and bonding materials and equipment.

PART 2 - PRODUCTS

2.1 CONDUCTORS

- A. Insulated Conductors: Copper wire or cable insulated for 600 V unless otherwise required by applicable Code or authorities having jurisdiction.

PART 3 - EXECUTION

3.1 EQUIPMENT GROUNDING

- A. Install insulated equipment grounding conductors with all feeders and branch circuits.
- B. Install insulated equipment grounding conductors with the following items, in addition to those required by NFPA 70:
 - 1. Feeders and branch circuits.
 - 2. Lighting circuits.
 - 3. Receptacle circuits.
 - 4. Single-phase motor and appliance branch circuits.
 - 5. Three-phase motor and appliance branch circuits.
 - 6. Computer and Rack-Mounted Electronic Equipment Circuits: Install insulated equipment grounding conductor in branch-circuit runs from equipment-area power panels and power-distribution units.
 - 7. Retrofit lighting fixtures.

3.2 FIELD QUALITY CONTROL

- A. Report measured ground resistances that exceed the following values:
 - 1. Power and Lighting Equipment or System with Capacity 500 to 1000 kVA: 5 ohms.
- B. Excessive Ground Resistance: If resistance to ground exceeds specified values, notify Architect promptly and include recommendations to reduce ground resistance.

END OF SECTION 260526

SECTION 260529 - HANGERS AND SUPPORTS FOR ELECTRICAL SYSTEMS

PART 1 - GENERAL

1.1 GENERAL REQUIREMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.
- B. Examine all other Sections of the Specifications for requirements that affect work under this Section whether or not such work is specifically mentioned in this Section.
- C. Coordinate work with that of all other trades affecting, or affected by work of this Section. Cooperate with such trades to assure the steady progress of all work under the Contract.

1.2 SUMMARY

- A. This Section includes the following:
 - 1. Hangers and supports for electrical equipment and systems.
 - 2. Construction requirements for concrete bases.

1.3 DEFINITIONS

- A. EMT: Electrical metallic tubing.
- B. RMC: Rigid metal conduit.

1.4 PERFORMANCE REQUIREMENTS

- A. Design equipment supports capable of supporting combined operating weight of supported equipment and connected systems and components.

1.5 SUBMITTALS

- A. Product Data: For the following:
 - 1. Steel slotted support systems.
 - 2. Nonmetallic slotted support systems.
- B. Welding certificates.

1.6 QUALITY ASSURANCE

- A. Welding: Qualify procedures and personnel according to AWS D1.1/D1.1M, "Structural Welding Code - Steel."
- B. Comply with NFPA 70.

PART 2 - PRODUCTS

2.1 SUPPORT, ANCHORAGE, AND ATTACHMENT COMPONENTS

- A. Steel Slotted Support Systems: Comply with MFMA-4, factory-fabricated components for field assembly.
 - 1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - a. Allied Tube & Conduit.
 - b. Cooper B-Line, Inc.; a division of Cooper Industries.
 - c. ERICO International Corporation.
 - d. GS Metals Corp.
 - e. Thomas & Betts Corporation.
 - f. Unistrut; Tyco International, Ltd.
 - g. Wesanco, Inc.
 - 2. Metallic Coatings: Hot-dip galvanized after fabrication and applied according to MFMA-4.
- B. Raceway and Cable Supports: As described in NECA 1 and NECA 101.
- C. Conduit and Cable Support Devices: Steel and malleable-iron hangers, clamps, and associated fittings, designed for types and sizes of raceway or cable to be supported.
- D. Support for Conductors in Vertical Conduit: Factory-fabricated assembly consisting of threaded body and insulating wedging plug or plugs for non-armored electrical conductors or cables in riser conduits. Plugs shall have number, size, and shape of conductor gripping pieces as required to suit individual conductors or cables supported. Body shall be malleable iron.
- E. Structural Steel for Fabricated Supports and Restraints: ASTM A 36/A 36M, steel plates, shapes, and bars; black and galvanized.
- F. Mounting, Anchoring, and Attachment Components: Items for fastening electrical items or their supports to building surfaces include the following:
 - 1. Powder-Actuated Fasteners: Threaded-steel stud, for use in hardened portland cement concrete, steel, or wood, with tension, shear, and pullout capacities appropriate for supported loads and building materials where used.

- a. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - 1) Hilti Inc.
 - 2) ITW Ramset/Red Head; a division of Illinois Tool Works, Inc.
 - 3) MKT Fastening, LLC.
 - 4) Simpson Strong-Tie Co., Inc.; Masterset Fastening Systems Unit.
2. Clamps for Attachment to Steel Structural Elements: MSS SP-58, type suitable for attached structural element.
3. Through Bolts: Structural type, hex head, and high strength. Comply with ASTM A 325.
4. Toggle Bolts: All-steel springhead type.
5. Hanger Rods: Threaded steel.

2.2 FABRICATED METAL EQUIPMENT SUPPORT ASSEMBLIES

- A. Description: Welded or bolted, structural-steel shapes, shop or field fabricated to fit dimensions of supported equipment.

PART 3 - EXECUTION

3.1 APPLICATION

- A. Comply with NECA 1 and NECA 101 for application of hangers and supports for electrical equipment and systems except if requirements in this Section are stricter.
- B. Maximum Support Spacing and Minimum Hanger Rod Size for Raceway: Space supports for EMT, IMC, and RMC as required by NFPA 70. Minimum rod size shall be 1/4 inch (6 mm) in diameter.
- C. Interval for conduit support spacing: The interval for support spacing shall be 10'.
- D. Multiple Raceways or Cables: Install trapeze-type supports fabricated with steel slotted support system, sized so capacity can be increased by at least 25 percent in future without exceeding specified design load limits.
 1. Secure raceways and cables to these supports with two-bolt conduit clamps.
- E. Spring-steel clamps designed for supporting single conduits without bolts may be used for 1-1/2-inch (38-mm) and smaller raceways serving branch circuits and communication systems above suspended ceilings and for fastening raceways to trapeze supports.

3.2 SUPPORT INSTALLATION

- A. Comply with NECA 1 and NECA 101 for installation requirements except as specified in this Article.
- B. Raceway Support Methods: In addition to methods described in NECA 1, EMT and RMC may be supported by openings through structure members, as permitted in NFPA 70.
- C. Strength of Support Assemblies: Where not indicated, select sizes of components so strength will be adequate to carry present and future static loads within specified loading limits. Minimum static design load used for strength determination shall be weight of supported components plus 200 lb (90 kg).
- D. Mounting and Anchorage of Surface-Mounted Equipment and Components: Anchor and fasten electrical items and their supports to building structural elements by the following methods unless otherwise indicated by code:
 - 1. To Wood: Fasten with lag screws or through bolts.
 - 2. To New Concrete: Bolt to concrete inserts.
 - 3. To Masonry: Approved toggle-type bolts on hollow masonry units and expansion anchor fasteners on solid masonry units.
 - 4. To Existing Concrete: Expansion anchor fasteners.
 - 5. Instead of expansion anchors, powder-actuated driven threaded studs provided with lock washers and nuts may be used in existing standard-weight concrete 4 inches (100 mm) thick or greater. Do not use for anchorage to lightweight-aggregate concrete or for slabs less than 4 inches (100 mm) thick.
 - 6. To Steel: Beam clamps complying with MSS SP-69.
 - 7. To Light Steel: Sheet metal screws.
 - 8. Items Mounted on Hollow Walls and Nonstructural Building Surfaces: Mount cabinets, panelboards, disconnect switches, control enclosures, pull and junction boxes, transformers, and other devices on slotted-channel racks attached to substrate by means that meet seismic-restraint strength and anchorage requirements.

3.3 INSTALLATION OF FABRICATED METAL SUPPORTS

- A. Cut, fit, and place miscellaneous metal supports accurately in location, alignment, and elevation to support and anchor electrical materials and equipment.
- B. Field Welding: Comply with AWS D1.1/D1.1M.

3.4 PAINTING

- A. Touchup: Clean field welds and abraded areas of shop paint. Paint exposed areas immediately after erecting hangers and supports. Use same materials as used for shop painting. Comply with SSPC-PA 1 requirements for touching up field-painted surfaces.
 - 1. Apply paint by brush or spray to provide minimum dry film thickness of 2.0 mils (0.05 mm).

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- B. Galvanized Surfaces: Clean welds, bolted connections, and abraded areas and apply galvanizing-repair paint to comply with ASTM A 780.

END OF SECTION 260529

SECTION 260533 - RACEWAY AND BOXES FOR ELECTRICAL SYSTEMS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. This Section includes raceways, fittings, boxes, enclosures, and cabinets for electrical wiring.

1.3 DEFINITIONS

- A. EMT: Electrical metallic tubing.
- B. EPDM: Ethylene-propylene-diene terpolymer rubber.
- C. FMC: Flexible metal conduit.
- D. LFMC: Liquidtight flexible metal conduit.
- E. LFNC: Liquidtight flexible nonmetallic conduit.
- F. RNC: Rigid nonmetallic conduit.
- G. RGS: Rigid galvanized steel conduit.

1.4 SUBMITTALS

- A. Product Data: For surface raceways, wireways and fittings, floor boxes, hinged-cover enclosures, and cabinets.

1.5 QUALITY ASSURANCE

- A. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, Article 100, by a testing agency acceptable to authorities having jurisdiction, and marked for intended use.
- B. Comply with NFPA 70.

PART 2 - PRODUCTS

2.1 METAL CONDUIT AND TUBING

- A. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - 1. AFC Cable Systems, Inc.
 - 2. Alflec Inc.
 - 3. Allied Tube & Conduit; a Tyco International Ltd. Co.
 - 4. Anamet Electrical, Inc.; Anaconda Metal Hose.
 - 5. Electri-Flex Co.
 - 6. Manhattan/CDT/Cole-Flex.
 - 7. Maverick Tube Corporation.
 - 8. O-Z Gedney; a unit of General Signal.
 - 9. Wheatland Tube Company.
- B. Rigid Galvanized Steel Conduit: ANSI C80.1.
- C. EMT: ANSI C80.3.
- D. FMC: Zinc-coated steel.
- E. LFMC: Flexible steel conduit with PVC jacket.
- F. Fittings for Conduit (Including all Types and Flexible and Liquidtight), EMT, and Cable: NEMA FB 1; listed for type and size raceway with which used, and for application and environment in which installed.
 - 1. Fittings for EMT: compression type.

2.2 METAL WIREWAYS

- A. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - 1. Cooper B-Line, Inc.
 - 2. Hoffman.
 - 3. Square D; Schneider Electric.
- B. Description: Sheet metal sized and shaped as indicated, NEMA 250, Type 1, unless otherwise indicated.
- C. Fittings and Accessories: Include couplings, offsets, elbows, expansion joints, adapters, hold-down straps, end caps, and other fittings to match and mate with wireways as required for complete system.

- D. Wireway Covers: Hinged type.
- E. Finish: Manufacturer's standard enamel finish.

2.3 SURFACE RACEWAYS

- A. Surface Metal Raceways: Galvanized steel with snap-on covers. Manufacturer's standard enamel finish in color selected by Architect.
 - 1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - a. Thomas & Betts Corporation.
 - b. Walker Systems, Inc.; Wiremold Company (The).
 - c. Wiremold Company (The); Electrical Sales Division.

2.4 BOXES, ENCLOSURES, AND CABINETS

- A. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - 1. Cooper Crouse-Hinds; Div. of Cooper Industries, Inc.
 - 2. Erickson Electrical Equipment Company.
 - 3. Hoffman.
 - 4. Hubbell Incorporated; Killark Electric Manufacturing Co. Division.
 - 5. O-Z/Gedney; a unit of General Signal.
 - 6. RACO; a Hubbell Company.
 - 7. Robroy Industries, Inc.; Enclosure Division.
 - 8. Spring City Electrical Manufacturing Company.
 - 9. Thomas & Betts Corporation.
- B. Sheet Metal Outlet and Device Boxes: NEMA OS 1.
- C. Cast-Metal Outlet and Device Boxes: NEMA FB 1, ferrous alloy aluminum, Type FD, with gasketed cover.
- D. Nonmetallic Outlet and Device Boxes: NEMA OS 2.
- E. Metal Floor Boxes: Cast metal, fully adjustable, rectangular.
- F. Nonmetallic Floor Boxes: Nonadjustable, round.
- G. Small Sheet Metal Pull and Junction Boxes: NEMA OS 1.
- H. Cast-Metal Access, Pull, and Junction Boxes: NEMA FB 1, galvanized, cast iron with gasketed cover.

- I. Hinged-Cover Enclosures: NEMA 250, Type 1, with continuous-hinge cover with flush latch, unless otherwise indicated.
 - 1. Metal Enclosures: Steel, finished inside and out with manufacturer's standard enamel.
- J. Cabinets:
 - 1. NEMA 250, Type 1, galvanized-steel box with removable interior panel and removable front, finished inside and out with manufacturer's standard enamel.
 - 2. Hinged door in front cover with flush latch and concealed hinge.
 - 3. Key latch to match panelboards.
 - 4. Metal barriers to separate wiring of different systems and voltage.
 - 5. Accessory feet where required for freestanding equipment.

PART 3 - EXECUTION

3.1 RACEWAY APPLICATION

- A. Outdoors: Apply raceway products as specified below, unless otherwise indicated:
 - 1. Exposed Conduit: Rigid steel conduit.
 - 2. Concealed Conduit, Aboveground: RNC Schedule 80.
 - 3. Connection to Vibrating Equipment (Including Transformers and Hydraulic, Pneumatic, Electric Solenoid, or Motor-Driven Equipment): LFMC.
 - 4. Boxes and Enclosures, Aboveground: NEMA 250, Type 3R.
- B. Comply with the following indoor applications, unless otherwise indicated:
 - 1. Exposed, Not Subject to Physical Damage: Rigid steel conduit.
 - 2. Exposed, Not Subject to Severe Physical Damage: Rigid steel conduit.
 - 3. Concealed in Ceilings and Interior Walls and Partitions: Rigid steel conduit.
 - 4. Connection to Vibrating Equipment (Including Transformers and Hydraulic, Pneumatic, Electric Solenoid, or Motor-Driven Equipment): FMC, except use LFMC in damp or wet locations.
 - 5. Damp or Wet Locations: Rigid steel conduit.
 - 6. Boxes and Enclosures: NEMA 250, Type 1, except use NEMA 250.
- C. Minimum Raceway Size: 3/4-inch (21-mm) trade size.
- D. Raceway Fittings: Compatible with raceways and suitable for use and location.
 - 1. Rigid Steel Conduit: Use threaded rigid steel conduit fittings, unless otherwise indicated.
- E. Do not install aluminum conduits in contact with concrete.

3.2 INSTALLATION

- A. Comply with NECA 1 for installation requirements applicable to products specified in Part 2 except where requirements on Drawings or in this Article are stricter.
- B. Keep raceways at least 6 inches (150 mm) away from parallel runs of flues and steam or hot-water pipes. Install horizontal raceway runs above water and steam piping.
- C. Complete raceway installation before starting conductor installation.
- D. Support raceways as specified in Division 26 Section "Hangers and Supports for Electrical Systems."
- E. Install no more than the equivalent of three 90-degree bends in any conduit run except for communications conduits, for which fewer bends are allowed.
- F. Conceal conduit and EMT within finished walls, ceilings, and floors, unless otherwise indicated.
- G. Raceways Embedded in Slabs:
 - 1. Run conduit larger than 1-inch (27-mm) trade size, parallel or at right angles to main reinforcement. Where at right angles to reinforcement, place conduit close to slab support.
 - 2. Arrange raceways to cross building expansion joints at right angles with expansion fittings.
 - 3. Change from ENT to RNC, Type EPC-40-PVC, rigid steel conduit before rising above the floor.
- H. Flexible Conduit Connections: Use maximum of 72 inches (1830 mm) of flexible conduit for recessed and semirecessed lighting fixtures, equipment subject to vibration, noise transmission, or movement; and for transformers and motors.
 - 1. Use LFMC in damp or wet locations subject to severe physical damage.
 - 2. Use LFMC or LFNC in damp or wet locations not subject to severe physical damage.
- I. Recessed Boxes in Masonry Walls: Saw-cut opening for box in center of cell of masonry block, and install box flush with surface of wall.
- J. Set metal floor boxes level and flush with finished floor surface.

3.3 FIRESTOPPING

- A. Apply firestopping to electrical penetrations of fire-rated floor and wall assemblies to restore original fire-resistance rating of assembly.

3.4 **PROTECTION**

- A. Provide final protection and maintain conditions that ensure coatings, finishes, and cabinets are without damage or deterioration at time of Substantial Completion.
 - 1. Repair damage to galvanized finishes with zinc-rich paint recommended by manufacturer.
 - 2. Repair damage to PVC or paint finishes with matching touchup coating recommended by manufacturer.

END OF SECTION 260532

SECTION 260553 - IDENTIFICATION FOR ELECTRICAL SYSTEMS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section Includes:

1. Color and legend requirements for raceways, conductors, and warning labels and signs.
2. Labels.
3. Bands and tubes.
4. Tapes and stencils.
5. Tags.
6. Signs.
7. Cable ties.
8. Paint for identification.
9. Fasteners for labels and signs.

1.3 ACTION SUBMITTALS

- A. Product Data: For each type of product.
- B. Samples: For each type of label and sign to illustrate composition, size, colors, lettering style, mounting provisions, and graphic features of identification products.
- C. Delegated-Design Submittal: For arc-flash hazard study.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

- A. Comply with ASME A13.1 and IEEE C2.
- B. Comply with NFPA 70.
- C. Comply with 29 CFR 1910.144 and 29 CFR 1910.145.
- D. Comply with ANSI Z535.4 for safety signs and labels.

- E. Comply with NFPA 70E requirements for arc-flash warning labels.
- F. Adhesive-attached labeling materials, including label stocks, laminating adhesives, and inks used by label printers, shall comply with UL 969.
- G. Thermal Movements: Allow for thermal movements from ambient and surface temperature changes.
 - 1. Temperature Change: 120 deg F (67 deg C), ambient; 180 deg F (100 deg C), material surfaces.

2.2 COLOR AND LEGEND REQUIREMENTS

- A. Raceways and Cables Carrying Circuits at 600 V or Less:
 - 1. Black letters on an orange field.
 - 2. Legend: Indicate voltage and system or service type.
- B. Color-Coding for Phase- and Voltage-Level Identification, 600 V or Less: Use colors listed below for ungrounded branch-circuit conductors.
 - 1. Color shall be factory applied or field applied for sizes larger than No. 8 AWG if authorities having jurisdiction permit.
 - 2. Colors for 208/120-V Circuits:
 - a. Phase A: Black.
 - b. Phase B: Red.
 - c. Phase C: Blue.
 - 3. Colors for 240-V Circuits:
 - a. Phase A: Black.
 - b. Phase B: Red.
 - 4. Colors for 480/277-V Circuits:
 - a. Phase A: Brown.
 - b. Phase B: Orange.
 - c. Phase C: Yellow.
 - 5. Color for Neutral: White.
 - 6. Color for Equipment Grounds: Bare copper, Green.
 - 7. Colors for Isolated Grounds: Green with white stripe.
- C. Warning Label Colors:
 - 1. Identify system voltage with black letters on an orange background.

- D. Warning labels and signs shall include, but are not limited to, the following legends:
1. Multiple Power Source Warning: "DANGER - ELECTRICAL SHOCK HAZARD - EQUIPMENT HAS MULTIPLE POWER SOURCES."
 2. Workspace Clearance Warning: "WARNING - OSHA REGULATION - AREA IN FRONT OF ELECTRICAL EQUIPMENT MUST BE KEPT CLEAR FOR 36 INCHES (915 MM)."
 - 3.

2.3 LABELS

- A. Vinyl Wraparound Labels: Preprinted, flexible labels laminated with a clear, weather- and chemical-resistant coating and matching wraparound clear adhesive tape for securing label ends.
- B. Snap-around Labels: Slit, pretensioned, flexible, preprinted, color-coded acrylic sleeves, with diameters sized to suit diameter and that stay in place by gripping action.
- C. Self-Adhesive Wraparound Labels: Preprinted 3-mil- (0.08-mm-) thick, vinyl flexible label with acrylic pressure-sensitive adhesive.
1. Self-Lamination: Clear; UV-, weather- and chemical-resistant; self-laminating, protective shield over the legend. Labels sized such that the clear shield overlaps the entire printed legend.
 2. Marker for Labels: Permanent, waterproof, black ink marker recommended by tag manufacturer.
 3. Marker for Labels: Machine-printed, permanent, waterproof, black ink recommended by printer manufacturer.

2.4 SIGNS

- A. Laminated Acrylic or Melamine Plastic Signs:
1. Engraved legend.
 2. Thickness:
 - a. For signs up to 20 sq. in. (129 sq. cm), minimum 1/16 inch (1.6 mm) thick).
 - b. For signs larger than 20 sq. in. (129 sq. cm), 1/8 inch (3.2 mm) thick.
 - c. Engraved legend with black letters on white face.
 - d. Punched or drilled for mechanical fasteners with 1/4-inch (6.4-mm) grommets in corners for mounting.
 - e. Framed with mitered acrylic molding and arranged for attachment at applicable equipment.

2.5 MISCELLANEOUS IDENTIFICATION PRODUCTS

- A. Paint: Comply with requirements in painting Sections for paint materials and application requirements. Retain paint system applicable for surface material and location (exterior or interior).
- B. Fasteners for Labels and Signs: Self-tapping, stainless-steel screws or stainless-steel machine screws with nuts and flat and lock washers.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. Verify and coordinate identification names, abbreviations, colors, and other features with requirements in other Sections requiring identification applications, Drawings, Shop Drawings, manufacturer's wiring diagrams, and operation and maintenance manual. Use consistent designations throughout Project.
- B. Install identifying devices before installing acoustical ceilings and similar concealment.
- C. Verify identity of each item before installing identification products.
- D. Coordinate identification with Project Drawings, manufacturer's wiring diagrams, and operation and maintenance manual.
- E. Apply identification devices to surfaces that require finish after completing finish work.
- F. Install signs with approved legend to facilitate proper identification, operation, and maintenance of electrical systems and connected items.
- G. Self-Adhesive Identification Products: Before applying electrical identification products, clean substrates of substances that could impair bond, using materials and methods recommended by manufacturer of identification product.
- H. System Identification for Raceways and Cables under 600 V: Identification shall completely encircle cable or conduit. Place identification of two-color markings in contact, side by side.
 - 1. Secure tight to surface of conductor, cable, or raceway.
- I. System Identification for Raceways and Cables over 600 V: Identification shall completely encircle cable or conduit. Place adjacent identification of two-color markings in contact, side by side.
 - 1. Secure tight to surface of conductor, cable, or raceway.
- J. Auxiliary Electrical Systems Conductor Identification: Identify field-installed alarm, control, and signal connections.

- K. Elevated Components: Increase sizes of labels, signs, and letters to those appropriate for viewing from the floor.
- L. Vinyl Wraparound Labels:
 - 1. Secure tight to surface at a location with high visibility and accessibility.
 - 2. Attach labels that are not self-adhesive type with clear vinyl tape, with adhesive appropriate to the location and substrate.
- M. Snap-around Labels: Secure tight to surface at a location with high visibility and accessibility.
- N. Self-Adhesive Wraparound Labels: Secure tight to surface of raceway or cable at a location with high visibility and accessibility.
- O. Self-Adhesive Labels:
 - 1. On each unit of equipment, install unique designation label that is consistent with wiring diagrams, schedules, and operation and maintenance manual.
 - 2. Unless otherwise indicated, provide a single line of text with 1/2-inch- (13-mm-) high letters on 1-1/2-inch- (38-mm-) high label; where two lines of text are required, use labels 2 inches (50 mm) high.
- P. Snap-around Color-Coding Bands: Secure tight to surface at a location with high visibility and accessibility.
- Q. Heat-Shrink, Preprinted Tubes: Secure tight to surface at a location with high visibility and accessibility.
- R. Marker Tapes: Secure tight to surface at a location with high visibility and accessibility.
- S. Self-Adhesive Vinyl Tape: Secure tight to surface at a location with high visibility and accessibility.
 - 1. Field-Applied, Color-Coding Conductor Tape: Apply in half-lapped turns for a minimum distance of 6 inches (150 mm) where splices or taps are made. Apply last two turns of tape with no tension to prevent possible unwinding.
- T. Tape and Stencil: Comply with requirements in painting Sections for surface preparation and paint application.
- U. Laminated Acrylic or Melamine Plastic Signs:
 - 1. Attach signs and plastic labels that are not self-adhesive type with mechanical fasteners appropriate to the location and substrate.
 - 2. Unless otherwise indicated, provide a single line of text with 1/2-inch- (13-mm-) high letters on minimum 1-1/2-inch- (38-mm-) high sign; where two lines of text are required, use signs minimum 2 inches (50 mm) high.
- V. Cable Ties: General purpose, for attaching tags, except as listed below:

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1. Outdoors: UV-stabilized nylon.
2. In Spaces Handling Environmental Air: Plenum rated.

END OF SECTION 260553

SECTION 310519 - GEOSYNTHETICS FOR EARTHWORK

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Geotextile for separation.

1.2 RELATED REQUIREMENTS

- A. Section 311000 - Site Clearing, Preparation & Removals.
- B. Section 312000 – Earth Moving.

1.3 REFERENCE STANDARDS

- A. AASHTO M 288 - Standard Specification for Geosynthetic Specification for Highway Applications.
- B. ASTM D4355/D4355M - Standard Test Method for Deterioration of Geotextiles by Exposure to Light, Moisture, and Heat in a Xenon Arc-Type Apparatus.
- C. ASTM D4533/D4533M - Standard Test Method for Trapezoid Tearing Strength of Geotextiles.
- D. ASTM D4873/D4873M - Standard Guide for Identification, Storage, and Handling of Geosynthetic Rolls and Samples.
- E. ASTM D4886 - Standard Test Method for Abrasion Resistance of Geotextiles (Sandpaper/Sliding Block Method).
- F. ASTM D5199 - Standard Test Method for Measuring the Nominal Thickness of Geosynthetics.

1.4 SUBMITTALS

- A. See Section 011200 - Summary of Work for submittal procedures.
- B. Product Data: Manufacturer's data on each product to be used, including physical properties, seaming materials, and installation instructions.

1.5 DELIVERY, STORAGE, AND HANDLING

- A. See Section 016000 - Product Requirements for additional requirements.
- B. Identify, store, and handle geosynthetic rolls and samples according to ASTM D4873/D4873M.
- C. Protect materials from sunlight and other ultraviolet light sources during storage.
- D. Handle geosynthetics with care and prevent dragging, dropping, or imbalanced lifting.

1.6 FIELD CONDITIONS

- A. Surface Requirements: Do not place geosynthetic when the receiving surface is saturated or has ponded water.
- B. Follow recommendations of geosynthetic manufacturer.

PART 2 PRODUCTS

2.1 GEOTEXTILE

- A. General:
 - 1. Material: Polyethylene consisting of 5 percent maximum regrind and free of contaminants.
 - 2. AASHTO M 288.
- B. Geotextile for Separation: Capable of restricting adjacent material mixing.
 - 1. Type: Woven.
 - 2. Seams: Loose laid.
 - a. Overlap: According to manufacturer.
 - 1) 12 inches, minimum, in all directions.
 - 3. Grab Strength: 300 lb, minimum, when tested in accordance with ASTM D4632/D4632M.
 - 4. Puncture Strength: 450 lb, minimum, when tested in accordance with ASTM D4833/D4833M.
 - 5. Trapezoid Tear Strength: 100 lb, minimum, when tested in accordance with ASTM D4533/D4533M.
- C. Geotextile for Filtration: Capable of allowing liquid passage while restricting solids.
 - 1. Type: Non-woven
 - 2. Seams: Mechanically sewn.
 - a. Overlap: 3 inches
 - 3. Grab Strength: 300 lb, minimum, when tested in accordance with ASTM D4632/D4632M.
 - 4. Puncture Strength: 450 lb, minimum, when tested in accordance with ASTM D4833/D4833M.
 - 5. Trapezoid Tear Strength: 100 lb, minimum, when tested in accordance with ASTM D4533/D4533M.

PART 3 EXECUTION

3.1 EXAMINATION

- A. Verify the receiving surface is smooth, without ruts or protrusions, and grades are according to design drawings.
- B. Verify the receiving surface is unsaturated and free of ponded water.

- C. Verify the geosynthetic is free of defects or flaws that may degrade physical performance.

3.2 PREPARATION

- A. Remove vegetation, boulders, and rocks larger than 3/4 inch in size and other sharp objects in accordance with Section 311000.
- B. Remove unsuitable materials in accordance with Section 312000.
- C. Fill in holes, including stake holes, backfill, and fill in accordance with Section 312000.

3.3 INSTALLATION

- A. General:
 - 1. Notify Architect a minimum of 24 hours prior to installation.
 - 2. Prevent surface drainage from eroding under geosynthetic. Repair undermined areas prior to backfill.
 - 3. Position geosynthetic smooth and wrinkle free on prepared surface; unroll or unfold carefully, avoiding stretching.
- B. Separation:
 - 1. Install geotextile according to manufacturer's recommendations.
 - 2. Lay sheets in the direction of construction.
 - 3. Repairs: Remove damaged portion of geotextile and seam an additional layer to cover the affected area in all directions.

3.4 BACKFILL

- A. Obtain approval for geosynthetic sheet installation from Architect before placing fill.
- B. Backfill in a manner to prevent damage to geosynthetic. Repair geosynthetic damaged during backfill operations.
- C. Cover geosynthetic in the installed direction in accordance with Section 312000.

END OF SECTION 310519

SECTION 311000 - SITE CLEARING, PREPARATION AND REMOVALS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.
- B. The following are minimum requirements and shall govern, except that local, state and/or federal codes and ordinances shall govern when their requirements are in excess hereof.

1.2 SUMMARY

- A. Furnish labor, materials and equipment necessary to complete site preparation and removal work as shown on the drawings and as specified herein, to include, but not limited to the following:
 - 1. Removing above-grade improvements.
 - 2. Temporary erosion and sedimentation control measures.
 - 3. Temporary construction fencing and gates.
 - 4. Removal or dismantling and salvage of site improvements, utility structures or utility lines as indicated on the drawings and as required performing new construction.
- B. Related work specified elsewhere includes, but is not limited to the following sections:
 - 1. Division 01 Section "Temporary Facilities and Controls" for temporary utility services, construction and support facilities, and security and protection facilities.
 - 2. Section 312500 – Temporary Erosion and Sedimentation Controls.
- C. Requirements for Regulatory Agencies: State and Local code requirements shall control the disposal of trees and shrubs.
- D. Standards: Comply with the State Department of Transportation Standards except as otherwise specified herein.

1.3 DEFINITIONS

- A. Subsoil: All soil beneath the topsoil layer of the soil profile, and typified by the lack of organic matter and soil organisms.
- B. Surface Soil: Soil that 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.

1.4 MATERIAL OWNERSHIP

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

1.5 SUBMITTALS

- A. General: Submit the following in accordance with the General provisions of the contract;
 - 1. Proposed schedule of operations, coordination for shut-off, capping and continuation of utility services as required.
 - a. Provide a detailed sequence of removal work to ensure uninterrupted progress of Owner's on-site operations.
 - 2. Prior to removal, photograph and/or videotape existing site improvement(s) to remain or to be salvaged. Photographs and/or videotape shall be to the satisfaction of Owner or Owner's representative.
 - 3. Provide an inventory, statement of condition and signed receipt for all materials to remain the property of the Owner. All items to be stored on-site or at a place as designated by the Owner.
 - 4. Obtain permits as required for this work.
- B. Shop drawing and or plans for temporary site improvements to include construction fencing with gates, staging areas, haul roads, topsoil stockpile area, and truck wash down for review and acceptance by Owner's Representative.
- C. Test Reports: Submit topsoil reports for stockpile topsoil. Two representative samples to be selected by Owner's Representative. The following tests will be required;
 - 1. pH analysis: Acceptable range; 5.5 - 7.0.
 - 2. Organic matter: Acceptable range; 3 - 10% ignition test.
 - 3. Sieve analysis: Acceptable range; not less than 20% or more than 65% passing a no. 200 sieve per ASTM-1140.

1.6 QUALITY ASSURANCE

- A. Codes and Standards: Perform utility work in compliance with applicable requirements of authorities having jurisdiction to include but not be limited to the local municipality in which the work is to be performed.
- B. Pre-installation Conference: Conduct conference at Project site.

1.7 PROJECT CONDITIONS AND PROTECTION

- A. Utility Locator Service: Notify UDig NY at 811 for area where Project is located before site clearing.
- B. Existing Utilities: Information on the drawings and survey relating to exiting utility lines and service is from the best sources presently available. Information is furnished for information only and is not guaranteed. Excavate test pits as required to determine exact locations of existing utilities. Some underground utility lines may not necessarily show on plans or survey. Additional underground utilities not shown may exist.
- C. Locate, protect, and maintain active utilities and site improvements to remain.
 - 1. Subcontractor to notify utility locator service for where Project is located before site clearing, preparation and removal work.
 - 2. Do not interrupt existing utilities servicing occupied or used facilities, except when authorized in writing by authorities having jurisdiction. Provide temporary services during interruptions to existing utilities, as acceptable to governing authorities.
- D. Protection of Persons and Property: Barricade open excavations occurring as part of this work and post with warning lights. Ensure safe passage of persons around areas of demolition, removal operations or excavations. Operate warning lights as recommended by authorities having jurisdiction.
- E. Traffic: Conduct site clearing, preparation and removal operations to ensure minimum interference with adjoining roads, streets, walks, and other adjacent occupied or used facilities.
 - 1. Do not close or obstruct roads, streets, walks or other 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 authorities having jurisdiction.
- F. Perform site preparation work before commencing site construction.
- G. Provide necessary barricades, coverings and protection to prevent damage to existing improvements indicated to remain. Repair or replace in kind existing improvements damaged during construction as accepted by the Owner.
- H. Restore to original grades and conditions, areas adjacent to site disturbed or damaged as a result of site preparation work as acceptable to parties having jurisdiction.
- I. Authority for performing indicated clearing, removal and alteration work on property adjoining Owner's property will be obtained by Owner before to award of contract.
 - 1. Do not proceed with work on adjoining property until directed by Owner's Representative.
- J. Salvable improvements: Carefully dismantle and/or remove items indicated to be salvaged and store on Owner's premises where indicated or directed by Owner's Representative.
- K. Explosives: Use of explosives will not be permitted.

- L. Damages: Promptly repair damages to existing improvements to remain caused by removal operations.
- M. Pollution Controls: Use water sprinkling, temporary enclosures and other suitable methods to limit dust and dirt rising and scattering in air. Comply with governing regulations pertaining to environmental protection.
 - 1. Do not use water when it may create hazardous or objectionable conditions such as ice, flooding and pollution.
- N. Clean roadways daily of mud and debris. Clean adjacent structures and improvements of dust, dirt, and debris caused by removal operations. Return adjacent areas to condition existing prior to start of work.
- O. Refer to Division 31 section "Erosion and Sedimentation Controls" requirements.
 - 1. Do not commence site clearing, preparation and removals work until temporary erosion and sedimentation control measures are in place.

1.8 DUST CONTROL

- A. The Subcontractor shall implement a dust control program acceptable to the Owner to prevent the off-site migration of particulate matter and/or dust resulting from site removals, excavation and loading. It shall be the Subcontractor's responsibility to supervise dust control measures and to monitor airborne particulate matter. The amount of dust shall be controlled to prevent the spread of dust to occupied portions of the site and to avoid creation of a nuisance in the surrounding area.
 - 1. Use of water shall be permitted provided that the misting and/or slurry are controlled at all times and that it is used only as required. Cleanup of water, dust, etc. shall occur continuously in such a manner as to provide a safe work site.
 - 2. Application of water in a controlled manner may include, but not limited to, the following:
 - a. Pavement surfaces;
 - b. Equipment and excavation surfaces;
 - c. During soil excavation, loading and dumping;
 - d. During topsoil stripping, stockpiling and topsoil spreading;
 - e. Concrete cutting and breaking.

1.9 COOPERATION

- A. Examine drawings and specifications for other contracts to determine nature of proposed construction. Perform work to conform to construction called for in such a manner as not to interfere or delay work of other Subcontractors.

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 off-site when satisfactory soil material is not available on-site.
- B. Temporary construction fences and gates: Temporary fences and gates shall be galvanized chain link fencing minimum six (6) feet in height.
 - 1. Subcontractor may use used chain link fence mesh, posts & rails if in good, serviceable condition.
 - 2. Steel Fabric: Comply with Chain Link Fence Manufacturers Institute manual. Fabric shall be 2" mesh size, 9 gauge wire with both salvages knuckled.
 - 3. Galvanized Steel Finish: ASTM A 392, Class 2, with not less than 2.0 oz. zinc per sq. ft. of uncoated wire surface on wire coated before weaving, or not less than 2.0 oz. zinc per sq. ft. of uncoated wire surface on wire of fabric coated after weaving, as determined from the average of two or more samples and not less than 1.8 oz. zinc per sq. ft. of uncoated wire surface for any individual sample.
 - 4. Framing: Comply with CLMFI product manual industrial steel guide for fence posts and gates. End, corner and pull posts shall be 2.375 inch O.D. Type I steel pipe. Line posts shall be 1.9 inch O.D. Type I steel pipe. Pipe shall be hot dipped galvanized steel pipe conforming to ASTM F 1083, plain ends, and standard weight (Schedule 40) with no less than 1.8 oz. zinc per sq. ft. of surface area coated. Provide tension wire top and bottom per CLMFI product manual - heavy duty as recommended for industrial usage. All gate posts shall be 4" O.D. Type I steel posts. Provide post caps. Provide two leaf swing gates at all temporary gate locations per CLMFI product manual as recommended for industrial usage. Gate sizes shown on plan.
 - 5. Fittings and accessories:
 - a. Material: Comply with ASTM F 626. Mill-finished aluminum or galvanized iron or steel, to suit manufacturer's standards.
 - b. Zinc Coating: Unless specified otherwise, galvanize steel fence fittings and accessories in accordance with ASTM A 153, with zinc weights per Table I.
 - 6. Tension Wire: (Top and bottom of chain link fabric) 0.177 inch diameter metallic-coated steel marcelled tension wire conforming to ASTM A 824 with finish to match fabric.
 - a. Type II Zinc Coated in following class:
 - 1) Class 3, with a minimum coating weight of 2.0 oz. per sq. ft. of uncoated wire surface.
 - 7. Tie Wires: 12-gage (0.106 inch diameter) galvanized steel with a minimum of 0.80 oz. per sq. ft. of zinc coating of surface area in accordance with ASTM A 641, Class 3 or 9-gage (0.106 inch diameter) aluminum wire alloy 1100-H14 or equal, to match fabric core material.
- C. Traffic Control Barrels & Signs

1. All traffic control items shall be constructed and installed as specified in the New York State Department of Transportation Manual of Uniform Traffic Control Devices and other standard NYSDOT specifications or requirements.
 2. Barricades shall be per figure 302-2 Type A partial barricade per NYSDOT manual. Signs shall be of Type and with lettering as noted on the plans.
 3. Drums per manual Section 292.3 (C5-1) with orange and white reflectorized markings and ballast sufficient to prevent overturning.
- D. Antirust Coating: Fast-curing, lead- and chromate-free, self-curing, universal modified-alkyd primer complying with [MPI #79, Alkyd Anticorrosive Metal Primer] [or] [SSPC-Paint 20 or SSPC-Paint 29 zinc-rich coating] <Insert manufacturer's name; product name or designation>.
1. Use coating with a VOC content of 420 g/L (3.5 lb/gal.) or less when calculated according to 40 CFR 59, Subpart D (EPA Method 24).
- E. Stone for truck wash down area shall be crusher run stone and shall comply with NYSDOT Item 304.03 Type 2.
- F. Railroad Tie Edging: 6" x 6" or 8" x 8" rounded edge, sound, mixed hardwood, pressure treated railroad tie or so. yellow pine pressure treated timbers of same dimension (Ground contact pressure treatment).

PART 3 - EXECUTION

3.1 PREPARATION

- A. **Employ licensed engineer or surveyor to stake out both horizontal and vertical control for all work prior to commencing any work operations.** Accurately locate and maintain locations of all buildings, roads, paved areas, features, etc. Advise Owner's Representative of discrepancies, prior to commencing work.
1. Maintain benchmarks, monuments and other reference points. Reestablish benchmarks if disturbed or destroyed at no cost 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 requirements of authorities having jurisdiction.
- B. Inspect, repair, and maintain erosion and sedimentation control measures during construction until permanent vegetation has been established.
- C. Remove erosion and sedimentation controls and restore and stabilize areas disturbed during removal.

3.3 REMOVAL OF EXISTING SITE IMPROVEMENTS

- A. General: Use such methods as required to complete work within limitations of governing regulations and applicable OSHA standards.
- B. Below-grade construction: Remove foundation walls of building(s), retaining walls footings, small structures, etc. including any concrete slabs in their entirety.
 - 1. Below-grade material shall be removed as follows:
 - a. 3 feet below finished grade, if finished grade is lower in elevation than existing grade
Or;
 - b. 3 feet below existing grade if finished grade is equal to or higher in elevation than existing grade.
 - 2. Excavations made by removal of below-grade construction shall be backfilled with select material to proposed subgrade and compacted if under proposed pavement / building areas. If under proposed lawn areas, etc., excavations to be backfilled with ordinary fill material.
- C. Remove existing above and below grade site improvements within contract limits as indicated.
- D. Remove existing sidewalks, curbs, and paving, including all base material to subgrade, as required to accommodate new construction, as shown on drawings. Cut existing sidewalks, curbs, and paving in neat, straight lines to provide uniform, even transition from new to adjacent existing work. Cut back existing paving a sufficient distance to permit forming and installation of new work.
 - 1. Unless existing full-depth joints coincide with line of demolition, neatly saw-cut along line of existing pavement to remain before removing adjacent existing pavement. Saw-cut faces vertically.
 - 2. Paint cut ends of steel reinforcement in concrete to remain with two coats of antirust coating, following coating manufacturer's written instructions. Keep paint off surfaces that will remain exposed.
- E. Remove, temporarily relocate during construction, and reinstall in final location street signs, parking meters, mail boxes, traffic signal control boxes, and other designated items as shown on drawings. Coordinate the work with applicable governing authorities. Comply with all requirements concerning temporary installation and permanent reinstallation.
- F. Raise or lower existing catch basin, inlet and manhole structures to accommodate new grade elevations at paved and lawn areas where indicated on drawings. Extend structures as required. Reuse existing catch basin, inlet and manhole frames, and covers, unless noted otherwise.

3.4 EXISTING UTILITIES

- A. Perform work and provide necessary materials to disconnect or relocate existing utilities as indicated. Record existing utility termination points before disconnecting.
 - 1. Raise or lower existing utility structures such as junction boxes, valve boxes, and manholes to accommodate new grade elevations at paved and lawn areas where indicated on drawings.

- Extend structures as required. Reuse existing junction box, valve frames and covers, unless noted otherwise.
 - 2. Fill abandoned piping with an 8" thick concrete plug or mortar jointed masonry bulkhead.
 - 3. Remove abandoned utility poles within contract limits.
 - 4. Relocate and reinstall designated utility poles. Coordinate and perform the work in accordance with the applicable utility company requirements.
 - 5. Coordinate utility work with work performed under Divisions 15 and 16.
- B. Excavate for and remove underground utilities indicated to be removed.

3.5 INSTALLATION/PLACEMENT OF PRODUCTS/MATERIALS

- A. Temporary construction fences and gates: Install fencing and gates per manufacturer instructions and the Chain Link Manufacturers Institute standards. All gate posts shall have full depth footers. All corner, pull and every fourth line post in temporary fence sections shall have a fully depth concrete footer. Tension wire at top and bottom of temporary fence fabric is required. Remove footers in their entirety when temporary construction fence is removed. Backfill in compacted layers and landscape or pave to match existing or new construction.
- B. Traffic control devices: Install per NYSDOT standard specifications and the NYSDOT manual or uniform traffic control devices.
- C. Project sign: Install per detail and Division 1 requirements.
- D. Crusher-run stone: Place and compact per Section 312000 requirements.
- E. Gravel top mix: Place and compact per detail.
- F. Railroad tie edging: Install per detail.

3.6 SALVAGED MATERIALS

- A. General: Carefully remove materials to be salvaged to avoid damage. All items to be removed and salvaged are to remain the property of the Owner. The Subcontractor will deliver these items to storage areas as indicated or as directed by the Owner or Owner's representative.
- B. Except for items indicated to be retained as the Owner's property, other removed and salvaged materials, items and equipment not indicated for reuse or relocation shall become the Subcontractor's property and removed from site with further disposition at Subcontractor's option. Remove cleared materials from the site as the work progresses. Storage and sale of Subcontractor's salvage items on site is not permitted.

3.7 DISPOSAL OF WASTE MATERIALS

- A. Stockpile, haul from site, and legally dispose of waste materials, rubbish and debris on a weekly basis. Accumulation is not permitted.
- B. Maintain disposal routes clear, clean and free of debris.

Buffalo Waterboard
Colonel Ward Pumping Station
Stone Storage Building and Boiler House Renovations
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3.8 CLEANING

- A. Upon completion of site preparation work, clean areas within contract limits, remove tools, and equipment. Provide site clear, clean, and free of materials and debris and suitable for site work operations.

END OF SECTION 311000

SECTION 312000 - EARTH MOVING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section Includes:

1. Excavating and filling for rough grading the Site.
2. Preparing subgrades for walks, pavements, turf and grasses, and plants.
3. Subbase course for concrete walks and pavements.
4. Subbase course and base course for asphalt paving.
5. Subsurface drainage backfill for walls and trenches.
6. Excavating and backfilling trenches for utilities and pits for buried utility structures.

- B. Related Requirements:

1. Section 311000 "Site Clearing, Preparation & Removals" for site stripping, grubbing, stripping and stockpiling topsoil, and removal of above- and below-grade improvements and utilities.

1.3 DEFINITIONS

- A. Backfill: Soil material or controlled low-strength 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 hot-mix asphalt paving.

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

- D. Borrow Soil: Satisfactory soil imported from off-site for use as fill or backfill as determined by the geotechnical engineer.

- E. 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 Owner's Testing Agency Authorized additional excavation and replacement material will be paid for according to Contract provisions for changes in the Work.
2. Bulk Excavation: Excavation more than 10 feet in width and more than 30 feet in length.
3. Unauthorized Excavation: Excavation below subgrade elevations or beyond indicated lines and dimensions without direction by Owner's Testing Agency Unauthorized excavation, as well as remedial work directed by Owner's Testing Agency, shall be without additional compensation.

- F. Fill: Soil materials used to raise existing grades as determined by the geotechnical engineer.
- G. Rock: Rock material in beds, ledges, unstratified masses, conglomerate deposits, and boulders of rock material 3/4 cu. yd. or more in volume that exceed a standard penetration resistance of 100 blows/2 inches when tested by a geotechnical testing agency, according to ASTM D1586.
- 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 PREINSTALLATION MEETINGS

- A. Preinstallation Conference: Conduct preexcavation conference at Project site.
1. Review methods and procedures related to earthmoving, including, but not limited to, the following:
 - a. Personnel and equipment needed to make progress and avoid delays.

1.5 ACTION SUBMITTALS

- A. Product Data: For each type of the following manufactured products required:
1. Geotextiles.
 2. Controlled low-strength material, including design mixture.
 3. Warning tapes.

1.6 INFORMATIONAL SUBMITTALS

- A. Material Test Reports: For each on-site and borrow soil material proposed for fill and backfill as follows:
1. Classification according to ASTM D 2487.
 2. Moisture Content (ASTM D-2216) – 1 test per 4,000 cubic yards or no less than 2 tests per each material type.
 3. Grain Size Analysis (ASTM D-422) - 1 test per 4,000 cubic yards or no less than 2 tests per each material type.
 4. Liquid and Plastic Limits (ASTM D-4318) - 1 test per 4,000 cubic yards or no less than 2 tests per each material type. Liquid and Plastic Limit testing is necessary only if appropriate, based on material composition (i.e. clayey or silty soils).
 5. Modified Proctor Moisture Density Relationship (ASTM D-1557) - 1 test per 4,000 cubic yards or no less than 1 test per each material type. A maximum/minimum density relationship (ASTM D-4253 and ASTM D-4254) may be an appropriate substitute for ASTM D-1557 depending on material gradation
- B. Preexcavation Photographs or Videotape: Show existing conditions of adjoining construction and site improvements, including finish surfaces that might be misconstrued as damage caused by earth-moving operations. Submit before earth moving begins.

1.7 QUALITY ASSURANCE

- A. Geotechnical Testing Agency Qualifications: Qualified according to ASTM E 329 and ASTM D 3740 for testing indicated.

1.8 FIELD CONDITIONS

- A. Existing Utilities: Do not interrupt utilities servicing facilities occupied by Owner or others unless permitted in writing by Owner and then only after arranging to provide temporary utility services according to requirements indicated.
- B. Notify Owner not less than two days in advance of proposed utility interruptions.
- C. Do not proceed with utility interruptions without Owner's written permission.
- D. Utility Locator Service: Notify utility locator service Dig Safely NY (811) for area where Project is located before beginning earth moving operations.
- E. Demolish and completely remove from site existing underground utilities indicated to be removed. Coordinate with utility companies to shut off services if lines are active.
- F. Traffic: Minimize interference with adjoining roads, streets, walks, and other adjacent occupied or used facilities during earth-moving 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.
- G. Do not commence earth-moving operations until temporary site fencing and erosion- and sedimentation-control measures specified in Section 312500 "Temporary Erosion and Sediment Controls" are in place.
- H. 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.
- I. Do not direct vehicle or equipment exhaust towards protection zones.
- J. Prohibit heat sources, flames, ignition sources, and smoking within or near protection zones.

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 D2487, or a combination of these groups; free of rock or gravel larger than 3 inches 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 D2487, or a combination of these groups unless otherwise approved by the engineer.
 1. Unsatisfactory soils also include satisfactory soils not maintained within 2 percent of optimum moisture content at time of compaction.
- D. Subbase Material: Crusher run stone, free of clay, organics and friable or deleterious particles. Material shall comply with NYSDOT Item 304.12, latest revision, Type 2. Slag not permitted
- E. Bedding Course: Comply with NYSDOT Table 703-4, latest revision, size designation 1A. Slag not permitted.
- F. Drainage Material: Comply with NYSDOT Table 703-4, latest revision, size designation 1. Slag is not permitted.

- G. Drainage Course: Narrowly graded mixture of washed 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.
- H. Filter Material: Narrowly graded mixture of natural or crushed gravel, or crushed stone and natural sand; ASTM D 448; coarse-aggregate grading Size 67; with 100 percent passing a 1-inch sieve and 0 to 5 percent passing a No. 4 sieve.
- I. Concrete Sand: Comply with NYSDOT Item 703-07, latest revision. Slag not permitted.
- J. Sand: ASTM C 33; fine aggregate, natural, or manufactured sand.
- K. Impervious Fill: Clayey gravel and sand mixture capable of compacting to a dense state.
- L. Structural Fill: Crusher run stone, free of clay, organics and friable or deleterious particles. Material shall comply with NYSDOT Item 304.12, latest revision, Type 2. Slag not permitted.

2.2 GEOTEXTILES

- A. Separation Geotextile Fabric: Non-woven needle-punched geotextile drainage fabric composed of biologically inert polypropylene fibers and having a random, three dimensional pore structure.
 - 1. Grab Tensile Strength: 157 lbf. - ASTM D 4632.
 - 2. CBR Puncture Strength: 310 lbs. - ASTM D 6241.
 - 3. Trapezoid Tear Strength: 56 lbs. - ASTM D 4533.
 - 4. UV Resistance (at 500 hours): 50% strength retained- ASTM D 4355.
 - 5. Apparent Opening Size (AOS): Sieve No. 70 - ASTM D 4751.
 - 6. Available Products: Subject to compliance with requirements, products that may be incorporated in the work, include, but are not limited to, the following or approved equal:
 - a. Mirafi® 160N; TC Mirafi®, 365 South Holland Drive, Pendergrass, Georgia 30567, (888) 795-0808.
 - b. TerraTex N06, Hanes Geo Components™, Winston-Salem, NC 27101, (706) 693-2226.
- B. Soil Stabilization Fabric (for use under pavement subbase or base course): Woven geotextile soil stabilization fabric composed of polypropylene monofilament, which is non-biodegradable and resistant to most soil chemicals.
 - 1. Grab Tensile Strength: 295 lbf. - ASTM D4632.
 - 2. Grab Elongation: maximum of 35% - ASTM D4632.
 - 3. Mullen Burst Strength: 375 psi - ASTM D3786.
 - 4. Water Permeability Coefficient (K): 4 gpm per sq. ft. - ASTM D4491.
 - 5. Puncture Resistance: 90 lbf. - ASTM D4833.
 - 6. Trapezoid Tear Strength: 130 lbs. - ASTM D4533.
 - 7. UV Resistance: 70% - ASTM D4355.
 - 8. Apparent Opening Size: No. 30 - ASTM D4751.
 - 9. Available Products: Subject to compliance with requirements, products that may be incorporated in the work, include, but are not limited to, the following or approved equal:

- a. Mirafi® HP270; TC Mirafi®, 365 South Holland Drive, Pendergrass, Georgia 30567, (888) 795-0808.
- b. TerraTex GS; Hans Geo Components™, Winston-Salem, NC 27101, (336) 747-1600.
- c. Supac 4WS; Phillips Fibers Corp

2.3 CONTROLLED LOW-STRENGTH MATERIAL

- A. Controlled Low-Strength Material: Self-compacting, low-density, flowable concrete material produced from the following:
 1. Portland Cement: ASTM C150, Type I Type II or Type III.
 2. Fly Ash: ASTM C618, Class C or F.
 3. Normal-Weight Aggregate: ASTM C33.
 4. Foaming Agent: ASTM C869.
 5. Water: ASTM C94.
 6. Air-Entraining Admixture: ASTM C260.
- B. Produce low-density controlled low-strength material with the following physical properties:
 1. 100-psi 28-day compressive strength when tested according to ASTM C495.
 2. As-cast unit weight: 30 to 35 lb/cu. ft at point of placement when tested according to ASTM C138.
- C. Place in lifts not exceeding 48 inch maximum. Allow each lift to cure a minimum of one day prior to placement of next lifts.

2.4 ACCESSORIES

- A. 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 as follows:
 1. Red: Electric.
 2. Yellow: Gas, oil, steam, and dangerous materials.
 3. Orange: Telephone and other communications.
 4. Blue: Water systems.
 5. Green: Sewer systems.

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 EXPLOSIVES

- A. Explosives: Do not use explosives.

3.3 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.
 - 2. Remove rock to lines and grades indicated to permit installation of permanent construction without exceeding the following dimensions:
 - a. 24 inches outside of concrete forms other than at footings.
 - b. 12 inches outside of concrete forms at footings.
 - c. 6 inches outside of minimum required dimensions of concrete cast against grade.
 - d. Outside dimensions of concrete walls indicated to be cast against rock without forms or exterior waterproofing treatments.
 - e. 6 inches beneath bottom of concrete slabs-on-grade.
 - f. 6 inches beneath pipe in trenches and the greater of 24 inches wider than pipe or 42 inches wide.

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.
 - 1. Beyond building perimeter, excavate trenches to allow installation of top of pipe below frost line.
- 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: 12 inches each side of pipe or conduit or as indicated on plan.
- C. Trench Bottoms: Excavate trenches 6 inches deeper than bottom of pipe and conduit elevations to allow for bedding course. Hand-excavate deeper for bells of pipe.
 - 1. Excavate trenches 6 inches deeper than elevation required in rock or other unyielding bearing material to allow for bedding course.

3.6 SUBGRADE INSPECTION

- A. Notify Owner's Testing Agency when excavations have reached required subgrade.
- B. If Owner's Testing Agency determines that unsatisfactory soil is present, continue excavation and replace with compacted backfill or fill material as directed.
- C. Proof-roll subgrade below the pavements with a pneumatic-tired and loaded 10-wheel, tandem-axle dump truck weighing not less than 10 tons to identify soft pockets and areas of excess yielding. Do not proof-roll wet or saturated subgrades.
 - 1. Completely proof-roll subgrade in one direction. Limit vehicle speed to 3 mph.
 - 2. Excavate soft spots, unsatisfactory soils, and areas of excessive pumping or rutting, as determined by Owner's Testing Agency, and replace with compacted engineered fill as directed.
- D. Authorized additional excavation and replacement material will be paid for according to Contract provisions for changes in the Work.
- E. Reconstruct subgrades damaged by freezing temperatures, frost, rain, accumulated water, or construction activities, as directed by Owner's Testing Agency, without additional compensation.

3.7 UNAUTHORIZED EXCAVATION

- A. Fill unauthorized excavation as directed by Owner's Testing Agency.

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.

3.9 BACKFILL

- A. Place and compact backfill in excavations promptly, but not before completing the following:
 - 1. Construction below finish grade including, where applicable, subdrainage, dampproofing, waterproofing, and perimeter insulation.
 - 2. Surveying locations of underground utilities for Record Documents.
 - 3. Testing and inspecting underground utilities.
 - 4. Removing concrete formwork.
 - 5. Removing trash and debris.
 - 6. Removing temporary shoring, bracing, and sheeting.
 - 7. Installing permanent or temporary horizontal bracing on horizontally supported walls.
- B. Place backfill on subgrades free of mud, frost, snow, or ice.

3.10 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 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.
- D. Backfill voids with satisfactory soil while removing shoring and bracing.
- E. Initial Backfill:
 - 1. Soil Backfill: Place and compact initial backfill to a height of 12 inches over the pipe or conduit.
 - a. 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.

2. **Controlled Low-Strength Material:** Place initial backfill of controlled low-strength material to a height of 12 inches over the pipe or conduit. Coordinate backfilling with utilities testing.

F. **Final Backfill:**

1. **Soil Backfill:** Place and compact final backfill of satisfactory soil to final subgrade elevation.

- G. **Warning Tape:** Install warning tape directly above utilities, 12 inches below finished grade, except 6 inches below subgrade under pavements and slabs.

3.11 **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.
- C. Place soil fill on subgrades free of mud, frost, snow, or ice.

3.12 **SOIL MOISTURE CONTROL**

- A. Uniformly moisten or aerate 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.

3.13 **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 D1557:

1. Under walks and pavements, compact each layer of backfill or fill soil material at 95 percent.
2. Under turf or unpaved areas, compact each layer of backfill or fill soil material at 85 percent.
3. For utility trenches, compact each layer of initial and final backfill soil material at 92 percent.
4. In areas adjacent to existing structures, care should be taken during placement and compaction to limit damage. This includes using hand equipment such as shovels and rakes for placement and plate tampers or jumping jacks and restricted use of vibratory rollers.

3.14 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.
 1. Provide a smooth transition between adjacent existing grades and new grades.
 2. Cut out soft spots, fill low spots, and trim high spots to comply with required surface tolerances.
- B. Site Rough Grading: Slope grades to direct water away from buildings and to prevent ponding. Finish subgrades to elevations required to achieve indicated finish elevations, within the following subgrade 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.

3.15 SUBSURFACE DRAINAGE

- A. Subsurface Drain: Place subsurface drainage geotextile around perimeter of subdrainage trench. Place a 6-inch course of filter material on subsurface drainage geotextile to support subdrainage pipe. Encase subdrainage pipe in a minimum of 12 inches of filter material, placed in compacted layers 6 inches thick, and wrap in subsurface drainage geotextile, overlapping sides and ends at least 6 inches.
 1. Compact each filter material layer with a minimum of two passes of a plate-type vibratory compactor.
- B. Drainage Backfill: Place and compact filter material over subsurface drain, in width indicated, to within 12 inches of final subgrade, in compacted layers 6 inches thick. Overlay drainage backfill with one layer of subsurface drainage geotextile, overlapping sides and ends at least 6 inches.
 1. Compact each filter material layer with a minimum of two passes of a plate-type vibratory compactor.

3.16 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. Install separation geotextile on prepared subgrade according to manufacturer's written instructions, overlapping sides and ends.
 - 2. Place base course material over subbase course under hot-mix asphalt pavement.
 - 3. Shape subbase course and base course to required crown elevations and cross-slope grades.
 - 4. Place subbase course and base course 6 inches or less in compacted thickness in a single layer.
 - 5. Place subbase course and base 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.
 - 6. Compact subbase course and base course at optimum moisture content to required grades, lines, cross sections, and thickness to not less than 95 percent of maximum dry unit weight according to ASTM D1557. The Subcontractor shall exercise caution with vibratory compaction at any areas near the existing structures.

3.17 FIELD QUALITY CONTROL

- A. Special Inspections: Owner will engage a qualified special inspector to perform the following special inspections:
 - 1. Determine prior to placement of fill that site has been prepared in compliance with requirements.
 - 2. Determine that fill material classification and maximum lift thickness comply with requirements.
 - 3. Determine, during placement and compaction, that in-place density of compacted fill complies with requirements.
- B. Testing Agency: Owner will engage a qualified geotechnical engineering testing agency to perform tests and inspections.
- C. 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.
- D. 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 Owner's Testing Agency.
- E. Testing agency will test compaction of soils in place according to ASTM D1556, ASTM D2167, ASTM D2937, and ASTM D6938, as applicable. Tests will be performed at the following locations and frequencies:

1. Paved Areas: At least one test per 10,000 square feet per lift, but in no case fewer than three tests per lift.
 2. Trench Backfill: At least one test per 200 lineal feet per lift, but no fewer than two tests per lift.
 3. Backfilling Isolated Excavations (manholes, etc.): At least one test per lift.
- F. 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.

3.18 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.
1. Scarify or remove and replace soil material to depth as directed by Owner's Testing Agency; reshape and recompact.
- 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 321216 - ASPHALT PAVING

PART 1 – GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.
- B. The following are minimum requirements and shall govern, except that local, state and/or federal codes and ordinances shall govern when their requirements are in excess hereof.

1.2 SUMMARY

- A. Furnish labor, material and equipment necessary to complete site paving as shown on plans and as specified herein to include, but not limited to, the following:
 - 1. Cold milling of existing asphalt pavement.
 - 2. Hot-mix asphalt patching.
 - 3. Hot-mix asphalt paving.
 - 4. Asphalt surface treatments.

1.3 ACTION SUBMITTALS

- A. General: Submit the following in accordance with Conditions of Contract and Division 1 Specification Sections.
- B. Product Data: For each type of product.
 - 1. Include technical data and tested physical and performance properties.
 - 2. Job-Mix Designs: Certification, by authorities having jurisdiction, of approval of each job mix proposed for the Work.
- C. Samples for Verification: For the following product, in manufacturer's standard sizes unless otherwise indicated:
 - 1. Paving Fabric: 12 by 12 inches (300 by 300 mm) minimum.

1.4 INFORMATIONAL SUBMITTALS

- A. Qualification Data: For manufacturer.
- B. Material Certificates: For each paving material. Include statement that mixes containing recycled materials will perform equal to mixes produced from all new materials.
- C. Material Test Reports: For each paving material, by a qualified testing agency.

- D. Field quality-control reports. Test reports submitted to the Owner's Representative for all tests as herein specified, to include subgrade surfaces, base course, surface materials and compaction operations.

1.5 QUALITY ASSURANCE

- A. All work performed under this section shall conform to all applicable requirements of the New York State Department of Transportation Standard Specifications, latest revision, including all subsequent modifications, additions, and addendum's, except as otherwise specified herein.
- B. Installer Qualifications: Engage an experienced installer who has completed hot-mix asphalt paving similar in material, design, and extent to that indicated for this Project and with a record of successful in-service performance.
- C. Manufacturer Qualifications: Engage a firm experienced in manufacturing hot-mix asphalt similar to that indicated for this Project and with a record of successful in-service performance.
 - 1. Firm shall be a registered and approved paving mix manufacturer with authorities having jurisdiction or with the DOT of the state in which Project is located.
- D. Testing Agency Qualifications: Demonstrate to Owner's Representative's satisfaction, based on Owner's Representative's evaluation of criteria conforming to ASTM D 3666, that the independent testing agency has the experience and capability to satisfactorily conduct the testing indicated without delaying the Work.
- E. Regulatory Requirements: Conform to applicable standards of authorities having jurisdiction for asphalt paving work on public property.
 - 1. Construct street and access driveway curb cuts and entrance apron paving in accordance with local requirements. Obtain and pay for any required permits.
- F. Asphalt-Paving Publication: Comply with AI's "the Asphalt Handbook," except where more stringent requirements are indicated.
- G. Store and handle manufactured products to prevent damage and deterioration.
- H. Deliver manufactured products in manufacturers original, unopened, and undamaged containers with labels intact and legible.

1.6 DELIVERY, STORAGE AND HANDLING

- A. Deliver pavement-marking materials to Project site in original packages with seals unbroken and bearing manufacturer's labels containing brand name and type of material, date of manufacture, and directions for storage.
- B. Store pavement-markings materials in a clean, dry protected location and within temperature range required by manufacturer. Protect stored materials from direct sunlight.

1.7 FIELD CONDITIONS

- A. Environmental Limitations: Do not apply asphalt materials if subgrade is wet or excessively damp, if rain is imminent or expected before time required for adequate cure, or if the following conditions are not met:
 - 1. Tack Coat: Minimum surface temperature of 60 deg F (15.6 deg C).
 - 2. Asphalt Base Course: Minimum surface temperature of 40 deg F (4.4 deg C) and rising at time of placement.
 - 3. Asphalt Surface Course: Minimum surface temperature of 60 deg F (15.6 deg C) at time of placement.
- B. Grade Control: Establish and maintain required lines and elevations, including crown, inverted crown, and longitudinal/cross slopes, for each course and subgrade during paving operations.
- C. Provide temporary barricades and warning lights as required for protection of project work and public safety.
- D. Protect adjacent work from damage, soiling, and staining during paving operations.
- E. Pavement-Marking Paint: Proceed with pavement marking only on clean, dry surfaces and at a minimum ambient or surface temperature of 40° F (4° C) for oil-based materials, 50° F (10° C) for water-based materials, and not exceeding 95° F (35° C).

1.8 EQUIPMENT

- A. Paving Equipment: Spreading, self-powered asphalt paving machines capable of maintaining line, grade, and thickness shown.
- B. Compacting Equipment: Self-propelled rollers, minimum 10 ton weight.
- C. Hand Tools: Rakes, shovels, tampers, and other miscellaneous equipment required to complete the work.
- D. Pavement Marking Equipment: Provide spray machines specifically designed for pavement marking.

1.9 COOPERATION

- A. Examine drawings and specifications for other Contracts, to determine nature of proposed construction. Perform work to conform to construction called for in such a manner as not to interfere or delay work of other Subcontractors.

PART 2 – PRODUCTS

2.1 AGGREGATES

- A. General: Use materials and gradations that have performed satisfactorily in previous installations.

- B. Coarse Aggregate: Sound; angular crushed stone; crushed gravel; or properly cured, crushed blast-furnace slag; complying with ASTM D 692.
- C. Fine Aggregate: Sharp-edged natural sand or sand prepared from stone; gravel, properly cured blast-furnace slag, or combinations thereof; conforming to NYSDOT Section 703-07.
 - 1. For hot-mix asphalt, limit natural sand to a maximum of 20 percent by weight of the total aggregate mass.
- D. Mineral Filler: ASTM D 242/D 242M, rock or slag dust, hydraulic cement, or other inert material.

2.2 ASPHALT MATERIALS

- A. Asphalt Emulsion Tack Coat: shall conform to NYSDOT Section 407-2 and material designation 702-3002, Grade RS-1h, Table 702-4.
- B. Hot Mix Asphalt Base Course: conforming to NYSDOT, Item No. 404.3789, 37.5 F9 Base Course.
- C. Hot Mix Asphalt Binder Course: conforming to NYSDOT, Item No. 404.1989, 19 F9 Binder Course.
- D. Hot Mix Asphalt Top Course: conforming to NYSDOT, Item No. 404.0982, 9.5 F2 Top Course.

2.3 AUXILIARY MATERIALS

- A. Soil Separator: Refer to Section Section 312000 – Earth Moving.
- B. Subbase Course (fill) - Type 1 (granular) or Type 2 (acceptable soil material). Refer to Section Section 312000 – Earth Moving.
- C. Base Course: Refer to Section Section 312000 – Earth Moving.

2.4 PAVEMENT MARKING PAINT

- A. Paint shall be factory-mixed, quick-drying, non-bleeding paint specifically formulated for marking bituminous asphalt surfaces. Provide durable, fast drying alkyd, modified with chlorinated rubber, ready-mixed paint complying with AASHTO M 248, Type N.
 - 1. Acceptable Manufacturers: Setfast® Acrylic Waterborne Traffic Marking Paint by Sherwin Williams; Chlorinated Low VOC Marking Paint by Franklin Paint Co., Inc., Franklin, MA, 02038 (800) 486-0304; Chlorinated Rubber Traffic Marking Paint by Pathmark Traffic Products, San Marcos, TX (800) 547-0874; Traffic Paint by Pratt and Lambert, Inc.; Hi-Hide Plexicolor Line Paint by California Products Corporation or acceptable equivalent.
- B. Color: Per plans.

2.5 CONSTRUCTION STAGING AND ACCESS

- A. Where indicated, construction staging and access area to become permanent pavement.
- B. Soil Separator: Refer to Section 312000 – Earth Moving.
- C. Aggregate Base Course: Refer to Section 312000 – Earth Moving.

PART 3 – EXECUTION

3.1 SITE PREPARATION, ROUGH GRADING AND SUBBASE (FILL)

- A. Refer to Section 311000 – Site Clearing. Preparation and Removals for related site preparation and removal work. Saw cut all edges between new and existing pavements to remain. Refer to Section 312000 – Earth Moving for type, placement and compaction requirements for fill (subbase) under new pavements.
- B. Notify Owner's Representative in writing of any unsatisfactory conditions. Do not begin paving installation until these conditions have been satisfactorily corrected.

3.2 BASE COURSE PREPARATION: Refer to Section 312000 – Earth Moving.

3.3 TACK COAT

- A. Apply in accordance with NYSDOT Section 407-Tack Coat, 407-3, at a min. uniform rate of 0.05 to 0.15 gal./sq. yd. of surface.
 - 1. Allow tack coat to cure undisturbed before applying hot-mix asphalt paving.
 - 2. Avoid smearing or staining adjoining surfaces, appurtenances, and surroundings. Remove spillages and clean affected surfaces.
- B. Apply to contact surfaces of previously constructed asphalt or Portland cement concrete and surfaces abutting or projecting into hot-mixed asphalt pavement.
- C. Required where bituminous pavement abuts curbs, concrete walks, drives and pads, existing pavement and/or overlays existing pavement. Apply a tack coat of asphalt cement to contact surfaces prior to placing bituminous courses.
- D. Exercise care in applying bituminous materials to avoid smearing or straining adjoining surfaces, appurtenances and surroundings. Remove spillage and clean affected surfaces.

3.4 PAVING GEOTEXTILE INSTALLATION

- A. Apply tack coat uniformly to existing pavement surfaces at a rate of 0.20 to 0.30 gal./sq. yd. (0.8 to 1.2 L/sq. m).

- B. Place paving geotextile promptly according to manufacturer's written instructions. Broom or roll geotextile smooth and free of wrinkles and folds. Overlap longitudinal joints 4 inches (100 mm) and transverse joints 6 inches (150 mm).
- C. Protect paving geotextile from traffic and other damage, and place hot-mix asphalt overlay the same day.

3.5 PLACING HOT MIX ASPHALT

- A. Machine place hot-mix asphalt on prepared surface, spread uniformly, and strike off. Place asphalt mix by hand in areas inaccessible to equipment in a manner that prevents segregation of mix. Place each course to required grade, cross section, and thickness when compacted.
 - 1. Place hot-mix asphalt binder course in number of lifts and thicknesses indicated.
 - 2. Place hot-mix asphalt surface course in single lift.
 - 3. Spread mix at a minimum temperature of 250 deg F (121 deg C).
 - 4. Begin applying mix along centerline of crown for crowned sections and on high side of one-way slopes unless otherwise indicated.
 - 5. Regulate paver machine speed to obtain smooth, continuous surface free of pulls and tears in asphalt-paving mat.
- B. Place paving in consecutive strips not less than 10 feet (3 m) wide unless infill edge strips of a lesser width are required.
 - 1. After first strip has been placed and rolled, place succeeding strips and extend rolling to overlap previous strips. Overlap mix placement about 1 to 1-1/2 inches (25 to 38 mm) from strip to strip to ensure proper compaction of mix along longitudinal joints.
 - 2. Complete a section of asphalt base course before placing asphalt surface course.
- C. Promptly correct surface irregularities in paving course behind paver. Use suitable hand tools to remove excess material forming high spots. Fill depressions with hot-mix asphalt to prevent segregation of mix; use suitable hand tools to smooth surface.

3.6 JOINTS

- A. Construct joints between old and new pavements, or between successive days' work, to ensure continuous bond between adjoining paving sections. Construct joints free of depressions with same texture, density, and smoothness as other sections of hot-mixed asphalt course.
 - 1. Clean contact surfaces and apply tack coat.
 - 2. Mill a minimum 12 inch wide notch 1-1/2 inch deep in existing asphalt pavement to remain along edge (border) between new and existing asphalt pavements.
 - 3. Offset longitudinal joints in successive courses a minimum of 6 inches (150 mm).
 - 4. Offset transverse joints in successive courses a minimum of 24 inches (600 mm).
 - 5. Construct transverse joints by bulkhead method or sawed vertical face method as described in AI's "The Asphalt Handbook."
 - 6. Compact joints as soon as hot-mix asphalt will bear roller weight without excessive displacement.

7. Compact asphalt at joints to a density within 2 percent of specified course density.

3.7 COMPACTION

- A. General: Begin compaction as soon as placed hot-mix paving will bear roller weight without excessive displacement. Compact hot-mix paving with hot, hand tampers or vibratory-plate compactors in areas inaccessible to rollers.
 1. Complete compaction before mix temperature cools to 185 deg. F (85 deg. C).
- B. Breakdown Rolling: Accomplish breakdown or initial rolling immediately following rolling joints and outside edge. Examine surface immediately after breakdown rolling for indicated crown, grade and smoothness. Repair surfaces by loosening displaced material, filling with hot-mix asphalt and rerolling to required elevations.
- C. Intermediate Rolling: Begin intermediate rolling immediately after breakdown rolling, while hot-mix asphalt is still hot enough to achieve specified density. Continue rolling until hot-mix asphalt course has been uniformly compacted to the following density:
 1. Average Density: 96 percent of reference laboratory density according to ASTM D 1559, but not less than 94 percent nor greater than 100 percent.
 2. Average Density: 92 percent of reference maximum theoretical density according to ASTM D 2041, but not less than 90 percent nor greater than 96 percent.
- D. Finish Rolling: Finish roll paved surfaces to remove roller marks while hot-mix asphalt is still warm.
- E. Edge Shaping: While surface is being compacted and finished, trim edges of pavement to proper alignment, dimensions, or radius indicated.. Bevel edges while still hot, with back of rake or smooth iron. Compact thoroughly using tamper or other satisfactory method.
- F. Repairs: Remove paved areas that are defective or contaminated with foreign materials. Cut out such areas and fill with fresh, hot-mixed asphalt. Compact by rolling to specified density and surface smoothness.
- G. Protection: After final rolling, do not permit vehicular traffic on pavement until it has cooled and hardened.
- H. Erect barricades to protect paving from traffic until mixture has cooled enough not to become marked.

3.8 PAVEMENT MARKING PAINT

- A. Do not apply pavement marking paint until layout, colors and placement have been verified with Owner's Representative.
- B. Allow paving to cure a minimum of 72 hours before starting pavement marking.

- C. Over clean, dry bituminous pavement, apply parking line stripes and other pavement markings as indicated, per manufacturer recommendations. Provide uniform lines with straight edges, 4" minimum width and minimum wet film thickness of 15 mils (0.4 mm).
- D. Provide lines, lettering, and markings shown to define parking spaces and traffic flow.
 - 1. Stencil all parking spaces noted as handicapped parking with the international symbol of access.
 - 2. Handicapped and accessibility parking, drop off and crosswalk markings will comply in scope and design with all the requirements of the current Americans with Disabilities Act guidelines.

3.9 CONSTRUCTION STAGING AND ACCESS: (Refer to Section 312000 – Earth Moving.)

- A. Install where indicated, construction staging and access road that can remain for proposed parking lot area.
- B. Prepare subgrade as specified above.
- C. Roll soil separator on prepared subgrade, with minimum 3'-6" of overlap.
- D. Base course: (Refer to Section 312000 – Earth Moving). The intent is utilize the stone base course throughout construction at the prescribed depth noted on Plan. At a point when applicable, the Subcontractor's equipment and storage materials will be removed from the site, the top 3" of base course shall be removed and asphalt pavement will be placed as noted on Plan.

3.10 FIELD QUALITY CONTROL

- A. Testing Agency: Engage a qualified testing agency to perform tests and inspections.
- B. Thickness: In-place compacted thickness of hot-mix asphalt courses will be determined according to ASTM D 3549.
- C. Surface Smoothness: Finished surface of each hot-mix asphalt course will be tested for compliance with smoothness tolerances.
- D. In-Place Density: Testing agency will take samples of uncompacted paving mixtures and compacted pavement according to ASTM D 979.
 - 1. Reference maximum theoretical density will be determined by averaging results from four samples of hot-mix asphalt-paving mixture delivered daily to site, prepared according to ASTM D 2041, and compacted according to job-mix specifications.
 - 2. In-place density of compacted pavement will be determined by testing core samples according to ASTM D 1188 or ASTM D 2726.
 - a. One core sample will be taken for every 1000 sq. yd. (836 sq. m) or less of installed pavement, with no fewer than three cores taken.

- b. Field density of in-place compacted pavement may also be determined by nuclear method according to ASTM D 2950 and correlated with ASTM D 1188 or ASTM D 2726.
- E. Replace and compact hot-mix asphalt where core tests were taken.
- F. Remove and replace or install additional hot-mix asphalt where test results or measurements indicate that it does not comply with specified requirements.

3.11 WASTE HANDLING / CLEANING

- A. Perform cleaning during installation of the work and upon completion of the work. Remove from site all excess materials, debris, and equipment. Repair damage resulting from paving operations.
- B. Sweep pavement and wash free of stains, discoloration, dirt, and other foreign material immediately prior to final acceptance.

END OF SECTION 321216

APPENDIX A

City of Buffalo Living Wage Commission



APPLICATION FOR CONTRACT WITH THE CITY OF BUFFALO

The City's Living Wage Ordinance applies to contracts for services in which the City pays – or receives – more than \$50,000 per year, and the contractor employs more than ten people. If you are bidding, responding to an RFP, or otherwise planning to make a contract with the City, you must complete this form, which will be forwarded to the Living Wage Commission. Your subcontractors need not file a separate Application, but they must pay a living wage. If you win the contract, you and your subcontractors will file quarterly reports with the Commission.

You must certify that you will pay at least the living wage, which is based on 150% of the federal poverty line for a family of three and adjusted each year. For July 1, 2022 to June 30, 2023, the rate is \$16.61 per hour. From July 1, 2023 to June 30, 2024 the rate will be \$17.93 per hour.

There are two exceptions to the Ordinance. Professional contracts such as legal, architectural, or engineering services are not covered by the Ordinance. Also, persons employed in construction work covered by prevailing wage laws are exempt. Employers of tipped workers may take a tip credit, so long as tips plus wages equal or exceed the living wage rate.

The City department responsible for the contract should forward the completed Application for Contract of the employer awarded the contract to: Living Wage Commission, c/o Cornell University ILR, 617 Main St., Suite 300, Buffalo, NY, 14203, lwcbuffalo@gmail.com.

1. Company Information

Company Name	
Contact Person	
Email	
Address	
City, State, Zip	
Phone No.	
Total No. of Employees	

2. Please describe the specific project or service for which the contract is sought:

3. Contract Information

Dollar Value of Your Bid/Contract:	
Identifying City Contract or Project Number:	
Start and End Dates of Contract:	

4. If you answer "Yes" to any of these, you need not complete parts 5, 6, and 7

A) Are <i>all</i> persons who will work under the contract construction workers covered by federal or state prevailing wage laws?	☐ Yes	☐ No
B) Is this a contract for professional services such as legal, architectural, or engineering?	☐ Yes	☐ No
C) Do you employ less than ten people?	☐ Yes	☐ No
D) Is the total value of the contract less than \$50,000 per year?	☐ Yes	☐ No

5. List the employees who will work on this contract. Attach additional sheets as needed.

Job Title	Duties to be Performed	Hourly Wage

6. Subcontractors

Will there be subcontractors?	☐ Yes	☐ No
If yes, please provide name address, and phone for each subcontractor. Attach additional sheets as needed.		

7. Signature by an official with the legal authority to make binding commitments.

I certify that if awarded a City contract I will fully comply with the Living Wage Ordinance.

Date: _____ Signature: _____

Print: _____

Title: _____

Last revised 2/11/21

APPENDIX B

New York State Prevailing Wage Rates



Kathy Hochul, Governor

Roberta Reardon, Commissioner

City of Buffalo

Eryn Hopkins
375 Essjay Road
Suite 200
Williamsville NY 14221

Schedule Year 2026 through 2027
Date Requested 08/26/2026
PRC# 2026025339

Location Buffalo

Project ID#

Project Type Basement infill and existing first floor framing demolition at the Stone Storage Building. First floor slab and retaining wall construction at the first floor of the Stone Storage Building and at the

PREVAILING WAGE SCHEDULE FOR ARTICLE 8 PUBLIC WORK PROJECT

Attached is the current schedule(s) of the prevailing wage rates and prevailing hourly supplements for the project referenced above. A unique Prevailing Rate Case Number (PRC#) has been assigned to the schedule(s) for your project.

The schedule is effective from July 2026 through June 2027. All updates, corrections, posted on the 1st business day of each month, and future copies of the annual determination are available on the Department's website www.labor.ny.gov. Updated PDF copies of your schedule can be accessed by entering your assigned PRC# at the proper location on the website.

It is the responsibility of the contracting agency or its agent to annex and make part, the attached schedule, to the specifications for this project, when it is advertised for bids and /or to forward said schedules to the successful bidder(s), immediately upon receipt, in order to insure the proper payment of wages.

Please refer to the "General Provisions of Laws Covering Workers on Public Work Contracts" provided with this schedule, for the specific details relating to other responsibilities of the Department of Jurisdiction.

Upon completion or cancellation of this project, enter the required information and mail **OR** fax this form to the office shown at the bottom of this notice, **OR** fill out the electronic version via the NYSDOL website.

NOTICE OF COMPLETION / CANCELLATION OF PROJECT

Date Completed: _____ Date Cancelled: _____

Name & Title of Representative: _____

Phone: (518) 457-5589 Fax: (518) 485-1870
W. Averell Harriman State Office Campus, Bldg. 12, Room 130, Albany, NY 12240

General Provisions of Laws Covering Workers on Article 8 Public Work Contracts

Introduction

The Labor Law requires public work contractors and subcontractors to pay laborers, workers, or mechanics employed in the performance of a public work contract not less than the prevailing rate of wage and supplements (fringe benefits) in the locality where the work is performed.

Contractor Registry

Effective December 30, 2024 all contractors and subcontractors submitting bids or performing construction work on public work projects, or private projects covered by Article 8 of the Labor Law, are required to register with the New York State Department of Labor (NYSDOL) under Labor Law Section 220-i. To register, contractors and subcontractors must submit an application through NYSDOL's Contractor Registry portal which is available through the agency's Management System for Protecting Worker Rights (MPWR) <https://mpwr-public.labor.ny.gov/en/login>.

For additional information, please visit [online](#).

Responsibilities of the Department of Jurisdiction

A Department of Jurisdiction (Contracting Agency) includes a state department, agency, board or commission; a county, city, town or village; a school district, board of education or board of cooperative educational services; a sewer, water, fire, improvement and other district corporation; a public benefit corporation; and a public authority awarding a public work contract.

The Department of Jurisdiction (Contracting Agency) awarding a public work contract MUST obtain a Prevailing Rate Schedule listing the hourly rates of wages and supplements due the workers to be employed on a public work project. This schedule may be obtained by completing and forwarding a "Request for wage and Supplement Information" form (PW 39) to the Bureau of Public Work. The Prevailing Rate Schedule MUST be included in the specifications for the contract to be awarded and is deemed part of the public work contract.

Upon the awarding of the contract, the law requires that the Department of Jurisdiction (Contracting Agency) furnish the following information to the Bureau: the name and address of the contractor, the date the contract was let and the approximate dollar value of the contract. To facilitate compliance with this provision of the Labor Law, a copy of the Department's "Notice of Contract Award" form (PW 16) is provided with the original Prevailing Rate Schedule.

The Department of Jurisdiction (Contracting Agency) is required to notify the Bureau of the completion or cancellation of any public work project. The Department's PW 200 form is provided for that purpose.

Both the PW 16 and PW 200 forms are available for completion [online](#).

Hours

No laborer, worker, or mechanic in the employ of a contractor or subcontractor engaged in the performance of any public work project shall be permitted to work more than eight hours in any day or more than five days in any week, except in cases of extraordinary emergency. The contractor and the Department of Jurisdiction (Contracting Agency) may apply to the Bureau of Public Work for a dispensation permitting workers to work additional hours or days per week on a particular public work project.

Wages and Supplements

The wages and supplements to be paid and/or provided to laborers, workers, and mechanics employed on a public work project shall be not less than those listed in the current Prevailing Rate Schedule for the locality where the work is performed. If a prime contractor on a public work project has not been provided with a Prevailing Rate Schedule, the contractor must notify the Department of Jurisdiction (Contracting Agency) who in turn must request an original Prevailing Rate Schedule form the Bureau of Public Work. Requests may be submitted by: mail to NYSDOL, Bureau of Public Work, State Office Bldg. Campus, Bldg. 12, Rm. 130, Albany, NY 12226; Fax to Bureau of Public Work (518) 485-1870; or electronically at the NYSDOL website www.labor.ny.gov.

Upon receiving the original schedule, the Department of Jurisdiction (Contracting Agency) is REQUIRED to provide complete copies to all prime contractors who in turn MUST, by law, provide copies of all applicable county schedules to each subcontractor and obtain from each subcontractor, an affidavit certifying such schedules were received. If the original schedule expired, the contractor may obtain a copy of the new annual determination from the NYSDOL website www.labor.ny.gov.

The Commissioner of Labor makes an annual determination of the prevailing rates. This determination is in effect from July 1st through June 30th of the following year. The annual determination is available on the NYSDOL website

Payrolls and Payroll Records

Every contractor and subcontractor MUST keep original payrolls or transcripts subscribed and affirmed as true under penalty of perjury. As per Article 6 of the Labor Law, contractors and subcontractors are required to establish, maintain, and preserve for not less than six (6) years, contemporaneous, true, and accurate payroll records. At a minimum, payrolls must show the following information for each person employed on a public work project: Name, Address, Last 4 Digits of Social Security Number, Classification(s) in which the worker was employed, Hourly wage rate(s) paid, Supplements paid or provided, and Daily and weekly number of hours worked in each classification.

The filing of payrolls to the Department of Jurisdiction is a condition of payment. Every contractor and subcontractor shall submit to the Department of Jurisdiction (Contracting Agency), within thirty (30) days after issuance of its first payroll and every thirty (30) days thereafter, a transcript of the original payrolls, subscribed and affirmed as true under penalty of perjury. The Department of Jurisdiction (Contracting Agency) shall collect, review for facial validity, and maintain such payrolls.

In addition, the Commissioner of Labor may require contractors to furnish, with ten (10) days of a request, payroll records sworn to as their validity and accuracy for public work and private work. Payroll records include, but are not limited to time cards, work description sheets, proof that supplements were provided, cancelled payroll checks and payrolls. Failure to provide the requested information within the allotted ten (10) days will result in the withholding of up to 25% of the contract, not to exceed \$100,000.00. If the contractor or subcontractor does not maintain a place of business in New York State and the amount of the contract exceeds \$25,000.00, payroll records and certifications must be kept on the project worksite.

The prime contractor is responsible for any underpayments of prevailing wages or supplements by any subcontractor.

All contractors or their subcontractors shall provide to their subcontractors a copy of the Prevailing Rate Schedule specified in the public work contract as well as any subsequently issued schedules. A failure to provide these schedules by a contractor or subcontractor is a violation of Article 8, Section 220-a of the Labor Law.

All subcontractors engaged by a public work project contractor or its subcontractor, upon receipt of the original schedule and any subsequently issued schedules, shall provide to such contractor a verified statement attesting that the subcontractor has received the Prevailing Rate Schedule and will pay or provide the applicable rates of wages and supplements specified therein. (See NYS Labor Laws, Article 8 . Section 220-a).

Determination of Prevailing Wage and Supplement Rate Updates Applicable to All Counties

The wages and supplements contained in the annual determination become effective July 1st whether or not the new determination has been received by a given contractor. Care should be taken to review the rates for obvious errors. Any corrections should be brought to the Department's attention immediately. It is the responsibility of the public work contractor to use the proper rates. If there is a question on the proper classification to be used, please call the district office located nearest the project. Any errors in the annual determination will be corrected and posted to the NYSDOL website on the first business day of each month. Contractors are responsible for paying these updated rates as well, retroactive to July 1st.

When you review the schedule for a particular occupation, your attention should be directed to the dates above the column of rates. These are the dates for which a given set of rates is effective. To the extent possible, the Department posts rates in its possession that cover periods of time beyond the July 1st to June 30th time frame covered by a particular annual determination. Rates that extend beyond that instant time period are informational ONLY and may be updated in future annual determinations that actually cover the then appropriate July 1st to June 30th time period.

Withholding of Payments

When a complaint is filed with the Commissioner of Labor alleging the failure of a contractor or subcontractor to pay or provide the prevailing wages or supplements, or when the Commissioner of Labor believes that unpaid wages or supplements may be due, payments on the public work contract shall be withheld from the prime contractor in a sufficient amount to satisfy the alleged unpaid wages and supplements, including interest and civil penalty, pending a final determination.

When the Bureau of Public Work finds that a contractor or subcontractor on a public work project failed to pay or provide the requisite prevailing wages or supplements, the Bureau is authorized by Sections 220-b and 235.2 of the Labor Law to so notify the financial officer of the Department of Jurisdiction (Contracting Agency) that awarded the public work contract. Such officer MUST then withhold or cause to be withheld from any payment due the prime contractor on account of such contract the amount indicated by the Bureau as sufficient to satisfy the unpaid wages and supplements, including interest and any civil penalty that may be assessed by the Commissioner of Labor. The withholding continues until there is a final determination of the underpayment by the Commissioner of Labor or by the court in the event a legal proceeding is instituted for review of the determination of the Commissioner of Labor.

The Department of Jurisdiction (Contracting Agency) shall comply with this order of the Commissioner of Labor or of the court with respect to the release of the funds so withheld.

Summary of Notice Posting Requirements

The current Prevailing Rate Schedule must be posted in a prominent and accessible place on the site of the public work project. The prevailing wage schedule must be encased in, or constructed of, materials capable of withstanding adverse weather conditions and be titled "PREVAILING RATE OF WAGES" in letters no smaller than two (2) inches by two (2) inches.

The "[Public Work Project](#)" notice must be posted at the beginning of the performance of every public work contract, on each job site.

Every employer providing workers' compensation insurance and disability benefits must post notices of such coverage in the format prescribed by the Workers' Compensation Board in a conspicuous place on the jobsite.

Every employer subject to the NYS Human Rights Law must conspicuously post at its offices, places of employment, or employment training centers, notices furnished by the State Division of Human Rights.

Employers liable for contributions under the Unemployment Insurance Law must conspicuously post on the jobsite notices furnished by the NYS Department of Labor.

Apprentices

Employees cannot be paid apprentice rates unless they are individually registered in a program registered with the NYS Commissioner of Labor. The allowable ratio of apprentices to journeymen in any craft classification can be no greater than the statewide building trade ratios promulgated by the Department of Labor and included with the Prevailing Rate Schedule. An employee listed on a payroll as an apprentice who is not registered as above or is performing work outside the classification of work for which the apprentice is indentured, must be paid the prevailing journeyworker's wage rate for the classification of work the employee is actually performing.

NYSDOL Labor Law, Article 8, Section 220-3, require that only apprentices individually registered with the NYS Department of Labor may be paid apprenticeship rates on a public work project. No other Federal or State Agency of office registers apprentices in New York State.

Persons wishing to verify the apprentice registration of any person must do so in writing by mail, to the NYSDOL Office of Employability Development / Apprenticeship Training, State Office Bldg. Campus, Bldg. 12, Albany, NY 12226 or by Fax to NYSDOL Apprenticeship Training (518) 457-7154. All requests for verification must include the name and social security number of the person for whom the information is requested.

The only conclusive proof of individual apprentice registration is written verification from the NYSDOL Apprenticeship Training Albany Central office. Neither Federal nor State Apprenticeship Training offices outside of Albany can provide conclusive registration information.

It should be noted that the existence of a registered apprenticeship program is not conclusive proof that any person is registered in that program. Furthermore, the existence or possession of wallet cards, identification cards, or copies of state forms is not conclusive proof of the registration of any person as an apprentice.

Interest and Penalties

In the event that an underpayment of wages and/or supplements is found:

- Interest shall be assessed at the rate then in effect as prescribed by the Superintendent of Banks pursuant to section 14-a of the Banking Law, per annum from the date of underpayment to the date restitution is made.
- A Civil Penalty may also be assessed, not to exceed 25% of the total of wages, supplements, and interest due.

Debarment

Any contractor or subcontractor and/or its successor shall be ineligible to submit a bid on or be awarded any public work contract or subcontract with any state, municipal corporation or public body for a period of five (5) years when:

- Two (2) willful determinations have been rendered against that contractor or subcontractor and/or its successor within any consecutive six (6) year period.
- There is any willful determination that involves the falsification of payroll records or the kickback of wages or supplements.

Criminal Sanctions

Willful violations of the Prevailing Wage Law (Article 8 of the Labor Law) may be a felony punishable by fine or imprisonment of up to 15 years, or both.

Discrimination

No employee or applicant for employment may be discriminated against on account of age, race, creed, color, national origin, sex, disability or marital status.

No contractor, subcontractor nor any person acting on its behalf, shall by reason of race, creed, color, disability, sex or national origin discriminate against any citizen of the State of New York who is qualified and available to perform the work to which the employment relates (NYS Labor Law, Article 8, Section 220-e(a)).

No contractor, subcontractor, nor any person acting on its behalf, shall in any manner, discriminate against or intimidate any employee on account of race, creed, color, disability, sex, or national origin (NYS Labor Law, Article 8, Section 220-e(b)).

The Human Rights Law also prohibits discrimination in employment because of age, marital status, or religion.

There may be deducted from the amount payable to the contractor under the contract a penalty of \$50.00 for each calendar day during which such person was discriminated against or intimidated in violation of the provision of the contract (NYS Labor Law, Article 8, Section 220-e(c)).

The contract may be cancelled or terminated by the State or municipality. All monies due or to become due thereunder may be forfeited for a second or any subsequent violation of the terms or conditions of the anti-discrimination sections of the contract (NYS Labor Law, Article 8, Section 220-e(d)).

Every employer subject to the New York State Human Rights Law must conspicuously post at its offices, places of employment, or employment training centers notices furnished by the State Division of Human Rights.

Workers' Compensation

In accordance with Section 142 of the State Finance Law, the contractor shall maintain coverage during the life of the contract for the benefit of such employees as required by the provisions of the New York State Workers' Compensation Law.

A contractor who is awarded a public work contract must provide proof of workers' compensation coverage prior to being allowed to begin work.

The insurance policy must be issued by a company authorized to provide workers' compensation coverage in New York State. Proof of coverage must be on form C-105.2 (Certificate of Workers' Compensation Insurance) and must name this agency as a certificate holder.

If New York State coverage is added to an existing out-of-state policy, it can only be added to a policy from a company authorized to write workers' compensation coverage in this state. The coverage must be listed under item 3A of the information page.

The contractor must maintain proof that subcontractors doing work covered under this contract secured and maintained a workers' compensation policy for all employees working in New York State.

Every employer providing worker's compensation insurance and disability benefits must post notices of such coverage in the format prescribed by the Workers' Compensation Board in a conspicuous place on the jobsite.

Unemployment Insurance

Employers liable for contributions under the Unemployment Insurance Law must conspicuously post on the jobsite notices furnished by the New York State Department of Labor.



Kathy Hochul, Governor

Roberta Reardon, Commissioner

City of Buffalo

Eryn Hopkins
375 Essjay Road
Suite 200
Williamsville NY 14221

Schedule Year 2026 through 2027
Date Requested 08/26/2026
PRC# 2026025339

Location Buffalo

Project ID#

Project Type Basement infill and existing first floor framing demolition at the Stone Storage Building. First floor slab and retaining wall construction at the first floor of the Stone Storage Building and at the

Notice of Contract Award

New York State Labor Law, Article 8, Section 220.3a requires that certain information regarding the awarding of public work contracts, be furnished to the Commissioner of Labor. One "Notice of Contract Award" (PW 16, which may be photocopied), **MUST** be completed for **EACH** prime contractor on the above referenced project.

Upon notifying the successful bidder(s) of this contract, enter the required information and mail **OR** fax this form to the office shown at the bottom of this notice, **OR** fill out the electronic version via the NYSDOL website.

Contractor Information

All information must be supplied

Federal Employer Identification Number: _____

Name: _____

Address: _____

City: _____ State: _____ Zip: _____

Amount of Contract: \$ _____ Contract Type:

Approximate Starting Date: ____/____/____ [] (01) General Construction

Approximate Completion Date: ____/____/____ [] (02) Heating/Ventilation

[] (03) Electrical

[] (04) Plumbing

[] (05) Other : _____

Phone: (518) 457-5589 Fax: (518) 485-1870
W. Averell Harriman State Office Campus, Bldg. 12, Room 130, Albany, NY 12226

Social Security Numbers on Certified Payrolls:

The Department of Labor is cognizant of the concerns of the potential for misuse or inadvertent disclosure of social security numbers. Identity theft is a growing problem and we are sympathetic to contractors' concern regarding inclusion of this information on payrolls if another identifier will suffice.

For these reasons, the substitution of the use of the last four digits of the social security number on certified payrolls submitted to contracting agencies on public work projects is now acceptable to the Department of Labor. This change does not affect the Department's ability to request and receive the entire social security number from employers during its public work/ prevailing wage investigations.

Construction Industry Fair Play Act: Required Posting for Labor Law Article 25-B § 861-d

Construction industry employers must post the "Construction Industry Fair Play Act" notice in a prominent and accessible place on the job site. Failure to post the notice can result in penalties of up to \$1,500 for a first offense and up to \$5,000 for a second offense. The posting is included as part of this wage schedule. Additional copies may be obtained from the NYS DOL website, <https://dol.ny.gov/public-work-and-prevailing-wage>

If you have any questions concerning the Fair Play Act, please call the State Labor Department toll-free at 1-866-435-1499 or email us at: dol.misclassified@labor.ny.gov.

Worker Notification: (Labor Law §220, paragraph a of subdivision 3-a)

Effective June 23, 2020

This provision is an addition to the existing wage rate law, Labor Law §220, paragraph a of subdivision 3-a. It requires contractors and subcontractors to provide written notice to all laborers, workers or mechanics of the *prevailing wage and supplement rate* for their particular job classification *on each pay stub**. It also requires contractors and subcontractors to *post a notice* at the beginning of the performance of every public work contract *on each job site* that includes the telephone number and address for the Department of Labor and a statement informing laborers, workers or mechanics of their right to contact the Department of Labor if he/she is not receiving the proper prevailing rate of wages and/or supplements for his/her job classification. The required notification will be provided with each wage schedule, may be downloaded from our website www.labor.ny.gov or be made available upon request by contacting the Bureau of Public Work at 518-457-5589. *In the event the required information will not fit on the pay stub, an accompanying sheet or attachment of the information will suffice.

(12.20)

**To all State Departments, Agency Heads and Public Benefit Corporations
IMPORTANT NOTICE REGARDING PUBLIC WORK ENFORCEMENT FUND**

Budget Policy & Reporting Manual

B-610

Public Work Enforcement Fund

effective date December 7, 2005

1. Purpose and Scope:

This Item describes the Public Work Enforcement Fund (the Fund, PWEF) and its relevance to State agencies and public benefit corporations engaged in construction or reconstruction contracts, maintenance and repair, and announces the recently-enacted increase to the percentage of the dollar value of such contracts that must be deposited into the Fund. This item also describes the roles of the following entities with respect to the Fund:

- New York State Department of Labor (DOL),
- The Office of the State of Comptroller (OSC), and
- State agencies and public benefit corporations.

2. Background and Statutory References:

DOL uses the Fund to enforce the State's Labor Law as it relates to contracts for construction or reconstruction, maintenance and repair, as defined in subdivision two of Section 220 of the Labor Law. State agencies and public benefit corporations participating in such contracts are required to make payments to the Fund.

Chapter 511 of the Laws of 1995 (as amended by Chapter 513 of the Laws of 1997, Chapter 655 of the Laws of 1999, Chapter 376 of the Laws of 2003 and Chapter 407 of the Laws of 2005) established the Fund.

3. Procedures and Agency Responsibilities:

The Fund is supported by transfers and deposits based on the value of contracts for construction and reconstruction, maintenance and repair, as defined in subdivision two of Section 220 of the Labor Law, into which all State agencies and public benefit corporations enter.

Chapter 407 of the Laws of 2005 increased the amount required to be provided to this fund to .10 of one-percent of the total cost of each such contract, to be calculated at the time agencies or public benefit corporations enter into a new contract or if a contract is amended. The provisions of this bill became effective August 2, 2005.

To all State Departments, Agency Heads and Public Benefit Corporations
IMPORTANT NOTICE REGARDING PUBLIC WORK ENFORCEMENT FUND

OSC will report to DOL on all construction-related ("D") contracts approved during the month, including contract amendments, and then DOL will bill agencies the appropriate assessment monthly. An agency may then make a determination if any of the billed contracts are exempt and so note on the bill submitted back to DOL. For any instance where an agency is unsure if a contract is or is not exempt, they can call the Bureau of Public Work at the number noted below for a determination. Payment by check or journal voucher is due to DOL within thirty days from the date of the billing. DOL will verify the amounts and forward them to OSC for processing.

For those contracts which are not approved or administered by the Comptroller, monthly reports and payments for deposit into the Public Work Enforcement Fund must be provided to the Administrative Finance Bureau at the DOL within 30 days of the end of each month or on a payment schedule mutually agreed upon with DOL.

Reports should contain the following information:

- Name and billing address of State agency or public benefit corporation;
- State agency or public benefit corporation contact and phone number;
- Name and address of contractor receiving the award;
- Contract number and effective dates;
- Contract amount and PWEF assessment charge (if contract amount has been amended, reflect increase or decrease to original contract and the adjustment in the PWEF charge); and
- Brief description of the work to be performed under each contract.

Checks and Journal Vouchers, payable to the "New York State Department of Labor" should be sent to:

Department of Labor
Administrative Finance Bureau-PWEF Unit
Building 12, Room 464
State Office Campus
Albany, NY 12226

Any questions regarding billing should be directed to NYSDOL's Administrative Finance Bureau-PWEF Unit at (518) 457-3624 and any questions regarding Public Work Contracts should be directed to the Bureau of Public Work at (518) 457-5589.



Required Notice under Article 25-B of the Labor Law

**Attention All Employees, Contractors and Subcontractors:
You are Covered by the Construction Industry Fair Play Act**

The law says that you are an employee unless:

- You are free from direction and control in performing your job, **and**
- You perform work that is not part of the usual work done by the business that hired you, **and**
- You have an independently established business.

Your employer cannot consider you to be an independent contractor unless all three of these facts apply to your work.

It is against the law for an employer to misclassify employees as independent contractors or pay employees off the books.

Employee Rights: If you are an employee, you are entitled to state and federal worker protections. These include:

- Unemployment Insurance benefits, if you are unemployed through no fault of your own, able to work, and otherwise qualified,
- Workers' compensation benefits for on-the-job injuries,
- Payment for wages earned, minimum wage, and overtime (under certain conditions),
- Prevailing wages on public work projects,
- The provisions of the National Labor Relations Act, and
- A safe work environment.

It is a violation of this law for employers to retaliate against anyone who asserts their rights under the law. Retaliation subjects an employer to civil penalties, a private lawsuit or both.

Independent Contractors: If you are an independent contractor, **you must pay all taxes and Unemployment Insurance contributions required by New York State and Federal Law.**

Penalties for paying workers off the books or improperly treating employees as independent contractors:

- **Civil Penalty**
First offense: Up to \$2,500 per employee
Subsequent offense(s): Up to \$5,000 per employee
- **Criminal Penalty**
First offense: Misdemeanor - up to 30 days in jail, up to a \$25,000 fine and debarment from performing public work for up to one year.
Subsequent offense(s): Misdemeanor - up to 60 days in jail or up to a \$50,000 fine and debarment from performing public work for up to 5 years.

If you have questions about your employment status or believe that your employer may have violated your rights and you want to file a complaint, call the Department of Labor at (866) 435-1499 or send an email to dol.misclassified@labor.ny.gov. All complaints of fraud and violations are taken seriously. You can remain anonymous.

Employer Name:

IA 999 (09/16)



Attention Employees

THIS IS A: **PUBLIC WORK PROJECT**

If you are employed on this project as a **worker, laborer, or mechanic** you are entitled to receive the **prevailing wage and supplements rate** for the classification at which you are working.

Your pay stub and wage notice received upon hire must clearly state your wage rate and supplement rate.

Chapter 629 of the Labor Laws of 2007:

These wages are set by law and must be posted at the work site. They can also be found at:
<https://dol.ny.gov/bureau-public-work>



If you feel that you have not received proper wages or benefits, please call our nearest office.*

Albany	(518) 457-2744	Patchogue	(631) 687-4882
Binghamton	(607) 721-8005	Rochester	(585) 258-4505
Buffalo	(716) 847-7159	Syracuse	(315) 428-4056
Garden City	(516) 228-3915	Utica	(315) 793-2314
New York City	(212) 932-2419	White Plains	(914) 997-9507
Newburgh	(845) 568-5287		

* For New York City government agency construction projects, please contact the Office of the NYC Comptroller at (212) 669-4443, or www.comptroller.nyc.gov – click on Bureau of Labor Law.

Contractor Name: _____

Project Location: _____

Requirements for OSHA 10 Compliance

Article 8 §220-h requires that when the advertised specifications, for every contract for public work, is \$250,000.00 or more the contract must contain a provision requiring that every worker employed in the performance of a public work contract shall be certified as having completed an OSHA 10 safety training course. The clear intent of this provision is to require that all employees of public work contractors, required to be paid prevailing rates, receive such training "prior to the performing any work on the project."

The Bureau will enforce the statute as follows:

All contractors and sub contractors must attach a copy of proof of completion of the OSHA 10 course to the first certified payroll submitted to the contracting agency and on each succeeding payroll where any new or additional employee is first listed.

Proof of completion may include but is not limited to:

- Copies of bona fide course completion card (*Note: Completion cards do not have an expiration date.*)
- Training roster, attendance record or other documentation from the certified trainer pending the issuance of the card.
- Other valid proof

****A certification by the employer attesting that all employees have completed such a course is not sufficient proof that the course has been completed.**

Any questions regarding this statute may be directed to the New York State Department of Labor, Bureau of Public Work at 518-457-5589.

WICKS

Public work projects are subject to the Wicks Law requiring separate specifications and bidding for the plumbing, heating and electrical work, when the total project's threshold is \$3 million in Bronx, Kings, New York, Queens and, Richmond counties; \$1.5 million in Nassau, Suffolk and Westchester counties; and \$500,000 in all other counties.

For projects below the monetary threshold, bidders must submit a sealed list naming each subcontractor for the plumbing, HVAC and electrical and the amount to be paid to each. The list may not be changed unless the public owner finds a legitimate construction need, including a change in specifications or costs or the use of a Project Labor Agreement (PLA), and must be open to public inspection.

Allows the state and local agencies and authorities to waive the Wicks Law and use a PLA if it will provide the best work at the lowest possible price. If a PLA is used, all contractors shall participate in apprentice training programs in the trades of work it employs that have been approved by the Department of Labor (DOL) for not less than three years. They shall also have at least one graduate in the last three years and use affirmative efforts to retain minority apprentices. PLA's would be exempt from Wicks, but deemed to be public work subject to prevailing wage enforcement.

The Commissioner of Labor shall have the power to enforce separate specification requirements on projects, and may issue stop-bid orders against public owners for non-compliance.

Other new monetary thresholds, and similar sealed bidding for non-Wicks projects, would apply to certain public authorities including municipal housing authorities, NYC Construction Fund, Yonkers Educational Construction Fund, NYC Municipal Water Finance Authority, Buffalo Municipal Water Finance Authority, Westchester County Health Care Association, Nassau County Health Care Corp., Clifton-Fine Health Care Corp., Erie County Medical Center Corp., NYC Solid Waste Management Facilities, and the Dormitory Authority.

Contractors must pay subcontractors within a 7 days period.

(07.19)

Introduction to the Prevailing Rate Schedule

Information About Prevailing Rate Schedule

This information is provided to assist you in the interpretation of particular requirements for each classification of worker contained in the attached Schedule of Prevailing Rates.

Classification

It is the duty of the Commissioner of Labor to make the proper classification of workers taking into account whether the work is heavy and highway, building, sewer and water, tunnel work, or residential, and to make a determination of wages and supplements to be paid or provided. It is the responsibility of the public work contractor to use the proper rate. If there is a question on the proper classification to be used, please call the district office located nearest the project. District office locations and phone numbers are listed below. Prevailing Wage Schedules are issued separately for "General Construction Projects" and "Residential Construction Projects" on a county-by-county basis.

General Construction Rates apply to projects such as: Buildings, Heavy & Highway, and Tunnel and Water & Sewer rates. Residential Construction Rates generally apply to construction, reconstruction, repair, alteration, or demolition of one family, two family, row housing, or rental type units intended for residential use. Some rates listed in the Residential Construction Rate Schedule have a very limited applicability listed along with the rate. Rates for occupations or locations not shown on the residential schedule must be obtained from the General Construction Rate Schedule. Please contact the local Bureau of Public Work office before using Residential Rate Schedules, to ensure that the project meets the required criteria.

*Contractor Registry (LL 220-I):

Labor Law Section 220-i requires that contractors obtain a Contractor Registry certificate of registration prior to bidding on or commencing work on a public or private project subject to prevailing wage requirements. Subcontractors also are prohibited from commencing work on covered employment unless they have received a Contractor Registry certificate. Contractors are required to submit their Certificate of Registration with their bid materials. A public database is available online to confirm registration at [data.ny.gov](https://dol.ny.gov/public-work-contractor-and-subcontractor-registry-landing) to confirm registration validity. For additional information on how to register and the requirements, visit <https://dol.ny.gov/public-work-contractor-and-subcontractor-registry-landing>.

Payrolls and Payroll Records

Every contractor and subcontractor MUST keep original payrolls or transcripts subscribed and affirmed as true under penalty of perjury. Payrolls must be maintained for at least three (3) years from the projects date of completion. Additionally, as per Article 6 of the Labor Law, contractors and subcontractors are required to establish, maintain, and preserve for not less than six (6) years, contemporaneous, true, and accurate payroll records.

At a minimum, payrolls must show the following information for each person employed on a public work project: Name; Address, Last 4 Digits of Social Security number, Classification(s) in which the worker was employed, Hourly wage rate(s) paid, Supplements paid or provided, and Daily and weekly number of hours worked in each classification.

Payroll records and transcripts are required to be kept on site during all the time that work under that contract is being performed.

NOTE: For more detailed information regarding Article 9 prevailing wage contracts, please refer to "General Provisions of Laws Covering Workers on Article 9 Public Work Building Service Contracts".

If you have any questions concerning the attached schedule or would like additional information, please write to:

New York State Department of Labor
Bureau of Public Work
State Office Campus, Bldg. 12
Albany, NY 12240

OR

Contact the nearest BUREAU of PUBLIC WORK District Office

District Office Locations:	Telephone #	FAX #
Bureau of Public Work - Albany	518-457-2744	518-485-0240
Bureau of Public Work - Binghamton	607-721-8005	607-721-8004
Bureau of Public Work - Buffalo	716-847-7159	716-847-7650
Bureau of Public Work - Garden City	516-228-3915	516-794-3518

Bureau of Public Work - Newburgh	845-568-5287	845-568-5332
Bureau of Public Work - New York City	212-932-2419	212-775-3579
Bureau of Public Work - Patchogue	631-687-4882	631-687-4902
Bureau of Public Work - Rochester	585-258-4505	585-258-4708
Bureau of Public Work - Syracuse	315-428-4056	315-428-4671
Bureau of Public Work - Utica	315-793-2314	315-793-2514
Bureau of Public Work - White Plains	914-997-9507	914-997-9523
Bureau of Public Work - Central Office	518-457-5589	518-485-1870

Paid Holidays

Paid Holidays are days for which an eligible employee receives a regular day's pay, but is not required to perform work. If an employee works on a day listed as a paid holiday, this remuneration is in addition to payment of the required prevailing rate for the work actually performed.

Overtime

At a minimum, all work performed on a public work project in excess of eight hours in any one day or more than five days in any workweek is overtime. The specific overtime requirements for each trade or occupation on a public work project may differ. Specific overtime requirements for each trade or occupation are contained in the prevailing rate schedules.

Overtime holiday pay is the premium pay that is required for work performed on specified holidays. It is only required where the employee actually performs work on such holidays.

The applicable holidays are listed under HOLIDAYS: OVERTIME. The required rate of pay for these covered holidays can be found in the OVERTIME PAY section listings for each classification.

Supplemental Benefits

Particular attention should be given to the supplemental benefit requirements. Although in most cases the payment or provision of supplements is straight time for all hours worked, some classifications require the payment or provision of supplements, or a portion of the supplements, to be paid or provided at a premium rate for premium hours worked. Supplements may also be required to be paid or provided on paid holidays, regardless of whether the day is worked. The Overtime Codes and Notes listed on the particular wage classification will indicate these conditions as required.

Effective Dates

When you review the schedule for a particular occupation, your attention should be directed to the dates above the column of rates. These are the dates for which a given set of rates is effective. The rate listed is valid until the next effective rate change or until the new annual determination which takes effect on July 1 of each year. Please Note: Updates to the Wage Schedule shall be made on a quarterly basis.

All contractors and subcontractors are required to pay the current prevailing rates of wages and supplements. If you have any questions please contact the Bureau of Public Work or visit the New York State Department of Labor website (www.labor.ny.gov) for current wage rate information.

Shift Work

If the timeline of the contract requires shift work be performed to meet deadlines, the BPWE will enforce the shift work rate as the required rate on the project whether or not shift work is specifically addressed in the contract.

Paid Prenatal Leave

Every employer shall be required to provide to its employees twenty hours of paid prenatal personal leave during any fifty-two week calendar period. Paid prenatal personal leave shall mean leave taken for the health care services received by an employee during their pregnancy or related to such pregnancy, including physical examinations, medical procedures, monitoring and testing, and discussions with a healthcare provider related to the pregnancy. Paid prenatal personal leave may be taken in hourly increments. Benefits for paid prenatal personal leave shall be paid in hourly installments. Employees shall receive compensation at the employee's regular rate of pay, or the applicable minimum wage established by the labor law, whichever is greater, for the use of Paid Prenatal leave.

Apprentice Training Ratios

The following are the allowable ratios of registered Apprentices to Journey-workers.

For example, the ratio 1:1,1:3 indicates the allowable initial ratio is one Apprentice to one Journeyworker. The Journeyworker must be in place on the project before an Apprentice is allowed. Then three additional Journeyworkers are needed before a second Apprentice is allowed. The last ratio repeats indefinitely. Therefore, three more Journeyworkers must be present before a third Apprentice can be hired, and so on.

Please call Apprentice Training Central Office at (518) 457-6820 if you have any questions.

Title (Trade)	Ratio
Boilermaker (Construction)	1:1,1:4

Boilermaker (Shop)	1:1,1:3
Carpenter (Bldg.,H&H, Pile Driver/Dockbuilder)	1:1,1:4
Carpenter (Residential)	1:1,1:3
Electrical (Outside) Lineman	1:1,1:2
Electrician (Inside)	1:1,1:3
Elevator/Escalator Construction & Modernizer	1:1,1:2
Glazier	1:1,1:3
Insulation & Asbestos Worker	1:1,1:3
Iron Worker	1:1,1:4
Laborer	1:1,1:3
Mason	1:1,1:4
Millwright	1:1,1:4
Op Engineer	1:1,1:5
Painter	1:1,1:3
Plumber & Steamfitter	1:1,1:3
Roofer	1:1,1:2
Sheet Metal Worker	1:1,1:3
Sprinkler Fitter	1:1,1:2

If you have any questions concerning the attached schedule or would like additional information, please contact the nearest BUREAU of PUBLIC WORK District Office or write to:

New York State Department of Labor
Bureau of Public Work
State Office Campus, Bldg. 12
Albany, NY 12226

District Office Locations:	Telephone #	FAX #
Bureau of Public Work - Albany	518-457-2744	518-485-0240
Bureau of Public Work - Binghamton	607-721-8005	607-721-8004
Bureau of Public Work - Buffalo	716-847-7159	716-847-7650
Bureau of Public Work - Garden City	516-228-3915	516-794-3518
Bureau of Public Work - Newburgh	845-568-5287	845-568-5332
Bureau of Public Work - New York City	212-932-2419	212-775-3579
Bureau of Public Work - Patchogue	631-687-4882	631-687-4902
Bureau of Public Work - Rochester	585-258-4505	585-258-4708
Bureau of Public Work - Syracuse	315-428-4056	315-428-4671
Bureau of Public Work - Utica	315-793-2314	315-793-2514
Bureau of Public Work - White Plains	914-997-9507	914-997-9523
Bureau of Public Work - Central Office	518-457-5589	518-485-1870

Erie County General Construction

Boilermaker

08/01/2026

JOB DESCRIPTION Boilermaker

DISTRICT 12

ENTIRE COUNTIES

Allegany, Cattaraugus, Chautauqua, Chemung, Erie, Genesee, Livingston, Monroe, Niagara, Ontario, Orleans, Schuylers, Steuben, Wayne, Wyoming, Yates

WAGES

Per hour:	07/01/2026	01/01/2027
		Additional
Boilermaker	\$ 41.50	\$ 2.50*

The wage rate will be 90% of the above for Maintenance work on boilers less than 100,000 pph.

* To be allocated at a later date.

SUPPLEMENTAL BENEFITS

Per hour:	\$ 32.38
	+ 1.49*

*This portion of the benefit is NOT subject to the SAME PREMIUM as shown for overtime.

OVERTIME PAY

See (B, E, Q) on OVERTIME PAGE

HOLIDAY

Paid:	See (1) on HOLIDAY PAGE
Overtime:	See (5, 6, 15, 25) on HOLIDAY PAGE

REGISTERED APPRENTICES

Terms at 6 Months

1st	2nd	3rd	4th	5th	6th	7th	8th
65%	65%	70%	75%	80%	85%	90%	95%

Supplemental Benefits per hour:

All Terms:	\$ 32.38
	+ 1.49*

*This portion of the benefit is NOT subject to the SAME PREMIUM as shown for overtime.

12-7

Broadband

08/01/2026

JOB DESCRIPTION Broadband

DISTRICT 4

ENTIRE COUNTIES

Albany, Allegany, Broome, Cattaraugus, Cayuga, Chautauqua, Chemung, Chenango, Clinton, Columbia, Cortland, Delaware, Dutchess, Erie, Essex, Franklin, Fulton, Genesee, Greene, Hamilton, Herkimer, Jefferson, Lewis, Livingston, Madison, Monroe, Montgomery, Niagara, Oneida, Onondaga, Ontario, Orleans, Oswego, Otsego, Rensselaer, Saratoga, Schenectady, Schoharie, Schuylers, Seneca, St. Lawrence, Steuben, Sullivan, Tioga, Tompkins, Ulster, Warren, Washington, Wayne, Wyoming, Yates

PARTIAL COUNTIES

Orange: Only in the Village of Greenwood Lake, Village of Highland Falls, Town of Tuxedo, and Town of Patterson

WAGES

NOTE: Applies to all public work and covered private projects, including those receiving ConnectAll funding subject to New York State Labor Law §224-E, solicited on or after July 1,2025. For all other projects solicited prior to July 1,2025 please see LINEMAN ELECTRICIAN(1)-TELEDATA

Per Hour:	07/01/2026	08/04/2026
Field Tech	\$ 52.85	\$ 54.44
Install/Repair*		

For outside work (excluding installation on building construction/alteration/renovation projects), stopping at first point of attachment (demarcation), installing/maintaining/repairing broadband internet service.

"Broadband", "Broadband Service", or "Broadband Internet" means mass-market retail service by wire or radio that provides the capability to transmit data to and receive data from all or substantially all internet endpoints, including any capabilities that are incidental to and enable the operation of the communications service, but excluding dial-up internet access service.

*NOTE: EXCLUDES work within ten(10) feet of High Voltage (600 Volts and over) transmission lines. Please see LINEMAN rates.

*NOTE: Does not include the operation of equipment. Please see applicable OPERATING ENGINEER rates.

*NOTE: Does not include Groundmen/Flagger/Flagmen. Please see LABORER/LABORER-HEAVY/HIGHWAY rates.

SUPPLEMENTAL BENEFITS

Per Hour:

\$ 23.24

OVERTIME PAY

See (B, K, *R) on OVERTIME PAGE

* Two and one half times the hourly rate after the 8th hour

HOLIDAY

Paid: See (5, 6, 7, 11, 12) on HOLIDAY PAGE

Overtime: See (5, 6, 7, 11, 12) on HOLIDAY PAGE

4-CWA-Dist2

Carpenter - Building

08/01/2026

JOB DESCRIPTION Carpenter - Building

DISTRICT 12

ENTIRE COUNTIES

Erie

PARTIAL COUNTIES

Cattaraugus: : Townships of Persia and Perrysburg

WAGES

Per hour:	07/01/2026	07/01/2027 Additional	07/01/2028 Additional
Carpenter	\$ 38.47	3.50*	2.50*
Certified Welder	41.47	3.50*	2.50*
Diver-Wet Day	63.47	3.50*	2.50*
Diver-Dry Day	39.97	3.50*	2.50*

* To be allocated at a later date.

NOTE ADDITIONAL AMOUNTS PAID FOR THE FOLLOWING WORK LISTED BELOW (per hour worked):

- When an employee performs work within a contaminated area on a State and/or Federally designated hazardous waste site, and where relevant State and/or Federal regulations require employees to be furnished and use or wear required forms of personal protection, then the employee shall receive their regular hourly rate plus \$1.50 per hour.

- Certified Welders shall receive \$ 3.00 per hour over the Journeyworker's rate of pay when the employee is required to be certified and performs DOT or ABS specified welding work.

- Depth pay for Divers based upon deepest depth on the day of the dive (per diem payment):

0' to 80'	no additional fee
81' to 100'	additional \$0.50 per foot
101' to 150'	additional \$0.75 per foot
151' and deeper	additional \$1.25 per foot

- Penetration pay for Divers based upon deepest penetration on the day of the dive (per diem payment):

0' to 50'	no additional fee
51' to 100'	additional \$0.75 per foot
101'and deeper	additional \$1.25 per foot

- Diver rates applies to all hours worked on dive day.

SHIFT WORK

On Contracting Agency mandated shift work, the following rates will be applicable:

1st Shift - Regular Rate

2nd Shift - Premium of 10% of base wage per hour

3rd Shift - Premium of 15% of base wage per hour

Shift work shall be defined as implementing at least two (2) shifts in a twenty-four (24) consecutive hour period. Shift work must be for a minimum of three (3) consecutive days.

SUPPLEMENTAL BENEFITS

Per hour worked:

Carpenter(s)	\$ 30.16
Diver(s)	30.16

OVERTIME PAY

See (B, E, E2, Q) on OVERTIME PAGE

HOLIDAY

Overtime: See (5, 6) on HOLIDAY PAGE

REGISTERED APPRENTICES

Wages per hour:

One year terms at the following percentage of Journeyman's base wage:

Carpenter Apprentices:

1st	2nd	3rd	4th
65%	70%	75%	80%

Supplemental Benefits per hour worked:

1st	2nd	3rd	4th
\$13.30	\$13.30	\$15.90	\$15.90

ADDITIONAL AMOUNTS PAID PER HOUR WORKED TO APPRENTICES FOR SPECIFIC TYPES OF WORK PERFORMED:

- Certified Welders shall receive \$ 3.00 per hour over the apprentice's rate of pay when the apprentice is required to be certified and performs DOT or ABS specified welding work.
- When an apprentice performs work within a contaminated area on a State and/or Federally designated hazardous waste site, and where relevant State and/or Federal regulations require the apprentice to be furnished and use or wear required forms of personal protection, then the apprentice shall receive his regular hourly rate plus \$ 1.50 per hour.

12-276B-Cat

Carpenter - Building / Heavy&Highway

08/01/2026

JOB DESCRIPTION Carpenter - Building / Heavy&Highway

DISTRICT 2

ENTIRE COUNTIES

Albany, Allegany, Broome, Cattaraugus, Cayuga, Chautauqua, Chemung, Chenango, Clinton, Columbia, Cortland, Delaware, Erie, Essex, Franklin, Fulton, Genesee, Greene, Hamilton, Herkimer, Jefferson, Lewis, Livingston, Madison, Monroe, Montgomery, Niagara, Oneida, Onondaga, Ontario, Orleans, Oswego, Otsego, Rensselaer, Saratoga, Schenectady, Schoharie, Schuyler, Seneca, St. Lawrence, Steuben, Sullivan, Tioga, Tompkins, Ulster, Warren, Washington, Wayne, Wyoming, Yates

PARTIAL COUNTIES

Orange: The area lying on Northern side of Orange County demarcated by a line drawn from the Bear Mountain Bridge continuing west to the Bear Mountain Circle, continue North on 9W to the town of Cornwall where County Road 107 (also known as Quaker Rd) crosses under 9W, then east on County Road 107 to Route 32, then north on Route 32 to Orrs Mills Rd, then west on Orrs Mills Rd to Route 94, continue west and south on Route 94 to the Town of Chester, to the intersection of Kings Highway, continue south on Kings Highway to Bellvale Rd, west on Bellvale Rd to Bellvale Lakes Rd, then south on Bellvale Lakes Rd to Kain Rd, southeast on Kain Rd to Route 17A, then north and southeast along Route 17A to Route 210, then follow Route 210 to NJ Border.

WAGES

Wages per hour:	07/01/2026	07/01/2027 Additional
Carpenter - ONLY for Artificial Turf/Synthetic Sport Surface	\$ 39.69	\$ 2.25*

*To be allocated at a later date.

Note - Does not include the operation of equipment. Please see Operating Engineers rates.

SUPPLEMENTAL BENEFITS

Per hour worked:

Journeyworker	\$ 27.84
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OVERTIME PAY

See (B, E, Q) on OVERTIME PAGE

HOLIDAY

Paid: See (5) on HOLIDAY PAGE

Overtime: See (5, 6, 16) on HOLIDAY PAGE

Notes:

When a holiday falls upon a Saturday, it shall be observed on the preceding Friday. When a holiday falls upon a Sunday, it shall be observed on the following Monday.

An employee taking an unexcused day off the regularly scheduled day before or after a paid Holiday shall not receive Holiday pay.

REGISTERED APPRENTICES

Wages per hour (1300 hour terms at the following percentage of Journeyworker's wage):

1st	2nd	3rd	4th
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65% 70% 75% 80%

Supplemental Benefits per hour worked:

\$ 19.08 \$ 19.69 \$ 21.86 \$ 22.47

2-42AtSS

Carpenter - Heavy&Highway

08/01/2026

JOB DESCRIPTION Carpenter - Heavy&Highway

DISTRICT 12

ENTIRE COUNTIES

Erie

WAGES

Per hour:	07/01/2026	07/01/2027 Additional
Carpenter	\$ 45.23	\$ 2.65*
Pile Driver	45.23	
Diver-Wet Day	70.23	
Diver-Dry Day & Dive Tender	46.23	
Effluent & Slurry Diver-Wet Day	105.35	
Effluent & Slurry Diver-Dry Day	69.34	

* To be allocated at a later date.

NOTE ADDITIONAL AMOUNTS PAID FOR THE FOLLOWING WORK LISTED (per hour worked):

- State or Federal designated hazardous site, requiring protective gear shall be an additional \$2.50 per hour.
- Certified Welders when required to perform welding work will receive an additional \$5.00 per hour.

ADDITIONAL NOTES PERTAINING TO DIVERS/TENDERS:

- The pilot of an ADS or submersible will receive one and one-half (1 1/2) times the Diver-Wet Day Rate for time submerged.
- All crew members aboard a submersible shall receive the Diver-Wet Day rate.
- Depth pay for Divers based upon deepest depth on the day of the dive (per diem payment):

0' to 50'	no additional fee
51'to 100'	additional \$0.50 per foot
101' to 150'	additional \$0.75 per foot
151' to 200'	additional \$1.25 per foot
201' or deeper	additional \$1.50 per foot

- Penetration pay for Divers based upon deepest penetration on the day of the dive (per diem payment):

0' to 50'	no additional fee
51' to 100'	additional \$0.75 per foot
101' to 200'	additional \$1.00 per foot
201' or deeper	additional \$1.25 per foot

- Diver rates apply to all hours worked on dive day.

SUPPLEMENTAL BENEFITS

Per hour worked:

Carpenter(s)	\$ 33.35
Pile Driver(s)	33.35
Diver(s)	33.35

OVERTIME PAY

See (B, E, Q) on OVERTIME PAGE

HOLIDAY

Paid: See (5, 6) on HOLIDAY PAGE

Overtime: See (5, 6) on HOLIDAY PAGE

In the event a Holiday falls on a Saturday, the Friday before will be observed as a Holiday. If a Holiday falls on a Sunday, then Monday will be observed as a Holiday. Employee must work scheduled workday before and after the Holiday.

REGISTERED APPRENTICES

Wages per hour:

One year terms at the following percentage of Journeyman's wage:

Carpenter Apprentice:

07/01/2026	1st 65%	2nd 70%	3rd 75%	4th 80%
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Pile Driver Apprentice (1300 hour terms at percentage of Pile Driver Rate)

07/01/2026	1st 65%	2nd 70%	3rd 75%	4th 80%
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Supplemental benefits Carpenter/Pile Driver per hour worked:

1st	2nd	3rd	4th
\$20.27	\$20.96	\$23.20	\$23.89

NOTE ADDITIONAL AMOUNTS PAID PER HOUR WORKED TO APPRENTICES FOR SPECIFIC TYPES OF WORK PERFORMED:

- State or Federal designated hazardous site, requiring protective gear shall be an additional \$2.50 per hour.
- Certified welders when required to perform welding work will receive an additional \$5.00 per hour.

12-276HH-Erie

Electrician

08/01/2026

JOB DESCRIPTION Electrician

DISTRICT 3

ENTIRE COUNTIES

Erie

PARTIAL COUNTIES

Cattaraugus: Only the Townships of Ashford, East Otto, Ellicottville, Farmersville, Freedom, Franklinville, Lyndon, Machias, Mansfield, New Albion, Otto, Perrysburg, Persia and Yorkshire.

Genesee: Only the Townships of Alabama, Alexander, Darien, Oakfield, Pembroke and that portion of the Towns of Batavia and Elba that are west of Little Tonawanda Creek; Tonawanda Creek; the City limits of Batavia (in effect prior to Feb. 1, 1970) and State Highway 98 north of the City of Batavia, then north on Highway 98 to the Orleans County line.

Wyoming: Only the Townships of Arcade, Attica, Bennington, Eagle, Java, Orangeville, Sheldon and Wethersfield.

WAGES

Per hour:	07/01/2026	06/01/2027 Additional
Electrician*	\$ 47.50	\$5.50

* Includes teledata work

Additional \$0.50/hr in shafts over 25 ft. deep and in underground tunnels over 75 ft. long.

Additional \$0.75/hr for work on toothpicks, structural steel, temporary platforms, swinging scaffolds, boatswain chairs, smoke stacks or water towers 30 ft above the floor or for work on rolling scaffolds and ladders over 50 ft.

Additional \$1.50/hr for Cable Splicers on such work as lead, and shielded cable and splices or terminations on cable 5KV and above.

Additional \$1.00/hr for Hot work (Atomic plants).

Additional \$2.00/hr for work on radio, TV, light towers and floating platforms or climbing ladders in excess of 100 ft. high.

SHIFT WORK

When shift work is mandated either in the job specification or by the contracting agency the following premiums apply:

17.3% for work from 4:30PM - 1:00AM

31.4% for work from 12:30AM - 9:00AM

SUPPLEMENTAL BENEFITS

Per hour:	\$ 34.88*
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* NOTE - add 6% of the posted straight time or applicable premium wage rate.

OVERTIME PAY

See (B, E, Q) on OVERTIME PAGE

HOLIDAY

Paid: See (1) on HOLIDAY PAGE

Overtime: See (5, 6) on HOLIDAY PAGE

REGISTERED APPRENTICES

Wages per hour:

Hour terms at the following wages:

0 to 1000 to 2000 to 3500 to 5000 to 6500 to 8200
\$ 23.75 \$ 28.50 \$ 30.90 \$ 33.25 \$ 35.65 \$ 40.40

Supplemental benefits per hour:

0 to 2000 to 6500 to 8200
\$ 15.55* \$ 27.10* \$ 34.88*

* NOTE - add 6% of the posted straight time or applicable premium wage rate.

3-41

Elevator Constructor

08/01/2026

JOB DESCRIPTION Elevator Constructor

DISTRICT 3

ENTIRE COUNTIES

Allegany, Cattaraugus, Chautauqua, Erie, Genesee, Niagara, Orleans, Wyoming

WAGES

Per hour: 07/01/2026

Elevator Constructor	\$ 65.07
Helper	45.55

SUPPLEMENTAL BENEFITS

Per hour: \$ 38.99

Note - add 6% of regular hourly rate for all hours worked.

OVERTIME PAY

See (D, O) on OVERTIME PAGE

HOLIDAY

Paid: See (5, 6, 15, 16) on HOLIDAY PAGE

Overtime: See (5, 6, 15, 16) on HOLIDAY PAGE

REGISTERED APPRENTICES

Wages per hour:

One year (1,700 hour each) terms at the following percentage of Journeyworker's wage:

1st*	2nd	3rd	4th
55%	65%	70%	80%

*Note - 0-6 months of the 1st year term is paid at 50% of Journeyman's wage with no supplemental benefits.

Supplemental benefits per hour: \$ 38.99

Note - add 6% of regular hourly rate for all hours worked.

3-14

Glazier

08/01/2026

JOB DESCRIPTION Glazier

DISTRICT 3

ENTIRE COUNTIES

Allegany, Cattaraugus, Chautauqua, Erie, Genesee, Niagara, Orleans, Wyoming

WAGES

Per hour: 07/01/2026

Glazier	\$ 36.00
Working off Suspended Scaffold (Swing Stage)	\$ 38.00

SUPPLEMENTAL BENEFITS

Per hour: \$ 31.47

Journeyworker Glazier

OVERTIME PAY

See (B, E, Q) on OVERTIME PAGE

HOLIDAY

Paid: See (1) on HOLIDAY PAGE for Glazier and Glazier Apprentice

Paid: See (5, 6) on HOLIDAY PAGE for Maintenance

Overtime: See (5, 6) on HOLIDAY PAGE

REGISTERED APPRENTICES

Wages per hour:

Glazier: 1000 hour terms at the following percentage of Journeyworker's wage:

1st	2nd	3rd	4th	5th	6th	7th	8th
\$ 21.50	\$ 22.50	\$ 23.50	\$ 24.50	\$ 25.50	\$ 26.50	\$ 27.50	\$ 28.50

Supplemental benefits per hour:

1st & 2nd terms	\$ 8.65
3rd & 4th terms	11.15
5th & 6th terms	12.65
7th & 8th terms	14.15

3-660

Insulator - Heat & Frost

08/01/2026

JOB DESCRIPTION Insulator - Heat & Frost

DISTRICT 3

ENTIRE COUNTIES

Allegany, Cattaraugus, Chautauqua, Erie, Niagara, Wyoming

PARTIAL COUNTIES

Genesee: Only the Townships of Alabama, Alexander, Darien, Oakfield and Pembroke.

WAGES

Per Hour:	07/01/2026	05/01/2027	05/01/2028	05/01/2029
		Additional	Additional	Additional
Heat & Frost Insulator	\$ 40.65	\$4.25	\$4.50	\$5.15

SUPPLEMENTAL BENEFITS

Per hour:
\$ 31.54

OVERTIME PAY

See (B, *E, **Q) on OVERTIME PAGE

* Note - Double time after 10 hours on Saturday.

** Note - Triple time on Labor Day if WORKED.

HOLIDAY

Paid: See (1) on HOLIDAY PAGE
Overtime: See (5, 6) on HOLIDAY PAGE

REGISTERED APPRENTICES

Wages per hour:

One year terms at the following percentage of Journeyworker's wage:

1st	2nd	3rd	4th
60%	70%	75%	80%

Supplemental Benefits per hour:

1st	\$ 9.76
2nd	13.34
3rd	31.54
4th	31.54

3-4

Ironworker

08/01/2026

JOB DESCRIPTION Ironworker

DISTRICT 3

ENTIRE COUNTIES

Cattaraugus, Chautauqua

PARTIAL COUNTIES

Allegany: Entire county except the Towns of Birdsall, Burns and Grove.

Erie: All except the Town of Grand Island north of Whitehaven Road.

Genesee: Only the Townships of Alabama, Alexander, Darien and Pembroke

Steuben: Only the Townships of Canisteo, Freemont, Greenwood, Hartsville, Hornell, Hornellsville, Howard, Jasper, Troupsburg and West Union

Wyoming: Only the Townships of Arcade, Attica, Bennington, Eagle, Gainesville, Java, Orangeville, Pike, Sheldon, Warsaw and Wethersfield.

WAGES

Per hour:	07/01/2026
Structural	\$ 38.43
Ornamental	38.43
Layout	38.43
Rodmen	38.43
Reinforcing	38.43

Welders	38.43
Riggers & Mach. Movers	38.43
Curtain Wall Erector	38.43
Window Erector	35.88
Fence Erector	36.75

SHIFT WORK

When shift work is mandated either in the job specification or by the contracting agency the following premiums apply:

10% for second shift work from 2:00PM - 7:00PM

15% for third shift work from 7:00PM - 12:00AM

When a single irregular shift is worked outside the standard workday with the start times based on second and third shifts, a 10% premium on hours worked applies.

SUPPLEMENTAL BENEFITS

Per hour:

Fence Erectors	\$ 33.79
All others	35.29

OVERTIME PAY

See (B, E, Q) on OVERTIME PAGE

HOLIDAY

Paid: See (1) on HOLIDAY PAGE

Overtime: See (5, 6) on HOLIDAY PAGE

REGISTERED APPRENTICES

Wages per hour:

One year terms at the following wage:

1st	2nd	3rd	4th
\$ 21.50	\$ 23.50	\$ 25.50	\$ 27.50

Supplemental benefits per hour:

1st	2nd	3rd	4th
\$ 15.85	\$ 26.21	\$ 27.69	\$ 29.17

3-6

Ironworker

08/01/2026

JOB DESCRIPTION Ironworker

DISTRICT 3

ENTIRE COUNTIES

Niagara

PARTIAL COUNTIES

Erie: Only that portion of the Township of Grand Island north of Whitehaven Road.

Orleans: Only the Townships of Ridgeway, Shelby and Yates.

WAGES

Per hour: 07/01/2026

Structural	\$ 38.25
Ornamental	38.25
Reinforcing	38.25
Rigger & Mach. Mover	38.25
Pre-Engineered	38.25
Fence Erector	38.25
Pre-Cast Erector	38.25
Welder	38.25
Window Erector	38.25

SHIFT WORK

When shift work is mandated either in the job specification or by the contracting agency the following premiums apply:

10% for second shift work from 2:00PM - 7:00PM

15% for third shift work from 7:00PM - 12:00AM

When a single irregular shift is worked outside the standard workday with the start times based on second and third shifts, a 10% premium on hours worked applies.

SUPPLEMENTAL BENEFITS

Per hour:

\$ 35.80

OVERTIME PAY

See (B, E, Q) on OVERTIME PAGE

HOLIDAY

Paid: See (1) on HOLIDAY PAGE
Overtime: See (5, 6) on HOLIDAY PAGE

REGISTERED APPRENTICES

Wages per hour:

One year terms at the following wage:

1st term	\$ 21.50
2nd term	23.50
3rd term	25.50
4th term	27.50

Supplemental benefits per hour:

1st term	\$ 14.03
2nd term	22.12
3rd term	23.27
4th term	24.43

3-9

Laborer - Building

08/01/2026

JOB DESCRIPTION Laborer - Building

DISTRICT 3

ENTIRE COUNTIES

Erie

PARTIAL COUNTIES

Cattaraugus: Only the Townships of Perrysburg and the Village Gowanda.

WAGES

CLASS A: Basic, Safety Man, Flagman, Tool Room Man, Nurseryman, Demolition Worker, Top Man, Wrecker, IBC Barriers Except on Structures, Guard Rail, Asphalt Shovelers, Foundation Laborer over 8' in Depth, Hod Carriers, Plaster Tender, Plaster Scaffold Builder, Pneumatic Gas, Electric Tool Operator including all forms of Busters, Jackhammers and Chipping Guns, Steel Burners.

CLASS B: Mortar Mixer, Asphalt Smoothers, Pneumatic Gas, Electric Tool Operator including all forms of Busters, Jackhammers and Chipping Guns over 8' in depth.

CLASS C: Worker on any Swing Scaffold, Blaster, Plumbing Laborer, Wagon Drill Operator, Bottomman (caisson or cofferdam), Laser Setter, Asphalt Rakers, Asphalt Screed Man.

CLASS D: Stone Cutter, Curb Setter and Flag Layer.

CLASS E: Asbestos Removal, Deleader.

CLASS F: Hazardous Waste Worker.

*For wearing of replaceable cartridge respirator in excess of 2 hours per day - add \$1.00 to Group A rate.

Per hour:	07/01/2026
Building Laborer:	
CLASS A	\$ 35.33
CLASS B	35.50
CLASS C	35.61
CLASS D	36.08
CLASS E	36.83
CLASS F	37.33

SUPPLEMENTAL BENEFITS

Per hour:
\$ 28.25

OVERTIME PAY

See (B, E, E2, Q) on OVERTIME PAGE

HOLIDAY

Paid: See (22) on HOLIDAY PAGE
Overtime: See (5, 6) on HOLIDAY PAGE

REGISTERED APPRENTICES

Wages per hour:

Hour terms at the following percentage of Journeyworker's wage:

0 to 1500 to 3000 to 4000
70% 80% 90%

Supplemental benefits per hour:

\$ 28.25

3-210b

Laborer - Heavy&Highway

08/01/2026

JOB DESCRIPTION Laborer - Heavy&Highway

DISTRICT 3

ENTIRE COUNTIES

Erie

WAGES

Heavy/Highway Laborer:

GROUP A: Basic, Drill Helper, Flagman, Outboard and Hand Boats, Demolition Worker, Nurseryman, IBC Barriers (except on structures), Guard Rails, Road Markers.

GROUP B: Grade Checker, Chain Saw, Concrete Aggregate Bin, Concrete Bootmen, Gin Buggy, Hand or Machine Vibrator, Jack Hammer, Mason Tender, Mortar Mixer, Pavement Breaker, Handlers of Steel Mesh, Small Generators for Laborers' Tools, Pipe Layers, Vibrator Type Rollers, Tamper, Drill Doctor, Tail or Screw Operator on Asphalt Paver, Water Pump Operators (2" and Single Diaphragm), Nozzle (Asphalt, Guniting, Seeding, and Sand Blasting), Laborers on Chain Link Fence Erection, Rock Splitter and Power Unit, Pusher Type Concrete Saw and all other Gas, Electric, Oil and Air Tool Operators, Wrecking Laborer and Laser Man.

GROUP C: All Rock or Drilling Machine Operators (Except Quarry Master and Similar Type), Acetylene Torch Operators, Asphalt Raker, Powderman and Welder.

GROUP D: Blasters, Curb and Flatwork Formsetter not on structures, Stone or Granite Curb Setters and Stone Cutter.

Per hour: 07/01/2026

Heavy/Highway Laborer:

GROUP A	\$ 39.00
GROUP B	39.20
GROUP C	39.40
GROUP D	39.60

For all Deleader & Asbestos work add \$1.50 to Group A rate.

For all Hazardous waste work add \$2.00 to Group A rate.

For wearing of replaceable cartridge respirator in excess of 2 hours per day - add \$1.00 to Group A rate.

Sewer/Water Laborer:

GROUP A: Basic, Flagman, Top man, Wreckers.

GROUP B: Foundation, Plaster tender, Scaffold bootman, Pneumatic, gas, electric, tool operator, jackhammer, chipping guns.

GROUP C: Mortar Mixer, over 8 ft. in depth.

GROUP D: Pavement formsetter, Steelburner, Caisson, Wagon Drill Oper., PipeLayer, Swing Scaffold.

GROUP E: Utility pave driver, Laser operator.

GROUP F: Blaster.

Per hour: 07/01/2026

Sewer/Water Laborer:

GROUP A	\$ 39.00
GROUP B	39.10
GROUP C	39.15
GROUP D	39.25

GROUP E 39.60
GROUP F 40.00

For all Deleader & Asbestos work add \$1.50 to Group A rate.

For all Hazardous waste work add \$2.00 to Group A rate.

SHIFT WORK

An additional \$4.00 per hour is required when an irregular work shift starting any time from 3:30PM to 1:00AM is mandated either in the job specification or by the contracting agency.

SUPPLEMENTAL BENEFITS

Per hour:

\$ 31.31

OVERTIME PAY

See (B, E, Q) on OVERTIME PAGE

HOLIDAY

Paid: See (5, 6) on HOLIDAY PAGE

Overtime: See (5, 6) on HOLIDAY PAGE

REGISTERED APPRENTICES

Wages per hour:

Hour terms at the following percentage of Journeyworker's wage:

0 to 1500 to 3000 to 4000
70% 80% 90%

Supplemental benefits per hour:

\$ 31.31

3-210h

Laborer - Tunnel

08/01/2026

JOB DESCRIPTION Laborer - Tunnel

DISTRICT 3

ENTIRE COUNTIES

Erie

WAGES

CLASS A: Mole Nipper, Powder Handler, Changehouse Attendant and Top Laborer.

CLASS B: Air Spade, Jackhammer, Pavement Breaker.

CLASS C: Top Bell.

CLASS D: Bottom Bell, Side or Roofbelt Driller, Maintenance men, Burners, Block Layers, Rodmen, Caulkers, Miners helper, Trackmen, Nippers, Derailmen, Electrical Cablemen, Hosemen, Groutmen, Gravelmen, Form Workers, Movers and Shaftmen, Conveyor men.

CLASS E: Powder Monkey.

CLASS F: Blasters, Ironmen and Cement Worker, Miner, Welder, Heading Driller.

CLASS G: Steel Erectors, Piledriver, Rigger.

Per hour: 07/01/2026

Tunnel Laborer:

CLASS A \$ 40.50
CLASS B 40.65
CLASS C 40.75
CLASS D 41.25
CLASS E 41.35
CLASS F 41.75
CLASS G 42.00

For all Deleader & Asbestos work add \$1.50 to Class A rate.

For all Hazardous waste add \$2.00 to Class A rate.

For wearing of replaceable cartridge respirator in excess of 2 hours per day - add \$1.00 to Group A rate.

SHIFT WORK

An additional \$4.00 per hour is required when a single irregular work shift starting any time from 3:30PM to 1:00AM is mandated either in the job specification or by the contracting agency.

SUPPLEMENTAL BENEFITS

Per hour:

\$ 31.31

OVERTIME PAY

See (B, E, Q) on OVERTIME PAGE

HOLIDAY

Paid: See (5, 6) on HOLIDAY PAGE

Overtime: See (5, 6) on HOLIDAY PAGE

REGISTERED APPRENTICES

Wages per hour:

Hour terms at the following percentage of Journeyworker's wage:

0 to 1500 to 3000 to 4000
70% 80% 90%

Supplemental benefits per hour:

\$ 31.31

3-210t

Lineman Electrician

08/01/2026

JOB DESCRIPTION Lineman Electrician

DISTRICT 6

ENTIRE COUNTIES

Albany, Allegany, Broome, Cattaraugus, Cayuga, Chautauqua, Chemung, Chenango, Clinton, Columbia, Cortland, Delaware, Dutchess, Erie, Essex, Franklin, Fulton, Genesee, Greene, Hamilton, Herkimer, Jefferson, Lewis, Livingston, Madison, Monroe, Montgomery, Niagara, Oneida, Onondaga, Ontario, Orange, Orleans, Oswego, Otsego, Putnam, Rensselaer, Rockland, Saratoga, Schenectady, Schoharie, Schuyler, Seneca, St. Lawrence, Steuben, Sullivan, Tioga, Tompkins, Ulster, Warren, Washington, Wayne, Wyoming, Yates

WAGES

A Lineman/Technician shall perform all overhead aerial work. A Lineman/Technician on the ground will install all electrical panels, connect all grounds, install and connect all electrical conductors, assembly of all electrical materials, conduit, pipe, or raceway; placing of fish wire; pulling of cables, wires or fiber optic cable through such raceways; splicing of conductors; dismantling of such structures, lines or equipment.

Crane Operators: Operation of any type of crane on line projects.

Crawler Backhoe: Operation of tracked excavator/crawler backhoe with 1/2 yard bucket or larger on line projects.

Digging Machine Operator: All other digging equipment and augering on line projects.

A Groundman/Truck Driver shall: Build and set concrete forms, handle steel mesh, set footer cages, transport concrete in a wheelbarrow, hand or machine concrete vibrator, finish concrete footers, mix mortar, grout pole bases, cover and maintain footers while curing in cold weather, operate jack hammer, operate hand pavement breaker, tamper, concrete and other motorized saws, as a drill helper, operate and maintain generators, water pumps, chainsaws, sand blasting, operate mulching and seeding machine, air tools, electric tools, gas tools, load and unload materials, hand shovel and/or broom, prepare and pour mastic and other fillers, assist digger operator/equipment operator in ground excavation and restoration, landscape work and painting. Only when assisting a lineman technician, a groundman/truck driver may assist in installing conduit, pipe, cables and equipment.

NOTE: Includes Teledata Work within ten (10) feet of High Voltage Transmission Lines. Also includes digging of holes for poles, anchors, footer, and foundations for electrical equipment.

-----Below rates applicable on all overhead and underground distribution and maintenance work, and all overhead and underground transmission line work and the installation of fiber optic cable where no other construction trades are or have been involved. Includes access matting for line work.

Per hour:	07/01/2026	05/03/2027	05/01/2028
Group A:			
Lineman, Technician	\$ 64.37	\$ 66.84	\$ 69.47
Crane, Crawler Backhoe	64.37	66.84	69.47
Welder, Cable Splicer	64.37	66.84	69.47
Group B:			
Digging Mach. Operator	\$ 57.93	\$ 60.16	\$ 62.52
Group C:			
Tractor Trailer Driver	\$ 54.71	\$ 56.81	\$ 59.05
Groundman, Truck Driver	51.50	53.47	55.58

Equipment Mechanic	51.50	53.47	55.58
Group D: Flagger	\$ 35.40	\$ 36.76	\$ 38.21

Additional 3% per hour above regular rate for entire crew when a helicopter is used. This will increase to 5% on May 03, 2027.

-----Below rates applicable on all electrical sub-stations, switching structures, fiber optic cable and all other work not defined as "Utility outside electrical work." Includes access matting for line work.

Group A:			
Lineman, Technician	\$ 64.37	\$ 66.84	\$ 69.47
Crane, Crawler Backhoe	64.37	66.84	69.47
Cable Splicer	70.81	73.52	76.42
Certified Welder, Pipe Type Cable	\$ 67.59	\$ 70.18	\$ 72.94
Group B:			
Digging Mach. Operator	\$ 57.93	\$ 60.16	\$ 62.52
Group C:			
Tractor Trailer Driver	\$ 54.71	\$ 56.81	\$ 59.05
Groundman, Truck Driver	51.50	53.47	55.58
Equipment Mechanic	51.50	53.47	55.58
Group D:			
Flagger	\$ 35.40	\$ 36.76	\$ 38.12

Additional 3% per hour above regular rate for entire crew when a helicopter is used. This will increase to 5% on May 03, 2027.

-----Below rates applicable on all railroad catenary installation and maintenance, third rail installation, bonding of rails and pipe type cable and installation of fiber optic cable. Includes access matting for line work.

Group A:			
Lineman, Tech, Welder	\$ 65.81	\$ 68.34	\$ 71.03
Crane, Crawler Backhoe	65.81	68.34	71.03
Cable Splicer	72.39	75.17	78.13
Certified Welder, Pipe Type Cable	69.10	71.76	74.58
Group B:			
Digging Mach. Operator	\$ 59.23	\$ 61.51	\$ 63.93
Group C:			
Tractor Trailer Driver	\$ 55.94	\$ 58.09	\$ 60.38
Groundman, Truck Driver	52.65	54.67	56.82
Equipment Mechanic	52.65	54.67	56.82
Group D:			
Flagger	\$ 36.20	\$ 37.59	\$ 39.07

Additional 3% per hour above regular rate for entire crew when a helicopter is used. This will increase to 5% on May 03, 2027.

-----Below rates applicable on all overhead and underground transmission line work & fiber optic cable where other construction trades are or have been involved. This applies to transmission line work only, not other construction. Includes access matting for line work.

Group A:			
Lineman, Tech, Welder	\$ 67.10	\$ 69.68	\$ 72.43
Crane, Crawler Backhoe	67.10	69.68	72.43
Group B:			
Digging Mach. Operator	\$ 60.39	\$ 62.71	\$ 65.19
Group C:			
Tractor Trailer Driver	\$ 57.04	\$ 59.23	\$ 61.57
Groundman, Truck Driver	53.68	55.74	57.94
Equipment Mechanic	53.68	55.74	57.94

Group D:			
Flagger	\$ 36.91	\$ 38.32	\$ 39.84

Additional 3% per hour above regular rate for entire crew when a helicopter is used. This will increase to 5% on May 03, 2027.

SHIFT WORK

The following rates will apply on all contracting agency mandated multiple shifts of at least five (5) days duration worked between the hours listed below:

1ST SHIFT	8:00 AM to 4:30 PM REGULAR RATE
2ND SHIFT	4:30 PM to 1:00 AM REGULAR RATE PLUS 17.3 %
3RD SHIFT	12:30 AM to 9:00 AM REGULAR RATE PLUS 31.4 %

SUPPLEMENTAL BENEFITS

Per hour:

	07/01/2026	05/03/2027	05/01/2028
Group A	\$ 32.91*	\$ 34.41*	\$ 35.91*
Group B	\$ 28.91*	\$ 30.41*	\$ 31.91*
Group C	\$ 28.51*	\$ 29.71*	\$ 30.91*
Group D	\$ 28.41*	\$ 29.54*	\$ 30.67*

*NOTE: Plus 7% of the hourly wage paid. The 7% is based on the straight time rate or the premium time rate.

OVERTIME PAY

See (B, E, Q, X) on OVERTIME PAGE. NOTE: Double time for all emergency work designated by the Contracting Agency.

WAGE CAP - Double the straight time hourly base wage shall be the maximum hourly wage compensation for any hour worked. Contractor is still responsible to pay the hourly benefit amount for each hour worked.

HOLIDAY

Paid See (5, 6, 8, 15, 25) on HOLIDAY PAGE

Overtime See (5, 6, 8, 15, 25) on HOLIDAY PAGE

NOTE: All paid holidays falling on Saturday shall be observed on the preceding Friday. All paid holidays falling on Sunday shall be observed on the following Monday. Supplements for holidays paid at straight time.

REGISTERED APPRENTICES

WAGES per hour: 1000 hour terms at the following percentage of the applicable Journeyworker's Lineman wage.

1st	2nd	3rd	4th	5th	6th	7th
60%	65%	70%	75%	80%	85%	90%

SUPPLEMENTAL BENEFITS per hour:

	07/01/2026	05/03/2027	05/01/2028
All terms:	\$ 28.41*	\$ 29.54*	\$ 30.67*

*NOTE: Plus 7% of the hourly wage paid. The 7% is based on the straight time rate or the premium time rate.

6-1249a

Lineman Electrician - Teledata

08/01/2026

JOB DESCRIPTION Lineman Electrician - Teledata

DISTRICT 6

ENTIRE COUNTIES

Albany, Allegany, Broome, Cattaraugus, Cayuga, Chautauqua, Chemung, Chenango, Clinton, Columbia, Cortland, Delaware, Dutchess, Erie, Essex, Franklin, Fulton, Genesee, Greene, Hamilton, Herkimer, Jefferson, Lewis, Livingston, Madison, Monroe, Montgomery, Niagara, Oneida, Onondaga, Ontario, Orange, Orleans, Oswego, Otsego, Putnam, Rensselaer, Rockland, Saratoga, Schenectady, Schoharie, Schuyler, Seneca, St. Lawrence, Steuben, Sullivan, Tioga, Tompkins, Ulster, Warren, Washington, Wayne, Westchester, Wyoming, Yates

WAGES

NOTE: Applies to all public work and covered private projects, including those receiving ConnectAll funding subject to LL 224-E, solicited prior to July 1, 2025. For all projects, excluding dial-up internet access service, solicited on or after July 1, 2025, please see BROADBAND

Per hour:	07/01/2026	01/04/2027	01/03/2028	01/01/2029
Cable Splicer	\$ 42.03	\$ 43.30	\$ 44.59	\$ 45.93
Installer, Repairman	39.89	41.09	42.32	43.59
Teledata Lineman	39.89	41.09	42.32	43.59
Tech., Equip. Operator	39.89	41.09	42.32	43.59
Groundman/Flagger	21.14	21.78	22.43	23.10

For outside work, stopping at first point of attachment (demarcation).

NOTE: EXCLUDES Teledata work within ten (10) feet of High Voltage (600 volts and over) transmission lines. For this work, please see LINEMAN.

SHIFT WORK

The following rates apply when the contracting agency mandates multiple shifts of at least five (5) days duration are worked. When two (2) or three (3) shifts are worked the following rates apply:

1ST SHIFT	REGULAR RATE
2ND SHIFT	REGULAR RATE PLUS 10%
3RD SHIFT	REGULAR RATE PLUS 15%

SUPPLEMENTAL BENEFITS

Per hour:

Journeyworker	\$ 6.18 plus 4%*	\$ 6.43 plus 5%*	\$ 6.43 plus 6%*	\$ 6.68 plus 7%*
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*NOTE: The percentage (%) listed above is based on the hourly wage paid, straight time rate or premium time rate.

OVERTIME PAY

See (B, E, Q) on OVERTIME PAGE

WAGE CAP - Double the straight time hourly base wage shall be the maximum hourly wage compensation for any hour worked. Contractor is still responsible to pay the hourly benefit amount for each hour worked.

HOLIDAY

Paid: See (1) on HOLIDAY PAGE
Overtime: See (5, 6, 16) on HOLIDAY PAGE

6-1249LT - Teledata

Lineman Electrician - Traffic Signal, Lighting

08/01/2026

JOB DESCRIPTION Lineman Electrician - Traffic Signal, Lighting

DISTRICT 6

ENTIRE COUNTIES

Albany, Allegany, Broome, Cattaraugus, Cayuga, Chautauqua, Chemung, Chenango, Clinton, Cortland, Delaware, Erie, Essex, Franklin, Fulton, Genesee, Greene, Hamilton, Herkimer, Jefferson, Lewis, Livingston, Madison, Monroe, Montgomery, Niagara, Oneida, Onondaga, Ontario, Orleans, Oswego, Otsego, Rensselaer, Saratoga, Schenectady, Schoharie, Schuyler, Seneca, St. Lawrence, Steuben, Sullivan, Tioga, Tompkins, Warren, Washington, Wayne, Wyoming, Yates

WAGES

Lineman/Technician shall perform all overhead aerial work. A Lineman/Technician on the ground will install all electrical panels, connect all grounds, install and connect all electrical conductors which includes, but is not limited to road loop wires; conduit and plastic or other type pipes that carry conductors, flex cables and connectors, and to oversee the encasement or burial of such conduits or pipes.

Crane Operators: Operation of any type of crane on Traffic Signal/Lighting projects.

Crawler Backhoe: Operation of tracked excavator/crawler backhoe with 1/2 yard bucket or larger on Traffic Signal/Lighting projects.

Digging Machine Operator: All other digging equipment and augering on Traffic Signal/Lighting projects.

A Groundman/Truck Driver shall: Build and set concrete forms, handle steel mesh, set footer cages, transport concrete in a wheelbarrow, hand or machine concrete vibrator, finish concrete footers, mix mortar, grout pole bases, cover and maintain footers while curing in cold weather, operate jack hammer, operate hand pavement breaker, tamper, concrete and other motorized saws, as a drill helper, operate and maintain generators, water pumps, chainsaws, sand blasting, operate mulching and seeding machine, air tools, electric tools, gas tools, load and unload materials, hand shovel and/or broom, prepare and pour mastic and other fillers, assist digger operator/equipment operator in ground excavation and restoration, landscape work and painting. Only when assisting a lineman technician, a groundman/truck driver may assist in installing conduit, pipe, cables and equipment.

A flagger's duties shall consist of traffic control only.

Per hour:	07/01/2026	05/03/2027	05/01/2028
Group A:			
Lineman, Technician	\$ 55.31	\$ 57.40	\$ 59.64
Crane, Crawler Backhoe	55.31	57.40	59.64
Certified Welder	58.08	60.27	62.62
Group B:			
Digging Machine	\$ 49.78	\$ 51.66	\$ 53.68
Group C:			

Tractor Trailer Driver	\$ 47.01	\$ 48.79	\$ 50.69
Groundman, Truck Driver	44.25	45.92	47.71
Equipment Mechanic	44.25	45.92	47.71
Group D:			
Flagger	\$ 33.19	\$ 34.44	\$ 35.78

Above rates are applicable for installation, testing, operation, maintenance and repair on all Traffic Control (Signal) and Illumination (Lighting) projects, Traffic Monitoring Systems, and Road Weather Information Systems. Includes digging of holes for poles, anchors, footer foundations for electrical equipment; assembly of all electrical materials or raceway; placing of fish wire; pulling of cables, wires or fiber optic cable through such raceways; splicing of conductors; dismantling of such structures, lines or equipment.

SHIFT WORK

The following rates will apply on all contracting agency mandated multiple shifts of at least five (5) days duration worked between the hours listed below:

1ST SHIFT	8:00 AM TO 4:30 PM	REGULAR RATE
2ND SHIFT	4:30 PM TO 1:00 AM	REGULAR RATE PLUS 17.3%
3RD SHIFT	12:30 AM TO 9:00 AM	REGULAR RATE PLUS 31.4%

SUPPLEMENTAL BENEFITS

Per hour:

	07/01/2026	05/03/2027	05/01/2028
Group A	\$ 32.91*	\$ 34.41*	\$ 35.91*
Group B	\$ 28.91*	\$ 30.41*	\$ 31.91*
Group C	\$ 28.51*	\$ 29.71*	\$ 30.91*
Group D	\$ 28.41*	\$ 29.54*	\$ 30.67*

*NOTE: Plus 7% of the hourly wage paid. The 7% is based on the straight time rate or the premium time rate.

OVERTIME PAY

See (B, E, Q, X) on OVERTIME PAGE.

NOTE: Double time for all emergency work designated by the Contracting Agency.

WAGE CAP - Double the straight time hourly base wage shall be the maximum hourly wage compensation for any hour worked. Contractor is still responsible to pay the hourly benefit amount for each hour worked.

HOLIDAY

Paid: See (5, 6, 8, 15, 25) on HOLIDAY PAGE

Overtime: See (5, 6, 8, 15, 25) on HOLIDAY PAGE

NOTE: All paid holidays falling on Saturday shall be observed on the preceding Friday. All paid holidays falling on Sunday shall be observed on the following Monday. Supplements for holidays paid at straight time.

REGISTERED APPRENTICES

WAGES per hour: 1000 hour terms at the following percentage of the applicable Journeyworker's Lineman wage.

1st	2nd	3rd	4th	5th	6th	7th
60%	65%	70%	75%	80%	85%	90%

SUPPLEMENTAL BENEFITS per hour:

	07/01/2026	05/03/2027	05/01/2028
All terms:	\$ 28.41*	\$ 29.54*	\$ 30.67*

*NOTE: Plus 7% of the hourly wage paid. The 7% is based on the straight time rate or the premium time rate.

6-1249a-LT

Lineman Electrician - Tree Trimmer

08/01/2026

JOB DESCRIPTION Lineman Electrician - Tree Trimmer

DISTRICT 6

ENTIRE COUNTIES

Albany, Allegany, Broome, Cattaraugus, Cayuga, Chautauqua, Chemung, Chenango, Clinton, Columbia, Cortland, Delaware, Dutchess, Erie, Essex, Franklin, Fulton, Genesee, Greene, Hamilton, Herkimer, Jefferson, Lewis, Livingston, Madison, Monroe, Montgomery, Niagara, Oneida, Onondaga, Ontario, Orange, Orleans, Oswego, Otsego, Putnam, Rensselaer, Rockland, Saratoga, Schenectady, Schoharie, Schuyler, Seneca, St. Lawrence, Steuben, Sullivan, Tioga, Tompkins, Ulster, Warren, Washington, Wayne, Wyoming, Yates

WAGES

Applies to line clearance, tree work and right-of-way preparation on all new or existing energized overhead or underground electrical, telephone and CATV lines. This also includes stump removal near underground energized electrical lines including telephone and CATV lines.

Per hour:	07/01/2026	01/01/2027	01/03/2027
Tree Trimmer	\$ 34.67	\$ 34.67	\$ 36.23
Equipment Operator	30.67	30.67	32.05
Equipment Mechanic	30.67	30.67	32.05
Truck Driver	24.93	24.93	26.05
Groundman	20.53	20.53	21.45
Flagger	16.20	16.20*	16.93

* This rate may be subject to a minimum wage increase 01/01/2027.

SUPPLEMENTAL BENEFITS

Per hour:

Journeyworker	\$ 11.23*	\$ 11.48*	\$ 11.48*
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*NOTE: Plus 4.5% of the hourly wage paid. The 4.5% is based on the straight time rate or the premium time rate.

OVERTIME PAY

See (B, E, Q, X) on OVERTIME PAGE

WAGE CAP - Double the straight time hourly base wage shall be the maximum hourly wage compensation for any hour worked. Contractor is still responsible to pay the hourly benefit amount for each hour worked.

HOLIDAY

Paid: See (5, 6, 8, 15, 16, 25) on HOLIDAY PAGE

Overtime: See (5, 6, 8, 15, 16, 25) on HOLIDAY PAGE

NOTE: All paid holidays falling on a Saturday shall be observed on the preceding Friday. All paid holidays falling on a Sunday shall be observed on the following Monday.

6-1249TT

Mason - Building

08/01/2026

JOB DESCRIPTION Mason - Building

DISTRICT 3

ENTIRE COUNTIES

Erie, Niagara

PARTIAL COUNTIES

Cattaraugus: Only the Township of Perrysburg and the Village of Gowanda.

WAGES

Per hour:	07/01/2026	04/01/2027 Additional	04/01/2028 Additional
Plasterer	\$ 35.05	\$3.00	\$3.50

Additional \$5.00/hr for work on swing stage over 19 feet.

SUPPLEMENTAL BENEFITS

Per hour:

\$ 25.59

OVERTIME PAY

Exterior work only See (B, E, E2, Q) on OVERTIME PAGE.

All other work See (B, E, Q) on OVERTIME PAGE.

HOLIDAY

Paid: See (1) on HOLIDAY PAGE

Overtime: See (5, 6) on HOLIDAY PAGE

REGISTERED APPRENTICES

Wages per hour:

Hour terms at the following dollar amounts:

07/01/2026

0-2000	\$ 24.00
2000-4000	\$ 26.00
4000-6000	\$ 28.00
6000-8000	\$ 28.00

Supplemental benefits per hour:

Hour terms at the following dollar amounts:

0-2000	\$ 1.00
2000-4000	\$ 3.00
4000-6000	\$ 4.00
6000-8000	\$ 8.00

3-9-Pltr

Mason - Building**08/01/2026****JOB DESCRIPTION** Mason - Building**DISTRICT** 5**ENTIRE COUNTIES**

Erie, Niagara

PARTIAL COUNTIES

Cattaraugus: Only the Township of Perrysburg and the Village of Gowanda.

WAGES

Per Hour:	07/01/2026
Building:	
Bricklayer	\$ 40.44
Stone Mason	40.44
Tuck Pointer	40.44

SUPPLEMENTAL BENEFITS

Per hour:

Journeyworker	\$ 36.14
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OVERTIME PAY

See (B,E,E2*,Q) on OVERTIME PAGE

*Note - Or other conditions beyond the employer's control such as fire or natural disaster.

HOLIDAY

Paid:	See (1) on HOLIDAY PAGE
Overtime:	See (5, 6) on HOLIDAY PAGE

REGISTERED APPRENTICES

Wages per hour:

1250 hour terms at the following wage:

1st	2nd	3rd	4th
\$ 30.57	\$ 31.59	\$ 34.01	\$ 37.28

Supplemental benefits per hour:

1st	2nd	3rd	4th
\$ 15.28	\$ 21.94	\$ 27.20	\$ 31.62

5-3B-Z3

Mason - Building / Heavy&Highway**08/01/2026****JOB DESCRIPTION** Mason - Building / Heavy&Highway**DISTRICT** 3**ENTIRE COUNTIES**

Erie, Niagara

PARTIAL COUNTIES

Cattaraugus: Only the Township of Perrysburg and the Village of Gowanda.

WAGES

Per hour:	07/01/2026	07/01/2027 Additional	07/01/2028 Additional
Cement Mason	\$ 38.00	\$3.00	\$3.00

Additional \$1.00 per hr for Swing scaffold or exterior scaffold 42' or higher.

Additional \$1.00 per hr when required to wear respirator.

SUPPLEMENTAL BENEFITS

Per hour:

\$ 33.22

OVERTIME PAY

See (B, E, Q, V) on OVERTIME PAGE

HOLIDAY

Paid: See (1) on HOLIDAY PAGE
Overtime: See (5, 6) on HOLIDAY PAGE

REGISTERED APPRENTICES

Wages per hour:

750 hour terms at the following dollar amounts:

1st	2nd	3rd	4th	5th	6th
\$ 22.80	\$ 24.70	\$ 26.60	\$ 28.50	\$ 30.40	\$ 32.30

Supplemental benefits per hour:

1st	2nd	3rd	4th	5th	6th
\$ 8.86	\$ 11.86	\$ 11.80	\$ 15.05	\$ 17.20	\$ 20.54

3-111Erie

Mason - Heavy&Highway

08/01/2026

JOB DESCRIPTION Mason - Heavy&Highway

DISTRICT 5

ENTIRE COUNTIES

Allegany, Broome, Chautauqua, Chemung, Chenango, Cortland, Delaware, Genesee, Livingston, Monroe, Ontario, Orleans, Otsego, Schuyler, Seneca, Steuben, Tioga, Tompkins, Wayne, Wyoming, Yates

PARTIAL COUNTIES

Cattaraugus: Entire county except in the Township of Perrysburg and the Village of Gowanda only the Bricklayer classification applies.

Erie: Only the Bricklayer classification applies.

Niagara: Only the Bricklayer classification applies.

WAGES

Per hour: 07/01/2026

Heavy & Highway:

Cement Mason \$ 41.38

Bricklayer 41.38

SUPPLEMENTAL BENEFITS

Per hour:

Journeyworker \$ 27.03

OVERTIME PAY

See (B, E, E2, Q) on OVERTIME PAGE

HOLIDAY

Paid: See (1) on HOLIDAY PAGE
Overtime: See (5, 6) on HOLIDAY PAGE

REGISTERED APPRENTICES

Wages per hour:

1500 hour terms at the following percentage of Journeyworker's wage:

1st	2nd	3rd	4th
50%	60%	70%	80%

Supplemental benefits per hour:

1st term	\$ 15.78
2nd term	\$ 25.07
3rd term	\$ 25.56
4th term	\$ 26.05

5-3h

Mason - Tile Finisher

08/01/2026

JOB DESCRIPTION Mason - Tile Finisher

DISTRICT 5

ENTIRE COUNTIES

Erie, Niagara, Orleans

PARTIAL COUNTIES

Cattaraugus: Only the Township of Perrysburg and the Village of Gowanda.

WAGES

Per hour: 07/01/2026

Building:

Marble, Slate, Terrazzo \$ 38.21
and Tile Finisher

SUPPLEMENTAL BENEFITS

Per hour: \$ 20.47

OVERTIME PAY

See (B,E,E2*,Q) on OVERTIME PAGE

*Note - Or other conditions beyond the employer's control such as fire or natural disaster.

HOLIDAY

Paid: See (1) on HOLIDAY PAGE

Overtime: See (5, 6) on HOLIDAY PAGE

REGISTERED APPRENTICES

Wages per hour:

1200 hours 1st and 2nd term and 1300 hours 3rd term at the following wage:

1st	2nd	3rd
\$ 24.07	\$ 27.48	\$ 31.22

Supplemental benefits per hour:

1st	2nd	3rd
\$ 11.04	\$ 13.52	\$ 15.67

5-3TF - Z3

Mason - Tile Setter

08/01/2026

JOB DESCRIPTION Mason - Tile Setter

DISTRICT 5

ENTIRE COUNTIES

Erie, Niagara, Orleans

PARTIAL COUNTIES

Cattaraugus: Only in the Township of Perrysburg and the Village of Gowanda.

WAGES

Per hour: 07/01/2026

Building:

Marble, Slate, Terrazzo \$ 40.00
and Tile Setter

SUPPLEMENTAL BENEFITS

Per hour: \$ 36.08

OVERTIME PAY

See (B,E,E2*,Q) on OVERTIME PAGE

*Note - Or other conditions beyond the employer's control such as fire or natural disaster.

HOLIDAY

Paid: See (1) on HOLIDAY PAGE

Overtime: See (5, 6) on HOLIDAY PAGE

REGISTERED APPRENTICES

Wages per hour:

1250 hour terms at the following wage:

1st	2nd	3rd	4th
\$ 30.17	\$ 31.10	\$ 33.24	\$ 37.17

Supplemental benefits per hour:

1st	2nd	3rd	4th
\$ 15.38	\$ 22.08	\$ 27.57	\$ 31.28

Millwright

08/01/2026

JOB DESCRIPTION Millwright

DISTRICT 6

ENTIRE COUNTIES

Albany, Allegany, Broome, Cattaraugus, Cayuga, Chautauqua, Chemung, Chenango, Clinton, Columbia, Cortland, Delaware, Erie, Essex, Franklin, Fulton, Genesee, Greene, Hamilton, Herkimer, Jefferson, Lewis, Livingston, Madison, Monroe, Montgomery, Niagara, Oneida, Onondaga, Ontario, Orleans, Oswego, Otsego, Rensselaer, Saratoga, Schenectady, Schoharie, Schuyler, Seneca, St. Lawrence, Steuben, Sullivan, Tioga, Tompkins, Ulster, Warren, Washington, Wayne, Wyoming, Yates

WAGES

THE FOLLOWING RATE APPLIES TO ANY GAS/STEAM TURBINE AND OR RELATED COMPONENT WORK, INCLUDING NEW INSTALLATIONS OR MAINTENANCE AND ANY/ALL WORK PERFORMED WITHIN THE PROPERTY LIMITS OF A NUCLEAR FACILITY.

Per hour:	07/01/2026	07/01/2027 Additional	07/01/2028 Additional
Millwright - Power Generation	\$ 50.00	\$ 3.00*	\$ 3.00*

* To be allocated at a later date.

NOTE: ADDITIONAL PREMIUMS PAID FOR THE FOLLOWING WORK LISTED BELOW (amount subject to any overtime premiums):

- Certified Welders shall receive an additional \$ 1.75 per hour provided they are directed to weld.
- If a work site has been declared a hazardous site by the Owner and the use of protective gear (including, as a minimum, air purifying canister-type chemical respirators) is required, then that employee shall receive an additional \$ 1.50 per hour.
- An employee performing the work of a machinist shall receive an additional \$ 2.00 per hour. For the purposes of this premium to apply, a "machinist" is a person who uses a lathe, Bridgeport, milling machine or similar type of tool to make or modify parts.
- When performing work underground at 500 feet and below, the employee shall receive an additional \$ 1.00 per hour.

SUPPLEMENTAL BENEFITS

Per hour paid:

Journeyworker	\$ 28.45*
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*NOTE: Subject to OT premium

OVERTIME PAY

See (B, E, E2, Q, V) on OVERTIME PAGE

HOLIDAY

Paid: See (1) on HOLIDAY PAGE
Overtime: See (5, 6) on HOLIDAY PAGE

NOTE: Any holiday that falls on Sunday shall be observed the following Monday. Any holiday that falls on Saturday shall be observed the preceding Friday.

REGISTERED APPRENTICES

WAGES per hour: One year terms at the following percentage of Journeyworker's wage:

Appr. 1st year	65%*
Appr. 2nd year	75%*
Appr. 3rd year	80%*
Appr. 4th year	90%*

*NOTE: Additional premium for the following work listed below:

Certified Welder	\$ 1.75
Hazardous Waste Work	1.50
Machinist	2.00
Underground (500' and below)	1.00

SUPPLEMENTAL BENEFITS per hour:

Appr. 1st year	\$ 11.96
Appr. 2nd year	23.50
Appr. 3rd year	25.15
Appr. 4th year	26.80

6-1163Power

Millwright

08/01/2026

JOB DESCRIPTION Millwright

DISTRICT 12

ENTIRE COUNTIES

Erie, Genesee, Niagara

WAGES

Per hour:	07/01/2026	07/01/2027 Additional	07/01/2028 Additional
Building	\$ 46.23	\$3.50*	\$3.50*
Heavy & Highway**	\$ 49.73		

* To be allocated at a later date

NOTE ADDITIONAL PREMIUMS PAID FOR THE FOLLOWING WORK LISTED BELOW (amount subject to any overtime premiums):

**H/H work performed on hazardous waste sites where employees are required to wear protective gear shall receive an additional \$2.00 per hour.

- If a building work site has been declared a hazardous site and the use of protective gear (including, at a minimum, air purifying canister-type chemical respirators) are required, then that employee shall receive a \$1.50 premium per hour.

- Certified Welders shall receive \$1.75 per hour in addition to the current Millwright's rate provided he/she is directed to perform certified welding.

- An employee performing work on site as a machinist shall receive \$2.00 per hour in addition to the current Building & Heavy Highway Millwright's rate. For the purposes of this premium to apply, a "machinist" is a person who uses a lathe, Bridgeport, milling machine or similar type of tool to make or modify parts.

- When performing work underground at 500 feet and below, the employee shall receive an additional \$1.00 per hour.

SUPPLEMENTAL BENEFITS

Per hour Paid:

All Classifications \$ 32.29

OVERTIME PAY

See (B, E, E2, Q) on OVERTIME PAGE

HOLIDAY

Paid: See (1) on HOLIDAY PAGE
Overtime: See (5, 6) on HOLIDAY PAGE

REGISTERED APPRENTICES

Wages per hour:

(1)year terms at the following percentage of Journeyworker's rate:

1st	2nd	3rd	4th
65%*	75%*	80%*	90%*

* NOTE ADDITIONAL PREMIUMS PAID FOR THE FOLLOWING WORK LISTED BELOW (amount subject to any overtime premiums):

Certified Welder	\$ 1.75
Hazardous Waste (Bldg)	1.50
Hazardous Waste (H/H)	2.00
Machinist	2.00
Underground (500' and below)	1.00

SUPPLEMENTAL BENEFITS per hour:

1st	2nd	3rd	4th
\$ 11.96	\$ 26.19	\$ 28.22	\$ 30.26

12-1163-Gen/Erie/Nia

Operating Engineer

08/01/2026

JOB DESCRIPTION Operating Engineer

DISTRICT 12

ENTIRE COUNTIES

Cattaraugus, Chautauqua, Erie, Niagara, Orleans, Wyoming

PARTIAL COUNTIES

Genesee: The portion of the county that lies west of a line down the center of Route 98 excluding that area that lies within the City of Batavia.

WAGES

07/01/2026

Per Hour:

Concrete Pump Operator \$ 49.75
(Up to 46 Meters)

Concrete Pump Operator 54.21
(46 Meters or Larger)

- Additional \$ 2.50 per hour for Hazardous Work Sites.

SUPPLEMENTAL BENEFITS

07/01/2026

01/01/2027

Per Hour:	\$ 33.90	\$ 34.15
At Time and a Half	38.50	38.75
At Double Time	43.10	43.35

OVERTIME PAY

See (B, E, Q) on OVERTIME PAGE

HOLIDAY

Paid: See (1) on HOLIDAY PAGE
Overtime: See (5, 6) on HOLIDAY PAGE

12-17Pump

Operating Engineer - Building

08/01/2026

JOB DESCRIPTION Operating Engineer - Building

DISTRICT 12

ENTIRE COUNTIES

Cattaraugus, Chautauqua, Erie, Niagara, Orleans, Wyoming

PARTIAL COUNTIES

Genesee: Only that portion of the county that lies west of a line down the center of Route 98 excluding that area that lies within the City of Batavia.

WAGES

CLASS A: Air Hoist, All Boom Type Equipment, All Pans and Carry-Alls, Archer Hoist, Asphalt Curb and Gutter Machines, Asphalt Roller, Asphalt Spreader or Paver, Automatic Fine Grade Machine (CMI or similar, first and second operator), Backhoe and Pullhoe, Backhoe and Pullhoe (tractor mounted, rubber tired), Back Filling Machine, Belt Placer (CMI or similar type), Bending Machine (Pipe), Bituminous Spreader and Mixer, Blacktop Plants (Automated and Non-automated), Blast or Rotary Drill (Truck or Track Mounted), Blower for Burning Brush, Boiler (when used for power), Boom Truck (excluding pick-up and delivery), Boring Machine, Bulldozer, Cableway, Cage Hoist, Caisson Auger, Central Mix Plant (and all concrete batching plants), Cherry Picker, Concrete Cleaning Decontamination Machine Operator, Concrete Curb and Gutter Machine, Concrete Curing Machine, Concrete Cutters (Vermeer or Similar Type), Concrete Mixer (over 1/2 cu yd.), Concrete Pavement Spreaders and Finishers, Concrete Paver, Conveyor, Core Drill, Crane, Crusher, Decon of Equipment, Derrick, Dragline, Dredge, Drill Rig (Tractor Mounted), Dual Drum Paver, Electric Pump used in conjunction with Well Point Systems, Elevating Grader (self propelled or towed), Elevator, Excavator (all purpose, hydraulically operated), Farm Tractor with Accessories, Fine Grade Machine, Forklift, Front End Loader, Generator (10 outlets or more), Gradall, Grader, Grout or Gunite Machine, Head Tower, Heavy Equipment Robotics Operator/Mechanic, Helicopter (when used for hoisting), Hoist (one drum), Hoisting Engine, Horizontal Directional Drill Locator, Horizontal Directional Drill Operator, Hydraulic Boom, Hydraulic Hammer (self-propelled), Hydraulic Pipe Jack Machine (or similar type machine), Hydraulic Rock Expander (or similar type machine), Hydraulic System Pumps, Hydro Crane, Hydro Hammer (or similar type), Industrial Tractor, Jersey Spreader, Kolman Plant Loader (and similar type loaders), Laser Screed, Locomotive, Lubrication Truck, Maintenance Engineer, Maintenance, Lubrication Unit or Truck, Mine Hoist, Mixer for Stabilized Base (self-propelled), Monorail, Motorized Hydraulic Pin Puller, Motorized Hydraulic Seeder, Mucking Machine, Mulching Machine, Multiple Drum Hoist (more than one drum in use), Overhead Crane, Peine Crane (or similar type), Pile Driver, Plant Engineer, Pneumatic Mixer, Post Hole Digger and Driver, Power Broom, Pump Crete, Push Button Hoist, Push or Snatch Cat, Quarry Master or equivalent, Road Widener, Rock Bit Sharpener (all types), Roller (all), Rolling Machine (pipe), Rotomill, Scissors Trucks, Lift, or Boom Lift of any type (when used for hoisting), Scoopmobile, Shovel, SideBoom, Skidsteer/Bobcat (Similar Type), Skimmer, Slip Form Paver (CMI or similar type), Snorkel/Vacuum Truck, Strato-Tower, Stump Chipping Machine, Tire Truck and Drivers performing tire repair (exclude outside vendor), Towed Roller, Tractor Drawn Belt-Type Grader/Loader, Tractor Shovel, Tractor with Towed Accessories, Tractor (when using winch power), Tractors, Trencher, Truck Crane, Truck Mechanic and Helper (exclude Teamsters when repairing their own trucks), Tunnel Shovel, Tube Finisher (CMI and similar type), Ultra High Pressure Waterjet Cutting Tool System Operator/Mechanic, Vacuum Blasting Machine Operator/Mechanic, Vibratory Compactor, Vibro Tamp, Well Drilling Machine, Well Point, Winch, Winch Truck with A Frame.

CLASS B: Aggregate Bin, Aggregate Plant, Apprentice Engineer, Apprentice Engineer Driver, Articulated Off Road Material Hauler, Boiler (used in conjunction with production), CMI and similar type Concrete Spreads (Apprentice Engineer), Cement Bin, Chipping Machine and Chip Spreader, Compressors (4 or less), Compressors (any size, but subject to other provisions for Compressors, Dust Collectors, Generators, Mechanical Heaters, Pumps, Welding Machines - four of any type or combination), Concrete Mixer (1/2 cu. yd. and under), Fireman, Form Tamper, Form Trucks (excluding Teamster or delivery), Fuel Truck or Drivers (exclude Teamster or delivery), Heaters, Heating Boiler (used for temporary heat), Helper on Lubrication Unit or Truck, Jeep Trencher, Power Heaterman, Power Plant in excess of 10 K.W., Pumps, Revinus Widener, Steam Boilers (if manning or license by local law is required), Steam Cleaner (when used for cleaning equipment on the job site), Welding Machine (1 machine over 300 amps or 2 or 3 machines regardless of amps).

Per hour:	07/01/2026	07/01/2027 Additional
Class A	\$ 52.53	\$ 6.00*
Class B	48.03	
Crane Operator:		
5 to 110 tons	57.53	
111 to 199 tons	58.53	
200 to 599 tons	59.53	
600 to 999 tons	61.53	
1000 tons +	62.53	
Tower Crane	58.53	

Cranes in Luffer Configuration additional \$5.00/Hr.

Cranes with external ballast (tray or wagon) additional \$5.00/Hr.

Additional \$2.50/hr. for Hazardous Work Site

Additional \$1.00/hr. for Tunnel Work

Additional \$8.00/hr. for Contracting agency Mandated Shift Work (Projects Bid After 7/1/2025)

* To be allocated at a later date.

SUPPLEMENTAL BENEFITS

Per Hour:

Journeyworker	\$ 37.39
At Time and one Half	46.11
At Double Time	54.83

OVERTIME PAY

See (B, E, *E2, P, V) on OVERTIME PAGE

* Only Saturdays between October 15th and April 15th.

- Overtime rate is 1.5X the hourly wage plus \$9.93/Hr.

- Double-Time calculation rate is 2X the hourly wage plus \$19.85/Hr.

HOLIDAY

Paid: See (5, 6) on HOLIDAY PAGE

Overtime: See (5, 6) on HOLIDAY PAGE

REGISTERED APPRENTICES

Wages per hour:

1 year Terms at the following wages:

1st	2nd	3rd	4th
\$ 45.03	\$ 46.03	\$ 47.03	\$ 48.03

Supplemental benefits Per Hour:

All Apprentices	\$ 36.99
At Time and One Half	45.51
At Double Time	54.03

12-17b

Operating Engineer - Heavy&Highway

08/01/2026

JOB DESCRIPTION Operating Engineer - Heavy&Highway

DISTRICT 12

ENTIRE COUNTIES

Chautauqua, Erie, Niagara, Orleans

WAGES

Marine Construction/Dredging

Class 1: Diver/Wet Tender, Engineer, Engineer(hydraulic dredge), Blaster.

Class 2(A): Crane, Backhoe Operator, Material Handler, ALL Self-propelled Drill Rigs, Mechanic/Welder, Asst. Engineer(hydraulic dredge), Leverman(hydraulic dredge), Diver/Dry Tender.

Class 2(B): Friction, Lattice Boom, or Crane License Certificate, Endorse Tug or Tow Boat Operator.

Class 3: Deck Equipment Operator, (Machineryman), Maintenance of Crane, Tug/Launch Operator, Loader/Dozer on Barge.

Class 4: Deck Equipment Operator and Machinery Man/Fireman on 4 equipment units or more, Off Road Trucks, Deck Hand, Tug Engineer, Crane Maintenance (50 tons and under/ backhoe 115,000lbs or less), Asst. Tug Operator, Blaster Helper.

Per hour: 07/01/2026

Class 1	\$ 56.00
Class 2(A)	54.50
Class 2(B)	57.50
Class 3	50.00
Class 4	45.50

Additional to be paid when working with Hazardous/Toxic Waste (based on EAP levels):

Level A - \$2.50/Hr.

Level B - 2.00/Hr.

Level C - 1.00/Hr.

Level D - 0.50/Hr.

SUPPLEMENTAL BENEFITS

Per Hour Paid:

ALL CLASSES \$ 36.81

OVERTIME PAY

See (B, E, I, *S, X) on OVERTIME PAGE

* If the holiday is worked

HOLIDAY

Paid: See (5, 6, 15, 25) on HOLIDAY PAGE

12-17 Marine

Operating Engineer - Heavy&Highway

08/01/2026

JOB DESCRIPTION Operating Engineer - Heavy&Highway

DISTRICT 12

ENTIRE COUNTIES

Cattaraugus, Chautauqua, Erie, Niagara, Orleans, Wyoming

PARTIAL COUNTIES

Genesee: Only that portion of the county that lies west of a line down the center of Route 98 excluding that area that lies within the City of Batavia.

WAGES

CLASS A: Air Hoist, All Boom Type Equipment, All Pans and Carry-All's, Asphalt Curb and Cutter Machines, Asphalt Roller, Asphalt Spreader or Paver, Automatic Fine Grade Machine (CMI or similar, first and second operator), Backhoe and Pullhoe (all), Back Filling Machine, Belt Placer (CMI or similar type), Bending Machine (pipe), Bituminous Spreader and Mixer, Blacktop Plant (all), Blast or Rotary Drill (Truck or Track Mounted), Blower for Burning Brush, Boiler (when used for power), Boom Truck, Boring Machine, Bulldozer, Cableway, Cage Hoist, Caisson Auger, Central Mix Plant (and all Concrete Batching Plants), Cherry Picker, Concrete Cleaning Decontamination Machine, Concrete Curb and Gutter Machine, Concrete Curing Machine, Concrete Mixer (over 1/2 cu. yd.), Concrete Pavement Spreaders and Finishers, Concrete Paver, Concrete Saw (self propelled), Conveyor, Conveying Vehicles Conveying Engineer's Equipment, Core Drill, Crane, Crusher, Decontamination of Equipment, Derrick, Dragline, Dredge, Drill Rig (Tractor Mounted), Dual Drum Paver, Electric Pump used in conjunction with Well Point Systems, Elevating Grader (self propelled or towed), Elevator, Excavator (all purpose, hydraulically operated), Farm Tractor with Accessories, Fine Grade Machine, Forklift, Front End Loader, Gradall, Grader, Grout or Guniting Machine, Head Tower, Heavy Equipment Robotics Operator/Mechanic, Hoist (all types), Hoisting Engine, Horizontal Directional Drill Locator, Horizontal Directional Drill Operator, Hydraulic Boom, Hydraulic Hammer (self propelled), Hydraulic Pipe Jack Machine, (or similar type machine), Hydraulic Rock Expander (or similar type machine), Hydraulic System Pumps, Industrial Tractor, Jersey Spreader, Kolman Plant Loader (and similar type Loaders), Laser Screed, Locomotive, Log Skidder (similar type), Maintenance Engineer, Maintenance, Lubrication Unit or Truck, Mine Hoist, Mixer for Stabilized Base (self propelled), Monorail, Motorized Hydraulic Pin Puller, Motorized Hydraulic Seeder, Mucking Machine, Mulching Machine, Overhead Crane, Parts Chasing, Peine Crane (or similar type), Pile Driver, Plant Engineer, Pneumatic Mixer, Post Hole Digger and Post Driver, Power Broom, Pumpcrete, Push Button Hoist, Push or Snatch Cat, Quarry Master (or equivalent), Road Widener, Rock Bit Sharpener (all types), Roller (all), Rolling Machine (Pipe), Rotomill, Scoopmobile, Shovel, Side Boom, Skidsteer/Bobcat (similar type), Skimmer, Slip Form Paver (CMI or similar, first and second operator), Snorkel/Vacuum Truck, Strato-Tower, Tire Truck & Repair, Towed Roller, Tractor Drawn Belt-Type Grader/Loader, Tractor Shovel, Tractor with Towed Accessories, Tractors (when using winch power), Trencher, Truck Crane, Tug Boats, Tunnel Shovel, Tube Finisher (CMI and similar), Vacuum Blasting Machine Operator/Mechanic, Vibratory Compactor, Vibro Tamp, Waterjet Cutting Tool System Operator/Mechanic (Ultra High Pressure), Well Drilling Machine, Well Point, Winch, Winch Truck with A Frame.

CLASS B: Aggregate Bin, Aggregate Plant, Apprentice Engineer, Apprentice Engineer Driver, Articulated Off Road Material Hauler, CMI and similar type Concrete Spreads (Apprentice Engineer), Cement Bin, Chipping Machine and Chip Spreader, Compressors (4 or less), Compressors: any size, but subject to other provisions for Compressors, Dust Collectors, Generators, Mechanical Heaters, Pumps, Welding Machines (four of any type or combination), Concrete Mixer (1/2 cu. yd. and under), Fireman, Form Tamper, Fuel Truck, Heating Boiler (used for temporary heat), Helper on Lubrication Unit or Truck, Jeep Trencher, Power Heaterman, Power Plant in excess of 10 K.W., Pumps (4" or over), Revinus Widener, Steam Cleaner, Stump Chipping Machine, Welding Machine (1 machine over 300 amps or 2 or 3 machines regardless of amps).

Operating Engineer- Heavy & Highway, Sewer (includes cleaning, lining & rehab), Water & Tunnel

Per hour:	07/01/2026	07/01/2027 Additional
Class A	\$ 52.39	\$ 5.50*
Class B	47.89	
Crane Operator:		
5 to 110 tons	57.39	
111 to 199 tons	58.39	
200 to 599 tons	59.39	
600 to 999 tons	61.39	
1000 tons +	62.39	
Tower Crane	58.39	

Cranes in Luffer Configuration additional \$5.00/Hr.

Cranes with external ballast (tray or wagon) additional \$5.00/Hr.

Additional \$2.50/hr. for Hazardous Work Site

Additional \$1.00/hr. for Tunnel Work

Additional \$8.00/hr. for Contracting agency Mandated Shift Work (Projects Bid After 7/1/2025)

* To be allocated at a later date.

SUPPLEMENTAL BENEFITS

Per hour:

Journeymen	\$ 37.36
At Time and a Half	\$ 46.06
At Double Time	\$ 54.77

OVERTIME PAY

See (B, E, Q) on OVERTIME PAGE

- Overtime rate is 1.5X the hourly wage plus \$9.93/Hr

- Double-Time Calculation rate is 2X the hourly wage plus \$19.85/Hr.

HOLIDAY

Paid: See (5, 6) on HOLIDAY PAGE

Overtime: See (5, 6) on HOLIDAY PAGE

REGISTERED APPRENTICES

Wages per hour:

Apprentices at 1 year terms

07/01/2026

1st	2nd	3rd	4th
\$ 44.89	\$ 45.89	\$ 46.89	\$ 47.89

Supplemental Benefits

All Apprentices	\$ 36.96
At Time and a Half	\$ 45.46
At Double Time	\$ 53.97

12-17 hh/sw/t

Operating Engineer - Survey Crew

08/01/2026

JOB DESCRIPTION Operating Engineer - Survey Crew

DISTRICT 12

ENTIRE COUNTIES

Albany, Allegany, Broome, Cattaraugus, Cayuga, Chautauqua, Chemung, Chenango, Clinton, Columbia, Cortland, Erie, Essex, Franklin, Fulton, Genesee, Greene, Hamilton, Herkimer, Jefferson, Lewis, Livingston, Madison, Monroe, Montgomery, Niagara, Oneida, Onondaga, Ontario, Orleans, Oswego, Otsego, Rensselaer, Saratoga, Schenectady, Schoharie, Schuyler, Seneca, St. Lawrence, Steuben, Tioga, Tompkins, Warren, Washington, Wayne, Wyoming, Yates

PARTIAL COUNTIES

Dutchess: The northern portion of the county from the northern boundary line of the City of Poughkeepsie, north.

WAGES

These rates apply to Building, Tunnel, and Heavy Highway.

Per hour:

SURVEY CLASSIFICATIONS:

Party Chief - One who directs a survey party and/or works independently.

Surveyor - One who operates the surveying instruments for measurements.

Survey Assistant - One who assists the Party Chief or Surveyor.

	07/01/2026	07/01/2027 Additional	07/01/2028 Additional
Party Chief	\$ 56.64	\$ 5.50*	\$ 5.50*
Surveyor	52.74	\$ 4.50*	\$ 4.50*
Surveyor Assistant	36.00	\$ 3.50*	\$ 3.50*

Additional \$3.00/hr. for Tunnel Work.

Additional \$2.50/hr. for EPA or DEC certified toxic or hazardous waste work.

*To be allocated at a later date.

SUPPLEMENTAL BENEFITS

Per hour worked:

Party Chief	\$ 32.45
Surveyor	\$ 32.45
Survey Assistant	\$ 20.60

OVERTIME PAY

See (B, Q) on OVERTIME PAGE

HOLIDAY

Paid: See (5, 6) on HOLIDAY PAGE

Overtime: See (5, 6) on HOLIDAY PAGE

REGISTERED APPRENTICES

WAGES: 1000 hour terms based on percentage of Surveyor wage:

07/01/2026		
0-1000	1001-2000	2001-3000
60%	70%	80%

SUPPLEMENTAL BENEFIT per hour worked:

All Terms: \$ 22.65

12-158-545 D.H.H.

Operating Engineer - Survey Crew - Consulting Engineer

08/01/2026

JOB DESCRIPTION Operating Engineer - Survey Crew - Consulting Engineer

DISTRICT 12

ENTIRE COUNTIES

Albany, Allegany, Broome, Cattaraugus, Cayuga, Chautauqua, Chemung, Chenango, Clinton, Columbia, Cortland, Erie, Essex, Franklin, Fulton, Genesee, Greene, Hamilton, Herkimer, Jefferson, Lewis, Livingston, Madison, Monroe, Montgomery, Niagara, Oneida, Onondaga, Ontario, Orleans, Oswego, Otsego, Rensselaer, Saratoga, Schenectady, Schoharie, Schuyler, Seneca, St. Lawrence, Steuben, Tioga, Tompkins, Warren, Washington, Wayne, Wyoming, Yates

PARTIAL COUNTIES

Dutchess: The northern portion of the county from the northern boundary line of the City of Poughkeepsie, north.

WAGES

These rates apply to feasibility and preliminary design surveying, line and grade surveying for inspection or supervision of construction when performed under a Consulting Engineer Agreement.

Per hour:

SURVEY CLASSIFICATIONS:

Party Chief - One who directs a survey party and/or works independently

Surveyor - One who operates the surveying instruments for measurements

Survey Assistant - One who assists the Party Chief or Surveyor.

	07/01/2026	07/01/2027 Additional	07/01/2028 Additional
Party Chief	\$ 56.64	\$ 5.50*	\$ 5.50*
Surveyor	52.74	\$ 4.50*	\$ 4.50*
Survey Assistant	36.00	\$ 3.50*	\$ 3.50*

Additional \$3.00/hr. for Tunnel Work.

Additional \$2.50/hr. for EPA or DEC certified toxic or hazardous waste work.

*To be allocated at a later date.

SUPPLEMENTAL BENEFITS

Per hour worked:

Party Chief	\$ 32.45
Surveyor	\$ 32.45
Survey Assistant	\$ 20.60

OVERTIME PAY

See (B, Q) on OVERTIME PAGE

HOLIDAY

Paid: See (5, 6) on HOLIDAY PAGE

Overtime: See (5, 6) on HOLIDAY PAGE

REGISTERED APPRENTICES

WAGES: 1000 hour terms based on percentage of Surveyor wage:

07/01/2026		
0-1000	1001-2000	2001-3000
60%	70%	80%

SUPPLEMENTAL BENEFIT per hour worked:

All Terms: \$22.65

12-158-545 DCE

Painter

08/01/2026

JOB DESCRIPTION Painter

DISTRICT 3

ENTIRE COUNTIES

Allegany, Erie, Genesee, Niagara, Orleans, Wyoming

PARTIAL COUNTIES

Cattaraugus: Entire County except the Townships of Conewango, Leon, Napoli, New Albion, Randolph and South Valley.

Chautauqua: Only the Townships of Awkright, Dunkirk, Hanover, Pomfret, Portland, Sheridan and Villenova.

Livingston: Only the Townships of North Dansville, Nunda, Ossian, Portage, Sparta, Spring Water and West Sparta.

Steuben: Only the Townships of Avoca, Canisteo, Cohocton, Dansville, Fremont, Greenwood, Hartsville, Hornellsville, Howard, Jasper, Prattsburg, Pulteney, Troupsburg, Tuscarora, Urbana, Wayland, Wayne, Woodhull, West Union, Wheeler, and the City of Hornell.

WAGES

Per hour: 07/01/2026

Basic Rate (Brush & Roll)	\$ 34.00
Spray painting, wallcovering	34.00

Abrasive and hydroblasting	34.00
Taping/DryWall Finisher	35.00
Skeleton Steel*	34.75

* Skeleton Steel: No floors, walls or ceiling are constructed, including radio and television towers, flagpoles, smokestacks and cranes.

SUPPLEMENTAL BENEFITS

Per hour:

Basic Rate (Brush & Roll)	
Spray painting, wallcovering	
Abrasive and hydroblasting and	
Skeleton Steel	\$ 29.44
Taping/Drywall Finisher	\$ 29.94

OVERTIME PAY

Exterior work only See (B, E2, E4, F, R) on OVERTIME PAGE.

All other work See (B, F, R) on OVERTIME PAGE.

HOLIDAY

Paid: See (1) on HOLIDAY PAGE
Overtime: See (5, 6) on HOLIDAY PAGE

REGISTERED APPRENTICES

Wages per hour:

Painter/Decorator: 750 hour terms at the following wage:

1st	2nd	3rd	4th	5th	6th	7th	8th
\$ 18.00	\$ 19.00	\$ 20.00	\$ 21.00	\$ 22.00	\$ 23.00	\$ 24.00	\$ 25.00

Taper/Drywall Finisher: 750 hour terms at the following wage:

1st	2nd	3rd	4th	5th	6th
\$ 20.00	\$ 21.00	\$ 22.00	\$ 23.00	\$ 24.00	\$ 25.00

Supplemental benefits per hour:

Painter/Decorator and Taper/Drywall Finisher:

1st	2nd	3rd	4th	5th	6th	7th	8th
\$ 3.35	\$ 5.35	\$ 6.35	\$ 6.85	\$ 7.35	\$ 7.85	\$ 8.35	\$ 8.60

3-4-Buf, Nia, Olean

Painter

08/01/2026

JOB DESCRIPTION Painter

DISTRICT 3

ENTIRE COUNTIES

Allegany, Broome, Cattaraugus, Cayuga, Chautauqua, Chemung, Chenango, Cortland, Delaware, Erie, Genesee, Herkimer, Jefferson, Lewis, Livingston, Madison, Monroe, Niagara, Oneida, Onondaga, Ontario, Orleans, Oswego, Otsego, Schuyler, Seneca, St. Lawrence, Steuben, Tioga, Tompkins, Wayne, Wyoming, Yates

WAGES

Per hour: 07/01/2026

Bridge	\$ 47.39
Tunnel	47.39
Tank*	45.39

For Bridge Painting Contracts, ALL WORKERS on and off the bridge (including Flagmen) are to be paid Painter's Rate; the contract must be ONLY for Bridge Painting.

*Tank rate applies to indoor and outdoor tanks, tank towers, standpipes, digesters, waste water treatment tanks, chlorinator tanks, etc. Covers all types of tanks including but not limited to steel tanks, concrete tanks, fiberglass tanks, etc.

SHIFT WORK

Note an additional \$1.50 per hour is required when the contracting agency or project specification requires any shift to start prior to 6:00am or after 12:00 noon.

SUPPLEMENTAL BENEFITS

Per hour: \$ 32.81

OVERTIME PAY

Exterior work only See (B, E2, E4, F, R) on OVERTIME PAGE.

All other work See (B, F, R) on OVERTIME PAGE.

HOLIDAY

Paid: See (1) on HOLIDAY PAGE
Overtime: See (5, 6) on HOLIDAY PAGE

REGISTERED APPRENTICES

Wages per hour:

750 hour terms at the following wage:

1st	2nd	3rd	4th	5th	6th
\$ 24.00	\$ 26.00	\$ 28.00	\$ 30.00	\$ 34.00	\$ 38.00

Supplemental benefits per hour:

1st	2nd	3rd	4th	5th	6th
\$ 6.60	\$ 6.95	\$ 7.30	\$ 7.65	\$ 8.00	\$ 8.35

3-4-Bridge, Tunnel, Tank

Painter - Metal Polisher

08/01/2026

JOB DESCRIPTION Painter - Metal Polisher

DISTRICT 8

ENTIRE COUNTIES

Albany, Allegany, Bronx, Broome, Cattaraugus, Cayuga, Chautauqua, Chemung, Chenango, Clinton, Columbia, Cortland, Delaware, Dutchess, Erie, Essex, Franklin, Fulton, Genesee, Greene, Hamilton, Herkimer, Jefferson, Kings, Lewis, Livingston, Madison, Monroe, Montgomery, Nassau, New York, Niagara, Oneida, Onondaga, Ontario, Orange, Orleans, Oswego, Otsego, Putnam, Queens, Rensselaer, Richmond, Rockland, Saratoga, Schenectady, Schoharie, Schuyler, Seneca, St. Lawrence, Steuben, Suffolk, Sullivan, Tioga, Tompkins, Ulster, Warren, Washington, Wayne, Westchester, Wyoming, Yates

WAGES

07/01/2026

Metal Polisher	\$ 41.33
Metal Polisher*	42.43
Metal Polisher**	45.33

*Note: Applies on New Construction & complete renovation

** Note: Applies when working on scaffolds over 34 feet.

SUPPLEMENTAL BENEFITS

Per Hour:

Journeyworker:	
All classifications	\$ 13.99

OVERTIME PAY

See (B, E, P, T) on OVERTIME PAGE

HOLIDAY

Paid: See (5, 6, 11, 15, 16, 25, 26) on HOLIDAY PAGE
Overtime: See (5, 6, 11, 15, 16, 25, 26) on HOLIDAY PAGE

REGISTERED APPRENTICES

Wages per hour:

One (1) year term at the following wage rates:

07/01/2026

1st year	\$ 20.67
2nd year	22.73
3rd year	24.80
1st year*	\$ 21.06
2nd year*	23.17
3rd year*	25.34
1st year**	\$ 23.17
2nd year**	25.23
3rd year**	27.30

*Note: Applies on New Construction & complete renovation

** Note: Applies when working on scaffolds over 34 feet.

Supplemental benefits:

Per hour:

1st year	\$ 9.19
2nd year	9.19
3rd year	9.19

8-8A/28A-MP

Plumber**08/01/2026**

JOB DESCRIPTION Plumber**DISTRICT** 3**ENTIRE COUNTIES**

Cattaraugus, Chautauqua, Erie, Niagara, Wyoming

PARTIAL COUNTIES

Allegany: Only the Townships of Allen, Alma, Amity, Angelica, Belfast, Bolivar, Caneadea, Centerville, Clarksville, Cuba, Genesee, Friendship, Granger, Hume, New Hudson, Rushford, Wirt and that portion of Scio which lies west of Rt. 19.

Genesee: Only the Townships of Alabama, Alexander, Batavia, Darien, Elba, Oakfield, Pembroke and the City of Batavia.

Orleans: Only the Townships of Ridgeway, Shelby and Yates.

WAGES

Per hour:	07/01/2026	05/03/2027	05/01/2028
		Additional	Additional
Plumber	\$ 46.27	\$4.00	\$4.00
Steamfitter	\$ 46.27		

Note - Add 10% (ten percent) to wage when HAZMAT training is required or when OSHA compliant respirator protection is required.

SUPPLEMENTAL BENEFITS

Per hour:

\$ 30.91

Note - \$7.00 of this amount must be paid at the same premium as the wage.

OVERTIME PAY

See (*B, **E, Q) on OVERTIME PAGE

* Double time after 11 hours per day on Weekdays.

** Double time after 10 hours per day on Saturday.

HOLIDAY

Paid: See (1) on HOLIDAY PAGE

Overtime: See (5, 6, 16) on HOLIDAY PAGE

REGISTERED APPRENTICES

Wages per hour:

One year terms at the following percentage of Journeyworker's wage:

1st	2nd	3rd	4th	5th
50%	60%	70%	80%	90%

Note - Add 10% (ten-percent) to wage when HAZMAT training is required or when OSHA compliant respirator protection is required.

Supplemental benefits per hour:

\$ 25.99

Note - \$7.00 of this amount must be paid at the same premium as the wage.

3-22-P

Roofer**08/01/2026**

JOB DESCRIPTION Roofer**DISTRICT** 3**ENTIRE COUNTIES**

Erie, Genesee, Niagara, Orleans, Wyoming

WAGES

Per hour:	07/01/2026
Asbestos Removal	\$ 41.46
Slate, Tile	38.61
Precast tile / slabs	38.61
Crete / gypsum planks	38.61
Damp and waterproofer	38.46
Composition, sprayers,	38.46
Asphalt mastic,	38.46
Steep roofers	38.46

SHIFT WORK

When shift work is mandated either in the job specification or by the contracting agency the following premiums apply:

15% of hourly rate for second shift

20% of hourly rate for third shift

SUPPLEMENTAL BENEFITS

Per hour:

\$ 28.81

OVERTIME PAY

See (B, *E, **E2, Q) on OVERTIME PAGE

* and ** Double time after 8 hours on Saturday.

HOLIDAY

Paid: See (1) on HOLIDAY PAGE

Overtime: See (5, 6) on HOLIDAY PAGE

REGISTERED APPRENTICES

Wages per hour:

Hour terms at the following percentage of Journeyworker's wage:

0	to	999	to	1499	to	1999	to	2499	to	2999	to	3499	to	4499
		65%		70%		75%		80%		85%		90%		95%

Supplemental benefits per hour:

0	to	999	to	1499	to	1999	to	2499	to	2999	to	3499	to	4499
		\$ 12.06		\$ 17.47		\$ 17.78		\$ 25.67		\$ 26.45		\$ 27.24		\$ 28.03

3-74

Sheetmetal Worker

08/01/2026

JOB DESCRIPTION Sheetmetal Worker

DISTRICT 3

ENTIRE COUNTIES

Erie, Genesee, Niagara, Orleans, Wyoming

WAGES

Per hour:	07/01/2026	05/31/2027	05/29/2028
		Additional	Additional
Sheet Metal Worker	\$ 44.63	\$3.00	\$3.00

Additional \$0.50 per hour for work more than 30" above floor on boatswain chair.

Additional \$1.00 per hour for work in "Hot" areas of atomic laboratories, atomic plants, or any premises where radio-active materials are stored or handled and personal protective equipment is required.

Additional \$1.00 per hour for work when required to have 40-hour HAZMAT training or the use of OSHA compliant respirator is required.

SHIFT WORK

When shift work is mandated either in the job specification or by the contracting agency the following premiums apply:

All 2nd shift work shall receive 10% per hour above the rate of wages.

All 3rd shift work shall receive 15% per hour above the rate of wages.

SUPPLEMENTAL BENEFITS

Per hour:

\$ 30.98*

* Note - \$19.74 of this amount must be paid at the same premium as the wages per overtime hours.

OVERTIME PAY

See (B, E, E2, Q) on OVERTIME PAGE

HOLIDAY

Paid: See (1) on HOLIDAY PAGE

Overtime: See (5, 6, 16) on HOLIDAY PAGE

REGISTERED APPRENTICES

Wages per hour:

One year terms at the following wage:

1st term	\$ 25.78
2nd term	30.88
3rd term	33.75

4th term	35.62
5th term	39.38

Supplemental benefits per hour:

1st term	\$ 18.80	Note - \$8.56 of this amount must be paid at the same premium as the wage.
2nd term	23.11	Note - \$12.87 of this amount must be paid at the same premium as the wage.
3rd term	28.47	Note - \$17.23 of this amount must be paid at the same premium as the wage.
4th term	28.83	Note - \$17.59 of this amount must be paid at the same premium as the wage.
5th term	29.54	Note - \$18.30 of this amount must be paid at the same premium as the wage.

3-71

Sprinkler Fitter

08/01/2026

JOB DESCRIPTION Sprinkler Fitter

DISTRICT 1

ENTIRE COUNTIES

Allegany, Broome, Cattaraugus, Cayuga, Chautauqua, Chemung, Chenango, Clinton, Columbia, Cortland, Delaware, Erie, Essex, Franklin, Fulton, Genesee, Greene, Hamilton, Herkimer, Jefferson, Lewis, Livingston, Madison, Monroe, Montgomery, Niagara, Oneida, Onondaga, Ontario, Orleans, Oswego, Otsego, Schoharie, Schuyler, Seneca, St. Lawrence, Steuben, Tioga, Tompkins, Washington, Wayne, Wyoming, Yates

WAGES

Per hour

	07/01/2026	01/01/2027	04/01/2027	01/01/2028
Sprinkler	\$ 47.91	\$ 47.91	\$ 50.76	\$ 50.76
Fitter				

SUPPLEMENTAL BENEFITS

Per hour

Journeyworker	\$ 30.71	\$ 31.71	\$ 31.71	\$ 32.71
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OVERTIME PAY

See (B, E, Q) on OVERTIME PAGE

HOLIDAY

Paid: See (1) on HOLIDAY PAGE

Overtime: See (5, 6) on HOLIDAY PAGE

Note: When a holiday falls on Sunday, the following Monday shall be considered a holiday and all work performed on either day shall be at the double time rate. When a holiday falls on Saturday, the preceding Friday shall be considered a holiday and all work performed on either day shall be at the double time rate.

REGISTERED APPRENTICES

One Half Year terms at the following wage per hour:

	07/01/2026	01/01/2027	04/01/2027	01/01/2028
1st Term	\$ 24.50	\$ 24.50	\$ 25.73	\$ 25.73
2nd Term	27.35	27.35	28.72	28.72
3rd Term	29.63	29.63	31.11	31.11
4th Term	31.91	31.91	33.50	33.50
5th Term	33.62	33.62	35.30	35.30
6th Term	36.47	36.47	38.29	38.29
7th Term	38.75	38.75	40.68	40.68
8th Term	41.03	41.03	43.08	43.08
9th Term	43.30	43.30	45.47	45.47
10th Term	45.58	45.58	47.86	47.86

Supplemental Benefits per hour:

1st & 2nd Term	\$ 10.23	\$ 11.23	\$ 11.23	\$ 12.23
3rd & 4th Term	22.79	23.79	23.79	24.79
All Other Terms	23.04	24.04	24.04	25.04

1-669

Teamster - Building / Heavy&Highway

08/01/2026

JOB DESCRIPTION Teamster - Building / Heavy&Highway

DISTRICT 3

ENTIRE COUNTIES

Erie, Niagara

PARTIAL COUNTIES

Genesee: Only in the Townships of Alabama, Darien and Pembroke.

Orleans: Only the Townships of Ridgeway, Shelby and Yates.

Wyoming: Only in the Townships of Arcade, Bennington, Java and Sheldon.

WAGES

GROUP 1: Warehousemen, Yardmen, Truck Helpers, Pickups, Panel Trucks, Flatboy Material Trucks (straight jobs), Single Axle Dump Trucks, Dumpsters, Material Checkers and Receivers, Greasers, Truck Tiremen, Mechanics Helpers and Parts Chasers.

GROUP 2: Off Road Tandems and Batch Trucks, Mechanics, Dispatcher.

GROUP 3: Semi Truck, Asphalt Distributor Trucks and Agitator, Mixer Trucks and dumpcrete type vehicles, Truck Mechanic, Fuel and Water Trucks

GROUP 4: Specialized Earth Moving Equipment, Euclid type, or similar off-highway, where not self-loading, Straddle (Ross) Carrier, and self-contained concrete mobile truck.

GROUP 5: Off-highway Tandem Back-Dump, Twin Engine Equipment and Double-Hitched Equipment where not self-loading.

Per hour:	07/01/2026	07/01/2027
		Additional
ALL GROUPS	\$ 52.23	\$ 4.00

Add \$2.00 when required to use personal protection when performing hazardous waste removal work.

SHIFT WORK

An additional \$4.00 per hour is required when a single irregular work shift starting any time from 3:30PM to 1:00AM is mandated either in the job specification or by the contracting agency.

SUPPLEMENTAL BENEFITS

Per hour: \$ 17.55*

*Note - Only \$ 9.00 per hour needs to be paid for overtime hours.

OVERTIME PAY

See (B, G, P) on OVERTIME PAGE

HOLIDAY

Paid: See (5, 6) on HOLIDAY PAGE
Overtime: See (5, 6) on HOLIDAY PAGE

3-449

Teamster - Building / Heavy&Highway

08/01/2026

JOB DESCRIPTION Teamster - Building / Heavy&Highway

DISTRICT 3

ENTIRE COUNTIES

Erie, Niagara

WAGES

Per hour:	07/01/2026	06/01/2027
		Additional

Dump Truck Operator*	\$ 33.00	\$1.50
Lowboy	\$ 35.00	

Tractor trailer drivers pulling a dump, live bottom, flatbed, step deck, or walking floor trailer will receive an additional \$1.00 per hour

*Does not include Single Axle Dump Trucks (see Teamster Group 1).

*Does not include Off-highway Dump Trucks (see Teamster Groups 2-5).

SUPPLEMENTAL BENEFITS

Per hour: \$ 2.31

OVERTIME PAY

See (B, B2, Q) on OVERTIME PAGE

HOLIDAY

Paid: See (5, 6) on HOLIDAY PAGE
Overtime: See (5, 6) on HOLIDAY PAGE

3-449d-DT

Welder

08/01/2026

JOB DESCRIPTION Welder

DISTRICT 1

ENTIRE COUNTIES

Albany, Allegany, Bronx, Broome, Cattaraugus, Cayuga, Chautauqua, Chemung, Chenango, Clinton, Columbia, Cortland, Delaware, Dutchess, Erie, Essex, Franklin, Fulton, Genesee, Greene, Hamilton, Herkimer, Jefferson, Kings, Lewis, Livingston, Madison, Monroe, Montgomery, Nassau, New York, Niagara, Oneida, Onondaga, Ontario, Orange, Orleans, Oswego, Otsego, Putnam, Queens, Rensselaer, Richmond, Rockland, Saratoga, Schenectady, Schoharie, Schuyler, Seneca, St. Lawrence, Steuben, Suffolk, Sullivan, Tioga, Tompkins, Ulster, Warren, Washington, Wayne, Westchester, Wyoming, Yates

WAGES

Per hour

07/01/2026

Welder: To be paid the same rate of the mechanic performing the work.*

*EXCEPTION: If a specific welder certification is required, then the 'Certified Welder' rate in that trade tag will be paid.

OVERTIME PAY

HOLIDAY

1-As Per Trade

Overtime Codes

Following is an explanation of the code(s) listed in the OVERTIME section of each classification contained in the attached schedule. Additional requirements may also be listed in the HOLIDAY section.

NOTE: Supplemental Benefits are 'Per hour worked' (for each hour worked) unless otherwise noted

- (AA) Time and one half of the hourly rate after 7 and one half hours per day
- (A) Time and one half of the hourly rate after 7 hours per day
- (B) Time and one half of the hourly rate after 8 hours per day
- (B1) Time and one half of the hourly rate for the 9th & 10th hours week days and the 1st 8 hours on Saturday.
Double the hourly rate for all additional hours
- (B2) Time and one half of the hourly rate after 40 hours per week
- (B3) Time and one half of the hourly rate after 40 straight hours per week
- (C) Double the hourly rate after 7 hours per day
- (C1) Double the hourly rate after 7 and one half hours per day
- (D) Double the hourly rate after 8 hours per day
- (D1) Double the hourly rate after 9 hours per day
- (E) Time and one half of the hourly rate on Saturday
- (E1) Time and one half 1st 4 hours on Saturday; Double the hourly rate all additional Saturday hours
- (E2) Saturday may be used as a make-up day at straight time when a day is lost during that week due to inclement weather
- (E3) Between November 1st and March 3rd Saturday may be used as a make-up day at straight time when a day is lost during that week due to inclement weather, provided a given employee has worked between 16 and 32 hours that week
- (E4) Sunday may be used as a make-up day at straight time when a day is lost during that week due to inclement weather
- (E5) Double time after 8 hours on Saturdays
- (F) Time and one half of the hourly rate on Saturday and Sunday
- (G) Time and one half of the hourly rate on Saturday and Holidays
- (H) Time and one half of the hourly rate on Saturday, Sunday, and Holidays
- (I) Time and one half of the hourly rate on Sunday
- (J) Time and one half of the hourly rate on Sunday and Holidays
- (K) Time and one half of the hourly rate on Holidays
- (L) Double the hourly rate on Saturday
- (M) Double the hourly rate on Saturday and Sunday
- (N) Double the hourly rate on Saturday and Holidays
- (O) Double the hourly rate on Saturday, Sunday, and Holidays
- (P) Double the hourly rate on Sunday
- (Q) Double the hourly rate on Sunday and Holidays
- (R) Double the hourly rate on Holidays

- (S) Two and one half times the hourly rate for Holidays
- (S1) Two and one half times the hourly rate the first 8 hours on Sunday or Holidays One and one half times the hourly rate all additional hours.
- (T) Triple the hourly rate for Holidays
- (U) Four times the hourly rate for Holidays
- (V) Including benefits at SAME PREMIUM as shown for overtime
- (W) Time and one half for benefits on all overtime hours.
- (X) Benefits payable on Paid Holiday at straight time. If worked, additional benefit amount will be required for worked hours. (Refer to other codes listed.)

Holiday Codes

PAID Holidays:

Paid Holidays are days for which an eligible employee receives a regular day's pay, but is not required to perform work. If an employee works on a day listed as a paid holiday, this remuneration is in addition to payment of the required prevailing rate for the work actually performed.

OVERTIME Holiday Pay:

Overtime holiday pay is the premium pay that is required for work performed on specified holidays. It is only required where the employee actually performs work on such holidays. The applicable holidays are listed under HOLIDAYS: OVERTIME. The required rate of pay for these covered holidays can be found in the OVERTIME PAY section listings for each classification.

Following is an explanation of the code(s) listed in the HOLIDAY section of each classification contained in the attached schedule. The Holidays as listed below are to be paid at the wage rates at which the employee is normally classified.

- (1) None
- (2) Labor Day
- (3) Memorial Day and Labor Day
- (4) Memorial Day and July 4th
- (5) Memorial Day, July 4th, and Labor Day
- (6) New Year's, Thanksgiving, and Christmas
- (7) Lincoln's Birthday, Washington's Birthday, and Veterans Day
- (8) Good Friday
- (9) Lincoln's Birthday
- (10) Washington's Birthday
- (11) Columbus Day
- (12) Election Day
- (13) Presidential Election Day
- (14) 1/2 Day on Presidential Election Day
- (15) Veterans Day
- (16) Day after Thanksgiving
- (17) July 4th
- (18) 1/2 Day before Christmas
- (19) 1/2 Day before New Years
- (20) Thanksgiving
- (21) New Year's Day
- (22) Christmas
- (23) Day before Christmas
- (24) Day before New Year's
- (25) Presidents' Day
- (26) Martin Luther King, Jr. Day
- (27) Memorial Day
- (28) Easter Sunday

(29) Juneteenth

New York State Department of Labor - Bureau of Public Work
State Office Building Campus
Building 12 - Room 130
Albany, New York 12226

REQUEST FOR WAGE AND SUPPLEMENT INFORMATION

As Required by Articles 8 and 9 of the NYS Labor Law

Fax (518) 485-1870 or mail this form for new schedules or for determination for additional occupations.

This Form Must Be Typed

Submitted By:

(Check Only One)

☐

Contracting Agency

☐

Architect or Engineering Firm

☐

Public Work District Office

Date:

A. Public Work Contract to be let by: (Enter Data Pertaining to Contracting/Public Agency)

1. Name and complete address ☐ (Check if new or change)

Telephone

Fax

E-Mail:

2. NY State Units (see Item 5).

☐

01 DOT

☐

02 OGS

☐

03 Dormitory Authority

☐

04 State University
Construction Fund

☐

05 Mental Hygiene
Facilities Corp.

☐

06 OTHER N.Y. STATE UNIT

☐

07 City

☐

08 Local School District

☐

09 Special Local District, i.e.,
Fire, Sewer, Water District

☐

10 Village

☐

11 Town

☐

12 County

☐

13 Other Non-N.Y. State
(Describe)

3. SEND REPLY TO ☐ (check if new or change)
Name and complete address:

Telephone

Fax

E-Mail:

4. SERVICE REQUIRED. Check appropriate box and provide project information.

☐

New Schedule of Wages and Supplements.

APPROXIMATE BID DATE :

☐

Additional Occupation and/or Redetermination

PRC NUMBER ISSUED PREVIOUSLY FOR
THIS PROJECT :

OFFICE USE ONLY

B. PROJECT PARTICULARS

5. Project Title

Description of Work

Contract Identification Number

Note: For NYS units, the OSC Contract No.

6. Location of Project:
Location on Site

Route No/Street Address

Village or City

Town

County

7. Nature of Project - Check One:

☐

1. New Building

☐

2. Addition to Existing Structure

☐

3. Heavy and Highway Construction (New and Repair)

☐

4. New Sewer or Waterline

☐

5. Other New Construction (Explain)

☐

6. Other Reconstruction, Maintenance, Repair or Alteration

☐

7. Demolition

☐

8. Building Service Contract

8. OCCUPATION FOR PROJECT :

☐

Construction (Building, Heavy
Highway/Sewer/Water)

☐

Tunnel

☐

Residential

☐

Landscape Maintenance

☐

Elevator maintenance

☐

Exterminators, Fumigators

☐

Fire Safety Director, NYC Only

☐

Fuel Delivery

☐

Guards, Watchmen

☐

Janitors, Porters, Cleaners,
Elevator Operators

☐

Moving furniture and
equipment

☐

Trash and refuse removal

☐

Window cleaners

☐

Other (Describe)

9. Does this project comply with the Wicks Law involving separate bidding? YES ☐ NO ☐

10. Name and Title of Requester

Signature



NEW YORK STATE DEPARTMENT OF LABOR
Bureau of Public Work - Debarment List

**LIST OF EMPLOYERS INELIGIBLE TO BID ON OR BE
AWARDED ANY PUBLIC WORK CONTRACT**

Under Article 8 and Article 9 of the NYS Labor Law, a contractor, sub-contractor and/or its successor shall be debarred and ineligible to submit a bid on or be awarded any public work or public building service contract/sub-contract with the state, any municipal corporation or public body for a period of five (5) years from the date of debarment when:

- Two (2) final determinations have been rendered within any consecutive six-year (6) period determining that such contractor, sub-contractor and/or its successor has WILLFULLY failed to pay the prevailing wage and/or supplements;
- One (1) final determination involves falsification of payroll records or the kickback of wages and/or supplements.

The agency issuing the determination and providing the information, is denoted under the heading 'Fiscal Officer'. DOL = New York State Department of Labor; NYC = New York City Comptroller's Office; AG = New York State Attorney General's Office; DA = County District Attorney's Office.

Debarment Database: To search for contractors, sub-contractors and/or their successors debarred from bidding or being awarded any public work contract or subcontract under NYS Labor Law Articles 8 and 9, or under NYS Workers' Compensation Law Section 141-b, access the database at this link: <https://apps.labor.ny.gov/EDList/searchPage.do>

For inquiries please call 518-457-5589.

NYSDOL Bureau of Public Work Debarment List 08/28/2026

Article 8

AGENCY	Fiscal Officer	FEIN	EMPLOYER NAME	EMPLOYER DBA NAME	ADDRESS	DEBARMENT START DATE	DEBARMENT END DATE
DOL	DOL	*****5784	A.J.M. TRUCKING, INC.		PO BOX 2064 MONROE NY 10950	02/12/2024	02/12/2029
DOL	DOL		AKHLAQ OULAKH		4307 28TH AVE ASTORIA NY 11103	10/11/2024	10/11/2029
DOL	DOL		ALEXANDER DELISA		411 THEODORE FREMND SUITE 206RYE NY 10580	09/03/2025	09/03/2030
DOL	NYC		ALL COUNTY SEWER & DRAIN, INC.		7 GREENFIELD DR WARWICK NY 10990	03/25/2022	03/25/2027
DOL	DOL	*****8387	AMERICAN PAVING & MASONRY, CORP.		8 FOREST AVE GLEN COVE NY 11542	05/24/2024	05/24/2029
DOL	DOL	*****8654	AMERICAN PAVING, INC.		8 FORREST AVE. GLEN COVE NY 11542	05/24/2024	05/24/2029
DOL	NYC	*****8017	AMIN ELECTRICAL CORP.		97-23 218TH STREET QUEENS VILLAGE NY 11429	12/04/2025	12/04/2030
DOL	DOL		ANGELO STANCO		8 FOREST AVE. GLEN COVE NY 11542	05/24/2024	05/24/2029
DOL	DOL		ANGELO TONDO		449 WEST MOMBSHA ROAD MONROE NY 10950	06/06/2022	06/06/2027
DOL	DOL	*****4231	ANKER'S ELECTRIC SERVICE, INC.		10 SOUTH 5TH ST LOCUST VALLEY NY 11560	09/26/2022	09/26/2027
DOL	DOL		ANTHONY CASALE		20 HEATHER RIDGE ROAD TROY NY 12180	05/20/2025	05/20/2030
DOL	DOL		ANTHONY MONGELLI		PO BOX 2064 MONROE NY 10950	02/12/2024	02/12/2029
DOL	DOL	*****8421	B & B DRYWALL, INC		206 WARREN AVE APT 1 WHITE PLAINS NY 10603	12/14/2021	12/14/2026
DOL	DOL	*****3932	B ROC CONSTRUCTION INC		7307 WOODSIDE ROAD VICTOR NY 14564	05/06/2025	05/06/2030
DOL	DA	*****2404	BJA RENOVATION, CORP		33 DOLLARD DR NORTH BABYLON NY 11703	03/19/2025	03/19/2030
DOL	DOL	*****5078	BLACK RIVER TREE REMOVAL, LLC		29807 ANDREWS ROAD BLACK RIVER NY 13032	10/17/2023	10/17/2028
DOL	DOL		C.M.C CONTRACTORS, INC.		500 WEST PUTNAM AVE SUITE 400GREENWICH CT 06830	09/03/2025	09/03/2030
DOL	DOL		CARLOS F. ESCOBAR		411 THEODORE FREMD AVE SUITE 206RYE NY 10580	09/03/2025	09/03/2030
DOL	DOL		CARLOS FIGUEROA		411 THEODORE FREMND AVE SUITE 206RYE NY 10580	09/03/2025	09/03/2030
DOL	DOL	*****4155	CASA BUILDERS, INC.	FRIEDLANDER CONSTRUCTI ON	64 N PUTT CONNERS ROAD NEW PALTZ NY 12561	05/10/2023	05/10/2028
DOL	DOL		CESAREO TULA		120 SEARS AVE ELMSFORD NY 10523	09/26/2025	09/26/2030
DOL	DOL	*****2292	CHAMPION MAINTENANCE CONTRACTORS, INC.		211 SOUTH RIDGE STREET RYE BROOK NY 10573	09/03/2025	09/03/2030
DOL	NYC	*****2117	CHARAN ELECTRICAL ENTERPRISES		9-11 40TH AVENUE LONG ISLAND CITY NY 11101	09/26/2023	09/26/2028
DOL	DOL		CHARLES CASALE		55 MAIN AVENUE WYNANTSKILL NY 12198	05/20/2025	05/20/2030
DOL	DOL		CHARLES CASALE		55 MAIN AVENUE WYNANTSKILL NY 12198	05/20/2025	05/20/2030
DOL	DOL		CHRISTOPHER PEROSI		5507 NESCONSET HIGHWAY MT. SINAI NY 11766	07/17/2025	07/17/2030
DOL	DOL	*****2281	CORRAO TRUCKING, INC.		PO BOX 393 NANUET NY 10954	09/17/2024	09/17/2029
DOL	DOL		CRAIG JOHANSEN		10 SOUTH 5TH ST LOCUST VALLEY NY 11560	09/26/2022	09/26/2027
DOL	DOL	*****7619	DANCO CONSTRUCTION UNLIMITED INC.		485 RAFT AVENUE HOLBROOK NY 11741	10/19/2021	10/19/2026
DOL	DOL		DANIEL DELISA		211 SOUTH RIDGE STREET RYE BROOK NY 10573	09/03/2025	09/03/2030
DOL	DOL		DANIEL LOHAN		6836 N. LEXINGTON LANE NILES IL 60714	05/28/2026	05/28/2031
DOL	DOL		DANIEL ROBERT MCNALLY		7 GREENFIELD DRIVE WARWICK NY 10990	03/25/2022	03/25/2027
DOL	DOL		DARWIN PEGUESE		6400 BALTIMORE NATIONAL SUITE 602CANTONSVILLE NY 21228	10/24/2024	10/24/2029
DOL	DOL		DAVID FRIEDLANDER		64 NORTH PUTT CORNERS RD NEW PALTZ NY 12561	05/10/2023	05/10/2028
DOL	DOL		DENISE NAGLE		36 OAKWOOD TRAIL S AL MONROE NY 10950	10/29/2025	10/29/2030

NYSDOL Bureau of Public Work Debarment List 08/28/2026

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DOL	DOL		DINA TAYLOR		64 N PUTT CONNERS RD NEW PALTZ NY 12561	05/10/2023	05/10/2028
DOL	DOL	*****2337	EGL DRAINAGE SOLUTION & REPAIRS LLC		5507 NESCONSET HIGHWAY MT. SINAI NY 11766	07/17/2025	07/17/2030
DOL	DOL	*****0780	EMES HEATING & PLUMBING CONTR		5 EMES LANE MONSEY NY 10952	01/20/2002	01/20/3002
DOL	DOL		EMIL KISZKO		84 DIAMOND ST BROOKLYN NY 11222	07/18/2024	07/18/2029
DOL	DOL	*****3298	EMJACK CONSTRUCTION CORP.		84 DIAMOND ST BROOKLYN NY 11222	07/18/2024	07/18/2029
DOL	DOL	*****3298	EMJACK CONSTRUCTION LLC		4192 SIR ANDREW CIRCLE DOYLESTOWN PA 18902	07/18/2024	07/18/2029
DOL	NYC		ENRICO MANETTA		101 MALBA DR. WHITESTONE NY 11357	04/01/2026	04/01/2031
DOL	DOL		EUGENIUSZ "GINO" KUCHAR		195 KINGSLAND AVE BROOKLYN NY 11222	12/22/2023	12/22/2028
DOL	DOL	*****2998	G.E.M. AMERICAN CONSTRUCTION CORP.		195 KINGSLAND AVE BROOKLYN NY 11222	12/22/2023	12/22/2028
DOL	DA		GEORGE LUCEY		150 KINGS STREET BROOKLYN NY 11231	01/19/1998	01/19/2998
DOL	NYC		GHANSHYAM AMIN		97-23 218TH STREET QUEENS VILLAGE NY 11429	12/04/2025	12/04/2030
DOL	DA		GIOVANNA TRAVALJA		3735 9TH ST LONG ISLAND CITY NY 11101	01/05/2023	01/05/2028
DOL	DA		GIOVANNI NAPOLITANO		2501 BAYVIEW AVENUE WANTAGH NY 11793	02/21/2024	02/21/2029
DOL	DA	*****0213	GORILLA CONTRACTING GROUP, LLC		505 MANHATTAN AVE WEST BABYLON NY 11704	10/05/2023	10/05/2028
DOL	DA	*****4760	GTX CONSTRUCTION ASSOCIATES, CORP		2501 BAYVIEW AVE WANTAGH NY 11793	02/21/2024	02/21/2029
DOL	DOL		HENRY WICKE A/K/A HENRY WICKE, JR.		36 OAKWOOD TRAIL S AL MONROE NY 10950	10/29/2025	10/29/2030
DOL	DOL		HERBERT CLEMEN		42 FOWLER AVENUE CORTLAND MANOR NY 10567	01/24/2023	01/24/2028
DOL	DOL		HERBERT CLEMEN		42 FOWLER AVENUE CORTLAND MANOR NY 10567	10/25/2022	10/25/2027
DOL	DOL	*****6961	HUNTER ELEVATOR COMPANY, INC.		36 OAKWOOD TRAIL S AL MONROE NY 10950	10/29/2025	10/29/2030
DOL	DOL	*****2397	ISLAND BREEZE MARINE, INC.		6400 BALTIMORE NATIONAL CANTONSVILLE MD 21228	10/24/2024	10/24/2029
DOL	DOL	*****5010	J. LINDSLEY ENTERPRISE, LLC		1002 STATE ROUTE 176 FULTON NY 13069	07/30/2025	07/30/2030
DOL	DOL	*****0241	J. LINDSLEY ROOFING, LLC		211 NORTH 2ND STREET FULTON NY 13069	07/30/2025	07/30/2030
DOL	DOL		J.M.J CONSTRUCTION		151 OSTRANDER AVENUE SYRACUSE NY 13205	11/21/2022	11/21/2027
DOL	DOL		J.R. NELSON CONSTRUCTION		531 THIRD STREET ALBANY NY 12206	11/07/2023	11/07/2028
DOL	DOL		J.R. NELSON CONSTRUCTION		531 THIRD STREET ALBANY NY 12206	12/22/2022	12/22/2027
DOL	DOL		J.R. NELSON CONSTRUCTION		531 THIRD STREET ALBANY NY 12206	10/25/2022	10/25/2027
DOL	DOL		J.R. NELSON, LLC		531 THIRD STREET ALBANY NY 12206	12/22/2022	12/22/2027
DOL	DOL		J.R. NELSON, LLC		531 THIRD STREET ALBANY NY 12206	11/07/2023	11/07/2028
DOL	DOL		J.R. NELSON, LLC		531 THIRD STREET ALBANY NY 12206	10/25/2022	10/25/2027
DOL	DOL		J.R.N COMPANIES, LLC		531 THIRD STREET ALBANY NY 12206	12/12/2022	12/12/2027
DOL	DOL		J.R.N COMPANIES, LLC		531 THIRD STREET ALBANY NY 12206	11/07/2023	11/07/2028
DOL	DOL		J.R.N COMPANIES, LLC		531 THIRD STREET ALBANY NY 12206	10/25/2022	10/25/2027
DOL	DOL	*****1147	J.R.N. CONSTRUCTION, LLC		531 THIRD ST ALBANY NY 12206	11/07/2023	11/07/2028
DOL	DOL	*****1147	J.R.N. CONSTRUCTION, LLC		531 THIRD ST ALBANY NY 12206	12/22/2022	12/22/2027
DOL	DOL	*****1147	J.R.N. CONSTRUCTION, LLC		531 THIRD ST ALBANY NY 12206	10/25/2022	10/25/2027
DOL	DOL		JAMES LINDSLEY		211 NORTH 2ND STREET FULTON NY 13069	07/30/2025	07/30/2030
DOL	DOL		JASON P. RACE		3469 STATE RT. 69 PERISH NY 13131	09/29/2021	09/29/2026

NYSDOL Bureau of Public Work Debarment List 08/28/2026

Article 8

DOL	DOL		JASON P. RACE		3469 STATE RT. 69 PERISH NY 13131	02/09/2022	02/09/2027
DOL	DOL		JASON P. RACE		3469 STATE RT. 69 PERISH NY 13131	11/15/2022	11/15/2027
DOL	DOL		JASON P. RACE		3469 STATE RT. 69 PERISH NY 13131	03/01/2022	03/01/2027
DOL	DOL	*****2435	JEFFEL D. JOHNSON	JMJ7 AND SON	5553 CAIRNSTRAIL CLAY NY 13041	11/21/2022	11/21/2027
DOL	DOL		JEFFEL JOHNSON ELITE CARPENTER REMODEL AND CONSTRUCTION		C2 EVERGREEN CIRCLE LIVERPOOL NY 13090	11/21/2022	11/21/2027
DOL	DOL	*****2435	JEFFREY M. JOHNSON	JMJ7 AND SON	5553 CAIRNS TRAIL CLAY NY 13041	11/21/2022	11/21/2027
DOL	DOL		JENNIFER LINDSLEY		211 NORTH 2ND STREET FULTON NY 13069	07/30/2025	07/30/2030
DOL	DOL		JERRY DASTON		36 OAKWOOD TRAIL S AL MONROE NY 10950	10/29/2025	10/29/2030
DOL	DOL		JMJ7 & SON CONSTRUCTION, LLC		5553 CAIRNS TRAIL LIVERPOOL NY 13041	11/21/2022	11/21/2027
DOL	DOL		JMJ7 AND SONS CONTRACTORS		5553 CAIRNS TRAIL CLAY NY 13041	11/21/2022	11/21/2027
DOL	DOL		JMJ7 CONTRACTORS		7014 13TH AVENUE BROOKLYN NY 11228	11/21/2022	11/21/2027
DOL	DOL		JMJ7 CONTRACTORS AND SONS		5553 CAIRNS TRAIL CLAY NY 13041	11/21/2022	11/21/2027
DOL	DOL		JMJ7 CONTRACTORS, LLC		5553 CAIRNS TRAIL CLAY NY 13041	11/21/2022	11/21/2027
DOL	DOL		JOHN NAGLE A/K/A JOHN NAGLE, JR.		36 OAKWOOD TRAIL S AL MONROE NY 10950	10/29/2025	10/29/2030
DOL	DOL		JONATHAN DELISA		411 THEODORE FREMND AVE SUITE 206RYE NY 10580	09/03/2025	09/03/2030
DOL	DOL		JORGE FIGUEROA		411 THEODORE FRMND AVE SUITE 206RYE NY 10580	09/03/2025	09/03/2030
DOL	DA		JOSEPH DEMASCO		33 DOLLARD DRIVE NORTH BABYLON NY 11703	01/30/2026	01/30/2031
DOL	DA		JOSEPH DEMASCO		33 DOLLARD DRIVE NORTH BABYLON NY 11703	03/19/2025	03/19/2030
DOL	DOL		JOSEPH HALL		937 US ROUTE 11 CENTRAL SQUARE NY 13036	10/21/2024	10/21/2029
DOL	DOL	*****2271	JOSEPH HALL COMPANIES LLC		937 US ROUTE 11 CENTRAL SQUARE NY 13036	10/21/2024	10/21/2029
DOL	DOL		JOSEPH K. SALERNO		1010 TILDEN AVE UTICA NY 13501	07/24/2023	07/24/2028
DOL	DOL		JOSEPH K. SALERNO II		1010 TILDEN AVE UTICA NY 13501	07/24/2023	07/24/2028
DOL	DOL	*****5116	JP RACE PAINTING, INC. T/A RACE PAINTING		3469 STATE RT. 69 PERISH NY 13131	02/09/2022	02/09/2027
DOL	DOL	*****5116	JP RACE PAINTING, INC. T/A RACE PAINTING		3469 STATE RT. 69 PERISH NY 13131	11/15/2022	11/15/2027
DOL	DOL	*****5116	JP RACE PAINTING, INC. T/A RACE PAINTING		3469 STATE RT. 69 PERISH NY 13131	09/29/2021	09/29/2026
DOL	DOL	*****5116	JP RACE PAINTING, INC. T/A RACE PAINTING		3469 STATE RT. 69 PERISH NY 13131	03/01/2022	03/01/2027
DOL	DOL	*****5116	JP RACE PAINTING, INC. T/A RACE PAINTING		3469 STATE RT. 69 PERISH NY 13131	03/01/2022	03/01/2027
DOL	DOL		JRN CONSTRUCTION CO, LLC		1024 BROADWAY ALBANY NY 12204	11/07/2023	11/07/2028
DOL	DOL	*****1147	JRN CONSTRUCTION, LLC		531 THIRD STREET ALBANY NY 12206	10/25/2022	10/25/2027
DOL	DOL	*****1147	JRN CONSTRUCTION, LLC		531 THIRD STREET ALBANY NY 12206	12/22/2022	12/22/2027
DOL	DOL	*****1147	JRN CONSTRUCTION, LLC		531 THIRD STREET ALBANY NY 12206	11/07/2023	11/07/2028
DOL	DOL		JRN PAVING, LLC		531 THIRD STREET ALBANY NY 12206	10/25/2022	10/25/2027
DOL	DOL		JRN PAVING, LLC		531 THIRD STREET ALBANY NY 12206	12/22/2022	12/22/2027
DOL	DOL		JRN PAVING, LLC		531 THIRD STREET ALBANY NY 12206	11/07/2023	11/07/2028
DOL	DOL		JULIUS AND GITA BEHREND		5 EMES LANE MONSEY NY 10952	11/20/2002	11/20/3002
DOL	DOL		KEAN INDUSTRIES, LLC		2345 RT. 52 SUITE 2NHOPEWELL JUNCTION NY 12533	12/18/2023	12/18/2028

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DOL	DOL		KEVIN FUNEZ URBINA A/K/A KEVIN FUNEZ	1009 LYNDAL AVE TRENTON NJ 08629	12/16/2024	12/16/2029
DOL	DOL	*****8760	KJ&J CONSTRUCTION, LLC	1009 LYNDAL AVE TRENTON NJ 08629	12/16/2024	12/16/2029
DOL	DOL		KMA GROUP II, INC.	29-10 38TH AVENUE LONG ISLAND CITY NY 11101	10/11/2023	10/11/2028
DOL	DOL	*****1833	KMA GROUP INC.	29-10 38TH AVENUE LONG ISLAND CITY NY 11101	10/11/2023	10/11/2028
DOL	DOL		KMA INSULATION, INC.	29-10 38TH AVENUE LONG ISLAND CITY NY 11101	10/11/2023	10/11/2028
DOL	DOL		KRIN HEINEMANN	2345 ROUTE 52, SUITE 2N HOPEWELL JUNCTION NY 12533	12/18/2023	12/18/2028
DOL	NYC		KULWANT S. DEOL	9-11 40TH AVENUE LONG ISLAND CITY NY 11101	09/26/2023	09/26/2028
DOL	DA	*****8816	LAKE CONSTRUCTION AND DEVELOPMENT CORPORATION	150 KINGS STREET BROOKLYN NY 11231	08/19/1998	08/19/2998
DOL	DOL		LEROY E. NELSON JR	531 THIRD ST ALBANY NY 12206	10/25/2022	10/25/2027
DOL	DOL		LEROY E. NELSON JR	531 THIRD ST ALBANY NY 12206	12/22/2022	12/22/2027
DOL	DOL		LEROY E. NELSON JR	531 THIRD ST ALBANY NY 12206	11/07/2023	11/07/2028
DOL	DOL	*****3716	LIGHTNIN ELECTRIC INC.	3418 NORTHERN BLVD SUITE 5-27/LONG ISLAND CITY NY 11101	12/13/2024	12/13/2029
DOL	AG	*****3291	LINTECH ELECTRIC, INC.	3006 TILDEN AVE BROOKLYN NY 11226	02/16/2022	02/16/2027
DOL	DOL		LIZETTE PONCE	411 THEODORE FREMND AVE SUITE 206RYE NY 10580	09/03/2025	09/03/2030
DOL	NYC	*****7516	MANCO ENTERPRISES OF NY, INC.	44-17 54TH DR. MASPETH NY 11378	04/01/2026	04/01/2031
DOL	NYC	*****1783	MANETTA ENTERPRISES, INC. D/B/A MANETTA INDUSTRIES	44-17 54TH DR. MASPETH NY 11378	04/01/2026	04/01/2031
DOL	DA		MANUEL P TOBIO	150 KINGS STREET BROOKLYN NY 14444	08/19/1998	08/19/2998
DOL	DA		MANUEL TOBIO	150 KINGS STREET BROOKLYN NY 11231	08/19/1998	08/19/2998
DOL	DOL	*****1320	MJC MASON CONTRACTING, INC.	42 FOWLER AVENUE CORTLAND MANOR NY 10567	10/25/2022	10/25/2027
DOL	DOL	*****1320	MJC MASON CONTRACTING, INC.	42 FOWLER AVENUE CORTLAND MANOR NY 10567	01/24/2023	01/24/2028
DOL	DOL		MOHAMMAD MIAN	8269 21ST ST BELLEROSE NY 11426	12/22/2022	12/22/2027
DOL	NYC		NASEER CHAUDHRY	2349 BRAGG STREET BROOKLYN NY 11229	04/22/2025	04/22/2030
DOL	DOL	*****7790	NATIONAL BUILDING & RESTORATION CORP	1010 TILDEN AVE UTICA NY 13501	07/24/2023	07/24/2028
DOL	DOL	*****1797	NATIONAL CONSTRUCTION SERVICES, INC	1010 TILDEN AVE UTICA NY 13501	07/24/2023	07/24/2028
DOL	NYC		NAVIT SINGH	402 JERICHO TURNPIKE NEW HYDE PARK NY 11040	08/10/2022	08/10/2027
DOL	DOL		NELCO CONTRACTING, LLC	1024 BROADWAY ALBANY NY 12204	11/07/2023	11/07/2028
DOL	DA		NICHOLAS BARNETT	33 DOLLARD DR BABYLON NY 11703	03/04/2025	03/04/2030
DOL	DOL		NICHOLAS RAO	411 THEODORE FREMND AVE SUITE 206RYE NY 10580	09/03/2025	09/03/2030
DOL	DA		NICHOLAS T. ANALITIS	505 MANHATTAN AVE WEST BABYLON NY 11704	10/05/2023	10/05/2028
DOL	DOL		NICHOLE E. FRASER A/K/A NICHOLE RACE	3469 STATE RT. 69 PERISH NY 13131	03/01/2022	03/01/2027
DOL	DOL		NICHOLE E. FRASER A/K/A NICHOLE RACE	3469 STATE RT. 69 PERISH NY 13131	11/15/2022	11/15/2027
DOL	DOL		NICHOLE E. FRASER A/K/A NICHOLE RACE	3469 STATE RT. 69 PERISH NY 13131	09/29/2021	09/29/2026
DOL	DOL		NICHOLE E. FRASER A/K/A NICHOLE RACE	3469 STATE RT. 69 PERISH NY 13131	02/09/2022	02/09/2027
DOL	DOL		NIKOLA NTONI	3418 NORTHERN BLVD SUITE 5-27/LONG ISLAND CITY NY 11101	12/13/2024	12/13/2029
DOL	NYC	*****6971	NN CONSTRUCTION, INC.	2349 BRAGG STREET BROOKLYN NY 11229	04/22/2025	04/22/2030

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DOL	NYC	*****5643	NYC LINE CONTRACTORS, INC.		402 JERICHO TURNPIKE NEW HYDE PARK NY 11040	08/10/2022	08/10/2027
DOL	DOL		PATRICK PENNACCHIO		2345 RT. 52 SUITE 2NHOPEWELL JUNCTION NY 12533	12/18/2023	12/18/2028
DOL	DOL		PATRICK PENNACCHIO		2345 RT. 52 SUITE 2NHOPEWELL JUNCTION NY 12533	12/18/2023	12/18/2028
DOL	DOL	*****4168	PHANTOM CONSTRUCTION CORP.		95-27 116TH STREET QUEENS NY 11419	07/12/2024	07/12/2029
DOL	DOL	*****4168	PHANTOM CONSTRUCTION CORP.		95-27 116TH STREET QUEENS NY 11419	05/28/2024	05/28/2029
DOL	DOL	*****2041	QUALITY STEEL ERECTORS INC.		6836 N. LEXINGTON LANE NILES IL 60714	05/28/2026	05/28/2031
DOL	DOL	*****4772	R.W. LOBDELL CONSTRUCTION LLC		635 WEST DRYDEN ROAD FREEVILLE NY 13068	01/31/2025	01/31/2030
DOL	DOL	*****2633	RAW POWER ELECTRIC CORP.		3 PARK CIRCLE MIDDLETOWN NY 10940	07/11/2022	07/11/2027
DOL	DOL		ROBBYE BISSESAR		89-51 SPRINGFIELD BLVD QUEENS VILLAGE NY 11427	01/11/2003	01/11/3003
DOL	DOL		ROMEO WARREN		161 ROBYN RD MONROE NY 10950	07/11/2022	07/11/2027
DOL	DOL		ROSA GARCIA		411 THEODORE FRMND AVE SUITE 206RYE NY 10580	09/03/2025	09/03/2030
DOL	DOL	*****7172	RZ & AL INC.		198 RIDGE AVENUE VALLEY STREAM NY 11581	06/06/2022	06/06/2027
DOL	DA	*****0476	SAMCO ELECTRIC CORP.		3735 9TH ST LONG ISLAND CITY NY 11101	01/05/2023	01/05/2028
DOL	DA		SILVANO TRAVALJA		3735 9TH ST LONG ISLAND CITY NY 11101	01/05/2023	01/05/2028
DOL	NYC	*****3661	SPANIER BUILDING MAINTENANCE CORP		200 OAK DRIVE SYOSSET NY 11791	03/14/2022	03/14/2027
DOL	DOL		STANADOS KALOGELAS		485 RAFT AVENUE HOLBROOK NY 11741	10/19/2021	10/19/2026
DOL	DOL	*****3496	STAR INTERNATIONAL INC		89-51 SPRINGFIELD BLVD QUEENS VILLAGE NY 11427	08/11/2003	08/11/3003
DOL	DOL		STEVEN DELISA		411 THEODORE FREMND AVE SUITE 206RYE NY 10580	09/03/2025	09/03/2030
DOL	DOL	*****9150	SURGE INC.		8269 21ST STREET BELLEROSE NY 11426	12/22/2022	12/22/2027
DOL	DOL		SYED MUHAMMAD S. JAFRI A/K/A SHARRUKH JAFRI		4307 28TH AVE ASTORIA NY 11103	10/11/2024	10/11/2029
DOL	DOL		SYED RAZA		198 RIDGE AVENUE NY 11581	06/06/2022	06/06/2027
DOL	DOL		TARLOK SINGH		95-27 116TH STREET QUEENS NY 11419	05/28/2024	05/28/2029
DOL	DOL		TARLOK SINGH		95-27 116TH STREET QUEENS NY 11419	07/12/2024	07/12/2029
DOL	DOL	*****4855	TECH INDUSTRIES LLC		20 HEATHER RIDGE ROAD TROY NY 12180	05/20/2025	05/20/2030
DOL	DOL	*****2426	THE MATRUKH GROUP, INC.		4307 28TH AVE PO BOX 9082ASTORIA NY 11103	10/11/2024	10/11/2029
DOL	DOL		THOMAS LOBDELL		635 WEST DRYDEN ROAD FREEVILLE NY 13068	01/31/2025	01/31/2030
DOL	DOL		TIMOTHY PERCY		29807 ANDREWS ROAD BLACK RIVER NY 13612	10/17/2023	10/17/2028
DOL	DA	*****1050	TRI STATE CONSTRUCTION OF NY CORP.		50-39 175TH PLACE FRESH MEADOWS NY 11365	03/28/2022	03/28/2027
DOL	DOL	*****8485	TULA PLUMBING AND HEATING LLC		120 SEARS AVE ELMSFORD NY 10523	09/26/2025	09/26/2030
DOL	DOL	*****8210	UPSTATE CONCRETE & MASONRY CONTRACTING CO INC		449 WEST MOMBSHA ROAD MONROE NY 10950	06/06/2022	06/06/2027
DOL	DOL		VINCENT CORRAO		PO BOX 393 NANUET NY 10954	09/17/2024	09/17/2029
DOL	DOL		WILLIAM A BELL		7307 WOODSIDE ROAD VICTOR NY 14564	05/06/2025	05/06/2030
DOL	DOL	*****8266	WILLIAM CHRIS MCCLENDON	MCCLENDON ASPHALT PAVING	1646 FALLS STREET NIAGARA FALLS NY 14303	05/01/2023	05/01/2028
DOL	DOL		WILLIAM CHRIS MCCLENDON		1646 FALLS STREET NIAGARA FALLS NY 14303	05/01/2023	05/01/2028
DOL	DOL		WILLIAM SCRIVENS		4192 SIR ANDREW CIRCLE DOYELSTOWN PA 18902	07/18/2024	07/18/2029

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DOL	DOL	*****9494	WND CONSTRUCTION LLC		411 THEODORE FREMD AVENUE SUITE 206RYE NY 10580	09/03/2025	09/03/2030
DOL	DOL		XENOFON EFTHIMIADIS		29-10 38TH AVENUE LONG ISLAND CITY NY 11101	10/11/2023	10/11/2028