

Department of Public Works
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City Engineer / Acting Commissioner

City of New Rochelle, New York
DEPARTMENT OF PUBLIC WORKS

CONTRACT DOCUMENTS

FOR

Renaissance @ Lincoln Park
116 Guion Place Garage: Plumbing
Project # 20-032P



Date: January 22, 2021

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INVITATION TO BIDDERS
CITY OF NEW ROCHELLE, NEW YORK
DEPARTMENT OF PUBLIC WORKS

**Renaissance @ Lincoln Park – 116 Guion Place Garage Plumbing
Project # 20-032P**

1. **This bid package is for Project #20-032P Plumbing only and is being bid under Wicks Law. See Section 01 11 00 for Summary of Work. The scope is limited to the Plumbing and related work as described in the Summary of Work. The work includes coordination with the other contractors and trades as referenced in Section 01 11 00. The Precast Wicks Law package has already been bid. Two other Wicks Law packages, HVAC and Electrical mentioned in the summary of Work are being bid concurrently.**
2. Sealed bids shall be received by the Purchasing Department no later than **Wednesday, February 24, 2021 at 3:00 pm**. All vendors are encouraged to submit sealed bids via mail to the mailing address shown below:

Purchasing Department,
515 North Avenue,
New Rochelle, NY 10801

Bid envelopes shall be plainly marked **116 Guion Place Garage Plumbing Project # 20-032P**

Bids will be publicly open at the Ground Floor Purchasing Office at 3:00 pm on, **Wednesday, February 24, 2021**. Social distancing will be exercised, and masks are required during the bid opening. **Please check website to verify that COVID restriction have not changed the opening to a virtual format.**

3. Each bid must be accompanied by a DEPOSIT in the form of bid bond, certified check or cashier's check, made payable to the CITY OF NEW ROCHELLE, NEW YORK, in the amount of five percent (5%) of the bid price (CASH WILL NOT BE ACCEPTED). The City reserves the right to reject any or all bids.
4. Copies of Contract Documents are available for direct download from the City's website at <http://www.newrochelleny.com/bids.aspx> under the Bid Opportunities beginning at **3:00 pm on Tuesday, January 26, 2021**. No fee is associated when obtaining copies of Contract Documents. Addendums and response to questions are posted to the City's website as well. It shall be the bidder's responsibility to check for Addendums.
5. Firms qualified and certified as Minority Business Enterprises (MBE) and Women Business Enterprises (WBE) are strongly encouraged to submit a bid.
6. The City of New Rochelle is a supporter of the Westchester Affirmative Action Equal Employment Opportunity requirements and agreements. In compliance with Section 3, the City of New Rochelle encourages employment first of New Rochelle residents.
7. Please note that the Contractor shall pay the higher wage rates of either the prevailing New York State Wage Rates or Davis Bacon.
8. Any questions must be submitted via email to Ed Ritter at eritter@newrochelleny.com. All questions must be turned in by **Monday February 8, 2022** at 4:30 pm. Answers to questions will be posted by **Monday, February 15 at 4:30 pm** on the City's website.
9. General Conditions – Attached and Referenced in Contract Bid Documents:

See Schedule "A", attached.
10. Insurance Requirements & Endorsements – Referenced in Contract Bid Documents Section C:

See Schedule "A", attached.

SECTION A

INSTRUCTIONS TO BIDDERS

I. PROCEDURES OF SUBMITTING BID

A. CONTENTS

Attention of bidders is called to the contents of the Invitation to Bidders, **and Section 01 11 00 Summary of Work** a copy of which is annexed hereto and made part here-of. All the work in the Contract is described in detail in the Plans and Specifications and Addenda, if any, Information for Bidders, Bidder's Proposal and Contract Documents, all of which are attached hereto and made a part thereof.

B. EXAMINATION OF PLANS, SPECIFICATIONS, ADDENDA (if any) AND LOCATION

Contractors are particularly requested to examine the plans and specifications and location of the work before bidding.

C. BIDDING TIME AND FORM

Sealed proposals will be received by the Commissioner of Public Works of the City of New Rochelle, New York, at the time, date and place stated in the Notice to Bidders, for the work herein mentioned, at which time and place they will be publicly opened and read aloud.

The award of the Contract, if awarded, will be made by the Commissioner as soon thereafter as practicable.

The Commissioner of Public Works reserves the right to waive minor informalities in any bid, but conditional bids will not be accepted.

Bids must be submitted in a sealed envelope, endorsed with the title of the work, the name of the person or persons making the same and the date of presentation, and containing also the Bid Deposit as prescribed hereafter.

D. BID TO COVER EVERY ITEM

All bids must be made upon the blank form of proposal attached hereto both in writing and in figures and must be signed by the bidder. In case of any discrepancies, the written prices shall be considered the price bid.

These prices are to cover the furnishing of all the necessary materials and labor; and the performance of all the work as set forth in the specifications and form of agreement hereto annexed.

E. CONTRACTOR QUALIFICATIONS

Contractor qualification statement must be completed and included with bid submission if a Qualification Statement is not already on file with the Department of Public Works. If a

Qualification is already on file, complete "Certificate of Contractors Qualification Statement" certifying that the information on file is still accurate.

F. CERTIFIED CHECK. CASHIER'S CHECK, CREDIT CARD or BID BOND

No bid will be received and deposited unless accompanied by a certified check, cashier's check, credit card or bid bond. **Certified or Cashier's check shall be made payable to the order of the City of New Rochelle**, for the amount stated in the Notice to Bidders. Bid Bonds must be issued by an approved bonding or insurance company, authorized to do business within the State of New York. Such security shall be an amount of not less than five (5%) per cent of the proposal submitted.

All bid deposits, whether check, credit card, or bond, shall be held by the City of New Rochelle, New York, as security that the person or persons to whom the contract shall be awarded will enter into a contract therefore and give security required for the performance thereof within ten (10) business days after notice of such award. Such bid deposit must be enclosed in the sealed envelope containing the bid.

All such deposits, except those of the two low bidders, fifty percent (50 %) will be returned to the person or persons making the bids within three (3) business days after the opening of the bids, while the remaining deposit will be returned at fifty percent (50%) as soon as the contract has been properly executed by the bidder to whom the contract shall have been awarded. The second low bidder's security deposit shall be kept by the Owner until such a time it is fairly obvious that the awarded contract(s) has (have) a fair chance of completion. In case the low bidder forfeits the contract, the second low bidder shall be awarded the contract.

If the bidder to whom the contract has been awarded shall refuse or neglect to execute and deliver the same and furnish the security required within ten (10) business days after due notice that the contract has been awarded, the amount of the deposit made shall be retained by the said City as liquidated damages for such neglect or refusal, and shall be paid into the General Fund of the said City, but if the said bidder to whom the contract is awarded shall execute and deliver the contract and furnish the said security within the time specified the amount of the deposit will be returned.

The bidder by submission of a bid agrees with the City that the amount of the said deposit represents the amount of the damages the City will suffer by reason of any default as aforesaid.

G. APPROXIMATE ESTIMATE OF QUANTITIES

In the Bidder's Proposal there is a statement of quantities based upon the estimate of the Engineer of the quantities of the various classes of work and the nature and extent, as near as practicable, of the work required. The several bids will be computed, tested and canvassed by the total cost of all the items in this approximate estimate at the prices bid.

The quantities are approximate **only**, being given as a basis for the uniform comparison of bids, and the Commissioner does not expressly or by implication agree that the actual amount of work will correspond therewith, but reserves the right to increase or decrease the quantities and amounts of any or all items of the work at prices bid, as may be deemed necessary by the Engineer.

Bidders are required to submit their estimates upon the following express conditions which shall apply to and become a part of every bid received, to wit:

Bidders must satisfy themselves, by a personal examination of the location of the proposed work and/or by such other means as they may prefer, as to the actual conditions and requirements of the work and the accuracy of the foregoing estimate of the Engineer and shall not at any time after submission of a bid assert or claim that there was any misunderstanding in regard to the nature of the work or the conditions affecting the work.

Attention is called to the uncertainty as to the actual total quantity of materials to be excavated, especially as to the quantities and kinds of material, since that will depend upon the character of the earth and rock which cannot be determined in advance.

An increase or decrease in the quantity for any item shall not be regarded as sufficient ground for an increase or decrease in the prices nor in the time allowed for the completion of the contract, except as provided in the contract.

H. CONSTRUCTION CONDITIONS

Bidders are required to inform themselves fully of the conditions relating to construction and labor under which the work will be or is now being performed and the contractor must employ, so far as practicable, such methods and means in the carrying out of the work as will not cause any interruption or interference with any other contractor(s).

I. TIME FOR COMPLETION

All work included hereunder shall be fully completed within the time stated in **Section 00 31 13 Preliminary Schedule**. This time will be measured in Calendar Days from the date designated by the Commissioner of Public Works in the Notice to the Contractor, ordering the Contract work to be commenced. Failure to complete the work of the Contract within the time specified will be just cause for the retention from any monies due or to become due under the contract, of any damage suffered by the City by reason of such failure to complete the contract. Any delay in the completion of the Contract, caused solely by the City, will be added to the above time allowance for completion. In case of undue or extreme delay caused by the City, funds retained by the City from previous progress payments in accordance with the Contract provisions may be released to the Contractor, if, in the opinion of the Commissioner, the withholding of such retained funds works a hardship on the Contractor. Such release will not, however, relieve the Contractor of any and all obligations under the Contract, which shall remain in full force and effect.

J. REJECTION OF BIDS

The Commissioner reserves the right to select the bid or proposal, the acceptance of which will, in his/her judgment, best secure the efficient performance of the work, or to reject any or all bids. Proposals which are incomplete, conditional, or obscure or which contain additions not called for, erasures, alterations, ambiguities, or irregularities of any kind, may be rejected as informal. Permission will not be given for the withdrawal of any bid or estimate, and the right is expressly reserved by the Commissioner of Public Works to reject all estimates should he/she deem it to the public interests to do so. No estimates will be accepted from or the Contract awarded to any person who is in arrears to the City upon debt or contract, or who is in default, as principal or surety or otherwise, upon any Obligation to the City.

II. **CONDITIONS TO BE MET BY SUCCESSFUL BIDDER**

A. COMPLIANCE WITH CONTRACT PROVISIONS

The successful bidder will be required to comply with the provisions set forth in the Contract in regard to preference in employment and discrimination in employment, hours of work, wage rates and payment of wages, and with all other provisions of the Contract, which Contract is attached hereto, and made a part hereof.

B. COMPLIANCE WITH LABOR AND OTHER LAWS

The successful bidder will be required to agree that bidder will comply with all the applicable provisions of the Labor Law, the Public Health Law, the Lien Law, the Workmen's Compensation Law, the State Unemployment Insurance Law, the Federal Social Security Law, any and all rules and regulations promulgated by the Department of Labor and/or the Industrial Commissioner of the State of New York, any applicable Federal Law, rule or regulation, the Charter of the City of New Rochelle, any Local Laws, ordinances, resolutions, or regulations of the City of New Rochelle, and all amendments and additions thereto.

By submission of the 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 the bidder has and has implemented a written policy addressing sexual harassment prevention in the workplace and provides annual sexual harassment prevention training to all of its employees. Such policy shall, at a minimum, meet the requirements of section 201-g of the labor law.

C. INSURANCE REQUIRED

The attention of bidders is called to the fact that the Contractor will be required to take out, and continue in effect during the life of the Contract, insurance in accordance with the provisions set forth in the Contract, and in the quantities specified therein. Proof of insurance documents must be provided to the City of New Rochelle as stated in the Contract.

D. BOND REQUIRED

For the performance of the Contract a bond will be required which shall be in the penalty of one hundred percent (100%) of the Contract price, shall be in the annexed approved form, shall be signed by the party to whom the work is awarded and by a solvent fidelity or surety company authorized by the laws of this State to transact such business and must meet with the approval of the Corporation Counsel of the City of New Rochelle, as to form and correctness. Said Surety Company must be approved by the Corporation Counsel.

The bidder whose bid shall be accepted will be required to attend at the office of the Commissioner of Public Works in person or, if a corporation, shall be represented by a duly authorized representative, with the surety offered by him/her and shall be prepared to execute the Contract and bond within ten (10) business days after a written notice from the Commissioner of Public Works that the Contract has been awarded to him/her. In case of failure or neglect to do so may, at the option of the Commissioner, be deemed to have abandoned the Contract as in default to the City under the provisions above set forth.

If at any time after the execution and approval of this Contract and the bonds required by the Contract documents, the City of New Rochelle shall deem any of these sureties upon such bonds to be unsatisfactory, or if, for any reason, such bonds shall cease to be adequate security for the City of New Rochelle, the Contractor shall, within ten (10) business days after Notice of the City of New Rochelle by the Commissioner of Public Works do so, furnish new or additional bonds, in form, sum and signed by such sureties as shall be satisfactory to the City of New Rochelle. No further payment shall be deemed due nor shall any further payment be made to the Contractor unless and until such new or additional bonds shall be furnished and approved. Premiums on such bonds will be paid for by the Contractor

E. BIDDER TO BE COMPETENT

Before the award of the Contract, the bidder to whom it is proposed to award same will be required to show to the satisfaction of the Commissioner that the bidder has the necessary facilities, experience, ability, and financial resources to perform the work in a satisfactory manner and within the time stipulated, and that has had experience in construction works of the same or of a similar nature.

F. AWARD OF CONTRACT

The City will award the Contract based upon the base bid price and consideration of ADD Alternate Bids. The City will award alternate bids in the numerical order presented. The award of contract will be based upon the base bid amount plus the alternate or alternates selected by the City.

G. NOTIFICATION TO CONTRACTOR

EQUAL EMPLOYMENT OPPORTUNITY

The Contractor is herein made aware that the City of New Rochelle, New York, requires adherence to the Westchester County Affirmative Action and Equal Opportunity agreements and requirements applicable to public works contracts. It shall be the Contractor's responsibility to become familiar with said requirements, and to comply with any and all regulations stated therein and in the Westchester County Plan (defined below).

ADDITIONAL PROVISIONS

The contractor shall also maintain compliance with the following:

1. COPELAND "ANTI-KICKBACK" ACT - (18 U.S.C. 874) as supplemented in Department of Labor Regulation (29 CFR Part 3).
2. DAVIS-BACON ACT - (40 U.S.C. 276a to a-7) as supplemented in Department of Labor Regulation (29-CFR Part 5).
3. CONTRACT WORK HOURS AND SAFETY STANDARDS ACT - (40 U.S.C. 327-330) SECTIONS 103 & 107 AS SUPPLEMENTED BY Department of Labor Regulation (29 CFR Part 5).
4. PREVAILING WAGE RATES - as supplied by New York State Department of Labor.

NOTE: IF THE ABOVE DOCUMENTS ARE NOT INCLUDED IN THIS SECTION, COPIES OF THE ABOVE MENTIONED REGULATIONS ARE ON FILE IN THE ENGINEERING OFFICE, CITY HALL, 515 NORTH AVENUE, NEW ROCHELLE, NEW YORK, FOR YOUR INFORMATION. SAID REGULATIONS SHALL BE INCLUDED IN THE FINAL CONTRACT PACKAGE.

H. ECONOMIC OPPORTUNITY AND NON-DISCRIMINATION POLICY FOR THE CITY OF NEW ROCHELLE

The City of New Rochelle finds and determines that contracts awarded by the City, and economic development projects supported by the City or benefiting from zoning enhancements, provide a crucial opportunity for advancing City policy objectives, including targeting employment and business opportunities. In addition, prohibiting barriers to employment and invidious discrimination in City-supported contracts and projects is an important goal of the City in its expenditures and economic development activities.

Pursuant to Chapter 31 of the New Rochelle City Code, the successful bidder will be obligated to adhere to the City established Economic Opportunity and Nondiscrimination Policy applicable to City-awarded contracts and specified economic development projects, as follows:

1. Employment and training opportunities
 - a. Construction Employment. Each Construction Contractor shall take the following steps in the following order, in an effort to employ Targeted Workers to perform at least 20% of the work hours on the project or contract.
 - (i) Step One: Utilize the Construction Contractor's discretion to assign to perform project work to any current employees who are Targeted Workers;
 - (ii) Step Two: If the Construction Contractor utilizes a union hiring hall to retain workers, utilize name call, rehire, similar procedures in the relevant collective bargaining agreement, and an explicit request, to retain Targeted Workers;
 - (iii) Step Three: If the above steps have not enabled employment of Targeted Workers to perform at least 20% of the work hours on the project or contract, request referral of Targeted Workers from the City's First Source Center; and

- (iv) Step Four: Reasonably consider workers that have been referred by the First Source Center within five business days of request therefor.

If the Construction Contractor has not filled available jobs with Targeted Workers through the steps set forth above, it may recruit and hire workers through any mechanism, and shall continue to reasonably consider workers that have been referred by the First Source Center for up to 15 days after initial notification. Employers that need to hire on an emergency basis in order to maintain operations may hire from any source immediately, but still shall notify the First Source Center about available positions, and reasonably consider any candidates referred before hiring is complete.

New apprentice employment requirements for Prime Contractors. For each 20,000 construction work hours performed by a Prime Contractor and its subcontractors of any tier, such Prime Contractor and its subcontractors of any tier shall act as a Subscribing Employer for at least one individual newly enrolled as an apprentice in an apprenticeship program registered with the New York State Department of Labor, and employ such new apprentice for an aggregate total of at least 1,000 hours of work on the prime contract or subcontracts.

- b. Non-construction employment. Each Employer shall undertake the following steps in the following order, in an effort to hire Targeted Workers to fill at least 25% of available jobs on the project or contract.
 - (i) Step One: Notification of job opportunities. When an Employer has an opening for an on-site job available, the Employer shall notify the First Source Center of the job opening and provide a description of job responsibilities and qualifications. Job qualifications shall be limited to qualifications directly related to performance of job duties.
 - (ii) Step Two: Consideration of Targeted Workers. The Employer shall then use standard hiring practices, including interviews, to consider all Targeted Workers referred by the First Source Center and meeting the qualifications described in the referral request during a five-day period after initial notification, or until all open on-site jobs are filled, whichever is sooner. The Employer shall make good-faith efforts to fill all available on-site jobs with Targeted Workers. If at the conclusion of the five-day period the Employer has been unable to fill all openings for on-site jobs with Targeted Workers, the Employer may use other recruitment methods. Employers that need to hire on an emergency basis in order to maintain operations may hire from any source immediately, but still shall notify the First Source Center about available positions, and reasonably consider any candidates referred before hiring is complete.
- c. Hiring discretion. Nothing in this policy requires that any Construction Contractor or Employer hire any particular individual. Each Construction Contractor shall have the sole discretion to judge the qualification of and to hire or decline to hire any individual referred by the First Source Center or any other source. In order to improve the first source system and the City's job training pipeline, each Employer that declines to hire a first source referral for an available position shall provide to the First Source Center a written account of reasons for rejecting such candidates.

2. Business Opportunities

a. Construction contracts

- (i) Prime contracting. The City and each Developer shall have a goal of awarding at least 10% of prime contracts for construction work, including trucking services, to businesses based in the City. The City and the Developer shall make affirmative efforts to provide outreach to M/WBEs, including notification of bidding opportunities to a list of sources provided by the City, responsive communications with M/WBEs that express interest in bidding, and full and fair considerations of bids submitted by M/WBEs.
- (ii) Subcontracting. Each Prime Contractor shall have a goal of awarding at least 20% of the dollar value of subcontracts for construction work, including trucking services, to businesses based in the City. Each Prime Contractor shall make affirmative efforts to provide outreach to M/WBEs, including notification of bidding opportunities to a list of sources provided by the City, responsive communications with M/WBEs that express interest in bidding, and full and fair considerations of bids submitted by M/WBEs.
- (iii) Contracts and subcontracts for construction shall include the requirement to submit quarterly utilization reports in a form provided by the City indicating the number and percentage of Targeted Workers and M/WBEs employed at a job site, with certified payroll sheets listing employees' biweekly payroll.

b. Service contracts

- (i) The City, each Developer, Employers, and management entities operating portions of Public-Private Projects shall have a goal of awarding at least 20% of the dollar value of service contracts (not including construction contracts) to be performed on-site at the project to businesses based in the City. Entities awarding service contracts shall make affirmative efforts to provide outreach to M/WBEs, including notification of bidding opportunities to a list of sources provided by the City, responsive communications with M/WBEs that express interest in bidding, and full and fair considerations of bids submitted by M/WBEs.
- (ii) Service contracts shall include the requirement to submit quarterly utilization reports in a form provided by the City indicating the number and percentage of Targeted Workers and M/WBEs employed on Public-Private Projects, with certified payroll sheets listing employees' biweekly payroll.

3. Implementation

- a. This Policy applies to and shall be incorporated into all City Contracts and into contracts between the City and Developers related to Public-Private Projects. When parties referenced in this Policy engage subcontractors, tenants, and other parties to operate in Public-Private Projects or as participants in fulfillment of City Contracts, this Policy shall be incorporated by reference into relevant contracts as a material term, enforceable by the City as a third-party beneficiary.

- b. All parties with responsibilities under this Policy agree to provide information requested by the City as necessary to determine compliance with this Policy. Developers, Prime Contractors, and Employers shall provide annual public reports regarding compliance with this Policy.
- c. Developers, Construction Contractors, and Employers are subject to liquidated damages in cases of noncompliance with this Policy. Liquidated damages shall be assessed by the City only in cases of sustained, material noncompliance, and after notice and opportunity to correct. Developers, Construction Contractors, and Employers also agree to remedies of specific performance and other contractual or equitable remedies related to compliance with this Policy.
- d. If any provision of this Policy or any application thereof to any person or circumstances is held invalid by final judgment of any court of competent jurisdiction, such invalidity shall not affect other provisions or application of this Policy, which can be given effect without the invalid provision or application, and to this end the provisions of this Policy are declared to be severable.

4. Nondiscrimination Policy

Each Construction Contractor, Employer, and Developer shall refrain from discrimination or harassment based on race, ethnicity, national origin, gender, gender identity, sexual orientation, age, religion, disability, veteran status, or any other basis prohibited by law, in all activities in furtherance of or on site of work performed in relation to a City Contract or a Public-Private Project. Such entities shall take active steps to ensure that all activities related to City Contracts and Public-Private Projects are conducted without discrimination or harassment on these bases by all employees and representatives.

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Renaissance at Lincoln Park
18-1658.00

Construction Documents
January 2021

116 Guion Place Garage Plumbing Project # 20-032P

CITY OF NEW ROCHELLE MONTHLY EMPLOYMENT UTILIZATION REPORT

CONTRACTOR _____

OFFICIAL SIGNATURE AND TITLE _____

ADDRESS _____

TELEPHONE NUMBER _____

PROJECT _____

DATE SIGNED _____

	CONSTRUCTION TRADE CLASSIFICATIONS	TOTAL EMPLOYEES	BLACK	HISPANIC	FEMALE	MINORITY PERCENTAGE	FEMALE PERCENTAGE
	Journey Worker APPRENTICE TRAINEE SUB-TOTAL						
	Journey Worker APPRENTICE TRAINEE SUB-TOTAL						
	Journey Worker APPRENTICE TRAINEE SUB-TOTAL						
	Journey Worker APPRENTICE TRAINEE SUB-TOTAL						
	Journey Worker APPRENTICE TRAINEE SUB-TOTAL						
TOTALS	Journey Worker APPRENTICE TRAINEE SUB-TOTAL						

I. NEW YORK STATE AFFIRMATIVE ACTION REQUIREMENTS

(BID CONDITIONS – EQUAL EMPLOYMENT OPPORTUNITY)

(For all State and State-Assisted Construction Contracts to be awarded in this County of the State of New York, with the exception of those contracts which involve Federal assistance and for which Federal Bid Conditions are required).

PART I

The provisions of this Part I apply to Bidders, Contractors and Subcontractors with respect to those construction trades for which they are parties to collective bargaining agreements with a labor organization or organizations and who together with such labor organizations have agreed to the Westchester County, New York area Equal Employment Opportunity Agreement (but only as to those trades as to which there are commitments by labor organizations to specific goals of minority manpower utilization) between the Building Trades Employers Association of said County, the Builder's Institute of Westchester & Putnam Counties, various labor organizations, General and Specialty Contractors and their associations and the minority coalition, together with all implementing agreements that have been and may hereafter be developed pursuant thereto, all of which documents are incorporated herein by reference and are hereinafter cumulatively referred to as the "Westchester County Plan."

Any Bidder, Contractor or Subcontractor using one or more trades of construction employees must either comply with Part I or Part II or these Bid Conditions as to each such trade. Thus, a Bidder, Contractor or Subcontractor may be in compliance with these conditions by its inclusion, with its union, in the Westchester County Plan as to trade "A", provided there is set forth in the Westchester County Plan a specific commitment by that union to a goal of minority manpower utilization for such trade "A", thereby meeting the provisions of this Part I, and by its commitment to Part II in regard to trade "B" in the instance in which it is not included in the Westchester County Plan, and, therefore, cannot meet the provisions of this Part I.

To be eligible for award of a contract under Part I of this invitation, a Bidder or Subcontractor must execute the certification required by Part III hereof.

PART II

A. COVERAGE

The provisions of this Part II shall be applicable to those Bidders, Contractors, and Subcontractors, who, in regard to those construction trades to be utilized on the Project to which these bid conditions pertain:

1. Are not or hereafter cease to be signatories to the Westchester County Plan referred to in Part I hereof;
2. Are signatories to the Westchester County Plan, but are not parties to collective bargaining agreements;
3. Are signatories to the Westchester County Plan, but are parties to collective bargaining agreements with labor organizations who are not or hereafter cease to be signatories to the Westchester County Plan.

4. Are signatories to the Westchester County Plan but as to which no specific commitment to goals of minority manpower utilization by labor organization have been executed pursuant to the Westchester County Plan; or,
5. Are no longer participating in an affirmative action plan acceptable to the Industrial Commissioner, including the Westchester County Plan.

B. REQUIREMENT: AN AFFIRMATIVE ACTION PLAN:

The bidders, contractors and subcontractors described in paragraphs 1 through 5 aforementioned will not be eligible for award of a contract under this Invitation for Bids, unless it certifies as prescribed in paragraph 2b of the certification specified in Part III hereof that it adopts the minimum goals and timetables of minority manpower utilization (1) and specific affirmative action steps set forth in Section B.1 and 2 of this Part II directed at increasing minority manpower utilization by means of applying good faith efforts to carrying out such steps; or is deemed to have adopted such a program pursuant to Section B.3 of this Part II.

1. Goals and Timetables:

The goals of minority manpower utilization required of the bidder and subcontractors are applicable to each trade not otherwise bound by the provisions of Part I hereof which will be used on the project in Westchester County, New York (hereinafter referred to as the "Area") shall be 11.0%-13.0%.

The percentage goals of minority manpower utilization aforementioned are expressed in terms of man-hours of training and employment as a proportion of the total man-hours to be worked by the Bidder's, Contractor's and Subcontractor's entire work force in that trade on all projects (both state and non-state) in the Area during the performance of its Contract or Subcontract. The man-hours for minority work and training must be substantially uniform throughout the length of the contract, on all projects and for each of the trades. Further, the transfer of minority employees or trainees from employer-to employer or from project-to-project for the sole purpose of meeting the contractor's or subcontractor's goal shall be a violation of these conditions. In reaching the goals of minority manpower utilization required of bidder, contractors and subcontractors pursuant to this Part II, every effort shall be made to find and employ qualified journeymen. However, where minority journeymen are not available, minority trainees in pre-apprenticeship, apprenticeship, journeyman training or other training programs may be used.

In order that the non-working training hours of trainees may be counted in meeting the goal, such trainees must be employed by the contractor during the training period, the contractor must have made a commitment to employ the trainees at the completion of their training subject to the availability of employment opportunities and the trainees must be trained pursuant to established training programs which must be the equivalent of the training programs now or hereafter provided for in the Westchester County Plan with respect to the nature, extent and duration of training offered.

A contractor or subcontractor shall be deemed to be in compliance with the terms and requirements of this Part II by the employment and training of minorities in the appropriate percentage of his aggregate work force in the Area for each trade for which it is committed to a goal under this Part II.

However, no contractor or subcontractor shall be found to be in non-compliance solely on account of its failure to meet its goals within its timetables, but such Contractor shall be given the opportunity to demonstrate that it has instituted all of the specific affirmative action steps specified in this Part II and has made every good faith effort to make these steps work toward the attainment of its goals within its timetables, all to the purpose of expanding minority manpower utilization on all of its projects in the Area.

In all cases, the compliance of a bidder, contractor or subcontractor will be determined in accordance with its respective Obligations under the terms of these Bid Conditions. Therefore, contractors or subcontractors who are governed by the provisions of this Part II shall be subject to the requirements of that Part regardless of the obligations of its prime contractor or low tier subcontractors.

2. All bidders and all contractors and subcontractors performing or to perform work on projects subject to these Bid Conditions hereby agree to inform their subcontractors of their respective obligations under the terms and requirements of these Bid Conditions, including the provisions relating to goals of minority employment and training.
3. Specific Affirmative Action Steps: Bidders, contractors and subcontractors subject to this Part II must engage in affirmative action directed at increasing minority manpower utilization, which is at least as extensive and as specific as the following steps:
 - a. The Contractor shall notify community organizations that the Contractor has employment opportunities available and shall maintain records of the organizations' response.
 - b. The Contractor shall maintain a file of the names and addresses of each minority worker referred to him/her and what action was taken with respect to each such referred worker, and if the worker was not sent to the union hiring hall for referral or if such worker was not employed by the contractor, the contractor's file shall document this and the reasons therefore.
 - c. The Contractor shall promptly notify the City when the union or unions with whom the Contractor has a collective bargaining agreement has not referred to the Contractor a minority worker sent by the Contractor or the Contractor has other information that the union referral has impeded Contractor in efforts to meet goal.
 - d. The contractor shall participate in training programs in the area, especially those funded by the Department of Labor.
 - e. The contractor shall disseminate EEO policy within own organization by including it in any policy manual, by publicizing it in company newspapers, annual reports, etc., by conducting staff, employee and union representatives' meetings to explain and discuss the policy, by posting of the policy, and by specific review of the policy with minority employees.
 - f. The contractor shall disseminate his EEO policy externally by informing and discussing it with all recruitment sources, by advertising in news media, specifically including minority news media, and by notifying and discussing it with all subcontractors and suppliers.

- g. The contractor shall make specific and constant personal (both written and oral) recruitment efforts directed at all minority organizations, schools with minority students, minority recruitment organizations, and minority training organizations, within the contractor's recruitment area.
 - h. The contractor shall make specific efforts to encourage present minority employees to recruit their friends and relatives.
 - i. The contractor shall validate all worker specifications, selection requirements, test, etc.
 - j. The contractor shall make every effort to promote after-school, summer and vacation employment to minority youth.
 - k. The contractor shall develop on-the-job training opportunities and participate and assist in any association or employer-group training programs relevant to the contractor's employee needs consistent with its obligations under this Part II.
 - l. The contractor shall continually inventory and evaluate all minority personnel for promotion opportunities and encourage minority employees to seek such opportunities.
 - m. The contractor shall make sure that seniority practices, job classifications, etc., do not have a discriminatory effect.
 - n. The contractor shall make certain that all facilities and company activities are non-segregated.
 - o. The contractor shall continually monitor all personnel activities to ensure that EEO policy is being carried out.
 - p. The contractor shall solicit bids for subcontracts from available minority subcontractors engaged in the trades covered by these Bid Conditions, including circulation of minority contractor associations.
4. Contractors and Subcontractors Deemed to be Bound by Part II: In the event a Contractor or Subcontractor, who is at the time of bidding eligible under Part I of these Bid Conditions, is no longer participating in an affirmative action plan acceptable to the Industrial Commissioner, including the, shall be deemed to be committed to Part II of these Bid Conditions. Further, whenever a contractor or subcontractor is deemed to be committed to Part II of these Bid Conditions shall be considered to be committed to a manpower utilization percentage goal of the minimum range for that trade for the appropriate year.
5. Subsequent Signatory to the Westchester County Plan: Any contractor or subcontractor subject to the requirements of this Part II for any trade at the time of the submission of his bid who together with the labor organization with whom it has a collective bargaining agreement subsequently becomes a signatory to the Westchester County Plan, either individually or through an association, may meet its requirements under these Bid Conditions for such trade, if such contractor or subcontractor executes and submits a new certification committing to Part I of these Bid Conditions. No contractor or subcontractor shall be deemed to be subject to the requirements of Part I until such certification is executed and submitted.

6. Non-Discrimination: In no event may a contractor or subcontractor utilize the goals, timetables or affirmative action steps required by this Part II in such a manner as to cause or result in discrimination against any person on account of race, color, religion, sex or national origin.

PART III

A. BIDDER'S CERTIFICATIONS

A bidder will not be eligible for award of a contract under this Invitation for Bids unless such bidder has submitted as a part of its bid the following certification, which will be deemed a part of the resulting Contract:

BIDDERS' CERTIFICATION

_____ certifies that:
(Bidder)

1. It intends to use the following listed construction trades in the work under the Contract:

_____ ; and

- a. As to those trades set forth in the preceding paragraph one hereof for which it is eligible under Part I of these Bid Conditions for participation in the Westchester County Plan, it will comply with the Westchester County area within the scope of coverage of that Plan, those trades being:

_____, and/or

- b. As to those trades for which it is required by these Bid Conditions to comply with Part I of these Bid Conditions, it adopts the minimum minority manpower utilization goals and the specific affirmative action steps contained in said Part II, for all construction work (both state and non-state) in the Westchester County area subject to these Bid Conditions, those trades being:

_____ 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 the subcontractor certification required by these Bid Conditions.

(Signature of authorized representative of bidder)

B. SUBCONTRACTORS' CERTIFICATIONS

Prior to the award of any subcontract under this Invitation for bids, regardless of tier, the prospective subcontractor must execute and submit to the Prime Contractor the following certification, which will be deemed a part of the resulting subcontract:

SUBCONTRACTORS' CERTIFICATION

_____ certifies that:
(Subcontractor)

1. It intends to use the following listed construction trades in the work under the subcontract

_____;

- a. As to those trades set forth in the preceding paragraph one hereof for which it is eligible under Part I of these Bid Conditions for participation in the Westchester County Plan, it will comply with the Westchester County Plan on all construction work (both state and non-state) in the Westchester County area subject to these Bid Condition, those trades being:

_____;

- b. As to those trades for which it is required by these Bid Conditions to comply with Part II of these Bid Conditions, it adopts the minimum minority manpower utilization goals and the specific affirmative action steps contained in said Part II for all construction work (both state and non-state) in the Westchester County area subject to these Bid Conditions, those trades being:

_____;

2. It will obtain from each of its subcontractors prior to the award of any subcontract under this subcontract the subcontractor certification required by these Big Conditions.

X _____

(Signature of authorized representative of bidder)

In order to ensure that the said subcontractors' certification becomes a part of all subcontracts under the prime contract, no subcontract shall be executed until an authorized representative of the City has determined, in writing, that the said certification has been incorporated in such subcontract, regardless of tier. Any subcontract executed without such written approval shall be void.

C. MATERIALLY AND RESPONSIVENESS

The certifications required to be made by Bidder pursuant to these Bid Conditions is material, and will govern the Bidder's performance on the project and will be made a part of bid. Failure to submit the certification will render the bid non-responsive.

PART IV – COMPLIANCE AND ENFORCEMENT

Contractors are responsible for informing their Subcontractor (regardless of tier) as to their respective obligations under Parts I and II hereof (as applicable). Bidders, Contractors and Subcontractors hereby agree to refrain from entering into any contract or contract modification with a Contractor debarred from, or who is determined not to be a "Responsible" Bidder for, state contracts and state-assisted construction contracts. The Bidder, Contractor or Subcontractor shall carry out such sanctions and penalties for violation of the equal opportunity clause including suspension, termination and cancellation of existing subcontracts as may be imposed or ordered by the administering agency or the contracting agency. Any Bidder, Contractor or Subcontractor who shall fail to carry out such sanctions and penalties shall be deemed to be in non-compliance with these Bid Conditions.

Nothing herein is intended to relive any Contractor or Subcontractor during the term of its contract on this project from compliance with the Equal Opportunity Clause of its contract, with respect to matters not covered in the Westchester County Plan or in Part II of these Bid Conditions.

Violation of any substantial requirement in the Westchester County Plan by a Contractor or Subcontractor covered by Part I of these Bid Conditions including the failure of such Contractor or Subcontractor to make a good faith effort to meet its fair share of the trade's goals of minority manpower utilization, or of the requirements of Part II hereof by a Contractor or Subcontractor who is covered by Part II shall be deemed to be non-compliance by such Contractor or Subcontractor with the Equal Opportunity Clause of the contract, and shall be grounds for imposition of appropriate sanctions and penalties.

Each agency shall review its Contractors' and Subcontractors' employment practices during the performance of the contract. If the agency determines that the Westchester County Plan no longer represents effective affirmative action, it shall so notify the New York State Department of Labor (NYSDOL) which shall be solely responsible for any final determination of that question and the consequences thereof.

In regard to Part II of these conditions if the Contractor or Subcontractor meets its goals or if the Contractor or Subcontractor can demonstrate that it has made every good faith effort to meet those goals, the Contractor or Subcontractor shall be presumed to be in compliance with its obligations under these Bid Conditions and no formal sanctions or proceedings leading toward sanctions shall be instituted unless the agency otherwise determines that the Contractor or Subcontractor is not providing equal employment opportunities. In judging whether a Contractor or Subcontractor has met its goals; the agency will consider each Contractor's or Subcontractor's minority manpower utilization of its Subcontractors. Where the agency finds that the Contractor or Subcontractor has failed to comply with its obligations under these Bid Conditions, the agency shall take such action and impose such sanctions as may be appropriate. When the agency proceeds with such formal action it has the burden of proving that the Contractor has not met the requirements of these Bid Conditions, but the Contractor's failure to meet his goals shall shift to him the requirement to come forward with evidence to show that he has met the "good faith" requirements of these Bid Conditions by instituting at least the Specific Affirmative Action steps

listed above and by making every good faith effort to make those steps work toward the attainment of its goals within its timetables.

Contractors and Subcontractors must keep such records and file such reports relating to the provisions of these Bid Conditions as shall be required by the contracting or administering agency or the Department of Labor.

For the information of Bidders, a copy of the Westchester County Plan may be obtained from the contracting officer.

(NO TEXT HERE)

SECTION B: BID PROPOSAL

Fed. ID# (or SS#) _____

Proposal of _____

(hereinafter-called 'Bidder') (a

_____ corporation/ a Partnership/ an individual doing
business as

_____, to the _____ (hereinafter called
Owner) _____

The Bidder, in compliance with your Invitation for Bids for the **Construction of Renaissance @ Lincoln Park 116 Guion Place Garage Plumbing Project # 20-032P** having examined the Bid Documents and the site of the proposed work, and being familiar with all of the conditions surrounding the construction of the proposed project including the availability of materials and labor, hereby proposes to furnish all labor, materials, and supplies, and to construct the project in accordance with the Bid Documents, within the time set forth therein, and at the prices stated below. These prices are to cover all expenses incurred in performing the work required under the Bid Documents, of which this proposal becomes a part thereof.

Bidder hereby agrees to commence work under this contract on or before a date to be specified in written "Notice to Proceed" of the Owner and to fully complete the project within consecutive calendar days thereafter as stipulated in the Bid Documents. Bidder further agrees to pay as liquidated damages, the sum set forth in Schedule A for each consecutive calendar day there after that the work is not completed as hereinafter provided in the General and Special Conditions of the Contract Documents.

Bidder acknowledges receipt of the following addendum (LIST ALL):

<u>ADDENDUM</u>	<u>DATE</u>	<u>SIGNATURE OF PERSON SIGNING PROPOSAL</u>
1. _____	_____	_____
2. _____	_____	_____
3. _____	_____	_____
4. _____	_____	_____
5. _____	_____	_____
6. _____	_____	_____

TOTAL BID PRICE: Bidder agrees to perform all of the **Construction of Renaissance @ Lincoln Park 116 Guion Place Garage Plumbing Project # 20-032P** work described in the Bid Documents for the sum of

(Amount shall be shown in both words and figures. In case of discrepancy, the amount shown in words will govern.)

Bidder understands that the Owner reserves the right to reject any or all bids and to waive any informalities in the bidding.

The Bidder agrees that this bid shall be good and may not be withdrawn for a period of 45 calendar days after the scheduled closing time for receiving bids.

Upon receipt of written notice of the acceptance of this Bid, Bidder will execute a formal contract with the Owner and deliver the required Insurance Coverage and Surety Bonds within ten (10) business days thereafter.

The bid security attached in the sum of _____
\$ _____ is to become
the property of the Owner in the event the required Bonds and Insurance are not provided and the contract is not executed within the time above set forth, as liquidated damages for the delay and additional expense to the Owner caused thereby.

Respectfully Submitted:

BY: _____
(Signature)

(Title)

(SEAL- if Bid is by a corporation)

CONTRACTOR'S QUALIFICATION STATEMENT

The signatory of this questionnaire certifies under oath the truth and correctness of all statements and of all answers to interrogatories hereinafter made.

SUBMITTED TO: Commissioner of Public Works City of New Rochelle

SUBMITTED BY: _____ A Corporation
A Co- Partnership
An Individual

PRINCIPAL OFFICE: _____

Tel: _____

<u>Title</u>	<u>Name</u>	<u>Address</u>	<u>Background</u> <u>Profession of Trade</u>
_____	_____	_____	_____
_____	_____	_____	_____

Persons of firms submitting bids must be engaged in the liens of work required in these specifications or shall be able to refer to work of similar character performed by them. Proposers must present satisfactory evidence of experience, ability and financial standing, and also a statement as to their plant and machinery.

1. How many years has your organization been in business as a general contractor under its present name? _____
2. We normally perform _____% of the **work with our** own forces. List trades below:

3. Have you ever failed to complete any work awarded to you? _____ if so, note where and why. _____

4. List the major construction projects your organization has under way on this date.

Bidder _____

By _____

Title _____

5. List five (5) major projects your organization has completed in the past five (5) years: **(Attach Additional pages if more space is required)**

Project	Owner	Architect	Contract Amount	Completion Date

6. List the construction experience of the principal individuals of your organization (particularly the Anticipated Project Supervisors) **(Attach Additional pages if more space is required)**

Individual's Name	Present Position or Office	Years of Experience	Types of work for which responsible	In What Capacity

7. Plumbing Bid Breakdown:

- a Design and engineering services complete thru shop tickets: \$_____
- b Mobilization \$_____
- c Drainage \$_____
- d Cold Water Washdown \$_____
- e Sump pumps \$_____
- f Retention Basin plumbing \$_____
- g Miscellaneous \$_____
- h Performance bond \$_____

8. Bank References _____

9. Trade Association Membership

10. Attach State of Financial Conditions, including contractor's latest regular dated financial statement or balance sheet.

Date of current statement or balance sheet: _____

Name of Firm preparing statement: _____

Dated at _____ this _____ day of _____ 20____

Name of Organization:_____

By: _____

Title: _____

STATE OF _____)
)
COUNTY OF _____) SS:

As _____ being duly sworn
deposes and says that he/she is the _____ of
_____ Contractor and that
answers to the foregoing questions and all statements therein contained are true and correct.

SWORN TO BEFORE ME THIS _____ DAY OF _____

NOTARY PUBLIC

My Commission Expires:

CURRENT

with the following exceptions:

STATE OF _____)
) ss:
COUNTY OF _____)

As _____ being duly sworn
deposes and says that he/she is the _____ of
_____ Contractor and that
answers to the foregoing questions and all statements therein contained are true and
correct.

SWORN TO BEFORE ME THIS _____ DAY
OF _____

NOTARY PUBLIC

My Commission Expires:

STATEMENT OF NON-COLLUSION

(To Be Completed by Each Bidder)

In accordance with Section 103-d General Municipal Law, effective September 1, 1966, every bid or proposal hereafter made to a political subdivision of the State or any public department, agency, or official thereof or to a fire district or any agency or official thereof for work or services performed or to be performed or goods sold or to be sold, shall contain the following statement subscribed to by the Bidder and affirmed by such Bidder as true under the penalties of perjury; non-collusive bidding certification.

- a. 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 knowledge and belief:
 1. The prices in this bid have been arrived at independently without collusion, consultation, communication, or agreement, for the purpose of restricting competition, as to any matter relating to such prices with any other Bidder or 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 Bidder or to any competitor.
 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.
- b. The person signing this bid or proposal certifies that he has fully informed himself/herself regarding the accuracy of the statements contained in this certification, and under the penalties of perjury, affirms the truth thereof, such penalties being applicable to the Bidder, as well as the person signing in its behalf.
- c. That attached hereto (if a Corporate Bidder) is a certified copy of resolution authorizing the execution of this certificate by the signator of this bid or proposal in behalf of the Corporate Bidder.

RESOLUTION

Resolved that _____ be
(Name of Corporation)

authorized to sign and submit the bid or proposal of this corporation for the following
project

(Describe Project)

and to include in such bid or proposal the certificate as to non-collusion required by section
one-hundred-three-d (103-d) of the General Municipal Law as the act and deed of such
Corporation, and for any inaccuracies or mis-statements in such certificate this corporate
Bidder shall be liable under the penalties of perjury.

The foregoing is a true and correct copy of the resolution adopted by

Corporation at a meeting of the Board of Commissioners held on the _____ day
of _____.

(SEAL OF THE CORPORATION)

Secretary

NEW YORK STATE AFFIRMATIVE ACTION CERTIFICATION
(TO BE COMPLETED BY EACH BIDDER)

Bidder's Certifications: (See Section I, Part III)

A Bidder will not be eligible for award of a contract under this Invitation for Bids unless such Bidder has submitted as a part of its bid the following certification, which will be deemed a part of the resulting contract:

BIDDERS CERTIFICATION

(Bidder)

Certifies that:

1. It intends to use the following listed construction trades in the work under the Contract

_____ and;

- a. As to those trades set forth in the preceding paragraph one hereof for which it is eligible under Part I of these Bid Conditions, it will comply with the Westchester County Affirmative Action requirements for Public Works Contracts, area within the scope of coverage of that Plan, those trades being:

_____ and/or;

- b. As to those trades for which it is required by these Bid Conditions to comply with Part II of these Bid Conditions, it adopts the minimum minority manpower utilization goals and the specific affirmative action steps contained in said Part II, for all construction work (both state and non-state) in the aforementioned area subject to these Bid Conditions, those trades being:

_____ and;

2. It will obtain from each of its subcontractors and submit to the contracting or administering agency prior to the award of any subcontractor under this contract the subcontractor certification required by these Bid Conditions.

(Signature of Authorized Representative of Bidder)

ADDENDUM TO SECTION C – GENERAL AGREEMENT

This Addendum supplements and modifies provisions of the General Agreement as follows:

1. Page C-1: Revise and/or add the following definitions to **“ARTICLE 2 - DEFINITIONS”**:

2.1.3 “City” and “Owner” shall mean the City of New Rochelle.

2.1.20. “Resident Engineer” shall mean the City Engineer’s designees, including a private architect, engineer or project manager, as the case may be.

2.1.26 The roles and responsibilities of other relevant parties are as follows:

Party	Responsibility
The City of New Rochelle (the “City” or the “Municipality” or the “Owner”)	The City shall engage third parties to: (1) serve as construction manager of the garage Work; (2) fabricate and erect the precast concrete and architectural thin brick insert; and (3) perform all plumbing, electrical, and mechanical work as required by applicable law and as further set forth in Specification Section 01 11 00, Summary of Work (the “City Garage Work”).
“Construction Manager” “Resident Engineer” “Engineer”	The party engaged by the City to coordinate the City Garage Work with the Developer Garage Work (as defined below) and to manage all Garage Work in accordance with the site logistics plan developed by the Developer (as defined below) and the City. The Construction Manager has the authority to direct and communicate with the Contractor on behalf of the City and the Contractor shall comply with all directives and communications of the Construction Manager with respect to Contractor’s Work. Contractor acknowledges and agrees that in no event shall the City or the Construction Manager have control over, charge of, or any responsibility for construction means, methods, techniques, sequences or procedures or for safety precautions and programs in connection with Contractor’s Work.
The County of Westchester (the “County”)	The County is providing certain funds to help support the construction of the Garage.
Lincoln Renaissance Apartments LLC (the “Developer”)	Developer of the overall project, which includes construction of an approximately 22,000 square foot community services facility (the “Facility”), an eleven-story

Party	Responsibility
	residential building with 179 residential apartments (the “Apartments”), and a five-level parking garage with approximately 356 parking spaces (the “Garage”).
The Guion Place Renaissance Housing Development Fund Company, Inc. (“HDFC”)	The not-for-profit corporation that is partnering with Developer.
NRP Touchstone JV LLC (NRP/TS)	Developer’s General Contractor for the Facility, the Apartments and certain portions of the Garage that are not subject to public bid as further identified in Section 01 11 00, Summary of Work (the “Developer Garage Work”).
“Architect”, “Designer”, “Design Profession of Record”, “Architect / Engineer Team”, “Engineer of Record”	Design Professionals of Record for the Parking Structure and Site Work. = Walker Consultants, Ettinger Engineering, McNamara Salvia and VHB

Contractor hereby acknowledges that the City has granted the Developer the right to enforce the Contract in the event that the City defaults in its obligations to the Developer or the County, and Contractor agrees to such rights of enforcement. For the Garage Work, Contractor shall provide the Developer the rights and remedies of the City to enforce and assert post-completion claims for breach of contract, breach of warranty or any other claims arising out of or related to the Contractor’s involvement with the Garage Work. For the Garage Work, the Contractor shall add the Developer as an Additional Insured and indemnify, defend and hold harmless Developer to the same extent that such rights are afforded to the City. Contractor shall also add Developer and the County and their respective successors and assigns as a co-obligee under a multiple obligee rider on all payment and performance bonds procured by Contractor under the Contract.

2. On Page C-5: Add the following to “**ARTICLE 5. CONTRACTORS**”

5.7 CONTRACTOR has examined and carefully studied the Contract Documents (including Addenda, **if any**) and other related data identified in the Bidding Documents including “technical data.”

5.8 CONTRACTOR has visited the site and become familiar with and is satisfied as to the general, local, and site conditions that may affect cost, progress, performance and furnishing of the Work.

5.9 CONTRACTOR is familiar with and is satisfied as to all federal, state, and local laws and regulations that may affect, progress, performance and furnishing of the Work.

5.10 CONTRACTOR has carefully studied all reports of explorations and tests of subsurface conditions at or contiguous to the site and all drawings of physical conditions in or relating to existing surface or subsurface structures at or contiguous to the site (except Underground Facilities). CONTRACTOR acknowledges that such reports and drawings are not Contract Documents and may not be complete for CONTRACTOR'S purposes. CONTRACTOR acknowledges that CITY and ENGINEER do not assume responsibility for the accuracy or completeness of information and data shown or indicated in the Contract Documents with respect to Underground Facilities at or contiguous to the site. CONTRACTOR has obtained and carefully studied (or assumes responsibility of having done so) all such additional supplementary examinations, investigations, explorations test, studies and data concerning conditions (surface, subsurface, Underground Facilities) at or contiguous to the site or otherwise which may affect the cost, progress, performance, or furnishing of the Work or which relate to any aspect of the means, methods, techniques, sequences, and procedures of construction to be employed by CONTRACTOR and safety precautions, and programs incident thereto. CONTRACTOR does not consider that any additional examinations, investigations, explorations, test, studies, or data are necessary for the performance and furnishing of the Work.

5.11 CONTRACTOR is aware of the general nature of the Work to be performed by CITY and others at the site that relates to the Work as indicated in the Contract Documents.

5.12 CONTRACTOR has correlated the information known to the CONTRACTOR, information and observation obtained from visits to the site, reports, and drawings identified in the Contract Documents and all additional examinations, investigations, explorations, tests, studies, and data with the Contract Documents.

5.13 CONTRACTOR has given Construction Manager and City's ENGINEER written notice of all conflicts, errors, ambiguities or discrepancies that CONTRACTOR has discovered in the Contract Documents and the written resolution thereof by ENGINEER is acceptable to the CONTRACTOR, and the Contract Documents are sufficient to indicate and convey understanding of all terms and conditions for performance and furnishing of the Work.

1. Page C-8: Add the following to "**ARTICLE 8 – COMMENCEMENT AND PROSECUTION OF WORK; TIME FOR COMPLETION; LIQUIDATED DAMAGES**":

8.19 Liquidated Damages. CITY and CONTRACTOR recognize that time is of the essence of this Agreement and that the CITY will suffer financial loss if the Work is not completed within the times specified in paragraph 8.19 above, plus any extensions thereof allowed. They also recognize delays, expense and difficulties involved in proving the actual loss suffered by the CITY if Garage is not completed on time. Accordingly, instead of such proof, CITY and CONTRACTOR agree that as liquidated damages for delay (but not as a penalty) CONTRACTOR shall pay CITY Liquidated Damages assessed in accordance with the Schedule of Liquidated Damages included below.

Table 108-1 SCHEDULE OF LIQUIDATED DAMAGES		
Original Total Contract Bid Price		Liquidated Damages per Calendar Day
From More Than	To and Including	
\$0	\$100,000	\$500
\$100,000	\$20,000,000 and over	\$1,000

SECTION D
EXECUTION OF CONTRACT

IN WITNESS WHEREOF, the parties have caused this General Agreement to be executed by their duly authorized representatives.

City of New Rochelle

By: _____ Date: _____
Charles B. Strome, III
City Manager

Name of Contractor Date: _____

Approved as to Form

By: _____
Kathleen E. Gill, Esq.
City of New Rochelle Corporation Counsel

By: _____
(Authorized Officer of the Firm or Corporation)

(Print Name and Title)

Where the Contractor is a Corporation, add:

Attest:

(Secretary of the Corporation) (Seal)

Legal Name and Address of Contractor

ACKNOWLEDGEMENT OF THE CITY MANAGER

STATE OF NEW YORK)
COUNTY OF WESTCHESTER) ss.:
CITY OF NEW ROCHELLE)

On this _____ day of _____, 20____, before me personally
came _____ to me known, who being by me duly sworn,
did depose and say that he/she resides in the City of New Rochelle, N.Y., that he/she is the CITY
MANAGER OF THE CITY OF NEW ROCHELLE, the corporation described in and which executed
the above instrument; that he/she knows the seal of said corporation; that the seal affixed to said
instrument is such corporate seal; that it was affixed by order of the Council of said corporation and
he/she signed his/her name thereto by like order of the Council of said corporation and he/she
signed his/her name thereto by like order.

Notary Public

ACKNOWLEDGEMENT IF THE CONTRACTOR IS AN INDIVIDUAL

STATE OF _____)
) ss.:
COUNTY OF _____)

On this _____ day of _____, 20____, before me personally
came _____, to me known and known to me to be the
person described in and who executed the foregoing contract, and who acknowledged to me the
execution thereof for the purpose therein mentioned.

Notary Public

ACKNOWLEDGEMENT IF CONTRACTOR IS PARTNERSHIP

STATE OF _____)

) ss.:

COUNTY OF _____)

On this _____ day of _____, 20____, before me personally
came _____, to me known and known to me to be a
member of _____, the firm described in and which
executed the foregoing contract, and he/she acknowledged to me that he/she subscribed the name
of said firm thereto in behalf of said firm for the purpose therein mentioned.

Notary Public

ACKNOWLEDGEMENT IF CONTRACTOR IS A CORPORATION

STATE OF _____)
) ss.:
COUNTY OF _____)

On this _____ day of _____, 20____, before me personally
appeared, _____ to me known, who, being by me duly sworn, did
depone and say; that he/she resides in
_____ that he/she is the
_____ of _____ the corporation
described in and which executed the within instrument; that he/she knows the seal of said corporation;
that the seal affixed to said instrument was such corporate seal; that it was so affixed by order of the
Board of Director of said corporation, and that he/she signed his/her name thereto by like order.

Notary Public

SECTION E
SAMPLE FORMS OF BONDS
SURETY BOND

(Name of Bonding Company)

(City)

KNOW ALL MEN BY THESE PRESENTS, THAT WE _____

(Name of Contractor)

hereinafter referred to as the Surety, are held and firmly bound unto the CITY OF NEW ROCHELLE, N.Y. in the sum (_____) lawful money of the UNITED STATES OF AMERICA, to be paid to the CITY OF NEW ROCHELLE, N.Y., or to its certain attorneys, successors or assigns; for which payment well and truly to be made, we bind ourselves and our several and respective heirs, executors and administrators, successors, and assigns jointly and severally, firmly by these presents.

Sealed with our seals. Dated this _____ day of _____ in the year two thousand and _____.

WHEREAS, the above bounden Contractor, by an instrument in writing, signed by the Contractor, and bearing even date with these presents, has contracted with THE CITY OF NEW ROCHELLE, N.Y. to perform all the work and furnish all the materials and plants called for in the preceding contract for _____

NOW, THEREFORE, the conditions of the above obligations are such that if the said above bounden Contractor, his or its executive administrators, successors or assigns, shall well and truly, and in good, sufficient and workmanlike manner, perform the work mentioned in the aforesaid agreement, in accordance with the terms and provisions therein stipulated, and in each and every regard comply with the conditions and covenants therein contained then this obligation to be void, otherwise to remain in full force and virtue.

And the said Surety, for value received, hereby stipulates and agrees that no change, extension of time, alteration or addition to the terms of the contract or to the work to be performed thereunder or to the specifications accompanying the same shall in any wise affect its obligation on said bond, and it does hereby waive notice of any such change, extension of time, alteration or addition to the terms of the contract or to the work or to the specifications.

Attest _____
(Signature)

(Name)

(Title)

(Signature of Contractor)

Renaissance at Lincoln Park
18-1658.00

Construction Documents
January 2021
116 Guion Place Garage Plumbing Project # 20-032P

Attest _____	_____
(Signature)	(Name)
_____	_____
(Title)	(Signature)

Surety bond to be approved, as to form and correctness, by the Corporation Counsel of the City of New Rochelle

Of Surety

(Qualifications of Surety Company and acknowledgements to be annexed hereto)

ACKNOWLEDGMENT BY SURETY COMPANY

STATE OF _____)
) ss.:
COUNTY OF _____)

On this _____ day of _____, 20_____, before me personally came _____, to me known, who being by me dully sworn, did depose and say that he/she resides in _____ that he/she is the _____ of the _____, the Corporation described in and which executed the within instrument that he/she known the seal of said corporation; that the seal affixed to said instrument is such corporate seal; that it was so affixed by order of the Board of Directors of said corporation; and that he/she signed his/her name thereto by like order; and that the liabilities of said company do not exceed its assets as ascertained in the manner provided by the Laws of the State of New York, and the said _____ further said that he/she is acquainted with _____ and knows him/her to be the _____ of said company, that the signature of the said _____ subscribed to the within instrument is in the genuine handwriting of _____ the said _____ and was subscribed thereto by like order of the Board of directors, in the presence of him/her, the said _____.

Notary Public

ACKNOWLEDGEMENT BY PRINCIPAL UNLESS IT BE A CORPORATION

STATE OF _____)
) ss.:
COUNTY OF _____)

On this _____ day of _____, 20____, before me personally
came _____ to me known and known to me to be the person
described in and who executed the foregoing instrument, and acknowledged that he/she executed the
same.

Notary Public

ACKNOWLEDGMENT BY PRINCIPAL, IF A CORPORATION

STATE OF _____)
) ss.:
COUNTY OF _____)

On this _____ day of _____, 20____, before me personally
came _____ to me known, who, being by me duly sworn, did
depose and say that he/she resides in _____; that he/she is the
_____ of _____, the corporation described in
and which executed the within instrument; that he/she knows the seal of said corporation; that the seal
affixed to said instrument was such corporate seal; that it was so affixed by order of the Board of Directors
of said corporation, and that he/she signed his/her name thereto by like order.

Notary Public

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.

Payrolls and Payroll Records

Contractors and subcontractors are required to establish, maintain, and preserve for not less than six (6) years, contemporaneous, true, and accurate payroll records.

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.

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. However, 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. 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.

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 12240

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

Westchester County General Construction

Boilermaker	12/01/2020
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JOB DESCRIPTION Boilermaker

DISTRICT 4

ENTIRE COUNTIES

Bronx, Dutchess, Kings, Nassau, New York, Orange, Putnam, Queens, Richmond, Rockland, Suffolk, Sullivan, Ulster, Westchester

WAGES

Per Hour: 07/01/2020 01/01/2021

Boilermaker	\$ 61.24	\$63.38
Repairs & Renovations	61.24	63.38

SUPPLEMENTAL BENEFITS

Per Hour: 07/01/2020 01/01/2021

Boilermaker	32% of hourly	32% of hourly
Repair \$ Renovations	Wage Paid	Wage Paid
	+ \$ 25.35	+ TBA

NOTE: "Hourly Wage Paid" shall include any and all premium(s) pay.

Repairs & Renovation Includes replacement of parts and repairs & renovation of existing unit.

OVERTIME PAY

See (D, O) on OVERTIME PAGE

Repairs & Renovation see (B,E,Q)

HOLIDAY

Paid: See (8, 16, 23, 24) on HOLIDAY PAGE

Overtime: See (5, 6, 8, 11, 12, 15, 16, 22, 23, 24, 25) on HOLIDAY PAGE

NOTE: *Employee must work in pay week to receive Holiday Pay.

**Employee gets 4 times the hourly wage rate for working Labor Day.

REGISTERED APPRENTICES

Wage per hour:

(1/2) Year Terms at the following percentage of Boilermaker's Wage

1st	2nd	3rd	4th	5th	6th	7th
65%	70%	75%	80%	85%	90%	95%

Supplemental Benefits Per Hour:

	07/01/2020	01/01/2021
Apprentice(s)	32% of Hourly	32% of Hourly
	Wage Paid Plus	Wage Paid Plus
	Amount Below	Amount Below

1st Term	\$ 19.38	\$ TBA
2nd Term	20.24	TBA
3rd Term	21.08	TBA
4th Term	21.94	TBA
5th Term	22.79	TBA
6th Term	23.65	TBA
7th Term	24.48	TBA

NOTE: "Hourly Wage Paid" shall include any and all premium(s)

4-5

Carpenter	12/01/2020
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JOB DESCRIPTION Carpenter

DISTRICT 8

ENTIRE COUNTIES

Bronx, Kings, Nassau, New York, Putnam, Queens, Richmond, Rockland, Suffolk, Westchester

WAGES

Per hour: 07/01/2020

Piledriver	\$ 55.93
Dockbuilder	\$ 55.93

SUPPLEMENTAL BENEFITS

Per hour:

Journeyworker \$ 52.44

OVERTIME PAY

See (B, E2, O) on OVERTIME PAGE

HOLIDAY

Paid: See (1) on HOLIDAY PAGE.

Paid: for 1st & 2nd yr.

Apprentices See (5,6,11,13,25)

Overtime: See (5,6,11,13,25) on HOLIDAY PAGE.

REGISTERED APPRENTICES

Wages per hour

(1)year terms:

1st	2nd	3rd	4th
\$22.37	\$27.97	\$36.35	\$44.74

Supplemental benefits per hour:

All Terms: \$ 34.34

8-1556 Db

Carpenter

12/01/2020

JOB DESCRIPTION Carpenter

DISTRICT 8

ENTIRE COUNTIES

Bronx, Kings, Nassau, New York, Queens, Richmond, Rockland, Suffolk, Westchester

WAGES

Per hour: 07/01/2020

Carpet/Resilient

Floor Coverer \$ 54.00

INCLUDES HANDLING & INSTALLATION OF ARTIFICIAL TURF AND SIMILAR TURF INDOORS/OUTDOORS.

SUPPLEMENTAL BENEFITS

Per hour:

\$ 46.99

OVERTIME PAY

See (B, E, Q) on OVERTIME PAGE

HOLIDAY

Paid: See (18, 19) on HOLIDAY PAGE.

Paid for 1st & 2nd yr.

Apprentices See (5,6,11,13,16,18,19,25)

Overtime: See (5,6,11,13,16,18,19,25) on HOLIDAY PAGE.

REGISTERED APPRENTICES

Wage per hour - (1) year terms:

1st	2nd	3rd	4th
\$24.20	\$27.20	\$31.45	\$39.33

Supplemental benefits per hour:

1st	2nd	3rd	4th
\$16.06	\$17.56	\$21.16	\$23.16

8-2287

Carpenter

12/01/2020

JOB DESCRIPTION Carpenter

DISTRICT 8

ENTIRE COUNTIES

Bronx, Dutchess, Kings, Nassau, New York, Orange, Putnam, Queens, Richmond, Rockland, Suffolk, Westchester

WAGES

Per Hour: 07/01/2020

Marine Construction:

Marine Diver	\$ 70.80
Marine Tender	50.34

SUPPLEMENTAL BENEFITS

Per Hour:

Journeyworker \$ 52.34

OVERTIME PAY

See (B, E, E2, Q) on OVERTIME PAGE

HOLIDAY

Paid: See (18, 19) on HOLIDAY PAGE

Overtime: See (5, 6, 10, 11, 13, 16, 18, 19) on HOLIDAY PAGE

REGISTERED APPRENTICES

Wages per hour:

One (1) year terms.

1st year	\$ 22.37
2nd year	27.97
3rd year	36.35
4th year	44.74

Supplemental Benefits

Per Hour:

All terms \$ 34.34

8-1456MC

Carpenter

12/01/2020

JOB DESCRIPTION Carpenter

DISTRICT 8

ENTIRE COUNTIES

Bronx, Kings, Nassau, New York, Putnam, Queens, Richmond, Rockland, Suffolk, Westchester

WAGES

Per hour: 07/01/2020

Building	
Millwright	\$ 55.70

SUPPLEMENTAL BENEFITS

Per hour:

Millwright \$ 54.16

OVERTIME PAY

See (B, E, Q) on OVERTIME PAGE

HOLIDAY

Paid: See (18,19) on HOLIDAY PAGE.

Overtime See (5,6,8,11,13,18,19,25) on HOLIDAY PAGE.

REGISTERED APPRENTICES

Wages per hour:

One (1) year terms:

1st.	2nd.	3rd.	4th.
\$29.99	\$35.44	\$40.89	\$51.79

Supplemental benefits per hour:

One (1) year terms:

1st.	2nd.	3rd.	4th.
------	------	------	------

\$34.79 \$38.49 \$42.84 \$49.60

8-740.1

Carpenter

12/01/2020

JOB DESCRIPTION Carpenter

DISTRICT 8

ENTIRE COUNTIES

Bronx, Kings, Nassau, New York, Queens, Richmond, Suffolk, Westchester

WAGES

Per Hour:

07/01/2020

Timberman

\$ 51.05

SUPPLEMENTAL BENEFITS

Per Hour:

07/01/2020

\$ 51.79

OVERTIME PAY

See (B, E, E2, Q) on OVERTIME PAGE

HOLIDAY

Paid: See (1) on HOLIDAY PAGE.

Paid: for 1st & 2nd yr.

Apprentices See (5,6,11,13,25)

Overtime: See (5,6,11,13,25) on HOLIDAY PAGE.

REGISTERED APPRENTICES

Wages per hour:

One (1) year terms:

1st	2nd	3rd	4th
\$20.42	\$25.53	\$33.18	\$40.84

Supplemental benefits per hour:

All terms \$ 34.07

8-1556 Tm

Carpenter

12/01/2020

JOB DESCRIPTION Carpenter

DISTRICT 8

ENTIRE COUNTIES

Bronx, Kings, Nassau, New York, Queens, Richmond, Rockland, Westchester

PARTIAL COUNTIES

Orange: South of but including the following, Waterloo Mills, Slate Hill, New Hampton, Goshen, Blooming Grove, Mountainville, east to the Hudson River.

Putnam: South of but including the following, Cold Spring, TompkinsCorner, Mahopac, Croton Falls, east to Connecticut border.

Suffolk: West of Port Jefferson and Patchogue Road to Route 112 to the Atlantic Ocean.

WAGES

Per hour:

07/01/2020

10/18/2020

Core Drilling:

Driller \$ 41.19

\$ 41.74

Driller Helper

32.62

32.92

Note: Hazardous Waste Pay Differential:

For Level C, an additional 10% above wage rate per hour

For Level B, an additional 10% above wage rate per hour

For Level A, an additional 10% above wage rate per hour

Note: When required to work on water: an additional \$ 0.50 per hour.

SUPPLEMENTAL BENEFITS

Per hour:

Driller and Helper

\$ 27.95

OVERTIME PAY

OVERTIME: See (B,E,K*,P,R**) on OVERTIME PAGE.

HOLIDAY

Paid: See (5,6) on HOLIDAY PAGE.

Overtime: * See (5,6) on HOLIDAY PAGE.

** See (8,10,11,13) on HOLIDAY PAGE.

8-1536-CoreDriller

Carpenter - Building / Heavy&Highway

12/01/2020

JOB DESCRIPTION Carpenter - Building / Heavy&Highway

DISTRICT 11

ENTIRE COUNTIES

Putnam, Rockland, Westchester

WAGES

WAGES:(per hour)

	07/01/2020	07/01/2021
BUILDING/HEAVY & HIGHWAY/TUNNEL:		Additional
Carpenter	\$ 37.69	\$ 0.40
	+ \$7.61*	

*for all hours paid straight or premium.

SHIFT DIFFERENTIAL: When it is mandated by a Government Agency irregular or off shift can be worked. The Carpenter shall receive an additional fifteen percent (15%) of wage plus applicable benefits.

NOTE:Carpenters employed in the removal or abatement of asbestos or any toxic or hazardous material or required to work near asbestos or any toxic or hazardous material and required to wear protective equipment shall receive two (2) hours extra pay per day, plus applicable supplemental benefits.

SUPPLEMENTAL BENEFITS

Per hour:

Journeyworker \$ 31.53

OVERTIME PAY

BUILDING:

See (B, E, Q) on OVERTIME PAGE.

HEAVY&HIGHWAY/TUNNEL:

See (B, E, P, *R, **T, X) on OVERTIME PAGE.

*R applies to Heavy&Highway/Tunnel Overtime Holiday Code 25 with benefits at straight time rate.

**T applies to Heavy&Highway/Tunnel Overtime Holiday Codes 5 & 6 with benefits at straight time rate.

HOLIDAY

BUILDING:

Paid: See (1) on HOLIDAY PAGE.

Overtime: See (5, 6, 16, 25) on HOLIDAY PAGE.

Holidays that fall on Sunday will be observed Monday.

HEAVY&HIGHWAY/TUNNEL:

Paid: See (5, 6, 25) on HOLIDAY PAGE including benefits.

Overtime: See (5, 6, 25) on HOLIDAY PAGE.

REGISTERED APPRENTICES

1 year terms at the following wage rates:

Indentured after July 1 2016

1st	2nd	3rd	4th	5th
\$ 22.40	\$ 26.16	\$ 28.05	\$ 29.93	\$ 33.70

Indentured before July 1 2016

1st	2nd	3rd	4th
\$ 22.40	\$ 26.16	\$ 29.93	\$ 33.70

SUPPLEMENTAL BENEFITS per hour:

All terms \$ 16.28

11-279.1B/HH

Electrician	12/01/2020
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JOB DESCRIPTION Electrician

DISTRICT 8

ENTIRE COUNTIES

Westchester

WAGES

Per hour: 07/01/2020

Electrician/A-Technician \$ 52.75

Teledata \$ 52.75

Note: On a job where employees are required to work on bridges over navigable waters, transmission towers, light poles, bosun chairs, swinging scaffolds, etc. 40 feet or more above the water or ground or under compressed air, or tunnel projects under construction or where assisted breathing apparatus is required, they will be paid at the rate of time and one-half for such work except on normal pole line or building construction work.

SUPPLEMENTAL BENEFITS

Per hour: 07/01/2020

Journeyworker \$ 51.80

OVERTIME PAY

See (A, G, *J, P) on OVERTIME PAGE

*NOTE: Emergency work on Sunday and Holidays is at the time and one-half overtime rate.

HOLIDAY

Paid: See (1) on HOLIDAY PAGE

Overtime: See (5, 6, 8, 11, 15, 16, 25) on HOLIDAY PAGE

REGISTERED APPRENTICES

(1) year terms at the following wage rates:

	07/01/2020
1st term	\$ 13.00
2nd term	15.00
3rd term	17.00
4th term	19.00
MIJ 1-12 months	23.00
MIJ 13-18 months	26.50

Supplemental Benefits per hour:

	07/01/2020
1st term	\$ 9.49
2nd term	12.39
3rd term	13.72
4th term	15.05
MIJ 1-12 months	12.08
MIJ 13-18 months	13.38

8-3/W

Electrician	12/01/2020
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JOB DESCRIPTION Electrician

DISTRICT 9

ENTIRE COUNTIES

Bronx, Kings, New York, Queens, Richmond, Westchester

WAGES

Per hour: 07/01/2020 03/10/2021

Service Technician \$ 33.90 \$34.40

Service and Maintenance on Alarm and Security Systems.

Maintenance, repair and /or replacement of defective (or damaged) equipment on, but not limited to, Burglar - Fire - Security - CCTV - Card Access - Life Safety Systems and associated devices. (Whether by service contract of T&M by customer request.)

SUPPLEMENTAL BENEFITS

Per hour:		
Journeyworker:	\$ 18.43	\$ 19.32

OVERTIME PAY

See (B, E, Q) on OVERTIME PAGE

HOLIDAY

Paid: See (5, 6, 11, 15, 16, 17, 25, 26) on HOLIDAY PAGE
Overtime: See (5, 6, 11, 15, 16, 17, 25, 26) on HOLIDAY PAGE

9-3H

Electrician

12/01/2020

JOB DESCRIPTION Electrician

DISTRICT 8

ENTIRE COUNTIES

Westchester

WAGES

07/01/2020

Electrician	\$ 26.50
H - Telephone	\$ 26.50

Electrical and Teledata work of limited scope, consisting of repairs and /or replacement of defective electrical and teledata equipment.
- Includes all work necessary to retrofit, service, maintain and repair all kinds of lighting fixtures and local lighting controls and washing and cleaning of foregoing fixtures.

See Electrician/A Technician classification for all new installations of wiring, conduit, junction boxes and light fixtures.

SUPPLEMENTAL BENEFITS

07/01/2020

Electrician &	
H - Telephone	\$ 13.38

OVERTIME PAY

See (B, G, *J, P) on OVERTIME PAGE

*Note: Emergency work on Sunday and Holidays is at the time and one-half overtime rate.

HOLIDAY

Paid: See (1) on HOLIDAY PAGE
Overtime: See (5, 6, 8, 11, 15, 16, 25) on HOLIDAY PAGE

8-3m

Elevator Constructor

12/01/2020

JOB DESCRIPTION Elevator Constructor

DISTRICT 4

ENTIRE COUNTIES

Bronx, Kings, Nassau, New York, Queens, Richmond, Suffolk

PARTIAL COUNTIES

Rockland: Entire County except for the Township of Stony Point

Westchester: Entire County except for the Townships of Bedford, Lewisboro, Cortland, Mt. Kisco, North Salem, Pound Ridge, Somers and Yorktown.

WAGES

Per hour:	07/01/2019	03/17/2021
Elevator Constructor	\$ 69.56	\$ 72.29
Modernization & Service/Repair	\$ 54.56	\$ 56.77

SUPPLEMENTAL BENEFITS

Per Hour:		
Elevator Constructor	\$ 41.92	\$ 42.92
Modernization & Service/Repairs	\$ 40.86	\$ 41.82

OVERTIME PAY

Constructor See (D, M, T) on OVERTIME PAGE.

Modern/Service See (B, F, S) on OVERTIME PAGE.

HOLIDAY

Paid: See (5, 6, 8, 11, 15, 16, 25) on HOLIDAY PAGE
Overtime: See (5, 6, 8, 11, 15, 16, 25) on HOLIDAY PAGE

REGISTERED APPRENTICES

WAGES PER HOUR:

*Note: 1st Term is based on Average wage of Constructor & Modernization.
Terms 2 thru 4 Based on Journeymans wage of classification Working in.

1 YEAR TERMS:

1st Term*	2nd Term	3rd Term	4th Term
50%	55%	65%	75%

SUPPLEMENTAL BENEFITS

Elevator Constructor

1st Term	\$ 33.38	\$ 34.05
2nd Term	34.20	34.91
3rd Term	35.55	36.30
4th Term	36.89	37.70

Modernization & Service/Repair

1st Term	\$ 33.33	\$ 34.00
2nd Term	33.82	34.50
3rd Term	35.09	35.83
4th Term	36.36	37.15

4-1

Elevator Constructor

12/01/2020

JOB DESCRIPTION Elevator Constructor

DISTRICT 1

ENTIRE COUNTIES

Columbia, Dutchess, Greene, Orange, Putnam, Sullivan, Ulster

PARTIAL COUNTIES

Delaware: Towns of Andes, Bovina, Colchester, Davenport, Delhi, Harpersfield, Hemdon, Kortright, Meredith, Middletown, Roxbury, Hancock & Stamford

Rockland: Only the Township of Stony Point.

Westchester: Only the Townships of Bedford, Lewisboro, Cortland, Mt. Kisco, North Salem, Pound Ridge, Somers and Yorktown.

WAGES

Per Hour	07/01/2020	01/01/2021
Mechanic	\$ 60.49	\$62.51
Helper	70% of Mechanic Wage Rate	70% of Mechanic Wage Rate

Four (4), ten (10) hour days may be worked for New Construction and Modernization Work at straight time during a week, Monday thru Thursday or Tuesday thru Friday.

***Four (4), ten (10) hour days are not permitted for Contract Work/Repair Work

NOTE - In order to use the '4 Day/10 Hour Work Schedule' as your normal schedule, you must submit an 'Employer Registration for Use of 4 Day/10 Hour Work Schedule', form PW30.1; and there must be a dispensation of hours in place on the project. If the PW30.1 is not submitted you may be liable for overtime payments for work over 8 hours per day.

SUPPLEMENTAL BENEFITS

Per hour	07/01/2020	01/01/2021
Journeyman/Helper	\$ 34.765*	\$ 34.825*

(*)Plus 6% of regular hourly if less than 5 years of service. Plus 8% of regular hourly rate if more than 5 years of service.

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

Note: When a paid holiday falls on Saturday, it shall be observed on Friday. When a paid holiday falls on Sunday, it shall be observed on Monday.

REGISTERED APPRENTICES

Wages per hour:

0-6 mo*	6-12 mo	2nd yr	3rd yr	4th yr
50 %	55 %	65 %	70 %	80 %

(*)Plus 6% of the hourly rate, no additional supplemental benefits.

Supplemental Benefits per hour worked:

Same as Journeyperson/Helper

1-138

Glazier

12/01/2020

JOB DESCRIPTION Glazier

DISTRICT 8

ENTIRE COUNTIES

Bronx, Dutchess, Kings, Nassau, New York, Orange, Putnam, Queens, Richmond, Rockland, Suffolk, Sullivan, Ulster, Westchester

WAGES

Per hour:	7/01/2020	5/31/2021 Additional
Glazier	\$ 57.55	\$ 2.00
*Scaffolding	58.55	
Glass Tinting & Window Film	29.17	
**Repair & Maintenance	29.17	

*Scaffolding includes swing scaffold, mechanical equipment, scissor jacks, man lifts, booms & buckets 24' or more, but not pipe scaffolding.

**Repair & Maintenance- All repair & maintenance work on a particular building, whenever performed, where the total cumulative contract value is under \$148,837. All Glass tinting, window film, regardless of material or intended use, and all affixing of decals to windows or glass.

SUPPLEMENTAL BENEFITS

Per hour:	7/01/2020
Journeyworker	\$ 34.59
Glass tinting & Window Film	20.29
Repair & Maintenance	20.29

OVERTIME PAY

See (B,H,V) on OVERTIME PAGE.

For 'Repair & Maintenance' and 'Glass Tinting & Window Film' see (B, B2, I, S) on overtime page.

HOLIDAY

Paid: See (1) on HOLIDAY PAGE

Overtime: See (4, 6, 16, 25) on HOLIDAY PAGE

For 'Repair & Maintenance' and 'Glass Tinting & Window Film' Only

Paid: See(5, 6, 16, 25)

Overtime: See(5, 6, 16, 25)

REGISTERED APPRENTICES

Wage per hour:

(1) year terms at the following wage rates:

	7/01/2020
1st term	\$ 20.14
2nd term	28.21
3rd term	34.10
4th term	45.80

Supplemental Benefits:

(Per hour)

1st term	\$ 16.16
2nd term	22.76
3rd term	25.16

4th term 29.73

8-1087 (DC9 NYC)

Insulator - Heat & Frost

12/01/2020

JOB DESCRIPTION Insulator - Heat & Frost

DISTRICT 8

ENTIRE COUNTIES

Dutchess, Orange, Putnam, Rockland, Westchester

WAGES

Per hour:	07/01/2020	05/31/2021
Insulator	\$ 55.00	\$ 2.00
Discomfort & Additional Training**	57.96	
Fire Stop Work*	29.44	

* Applies on all exclusive Fire Stop Work (When contract is for Fire Stop work only). No apprentices on these contracts only.

**Applies to work requiring: garb or equipment worn against the body not customarily worn by insulators; psychological evaluation; special training, including but not limited to "Yellow Badge" radiation training

Note: Additional \$0.50 per hour for work 30 feet or more above floor or ground level.

SUPPLEMENTAL BENEFITS

Per hour:

Journeyworker	\$ 34.35
Discomfort & Additional Training	36.30
Fire Stop Work: Journeyworker	17.52

OVERTIME PAY

See (B, E, E2, Q, *T) on OVERTIME PAGE

HOLIDAY

Paid: See (1) on HOLIDAY PAGE

Note: Last working day preceding Christmas and New Years day, workers shall work no later than 12:00 noon and shall receive 8 hrs pay.

Overtime: See (2*, 4, 6, 16, 25) on HOLIDAY PAGE.

*Note: Labor Day triple time if worked.

REGISTERED APPRENTICES

(1) year terms:

Insulator Apprentices:

1st	2nd	3rd	4th
\$ 29.44	\$ 34.55	\$ 39.66	\$ 44.78

Discomfort & Additional Training Apprentices:

1st	2nd	3rd	4th
\$ 30.99	\$ 36.41	\$ 41.83	\$ 47.26

Supplemental Benefits paid per hour:

Insulator Apprentices:

1st term	\$ 17.52
2nd term	20.89
3rd term	24.25
4th term	27.61

Discomfort & Additional Training Apprentices:

1st term	\$ 18.50
2nd term	22.06
3rd term	25.62

4th term	29.18	8-91
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Ironworker	12/01/2020
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JOB DESCRIPTION Ironworker

DISTRICT 9

ENTIRE COUNTIES

Bronx, Kings, Nassau, New York, Queens, Richmond, Suffolk, Westchester

WAGES

Per Hour:	07/01/2020	01/01/2021 Additional
Ironworker Rigger	\$ 67.13	\$ 1.36

Ironworker Stone Derrickman	\$ 67.13
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SUPPLEMENTAL BENEFITS

Per hour:	\$ 40.94
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OVERTIME PAY

See (B, D1, *E, Q, **V) on OVERTIME PAGE

*Time and one-half shall be paid for all work on Saturday up to eight (8) hours and double time shall be paid for all work thereafter.

** Benefits same premium as wages on Holidays only

HOLIDAY

Paid:	See (18) on HOLIDAY PAGE
Overtime:	See (5, 6, 8, 25) on HOLIDAY PAGE

*Work stops at schedule lunch break with full day's pay.

REGISTERED APPRENTICES

Wage per hour:

1/2 year terms at the following hourly wage rate:

	1st	2nd	3rd	4th
07/01/2020	\$33.12	\$47.19	\$52.50	\$57.82

Supplemental benefits:

Per hour:	\$20.93	\$31.23	\$31.23	\$31.23
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9-197D/R

Ironworker	12/01/2020
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JOB DESCRIPTION Ironworker

DISTRICT 4

ENTIRE COUNTIES

Bronx, Kings, Nassau, New York, Queens, Richmond, Suffolk, Westchester

WAGES

Per Hour:	07/01/2020	01/01/2021 Additional
Ornamental	\$ 45.65	\$ 1.25
Chain Link Fence	45.65	
Guide Rail	45.65	

SUPPLEMENTAL BENEFITS

Per hour:	
Journeyworker:	\$ 58.05

OVERTIME PAY

See (B, B1, Q, V) on OVERTIME PAGE

HOLIDAY

Paid:	See (1) on HOLIDAY PAGE
Overtime:	See (5, 6, 25) on HOLIDAY PAGE

REGISTERED APPRENTICES

Apprentices hired before 8/31/2018:

(1/2) year terms at the following percentage of Journeyman's wage.

5th Term	80%
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Supplemental Benefits per hour:	
5th Term	52.38

Apprentices Hired after 9/1/18:

1 year terms

1st Term	\$ 21.13
2nd Term	24.77
3rd Term	36.32
4th Term	TBD

Supplemental Benefits per hour:

1st Term	\$ 17.61
2nd Term	18.86
3rd Term	52.58
4th Term	TBD

4-580-Or

Ironworker

12/01/2020

JOB DESCRIPTION Ironworker

DISTRICT 4

ENTIRE COUNTIES

Bronx, Kings, Nassau, New York, Queens, Richmond, Suffolk, Westchester

WAGES

PER HOUR:

07/01/2020 01/01/2021

Ironworker:

Structural

\$ 52.70

Additional

\$1.75/Hr.

Bridges

Machinery

SUPPLEMENTAL BENEFITS

PER HOUR:

Journeyman \$ 81.35

OVERTIME PAY

See (B, B1, Q) on OVERTIME PAGE

HOLIDAY

Paid: See (1) on HOLIDAY PAGE

Overtime: See (5, 6, 18, 19) on HOLIDAY PAGE

REGISTERED APPRENTICES

WAGES PER HOUR:

6 month terms at the following rate:

1st	\$27.45
2nd	\$28.05
3rd - 6th	\$28.66

Supplemental Benefits

PER HOUR:

All Terms \$56.15

4-40/361-Str

Ironworker

12/01/2020

JOB DESCRIPTION Ironworker

DISTRICT 4

ENTIRE COUNTIES

Bronx, Kings, Nassau, New York, Queens, Richmond, Suffolk, Westchester

PARTIAL COUNTIES

Rockland: Southern section - south of Convent Road and east of Blue Hills Road.

WAGES

Per hour: 07/01/2020

Reinforcing &

Metal Lathing

\$ 56.25

"Base" Wage

\$ 54.70
plus \$ 1.55

"Base" Wage is used to calculate overtime hours only.

SUPPLEMENTAL BENEFITS

Per hour:

Reinforcing & Metal Lathing \$ 38.30

OVERTIME PAY

See (B, E, Q, *X) on OVERTIME PAGE

*Only \$22.00 per Hour for non worked hours

Supplemental Benefit Premiums for Overtime Hours worked:

Time & One Half \$ 45.08
Double Time \$ 51.33

HOLIDAY

Paid: See (1) on HOLIDAY PAGE

Overtime: See (5, 6, 11, 13, 18, 19, 25) on HOLIDAY PAGE

REGISTERED APPRENTICES

(1) year terms at the following wage rates:

Wages Per Hour:

1st term	2nd term	3rd term	4th Term
\$ 22.55	\$ 28.38	\$ 34.68	\$ 37.18

SUPPLEMENTAL BENEFITS

Per Hour:

1st term	2nd term	3rd term	4th Term
\$ 18.17	\$ 21.34	\$ 22.00	\$ 20.50

4-46Reinf

Laborer - Building

12/01/2020

JOB DESCRIPTION Laborer - Building

DISTRICT 8

ENTIRE COUNTIES

Putnam, Westchester

WAGES

07/01/2020

Laborer \$ 35.30
plus \$4.60**

Laborer - Asbestos & Hazardous Materials Removal \$ 41.55*

* Abatement/Removal of:

- Lead based or lead containing paint on materials to be repainted is classified as Painter.
- Asbestos containing roofs and roofing material is classified as Roofer.

** This portion is not subject to overtime premium.

NOTE: Upgrade/Material condition work plan for work performed during non-outage under a wage formula of 90% wage/100% fringe benefits at nuclear power plants.

SUPPLEMENTAL BENEFITS

Per hour: 07/01/2020

Journeyworker \$ 26.40

OVERTIME PAY

See (B, E, E2, Q, *V) on OVERTIME PAGE

*Note: For Sundays and Holidays worked benefits are at the same premium as wages.

HOLIDAY

Paid: See (1) on HOLIDAY PAGE

Overtime: See (5, 6, 16, 25) on HOLIDAY PAGE

REGISTERED APPRENTICES

LABORER ONLY

Hourly terms at the following wage:

Level A	Level B	Level C	Level D	Level E
0-1000	1001-2000	2001-3000	3001-4000	4001+
\$ 23.90	\$ 27.50	\$ 31.50	\$ 38.00	\$ 39.80

Supplemental Benefits per hour:

Apprentices

Level A	\$ 12.35
Level B	15.20
Level C	17.80
Level D	18.20
Level E	26.40

8-235/B

Laborer - Heavy&Highway

12/01/2020

JOB DESCRIPTION Laborer - Heavy&Highway

DISTRICT 8

ENTIRE COUNTIES

Putnam, Westchester

WAGES

****PUTNAM: APPLIES TO ALL HEAVY & HIGHWAY WORK EXCLUDING HIGHWAYS, STREETS, AND BRIDGES****

GROUP I: Blaster and Quarry Master

GROUP II: Burner, Drillers(jumbo, joy, wagon, air track, hydraulic), Drill Operator, Self Contained Rotary Drill, Curbs/ Asphalt Screedman/Raker, Bar Person.

GROUP III: Pavement Breakers, Jeep Operator, Jack Hammer, Pneumatic Tools (all), Gas Driller, Guniting, Railroad Spike Puller, Pipelayer, Chain Saw, Deck winches on scows, Power Buggy Operator, Power Wheelbarrow Operator, Bar Person Helper.

GROUP IV: Concrete Laborers, Asph. Worker, Rock Scaler, Vibrator Oper., Bit Grinder, Air Tamper, Pumps, Epoxy (adhesives, fillers and troweled on), Barco Rammer, Concrete Grinder, Crack Router Operator, Guide Rail-digging holes and placing concrete and demolition when not to be replaced, distribution of materials and tightening of bolts.

GROUP V: Drillers Helpers, Common Laborer, Mason Tenders, Signal Person, Pit Person, Truck Spotter, Powder Person, Landscape/Nursery Person, Dump Person, Temp. Heat.

GROUP VIA: Asbestos/Toxic Waste Laborer-All removal (Roads, Tunnels, Landfills, etc.) Confined space laborer

Wages:(per hour) 07/01/2020

GROUP I	\$44.45*
GROUP II	43.10*
GROUP III	42.70*
GROUP IV	42.35*
GROUP V	42.00*
GROUP VIA	44.00*
Operator Qualified	
Gas Mechanic	54.45*
Flagperson	35.65*

*NOTE: To calculate overtime premiums, deduct \$0.10 from above wages

SHIFT WORK: A shift premium will be paid on Public Work contracts for off-shift or irregular shift work when mandated by the NYS D.O.T. or other Governmental Agency contracts. Employees shall receive an additional 15% per hour above current rate for all regular and irregular shift work. Premium pay shall be calculated using the 15% per hour differential as base rate.

SUPPLEMENTAL BENEFITS

Per hour:

Journeyworker:

First 40 Hours	
Per Hour	\$24.35
Over 40 Hours	

Per Hour 18.10

OVERTIME PAY

See (B, E, P, R, S) on OVERTIME PAGE

HOLIDAY

Paid: See (5, 6, 8, 9, 15, 25) on HOLIDAY PAGE
Overtime: See (5, 6, 8, 9, 15, 25) on HOLIDAY PAGE

NOTE: For Holiday Overtime: 5, 6 - Code 'S' applies
For Holiday Overtime: 8, 9, 15, 25 - Code 'R' applies

REGISTERED APPRENTICES

	1st term 1-1000hrs	2nd term 1001-2000hrs	3rd term 2001-3000hrs	4th term 3001-4000hrs
07/01/2020	\$ 23.90	\$ 28.20	\$ 32.50	\$ 36.70

Supplemental Benefits per hour:

1st term	\$ 3.85 - After 40 hours: \$ 3.60
2nd term	\$ 3.95 - After 40 hours: \$ 3.60
3rd term	\$ 4.45 - After 40 hours: \$ 4.00
4th term	\$ 5.00 - After 40 hours: \$ 4.50

8-60H/H

Laborer - Tunnel

12/01/2020

JOB DESCRIPTION Laborer - Tunnel

DISTRICT 11

ENTIRE COUNTIES

Columbia, Dutchess, Greene, Orange, Otsego, Putnam, Rockland, Sullivan, Ulster, Westchester

PARTIAL COUNTIES

Chenango: Townships of Columbus, Sherburne and New Berlin.

Delaware: Townships of Andes, Bovina, Middletown, Roxbury, Franklin, Hamden, Stamford, Delhi, Kortright, Harpersfield, Merideth and Davenport.

WAGES

Class 1: All support laborers/sandhogs working above the shaft or tunnel.

Class 2: All laborers/sandhogs working in the shaft or tunnel.

Class 4: Safety Miners

Class 5: Site work related to Shaft/Tunnel

WAGES: (per hour)

	07/01/2020	07/01/2021	07/01/2022
Class 1	\$ 50.45	\$ 51.95	\$ 53.45
Class 2	52.60	54.10	55.60
Class 4	59.00	60.50	62.00
Class 5	42.25	43.50	44.80

Toxic and hazardous waste, lead abatement and asbestos abatement work will be paid an additional \$ 3.00 an hour.

SHIFT DIFFERENTIAL...On all Government mandated irregular shift work:

- Employee shall be paid at time and one half the regular rate Monday through Friday.
- Saturday shall be paid at 1.65 times the regular rate.
- Sunday shall be paid at 2.15 times the regular rate.

SUPPLEMENTAL BENEFITS

Per hour:

Benefit 1	\$ 32.15	\$ 33.25	\$ 34.45
Benefit 2	48.15	49.80	51.60
Benefit 3	64.15	66.35	68.75

Benefit 1 applies to straight time hours, paid holidays not worked.

Benefit 2 applies to over 8 hours in a day (M-F), irregular shift work hours worked, and Saturday hours worked.

Benefit 3 applies to Sunday and Holiday hours worked.

OVERTIME PAY

See (B, E, Q, X) on OVERTIME PAGE

HOLIDAY

Paid: See (5, 6, 15, 25) on HOLIDAY PAGE
Overtime: See (5, 6, 15, 16, 25) on HOLIDAY PAGE

When a recognized Holidays falls on Saturday or Sunday, holidays falling on Saturday shall be recognized or observed on Friday and holidays falling on Sunday shall be recognized or observed on Monday. Employees ordered to work on the Saturday or Sunday of the holiday or on the recognized or the observed Friday or Monday for those holidays falling on Saturday or Sunday shall receive double time the established rate and benefits for the holiday.

REGISTERED APPRENTICES

FOR APPRENTICE RATES, refer to the appropriate Laborer Heavy & Highway wage rate contained in the wage schedule for the County and location where the work is to be performed.

11-17/60/235/754Tun

Lineman Electrician

12/01/2020

JOB DESCRIPTION Lineman Electrician

DISTRICT 6

ENTIRE COUNTIES

Westchester

WAGES

Below rates apply to electrical overhead and underground distribution and maintenance work and overhead and underground transmission line work, electrical substations, switching structures, continuous pipe-type underground fluid or gas filled transmission conduit and cable installations, maintenance jobs or projects, railroad catenary installations and maintenance, third rail installations, the bonding of rails and the installation of fiber optic cable. (Ref #14.04.01)

Includes Teledata Work performed within ten (10) feet of high voltage (600 volts or over) transmission lines.

Per hour: 07/01/2020

Lineman, Tech, Welder	\$ 56.51
Crane, Crawler Backhoe	56.51
Cable Splicer-Pipe Type	62.16
Digging Mach Operator	50.86
Cert. Welder-Pipe Type	59.34
Tractor Trailer Driver	48.03
Groundman, Truck Driver	45.21
Equipment Mechanic	45.21
Flagman	33.91

Additional \$1.00 per hour for entire crew when a helicopter is used.

NOTE: 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%

Four (4), ten (10) hour days may be worked at straight time during a week, Monday thru Thursday. Friday may be used as a make-up day. Tuesday thru Friday may be worked with no make-up day.

NOTE - In order to use the '4 Day/10 Hour Work schedule', as your normal schedule, you must submit an 'Employer Registration for Use of 4 Day/10 Hour Work Schedule,' form PW30.1; and there must be a dispensation of hours in place on the project. If the PW30.1 is not submitted you may be liable for overtime payments for work over 8 hours per day.

SUPPLEMENTAL BENEFITS

Per hour worked (but also required on non-worked holidays):

Journeyman	\$ 24.90
	*plus 6.75% of hourly wage

*The 6.75% is based on the hourly wage paid, straight time or premium time.

OVERTIME PAY

See (B, E, Q,) on OVERTIME PAGE. *Note* Double time for emergency work designated by the Dept of Jurisdiction.

NOTE: 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, 13, 25) on HOLIDAY PAGE plus Governor of NYS Election Day.
Overtime	See (5, 6, 8, 13, 25) on HOLIDAY PAGE plus Governor of NYS Election Day.

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.

	07/01/2020
1st term	\$ 33.91
2nd term	36.73
3rd term	39.56
4th term	42.38
5th term	45.21
6th term	48.03
7th term	50.86

SUPPLEMENTAL BENEFITS per hour: Same as Journeyman

6-1249aWest

Lineman Electrician - Teledata

12/01/2020

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

Per hour:

For outside work, stopping at first point of attachment (demarcation).

	07/01/2020	01/01/2021
Cable Splicer	\$ 33.77	\$ 34.78
Installer, Repairman	\$ 32.05	\$ 33.01
Teledata Lineman	\$ 32.05	\$ 33.01
Tech., Equip. Operator	\$ 32.05	\$ 33.01
Groundman	\$ 16.99	\$ 17.50

NOTE: EXCLUDES Teledata work within ten (10) feet of High Voltage (600 volts and over) transmission lines. For this work please see LINEMAN.

NOTE: THE FOLLOWING RATES WILL APPLY ON ALL CONTRACTING AGENCY MANDATED MULTIPLE SHIFTS OF AT LEAST FIVE (5) DAYS DURATION WORKED:

1ST SHIFT	REGULAR RATE
2ND SHIFT	REGULAR RATE PLUS 10%
3RD SHIFT	REGULAR RATE PLUS 15%

SUPPLEMENTAL BENEFITS

Per hour:

Journeyman	\$ 5.06	\$ 5.06
	*plus 3% of wage paid	*plus 3% of wage paid

*The 3% is based on the hourly wage paid, straight time rate or premium rate.

OVERTIME PAY

See (B, E, Q) on OVERTIME PAGE

NOTE: 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

12/01/2020

JOB DESCRIPTION Lineman Electrician - Traffic Signal, Lighting

DISTRICT 6

ENTIRE COUNTIES

Westchester

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.

A Groundman/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.
(Ref #14.01.03)

Per hour: 07/01/2020

Lineman, Technician	\$ 51.61
Crane, Crawler Backhoe	51.61
Certified Welder	54.19
Digging Machine	46.45
Tractor Trailer Driver	43.87
Groundman, Truck Driver	41.29
Equipment Mechanic	41.29
Flagman	30.97

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.

NOTE: 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%

Four (4), ten (10) hour days may be worked at straight time during a week, Monday thru Thursday. Friday may be used as a make-up day. Tuesday thru Friday may be worked with no make-up day.

NOTE - In order to use the '4 Day/10 Hour Work schedule', as your normal schedule, you must submit an 'Employer Registration for Use of 4 Day/10 Hour Work Schedule,' form PW30.1; and there must be a dispensation of hours in place on the project. If the PW30.1 is not submitted you may be liable for overtime payments for work over 8 hours per day.

SUPPLEMENTAL BENEFITS

Per hour worked (but also required on non-worked holidays):

Journeyman	\$ 24.90
	*plus 6.75% of hourly wage

*The 6.75% is based on the hourly wage paid, straight time rate or premium rate.
Supplements paid at STRAIGHT TIME rate for holidays.

OVERTIME PAY

See (B, E, Q) on OVERTIME PAGE. *Note* Double time for emergency work designated by the Dept. of Jurisdiction.

NOTE: 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, 13, 25) on HOLIDAY PAGE and Governor of NYS Election Day.

Overtime: See (5, 6, 8, 13, 25) on HOLIDAY PAGE and Governor of NYS Election Day.

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.

	07/01/2020
1st term	\$ 30.97
2nd term	33.55
3rd term	36.13
4th term	38.71
5th term	41.29
6th term	43.87
7th term	46.45

SUPPLEMENTAL BENEFITS per hour: Same as Journeyman

6-1249aWestLT

Mason - Building

12/01/2020

JOB DESCRIPTION Mason - Building

DISTRICT 11

ENTIRE COUNTIES

Putnam, Rockland, Westchester

PARTIAL COUNTIES

Orange: Only the Township of Tuxedo.

WAGES

Per hour:

07/01/2020

Bricklayer	\$ 42.09
Cement Mason	42.09
Plasterer/Stone Mason	42.09
Pointer/Caulker	42.09

Additional \$1.00 per hour for power saw work

Additional \$0.50 per hour for swing scaffold or staging work

SHIFT WORK: When shift work or an irregular work day is mandated or required by state, federal, county, local or other governmental agency contracts, the following premiums apply:

Irregular work day requires 15% premium

Second shift an additional 15% of wage plus benefits to be paid

Third shift an additional 25% of wage plus benefits to be paid

SUPPLEMENTAL BENEFITS

Per hour:

Journeyman	\$ 35.00
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OVERTIME PAY

OVERTIME:

Cement Mason See (B, E, Q, W) on OVERTIME PAGE.

All Others See (B, E, Q) on OVERTIME PAGE.

HOLIDAY

Paid: See (1) on HOLIDAY PAGE

Overtime: See (5, 6) on HOLIDAY PAGE

Whenever any of the above holidays fall on Sunday, they will be observed on Monday. Whenever any of the above holidays fall on Saturday, they will be observed on Friday.

REGISTERED APPRENTICES

Wages per hour:

750 hour terms at the following percentage of Journeyman's wage

1st	2nd	3rd	4th	5th	6th	7th	8th
50%	55%	60%	65%	70%	75%	80%	85%

Supplemental Benefits per hour

750 hour terms at the following percentage of journeyman supplements

1st	2nd	3rd	4th	5th	6th	7th	8th
50%	55%	60%	65%	70%	75%	80%	85%

Apprentices indentured before June 1st, 2011 receive full journeyman benefits

11-5wp-b

Mason - Building	12/01/2020
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JOB DESCRIPTION Mason - Building

DISTRICT 9

ENTIRE COUNTIES

Bronx, Kings, Nassau, New York, Queens, Richmond, Suffolk, Westchester

WAGES

Building:

	07/01/2020	01/01/2021
Wages per hour:		Additional \$0.95

Mosaic & Terrazzo Mechanic	\$57.42
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Mosaic & Terrazzo Finisher	\$55.82
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SUPPLEMENTAL BENEFITS

Per hour:

Mosaic & Terrazzo Mechanic	\$ 25.61* + \$11.47
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Mosaic & Terrazzo Finisher	\$ 25.61* + \$11.45
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*This portion of benefits subject to same premium rate as shown for overtime wages.

OVERTIME PAY

See (A, E, Q) on OVERTIME PAGE

Deduct \$6.60 from hourly wages before calculating overtime.

HOLIDAY

Paid: See (1) on HOLIDAY PAGE

Overtime: See (5, 6, 8, 11, 15, 16, 25) on HOLIDAY PAGE

Easter Sunday is an observed holiday. Holidays falling on a Saturday will be observed on that Saturday. Holidays falling on a Sunday will be celebrated on the Monday.

REGISTERED APPRENTICES

Wages per hour:

(750 Hour) terms at the following wage rate.

	1st	2nd	3rd	4th	5th	6th	7th	8th
07/01/2020	\$25.40	\$27.94	\$30.49	\$33.03	\$35.57	\$38.11	\$43.20	\$48.28

Supplemental benefits per hour:

07/01/2020	\$ 12.81* +\$9.04	\$ 14.09* +\$9.94	\$ 15.37* +\$10.84	\$ 16.65* +\$11.75	\$ 17.93* +\$12.65	\$ 19.21* +\$13.55	\$ 21.77* +\$15.36	\$ 24.33* +\$17.16
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Apprentices hired after 07/01/2017:

Wages Per hour:

	1st 0- 1500	2nd 1501- 3000	3rd 3001- 3750	4th 3751- 4500	5th 4501- 5250	6th 5251- 6000
07/01/2020	\$22.20	\$22.88	\$30.49	\$35.57	\$40.65	\$45.73

Supplemental Benefits per hour:

07/01/2020	1st \$4.55* +\$6.32	2nd \$11.52* +\$8.13	3rd \$15.37* +\$10.84	4th \$17.93* +\$12.65	5th \$20.49* +\$14.46	6th \$23.05* +\$16.22
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*This portion of benefits subject to same premium rate as shown for overtime wages.

9-7/3

Mason - Building	12/01/2020
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JOB DESCRIPTION Mason - Building

DISTRICT 9

ENTIRE COUNTIES

Bronx, Kings, Nassau, New York, Queens, Richmond, Suffolk, Westchester

WAGES

Per hour: 07/01/2020 01/01/2021

Building-Marble Restoration: Additional
\$1.10

Marble, Stone & \$ 44.66
Terrazzo Polisher, etc

SUPPLEMENTAL BENEFITS

Per Hour:
Journeyworker:

Building-Marble Restoration:
Marble, Stone &
Polisher \$ 28.41

OVERTIME PAY

See (B, *E, Q, V) on OVERTIME PAGE

*ON SATURDAYS, 8TH HOUR AND SUCCESSIVE HOURS PAID AT DOUBLE HOURLY RATE.

HOLIDAY

Paid: See (1) on HOLIDAY PAGE
Overtime: See (5, 6, 8, 11, 15, 25) on HOLIDAY PAGE
1ST TERM APPRENTICE GETS PAID FOR ALL OBSERVED HOLIDAYS.

REGISTERED APPRENTICES

WAGES per hour:

900 hour term at the following wage:

	1st 1- 900	2nd 901- 1800	3rd 1801- 2700	4th 2701
07/01/2020	\$31.19	\$35.68	\$40.16	\$44.66

Supplemental Benefits Per Hour:

07/01/2020	\$ 25.78	\$ 26.66	\$ 27.54	\$ 28.41
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9-7/24-MP

Mason - Building	12/01/2020
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JOB DESCRIPTION Mason - Building

DISTRICT 9

ENTIRE COUNTIES

Bronx, Dutchess, Kings, Nassau, New York, Orange, Putnam, Queens, Richmond, Rockland, Suffolk, Sullivan, Ulster, Westchester

WAGES

Wages: 07/01/2020 01/14/2021

Additional

Marble Cutters & Setters \$ 60.35 \$0.95

SUPPLEMENTAL BENEFITS

Per Hour:

Journeyworker \$ 37.24

OVERTIME PAY

See (B, E, Q, V) on OVERTIME PAGE

HOLIDAY

Paid: See (1) on HOLIDAY PAGE
Overtime: See (5, 6, 8, 11, 15, 16, 25) on HOLIDAY PAGE

REGISTERED APPRENTICES

Wage Per Hour:

750 hour terms at the following wage.

1st	2nd	3rd	4th	5th	6th	7th	8th	9th	10th
1-750	751-1500	1501-2250	2251-3000	3001-3750	3751-4500	4501-5250	5251-6000	6001-6751	6751-7500
07/01/2020									
\$24.15	\$27.15	\$30.16	\$33.19	\$36.20	\$39.20	\$42.15	\$45.26	\$51.28	\$57.34

Supplemental Benefits per hour:

1st	2nd	3rd	4th	5th	6th	7th	8th	9th	10th
\$20.14	\$21.58	\$23.02	\$24.42	\$25.85	\$27.29	\$28.72	\$30.12	\$32.98	\$35.81

9-7/4

Mason - Building

12/01/2020

JOB DESCRIPTION Mason - Building

DISTRICT 9

ENTIRE COUNTIES

Bronx, Kings, Nassau, New York, Queens, Richmond, Suffolk, Westchester

WAGES

Per hour:	07/01/2020	01/01/2021
Marble, Stone, etc.		Additional
Maintenance Finishers:	\$ 25.53	\$0.68

Note 1: An additional \$2.00 per hour for time spent grinding floor using "60 grit" and below.

Note 2: Flaming equipment operator shall be paid an additional \$25.00 per day.

SUPPLEMENTAL BENEFITS

Per Hour:

Marble, Stone, etc	
Maintenance Finishers:	\$ 13.85

OVERTIME PAY

See (B, *E, Q, V) on OVERTIME PAGE

*Double hourly rate after 8 hours on Saturday

HOLIDAY

Paid: See (5, 6, 8, 11, 15, 25) on HOLIDAY PAGE

Overtime: See (5, 6, 8, 11, 15, 25) on HOLIDAY PAGE

1st term apprentice gets paid for all observed holidays.

REGISTERED APPRENTICES

WAGES per hour:

07/01/2020

0-750	\$17.87
751-1500	\$18.89
1501-2250	\$19.92
2251-3000	\$20.93
3001-3750	\$22.47
3751-4500	\$24.51
4501+	\$25.53

Supplemental Benefits:

Per hour:

0-750	\$ 13.73
751-1500	\$ 13.75
1501-2250	\$ 13.76

2251-3000	\$ 13.78
3001-3750	\$ 13.80
3751-4500	\$ 13.83
4501+	\$ 13.85

9-7/24M-MF

Mason - Building

12/01/2020

JOB DESCRIPTION Mason - Building

DISTRICT 9

ENTIRE COUNTIES

Nassau, Rockland, Suffolk, Westchester

WAGES

Per hour: 07/01/2020 12/07/2020

Tile Setters \$ 60.09 \$ 60.86

SUPPLEMENTAL BENEFITS

Per Hour: \$ 24.81* \$ 24.91*
+ \$9.72 + \$9.73

* This portion of benefits subject to same premium rate as shown for overtime wages.

OVERTIME PAY

See (B, E, Q, V) on OVERTIME PAGE

Work beyond 10 hours on Saturday shall be paid at double the hourly wage rate.

HOLIDAY

Paid: See (1) on HOLIDAY PAGE

Overtime: See (5, 6, 11, 15, 16, 25) on HOLIDAY PAGE

REGISTERED APPRENTICES

Wage per hour:

Tile Setters:

(750 hour) term at the following wage rate:

Term:	1st	2nd	3rd	4th	5th	6th	7th	8th	9th	10th
	1-750	751-1500	1501-2250	2251-3000	3001-3750	3751-4500	4501-5250	5251-6000	6001-6750	6501-7000
07/01/2020	\$20.35	\$25.11	\$32.09	\$36.83	\$40.25	\$43.50	\$46.95	\$51.69	\$54.34	\$58.19

Supplemental Benefits per hour:

1st	2nd	3rd	4th	5th	6th	7th	8th	9th	10th
\$12.55*	\$12.55*	\$15.06*	\$15.06*	\$16.06*	\$17.56*	\$18.56*	\$18.56*	\$16.56*	\$21.81*
+\$66	+\$70	+\$80	+\$85	+\$1.23	+\$1.27	+\$1.62	+\$1.67	+\$5.82	+\$6.31

* This portion of benefits subject to same premium rate as shown for overtime wages.

9-7/52A

Mason - Building

12/01/2020

JOB DESCRIPTION Mason - Building

DISTRICT 9

ENTIRE COUNTIES

Nassau, Rockland, Suffolk, Westchester

WAGES

Per hour: 07/01/2020 12/07/2020

Tile Finisher \$ 46.21 \$ 46.69

SUPPLEMENTAL BENEFITS

Per Hour: \$ 21.56* \$ 21.91
+ \$9.65 + \$9.55

*This portion of benefits subject to same premium rate as shown for overtime wages

OVERTIME PAY

See (B, E, Q, *V) on OVERTIME PAGE

Work beyond 10 hours on a Saturday shall be paid at double the hourly wage rate.

HOLIDAY

Paid: See (1) on HOLIDAY PAGE

Overtime: See (5, 6, 11, 15, 16, 25) on HOLIDAY PAGE

9-7/88A-tf

Mason - Building / Heavy&Highway

12/01/2020

JOB DESCRIPTION Mason - Building / Heavy&Highway

DISTRICT 9

ENTIRE COUNTIES

Bronx, Kings, Nassau, New York, Queens, Richmond, Suffolk, Westchester

WAGES

Per hour: 07/01/2020 01/14/2021

Marble-Finisher \$ 47.92 Additional \$0.61

SUPPLEMENTAL BENEFITS

Journeyworker:
per hour

Marble- Finisher \$ 34.99

OVERTIME PAY

See (B, E, Q, V) on OVERTIME PAGE

HOLIDAY

Overtime: See (5, 6, 8, 11, 15, 16, 25) on HOLIDAY PAGE

* Work beyond 8 hours on a Saturday shall be paid at double the rate.

** When an observed holiday falls on a Sunday, it will be observed the next day.

9-7/20-MF

Mason - Heavy&Highway

12/01/2020

JOB DESCRIPTION Mason - Heavy&Highway

DISTRICT 11

ENTIRE COUNTIES

Putnam, Rockland, Westchester

PARTIAL COUNTIES

Orange: Only the Township of Tuxedo.

WAGES

Per hour: 07/01/2020

Bricklayer \$ 42.60

Cement Mason 42.60

Marble/Stone Mason 42.60

Plasterer 42.60

Pointer/Caulker 42.60

Additional \$1.00 per hour for power saw work

Additional \$0.50 per hour for swing scaffold or staging work

SHIFT WORK: When shift work or an irregular work day is mandated or required by state, federal, county, local or other governmental contracts, the following rates apply:

Irregular work day requires 15% premium

Second shift an additional 15% of wage plus benefits to be paid

Third shift an additional 25% of wage plus benefits to be paid

SUPPLEMENTAL BENEFITS

Per hour:

Journeyman \$ 34.99

OVERTIME PAY

Cement Mason See (B, E, Q, W, X)

All Others See (B, E, Q, X)

HOLIDAY

Paid: See (5, 6, 15, 25) on HOLIDAY PAGE

Overtime: See (5, 6, 15, 25) on HOLIDAY PAGE

Whenever any of the above holidays fall on Sunday, they will be observed on Monday. Whenever any of the above holidays fall on Saturday, they will be observed on Friday.

REGISTERED APPRENTICES

Wages per hour:

750 hour terms at the following percentage of Journeyman's wage

1st	2nd	3rd	4th	5th	6th	7th	8th
50%	55%	60%	65%	70%	75%	80%	85%

Supplemental Benefits per hour

750 hour terms at the following percentage of journeyman supplements

1st	2nd	3rd	4th	5th	6th	7th	8th
50%	55%	60%	65%	70%	75%	80%	85%

Apprentices indentured before June 1st, 2011 receive full journeyman benefits

11-5WP-H/H

Operating Engineer - Building

12/01/2020

JOB DESCRIPTION Operating Engineer - Building

DISTRICT 8

ENTIRE COUNTIES

Putnam, Westchester

PARTIAL COUNTIES

Dutchess: All the counties of Westchester and Putnam and the southern part of Dutchess County defined by the northern boundary line of the City of Poughkeepsie, then due east to Route 115, then north along Route 115 to Bedell Road, then east along Bedell Road to Van Wagner Road, then north along Van Wagner Road to Bower Road, then east along Bower Road to Route 44 and along Route 44 east to Route 343, then along Route 343 east to the northern boundary of Town of Dover Plains and east along the northern boundary of Town of Dover Plains to the border line of the State of Connecticut and bordered on the west by the middle of the Hudson River.

WAGES

GROUP I:

Cranes (All Types up to 49 tons), Boom Trucks, Cherry Pickers (All Types), Clamshell Crane, Derrick (Stone and Steel), Dragline, Franki Pile Rig or similar, High Lift (Lull or similar) with crane attachment and winch used for hoisting or lifting, Hydraulic Cranes, Pile Drivers, Potain and similar.

Cranes (All types 50-99 tons), Drill Rig Casa Grande (CAT or similar), Franki Pile Rig or similar, Hydraulic Cranes (All types including Crawler Cranes- No specific boom length).

Cranes (All types 100 tons and over), All Tower Cranes, All Climbing Cranes irrespective of manufacturer and regardless of how the same is rigged, Franki Pile Rig or similar, Conventional Cranes (All types including Crawler Cranes-No specific boom length), Hydraulic Cranes.

GROUP I-A: Barber Green Loader-Euclid Loader, Bulldozer, Carrier-Trailer Horse, Concrete Cleaning Decontamination Machine Operator, Concrete-Portable Hoist, Conway or Similar Mucking Machines, Elevator & Cage, Excavators all types, Front End Loaders, Gradall, Shovel, Backhoe, etc. (Crawler or Truck), Heavy Equipment Robotics Operator/Mechanic, Hoist Engineer-Material, Hoist Portable Mobile Unit, Hoist (Single, Double or Triple Drum), Horizontal Directional Drill Locator, Horizontal Directional Drill Operator and Jersey Spreader, Letourneau or Tournapull (Scrapers over 20 yards Struck), Lift Slab Console, etc., Lull HiLift or Similar, Master Environmental Maintenance Mechanics, Mucking Machines Operator/Mechanic or Similar Type, Overhead Crane, Pavement Breaker (Air Ram), Paver (Concrete), Post Hole Digger, Power House Plant, Road Boring Machine, Road Mix Machine, Ross Carrier and Similar Machines, Rubber tire double end backhoes and similar machines, Scoopmobile Tractor-Shovel Over 1.5 yards, Shovel (Tunnels), Spreader (Asphalt) Telephie (Cableway), Tractor Type Demolition Equipment, Trenching Machines-Vermeer Concrete Saw Trencher and Similar, Ultra High Pressure Waterjet Cutting Tool System, Vacuum Blasting Machine operator/mechanic, Winch Truck A Frame.

GROUP I-B: Compressor (Steel Erection), Mechanic (Outside All Types), Negative Air Machine (Asbestos Removal), Push Button (Buzz Box) Elevator.

GROUP II: Compactor Self-Propelled, Concrete Pump, Crane Operator in Training (Over 100 Tons), Grader, Machines Pulling Sheep's Foot Roller, Roller (4 ton and over), Scrapers (20 yards Struck and Under), Vibratory Rollers, Welder.

GROUP III-A: Asphalt Plant, Concrete Mixing Plants, Forklift (All power sources), Joy Drill or similar, Tractor Drilling Machine, Loader (1 1/2 yards and under), Portable Asphalt Plant, Portable Batch Plant, Portable Crusher, Skid Steer (Bobcat or similar), Stone Crusher, Well Drilling Machine, Well Point System.

GROUP III-B: Compressor Over 125 cu.Feet, Conveyor Belt Machine regardless of size, Compressor Plant, Ladder Hoist, Stud Machine.

GROUP IV-A: Batch Plant, Concrete Breaker, Concrete Spreader, Curb Cutter Machine, Finishing Machine-Concrete, Fine Grading Machine, Hepa Vac Clean Air Machine, Material Hopper(sand, stone, cement), Mulching Grass Spreader, Pump Gypsum etc, Pump-Plaster-Grout-Fireproofing. Roller(Under 4 Ton),Spreading and Fine Grading Machine, Steel Cutting Machine, Siphon Pump, Tar Joint Machine, Television Cameras for Water, Sewer, Gas etc. Turbo Jet Burner or Similar Equipment, Vibrator (1 to 5).

GROUP IV-B: Compressor (all types), Heater (All Types), Fire Watchman, Lighting Unit (Portable & Generator) Pump, Pump Station(Water, Sewer, Portable, Temporary), Welding Machine (Steel Erection & Excavation).

GROUP V: Mechanics Helper, Motorized Roller (walk behind), Stock Attendant, Welder's Helper.

GROUP VI-B: Utility Man, Warehouse Man.

WAGES: (per hour)

07/01/2020

GROUP I	
Cranes- up to 49 tons	\$ 61.70
Cranes- 50 tons to 99 tons	63.86
Cranes- 100 tons and over	72.99
GROUP I-A	53.95
GROUP I-B	49.68
GROUP II	52.03
GROUP III-A	50.11
GROUP III-B	47.67
GROUP IV-A	49.60
GROUP IV-B	41.85
GROUP V	45.17
GROUP VI-A	52.96
GROUP VI-B	
Utility Man	42.83
Warehouse Man	44.92

An additional 20% to wage when required to wear protective equipment on hazardous/toxic waste projects.
Engineers operating cranes with booms 100 feet but less than 149 feet in length will be paid an additional \$2.00 per hour.
Engineers operating cranes with booms 149 feet or over in length will be paid an additional \$3.00 per hour.
Loader operators over 5 cubic yard capacity additional .50 per hour.
Shovel operators over 4 cubic yard capacity additional \$1.00 per hour.

SUPPLEMENTAL BENEFITS

Per hour:

07/01/2020

Journeyworker	\$ 28.52
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OVERTIME PAY

OVERTIME:..... See (B, E,P,R*,T**,U***,V) on OVERTIME PAGE.

HOLIDAY

Paid:..... See (5, 6, 11, 12, 15, 25) on HOLIDAY PAGE.

Overtime:..... See (5, 6, 11, 12, 15, 25) on HOLIDAY PAGE.

* For Holiday codes 11, 12, 15, 25, code R applies.

** For Holiday code 28, code T applies

*** For Holiday codes 5 & 6, code U applies

8-137B

Operating Engineer - Building

12/01/2020

JOB DESCRIPTION Operating Engineer - Building

DISTRICT 9

ENTIRE COUNTIES

Bronx, Kings, New York, Putnam, Queens, Richmond, Westchester

PARTIAL COUNTIES

Dutchess: that part of Dutchess County lying south of the North City Line of the City of Poughkeepsie.

WAGES

NOTE:Construction surveying

Party chief--One who directs a survey party

Instrument Man--One who runs the instrument and assists Party Chief.

Rodman--One who holds the rod and assists the Survey Crew

Wages:(Per Hour) 07/01/2020

Building Construction:

Party Chief	\$ 74.75
Instrument Man	\$ 59.53
Rodman	\$ 40.79

Steel Erection:

Party Chief	\$ 78.44
Instrument Man	\$ 62.74
Rodman	\$ 44.39

Heavy Construction-NYC counties only:
(Foundation, Excavation.)

Party Chief	\$ 83.87
Instrument man	\$ 63.61
Rodman	\$ 54.59

SUPPLEMENTAL BENEFITS

Per Hour: 07/01/2020

Building Construction & Steel \$ 22.85* + 6.90

Heavy Construction \$ 23.10* + 6.90

* This portion subject to same premium as wages

Non-Worked Holiday Supplemental Benefit:

\$ 16.45

OVERTIME PAY

See (A, B, E, Q) on OVERTIME PAGE

Code "A" applies to Building Construction and has double the rate after 7 hours on Saturdays.

Code "B" applies to Heavy Construction and Steel Erection and had double the rate after 8 hours on Saturdays.

HOLIDAY

Paid: See (5, 6, 9, 11, 15, 16, 25) on HOLIDAY PAGE

Overtime: See (5, 6, 9, 11, 15, 16, 25) on HOLIDAY PAGE

9-15Db

Operating Engineer - Heavy&Highway

12/01/2020

JOB DESCRIPTION Operating Engineer - Heavy&Highway

DISTRICT 8

ENTIRE COUNTIES

Putnam, Westchester

PARTIAL COUNTIES

Dutchess: All the counties of Westchester and Putnam and the southern part of Dutchess County defined by the northern boundary line of the City of Poughkeepsie, then due east to Route 115, then north along Route 115 to Bedell Road, then east along Bedell Road to Van Wagner Road, then north along Van Wagner Road to Bower Road, then east along Bower Road to Route 44 and along Route 44 east to Route 343, then along Route 343 east to the northern boundary of Town of Dover Plains and east along the northern boundary of Town of Dover Plains to the border line of the State of Connecticut and bordered on the west by the middle of the Hudson River.

WAGES

GROUP I: Boom Truck, Cherry Picker, Clamshell, Crane, (Crawler, Truck), Dragline, Drill Rig (Casa Grande, Cat, or Similar), Floating Crane (Crane on Barges) under 100 tons, Gin Pole, Hoist Engineer-Concrete (Crane-Derrick-Mine Hoist), Knuckle Boom Crane, Rough Terrain Crane.

GROUP I-A: Auger (Truck or Truck Mounted), Boat Captain, Bulldozer-All Sizes, Central Mix Plant Operator, Chipper (all types), Close Circuit T.V., Combination Loader/Backhoe, Compactor with Blade, Concrete Finishing Machine, Gradall, Grader (Motor Grader), Elevator & Cage (Materials or Passenger), Excavator (and all attachments), Front End Loaders (1 1/2 yards and over), High Lift Lull and similar, Hoist (Single, Double, Triple Drum), Hoist Portable Mobile Unit, Hoist Engineer (Material), Jack and Bore Machine, Log Skidders, Mill Machines, Mucking Machines, Overhead Crane, Paver (concrete), Post Pounder (of any type), Push Cats, Road Reclaimer, Robot Hammer (Brokk or similar), Robotic Equipment (Scope of Engineer Schedule), Ross Carrier and similar, Scrapers (20 yard struck and over), Side Boom, Slip Form Machine, Spreader (Asphalt), Trenching Machines (Telephies-Vermeer Concrete Saw), Tractor Type Demolition Equipment, Vacuum Truck.

GROUP I-B: Asphalt Mobile Conveyor/Transfer Machine, Road Paver (Asphalt).

GROUP II-A: Ballast Regulators, Compactor Self Propelled, Fusion Machine, Rail Anchor Machines, Roller (4 ton and over), Scrapers (20 yard struck and under), Vibratory Roller (Riding), Welder.

GROUP II-B: Mechanic (Outside) All Types.

GROUP III: Air Tractor Drill, Asphalt Plant, Batch Plant, Boiler (High Pressure), Concrete Breaker (Track or Rubber Tire), Concrete Pump, Concrete Spreader, Excavator Drill, Farm Tractor, Forklift (all types), Gas Tapping (Live), Hydroseeder, Loader (1 1/2 yards and under), Locomotive (all sizes), Machine Pulling Sheeps Foot Roller, Portable Asphalt Plant, Portable Batch Plant, Portable Crusher (Apprentice), Powerhouse Plant, Roller (under 4 ton), Sheer Excavator, Skid Steer/Bobcat, Stone Crusher, Sweeper (with seat), Well Drilling Machine.

GROUP IV: Service Person (Grease Truck).

GROUP IV-B: Conveyor Belt Machine (Truck Mounted), Heater (all types), Lighting Unit (Portable), Maintenance Engineer (For Crane Only), Mechanics Helper, Pump (Fireproofing), Pumps-Pump Station/Water/Sewer/Gypsum/Plaster, etc., Pump Truck (Sewer Jet or Similar), Welders Helper, Welding Machine (Steel Erection), Well Point System.

GROUP V: All Tower Cranes-All Climbing Cranes and all cranes of 100-ton capacity or greater (3900 Manitowac or similar) irrespective of manufacturer and regardless of how the same is rigged, Hoist Engineer (Steel), Engineer-Pile Driver, Jersey Spreader, Pavement Breaker/Post Hole Digger.

WAGES: Per hour: 07/01/2020

Group I	\$ 62.38
Group I-A	54.95
Group I-B	57.92
Group II-A	52.61
Group II-B	54.26
Group III	51.68
Group IV-A	46.93
Group IV-B	40.24
Group V-A	
Engineer All Tower, Climbing and	
Cranes of 100 Tons	70.72
Hoist Engineer(Steel)	64.00
Engineer(Pile Driver)	68.27
Jersey Spreader,Pavement Breaker (Air	
Ram)Post Hole Digger	53.83

SHIFT DIFFERENTIAL:

A 15% premium on all hours paid, including overtime hours for 2nd, 3rd shifts
on all government mandated off-shift work

Engineers operating cranes with booms 100 feet but less than 149 feet in length will be paid an additional \$2.00 per hour over the rate listed in the Wage Schedule. Engineers operating cranes with booms 149 feet or over in length will be paid an additional \$3.00 per hour over the rate listed in the Wage Schedule. Loader and Excavator Operators: over 5 cubic yards capacity \$0.50 per hour over the rate listed in the Wage Schedule. Shovel Operators: over 4 cubic yards capacity \$1.00 per hour over the rate listed in the Wage Schedule.

Four (4), ten (10) hour days may be worked at straight time during a week, Monday thru Thursday; Friday may be used as a make-up day.

NOTE - In order to use the 4 Day/10 Hour Work scheduleRegistration for Use of 4 Day/10 Hour Work Schedule,form PW30.1; and there must be a dispensation of hours in place on the project. If the PW30.1 is not submitted you may be liable for overtime payments for work over 8 hours per day.

SUPPLEMENTAL BENEFITS

Per hour:

Journeyworker:	07/01/2020
	\$ 30.50 up to 40 Hours
	After 40 hours \$ 21.35* PLUS \$ 1.15 on all hours worked

*This amount is subject to premium

OVERTIME PAY

See (B, E, E2, P, *R, **U) on OVERTIME PAGE

HOLIDAY

Paid:..... See (5, 6, 8, 9, 15, 25) on HOLIDAY PAGE

Overtime..... See (5, 6, 8, 9, 15, 25) on OVERTIME PAGE

* For Holiday codes 8,9,15,25 code R applies

** For Holiday Codes 5 & 6 code U applies

Note: If employees are required to work on Easter Sunday they shall be paid at the rate of triple time.

REGISTERED APPRENTICES

(1)year terms at the following rate.

07/01/2020

1st term	\$ 27.48
2nd term	32.97
3rd term	38.47
4th term	43.96

Supplemental Benefits per hour:

\$ 22.50

8-137HH

Operating Engineer - Heavy&Highway

12/01/2020

JOB DESCRIPTION Operating Engineer - Heavy&Highway

DISTRICT 9

ENTIRE COUNTIES

Putnam, Westchester

PARTIAL COUNTIES

Dutchess: South of the North city line of Poughkeepsie

WAGES

Party Chief - One who directs a survey party

Instrument Man - One who runs the instrument and assists Party Chief

Rodman - One who holds the rod and in general, assists the Survey Crew

Catogories cover GPS & Underground Surveying

Per Hour: 07/01/2020

Party Chief \$ 81.06

Instrument Man 61.32

Rodman 52.53

SUPPLEMENTAL BENEFITS

Per Hour: 07/01/2020

All Catogories

Straight Time: \$ 23.10* plus \$6.90

Premium:

Time & 1/2 \$ 34.65* plus \$6.90

Double Time \$ 46.20* plus \$6.90

Non-Worked Holiday Supplemental Benefits:

\$ 16.45

OVERTIME PAY

See (B, *E, Q) on OVERTIME PAGE

* Doubletime paid on all hours in excess of 8 hours on Saturday

HOLIDAY

Paid: See (5, 6, 7, 11, 12) on HOLIDAY PAGE

Overtime: See (5, 6, 7, 11, 12) on HOLIDAY PAGE

9-15Dh

Operating Engineer - Heavy&Highway - Tunnel

12/01/2020

JOB DESCRIPTION Operating Engineer - Heavy&Highway - Tunnel

DISTRICT 8

ENTIRE COUNTIES

Putnam, Westchester

PARTIAL COUNTIES

Dutchess: All the counties of Westchester and Putnam and the southern part of Dutchess County defined by the northern boundary line of the City of Poughkeepsie, then due east to Route 115, then north along Route 115 to Bedell Road, then east along Bedell Road to Van Wagner Road, then north along Van Wagner Road to Bower Road, then east along Bower Road to Route 44 and along Route 44 east to Route 343, then along Route 343 east to the northern boundary of Town of Dover Plains and east along the northern boundary of Town of Dover Plains to the border line of the State of Connecticut and bordered on the west by the middle of the Hudson River.

WAGES

GROUP I: Boom Truck, Cherry Picker, Clamshell, Crane(Crawler,Truck), Dragline, Drill Rig Casa Grande(Cat or Similar), Floating Crane(Crane on Barge-Under 100 Tons), Hoist Engineer(Concrete/Crane-Derrick-Mine Hoist), Knuckle Boom Crane, Rough Terrain Crane.

GROUP I-A: Auger(Truck or Truck Mounted), Boat Captain, Bull Dozer-all sizes, Central Mix Plant Operator, Chipper-all types, Close Circuit T.V., Combination Loader/Backhoe, Compactor with Blade, Concrete Finishing Machine, Gradall, Grader(Motor Grader), Elevator & Cage(Materials or Passengers), Excavator(and all attachments), Front End Loaders(1 1/2 yards and over), High Lift Lull, Hoist(Single, Double, Triple Drum), Hoist Portable Mobile Unit, Hoist Engineer(Material), Jack and Bore Machine, Log Skidder, Milling Machine, Moveable Concrete Barrier Transfer & Transport Vehicle, Mucking Machines. Overhead Crane, Paver(Concrete), Post Pounder of any type, Push Cats, Road Reclaimer, Robot Hammer(Brokk or similar), Robotic Equipment(Scope of Engineer Schedule), Ross Carrier and similar machines, Scrapers(20 yards struck and over), Side Boom, Slip Form Machine, Spreader(Asphalt), Trenching Machines, Telephies-Vermeer Concrete Saw, Tractor type demolition equipment, Vacuum Truck.

GROUP I-B: Asphalt Mobile Conveyor/Transfer Machine, Road Paver(Asphalt).

GROUP II-A: Ballast Regulators, Compactor(Self-propelled), Fusion Machine, Rail Anchor Machines, Roller(4 ton and over), Scrapers(20 yard struck and under), Vibratory Roller(riding), Welder.

GROUP II-B: Mechanic(outside)all types.

GROUP III: Air Tractor Drill, Asphalt Plant, Batch Plant, Boiler(High Pressure), Concrete Breaker(Track or Rubber Tire), Concrete Pump, Concrete Spreader, Excavator Drill, Farm Tractor, Forklift(all types of power), Gas Tapping(Live), Hydroseeder, Loader(1 1/2 yards and under), Locomotive(all sizes), Machine Pulling Sheeps Foot Roller, Portable Asphalt Plant, Portable Batch Plant, Portable Crusher(Apprentice), Powerhouse Plant, Roller(under 4 ton), Sheer Excavator, Skidsteer/Bobcat, Stone Crusher, Sweeper(with seat), Well Drilling Machine.

GROUP IV-A: Service Person(Grease Truck).

GROUP IV-B: Conveyor Belt Machine(Truck Mounted), Heater(all types), Lighting Unit(Portable), Maintenance Engineer(for Crane only), Mechanics Helper, Pump(Fireproofing), Pumps-Pump Station/Water/Sewer/Gypsum/Plaster, etc., Pump Truck(Sewer Jet or similar), Welding Machine(Steel Erection), Welders Helper.

GROUP V-A: Engineer(all Tower Cranes, all Climbing Cranes & all Cranes of 100 ton capacity or greater),Hoist Engineer(Steel-Sub Structure), Engineer-Pile Driver, Jersey-Spreader, Pavement breaker, Post Hole Digger

WAGES: (per hour)

07/01/2020

GROUP I	\$ 62.38
GROUP I-A	54.95
GROUP I-B	57.92
GROUP II-A	52.61
GROUP II-B	54.26
GROUP III	51.68
GROUP IV-A	46.93
GROUP IV-B	40.24
GROUP V-A	
Engineer-Cranes	70.72
Engineer-Pile Driver	68.27
Hoist Engineer	64.00
Jersey Spreader	53.83
Pavement Breaker	53.83
Post Hole Digger	53.83

SHIFT DIFFERENTIAL:

A 15% premium on all hours paid, including overtime hours for 2nd, 3rd shifts

on all government mandated off-shift work

An additional 20% to wage when required to wear protective equipment on hazardous/toxic waste projects. Operators required to use two buckets pouring concrete on other than road pavement shall receive \$0.50 per hour over scale. Engineers operating cranes with booms 100 feet but less than 149 feet in length will be paid an additional \$2.00 per hour. Engineers operating cranes with booms 149 feet or over in length will be paid an additional \$3.00 per hour. Operators of shovels with a capacity over (4) cubic yards shall be paid an additional \$1.00 per hour. Operators of loaders with a capacity over (5) cubic yards shall be paid an additional \$0.50 per hour.

SUPPLEMENTAL BENEFITS

Per hour:

Journeyworker:

07/01/2020

\$ 22.50

+ \$8.00

(Limited to
first 40 hours)

OVERTIME PAY

See (D, O, *U, V) on OVERTIME PAGE

HOLIDAY

Paid: See (5, 6, 8, 9, 15, 25) on HOLIDAY PAGE

Overtime: See (5, 6, 8, 9, 15, 25) on HOLIDAY PAGE

* Note: For Holiday codes 5 & 6, code U applies.

Note: If employees are required to work on Easter Sunday, they shall be paid at the rate of triple time.

REGISTERED APPRENTICES

(1)year terms at the following rates:

07/01/2020

1st term \$ 27.48

2nd term 32.97

3rd term 38.47

4th term 43.96

Supplemental Benefits per hour:

07/01/2020

All terms \$ 22.50

8-137Tun

Operating Engineer - Marine Dredging

12/01/2020

JOB DESCRIPTION Operating Engineer - Marine Dredging

DISTRICT 4

ENTIRE COUNTIES

Albany, Bronx, Cayuga, Chautauqua, Clinton, Columbia, Dutchess, Erie, Essex, Franklin, Greene, Jefferson, Kings, Monroe, Nassau, New York, Niagara, Orange, Orleans, Oswego, Putnam, Queens, Rensselaer, Richmond, Rockland, St. Lawrence, Suffolk, Ulster, Washington, Wayne, Westchester

WAGES

These wages do not apply to Operating Engineers on land based construction projects. For those projects, please see the Operating Engineer Heavy/Highway Rates. The wage rates below for all equipment and operators are only for marine dredging work in navigable waters found in the counties listed above.

Per Hour:	07/01/2020	10/01/2020
CLASS A1	\$ 40.31	\$ 41.42
Deck Captain, Leverman		
Mechanical Dredge Operator		
Licensed Tug Operator 1000HP or more.		
CLASS A2	35.92	36.91
Crane Operator (360 swing)		
CLASS B	To conform to Operating Engineer	
Dozer,Front Loader	Prevailing Wage in locality where work	
Operator on Land	is being performed including benefits.	
CLASS B1	34.86	35.82
Derrick Operator (180 swing)		

Spider/Spill Barge Operator
Operator II, Fill Placer,
Engineer, Chief Mate, Electrician,
Chief Welder, Maintenance Engineer
Licensed Boat, Crew Boat Operator

CLASS B2	32.82	33.72
Certified Welder		

CLASS C1	31.92	32.80
Drag Barge Operator, Steward, Mate, Assistant Fill Placer		

CLASS C2	30.89	31.74
Boat Operator		

CLASS D	25.66	26.37
Shoreman, Deckhand, Oiler, Rodman, Scowman, Cook, Messman, Porter/Janitor		

SUPPLEMENTAL BENEFITS

Per Hour:

THE FOLLOWING SUPPLEMENTAL BENEFITS APPLY TO ALL CATEGORIES

All Classes A & B	07/01/2020 \$11.58 plus 7.5% of straight time wage, Overtime hours add \$ 0.63	10/01/2020 \$11.98 plus 8% of straight time wage, Overtime hours add \$ 0.63
All Class C	\$11.28 plus 7.5% of straight time wage, Overtime hours add \$ 0.48	11.68 plus 8% of straight time wage, Overtime hours add \$ 0.48
All Class D	\$10.98 plus 7.5% of straight time wage, Overtime hours add \$ 0.33	11.38 plus 8% of straight time wage, Overtime hours add \$ 0.33

OVERTIME PAY

See (B2, F, R) on OVERTIME PAGE

HOLIDAY

Paid: See (1) on HOLIDAY PAGE
Overtime: See (5, 6, 8, 15, 26) on HOLIDAY PAGE

4-25a-MarDredge

Operating Engineer - Survey Crew - Consulting Engineer	12/01/2020
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JOB DESCRIPTION Operating Engineer - Survey Crew - Consulting Engineer

DISTRICT 9

ENTIRE COUNTIES

Bronx, Kings, Nassau, New York, Putnam, Queens, Richmond, Suffolk, Westchester

PARTIAL COUNTIES

Dutchess: That part in Dutchess County lying South of the North City line of Poughkeepsie.

WAGES

Feasibility and preliminary design surveying, any line and grade surveying for inspection or supervision of construction.

Per hour: 07/01/2020
Survey Classifications

Party Chief	\$ 45.32
Instrument Man	37.85
Rodman	33.14

SUPPLEMENTAL BENEFITS

Per Hour:

All Crew Members: \$ 19.50

OVERTIME PAY

OVERTIME:.... See (B, E*, Q, V) ON OVERTIME PAGE.

*Doubletime paid on the 9th hour on Saturday.

HOLIDAY

Paid: See (5, 6, 7, 11, 16) on HOLIDAY PAGE

Overtime: See (5, 6, 7, 11, 16) on HOLIDAY PAGE

9-15dconsult

Painter	12/01/2020
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JOB DESCRIPTION Painter

DISTRICT 8

ENTIRE COUNTIES

Bronx, Kings, Nassau, New York, Putnam, Queens, Richmond, Suffolk, Westchester

WAGES

Per hour: 07/01/2020

Brush \$ 49.20*

Abatement/Removal of lead based
or lead containing paint on
materials to be repainted. 49.20*

Spray & Scaffold \$ 52.20*

Fire Escape 52.20*

Decorator 52.20*

Paperhanger/Wall Coverer 51.96*

*Subtract \$ 0.10 to calculate premium rate.

SUPPLEMENTAL BENEFITS

Per hour: 07/01/2020

Paperhanger \$ 30.70

All others 28.81

Premium 32.10**

**Applies only to "All others" category, not paperhanger journeyworker.

OVERTIME PAY

See (A, H) on OVERTIME PAGE

HOLIDAY

Paid: See (1) on HOLIDAY PAGE

Overtime: See (5, 6, 16, 25) on HOLIDAY PAGE

REGISTERED APPRENTICES

One (1) year terms at the following wage rate.

Per hour: 07/01/2020

Appr 1st term... \$ 19.12*

Appr 2nd term... 24.52*

Appr 3rd term... 29.72*

Appr 4th term... 39.75*

*Subtract \$ 0.10 to calculate premium rate.

Supplemental benefits:

Per Hour: 07/01/2020

Appr 1st term... \$ 14.32

Appr 2nd term... 17.78

Appr 3rd term... 20.50

Appr 4th term... 25.89

8-NYDC9-B/S

Painter	12/01/2020
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JOB DESCRIPTION Painter

DISTRICT 8

ENTIRE COUNTIES

Putnam, Suffolk, Westchester

PARTIAL COUNTIES

Nassau: All of Nassau except the areas described below: Atlantic Beach, Ceaderhurst, East Rockaway, Gibson, Hewlett, Hewlett Bay, Hewlett Neck, Hewlett Park, Inwood, Lawrence, Lido Beach, Long Beach, parts of Lynbrook, parts of Oceanside, parts of Valley Stream, and Woodmere. Starting on the South side of Sunrise Hwy in Valley Stream running east to Windsor and Rockaway Ave., Rockville Centre is the boundary line up to Lawson Blvd. turn right going west all the above territory. Starting at Union Turnpike and Lakeville Rd. going north to Northern Blvd. the west side of Lakeville road to Northern blvd. At Northern blvd. going east the district north of Northern blvd. to Port Washington Blvd. West of Port Washington blvd. to St. Francis Hospital then north of first traffic light to Port Washington and Sands Point, Manor HAVen, Harbour Acres.

WAGES

Per hour:	07/01/2020
Drywall Taper	\$ 49.20*

*Subtract \$ 0.10 to calculate premium rate.

SUPPLEMENTAL BENEFITS

Per hour:	07/01/2020
Journeyman	\$ 28.81

OVERTIME PAY

See (A, H) on OVERTIME PAGE

HOLIDAY

Paid:	See (1) on HOLIDAY PAGE
Overtime:	See (5, 6, 16, 25) on HOLIDAY PAGE

REGISTERED APPRENTICES

Wages - Per Hour:	07/01/2020
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1500 hour terms at the following wage rate:

1st term	\$ 19.12*
2nd term	24.52*
3rd term	29.72*
4th term	39.75*

*Subtract \$ 0.10 to calculate premium rate.

Supplemental Benefits - Per hour:

One year term (1500 hours) at the following dollar amount.

1st year	\$ 14.32
2nd year	17.78
3rd year	20.40
4th year	25.89

8-NYDCT9-DWT

Painter - Bridge & Structural Steel

12/01/2020

JOB DESCRIPTION Painter - Bridge & Structural Steel

DISTRICT 8

ENTIRE COUNTIES

Albany, Bronx, Clinton, Columbia, Dutchess, Essex, Franklin, Fulton, Greene, Hamilton, Kings, Montgomery, Nassau, New York, Orange, Putnam, Queens, Rensselaer, Richmond, Rockland, Saratoga, Schenectady, Schoharie, Suffolk, Sullivan, Ulster, Warren, Washington, Westchester

WAGES

Per Hour:			
STEEL:			
Bridge Painting:	07/01/2020	10/01/2020	10/01/2021
	\$ 50.25	\$ 51.50	\$ 53.00
	+ 7.88*	+ 8.63*	+ 9.63*

ADDITIONAL \$6.00 per hour for POWER TOOL/SPRAY, whether straight time or overtime.

NOTE: All premium wages are to be calculated on base rate per hour only.

* For the period of May 1st to November 15th, this amount is payable up to 40 hours. For the period of Nov 16th to April 30th, this amount is payable up to 50 hours. EXCEPTION: First and last week of employment, and for the weeks of Memorial Day, Independence Day and Labor Day, where the amount is paid for the actual number of hours worked (no cap).

NOTE: Generally, 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.

SHIFT WORK:

When directly specified in public agency or authority contract documents for an employer to work a second shift and works the second shift with employees other than from the first shift, all employees who work the second shift will be paid 10% of the base wage shift differential in lieu of overtime for the first eight (8) hours worked after which the employees shall be paid at time and one half of the regular wage rate. When a single irregular work shift is mandated in the job specifications or by the contracting agency, wages shall be paid at time and one half for single shifts between the hours of 3pm-11pm or 11pm-7am.

SUPPLEMENTAL BENEFITS

Per Hour:

Journeyworker:	07/01/2020	10/01/2020	10/01/2021
	\$ 10.20	\$ 10.90	\$ 10.90
	+ 29.65*	+ 30.00*	+ 30.60*

* For the period of May 1st to November 15th, this amount is payable up to 40 hours. For the period of Nov 16th to April 30th, this amount is payable up to 50 hours. EXCEPTION: First and last week of employment, and for the weeks of Memorial Day, Independence Day and Labor Day, where the amount is paid for the actual number of hours worked (no cap).

OVERTIME PAY

See (B, F, R) on OVERTIME PAGE

HOLIDAY

Paid: See (1) on HOLIDAY PAGE
Overtime: See (4, 6) on HOLIDAY PAGE

REGISTERED APPRENTICES

Wage - Per hour:

Apprentices: (1) year terms

	07/01/2020	10/01/2020	10/01/2021
1st year	\$ 20.10	\$ 20.60	\$ 21.20
	+ 3.15*	+ 3.45*	+ 3.86*
2nd year	\$ 30.15	\$ 30.90	\$ 31.80
	+ 4.73*	+ 5.18*	+ 5.78*
3rd year	\$ 40.20	\$ 41.20	\$ 42.40
	+ 6.30*	+ 6.90*	+ 7.71*
Supplemental Benefits - Per hour:			
1st year	\$.25	\$.25	\$.25
	+ 11.86*	+ 12.00*	+ 12.24*
2nd year	\$ 10.20	\$ 10.90	\$ 10.90
	+ 17.79*	+ 18.00*	+ 18.36*
3rd year	\$ 10.20	\$ 10.90	\$ 10.90
	+ 23.72*	+ 24.00*	+ 24.48*

NOTE: All premium wages are to be calculated on base rate per hour only.

8-DC-9/806/155-BrSS

Painter - Line Striping

12/01/2020

JOB DESCRIPTION Painter - Line Striping

DISTRICT 8

ENTIRE COUNTIES

Albany, Bronx, Clinton, Columbia, Dutchess, Essex, Franklin, Fulton, Greene, Hamilton, Kings, Montgomery, Nassau, New York, Orange, Putnam, Queens, Rensselaer, Richmond, Rockland, Saratoga, Schenectady, Schoharie, Suffolk, Sullivan, Ulster, Warren, Washington, Westchester

WAGES

Per hour:

Painter (Striping-Highway):	07/01/2020	07/01/2021	07/01/2022
Striping-Machine Operator*	\$ 30.10	\$ 30.32	\$ 31.53
Linerman Thermoplastic	\$ 36.53	\$ 36.93	\$ 38.34

Note: * Includes but is not limited to: Positioning of cones and directing of traffic using hand held devices. Excludes the Driver/Operator of equipment used in the maintenance and protection of traffic safety.

Four (4), ten (10) hour days may be worked at straight time during a week, Monday thru Thursday. Friday may be used as a make-up day.

NOTE - In order to use the '4 Day/10 Hour Work Schedule,' as your normal schedule, you must submit an 'Employer Registration for Use of 4 Day/10 Hour Work Schedule,' form PW30.1; and there must be a dispensation of hours in place on the project. If the PW30.1 is not submitted you may be liable for overtime payments for work over 8 hours per day.

SUPPLEMENTAL BENEFITS

Per hour paid:	07/01/2020	07/01/2021	07/01/2022
Journeyworker:			
Striping Machine Operator:	\$ 9.16	\$ 10.03	\$ 10.03
Linerman Thermoplastic:	\$ 9.16	\$ 10.03	\$ 10.03

OVERTIME PAY

See (B, B2, E2, F, S) on OVERTIME PAGE

HOLIDAY

Paid: See (5, 20) on HOLIDAY PAGE
Overtime: See (5, 20) on HOLIDAY PAGE

REGISTERED APPRENTICES

One (1) year terms at the following wage rates:

	07/01/2020	12/31/2020
1st Term:	\$ 12.04	\$ 12.50
2nd Term:	\$ 18.06	\$ 18.19
3rd Term:	\$ 24.08	\$ 24.26

Supplemental Benefits per hour:

1st term:	\$ 9.16	\$ 10.03
2nd Term:	\$ 9.16	\$ 10.03
3rd Term:	\$ 9.16	\$ 10.03

8-1456-LS

Painter - Metal Polisher

12/01/2020

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

	07/01/2020
Metal Polisher	\$ 36.33
Metal Polisher*	37.43
Metal Polisher**	40.33

*Note: Applies to New Construction & complete renovation

** Note: Applies when working on scaffolds over 34 feet.

SUPPLEMENTAL BENEFITS

Per Hour: 07/01/2020

Journeyworker:

All classification \$ 9.94

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, 9, 11, 15, 16, 25, 26) on HOLIDAY PAGE

REGISTERED APPRENTICES

Wages per hour:

One (1) year term at the following wage rates:

07/01/2020

1st year	\$ 16.00
2nd year	17.00
3rd year	18.00

1st year*	\$ 16.39
2nd year*	17.44
3rd year*	18.54

1st year**	\$ 18.50
2nd year**	19.50
3rd year**	20.50

*Note: Applies on New Construction & complete renovation

** Note: Applies when working on scaffolds over 34 feet.

Supplemental benefits:

Per hour:

1st year	\$ 6.69
2nd year	6.69
3rd year	6.69

8-8A/28A-MP

Plumber

12/01/2020

JOB DESCRIPTION Plumber

DISTRICT 8

ENTIRE COUNTIES

Putnam, Westchester

WAGES

Per hour:

07/01/2020

Plumber and	
Steamfitter	\$ 57.86

SHIFT WORK:

When directly specified in public agency or authority contract documents, shift work outside the regular hours of work shall be comprised of eight (8) hours per shift not including Saturday, Sundays and holidays. One half (1/2) hour shall be allowed for lunch after the first four (4) hours of each shift. Wage and Fringes for shift work shall be straight time plus a shift premium of twenty-five (25%) percent. A minimum of five days Monday through Friday must be worked to establish shift work.

SUPPLEMENTAL BENEFITS

Per hour:

Journeyworker	\$ 37.56
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OVERTIME PAY

See (B, E, E2, Q, V) on OVERTIME PAGE

OVERTIME:... See on OVERTIME PAGE.

HOLIDAY

Paid: See (1) on HOLIDAY PAGE

Overtime: See (5, 6, 8, 16, 25) on HOLIDAY PAGE

REGISTERED APPRENTICES

(1)year terms at the following wages:

1st Term	\$ 21.44
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2nd Term	24.62
3rd Term	28.42
4th Term	40.61
5th Term	43.58

Supplemental Benefits per hour:

1st term	\$ 15.59
2nd term	17.38
3rd term	20.69
4th term	27.20
5th term	28.82

8-21.1-ST

Plumber - HVAC / Service

12/01/2020

JOB DESCRIPTION Plumber - HVAC / Service

DISTRICT 8

ENTIRE COUNTIES

Dutchess, Putnam, Westchester

PARTIAL COUNTIES

Delaware: Only the townships of Middletown and Roxbury

Ulster: Entire County(including Wallkill and Shawangunk Prisons) except for remainder of Town of Shawangunk and Towns of Plattekill, Marlboro, and Wawarsing.

WAGES

Per hour: 07/01/2020

HVAC Service \$ 39.68
+ \$ 4.32*

*Note: This portion of wage is not subject to overtime premium.

SUPPLEMENTAL BENEFITS

Per hour: 07/01/2020

Journeyworker HVAC Service
\$ 25.14

OVERTIME PAY

See (B, F, R) on OVERTIME PAGE

HOLIDAY

Paid: See (5, 6, 16, 25) on HOLIDAY PAGE

Overtime: See (5, 6, 16, 25) on HOLIDAY PAGE

REGISTERED APPRENTICES

HVAC SERVICE

(1)year terms at the following wages:

07/01/2020				
1st yr.	2nd yr.	3rd yr.	4th yr.	5th yr.
\$ 18.05	\$ 21.33	\$ 26.66	\$ 32.76	\$ 35.46
+\$2.37*	+\$2.67*	+\$3.22*	+\$3.84*	+\$4.07*

*Note: This portion of wage is not subject to overtime premium.

Supplemental Benefits per hour:

Apprentices 07/01/2020

1st term	\$ 19.03
2nd term	20.09
3rd term	21.30
4th term	22.90
5th term	24.07

8-21.1&2-SF/Re/AC

Plumber - Jobbing & Alterations

12/01/2020

JOB DESCRIPTION Plumber - Jobbing & Alterations

DISTRICT 8

ENTIRE COUNTIES

Dutchess, Putnam, Westchester

PARTIAL COUNTIES

Ulster: Entire county (including Wallkill and Shawangunk Prisons in Town of Shawangunk) EXCEPT for remainder of Town of Shawangunk, and Towns of Plattekill, Marlboro, and Wawarsing.

WAGES

Per hour: 07/01/2020

Journeyworker: \$ 44.91

Repairs, replacements and alteration work is any repair or replacement of a present plumbing system that does not change existing roughing or water supply lines.

SHIFT WORK:

When directly specified in public agency or authority contract documents, shift work outside the regular hours of work shall be comprised of eight (8) hours per shift not including Saturday, Sundays and holidays. One half (1/2) hour shall be allowed for lunch after the first four (4) hours of each shift. Wage and Fringes for shift work shall be straight time plus a shift premium of twenty-five (25%) percent. A minimum of five days Monday through Friday must be worked to establish shift work.

SUPPLEMENTAL BENEFITS

Per hour:

Journeyworker
\$ 31.60

OVERTIME PAY

See (B, *E, E2, Q, V) on OVERTIME PAGE

*When used as a make-up day, hours after 8 on Saturday shall be paid at time and one half.

HOLIDAY

Paid: See (1) on HOLIDAY PAGE

Overtime: See (5, 6, 8, 16, 25) on HOLIDAY PAGE

REGISTERED APPRENTICES

(1) year terms at the following wages:

1st year	\$ 19.52
2nd year	21.65
3rd year	23.42
4th year	32.92
5th year	34.76

Supplemental Benefits per hour:

1st year	\$ 10.21
2nd year	12.05
3rd year	15.88
4th year	21.42
5th year	23.29

8-21.3-J&A

Roofer

12/01/2020

JOB DESCRIPTION Roofer

DISTRICT 9

ENTIRE COUNTIES

Bronx, Dutchess, Kings, New York, Orange, Putnam, Queens, Richmond, Rockland, Sullivan, Ulster, Westchester

WAGES

Per Hour: 07/01/2020

Roofer/Waterproofer \$ 44.25
+ \$7.00*

* This portion is not subject to overtime premiums.

Note: Abatement/Removal of Asbestos containing roofs and roofing material is classified as Roofer.

SUPPLEMENTAL BENEFITS

Per Hour: \$ 27.87

OVERTIME PAY

See (B, H) on OVERTIME PAGE

Note: An observed holiday that falls on a Sunday will be observed the following Monday.

HOLIDAY

Paid: See (1) on HOLIDAY PAGE
Overtime: See (5, 6) on HOLIDAY PAGE

REGISTERED APPRENTICES

(1) year term

1st	2nd	3rd	4th
\$ 15.49	\$ 22.13	\$ 26.55	\$ 33.19
	+ 3.00*	+ 4.20*	+ 5.26*

Supplements:

1st	2nd	3rd	4th
\$ 3.57	\$ 14.10	\$ 16.85	\$ 20.98

9-8R

Sheetmetal Worker

12/01/2020

JOB DESCRIPTION Sheetmetal Worker

DISTRICT 8

ENTIRE COUNTIES

Dutchess, Orange, Putnam, Rockland, Sullivan, Ulster, Westchester

WAGES

	07/01/2020
SheetMetal Worker	\$ 43.65
	+ 3.27*

*This portion is not subject to overtime premiums.

SHIFT WORK

For all NYS D.O.T. and other Governmental mandated off-shift work:

10% increase for additional shifts for a minimum of five (5) days

SUPPLEMENTAL BENEFITS

Journeyworker \$ 42.55

OVERTIME PAY

OVERTIME: See (B, E, Q,) on OVERTIME PAGE.

HOLIDAY

Paid: See (1) on HOLIDAY PAGE
Overtime: See (5, 6, 8, 15, 16, 23) on HOLIDAY PAGE

REGISTERED APPRENTICES

1st	2nd	3rd	4th	5th	6th	7th	8th
\$ 16.16	\$ 18.18	\$ 20.21	\$ 22.23	\$ 24.24	\$ 26.27	\$ 28.77	\$ 31.27
+ 1.31*	+ 1.47*	+ 1.64*	+ 1.80*	+ 1.96*	+ 2.13*	+ 2.29*	+ 2.45*

*This portion is not subject to overtime premiums.

Supplemental Benefits per hour:

Apprentices

1st term	\$ 18.31
2nd term	20.60
3rd term	22.88
4th term	25.19
5th term	27.47
6th term	29.75
7th term	31.56
8th term	33.39

8-38

Sheetmetal Worker

12/01/2020

JOB DESCRIPTION Sheetmetal Worker

DISTRICT 4

ENTIRE COUNTIES

Bronx, Kings, Nassau, New York, Queens, Richmond, Rockland, Suffolk, Westchester

WAGES

Per Hour:	07/01/2020	8/01/2020
Sign Erector	\$ 50.79	\$ 52.29

NOTE: Structurally Supported Overhead Highway Signs(See STRUCTURAL IRON WORKER CLASS)

SUPPLEMENTAL BENEFITS

Per Hour:	07/01/2020	8/01/2020
Sign Erector	\$ 49.82	\$ 51.26

OVERTIME PAY

See (A, F, S) on OVERTIME PAGE

HOLIDAY

Paid: See (5, 6, 10, 11, 12, 16, 25) on HOLIDAY PAGE
Overtime: See (5, 6, 10, 11, 12, 16, 25) on HOLIDAY PAGE

REGISTERED APPRENTICES

Per Hour:
6 month Terms at the following percentage of Sign Erectors wage rate:

1st	2nd	3rd	4th	5th	6th	7th	8th	9th	10th
35%	40%	45%	50%	55%	60%	65%	70%	75%	80%

SUPPLEMENTAL BENEFITS

Per Hour:

07/01/2020

1st	2nd	3rd	4th	5th	6th	7th	8th	9th	10th
\$ 13.96	\$ 15.81	\$ 17.68	\$ 19.56	\$ 27.26	\$ 29.65	\$ 32.80	\$ 35.26	\$ 37.71	\$ 40.15

8/01/2020

1st	2nd	3rd	4th	5th	6th	7th	8th	9th	10th
\$ 14.34	\$ 16.26	\$ 18.17	\$ 20.10	\$ 28.02	\$ 30.47	\$ 33.72	\$ 36.27	\$ 38.77	\$ 41.29
									4-137-SE

Sprinkler Fitter

12/01/2020

JOB DESCRIPTION Sprinkler Fitter

DISTRICT 1

ENTIRE COUNTIES

Dutchess, Orange, Putnam, Rockland, Sullivan, Ulster, Westchester

WAGES

Per hour

07/01/2020

Sprinkler Fitter	\$ 45.52
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SUPPLEMENTAL BENEFITS

Per hour

Journeyman	\$ 27.57
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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

Wages per hour

One Half Year terms at the following percentage of journeyman's wage.

1st	2nd	3rd	4th	5th	6th	7th	8th	9th	10th
\$ 21.97	\$ 24.41	\$ 26.59	\$ 29.02	\$ 31.45	\$ 33.88	\$ 36.31	\$ 38.74	\$ 41.17	\$ 43.60

Supplemental Benefits per hour

1st	2nd	3rd	4th	5th	6th	7th	8th	9th	10th
\$ 8.27	\$ 8.27	\$ 18.70	\$ 18.70	\$ 18.95	\$ 18.95	\$ 18.95	\$ 18.95	\$ 18.95	\$ 18.95
									1-669.2

Teamster - Building / Heavy&Highway

12/01/2020

JOB DESCRIPTION Teamster - Building / Heavy&Highway

DISTRICT 8

ENTIRE COUNTIES

Putnam, Westchester

WAGES

GROUP A: Straight Trucks (6-wheeler and 10-wheeler), A-frame, Winch, Dynamite Seeding, Mulching, Agitator, Water, Attenuator, Light Towers, Cement (all types), Suburban, Station Wagons, Cars, Pick Ups, any vehicle carrying materials of any kind.

GROUP AA: Tack Coat

GROUP B: Tractor & Trailers (all types).

GROUP BB: Tri-Axle, 14 Wheeler

GROUP C: Low Boy (carrying equipment).

GROUP D: Fuel Trucks, Tire Trucks.

GROUP E: Off-road Equipment (over 40 tons): Athey Wagons, Belly Dumps, Articulated Dumps, Trailer Wagons.

GROUP F: Off-road Equipment (over 40 tons) Euclid, DJB.

GROUP G: Off-road Equipment (under 40 tons) Athey Wagons, Belly Articulated Dumps, Trailer Wagons.

GROUP H: Off-road Equipment (under 40 tons), Euclid.

GROUP HH: Off-road Equipment (under 40 tons) D.J.B.

GROUP I: Off-road Equipment (under 40 tons) Darts.

GROUP II: Off-road Equipment (under 40 tons) RXS.

WAGES:(per hour)

07/01/2020

GROUP A	\$ 42.47*
GROUP AA	45.27*
GROUP B	43.09*
GROUP BB	42.59*
GROUP C	45.22*
GROUP D	42.92*
GROUP E	43.47*
GROUP F	44.47*
GROUP G	43.22*
GROUP H	43.84*
GROUP HH	44.22*
GROUP I	43.97*
GROUP II	44.34*

* To calculate premium wage, subtract \$.20 from the hourly wage.

Note: Fuel truck operators on construction sites addit. \$5.00 per day.

For work on hazardous/toxic waste site addit. 20% of hourly rate.

Shift Differential: NYS DOT or other Governmental Agency contracts shall receive a shift differential of Fifteen(15%) percent above the wage rate

Four (4), ten (10) hour days may be worked at straight time during a week, Monday thru Thursday.

NOTE - In order to use the '4 Day/10 Hour Work schedule', as your normal schedule, you must submit an 'Employer Registration for Use of 4 Day/10 Hour Work Schedule,' form PW30.1; and there must be a dispensation of hours in place on the project. If the PW30.1 is not submitted you may be liable for overtime payments for work over 8 hours per day.

SUPPLEMENTAL BENEFITS

Per hour:

Journeyworker

First 40 hours	\$ 33.64
41st-45th hours	15.18
Over 45 hours	0.26

OVERTIME PAY

See (B, E, P, R) on OVERTIME PAGE

HOLIDAY

Paid: See (5, 6, 8, 9, 15, 25) on HOLIDAY PAGE

Overtime: See (5, 6, 8, 9, 15, 25) on HOLIDAY PAGE

Welder

12/01/2020

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 07/01/2020

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

Westchester County Residential

Carpenter - Residential

12/01/2020

JOB DESCRIPTION Carpenter - Residential

DISTRICT 11

ENTIRE COUNTIES

Putnam, Rockland, Westchester

WAGES

***IMPORTANT NOTE: Residential construction consists of those projects involving the construction, alteration, or repair of single-family houses or apartment buildings of no more than four (4) floors in height, town homes, row houses, single family homes, mobile homes, multi-family houses, apartment building of four (4) floors or less and assisted living facilities of four (4) floors or less. Excluding dormitories and student housing. Fours (4) stories shall be above ground level and shall not include the building's basement nor unfinished attic space.

Per hour:

07/01/2020

07/01/2021

Carpenter

\$ 29.46

Additional
\$ 0.40

SUPPLEMENTAL BENEFITS

Per hour:

Journeyman

\$ 20.88

OVERTIME PAY

See (B, E, Q) on OVERTIME PAGE

HOLIDAY

Paid: See (1) on HOLIDAY PAGE

Overtime: See (5, 6, 16, 25) on HOLIDAY PAGE

Holidays that fall on Sunday will be observed Monday.

REGISTERED APPRENTICES

1 year terms at the following wage rates:

Indentured before July 1 2016

1st	2nd	3rd	4th
\$ 14.58	\$ 17.02	\$ 19.47	\$ 21.92

Indentured after July 1 2016

1st	2nd	3rd	4th	5th
\$ 14.58	\$ 17.02	\$ 18.25	\$ 19.47	\$ 21.92

Supplemental Benefits per hour:

Apprentice all terms

\$ 10.86

11-279.1r

Insulator - Heat & Frost - Residential

12/01/2020

JOB DESCRIPTION Insulator - Heat & Frost - Residential

DISTRICT 8

ENTIRE COUNTIES

Dutchess, Orange, Putnam, Rockland, Westchester

WAGES

***IMPORTANT NOTE: All residential plumbing, heating and air conditioning and site work in a single-family residence or a single family residential development under one roof, regardless of cost and garden type apartment buildings or developments which do not exceed three stories high.

Per hour:

07/01/2020

Asbestos Worker

\$ 44.78

Apprentices

29.56

Fire Stop Work*

Asbestos Worker

29.56

* Applies on all exclusive Fire Stop Work (when contract is for Fire Stop Work only). No apprentices on these contracts only.

Note: Additional \$0.50 per hour for work 30 feet or more above floor or ground level.

SUPPLEMENTAL BENEFITS

Per hour:

Journeyworker \$ 29.56

Apprentice 17.52

Fire Stop Work:

Journeyworker 17.52

OVERTIME PAY

OVERTIME: See (B, E, Q, T, V) on OVERTIME PAGE.

HOLIDAY

Paid:..... See (1) on HOLIDAY PAGE.

Overtime:... See (2, 4, 6, 16, 25) on HOLIDAY PAGE.

8-91R

Laborer - Residential

12/01/2020

JOB DESCRIPTION Laborer - Residential

DISTRICT 8

ENTIRE COUNTIES

Putnam, Westchester

WAGES

***IMPORTANT NOTE: FOR ONE OR TWO STORIES HOUSES, TOWN HOUSES AND RESIDENTAL BUILDINGS UP TO THREE STORIES.

07/01/2020

Laborer \$ 31.60

SUPPLEMENTAL BENEFITS

Per hour:

Journeyworker \$ 18.15

OVERTIME PAY

OVERTIME: See (B, E, Q, V*) on OVERTIME PAGE.

*Note: For Sundays and Holidays worked, benefits are at the same premium as wages.

HOLIDAY

Paid: See (1) on HOLIDAY PAGE

Overtime: See (5, 6, 16, 25) on HOLIDAY PAGE

8-235r

Sheetmetal Worker - Residential

12/01/2020

JOB DESCRIPTION Sheetmetal Worker - Residential

DISTRICT 8

ENTIRE COUNTIES

Dutchess, Orange, Putnam, Rockland, Sullivan, Ulster, Westchester

WAGES

***IMPORTANT NOTE: HVAC work on single family dwellings, multiple family housing units, apartments and condominium homes where each individual family apartment is individually conditioned by separate and independent unit or system.

Per hour: 07/01/2020

Sheetmetal Worker \$ 32.68

SHIFT WORK

For all NYS D.O.T. and other Governmental mandated off-shift work:
10% increase for additional shifts for a minimum of five (5) days

SUPPLEMENTAL BENEFITS

Journeyworker \$ 21.58

OVERTIME PAY

See (B, E, Q) on OVERTIME PAGE

HOLIDAY

Paid: See (1) on HOLIDAY PAGE
Overtime: See (5, 6, 8, 15, 16, 23) on HOLIDAY PAGE

REGISTERED APPRENTICES

WAGES - Per hour:

(1/2) year terms at the following rates.

1st	2nd	3rd	4th	5th	6th	7th	8th
\$17.10	\$18.71	\$20.33	\$21.88	\$23.82	\$25.58	\$27.61	\$29.33

Supplemental Benefits - Per hour:

1st	\$ 12.74
2nd	13.83
3rd	14.95
4th	16.10
5th	16.88
6th	17.82
7th	18.53
8th	19.51

8-38r

Sprinkler Fitter - Residential

12/01/2020

JOB DESCRIPTION Sprinkler Fitter - Residential

DISTRICT 1

ENTIRE COUNTIES

Dutchess, Orange, Putnam, Rockland, Sullivan, Ulster, Westchester

WAGES

***IMPORTANT NOTE: "Residential fire protection work" is applicable to one or two family dwellings, all multiple family dwelling units which are permitted to have a single exterior up to and including four stories, townhouses with units stacked vertically up to and including four stories and group residential care facilities and protective care homes (sheltered housing), not to include nursing homes or ambulatory care facilities. ***

Per hour

07/01/2020

Sprinkler \$ 34.14
Fitter

SUPPLEMENTAL BENEFITS

Per hour

Journeyman \$ 27.57

OVERTIME PAY

See (B, H) 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.

1-669r2

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
- (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) Saturday and 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

SCHEDULE "A" TO THE GENERAL AGREEMENT

Project Name: Renaissance @ Lincoln Park – 116 Guion Place Garage Plumbing Project # 20-032P

<u>Reference</u>	<u>Item</u>	<u>Requirement</u>
Information for Bidders	Bid Security	5% Bid Amount
Information for Bidders	Performance Security	100% of Contract Amount
Agreement (Article 8)	Time for Completion	Per Attached Schedule (Section 00 31 13)
Agreement (Article 8)	Liquidated Damages	per Section C Addendum
Agreement (Article 14)	Subcontracts	Not to Exceed 49% of the Contract
Agreement (Article 22)	Insurance	See below and attached
Agreement (Article 21)	Maintenance	2% of the Contract Amount

** Certificates of Insurance to be provided upon award

Where indicated by an (x), insurance in the amounts specified below are required under this Contract.

(x)	New York State Disability	Statutory
(x)	Worker's Compensation	Statutory
(x)	Employer's Liability	\$1,000,000 each accident

(x) **Commercial General Liability** – Per Occurrence Limit - Bodily Injury, Personal and Advertising Injury, and Property Damage, including Contractual Liability (to be stated on the certificate of insurance)

\$2,000,000	Per Occurrence
\$1,000,000	Products/Completed Operations
	Aggregate
\$2,000,000	General Aggregate
\$25,000	Maximum Deductible

(x) **Automobile Liability** - Combined Single Limit - Bodily Injury and Property Damage

\$1,000,000	Per Person Each Occurrence for Bodily Injury
\$100,000	Per Occurrence for Property Damage

The following coverage must be provided (to be stated on the certificate of insurance):

(x) Comprehensive (x) Owned (x) Hired (x) Non-Owned

In addition, if indicated by an (x), the following insurance must be provided and/or hazards must be covered:

()	Excess Insurance	_____
()	Other	_____

(x) Additional Named Insured:

City of New Rochelle, its officials, employees and agents

() Other

INSURANCE REQUIREMENTS

A. General Requirements

1. Prior to the commencement of Work, the Contractor shall procure and maintain, at its own cost and expense, the types and amounts of insurance indicated in Schedule A of the General Agreement. Such insurance shall be maintained through the date of completion of all required Work. The City reserves the right to increase or decrease the required insurance during the Contract.
2. All insurance required by the Contract shall be obtained at the sole cost and expense of the Contractor; shall be maintained by insurance carriers licensed and admitted to do business in New York State and acceptable to the City; shall be primary and non-contributory to any insurance or self-insurance available to the City; and shall be endorsed to provide written notice be given to the City at least thirty (30) days prior to the cancellation, non-renewal, or material alteration of such policies.
3. The Contractor shall be solely responsible for the payment of all premiums, deductibles and self-insured retentions to which such policies are subject. Deductibles and self-insured retentions must be approved by the City. Such approval shall not be unreasonably withheld. The City reserves the right to withhold portion of payment until the deductible is satisfied.
4. All required insurance policies shall be maintained with companies that have an A.M. Best rating of an A/VII, unless prior written approval is obtained from the City's Corporation Counsel. If, during the term of the policy an insurer's rating falls below A/VII, the insurance must be replaced no later than the renewal date of the policy with an insurer acceptable to the City.
5. The Contractor shall not take any action or omit to take any action that would suspend or invalidate any of the required coverages during the period of time such coverages are required to be in effect.
6. Not less than thirty (30) days prior to the expiration date or renewal date, the Contractor shall supply the City updated replacement certificates of insurance and amendatory endorsements.
7. All insurance policies must be open to inspection and copying by the City upon written request.

B. Workers' Compensation, Employers' Liability, and Disability Benefits Insurance

1. The Contractor shall provide, and shall cause its Subcontractors to provide, Workers' Compensation Insurance, Employers' Liability Insurance, and Disability Benefits Insurance in accordance with the Laws of the State of New York on behalf of all employees providing services under the Contract. Pursuant to General Municipal Law Section 108, this Contract shall be void and of no effect unless the Contractor maintains Workers' Compensation Insurance for the term of this Contract to the extent required and in compliance with the New York State Workers' Compensation Law.
2. For Workers' Compensation Insurance, the Contractor shall submit one of the following forms:
 - a. C-105.2, Certificate of Workers' Compensation Insurance; U-26.3 - State Insurance Fund Certificate of Workers' Compensation Insurance; Request for WC/DB Exemption (Form CE-200); equivalent or successor forms used by the New York State Workers' Compensation Board; or other proof of insurance in a form acceptable to the Commissioner and the City Corporation Counsel. For Disability Benefits Insurance, Contractor shall submit DB-120.1 - Certificate of Insurance Coverage Under the NYS Disability Benefits Law; Request for WC/DB Exemption (Form CE-200); equivalent or successor forms used by the New York State Workers' Compensation Board; or other proof of insurance in a form acceptable to the Commissioner and City Corporation Counsel. ACORD forms are not acceptable.
3. The Contractor shall procure Employer's Liability Insurance affording compensation for all employees providing labor or services for whom Workers' Compensation coverage is not a statutory requirement.

C. Commercial General Liability Insurance

1. The Contractor shall provide Commercial General Liability Insurance ("CGL"), written on a per occurrence form and subject to limits specified in Schedule A, covering claims for bodily injury (including death), personal and advertising injury, and property damage, which may arise from any of the operations under this Contract. Coverage under this insurance shall be written on the latest edition of Insurance Services Office ("ISO") Form CG 00 01 or a substitute form providing equivalent coverage and shall cover liability including Premises Operations; Independent Contractors and Subcontractors; Products and Completed Operations; Broad Form Property Damages; Contractual Liability (including the tort liability of another assumed in a contract); and Explosion, Collapse and Underground (XCU).

2. Policies shall name the Contractor as Named Insured and the City of New Rochelle, its officials, employees and agents (and all other entities designated as additional insureds in Schedule A) as Additional Insureds for claims arising from the Contractor's operations under the Contract, with coverage at least as broad as the latest edition of ISO Form CG 20 26 or its equivalent.
 3. Products and Completed Operations Coverage shall include a provision that coverage will extend for a period of at least twelve (12) months from the date of final completion and acceptance by the City of all Contractor Work and provide coverage at least as broad as the latest edition of ISO Form CG 20 37 or its equivalent.
- D. Commercial Automobile Liability Insurance. The Contractor shall provide Commercial Automobile Liability Insurance for liability arising out of the ownership, maintenance or use of any owned, non-owned and hired vehicles to be used in connection with this Contract, on which the City of New Rochelle, its officials, employees and agents (and all other entities designated as an additional insured in Schedule A) shall be named as an Additional Insured. Coverage shall be at least as broad as the latest edition of ISO Form CA 00 01. If vehicles are used for transporting hazardous materials, the Automobile Liability Insurance shall be endorsed to provide pollution liability broadened coverage for covered vehicles (endorsement CA 99 48) and proof of MCS 90.
- E. Construction Insurance
1. Builder's Risk Insurance. **The Construction Manager will** provide Builder's Risk Insurance on a completed value form for the total value of the Work through completion of the Work. Such insurance shall be provided on an All Risk basis and include, without limitation, coverage for windstorm (including named windstorm), storm surge, flood and earth movement. Unless waived by Corporation Counsel, it shall include coverage for ordinance and law, demolition and increased costs of construction, debris removal, pollutant clean up and removal, and expediting costs. Such insurance shall cover, without limitation, (a) all buildings and/or structures involved in the Work, as well as temporary structures at the Site, and (b) any property that is intended to become a permanent part of such building or structure, whether such property is on the Site, in transit or in temporary storage. Policies shall name the Contractor as Named Insured and the City as both an Additional Insured and a Loss Payee as its interest may appear. Such policies shall specify that, in the event a loss occurs at an occupied facility, occupancy of such facility is permitted without the consent of the issuing insurance company. Such insurance may be provided through an Installation Floater, at the Contractor's option, if it otherwise conforms with the requirements herein.

Successful Bidder can be named under the builder's risk policy. Builder's Risk Deductibles:

\$10K – All other Property (Fire/equipment breakdown)
\$25K – Rain, Sleep, Snow, Sewer backup, Hail or Ice
\$50K – Flood and Earthquake

2. Contractors Pollution Liability Insurance. If specified in Schedule A of the General Agreement, the Contractor shall maintain, and cause its Subcontractors doing such Work to maintain, Contractors Pollution Liability Insurance covering any environmental claims, liabilities, loss or damage, including property damage, bodily injury, disease, transporter liability and properties contaminated during transportation caused by pollution conditions that arise from the operations of the Contractor and its Subcontractors of every tier. Such insurance shall provide coverage for actual, alleged or threatened emission, discharge, dispersal, seepage, release or escape of pollutants (including asbestos), including any loss, cost or expense incurred as a result of any cleanup of pollutants (including asbestos), or in the investigation, settlement or defense of any claim, action, or proceedings arising from the operations under the Contract. Such insurance shall be in the Contractor's name and name the City of New Rochelle, its officials, employees and agents (and all other entities designated as an additional insured in Schedule A) as an Additional Insured. Additional Insured coverage shall be at least as broad as provided to the Contractor for this Project. If such insurance is written on a claims-made policy, such policy shall have a retroactive date on or before the effective date of this Contract, and continuous coverage shall be maintained, or an extended discovery period exercised, for a period of not less than three (3) years from the time the Work under this Contract is completed.

F. Other Provisions

1. The Contractor shall file with the Resident Engineer, certificates of insurance and endorsements evidencing compliance with all of the insurance requirements contained in Schedule A to the satisfaction of the City. The Contractor shall not commence the Work unless and until all required proofs of insurance have been submitted to and accepted by the City. Acceptance and/or approval by the City does not relieve the Contractor of any obligations, responsibilities or liabilities under the Contract.
2. The Contractor shall be responsible for providing continuous insurance coverage in the manner, form, and limits required by the Contract and shall be authorized to perform Work only during the effective period of all required coverage. In the event that any of the required insurance policies lapse, are revoked, suspended or otherwise terminated, for whatever cause, the Contractor shall immediately stop all Work, and shall not recommence Work until authorized in writing to do so by the Commissioner.
3. The Contractor shall notify in writing all insurance carriers that issued potentially responsive policies of any loss, damage, occurrence, accident, claim or suit relating to any operations under the Contract (including notice to CGL carriers for events relating to the

Contractor's own employees) no later than twenty (20) days after such event. For any policy where the City is an Additional Insured, such notice shall expressly state that "this notice is being given on behalf of the City of New Rochelle as an Additional Insured as well as the Named Insured." The Contractor shall simultaneously send a copy of such notice to the City's Corporation Counsel. The Contractor shall at all times fully cooperate with the City with regard to such potential or actual claims or suits.

4. The Contractor shall require any Subcontractor, with regard to any operations under this Contract, to procure insurance in accordance with the requirements herein and to name the City of New Rochelle, its officials, employees and agents as an Additional Insured thereunder, with coverage at least as broad as ISO Form 20 26.
5. The Contractor waives all rights against the City, including its officials and employees, for any damages or losses that are covered under any insurance required hereunder (whether or not such insurance is actually procured or claims are paid thereunder) or any other insurance applicable to the operations of the Contractor and/or its employees, agents, or Subcontractors.
6. In the event the Contractor utilizes a self-insurance program to satisfy any of the insurance requirements hereunder, the Contractor shall ensure that any such self-insurance program provides the City with all rights that would be provided by traditional insurance, including but not limited to the defense and indemnification obligations that insurers are required to undertake in liability policies.
7. The Contractor's failure to secure policies in complete conformity with the foregoing, or to give an insurance company timely notice as required in the Contract, or to do anything else required hereunder, shall constitute a material breach of the Contract. Such breach shall not be waived or otherwise excused by any action or inaction by the City at any time. Insurance coverage provided pursuant to these requirements or otherwise shall not relieve the Contractor of any liability under the Contract, nor shall it preclude the City from exercising any rights or taking such other actions available to it under any other provisions of this Contract or Law.
8. Insurers shall have no right of recovery or subrogation against the City, it being the intention of the parties that the insurance policies so effected shall protect both parties and shall be primary coverage for any and all losses covered by the insurance described above.
9. The Contractor may satisfy its insurance obligations through primary policies or a combination of primary and excess/umbrella policies, so long as all policies provide the scope of coverage required herein and "drop down" for exhausted aggregate limits under the liability coverages referenced above.

10. The City may at its discretion, and if approved by the City's Corporation Counsel, accept letters of credit or custodial accounts in lieu of bonds and insurance requirements.

DOCUMENT 00 31 13 - PRELIMINARY SCHEDULE

1.1 PROJECT SCHEDULE

- A. This Document with its referenced attachments is part of the Procurement and Contracting Requirements for Project. They provide City's information for Bidders' convenience and are intended to supplement rather than serve in lieu of Bidders' own investigations. This Document and its attachments are part of the Contract Documents.
- B. Available Project information includes the following:
 - 1. Project Schedule.
- C. Project schedule including design and construction milestones and City's occupancy requirements is appended to this Document.

END OF DOCUMENT 003113

SECTION 01 11 00 - SUMMARY OF WORK

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 PROJECT DESCRIPTION

- A. Project comprises a 350 car, five level parking facility adjacent to Lincoln Park, near the intersection of Remington Pl and Prince St and also fronting on Guion Place in New Rochelle NY
- B. Work consists of 4 supported tiers and slab-on-grade.
 - 1. Work includes precast and cast in place concrete, masonry walls, structural steel, metal roof deck, waterproofing, insulated built-up roofing, roof accessories, sheet metal, hollow metal doors and frames, aluminum entrances, aluminum windows, hardware, glazing, elevators, signs, plumbing, fire protection, heating-ventilating-air conditioning, electrical systems, lighting, communication-alarm-signal systems, and parking and revenue control equipment.
- C. **This project will be constructed under a multiple prime-contracting arrangement.**
- D. **All prime contractors shall review specifications and drawings for the entire project outside of those that directly apply to them.**
- E. **This bid package is for Project #20-032P Plumbing and related items only. The other contracts referenced in paragraph 1.3 are being bid separately. The work includes coordination with the other contractors and trades as referenced in this Section and on the drawings.**
- F. **See Appendix A, Separation of Trades for further delineation of scope responsibilities of each contractor.**

1.3 MULTIPLE PRIME CONTRACTS

- A. **Prime Contracts are separate contracts between the City and the Prime contractors, representing significant construction activities. Each prime contract is performed concurrently with and closely coordinated with construction activities performed on the Project under other prime contracts.**

B. As a minimum the following prime contracts will be awarded in accordance with Wicks Law and City of New Rochelle procedures:

1. Project # 20-032 Precast: **(Not in Contract)** Work includes supply, installation and commissioning of the precast concrete superstructure for the parking structure along with coordination with other trades working on site. There is no allowance associated with this contract. Work also includes:
 - a. Technical specification sections
 - 1) Per Appendix Table
 - 2) Applicable portions of 01 12 00 Basis of Design.
 - b. Traffic bearing membrane over occupied spaces including electrical, sprinkler and elevator machine rooms
 - c. Clear sealer on all supported concrete surfaces which are walked on or driven on
 - d. Sealants between precast members
 - e. Furnish and install pedestrian guardrail barrier in lightwall openings larger than 4"
 - f. Expansion joints between precast member
 - g. Installation of embedded conduit and anchor bolts as required for top level lighting mounted on columns and light walls.
 - h. Insure that all transitions between parking areas and stair/elevator towers, ramps and travel lanes comply with applicable codes and erection tolerances. Install precast to design elevations at building transition and provide floor to floor and initial landing elevations within specified tolerances. All accessible parking adjacent to elevator towers and egress points shall be compliant with ADA require slopes and transition requirements.
 - i. Temporary handrails in stairs to allow construction access during precast erection. Maintain handrails while erection crew is full time on site. Others will maintain and remove handrails after erection crew is no longer on-site full time.
 - j. On site laydown space is extremely limited. Arrange for off-site storage and staging as necessary at precaster's expense. All trades on site must share surface lot to the west of the garage where the Boy and Girls club will be constructed.
 - k. Erection sequence to start at the east with the stair/elevator tower and proceed to the west toward the future Boys and Girls Club. Deliveries shall be via Prince Street.
 - l. Provide all necessary maintenance of traffic and permits required by Authority having Jurisdiction (AHJ) for delivery of crane and garage precast for erection.
 - m. Traffic control, police details, uniformed flaggers, barricades, etc. as required by AHJ's, on the local street(s) impacted by precast deliveries at the entrance to the jobsite.

- n. Provide, maintain, supplement and remove perimeter and penetration protection as required by O.S.H.A. regulations during performance of precast scope of work.
 - o. Final cleaning or sweeping of precast prior to precast acceptance.
 - p. Developers General Contractor or other trades are to provide the following for Precaster:
 - 1) Site work necessary for clear, level, stable access for precast delivery trucks and erection equipment including cranes and lifts.
 - 2) Others to provide, maintain, supplement and remove perimeter and penetration protection as required by O.S.H.A. regulations outside precast controlled after precast erection is complete in phases.
 - 3) Sidewalk or street closing permits, if required by AHJ.
 - 4) Independent testing and inspection at factory or in field, if required by AHJ.
 - 5) Coordinator for coordination of individual prime/trade contractors; sitework, foundations, precast, MEP's Elevators, etc.
 - 6) Caulking between precast and dissimilar materials (except skim caulking at the base of exterior precast walls exposed to exterior view at CIP foundation is included, where applicable)
 - 7) Caulking, penetrating sealer, or traffic coating expansion joint seals on or within cast-in-place concrete or between precast and other materials other than Cast-in-place concrete in place at time of precast erection.
 - 8) Protection, final cleaning or sweeping of precast after erection complete and precast accepted.
 - 9) Permits (other than permits for hauling our products and equipment.)
 - 10) Field drilling or sawing of openings.
 - 11) Field placed concrete and/or forms for items such as; stair & elevator lobby floor toppings, other field applied topping, washes, pour strips, equipment islands, curbs, retaining walls, foundations, footings, piers, abutments, walls, slabs, sidewalks, or slabs on grade.
 - 12) Miscellaneous steel, inserts, hangers, fasteners, relieving angles and attachments for items such as; miscellaneous metals, railings, steel grilles, screens, signage, parking equipment, electrical, mechanical, plumbing or any other trades.
 - 13) Master mechanic or teamster allowance.
 - 14) Any testing or inspection in the plant or at the site by an independent laboratory or testing agency.
 - 15) Snow or ice removal from site or our non-active work area on the precast structure.
 - 16) Floor drains bodies to be cast into precast.
 - 17) Crane matting.
2. Project # 20-032E Electrical: **(Not in Contract)** Work includes supply, installation of construction of the electrical, lighting and Internet infrastructure as well as provision of power to HVAC and parking access and revenue control systems all as further described in the contract documents. Work also includes coordination with other trades working on site. There is no allowance associated with this contract, unless otherwise noted. Work of the Electrical Contract includes, but is not limited to, the following:

- a. Electrical service and distribution.
- b. Exterior and interior lighting including light poles.
- c. Lighting.
- d. Communications and security.
- e. Special electrical systems, including the following:
 - 1) Uninterruptible power supply systems.
 - 2) Battery power systems.
 - 3) Unit power conditioners.
- f. Electrical connections to equipment furnished by others, including Plumbing Contract, HVAC Contract and other Developer's General Contractor Administered Subcontractors.
- g. The built-in electrical power supply and distribution system of 110 volts or higher.
 - 1) Control wiring for a piece of equipment is included in the same contract as the equipment
 - 2) Power wiring for that same piece of equipment is included in the related Electrical Work contract.
- h. Illuminating Fixtures: The interior and exterior lighting systems.
- i. Base bid includes only power to Call for assistance stations excluding connection to internet/autodialers.
- j. Call for assistance stations including connection to internet/autodialers.
- k. Electrical, generally includes, but is not limited to, Division 1, 2, and Division 26 and applicable sections in Division 27 & 28. Refer to the complete plans and specifications for a full description of the work. This Contractor is responsible for placement of its own equipment pads.
- l. Provide all materials and labor, including but not limited to, delivery, unloading, handling, tools, equipment, excavation, backfill, compaction, demolition, cutting and patching, hoisting, scaffolding, rigging, services, temporary facilities, testing, licenses, permits, supervision, coordination, expediting, drawings, samples, mock-ups, submittals and incidentals necessary to complete the Electrical portion of the project in accordance with the contract schedule, plans, specification divisions and addenda.
- m. Contractor to comply with all applicable health and safety regulations at all times.
- n. Provide flagman for vehicular and pedestrian control required for work of this contract.
- o. Coordinate installation of work of this contract so as to accommodate the work of other trades. In the event it is necessary to perform work out of sequence, there will be no additional cost to the Owner.
- p. Provide adequate equipment and personnel to maintain the project schedule and the schedule interface with other trades. Include all costs associated with out of sequence work and work outside of normal working hours.
- q. The Developer's General Contractor will provide dumpsters for non-hazardous waste materials generated on this project. The Developer's General Contractor will broom clean interior spaces during construction. This contractor shall deposit, daily, all demolition debris, packing materials, material scraps, abandoned materials, damaged materials and other waste,

which is too large to be reasonably broom cleaned, into the dumpsters provided. This contractor shall provide and empty daily, a receptacle for disposal of food containers and general refuse generated by its employees and subcontractors. This contractor shall segregate waste materials as may be necessary for restricted use dumpsters. Hazardous material generated by this prime contract shall be lawfully disposed of off site by this contractor. No contractor will be permitted to dispose of waste not associated with this project in project dumpsters. The Electrical Contractor shall be responsible for daily broom cleaning of all work areas for his own forces and those of his sub-contractors.

- r. Electrical contractor to extend existing electric service as required to service the new building construction power and lighting requirements. Usage charges for electrical utilities will be paid by this contractor.
- s. Electrical Contractor is to provide and maintain temporary power and light for all trades as specified to maintain safety lighting and ground fault protection throughout the construction area in accordance with applicable health and safety regulations including festoon lighting to achieve 3 candle per square foot of floor area. Temporary light and power will not be shut off without permission of the Owner's Representative. Temporary power is to be provided for saws, welders, grinders, pumps, hammers, vibrators, elevator testing and all other equipment as required during the course of construction. Temporary power receptacles will be quad receptacles and will be located within the building such that any trade may plug into a receptacle within fifty (50) feet of where work is taking place. The Electrical Contractor shall submit to the Developer's General Contractor a temporary electric power plan for approval, as a scheduled submittal. The plan shall consist of a marked up floor plan indicating temporary panels, outlets and circuiting for temporary electric and temporary lighting.
- t. Chop masonry walls and core drill concrete floors, walls and roofs as required to install conduit. Electrical Contractor must take care to keep openings to the minimum require. Contractor shall temporarily weather tight all openings until permanent roofing can be installed. Patching of all penetrations resulting from work of this contract is the responsibility of the General Construction Contractor.
- u. This contractor is responsible for his own excavation and backfill and compacting to 95% for all interior underground work within the building footprint of the new construction. The Electrical Contractor shall be responsible for exterior excavation, backfill and compaction to 90% Proctor for site lighting trenches. Saw cutting, core drilling, etc. for penetrations required for work in the new construction to be by the Electrical Contractor. Patching of all penetrations resulting from this work in this contract is the responsibility of the electrical contractor.
- v. Furnish and install pre-cast and cast in place concrete, interior and exterior electrical pads and related items required for a complete and operational system.
- w. All sleeves, inserts, built-ins and other imbedded items necessary to this contract in new construction shall be provided under this contract. This contractor shall verify the location and orientation of all provided items as well as any critical dimensions prior to and during concrete/masonry placement. This contractor shall be responsible for any approved remedial

work required as a result of failure to provide or locate the above items in compliance with the construction schedule.

- x. Take field measurements and verify existing conditions prior to installing new work.
- y. The drawings are diagrammatic. This contractor shall include all conduits, fittings, boxes, wire or any other equipment necessary to provide a complete functioning system.
- z. This contractor is to include any rerouting of new or existing conduit, etc., due to coordination requirements as part of the contract price.
- aa. Receive, handle, hoist, install and wire all electrical equipment furnished by others i.e. switches, starters, controls etc.
- bb. Furnish and install conduit, boxes and accessories required inside building, for all service drops including data, telephone, video, cable, sound, clock, communications, etc. as shown or required. Furnish and install a drag line in communication conduits from the building to the telephone pole as designated by the telephone company.
- cc. Coordinate above ceiling work with the installation of ceiling grid to allow ceiling contractors to install grid with as little interference as possible.
- dd. Furnish and install firestopping, firesafing, and escutcheons for all work of this contract passing through fire rated floors or walls.
- ee. The contractor is to provide and install Ground Fault Interrupt circuits (G.F.I.s) in accordance with code and A.G.C. safety program requirements.
- ff. Provide temporary bracing, shoring, and planking as required for work of this contract.
- gg. Provide all coding and tagging as called for on contract documents and or required for a complete installation. Typewritten panel board directories shall identify specific devices, locations, room numbers and circuit numbers controlled.
- hh. Furnish and install additional miscellaneous iron, piping supports, steel channels, etc. (beyond that shown on contract drawings) as required for independent support of light fixtures and electrical equipment as specified and or required.
- ii. Furnish, deliver and locate all access doors to be incorporated in floors and walls, as required for work of this contract, for installation by other Contractors.
- jj. Furnish and install specified systems complete including all required devices, controls, etc.
- kk. Coordinate work to allow casework contractor to complete work within schedule.
- ll. Furnish all fire rated and non-rated plywood backing panels as specified, where required for mounting equipment provided under this contract. Coordinate painting by General Contractor prior to mounting.
- mm. Electrical contractor shall coordinate with Architectural, Mechanical, Plumbing plans and specifications for locations and device requirements for power, wiring and final connections of all motors, equipment and devices provided under this or other contracts.
- nn. Electrical Contractor shall install smoke detectors in H.V.A.C. equipment and ductwork and wire to fire alarm as required.
- oo. Electrical Contractor will be responsible for the transformer pad.
- pp. Furnish and install smoke and heat detection systems.

- qq. Furnish and install switchgear.
- rr. Provide pipe guards for any conduits or risers installed by this Contractor which are subject to impact by vehicles.
- ss. For blockouts less than 10", and those not coordinated with precaster to be cast into precast, install via field drilling and caulk holes as necessary to prevent water passage between floors. Locations of field drilling to be approved by precaster and Engineer.
- tt. Supplemental framing and cutting openings in existing construction if blockouts have not been previously coordinated with the other trades.
- uu. Provide Temporary power and temporary lighting in the stairs as required to meet OSHA requirements.
- vv. The NRP Group has a relationship with Ellen Lighting, Jaime Karakowsky. jkarakowsky@ellenlighting.com. (w) 713-771-5312 x161 (C) 832-696-5400. Bidders are encouraged to solicit pricing for light fixtures from this vendor. However, this is not a mandatory sub, just a potential sub who has provided good pricing on previous projects.
- ww. Add Alternates:
 - 1) Provide and install low voltage Call for Assistance Stations and communication wiring.
 - 2) Provide and install low voltage fire alarm system.

Equipment packages include:

- a. Housekeeping pads are considered part of the equipment package.
- b. Supplemental framing and cutting openings in existing construction if blockouts have not been previously coordinated with the other trades.

Temporary facilities and controls in the Electrical Contract include, but are not limited to, the following:

- a. Electric power service and distribution.
- b. Lighting, including site lighting.
- c. Electrical connections to temporary facilities and controls furnished by the Developer's General Contractor .

- 3. Project # 20-032H Heating, Ventilation and Air Conditioning: **(Not in Contract)**
Work includes supply, installation and commissioning of the Heating Ventilation and air conditioning systems along with coordination with other trades working on site. These systems are primarily located in the office area, elevator machine rooms, storage and electrical rooms. In general, the parking areas, stairs and elevators are not ventilated, heated or air conditioned. There is no allowance associated with this contract, Unless Otherwise Noted. Work of the HVAC Contract includes, but is not limited to, the following:
 - a. H.V.A.C., generally includes, but is not limited to, Division 1 and Division 23. Refer to the complete plans and specifications for a full description of the work. This Contractor is responsible for placement of its own equipment pads including chiller pad.
 - b. Provide all materials and labor, including but not limited to, delivery, unloading, handling, tools, equipment, hoisting, scaffolding, rigging, services, temporary facilities, demolition, cutting and patching, testing and balancing, licenses, permits, supervision, coordination, expediting,

drawings, samples, mock-ups, submittals, accessories and incidentals necessary to complete the H.V.A.C. portion of the project in accordance with the contract schedule, plans and addenda.

- c. Contractor shall Comply with all applicable health and safety regulations at all times.
- d. Coordinate installation of work of this contract so as to accommodate the work of other trades. Provide flagman for vehicle and pedestrian control as required for work of this contract.
- e. Provide adequate equipment and personnel to maintain the project schedule and the schedule interface with other trades. Include all costs associated with out of sequence work and work outside of normal working hours.
- f. The Developer's General Contractor will provide dumpsters for non-hazardous waste materials generated on this project. The Developer's General Contractor will broom clean interior spaces during construction. This contractor shall deposit, daily, all demolition debris, packing materials, material scraps, abandoned materials, damaged materials and other waste, which is too large to be reasonably broom cleaned, into the dumpsters provided. This contractor shall provide and empty daily, a receptacle for disposal of food containers and general refuse generated by its employees and subcontractors. This contractor shall segregate waste materials as may be necessary for restricted use dumpsters. Hazardous material generated by this prime contract shall be lawfully disposed of off site by this contractor. No contractor will be permitted to dispose of waste not associated with this project. H.V.A.C. contractor shall be responsible for daily broom cleaning of all work areas of his own forces and those of his sub-contractors.
- g. Furnish and install automatic temperature control system inclusive of control wiring. Power wiring by Electrical Contractor.
- h. All sleeves, inserts, built-ins and other imbedded items necessary to this contract in new construction shall be provided and located under this contract but shall be installed in the concrete forms and/or masonry by a Developer's General Contractor managed subcontractor. This contractor shall verify the location and orientation of all provided items as well as any critical dimensions prior to concrete/masonry placement. This contractor shall be responsible for any approved remedial work required as a result of failure to provide or locate the above items in compliance with the construction schedule.
- i. This contractor is responsible for his own excavation and backfill and compacting to 95% for all interior underground work within the building footprint of the new construction. Saw cutting, core drilling, etc. for penetrations required for work in the new construction to be by the H.V.A.C. Contractor. Patching resulting from this work shall be the responsibility of the H.V.A.C. Contractor.
- j. Chop masonry walls and core drill concrete floors, walls and roofs as required to install piping and ductwork. H.V.A.C. Contractor must take care to keep openings to the minimum required. Contractor shall temporarily weather tight all openings until permanent roofing can be installed.
- k. Take field measurements and verify existing conditions prior to installing new work.
- l. Furnish and install all louvers and blank-off panels at all unused portions of louvers.

- m. Furnish access doors as required by work of this contract in walls, ceilings and floors. Coordinate and layout access door locations for installation by the General Construction contractor. Access doors shall be provided in a timely fashion for installation during construction and any extra cost to install doors after finishes will be the responsibility of this Contractor.
- n. Provide additional valves, and make necessary tests at various sections, to permit start of insulation and finish work.
- o. Coordinate above ceiling H.V.A.C. work with the installation of ceiling grid to allow ceiling contractor to install grid work with as little interference as possible. The Construction Manager will hold a coordination meeting, the H.V.A.C. contractor is expected to take a lead role in the coordination process.
- p. Furnish and install prefabricated metal curbs for rooftop equipment supplied under this contract and as indicated on drawings.
- q. The drawings are diagrammatic. This contractor shall include any piping, ductwork, or any other equipment necessary to provide a complete functioning system. This contractor is to include any rerouting of ductwork, etc., due to coordination procedure or field conditions as required as part of the contract price.
- r. Provide and install two sets of temporary filters for equipment and one final set to be used during construction. This is not inclusive of any quantity required by specifications for extra material.
- s. Furnish and install fire stopping, fire-safing, and escutcheons as per specification for all work of this contract passing through fire rated floors or walls
- t. Furnish wiring diagrams to Electrical contractor for wiring all switches, starters, controls etc. which have been factory installed or field installed by this contractor.
- u. Duct smoke detectors for the fire alarm system are provided and installed by the H.V.A.C. contractor. The Electrical Contractor will perform wiring of the devices. The H.V.A.C. contractor is to coordinate with Electrical Contractor to expedite the installation and wiring of all related fire alarm devices.
- v. Furnish and install additional miscellaneous iron and steel (beyond what is shown on contract drawings) as required for support of H.V.A.C. equipment.
- w. The specified guaranty period on equipment shall commence upon final acceptance of the equipment by the City/Construction Manager for its operation upon witnessing all tests required and receipt of all test results.
- x. Furnish and install all roof curbs including all related wood blocking for all new equipment provided. Contractor to coordinate with General Construction contractor to provide temporary roofing if required.
- y. Expedite insulation of ductwork and piping where required in chases, or through walls, or buried in walls to allow other Contractors to expedite enclosure and installation of finishes. Provide temporary bracing, shoring, and planking as required for work of this contract.
- z. Furnish and install all fire rated and non-rated plywood backing panels required for mounting equipment provided under this contract.
- aa. Furnish and install mechanical equipment concrete pads and any excavation, backfill and compaction associated with equipment and piping under this contract.
- bb. HVAC systems and equipment.

- cc. HVAC instrumentation and controls.
 - dd. HVAC testing, adjusting, and balancing.
 - ee. Ventilation apparatus: The powered air supply and exhaust system
 - ff. Heat and or HVAC for elevator machine room, electrical and sprinkler rooms.
 - gg. Provide pipe guards for any risers installed under this contract that are subject to impact by vehicles.
 - hh. For blockouts less than 10", and those not coordinated with precaster to be cast into precast, install via field drilling and caulk holes as necessary to prevent water passage between floors. Locations of field drilling to be approved by precaster and Engineer.
 - ii. Supplemental framing and cutting openings in existing construction if blockouts have not been previously coordinated with the other trades.
4. **Project # 20-032P Plumbing and gas fitting:** Work includes supply, installation and construction of the plumbing systems along with coordination with other trades working on site. There is no allowance associated with this contract, Unless Otherwise Noted. Work of the Plumbing Contract includes, but is not limited to, the following:
- a. Plumbing, generally includes, but is not limited to, Division 1 and Division 22, and including all work associated with hookup to public water supply. The Plumbing Contractor is responsible for all work within the building and up to five feet outside the building. Refer to the complete plans and specifications for a full description of the work. This Contractor is responsible for placement of its own equipment pads.
 - b. Provide all materials and labor, including but not limited to, delivery, unloading, handling, tools, equipment, hoisting, scaffolding, rigging, services, temporary facilities, licenses, permits, supervision, coordination, expediting, drawings, samples, submittals and incidentals necessary to complete the plumbing portion of the project in accordance with the contract documents.
 - c. Provide flagman for vehicle and pedestrian control required for work of this contract.
 - d. Coordinate installation of work of this contract so as to accommodate the work of other trades. Expedite installation of pipes passing through or buried in walls to allow General Contractor to proceed with final enclosure and finishes.
 - e. Provide adequate equipment and personnel to maintain the project schedule and the schedule interface with other trades. Include all costs associated with out of sequence work and work outside of normal working hours.
 - f. The Developer's General Contractor will provide dumpsters for non-hazardous waste materials generated on this project. The Developer's General Contractor will broom clean interior spaces during construction. This contractor shall deposit, daily, all demolition debris, packing materials, material scraps, abandoned materials, damaged materials and other waste, which is too large to be reasonably broom cleaned, into the dumpsters provided, and shall be responsible for broom cleaning of own work areas, and those of the Prime's sub-contractors, on a daily basis. This contractor shall provide and empty daily, a receptacle for disposal of food containers

and general refuse generated by its employees and subcontractors. This contractor shall segregate waste materials as may be necessary for restricted use dumpsters. Hazardous material generated by this prime contract shall be lawfully disposed of off-site by this contractor. No contractor will be permitted to dispose of waste not associated with this project in project dumpsters. Take field measurements and verify existing conditions prior to installing new work.

- g. This contractor is responsible for his own excavation and backfill and compacting to 95% for all interior underground work within the building footprint of the new construction and to +/- 5 feet outside the building lines. Core-drilling, etc. for penetrations required for work in the new construction to be by the Plumbing Contractor. Rough patching for this contract is the responsibility of the Plumbing Contractor.
- h. Chop masonry walls and core-drill concrete floors, walls and roofs as required to install piping. Plumbing Contractor must take care to keep openings to the minimum required. Contractor shall temporarily weather tight all openings until permanent roofing can be installed. Patching of all penetrations resulting from work of this contract is the responsibility of this contract.
- i. All sleeves, inserts, built-ins and other imbedded items necessary to this contract in new construction, shall be provided and located under this contract, but shall be installed in the concrete forms and/or masonry by one of the subcontractors administered by the Developer's General Contractor. This contractor shall verify the location and orientation of all provided items as well as any critical dimensions prior to concrete/masonry placement. This contractor shall be responsible for any approved remedial work required as a result of failure to accurately provide or locate the above items in compliance with the construction documents or schedule.
- j. Verify size of all access openings required to properly service valves, clean outs, equipment, and connections. Furnish, deliver and locate appropriate access doors for installation by the General Construction Contractor. Access doors shall be provided in a timely fashion for installation during construction. Extra cost to install doors after completion will be the responsibility of the Plumbing Contractor.
- k. Perform all required connections for piping systems installed.
- l. Provide temporary bracing, shoring, and planking as required for work of this contract.
- m. Furnish and install plumbing pads, thrust blocks, tie rods and concrete encasement.
- n. Provide final connection for all equipment supplied by others.
- o. Coordinate above ceiling work with the installation of ceiling grid to allow ceiling installer to perform work with as little interference as possible.
- p. Provide additional valves necessary to perform tests at various sections of the building to allow the installation of the finishes to proceed.
- q. The drawings are diagrammatic. This contractor shall include any and all piping and valves necessary to provide a complete functioning system. This contractor is to include any re-routing of pipes, etc., due to coordination or field conditions as required, as part of the contract price.

- r. Furnish and install fire stopping, fire-safing, and escutcheons for all work of this contract passing through fire rated floors or walls in accordance with the specifications.
- s. Protect all finishes, equipment, electrical panels, etc., from water damage during pipe testing.
- t. Furnish and install all required charts, nameplates, signs, pipe markers, valve tags, etc. as called for on contract documents and or required for a complete installation.
- u. Furnish and install all plumbing fixtures, mop receptors and trim.
- v. Furnish and install roof drains. Plumbing Contractor will coordinate with the Developer's General Contractor in regards to the scheduling of the installation of roof drains.
- w. Furnish and install frost proof key controlled hose bibs as indicated on the contract drawings.
- x. Furnish and install insulation per specification for all plumbing piping and equipment as shown and or required.
- y. Furnish and install allow voltage components, hand washing, flush device, etc. Coordinate locations with electrician.
- z. Field verify all conditions and dimensions prior to fabrication of any piping.
- aa. Furnish and install flashing collars on sleeves penetrating waterproof membranes.
- bb. Furnish and install piping supports including supplementary steel channels etc. as specified and or required to complete work of this contract.
- cc. Obtain all required permits, licenses, tests, inspections, applications, filings, etc. Pay all associated fees, as required for work of this contract.
- dd. Provide rough in and final hook up of equipment provided under other contracts including, but not limited to roof drains.
- ee. Furnish and install all roof storm piping including internal storm leaders for roof drainage system. Connect roof drainage into existing storm drainage system located outside the building per bid documents. Plumbing Contractor will provide for all necessary excavation, backfill and compaction. Also, provide cleanouts and concrete pads, pits and manholes as specified.
- ff. Furnish and install all waste piping within the new building and connect to sewer line 5' outside building. Plumbing Contractor will provide for all necessary excavation, backfill and compaction. Also, provide cleanouts and concrete pads, pits and manholes as specified.
- gg. Plumbing Contractor shall install and maintain temporary water system after piped water is roughed to within five feet of building. Usage costs are to be the responsibility of the Plumbing Contractor.
- hh. Plumbing contractor to provide water necessary to test their underground piping.
- ii. Furnish and install Fire Department connection as shown on drawings or as required by local authorities having jurisdiction.
- jj. Contractor certifies that it has 5 years of successful experience installing systems of comparable size.
- kk. Furnish and install pipe identification, valve tags, markers, seals, sign, and charts per specification, insurance rating agency, and other authorities having jurisdiction.
- ll. Provide chain operator in lieu of access ladders for control valves requiring same.

- mm. Comply with all system design criteria and requirements of City of New Rochelle and all governing municipalities.
 - nn. Plumbing fixtures.
 - oo. Domestic water distribution.
 - pp. Sanitary waste.
 - qq. Stormwater drainage. Storm drains are required throughout the parking areas, at the bottom of the stair and elevator towers and in storage rooms as shown on the contract drawings. Clean all strainers immediately prior to occupancy of the parking structure.
 - 1) Provide drain bodies to precaster to be cast into double tees.
 - rr. Sump pump is required for the lowest drains to get back up to the elevation of the storm drain lines in the adjacent streets.
 - ss. Plumbing: The portable water supply system and other waste systems with the parking structure.
 - tt. Gas Fitting: The natural gas supply system within the building, if applicable.
 - uu. Cold water washdown system.
 - vv. Provide pipe guards for any risers installed under this contract that are subject to impact by vehicles.
 - ww. For blockouts less than 10", and those not coordinated with precaster to be cast into precast, install via field drilling and caulk holes as necessary to prevent water passage between floors. Locations of field drilling to be approved by precaster and Engineer.
 - xx. Supplemental framing and cutting openings in existing construction if blockouts have not been previously coordinated with the other trades.
- C. On site laydown space is extremely limited. Arrange for off-site storage and staging as necessary. All trades on site must share surface lot to the west of the garage where the Boy and Girls club will be constructed.
- D. Parking: There is not on-site parking available during construction. Each Contractor shall arrange for off-site parking for their staff.
- E. Each Prime Contractor shall be responsible for daily cleanup of their work. Wastes and construction debris shall be removed to containers supplied by the General Construction Contractor.
- F. In the event of any dispute between the Prime Contractors regarding coordination of work sequence, the Construction Manager shall serve as the sole arbiter of such disputes and their decision regarding such shall be final.
- G. Developer's General Contractor: NRP Touchstone JV LLC (NRP/TS) will be developing additional bid packages (Not in Contract) for the remaining work to be done by other trades and will coordinate the work of all trades working on site.
- 1. Additional packages being bid by Developer's General Contractor are anticipated, at a minimum, to include:
 - a. Demolition
 - b. Site utilities
 - c. Elevators

- d. Foundations/Cast-in-place concrete
 - e. Signage
 - f. Striping
 - g. Glazing
 - h. Doors
 - i. Etc.
- 2. Developer's General Contractor will pay usage fees for utilities, temp toilets, fencing.
 - 3. Developer's General Contractor will provide benchmark and offset locations of major building corners for Contractor's layout and elevations. Contractor is responsible for layout for their scope of work. Contractor shall verify all grades and dimensions and verify no discrepancies exist prior to commencing with any work described under this agreement and Contractor further agrees that drawings are true and accurate. Contractor shall maintain and protect as matter of course all benchmarks, monuments, and other reference points as related to this scope of work. If disturbed or destroyed, Contractor shall replace, at its expense and as directed by the Developer's General Contractor .
 - 4. The limits of the construction entrance and fencing location will be determined prior to contract execution. All additional lane closures, additional sidewalk closures, additional barricades, moving of temporary fence, signage and permits required for work and deliveries beyond the predetermined limits of the construction site will be the responsibility of the Contractor requesting same in order to facilitate their work.
- H. All Contractors working on site are required to coordinate with the other trades and allow adequate time for other trades to complete their work. Each contractor is responsible for coordinating the activities of their subcontractors and the work between other prime contracts in a cooperative manner.

1.4 CONTRACTOR USE OF PREMISES

- A. General: During construction period Contractor shall have full use of premises for construction operations, including use of designated portions of site. Contractor's use of premises is limited only by **City's and/or Developer's** right to perform construction operations with its own forces.
 - 1. Confine operations to areas within Contract limits indicated. Portions of the site beyond areas in which construction operations are indicated are not to be disturbed.

1.5 CITY OCCUPANCY

- A. Partial **City** Occupancy: **City** reserves the right to occupy and to place and install equipment in completed areas of building, prior to Substantial Completion provided that

such occupancy does not interfere with completion of Work. Such placing of equipment and partial occupancy shall not constitute acceptance of total Work.

1. Certificate of Substantial Completion will be executed for each specific portion of Work to be occupied prior to **City** occupancy.
2. Obtain Certificate of Occupancy from local building officials prior to **City** occupancy.
3. Prior to partial **City** occupancy, mechanical and electrical systems shall be fully operational. Required inspections and tests shall have been successfully completed. Upon occupancy **City** will provide operation and maintenance of mechanical and electrical systems in occupied portions of buildings.

PART 2 - PRODUCTS (NOT APPLICABLE)

PART 3 - EXECUTION

END OF SECTION 01 11 00

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APPENDIX A: SEPARATION OF TRADES

Requirements for various items of work are included in the Specifications for the separate Contracts for the Project and in the General Conditions. Scope assignments set forth below delineates the responsibilities of each separate Contractor for various items of work, as well as the extent to which certain items involve coordination between trades. The delineation set forth in this Table shall be taken as specific instruction to the Contractor that it is responsible for the listed items of work. Table is not intended to limit the Contractor's responsibility for supervision and coordination. In the event of any conflict between the Specifications, the General Conditions and this Table, Table shall take precedence; provided, however, in the event of an omission from Table (i.e., Table omits either a reference to or information concerning an item of work which is set forth in the Specifications or the General Conditions), such omission from Table shall have no effect and the Contractor's obligation to perform the work, as set forth in the Specifications or the General Conditions, shall remain in full force and effect.

Legend: "F" = Furnished "I" = Installed "P" = Provided (Furnished and Installed)
"A" = Add Alternate – see Notes and Scopes above

ITEM	City Contract Number 20-0				NRP /TC	Notes
	32 Precast	32E	32H	32P Plumbing		
Temporary Heat					F	None anticipated
Temporary Water	F	F	F	F	F	Drinking water supplied by each prime contractor to their employees
Temporary Light and Power		F				
Temporary Toilets – Enclosures					F	
Temporary Toilets – Fixtures					F	
Rubbish removal from project site					F	
Precast	P					
Precast to precast sealants	P					
Precast to CIP Concrete sealants	P					
Traffic Bearing Membrane	P					
Precast to precast Expansion Joints	P					
Water Repellants (Sealer)	P					

ITEM	City Contract Number 20-0				NRP /TC	Notes
	32 Precast	32E	32H	32P Plumbing		
Hoisting and Rigging	F	F	F	F	F	Each Contractor is responsible to perform hoisting and rigging to accommodate their own work
Excavation and Backfill					P	
Utility Trenches – inside building		P	P	P	P	Each trade responsible for their own trenches and backfill including casual dewatering
Utility Trenches – 6ft plus outside building					P	
Keeping site, excavations, and building, free from water during construction					F	To accommodate the overall project
Field touch-up painting of damaged shop coats	P	P	P	P	P	Each Contractor responsible for own equipment and materials
Prime coating hangers and supports		P	P	P	P	Each Contractor responsible for own equipment and materials
Rust proofing field cut and assemble iron supporting frames and racks	P	P	P	P	P	Each Contractor responsible for own equipment and materials
Paint Standpipes					P	Except shop applied finish paint coat. Red coloring of fire protection alarm systems circuitry included in electric
Concrete foundations, housekeeping pads or bases for floor mounted equipment not indicated on the contract drawings		P	P	P	P	By Contractor installing floor mounted equipment
Concrete foundations pads and bases, as indicated on contract drawings, for floor mounted equipment		F	F	F	P	Each Contractor to provide size and location information to NPR/TC. Furnishing of anchors and vibration mounts included in the contract furnishing the equipment
Framed slots and openings in walls, decks, slabs and/or precast concrete	P				P	Precast openings only if greater than 140 square inches

ITEM	City Contract Number 20-0				NRP /TC	Notes
	32 Precast	32E	32H	32P Plumbing		
Sleeves and core drilling thru slabs, decks and walls whether waterproofed or not		P	P	P	P	Each Contractor responsible for furnishing and installing sleeves to accommodate their work, including core drilling of opening in concrete walls
Waterproof sealing of pipes passing thru sleeves and/or slots		P	P	P	P	Each Contractor responsible to seal the space between the pipe and sleeve
Waterproof sealing of sleeves thru membraned and waterproofed slabs, roofs, and decks	P				P	Precaster provides at Traffic Topped areas
Sleeves thru cast in place walls with no core drilling required		P	P	P	P	Each Contractor shall supervise installation of the proper size and location of the required sleeves to accommodate their work
Roof openings	P		P			
Louvers – exterior			P		P	
Louvers – interior					P	
Pitch pockets					P	
Roof cap flashing for all supports, penetrations and roof curbs					P	
Fireproof sealing of slab openings at duct or pipe shafts		P	P	P	P	
Fire extinguishers					P	
Pit frames and covers					P	Specifications covers sump pump pit, sediment and silt pit covers and frames furnished by Contractor for Plumbing Work.
Sprinkler and domestic water service from street main, to meter Pits , continuing to within 5ft of building						By others
Sprinkler water service from 5 ft outside building, to capped blind flange. Domestic water				P		Fire protection service line by Contractor for Plumbing Work.

ITEM	City Contract Number 20-0				NRP /TC	Notes
	32 Precast	32E	32H	32P Plumbing		
service from 5 ft outside building						
OS&Y Valve					P	As Part of sprinkler system
Motors for mechanical equipment			P			
Fire and smoke dampers with motors			P			Contractor for Electrical Work provides all required wiring
Conduit shown on contract documents		P				
Control Wiring – General Construction					P	
Control Wiring – Plumbing				P		
Control Wiring – Sprinkler					P	
Control Wiring – HVAC for			P			
Motor starters and motor controls for equipment requiring power wiring		I	F	F	F	Specifications and Drawings delineate detailed exceptions
Power wiring for motorized equipment and motor controls		P				Specifications and Drawings delineate detailed exception
Electric heating cables for pipe tracing		P				
Insulation over heat tracing				P	P	
Concrete encasement of conduits(where required)		P				
Electric manholes and handholes		P				Furnishing of covers, associated frames and other hardware by Contractor for Electrical Work
DIVISION 03 – CONCRETE						
03 30 10 CIP Concrete Foundations					P	
03 33 55 Cast in Place Concrete Site					P	
03 41 00 Precast Concrete	P					
03 45 00 Precast Architectural Concrete	P					

ITEM	City Contract Number 20-0				NRP /TC	Notes
	32 Precast	32E	32H	32P Plumbing		
DIVISION 04 - MASONRY 04 22 00 Concrete Unit Masonry					P	
DIVISION 05 – METALS 05 50 00 Metal Fabrications 05 52 13 Pipe and Tube Railings	P				P P	Pedestrian Guard Rail in lightwall be Precast Contractor
DIVISION 07 - THERMAL AND MOISTURE PROTECTION 07 18 00 Traffic Coatings 07 19 00 Water Repellents 07 21 00 Thermal Insulation 07 53 23 Ethylene-Propylene-Diene-Monomer (EPDM) Roofing 07 62 00 Sheet Metal Flashing and Trim 07 72 00 Roof Accessories 07 84 13 Penetration Firestopping 07 84 46 Fire-Resistive Joint Systems 07 92 33 Concrete Joint Sealants 07 92 36 Architectural Joint Sealants 07 95 00 Expansion Joint Assemblies	P P P P P				P P P P P P	Precast includes insulation in Precast wall panels
DIVISION 08 – OPENINGS 08 11 13 Hollow Metal Doors and Frames 08 31 13 Access Doors and Frames 08 41 13 Aluminum-Framed Entrances and Storefronts 08 71 00 Door Hardware 08 80 00 Glazing 08 91 19 Fixed Louvers					P	

ITEM	City Contract Number 20-0				NRP /TC	Notes
	32 Precast	32E	32H	32P Plumbing		
DIVISION 09 – FINISHES 09 29 00 Gypsum Board 09 91 13 Exterior Painting 09 91 20 Pavement Marking 09 91 23 Interior Painting					P	
DIVISION 10 – SPECIALTIES 10 14 00 Signage 10 44 13 Fire Protection Cabinets 10 44 16 Fire Extinguishers 10 12 55 Traffic and Regulatory Signage Site					P	
DIVISION 14 - CONVEYING EQUIPMENT 14 21 00 Electric Traction Elevator					P	
DIVISION 21 – FIRE SUPPRESSION 21 05 00 Common Work Results for Fire Suppression 21 05 13 Common Motor Requirements for Fire Suppression Equipment 21 05 33 Heat Tracing for Fire Suppression Water Service Piping 21 11 00 Facility Fire Suppression Water Service Piping 21 12 00 Fire Suppression Standpipes 21 13 13 Wet-Pipe Sprinkler Systems 21 34 00 Pressure Maintenance Pumps 21 39 00 Controller for Fire Pump Drivers		P			P	Except 21 05 33

DIVISION 22 – PLUMBING				P		Except 22 05 33
22 05 00 Common Work Results for Plumbing						
22 05 13 Common Motor Requirements for Plumbing Equipment						
22 05 16 Expansion Fittings and Loops for Plumbing Piping						
22 05 19 Meters and Gages for Plumbing Piping						
22 05 23 General Duty Valves for Plumbing Piping						
22 05 29 Hangers and Supports for Plumbing Piping and Equipment						
22 05 33 Heat Tracing for Plumbing Piping		P				
22 05 53 Identification for Plumbing Piping and Equipment						
22 07 00 Plumbing Insulation						
22 08 00 Commissioning of Plumbing						
22 11 13 Facility Water Distribution Piping						
22 11 16 Domestic Water Piping						
22 11 19 Domestic Water Piping Specialties						
22 11 23 Domestic Water Packaged Booster Pumps						
22 13 16 Sanitary Waste and Piping						
22 13 19 Sanitary Waste and Piping Specialties						
22 13 29 Sanitary Waste and Piping Specialties						
22 14 13 Facility Storm Drainage Piping						
22 14 23 Storm Drainage Piping Specialties						
22 14 29 Sump Pumps						
22 40 00 Plumbing Fixtures						
22 40 05 Plumbing Fixture – Leak Detection System						

ITEM	City Contract Number 20-0				NRP /TC	Notes
	32 Precast	32E	32H	32P Plumbing		
DIVISION 23 – HEATING, VENTILATION AND AIR CONDITIONING (HVAC) 23 05 00 Common Work Results for HVAC 23 05 13 Common Motor Requirements for HVAC Equipment 23 05 48 Vibration and Seismic Controls for HVAC Piping and Equipment 23 05 53 Identification for HVAC Piping and Equipment 23 05 93 Testing, Adjusting and Balancing for HVAC 23 08 00 Commissioning of HVAC 23 82 39 Unit Heaters			P			
DIVISION 26 – ELECTRICAL 26 05 00 Common Work Results for Electrical 26 05 19 Low Voltage Electrical Power Conductors and Cables 26 05 26 Grounding and Bonding for Electrical Systems 26 05 29 Hanger and Supports for Electrical Systems 26 05 33 Raceways and Boxes for Electrical Systems 26 05 43 Underground Ducts and Raceways for Electrical Systems 26 05 48 Vibration and Seismic Controls for Electrical Systems 26 05 53 Identification for Electrical Systems 26 08 00 Commissioning of Electrical Revised October 2020	A	P			A	Except as noted Add alternate for selected systems

ITEM	City Contract Number 20-0				NRP /TC	Notes
	32 Precast	32E	32H	32P Plumbing		
26 09 23 Lighting Control Devices Revised October 2020 26 24 16 Panelboards 26 24 16 Wiring Devices 26 28 16 Enclosed Switches and Circuit Breakers 26 29 13 Enclosed Controllers 26 51 00 Interior Lighting						
DIVISION 27 – COMMUNICATIONS 27 05 00 Common Work Results for Communications 27 11 00 Communications Equipment Room Fittings 27 13 00 Communications Backbone Cabling 27 15 00 Communications Horizontal Cabling		A			P	P Except Add alternate for 22E: 1) Provide and install low voltage Call for Assistance Stations and communication wiring. 2) Provide and install low voltage fire alarm system.
DIVISION 28 – ELECTRONIC SAFETY AND SECURITY 28 05 00 Common Work Results for Electronic Safety and Security 28 11 00 Intercom System 28 23 00 Video Surveillance 28 31 11 Digital, Addressable Fire-Alarm System		A			P	P Except Add alternate for 22E: 1) Provide and install low voltage Call for Assistance Stations and communication wiring. 2) Provide and install low voltage fire alarm system.
DIVISION 31 – EARTHWORK 31 10 00 Site Clearing 31 23 19 Dewatering 31 25 00 Erosion and Sedimentation Controls 31 30 00 Geotech Report & Ground Improvements Requirements					P	

ITEM	City Contract Number 20-0				NRP /TC	Notes
	32 Precast	32E	32H	32P Plumbing		
DIVISION 32 – EXTERIOR IMPROVEMENTS 32 10 00 Base Courses Pavement 32 12 15 Asphalt Paving 32 16 10 Curbing 32 17 23 Pavement Markings Site 32 31 13 Chain Link Fences and Gates 32 84 00 Planting Irrigation 32 90 00 Planting 32 92 20 Seeding and Sodding					P	
DIVISION 33 – UTILITIES 33 10 00 Water Utilities 33 39 00 Sanitary Utility Sewerage Structures 33 40 00 Storm Drainage Utilities 33 40 20 Warning and Tracer Tape					P	

SECTION 01 11 40 - COORDINATION

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. This Section includes administrative and supervisory requirements necessary for coordinating construction operations including, but not necessarily limited to, the following:
 - 1. General project coordination procedures.
 - 2. Conservation.
 - 3. Coordination Drawings.
 - 4. Administrative and supervisory personnel.
 - 5. Cleaning and protection.
- B. Related Sections: The following Sections contain requirements that relate to this Section:
 - 1. Division 0 Section "Preliminary Schedule"
 - 2. Division 1 Section "Submittals"
 - 3. Division 1 Section "Closeout Procedures"

1.3 COORDINATION

- A. Prior to proposing for this Project, the Contractor shall have made itself fully aware of the nature and extent of the work being performed by other contractors and specifically how such work will affect the Work under this Contract.
- B. Coordinate construction operations included in various Sections of these Specifications to assure efficient and orderly installation of each part of the Work. Coordinate construction operations included under different Sections that depend on each other for proper installation, connection, and operation.
 - 1. Schedule construction operations in the sequence required to obtain the best results where installation of one part of the Work depends on installation of other components, before or after its own installation.
 - 2. Coordinate installation of different components to assure maximum accessibility for required maintenance, service, and repair.
 - 3. Make provisions to accommodate items scheduled for later installation.

- C. The Construction Manager shall coordinate all Contract Work. All other Contractors (Precast, HVAC, Plumbing, Electric) shall coordinate with each other through the Construction Manager and cooperate to the fullest extent with the Construction Manager.
 - 1. The Construction Manager shall anticipate the interrelationships of all Contractors and their relationship with the Work.
 - 2. The Construction Manager shall resolve differences or disputes between Contractors concerning coordination, interference, or extent of Work.
 - 3. The Construction Manager shall coordinate their Work so that it is performed in a manner that minimizes interference with progress of the overall Work.
- D. The Construction Manager will be required to coordinate activities with other Contractors working on the project site.
 - 1. Cooperation and adjustments with such other Contractors is essential. In case of interference between the operations of different Contractors, utility owners or subcontractors, City will be the sole judge of the rights of each and the sequence of work necessary to expedite the completion of the Project, and in all cases City's decision shall be accepted as final.
- E. Construction Manager will prepare memoranda for distribution to each party involved, outlining special procedures required for coordination. Include such items as required notices, reports, and attendance at meetings.
 - 1. Prepare similar memoranda for City and their Architects/Engineers and separate Contractors where coordination of their work is required.
- F. Administrative Procedures: Coordinate scheduling and timing of required administrative procedures with other construction activities to avoid conflicts and assure orderly progress of the Work. Such administrative activities include, but are not limited to, the following:
 - 1. Preparation of schedules.
 - 2. Installation and removal of temporary facilities.
 - 3. Preparation of submittals.
 - 4. Project closeout activities.
- G. The responsible Contractor shall remove and replace all Work which does not comply with Contract Documents. Repair or replace any other work or property damaged by operations of Contract Work to original conditions prior to the start of Work at no increase in Contract Sum.
- H. Each Contractor's components of assemblies, fabrications, installations and other details of the Work shall be accurately laid out and installed within the tolerances

specified for the type of work and materials indicated. Contractor shall use established and confirmed lines and elevations for all work.

- I. Conservation: DEVELOPER'S GENERAL CONTRACTOR shall coordinate construction operations to assure that operations are carried out with consideration given to conservation of energy, water, and materials.
- J. Each Contractor shall salvage their materials and equipment involved in performance of, but not actually incorporated in, the Work.

1.4 SUBMITTALS

- A. Coordination Drawings: Each Contractor shall prepare applicable coordination drawings where careful coordination is needed for installation of products and materials fabricated by separate entities. Prepare coordination drawings where limited space availability necessitates maximum utilization of space for efficient installation of different components.
 - 1. Show the relationship of components shown on separate Shop Drawings.
 - 2. Indicate required installation sequences.
 - 3. Comply with requirements contained in Section "Submittals."
- B. Staff Names: Within 10 days of commencement of construction operations, submit a list of the Contractor's principal staff assignments, including the superintendent and other personnel in attendance at the Project Site. Identify individuals and their duties and responsibilities. List their addresses and telephone numbers.
- C. The Contractor shall prepare and submit to Resident Engineer, Construction Manager and City's Architect/Engineering team within 24 hours of the occurrence the following reports when necessary:
 - 1. Unusual Events: When an event of an unusual and significant nature occurs at the site, prepare and submit a written report listing chain of events, persons participating, response by Contractor's personnel, evaluation of results and/or effects. Notify Tectonic in advance when such events are known or predictable.
 - 2. Accident Reports: Prepare and submit reports detailing significant accidents at the site and anywhere Work is in progress. Record and document all data and actions. For this purpose, a significant accident is defined to include events where personal injury is sustained, property loss of substance is sustained or where the event posed a significant threat of loss or personal injury.

PART 2 - PRODUCTS (NOT APPLICABLE)

PART 3 - EXECUTION (NOT APPLICABLE)

3.1 GENERAL COORDINATION PROVISIONS

- A. Inspection of Conditions: Installer of each major component to inspect both the substrate and conditions under which Work is to be performed. Do not proceed until unsatisfactory conditions have been corrected in an acceptable manner. Notify Construction Manager and City's Architect/Engineering Team at least 24 hours prior to the inspection.
- B. Each Contractor shall coordinate temporary enclosures with required inspections and tests to minimize the necessity of uncovering completed construction for that purpose.
- C. Each Contractor shall not cover any installations which will be concealed in the finished work until they have been inspected and approved by City.
- D. The Construction Manager shall supervise the performance of all Work in such a manner and by such means that will ensure the public will not be subjected to harmful or dangerous exposure throughout the duration of the construction period.

3.2 CLEANING AND PROTECTION

- A. Clean and protect construction in progress and adjoining materials in place, during handling and installation. Apply protective covering where required to assure protection from damage or deterioration at Substantial Completion.
- B. Clean and provide maintenance on completed construction as frequently as necessary through the remainder of the construction period. Adjust and lubricate operable components to assure operability without damaging effects.
- C. 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. Where applicable, such exposures include, but are not limited to, the following:
 - 1. Excessive static or dynamic loading.
 - 2. Excessive internal or external pressures.
 - 3. Excessively high or low temperatures.
 - 4. Thermal shock.
 - 5. Excessively high or low humidity.
 - 6. Air contamination or pollution.
 - 7. Water or ice.
 - 8. Solvents.
 - 9. Chemicals.
 - 10. Light.
 - 11. Radiation.

12. Puncture.
13. Abrasion.
14. Heavy traffic.
15. Soiling, staining, and corrosion.
16. Bacteria.
17. Rodent and insect infestation.
18. Combustion.
19. Electrical current.
20. High-speed operation.
21. Improper lubrication.
22. Unusual wear or other misuse.
23. Contact between incompatible materials.
24. Destructive testing.
25. Misalignment.
26. Excessive weathering.
27. Unprotected storage.
28. Improper shipping or handling.
29. Theft.
30. Vandalism.

END OF SECTION 01040

SECTION 011200 – BASIS OF DESIGN

PART 1 - GENERAL

1.1 INTRODUCTION

This document summarizes the "Basis of Design" for the Renaissance at Parking Structure. The parking structure shall be a five-tier, precast parking structure. The parking structure's architectural façade will be compatible the façade approved by the City of New Rochelle.

Utility services including, electrical and water service shall be sized for the full build of the parking structure including future expansion of EV charging to allow 2% of spaces to have EV chargers.

1.2 CODE REQUIREMENTS AND DESIGN LOADS

- A. The design of the Parking Structure shall comply with Federal, State, City and Industry codes, standards and regulations, hereinafter referred to as "Code Requirements", in the design and construction of the parking structure. The most stringent code governs when codes conflict. Any conflicts among codes are to be promptly brought to the attention of the NRP Group and the City. This Section identifies the primary codes that are to be followed. The latest applicable version of each code is to be used. The Designer is responsible for complying with these codes and any other codes that may be applicable.

Subsequent Sections of the Design Criteria make reference to various applicable codes.

Construction Type

- 1. The parking structure shall be classified as an open parking structure, occupancy Group S-2, construction Type IIB, Unprotected, Non-Combustible.
- 2. Floor area is unlimited.
- 3. Construction height is limited to 4 supported tiers of parking above a slab on grade.

1.3 ARCHITECTURAL

- A. The parking structure shall be an open parking structure. The parking structure's building elevations shall be compatible with adjoining structures and the surrounding development. The parking structure architectural design will be reviewed and approved by the NRP Group and the City. The NRP Group and the City do not anticipate approving any changes to the aesthetic appearance of the building's exterior, especially the main stair/elevator tower.
- B. Parked vehicles shall be shielded from view as much as possible. The building shall be recognizable as a parking structure, however, either through design or signing.

- C. The design is to be efficient. Building corners and other spaces which cannot be used for parking shall be used for required stairwells, elevators, parking offices, storage space, etc., to the extent possible.
- D. The design and material selection shall consider the need for ease of maintenance, economy, and durability. The approved structural system is precast concrete. Other structural systems will be considered as part of the design process.
- E. The parking structure shall be designed in such a manner that there shall be no discharge of storm waters off the exterior and interior edges of the elevated floors. Every effort shall be made to slope each floor toward the interiors of the structure and to provide positive drainage. Water shall drain away from elevators and stairwells.
- F. UL fire-rated where required by code, stainless steel metal doors with stainless steel metal door frames shall be used throughout the building. Use rust resistant material.
 - 1. Hardware shall be of a heavy-duty type.
 - 2. Doors to any storage rooms and equipment rooms accessible to the public shall be lockable and master-keyed to the NRP Group and the City of New Rochelle locking system, using high security lock cylinders. The NRP Group and the City of New Rochelle uses Best patented system.
 - 3. Where provided, doors in stairwells should be glass with kick plates and shall have high strength continuous hinges.
- G. Hand and guardrails shall be constructed of stainless steel, aluminum or galvanized steel with a suitable architectural finish.
- H. Include provisions for washing exterior of window walls and other glass. Provide adequate space between elevator cabs and window walls for cleaning glass.

1.4 PARKING STRUCTURE LAYOUTS

- A. Parking spaces shall be accessible for self-parking, i.e., no spaces shall be "stacked" or situated in such a manner to make it necessary to move another vehicle to utilize a parking space.
- B. Minimum vertical clearance for the Ground Level shall be 8'-4" and 7'-4" beyond the Ground Floor Elevator tower. The minimum driving clearance shall be indicated as 2" less than the structural clearance through signage and hanging clearance bars.
- C. Pedestrian access to the parking structure shall be provided at points along the perimeter which are convenient to pedestrian circulation. Pedestrian and vehicle conflicts at ingress/egress points shall be minimized. Vehicle ingress/egress crossovers shall be eliminated.
- D. The exit area shall have minimal visual obstructions and maximized sight distance.
- E. Parking bays shall be double-loaded and support two-way traffic. Parking modules (drive aisle plus length of vehicles on either side of the aisle) shall be a minimum of

60'-0". Columns and light poles may protrude into the parking module a combined maximum of 1'-6" as long as they do not affect more than 25% of the stalls in that bay. Drive aisles shall be a minimum of 24'-0" wide. Parking stalls shall be 8'-6" wide x 18'-0" long on levels 1 and 2, oriented at 90 degrees to the drive aisles. Compact car parking spaces may be provided and are intended to be a minimum of 8'-0" wide by 16 ft long.

- F. Long span construction shall be used. Interior columns in the typical parking bay are not acceptable. Grid dimensions shall provide clear parking bays throughout the structure. The span in the other direction may be consistent with economy for the selected structural system.
- G. Accessible spaces shall be provided per the New York State Code and ADA Standards.
- H. Maximum slope on access ramp = 10% without a transition area, which is at least 14'-0" wide. Parking bay floor slope gradients shall not exceed 6.1% for floors used for parking.
- I. At entrances and exits, aprons to exterior surface parking shall be flush with pedestrian right-of-way.
- J. Features of the functional design of the parking structure not otherwise covered in this document or the base document shall be designed to Level of Service (LOS) A or better, wherever practical.

1.5 SUPPORT FACILITIES

- A. Provide Elevator machine room, electrical rooms, storage/water meter rooms as required.
- B. The area of elevated slab directly above any occupied space, including but not limited to elevator machine rooms, storage, mechanical or electrical rooms, shall be waterproofed using an elastomeric waterproofing membrane. The system shall be heavy duty Auto-Gard by Neogard, or approved equivalent. Deck preparation for coating shall specify shotblast cleaning.
- C. Support facilities shall be provided with thermostatically controlled heat or HVAC.
 - 1. A roof top or through wall HVAC unit may be utilized for the elevator machine room.
 - 2. Electric overhead heaters may be used to temper electrical, storage and water supply rooms.
 - 3. Storage rooms will be provided with heating and ventilation.

1.6 SAFETY AND SECURITY

- A. Call for Assistance/Emergency Code Blue (or equivalent) stations shall be provided at each main landing of stairs or in each adjacent elevator lobbies. NRP Group will

identify primary phone numbers and roll over phone numbers to be dialed by Code Blue autodialers.

- B. Conduit and power for these items shall be provided for locations identified during design. Voice communication units shall be Code Blue or approved equivalent. The units shall be brushed stainless steel and labeled "Assistance" with graphic text. The faceplate shall include an "INFO" button
- C. Openings between parking structure levels, in stairwells, elevator waiting areas, parking areas, etc. shall be designed to promote passive security and minimize hiding places.
- D. Paths of pedestrian and vehicle circulation shall be lighted equal to or better than IES and NPA recommendations.
- E. Stairwells shall be visible from the exterior with sufficient glass enclosure to enhance passive security.
- F. Elevators shall be located where the doors and open car are visible to the public using the facility.
- G. A traffic bearing coating system shall be provided on cast-in-place concrete floors in elevator lobbies and egress stairs. In addition, traffic bearing coating system shall be installed on all parking surfaces immediately above office, electrical, MEP, etc rooms. Traffic bearing membrane shall extend at least 2' beyond limits of room(s) below.
- H. Fire Extinguishers shall be provided in non-parking areas such as MEP rooms, storage rooms and elevator machine rooms per normal code requirements. Fire Extinguishers shall not be provided in stairs, elevators and parking areas unless required by Building Code Official/Fire Marshall.
- I. Provide Knox Box at main entrance near fire annunciator.

1.7 SOIL INVESTIGATION

- A. Foundations, retaining walls, basement walls, foundation drainage and slabs-on-grade shall be designed in accordance with recommendations provided in the Geotechnical Report by Carlin Simpson & Associates.
- B. The cost of excavating and removal of materials regardless of type and/or water content is to be considered Unclassified Excavation, as long it does not contain undisclosed contamination. This excavation and the type of equipment required for excavating and proper disposal of material not suitable for use, shall be included in the construction costs.

1.8 STRUCTURAL

- A. A clear span design shall be used to maximize parking efficiency and allow future parking flexibility.
- B. Precast concrete structural systems are acceptable. Final selection of the structural system shall be based on first cost, life cycle cost, ease of maintenance, material and labor availability, schedule, and construction staging.
- C. Lateral seismic and wind loads for the main parking structure shall be resisted by shear walls. Interior shear walls shall incorporate openings as much as feasible to increase visibility.
- D. Stiff elements such as stair/elevator tower will be structurally separated from the remainder of the parking structure in accordance with ASCE7-10 Section 12.12.3
- E. Vehicle barriers are required at the end of drive lanes, and at the end of parking spaces where the difference in adjacent floor elevation is greater than 1 foot. Concrete bumper walls are required for exterior walls and preferred over the use of cables or guardrails at interior ramps.
- F. Vehicle barriers shall be designed to withstand a concentrated horizontal force of 6,000 pounds applied over a 12" square area at a height of 18" and 27" (not simultaneously) above the deck at any point along the structure.
- G. Stair and landing areas shall be of concrete construction. Stairs without traffic coating shall have securely anchored safety nose treads. Metal pan stairs are not allowed.
- H. Curb heights shall not exceed 6".
- I. The structure shall be designed and constructed to be durable and minimize future maintenance problems.
- J. All concrete shall be normal weight concrete.
- K. Cast-in-place tee toppings and pour strips shall have a minimum concrete strength of $f'_c = 5,000$ psi at 28-days. All other cast-in-place concrete shall be as per the structural drawings.
- L. Concrete slabs, beams, columns, walls, tees, tee toppings, and pour strips shall be proportioned to meet ACI requirements for areas exposed to freeze/thaw, moisture, and chlorides (ACI Exposure Classes F3 and C2), including limitations on water soluble chloride in the concrete and maximum water/cement ratios.
- M. A superplasticizer shall be used in all concrete with a water cement ratio of 0.40 or less.
- N. Aggregate conforming to ASTM Standard C-33 shall be used.

- O. A water/cement ratio of 0.40 or less shall be used except for foundations and slab-on-grade which may have up to a 0.45 water/cement ratio.
- P. Freeze-thaw resistance shall be improved by the use of entrained air per ACI recommendations. Cast-in-place concrete shall have the following air content: $6 \pm 1.5\%$
- Q. Shrinkage cracks shall be minimized by fog misting and in accordance with ACI recommended practices for placing, finishing, and curing concrete.
- R. Moist (Water) curing is the approved method of curing concrete.
- S. Cast-in-Place supported concrete floors and walking surfaces (not foundations or CIP walls) not otherwise waterproofed shall:
 - 1. Utilize epoxy coating on all reinforcing larger than mesh in supported floors, stairs and elevator lobbies.
 - 2. Be treated with a 40% solids silane penetrating sealer.
 - 3. Contain 3 gallons per yard of DCI, corrosion inhibiting admixture.
- T. Embedded metallic items shall be hot-dipped galvanized or stainless steel.
- U. The following shall be epoxy coated:
 - 1. All reinforcement, except welded wire reinforcement, in cast-in-place concrete at supported levels (toppings and pour strips).
 - 2. Tie wires, support bars, and chairs used in concrete within 4" of a surface which is subject to foot or vehicular traffic.
- V. Provide the following minimum concrete cover for reinforcement UNO on plan:
 - 1. Undersides of precast slabs: 3/4"
 - 2. Top of prestressed/precast concrete members: 1-1/2"
 - 3. Column ties, wall reinforcement #5 bar and smaller: 1-1/2"
 - 4. Wall reinforcement #6 bar and larger: 2"
 - 5. Footing top reinforcement: 3"
 - 6. Concrete in contact with the earth: 3"
- W. Prestressing steel shall be stranded, stress relieved 7-wire cables conforming to ASTM 416 with a minimum ultimate strength of 270,000 psi.
- X. Slabs poured on grade shall be a minimum of 6" thick, placed over 6" of washed gravel, and reinforced as noted on the structural drawings. A vapor barrier shall be used under slabs in enclosed spaces.
- Y. No materials containing calcium chloride or intentionally added chloride ions shall be used in concrete.
- Z. Control joints in slabs on grade shall be arranged so that the long-side panel dimension does not exceed the short-side panel dimension by more than 75%. ($A < 1.75B$). Panel area shall not exceed 400 S.F. with a maximum of 20 feet between control joints.

- AA. Control joints shall not be saw cut unless approved by the Engineer and must be cut on the day of concrete placement. Construction and control joints shall be sealed with a high quality, flexible polyurethane sealant (TT-S-227E, Class A, Type 1 or 2, two-component). A five-year guarantee shall be provided.
- BB. Expansion joints shall be adequate in number, properly placed, watertight and easily maintained. Sliding joints are not allowed, except at transition walls. Double columns shall be used at expansion joints. Expansion joint systems shall be installed by applicators approved by the system manufacturer. Expansion joint systems shall be jointly and separately guaranteed for five years. No compression seals shall be used. Watson Bowman Acme "WaboCrete Membrane System" is an approved expansion joint seal for all tiers.
- CC. Driving and parking areas, except those receiving a traffic bearing membrane system, shall receive a medium broom finish.
- DD. The following are additional design criteria for a precast concrete structural system:
1. Minimum strength of concrete for precast concrete shall be $f'c = 5,000$ psi.
 2. Precast concrete shall have an air content of $6 \pm 1.5\%$.
 3. Precast concrete work shall conform to the requirements of ACI 318, CRSI MSP, PCI MNL 116, PCI MNL 117, PCI MNL 120, PCI MNL 122, and the PCI Design Handbook (current edition).
 4. Precast concrete suppliers shall be:
 - a. Certified by the Prestressed Concrete Institute Plant Certification Program before the start of production, or;
 - b. Subject to an independent testing program paid for by the precast concrete supplier but under contract to Developer. This program shall be approved by the Designer and shall include at least weekly inspections to verify that the production meets all PCI requirements necessary to become a PCI certified plant.
 5. All supported floor surface subject to vehicular or foot traffic shall be treated with a 40% solids silane penetrating sealer applied at a rate such that NCHP 244 tests are passed.
- EE. Prestressing steel and minimum concrete cover requirements shall be in accordance with the referenced precast standards.
- FF. The structural frame, bearing walls, and floor construction shall have a minimum fire-resistance rating per the General Notes. Pretopped double-tees shall have a nominal minimum depth of 30 inches (34 inches is allowed) with a 4 -inch minimum thick flange. Field toppings shall contain 3 gallons per yard of DCI corrosion inhibiting admixture. Pretopped double-tees and pretopped inverted-tee beams shall contain 2 gallons per yard of DCI corrosion inhibiting admixtures or approved equal.
- GG. Provide for openings, block-outs, embedments and attachments for other trades. Garage light systems shall be supported by a stainless-steel anchor embedded in the precast concrete with a reinforcing bar through the anchor loops. Minimum anchor bar length = 18 inches.

HH. Bearing Pads:

1. Neoprene, 70 Durometer; 50 Durometer for stair walls.
2. Random-Fiber Reinforced Elastomeric; 80 Durometer.
3. Include tests of bearing pad materials in the construction documents.

II. Connection Materials

1. Tee to Tee flange connector weld plates or shapes shall be stainless steel.
2. All bearing plates and weld plates units, other than stainless steel, shall be hot-dipped galvanized.

1.9 MECHANICAL

- A. Storm Drainage system shall be designed to retain a minimum of the rainfall on site per code in an open bottom retention basins before overflowing to adjacent storm sewers. Water quality shall be addressed by use of a Hydrodynamic separator.
- B. Piping shall be located and installed so that it does not reduce minimum vertical clearances. Sleeving through beams, when provided, shall be protected from rusting. Ferrous sleeves shall be hot-dipped galvanized. Sheet metal sleeves are not permitted.
- C. Water shall be supplied at convenient locations on each floor, with adequate pressure for cleaning the facility using 150 feet of $\frac{3}{4}$ " hose. Water lines shall be sized to allow use of either conventional $\frac{3}{4}$ " hose or 1 $\frac{1}{2}$ " fire hose for wash down of the parking structure. The water system shall be designed draining to prevent freezing without interrupting water to other portions of the mall. Piping is to be exposed, neatly and securely fastened to the surface of the structure and located so it is not damaged by vehicles or subject to vandalism. Hose connections and valves shall not protrude in such a way as to present a safety hazard to pedestrians.
- D. Sprinkler and fire alarm systems shall be provided as required by code. Sprinkler systems, if required, shall be air supervised dry systems.
 1. Below grade parking areas shall have a dry sprinkler system if the level is not classified as "Open."
 2. Area smoke detection shall be provided in elevator lobbies and elevator/electrical/storage rooms (to be further reviewed with DOB and WPFDD). Any unheated space that requires smoke detection, shall use alternatives for fire detection.
 3. Manual pull stations shall be provided at each stairway entrance
 4. Water flow and tamper switches shall be provided on sprinkler systems.
 5. Fire alarm notification device location shall be approved by Department of Buildings and New Rochelle Fire Department.
 6. Fire Alarm panel shall be located per City requirements.
- E. Standpipe systems shall be Class I Manual Dry systems. Hose connections and valves shall not protrude in such a way as to present a safety hazard to pedestrians.
- F. Pipe guards shall be provided to protect drain lines, plumbing lines, fire protection lines and standpipes from vehicle impact. Pipe guards shall be hot-dipped galvanized

or stainless steel. Pipe guards shall not obstruct cleanouts. Pipe guards shall provide a minimum of 1-inch clearance for all pipes but shall be designed to minimize intrusion into parking stalls.

- G. Drains shall be provided at the bottom of stairwells. They shall either be located outside of the main pedestrian traffic area or be fitted with covers that do not pose a tripping hazard.
- H. Floor drains shall be of adequate size and located frequently enough to effectively capture runoff. Floor drains in driving aisles shall be avoided. Floors shall be sloped to drains. No floor slope shall be less than 1/8 in./ft (1%). Preferred slope is 3/16 in./ft (1.5%).
- I. Heavy duty, vandal-resistant drains with strainers shall be used. Set drains below the finished floor elevations and finish slab down to the drains to ensure that low points do not occur immediately adjacent to the drains.
- J. Storm water drain lines, including leaders from the roof of elevator banks and stairwells, shall be protected from damage by vehicles. Exposed roof leaders shall be fabricated of a non-rusting material.
- K. Provide a subgrade-drainage system behind all walls retaining earth. Waterproof wall areas below grade.
- L. All garage drainage shall discharge through an oil/grit separator(s) prior to entering The NRP Group and the City drainage system.
- M. Provide HVAC for storage, electrical, motor and water service rooms.

1.10 ELECTRICAL

- A. A diesel emergency generator is required. Emergency Generator shall be sized to provide emergency power for the following systems as a minimum:
 - 1. Elevators (one at a time)
 - 2. Emergency lighting
 - 3. Exit lighting
 - 4. All equipment and lighting for required Communication
- B. Electric vehicle charging stations shall be provided at locations shown on drawings.
- C. No ice melting systems will be considered.
- D. Electrical service, adequate to meet the parking structure requirements after construction. Verify voltage with power company, 120V/208V may be only available power; however, 277/480 is preferred.
- E. Every effort shall be made to utilize exposed conduit wherever possible. Only rigid galvanized conduits shall be used. For rigid conduit, utilize threaded connectors only. Except where otherwise required by code or approved, conduit shall be run exposed

and attached to the surface of the underside of slabs or the surface of beams, columns, and walls. Where exposed conduits encounter obstructions, the obstructions shall be sleeved to accept the conduit. Ferrous sleeves shall be hot-dipped galvanized. Sheet metal sleeves shall not be permitted.

- F. Central lighting control panels, secure from unauthorized use or tampering, shall be provided. Circuit outside lights separate from interior lights. Outer row of lights on covered tiers adjacent to exterior spandrels, and roof lights shall be controlled by photocell programmed to turn these lights off during daylight.
- G. Any switches, controls, or thermostats not in the central panel shall not be easily accessible to the public and shall be protected from unauthorized use.
- H. No aluminum wire may be used.
- I. Electrical outlets (20 amp - 120 volt) shall be provided at each stairwell on each level.
- J. The lighting system design shall address the following:
 - 1. Lighting intensity study shall consider the intensity of natural light at various points in the parking structure.
 - 2. Visibility shall be optimized with respect to the vertical and horizontal planes and uniformity of illumination.
- K. The lighting system shall be economical, efficient, and provide for minimum maintenance:
 - 1. It shall be energy efficient.
 - 2. Fixtures shall use tamperproof fasteners, be vandal resistant and be weather resistant wherever such fixtures are readily available.
 - 3. Fixture locations shall be easily accessible for maintenance.
- L. Minimum illumination levels measured at floor level shall be determined through photometric analysis and established based upon structural system, method of operation and user groups to be served.

- M. Illumination levels and uniformity ratios shall meet IES and National Parking Association (NPA) recommendations for average maintained lighting of parking structures as well as the following requirements:

Area	Horizontal Illuminance ^a (fc)	Vertical Illuminance (fc)	Avg/Min Uniformity Ratio	Max/Min Uniformity Ratio
Covered Parking Areas	10	1	3:1	6:1
Roof & Surface Lot	3	0.25	4:1	10:1
Elevator Cabs	10	10	-	2:1
Express Ramps Day	10	5	4:1	10:1
Express Ramps Night	5	2.5	4:1	10:1
Vehicular Entry/Exits Day	50	50 ^b	3:1	10:1
Vehicular Entry/Exits Night	10	3 ^b	3:1	10:1
Pedestrian Entrance Areas Day	50	50 ^b	3:1	10:1
Stairs and elevator lobbies	20	10 ^b	2:1	4:1
Pedestrian Entrance Areas Night	5	3 ^b	4:1	10:1
Building Perimeter Sidewalk	2	-	3:1	10:1
Storage and Equipment Rooms	20	-	2:1	-
City Communication & IT Room	80		3:1	

- N. Point-by-point computer printouts are required to verify lighting performance. Proposed location of lighting shall be coordinated with architectural and structural configuration of the structure.
- O. Security lighting shall be provided throughout the parking and pedestrian areas at 25% of the minimum general parking area lighting levels.
- P. Lighting design shall control spill of light outside of parking structure. A spill light study is required as part of the design process. It is anticipated that some masking of light fixtures will be required to adequately control spill light between parking structure and adjoining buildings.
- Q. Lighting shall be controlled by a combination of manual on-off switches, 7-day electronic time switches provided with reserve power, and photo controls. Astronomic type time clocks shall not be used. The control system shall permit various patterns of light activations during different times of the day on an area basis:

^a Average Maintained, U.N.O.

^b Minimum Vertical Illuminance at 5'-0"

1. Dusk to one hour after closing: all lights on, except added daylight lighting at vehicular entry/exits.
 2. One hour after closing to Dawn: every other fixture off, except at stairwells, elevators and corners of the garage.
 3. Dawn to Dusk: All lights on, except photocell-controlled lights in outer row of fixtures adjacent exterior spandrels. At vehicular entry/exits photocells shall turn on fixtures as required to provide added light at vehicular entrances to allow drivers eyes to adjust to lower light levels.
- R. Fixture Types:
1. Light fixtures shall be per electrical drawings. Light fixtures shall drop to 50% light level during periods when no motion is detected in the parking areas.
 2. Parking Areas - Wattage depends on a lighting analysis, plastic, aluminum or stainless-steel housings, tamperproof fasteners, vandal resistant, ceiling mounted luminaires.
 3. Stairwells and Lobby/Landing Areas - LED, vandal resistant wall packs.
 4. Roofs - Pole mounted, anodized aluminum, LED luminaire, medium cutoff, high impact lens, enclosed and gasketed, with integral ballast and adjustable knuckle shall be specified. Square anodized hinged aluminum poles shall be provided. Poles located on the perimeter are to hinge inward. Other poles must hinge so as not to meet obstructions.
 5. Exit Signs – LED shall be used. Self-luminous, vandal resistant exit signs may be used in isolated locations.
 6. Driveways (exterior of the structure) - Pole mounted, anodized aluminum, LED luminaire, medium cutoff, high impact lens, enclosed and gasketed, with integral ballast shall be specified. Square, anodized aluminum poles hinged at the base shall be provided.
- S. An emergency lighting system, in accordance with code requirements, shall be provided. There shall be no appreciable interruption of illumination during changeovers between power systems. Battery units are not required for any Emergency Lighting / Exit sign circuits connected to the emergency generator
- T. Circuits to serve elevator motors shall be sized in accordance with the needs of the specific elevator equipment.
- U. Furnish 10% spare lamps or spare fixtures if LED's cannot be replaced of each type and wattage used in the project.

1.11 PARKING CONTROL SYSTEMS

- A. None required.

1.12 SECTION 12 – ELEVATORS

- A. Elevators shall be placed where convenient for pedestrian circulation while compatible with parking structure architecture and structural design.

- B. Minimum capacity of elevators shall be 4000 lbs. Elevators shall be machine-room-less type elevators with an equipment room located per design drawings. Equipment rooms and elevators shall have HVAC.
- C. Elevators shall comply with codes, including ADA requirements. Elevator cabs shall accommodate ambulance stretchers per IBC size requirements.
- D. Provide weather protected enclosed lobby areas at the roof level of elevator and stairway accesses.
- E. Elevators shall be provided with automatic leveling devices and infrared electric eyes to prevent car and hoistway doors from closing when obstructed.
- F. Vandal resistant call buttons constructed of stainless steel and flush mounted shall be provided.
- G. Vandal resistant car position indicators shall be placed in ground floor elevator lobby and in each car.
- H. A sign prohibiting smoking in elevator shall be engraved in the wall in each car.
- I. Each car shall be provided with a separate telephone line and flush mounted ADA compliant speakerphone with built-in auto dialer and ringer to permit two-way conversations. The device is to have a stainless-steel faceplate and be vandal resistant.
- J. Signs warning against use of elevators during fires shall be installed adjacent each elevator entrance door.
- K. Each elevator shall have a CCTV camera installed and connect to provided IP-based security recording system.
- L. Elevator recalls for Fire Service (phase 1 & 2) smoke/heat detector shall be incorporated into fire alarm system.

1.13 PAINTS AND COATINGS

- A. Painting of any elements of the structure shall be compatible with the substrate. All areas accessible to the public should have anti-graffiti coating applied.
- B. Parking stalls shall have Yellow painted stripes except ADA spaces shall be striped blue. EV spaces to have identifying icon on green field.
- C. Do not paint stainless steel, galvanized and non-ferrous metal surfaces.
- D. Provide a dust proof concrete sealer on floors in machine rooms, storage room, water and electrical rooms.
- E. Provide primer, intermediate and finish coats on surface as defined below:

1. Drain lines-color: black, Tnemec Gloss Series
 2. Fire lines-color: red, Tnemec Gloss Series
 3. Waterlines-color: blue, Tnemec Gloss Series
 4. Structural Steel: blast clean,
 - a. Primer Tnemec Series 90-97-Zinc
 - b. Intermediate Tnemec Series 69 Hi-Build Epoxoline 11
 - c. Finish Tnemec Series 75 Endurance Shield
 5. Concrete: Stairwells, ceilings, etc.
 - a. Primer Tnemec Series 130
 - b. Intermediate Tnemec Series 83
 - c. Finish Tnemec Series 75 Endurance Shield
- F. All CMU shall be painted.
- G. Work performed shall be guaranteed in writing free of defects relating to workmanship or material deficiency for one (1) year from date of final acceptance.

1.14 SIGNAGE

- A. Signage for parking structure shall consist of a system of signs and graphics which shall provide parking structure users with essential directional information, safety/security, provide for proper traffic flow and use of parking spaces, and present a coordinated appearance. All signage shall conform to standards established by existing City parking Structures.
- B. The following is a partial list of signs to be considered:
1. Exterior
 - a. Entrance
 - b. Operation rules & regulation signs
 - c. Clearance
 - d. Exit - Do Not Enter
 2. Interior
 - a. Park
 - b. Each parking space shall be signed with a parking space number as assigned by the NRP Group and the City based upon final striping plan.
 - c. Handicapped Parking
 - d. Van Accessible Parking
 - e. Elevator
 - f. Stair
 - g. Exit (and directions to) - (When vehicle exits lead to different streets, signs should provide this information)
 - h. No Parking (International symbol)
 - i. No Exit (for dead ends)
 - j. Parking Level Number
 - k. Stop
 - l. Do Not Enter
 - m. No Right Turn - No Left Turn

- n. Yield
 - o. In Case of Fire (pictograph)
 - p. Elevator Car Number
 - q. No Smoking
 - r. Room Designations
 - s. Meter Parking Area designation
 - t. Permit Parking Area designation
 - u. Security Camera in use.
 - v. Other direction signs as needed
- 3. Traffic control signs at driving lanes to and from the parking structure, and any associated exterior surface parking, shall conform to the Manual on Uniform Traffic Control Devices for Streets and Highways, U.S. Department of Transportation, FHWA.
 - 4. The background color of similar sign types in the parking structure shall be uniform and not vary by level (except tier designations). Different sign types such as driver and pedestrian oriented signs may have different background colors.
 - 5. Vehicular signs shall have reflective numbers, letters and symbols. Pedestrian signs may be painted. Backs of signs shall be painted.
 - 6. Parking level indicators are required.
 - 7. Parking stalls shall be separated by striping painted on concrete floors. Striping shall be a 4" wide white line painted on a 7" wide black background. Pavement markings shall consist of epoxy paint, chlorinated rubber paint or water-borne 100% acrylic paint applied in a 2-coat system. Floor arrows and centerlines shall be provided where beneficial.
- C. Signs shall be aluminum alloy, minimum sheet thickness 0.08 inches, complying with strength and durability properties specified in ASTM B-209 for 5005-H15. Background color for signs shall be silk screened onto Scotchlite reflective sheets bonded to aluminum.

SECTION 01310 -CONSTRUCTION SCHEDULES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General Agreement and other Division 1 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. This Section includes requirements for construction schedule submissions.
- B. Related Sections: The following Sections contain requirements that relate to this Section:
 - 1. Division 0 Section "Preliminary Schedule"
 - 2. Division 1 Section " Payment Procedures"
 - 3. Division 1 Section "Coordination"
 - 4. Division 1 Section "Quality Control"

1.3 SUBMITTALS

- A. Proposed Construction Schedule: In proposing for the Work under this contract, each Contractor shall submit a Proposed Construction Schedule indicating how required milestones will be met. The schedule shall be a computer generated bar-chart type with appropriate detail for a project of this scale. The schedule shall include, but not be limited to the following items:
 - 1. Project information: Client, project name, location, date
 - 2. Individual line items for each major component of the Work
 - 3. Activity durations, with none greater than 20 working days
 - 4. Submittal schedule
 - 5. Permit acquisition schedule
 - 6. Work items are to be grouped appropriately by phase, area, etc.
 - 7. Milestones for start and completion of each major component

The Proposed Construction Schedule will be reviewed by Construction Manager, the Developer's General Contractor and City's Architect/Engineer Team for accuracy and feasibility during review of the proposal. The Proposed Construction Schedule shall be discussed at the Preconstruction Conference, modified by each Contractor as required and used as the basis in preparing the Comprehensive Project Construction Schedule. The Comprehensive Project Construction Schedule will be prepared by the Developer's General Contractor.

- B. Project Construction Schedule: The Contractors (Precast, Plumbing, HVAC, Electrical and NRP/TS held subcontractors) shall prepare and submit for approval a fully developed, horizontal bar-chart-type, construction schedule prior to the start of Work. The schedule shall be reviewed and approved by all Contractors prior to completion of the baseline schedule.
1. The Project Construction Schedule shall be used to measure the progress of the work and to provide the basis of all progress payments.
 2. The use of Critical Path Method ("CPM") network calculations shall be used to generate the Project Construction Schedule.
 3. The schedule shall include the appropriate level of detail as required by City, Construction Manager, Developer's General Contractor and Architect/Engineer Team. Failure to develop or update the schedule as specified by City's Architect/Engineer Team will result in disapproval of the schedule.
 4. All major items of Work shall be shown as individual activities.
 5. All sequencing and interrelationships between activities must be shown.
 6. Activity durations shall be accurate, with none longer than 20 working days.
 7. Permit acquisitions must be shown as unique activities.
 8. Submittal dates, review periods, shop drawing approval dates, procurement activities (order dates, deliveries, etc.), shall be shown as unique activities.
 9. The project schedule shall be cost loaded utilizing the schedule of values.
 10. Close-out documents shall be shown on the schedule.
 11. Activities shall be categorized by work areas, phase of work, responsibility or as determined by City's Architect/Engineer Team.
 12. The Project Construction Schedule shall be computer generated, neatly organized and free of hand-written notes.
 13. The Project Construction Schedule shall be printed in color on white paper.
 14. A copy of each Contractor's Project Construction Schedule is to be available on the project site at all times and presented to City, Construction Manager, Developer's General Contractor or Architect/Engineer Team upon request.
- C. Developer's General Contractor will update the overall Project Construction Schedule regularly and bring copies of the current schedule to each progress meeting. The schedule will be discussed and all Contractors will be responsible for updating their portions of the schedule and providing the information to City, Construction Manager, Developer's General Contractor and Architect/Engineer Team within three (3) days after each progress meeting.
- D. In addition to the Project Construction Schedule, two days prior to every progress meeting, based on the current approved Project Construction Schedule, each Contractor shall submit a "look ahead" schedule for all trades showing all scheduled activities for the following two weeks and a report of progress since the previous progress meeting. The Developer's General Contractor is responsible for reviewing these schedules and coordinating them with all Contractors.
- E. If it is determined by City's Construction Manager that the project is not on schedule, the Contractor will be informed of such and shall prepare a Recovery Schedule within three

(3) days. The Recovery Schedule shall clearly indicate how the Contractor plans to complete the project on time. Contractor shall provide at his own cost all necessary resources (labor, equipment, overtime, premium cost, etc.) to recover any delays of lost time required to meet the next milestone. No such cost will be charged to the City under any circumstances.

- F. All schedules are to be created using Primavera Project Planner (latest version) and made available to City's Construction Manager in digital format upon request.
- G. Any deviation from the Project Construction Schedule shall only be with the approval of City's Construction Manager.
- H. A copy of the current Project Construction Schedule, accurately showing all progress to date, shall be submitted with each Application for Payment.

1.4 PROJECT MILESTONES

- A. As a minimum, all applicable milestones from the Section 00 31 13 "Preliminary Schedule" shall be incorporated into the Contractor's schedule submissions:
- B. Liquidated Damages: Failure to complete the Work by the date indicated as "Substantial Completion" and "Final Completion" shall result in the enforcement of liquidated damages according to Schedule A to the General Agreement and Addendum to Section C - General Agreement.

PART 2 - PRODUCTS (Not Applicable)

PART 3 - EXECUTION (Not Applicable)

END OF SECTION 01 13 10

SECTION 01 26 00 - CONTRACT MODIFICATION PROCEDURES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. This Section specifies administrative and procedural requirements for handling and processing contract modifications.
- B. Related Requirements:
 - 1. Division 01 Section "Submittal Procedures" for requirements for Contractor's Construction Schedule.
 - 2. Division 01 Section "Payment Procedures" for administrative procedures governing applications for payment.
 - 3. Division 01 Section "Product Substitution Procedures" for administrative procedures for handling requests for substitutions made after award of Contract.

1.3 MINOR CHANGES IN THE WORK

- A. Engineer will issue through Construction Manager supplemental instructions authorizing minor changes in the Work, not involving adjustment to the Contract Sum or the Contract Time, on AIA Document G710.

1.4 PROPOSAL REQUESTS

- A. City-Initiated Proposal Requests: Engineer/Architect and Construction Manager proposed changes in Work that will require adjustment to Contract Sum or Contract Time will be issued by Engineer/Architect, with detailed description of proposed change and supplemental or revised Drawings and Specifications, if necessary.
 - 1. Work Change Proposal Requests issued by Engineer/Architect and Construction Manager are not instructions either to stop work in progress or to execute the proposed change.
 - 2. Within time specified in Proposal Request or 20 days, when not otherwise specified, after receipt of Proposal Request, submit a quotation estimating cost adjustments to the Contract Sum and the Contract Time necessary to execute the change.

- a. Include list of quantities of products required or eliminated and unit costs, with total amount of purchases and credits to be made. If requested, furnish survey data to substantiate quantities.
 - b. Indicate applicable taxes, delivery charges, equipment rental, and amounts of trade discounts.
 - c. Include costs of labor and supervision directly attributable to the change.
 - d. Include statement indicating effect proposed change in Work will have on Contract Time.
- B. Contractor-Initiated Change Order Proposal Requests: If latent or changed conditions require modifications to the Contract, Contractor may initiate a claim by submitting a request for a change to Engineer/Architect and construction manager.
1. Include a statement outlining reasons for the change and the effect of the change on the Work. Provide a complete description of the proposed change. Indicate the effect of the proposed change on the Contract Sum and the Contract Time.
 2. Include a list of quantities of products required or eliminated and unit costs, with total amount of purchases and credits to be made. If requested, furnish survey data to substantiate quantities.
 3. Indicate applicable taxes, delivery charges, equipment rental, and amounts of trade discounts.
 4. Include costs of labor and supervision directly attributable to the change.
 5. Submit request no later than 10 working days after discovery of condition.
 6. Include an updated Contractor's construction schedule that indicates the effect of the change, including, but not limited to, changes in activity duration, start and finish times, and activity relationship. Use available total float before requesting an extension of the Contract Time.
 7. Comply with requirements in Division 01, Section "Contract Modification Procedures" if the proposed change requires substitution of one product or system for product or system specified.
- C. Proposal Request Form: Use AIA Document G709 form acceptable to Engineer.

1.5 ADMINISTRATIVE CHANGE ORDERS

- A. Allowance Adjustment: See Division 01, Section "Allowances" for administrative procedures for preparation of Change Order Proposal for adjusting the Contract Sum to reflect actual costs of allowances.

1.6 CHANGE ORDER PROCEDURES

- A. On City's approval of a Work Change Proposal Request, Engineer/Architect will issue a Change Order for signatures of City and Contractor on AIA Document G701, as provided in conditions of contract.

PART 2 - PRODUCTS (NOT APPLICABLE)

PART 3 - EXECUTION (NOT APPLICABLE)

END OF SECTION 01 26 00

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SECTION 01 29 00 - PAYMENT PROCEDURES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. This Section specifies administrative and procedural requirements necessary to prepare and process Applications for Payment.
- B. Related Requirements:
 - 1. Division 01 Section "Contract Modification Procedures" for administrative procedures for handling changes to the Contract.

1.3 DEFINITIONS

- A. Schedule of Values: A statement furnished by Contractor allocating portions of the Contract Sum to various portions of the Work and used as the basis for reviewing Contractor's Applications for Payment.

1.4 SCHEDULE OF VALUES

- A. Coordination: Coordinate preparation of the Schedule of Values with preparation of Contractor's Construction Schedule.
 - 1. Correlate line items in the Schedule of Values with items required to be indicated as separate activities in Contractor's construction schedule, including the following:
 - a. Application for Payment forms with Continuation Sheets.
 - b. Submittals Schedule.
 - 2. Submit the Schedule of Values to Engineer through Construction Manager at earliest possible date but no later than seven days before the date scheduled for submittal of initial Applications for Payment.
- B. Format and Content: Use the Project Manual table of contents as a guide to establish line items for the Schedule of Values.
 - 1. Identification: Include the following Project identification on the Schedule of Values:

- a. Project name and location.
 - b. Name of Engineer.
 - c. Engineer's project number.
 - d. Contractor's name and address.
 - e. Date of submittal.
2. Arrange schedule of values consistent with format of AIA Document G703
3. Arrange the Schedule of Values in tabular form with separate columns to indicate the following for each item listed:
 - a. Related Specification Section or Division.
 - b. Description of the Work.
 - c. Name of subcontractor.
 - d. Name of manufacturer or fabricator.
 - e. Name of supplier.
 - f. Change Orders (numbers) that affect value.
 - g. Dollar value.
 - 1) Percentage of the Contract Sum to nearest one-hundredth percent, adjusted to total 100 percent. Round amounts to nearest whole dollar; total shall equal the Contract Sum.
4. Provide a breakdown of the Contract Sum in enough detail to facilitate continued evaluation of Applications for Payment and progress reports. Coordinate with the Project Manual table of contents. Provide several line items for principal subcontract amounts in excess of five percent of the Contract Sum. **Schedule of Values shall list the installed value for component parts of the Work in sufficient detail to serve as a basis for computing values for substantiating progress payments.**
5. **Include separate line items for Mobilization, Shop Drawings/Submittals, Punch List and Project Close-out.**
6. **Provide separate line items on the Schedule of Values for cost of the materials, labor, and for total installed value of that part of the Work.**
7. Provide a separate line item in the Schedule of Values for each part of the Work where Applications for Payment may include materials or equipment purchased or fabricated and stored, but not yet installed.
 - a. Differentiate between items stored on-site and items stored off-site. Include evidence of insurance or bonded warehousing if required.
8. Provide separate line items in the Schedule of Values for initial cost of materials, for each subsequent stage of completion, and for total installed value of that part of the Work.
9. Allowances: Provide a separate line item in the Schedule of Values for each allowance. Show line-item value of unit-cost allowances, as a product of the unit cost, multiplied by measured quantity. Use information indicated in the Contract Documents to determine quantities.
10. Overhead Costs: Include total cost and proportionate share of general overhead and profit for each line item.

11. Closeout Costs. Include separate line items under Contractor and principal subcontracts for Project closeout requirements in an amount totaling five percent of the Contract Sum and subcontract amount.
12. Schedule of Values Revisions: Revise the schedule of values when Change Orders or Construction Change Directives result in a change in the Contract Sum. Include at least one separate line item for each Change Order and Construction Change Directive.

1.5 APPLICATIONS FOR PAYMENT

- A. Each Application for Payment following the initial Application for Payment shall be consistent with previous applications and payments as certified by Engineer and Construction Manager and paid for by City.
- B. Payment Application Times: The date for each progress payment is indicated in the Agreement between City and Contractor. The period of construction work covered by each Application for Payment is the period indicated in the Agreement.
- C. Payment Application Times: Submit Application for Payment to **Construction Manager and Engineer** by the **21st** of the month. The period covered by each Application for Payment is one month, ending on the last day of the month.
 1. Submit draft copy of Application for Payment seven days prior to due date for review.
- D. Application for Payment Forms: Use AIA Document G732 and AIA Document G703 as form for Applications for Payment. **Provide updated and approved Contractor's Construction Schedule (CPM Schedule) as per the Contract Documents as part of each Application for Payment.**
- E. **Provide updated Schedule of LBE, MBE and WBE participation as per the Contract Documents with each Application for Payment.**
- F. Application Preparation: Complete every entry on form. Notarize and execute by a person authorized to sign legal documents on behalf of Contractor. Architect/Engineer, Construction Manager will return incomplete applications without action.
 1. Entries shall match data on the Schedule of Values and Contractor's Construction Schedule. Use updated schedules if revisions were made.
 2. Include amounts of Change Orders and Construction Change Directives issued before last day of construction period covered by application.
 3. Indicate separate amounts for work being carried out under City-requested project acceleration.
- G. Stored Materials: Include in Application for Payment amounts applied for materials or equipment purchased or fabricated and stored, but not yet installed. Differentiate between items stored on-site and items stored off-site.

1. Provide certificate of insurance, evidence of transfer of title to City, and consent of surety to payment for stored materials.
 2. Provide supporting documentation that verifies amount requested, such as paid invoices. Match amount requested with amounts indicated on documentation; do not include overhead and profit on stored materials.
 3. Provide summary documentation for stored materials indicating the following:
 - a. Value of materials previously stored and remaining stored as of date of previous Applications for Payment.
 - b. Value of previously stored materials put in place after date of previous Application for Payment and on or before date of current Application for Payment.
 - c. Value of materials stored since date of previous Application for Payment and remaining stored as of date of current Application for Payment.
- H. Transmittal: Submit 3 signed and notarized original copies of each Application for Payment to Engineer, Construction Manager by a method ensuring receipt within 24 hours. One copy shall include waivers of lien and similar attachments if required.
1. Transmit each copy with a transmittal form listing attachments and recording appropriate information about application.
- I. Waivers of Mechanic's Lien: With each Application for Payment, submit waivers of mechanic's lien from entities lawfully entitled to file a mechanic's lien arising out of the Contract and related to the Work covered by the payment.
1. Submit partial waivers on each item for amount requested in previous application, after deduction for retainage, on each item.
 2. When an application shows completion of an item, submit conditional final or full waivers.
 3. City reserves the right to designate which entities involved in the Work must submit waivers.
 4. Waiver Delays: Submit each Application for Payment with Contractor's waiver of mechanic's lien for construction period covered by the application.
 - a. Submit final Application for Payment with or preceded by final waivers from every entity involved with performance of the Work covered by the application who is lawfully entitled to a lien.
 5. Waiver Forms: Submit waivers of lien on forms, executed in a manner acceptable to City.
- J. Initial Application for Payment: Administrative actions and submittals that must precede or coincide with submittal of first Application for Payment include the following:
1. List of subcontractors.
 2. Schedule of Values.
 3. Contractor's Construction Schedule (preliminary if not final).
 4. Products list.
 5. Schedule of unit prices.
 6. Submittals Schedule (preliminary if not final).

7. List of Contractor's staff assignments.
 8. List of Contractor's principal consultants.
 9. Copies of building permits.
 10. Copies of authorizations and licenses from authorities having jurisdiction for performance of the Work.
 11. Initial progress report.
 12. Report of preconstruction conference.
 13. Certificates of insurance and insurance policies.
 14. Performance and payment bonds.
 15. Data needed to acquire City's insurance.
 16. Initial settlement survey and damage report if required.
- K. Application for Payment at Substantial Completion: After issuing the Certificate of Substantial Completion, submit an Application for Payment showing 100 percent completion for portion of the Work claimed as substantially complete.
1. Include documentation supporting claim that the Work is substantially complete and a statement showing an accounting of changes to the Contract Sum.
 2. This application shall reflect Certificates of Partial Substantial Completion issued previously for City occupancy of designated portions of the Work.
- L. Final Payment Application: Submit final Application for Payment with releases and supporting documentation not previously submitted and accepted, including, but not limited, to the following:
1. Evidence of completion of Project closeout requirements.
 2. Insurance certificates for products and completed operations where required and proof that taxes, fees, and similar obligations were paid.
 3. Updated final statement, accounting for final changes to the Contract Sum.
 4. AIA Document G706, "Contractor's Affidavit of Payment of Debts and Claims."
 5. AIA Document G706A, "Contractor's Affidavit of Release of Liens."
 6. AIA Document G707, "Consent of Surety to Final Payment."
 7. Evidence that claims have been settled.
 8. Final meter readings for utilities, a measured record of stored fuel, and similar data as of date of Substantial Completion or when City took possession of and assumed responsibility for corresponding elements of the Work.
 9. Final, liquidated damages settlement statement.

PART 2 - PRODUCTS (NOT APPLICABLE)

PART 3 - EXECUTION (NOT APPLICABLE)

END OF SECTION 01 29 00

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SECTION 01 31 00 - PROJECT MANAGEMENT AND COORDINATION

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. This 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. RFIs.
 - 4. Digital project management procedures.
 - 5. Project meetings.
- B. Each contractor shall participate in coordination requirements. Certain areas of responsibility will be assigned to a specific contractor.
- C. Related Sections: The following Sections contain requirements that relate to this Section:
 - 1. Division 01 Section "Closeout Procedures" for coordinating Contract closeout.
 - 2. Division 01 Section "Coordination" for additional coordination requirements

1.3 DEFINITIONS

- A. BIM: Building Information Modeling.
- B. RFI: Request for Information. Request from City, Construction Manager, Engineer/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, telephone number, and email address of entity performing subcontract or supplying products.
 - 2. Number and title of related Specification Section(s) covered by subcontract.

3. Drawing number and detail references, as appropriate, covered by subcontract.
- B. Key Personnel Names: Within 15 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 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. Post copies of list in project meeting room, in temporary field office, in web-based Project software directory, and in prominent location in each built facility. Keep list current at all times.

1.5 COORDINATION

- 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 accessibility for required maintenance, service, and repair.
 3. Make adequate provisions to accommodate items scheduled for later installation.
- B. If necessary, 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 City 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 scheduled 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.

- D. See Section 01 11 40 Coordination for additional requirements.

1.6 REQUEST FOR INFORMATION (RFI)

- A. General: Immediately on discovery of the need for additional information, clarification, or interpretation of the Contract Documents, Contractor shall prepare and submit an RFI in the form specified.
1. Engineer will return without response those RFIs submitted to Engineer by other entities controlled by Contractor.
 2. Coordinate and submit RFIs in a prompt manner so as to avoid delays in Contractor's work or work of subcontractors.
- B. Content of the RFI: Include a detailed, legible description of item needing information or interpretation and the following:
1. Project name.
 2. Project number.
 3. Date.
 4. Name of Contractor.
 5. Name of Engineer/Architect and Construction Manager.
 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: Software-generated form with substantially the same content as indicated above, acceptable to Engineer.
1. Attachments shall be electronic files in PDF format.
- D. Engineer/Architect and Construction Manager Action: Engineer/Architect and Construction Manager will review each RFI, determine action required, and respond. Allow seven working days for response for each RFI. RFIs received after 1:00 p.m. will be considered as received the following working day.
1. The following Contractor-generated RFIs will be returned without action:
 - a. Requests for approval of submittals.

- b. Requests for approval of substitutions.
 - c. Requests for approval of Contractor's means and methods.
 - d. Requests for coordination information already indicated in the Contract Documents.
 - e. Requests for adjustments in the Contract Time or the Contract Sum.
 - f. Requests for interpretation of Engineer's actions on submittals.
 - g. Incomplete RFIs or inaccurately prepared RFIs.
 2. Engineer's/Architect's action may include a request for additional information, in which case Engineer's/Architect's time for response will date from time of receipt by Engineer of additional information.
 3. Engineer's/Architect's action on RFIs that may result in a change to the Contract Time or the Contract Sum may be eligible for Contractor to submit Change Proposal according to Division 01, Section "Contract Modification Procedures."
 - a. If Contractor believes the RFI response warrants change in the Contract Time or the Contract Sum, notify Engineer/Architect and Construction Manager in writing within 10 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. Use software log that is part of web-based Project software.
 1. Project name.
 2. Name and address of Contractor.
 3. Name and address of Engineer/Architect and Construction Manager.
 4. RFI number including RFIs that were returned without action or withdrawn.
 5. RFI description.
 6. Date the RFI was submitted.
 7. Date Engineer's/Architect's and Construction Manager response was received.
- F. On receipt of Engineer's/Architect's and Construction Manager's action, update the RFI log and immediately distribute the RFI response to affected parties. Review response and notify Engineer/Architect and Construction Manager within seven days if Contractor disagrees with response.

1.7 DIGITAL PROJECT MANAGEMENT PROCEDURES

- A. Use of Engineer's Digital Data Files: Digital data files of Engineer's BIM model OR CAD drawings will be provided by Engineer for Contractor's use during construction.
 1. Digital data files may be used by Contractor in preparing coordination drawings, Shop Drawings, and Project record Drawings.
 2. Engineer makes no representations as to the accuracy or completeness of digital data files as they relate to Contract Drawings.
 3. Digital Drawing Software Program: Contract Drawings are available in <Insert name and version of digital drawing software program and operating system>.
 4. Contractor shall execute a data licensing agreement in the form of Agreement form acceptable to City and Engineer.

- a. Subcontractors, and other parties granted access by Contractor to Engineer's digital data files shall execute a data licensing agreement in the form of Agreement acceptable to City and Engineer.
 5. The following digital data files will be furnished for each appropriate discipline:
 - a. Floor plans.
- B. Web-Based Project Software: Use Construction Manager's web-based Project software site for purposes of hosting and managing Project communication and documentation until Final Completion.
 1. Web-based Project software site includes, at a minimum, the following features:
 - a. Compilation of Project data, including Contractor, subcontractors, Engineer, engineer's consultants, City, and other entities involved in Project. Include names of individuals and contact information.
 - b. Access control for each entity for each workflow process, to determine entity's digital rights to create, modify, view, and print documents.
 - c. Document workflow planning, allowing customization of workflow between project entities.
 - d. Creation, logging, tracking, and notification for Project communications required in other Specification Sections, including, but not limited to, RFIs, submittals, Minor Changes in the Work, Construction Change Directives, and Change Orders.
 - e. Track status of each Project communication in real time, and log time and date when responses are provided.
 - f. Procedures for handling PDFs or similar file formats, allowing markups by each entity. Provide security features to lock markups against changes once submitted.
 - g. Processing and tracking of payment applications.
 - h. Processing and tracking of contract modifications.
 - i. Creating and distributing meeting minutes.
 - j. Document management for Drawings, Specifications, and coordination drawings, including revision control.
 - k. Management of construction progress photographs.
 - l. Mobile device compatibility, including smartphones and tablets.
 2. At completion of Project, provide digital archive in format that is readable by common desktop software applications in format acceptable to Engineer. Provide data in locked format to prevent further changes.
- C. PDF Document Preparation: Where PDFs are required to be submitted to Engineer, prepare 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.

3. Certifications: Where digitally submitted certificates and certifications are required, provide a digital signature with digital certificate on where indicated.

1.8 PROJECT MEETINGS

- A. General: Schedule and conduct meetings and conferences at Project site, unless otherwise indicated.
 1. Attendees: Inform participants and others involved, and individuals whose presence is required, of date and time of each meeting. Notify City and Engineer of scheduled meeting dates and times.
 2. Agenda: Prepare the meeting agenda. Distribute the agenda to all invited attendees.
 3. Minutes: Entity responsible for conducting meeting will record significant discussions and agreements achieved. Distribute the meeting minutes to everyone concerned, including City, Construction Manager, Engineer/Architect and contractor, within 3 days of the meeting.
- B. Preconstruction Conference: Construction Manager will schedule and conduct a preconstruction conference before starting construction, at a time convenient to City and Engineer, but no later than 15 days after execution of the Agreement.
 1. Attendees: Authorized representatives of City Engineer, Construction manager, Engineer/Architect, and their consultants; Contractor and its superintendent; major subcontractors; suppliers; and other concerned parties shall attend the conference. Participants at the conference shall be familiar with Project and authorized to conclude matters relating to the Work.
 2. Agenda: Discuss items of significance that could affect progress, including the following:
 - a. Tentative construction schedule.
 - b. Phasing.
 - c. Critical work sequencing and long lead items.
 - d. Designation of key personnel and their duties.
 - e. Procedures for processing field decisions and Change Orders.
 - f. Procedures for processing Applications for Payment.
 - g. Distribution of the Contract Documents.
 - h. Submittal procedures.
 - i. Preparation of Record Documents.
 - j. Use of the premises.
 - k. Responsibility for temporary facilities and controls.
 - l. Parking availability.
 - m. Office, work, and storage areas.
 - n. Equipment deliveries and priorities.
 - o. First aid.
 - p. Security.
 - q. Progress cleaning.
 - r. Working hours.

- C. Preinstallation Conferences: Conduct a preinstallation conference at Project site before each construction activity when required by other sections and when required for coordination with other construction.
1. Attendees: Installer and representatives of manufacturers and fabricators involved in or affected by the installation and its coordination or integration with other materials and installations that have preceded or will follow, shall attend the meeting. Advise Engineer of scheduled meeting dates.
 2. Agenda: Review progress of other construction activities and preparations for the particular activity under consideration, including requirements for the following:
 - a. Contract Documents.
 - b. Options.
 - c. Related Change Orders.
 - d. Purchases.
 - e. Deliveries.
 - f. Submittals.
 - g. Review of mockups.
 - h. Possible conflicts.
 - i. Compatibility requirements.
 - j. Time schedules.
 - k. Weather limitations.
 - l. Manufacturer's written instructions.
 - m. Warranty requirements.
 - n. Compatibility of materials.
 - o. Acceptability of substrates.
 - p. Temporary facilities and controls.
 - q. Space and access limitations.
 - r. Regulations of authorities having jurisdiction.
 - s. Testing and inspecting requirements.
 - t. Required performance results.
 - u. Protection of construction and personnel.
 3. Record significant conference discussions, agreements, and disagreements.
 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: Engineer will conduct progress meetings at bi-weekly intervals.
1. Attendees: In addition to representatives of City and Engineer, each contractor, subcontractor, supplier, and other entity concerned with current progress or involved in planning, coordination, or performance of future activities shall be represented at these meetings. All participants at the conference shall be familiar with Project and authorized to conclude matters relating to the Work.
 2. Agenda: Review and correct or approve minutes of 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: Contractor to 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. Schedule to be provided at all bi-weekly progress meetings.
 - 1) Review schedule for next period.
- b. Review present and future needs of each entity present, including the following:
 - 1) Interface requirements.
 - 2) Sequence of operations.
 - 3) Status of submittals.
 - 4) Deliveries.
 - 5) Off-site fabrication.
 - 6) Access.
 - 7) Site use.
 - 8) Temporary facilities and controls.
 - 9) Progress cleaning.
 - 10) Quality and work standards.
 - 11) Status of correction of deficient items.
 - 12) Field observations.
 - 13) Status of RFIs.
 - 14) Status of Proposal Requests.
 - 15) Pending changes.
 - 16) Status of Change Orders.
 - 17) Pending claims and disputes.
 - 18) Documentation of information for payment requests.
3. Minutes: Entity responsible for conducting the meeting will record and distribute the meeting minutes to each party present and to parties requiring information.
 - a. Schedule Updating: Revise Contractor's construction schedule after each progress meeting where revisions to the schedule have been made or recognized. Issue revised schedule concurrently with the report of each meeting.
- A. Coordination Meetings: Contractor to conduct project coordination meetings at regular intervals. 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 City, Construction Manager and Architect/Engineer, 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. Combined Contractor's Construction Schedule: Review progress since the last coordination meeting. Determine whether each contract is on time, ahead of schedule, or behind schedule, in relation to combined Contractor's construction schedule. Determine how construction behind schedule will be expedited; secure commitments from parties involved to do so. Discuss whether schedule revisions are required to ensure that current and subsequent activities will be completed within the Contract Time.
 - b. Schedule Updating: Revise combined Contractor's construction schedule after each coordination meeting where revisions to the schedule have been made or recognized. Issue revised schedule concurrently with report of each meeting.
 - c. Review present and future needs of each contractor present, including the following:
 - 1) Interface requirements.
 - 2) Sequence of operations.
 - 3) Status of submittals.
 - 4) Deliveries.
 - 5) Off-site fabrication.
 - 6) Access.
 - 7) Site use.
 - 8) Temporary facilities and controls.
 - 9) Work hours.
 - 10) Hazards and risks.
 - 11) Progress cleaning.
 - 12) Quality and work standards.
 - 13) Change Orders.
3. Reporting: Record meeting results and distribute copies to everyone in attendance and to others affected by decisions or actions resulting from each meeting.

PART 2 - PRODUCTS (NOT APPLICABLE)

PART 3 - EXECUTION (NOT APPLICABLE)

END OF SECTION 01 31 00

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SECTION 01 33 00 - SUBMITTAL PROCEDURES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. This Section includes requirements for the submittal schedule and administrative and procedural requirements for submitting Shop Drawings, Product Data, Samples, and other submittals.
- B. Related Requirements:
 - 1. Division 01 Section "Payment Procedures" For submitting Applications for Payment and the schedule of values.
 - 2. Division 01 Section "Project Management and Coordination" for submitting coordination drawings and subcontract list and for requirements for web-based Project software.
 - 3. Division 01 Section "Quality Requirements" for submitting test and inspection reports and schedule of tests and inspections and for erecting mockups.
 - 4. Division 01 Section "Closeout Procedures" for submitting closeout submittals and maintenance material submittals.
 - 5. Division 01 Section "Project Record Documents" for submitting Record Drawings, Record Specifications, and Record Product Data.
 - 6. Division 01 Section "Operation and Maintenance Data" for operation and maintenance manual requirements.
 - 7. Division 01 Section "Demonstration and Training" for submitting video recordings of demonstration of equipment and training of City's personnel.

1.3 DEFINITIONS

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

- C. Portable Document Format (PDF): An open standard file format licensed by Adobe Systems used for representing documents in a device-independent and display resolution-independent fixed-layout document format.

1.4 SUBMITTAL SCHEDULE

- A. Submittal Schedule: Submit a schedule of submittals, arranged in chronological order by dates required by construction schedule. Include time required for review, ordering, manufacturing, fabrication, and delivery when establishing dates. Include additional time required for making corrections or revisions to submittals noted by Engineer/Architect and Construction Manager's and additional time for handling and reviewing submittals required by those corrections.
1. Coordinate submittal schedule with list of subcontracts, the schedule of values, and Contractor's construction schedule.
 2. Initial Submittal: Submit concurrently with startup construction schedule. Include submittals required during the first 60 days of construction. List those submittals 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.
 - a. Submit revised submittal schedule to reflect changes in current status and timing for submittals.
 4. Format: Arrange the following information in a tabular format:
 - a. Scheduled date for first submittal.
 - b. Specification Section number and title.
 - c. Submittal category: Action; informational.
 - d. Name of subcontractor.
 - e. Description of the Work covered.
 - f. Scheduled date for Engineer's/Architect's and Construction Manager's final release or approval.
 - g. Scheduled date of fabrication.

1.5 SUBMITTAL FORMATS

- A. Submittal Information: Include the following information in each submittal:
1. Project name.
 2. Date.
 3. Name of Engineer/Architect.
 4. Name of Construction Manager.
 5. Name of Contractor.
 6. Name of firm or entity that prepared submittal.
 7. Names of subcontractor, manufacturer, and supplier.

8. Unique submittal number, including revision identifier. Include Specification Section number with sequential alphanumeric identifier; and alphanumeric suffix for resubmittals.
 9. Category and type of submittal.
 10. Submittal purpose and description.
 11. Number and title of Specification Section, with paragraph number and generic name for each of multiple items.
 12. Drawing number and detail references, as appropriate.
 13. Indication of full or partial submittal.
 14. Location(s) where product is to be installed, as appropriate.
 15. Signature of transmitter.
- B. Options: Identify options requiring selection by Engineer/Architect.
- C. Deviations and Additional Information: On each submittal, clearly indicate deviations from requirements in the Contract Documents, including minor variations and limitations; include relevant additional information and revisions, other than those requested by Engineer/Architect and Construction Manager's on previous submittals. Indicate by highlighting on each submittal or noting on attached separate sheet.
- D. PDF Submittals: Prepare submittals as PDF package, incorporating complete information into each PDF file. Name PDF file with submittal number.
- E. Submittals for Web-Based Project Software: Prepare submittals as PDF files, or other format indicated by Project software website.

1.6 SUBMITTAL PROCEDURES

- A. Engineer's/Architect's Digital Data Files: Electronic digital data files of the Contract Drawings will be provided by Engineer/Architect for Contractor's use in preparing submittals.
1. Upon written request by the Contractor and execution of associated disclaimer forms and related documentation, the Contract Drawings will be provided to the Contractor for use in preparation of record drawings and submittals. Drawing files will be transmitted one time to the Contractor at the start of construction. This version of the drawings is provided only as a courtesy and convenience and Engineer/Architect makes no representations as to their accuracy or completeness as they relate to the Contract Documents.
- B. Prepare and submit submittals required by individual Specification Sections. Types of submittals are indicated in individual Specification Sections.
1. Email: Prepare submittals as PDF package, and transmit to Engineer/Architect by sending via email. Include PDF transmittal form. Include information in email subject line as requested by Engineer/Architect.

- a. Engineer/Architect, through Construction Manager will return annotated file. Annotate and retain one copy of file as a digital Project Record Document file.
2. Web-Based Project Software: Prepare submittals in PDF form, and upload to web-based Project software website. Enter required data in web-based software site to fully identify submittal.
- C. 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 submittals for related parts of the Work specified in different Sections so processing will not be delayed because of need to review submittals concurrently for coordination.
 - a. Engineer/Architect and Construction Manager reserves the right to withhold action on a submittal requiring coordination with other submittals until related submittals are received.
- D. Processing Time: Allow enough time for submittal review, including time for resubmittals, as follows. Time for review shall commence on Engineer's/Architect's receipt of submittal. No extension of the Contract Time will be authorized because of failure to transmit submittals enough in advance of the Work to permit processing, including resubmittals.
 1. Initial Review: Allow 15 days for initial review of each submittal. Allow additional time if coordination with subsequent submittals is required. Engineer/Architect will advise Contractor when a submittal being processed must be delayed for coordination.
 2. Intermediate Review: If intermediate submittal is necessary, process it in same manner as initial submittal.
 3. Resubmittal Review: Allow 15 days for review of each resubmittal.
 4. Sequential Review: Where sequential review of submittals by Engineer's/Architect's consultants, City, or other parties is indicated, allow 21 days for initial review of each submittal.
 5. Concurrent Consultant Review: Where the Contract Documents indicate that submittals may be transmitted simultaneously to Engineer/Architect and to their consultants, allow 15 days for review of each submittal. Submittal will be returned to construction manager through engineer/Architect before being returned to contractor

Plant-Precast Structural Concrete

Fire Protection
Lighting
Emergency Generating System - Standby
Communications

- E. Resubmittals: Engineer/Architect will review each of Contractor's submittals the initial time and, should resubmittal be required, one additional time to verify that reasons for resubmittal have been addressed by Contractor and corrections made. Resubmittal changes/revisions/corrections shall be circled. Engineer/Architect will review only circled items and will not be responsible for non-circled changes/revisions/corrections and additions. Should additional resubmittals be required, Contractor shall reimburse City for all costs incurred, including the cost of Engineer's/Architect's services made necessary to review such additional resubmittals. City will in turn reimburse Engineer/Architect.
1. Make resubmittals in same form and number of copies as initial submittal.
 - a. Note date and content of previous submittal.
 - b. Note date and content of revision in label or title block and clearly indicate extent of revision.
 - c. Resubmit submittals until they are marked with approval notation from Engineer's/Architect's and Construction Manager's action stamp.
- F. Distribution: Furnish copies of final submittals to manufacturers, subcontractors, suppliers, fabricators, installers, authorities having jurisdiction, and others as necessary for performance of construction activities. Show distribution on transmittal forms.
- G. Use for Construction: Retain complete copies of submittals on Project site. Use only final action submittals that are marked with approval notation from Engineer's/Architect's and Construction Manager's action stamp.

1.7 SUBMITTAL REQUIREMENTS

- A. Product Data: Collect information into a single submittal for each element of construction and type of product or equipment.
1. If information must be specially prepared for submittal because standard published data are unsuitable for use, submit as Shop Drawings, not as Product Data.
 2. Mark each copy of each submittal to show which products and options are applicable.
 3. Include the following information, as applicable:
 - a. Manufacturer's catalog cuts.
 - b. Manufacturer's product specifications.
 - c. Standard color charts.
 - d. Statement of compliance with specified referenced standards.
 - e. Testing by recognized testing agency.
 - f. Application of testing agency labels and seals.
 - g. Notation of coordination requirements.

- h. Availability and delivery time information.
 - i. Mill Reports
 - 4. For equipment, include the following in addition to the above, as applicable:
 - a. Wiring diagrams that show factory-installed wiring.
 - b. Printed performance curves.
 - c. Operational range diagrams.
 - d. Clearances required to other construction, if not indicated on accompanying Shop Drawings.
 - 5. Submit Product Data before Shop Drawings, and before or concurrent with Samples.
- B. Shop Drawings: Prepare Project-specific information, drawn accurately to scale. Do not base Shop Drawings on reproductions of the Contract Documents or standard printed data unless submittal based on Engineer's/Architect's digital data drawing files is otherwise permitted.
- 1. Preparation: Fully illustrate requirements in the Contract Documents. Include the following information, as applicable:
 - a. Identification of products.
 - b. Schedules.
 - c. Compliance with specified standards.
 - d. Notation of coordination requirements.
 - e. Notation of dimensions established by field measurement.
 - f. Relationship and attachment to adjoining construction clearly indicated.
 - g. Seal and signature of professional engineer if specified.
 - 2. Paper Sheet Size: Except for templates, patterns, and similar full-size Drawings, submit Shop Drawings on sheets at least 8-1/2 by 11 inches, but no larger than 30 by 40 inches.
 - a. Three paper copies of each submittal. Engineer/Architect and Construction Manager will retain two copies; remainder will be returned.
- C. Samples: Submit Samples for review of kind, color, pattern, and texture for a check of these characteristics with other materials.
- 1. Transmit Samples that contain multiple, related components such as accessories together in one submittal package.
 - 2. Identification: Permanently attach label on unexposed side of Samples that includes the following:
 - a. Project name and submittal number.
 - b. Generic description of Sample.
 - c. Product name and name of manufacturer.
 - d. Sample source.
 - e. Number and title of applicable Specification Section.
 - f. Specification paragraph number and generic name of each item.

3. Email Transmittal: Provide PDF transmittal. Include digital image file illustrating Sample characteristics, and identification information for record.
 4. Web-Based Project Software: Prepare submittals in PDF form, and upload to web-based Project software website. Enter required data in web-based software site to fully identify submittal.
 5. Disposition: Maintain sets of approved Samples at Project site, available for quality-control comparisons throughout the course of construction activity. Sample sets may be used to determine final acceptance of construction associated with each set.
 - a. Samples that may be incorporated into the Work are indicated in individual Specification Sections. Such Samples must be in an undamaged condition at time of use.
 - b. Samples not incorporated into the Work, or otherwise designated as City's property, are the property of Contractor.
 6. Samples for Initial Selection: Submit manufacturer's color charts consisting of units or sections of units showing the full range of colors, textures, and patterns available.
 - a. Number of Samples: Submit one full set(s) of available choices where color, pattern, texture, or similar characteristics are required to be selected from manufacturer's product line. Engineer/Architect through Construction Manager will return submittal with options selected.
 7. Samples for Verification: Submit full-size units or Samples of size indicated, prepared from same material to be used for the Work, cured and finished in manner specified, and physically identical with material or product proposed for use, and that show full range of color and texture variations expected. Samples include, but are not limited to, the following: partial sections of manufactured or fabricated components; small cuts or containers of materials; complete units of repetitively used materials; swatches showing color, texture, and pattern; color range sets; and components used for independent testing and inspection.
 - a. Number of Samples: Submit three sets of Samples. Engineer/Architect and construction manager will retain two Sample sets; remainder will be returned.
 - 1) Submit a single Sample where assembly details, workmanship, fabrication techniques, connections, operation, and other similar characteristics are to be demonstrated.
 - 2) If variation in color, pattern, texture, or other characteristic is inherent in material or product represented by a Sample, submit at least three sets of paired units that show approximate limits of variations.
- D. Product Schedule: As required in individual Specification Sections, prepare a written summary indicating types of products required for the Work and their intended location. Include the following information in tabular form:
1. Type of product. Include unique identifier for each product indicated in the Contract Documents or assigned by Contractor if none is indicated.

2. Manufacturer and product name, and model number if applicable.
 3. Number and name of room or space.
 4. Location within room or space.
- E. Qualification Data: Prepare written information that demonstrates capabilities and experience of firm or person. Include lists of completed projects with project names and addresses, contact information of Engineers/Architect and City and other information specified.
- F. Design Data: Prepare and submit written and graphic information indicating compliance with indicated performance and design criteria in individual Specification Sections. Include list of assumptions and summary of loads. Include load diagrams if applicable. Provide name and version of software, if any, used for calculations. Number each page of submittal.
- G. Certificates:
1. Certificates and Certifications Submittals: Submit a statement that includes signature of entity responsible for preparing certification. Certificates and certifications shall be signed by an officer or other individual authorized to sign documents on behalf of that entity. Provide a notarized signature where indicated.
 2. Qualification Data: Prepare and submit 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 Engineers/Architect and City, and other information specified.
 3. Installer Certificates: Submit written statements on manufacturer's letterhead certifying that Installer complies with requirements in the Contract Documents and, where required, is authorized by manufacturer for this specific Project.
 4. Manufacturer Certificates: Submit written statements on manufacturer's letterhead certifying that manufacturer complies with requirements in the Contract Documents. Include evidence of manufacturing experience where required.
 5. Material Certificates: Submit written statements on manufacturer's letterhead certifying that material complies with requirements in the Contract Documents.
 6. Product Certificates: Submit written statements on manufacturer's letterhead certifying that product complies with requirements in the Contract Documents.
 7. Welding Certificates: Prepare written certification that welding procedures and personnel comply with requirements in the Contract Documents. Submit record of Welding Procedure Specification and Procedure Qualification Record on AWS forms. Include names of firms and personnel certified.
- H. Test and Research Reports:
1. Compatibility Test Reports: Submit reports written by a qualified testing agency, on testing agency's standard form, indicating and interpreting results of compatibility tests performed before installation of product. Include written recommendations for primers and substrate preparation needed for adhesion.

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

1.8 DELEGATED-DESIGN SERVICES

- A. Performance and Design Criteria: Where professional design services or certifications by a design professional are specifically required of Contractor by the Contract Documents, provide products and systems complying with specific performance and design criteria indicated.
 1. If criteria indicated are insufficient to perform services or certification required, submit a written request for additional information to Engineer/Architect.
- B. Delegated-Design Services Certification: In addition to Shop Drawings, Product Data, and other required submittals, submit digitally signed PDF file and 3 paper copies of certificate, signed and sealed by the responsible design professional, for each product and system specifically assigned to Contractor to be designed or certified by a design professional.
 1. Indicate that products and systems comply with performance and design criteria in the Contract Documents. Include list of codes, loads, and other factors used in performing these services.

1.9 REQUESTS FOR INFORMATION

- A. Engineer/Architect reserves the right to reject, unprocessed, any Request for Information (RFI) that the Engineer/Architect, at its sole discretion, deems frivolous.
- B. Engineer/Architect reserves the right to reject, unprocessed, any RFI that the Engineer/Architect, at its sole discretion, deems already answered in the Contract Documents.
- C. RFI process shall not be used for requesting substitutions. Procedures for substitutions are clearly specified elsewhere in the contract documents.

1.10 CONTRACTOR'S REVIEW

- A. Action and Informational Submittals: Review each submittal and check for coordination with other Work of the Contract and compliance with the Contract Documents. Note corrections and field dimensions. Mark with approval stamp before submitting to Engineer/Architect and Construction Manager.
- B. Project Closeout and Maintenance Material Submittals: See Requirements in Division 01 Section "Closeout Procedures."
- C. Contractor's Approval: Indicate Contractor's approval for each submittal with a uniform approval stamp. Include name of reviewer, date of Contractor's approval, and statement certifying that submittal has been reviewed, checked, and approved for compliance with the Contract Documents.
 - 1. Engineer/Architect and Construction Manager will not review submittals received from Contractor that do not have Contractor's review and approval.

1.11 ENGINEER'S/ARCHITECT'S AND CONSTRUCTION MANAGER'S ACTION

- A. General: Engineer/Architect and Construction Manager will not review submittals that do not bear Contractor's approval stamp and will return them without action.
- B. Action Submittals: Engineer/Architect and Construction Manager or its subconsultant will review each submittal, make marks to indicate corrections or revisions required, and return it.
 - 1. PDF Submittals: Engineer/Architect and Construction Manager will indicate, via markup on each submittal, the appropriate action.
 - a. See Division 00, Section "Supplementary Conditions" for description of terminology on Engineer's/Architect's and Construction Manager's Stamp applied via markup to each submittal.
 - 2. Submittals by Web-Based Project Software: Engineer/Architect and Construction Manager will indicate, on Project software website, the appropriate action.

- a. Actions taken by indication on Project software website have the following meanings:
 - 1) See Division 00, Section "Supplementary Conditions" for description of terminology on Engineer's/Architect's and Construction Manager's Stamp.
- C. Informational Submittals: Engineer/Architect and Construction Manager will review each submittal and will not return it, or will return it if it does not comply with requirements. Engineer/Architect and Construction Manager will forward each submittal to appropriate party.
- D. Partial submittals prepared for a portion of the Work will be reviewed when use of partial submittals has received prior approval from Engineer/Architect and Construction Manager.
- E. Incomplete submittals are unacceptable, will be considered nonresponsive, and will be returned for resubmittal without review.
- F. Engineer/Architect and Construction Manager will return without review submittals received from sources other than Contractor.
- G. Submittals not required by the Contract Documents will not be reviewed and may be discarded.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION (NOT USED)

END OF SECTION 01 33 00

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SECTION 01 40 00 - QUALITY CONTROL

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. This Section specifies administrative and procedural requirements for quality control services.
- B. Testing and inspection services are required to verify compliance with requirements specified or indicated. These services do not relieve Contractor of responsibility for compliance with the Contract Document requirements.
 - 1. Specific quality-assurance and quality-control requirements for individual work results are specified in their respective Specification Sections. Requirements in individual Sections may also cover production of standard products.
 - 2. Specified tests, inspections, and related actions do not limit Contractor's other quality-assurance and quality-control procedures that facilitate compliance with the Contract Document requirements.
 - 3. Requirements for Contractor to provide quality-assurance and quality-control services required by Engineer/Architect, City, Construction Manager, or authorities having jurisdiction are not limited by provisions of this Section.
 - 4. Specific test and inspection requirements are not specified in this Section.
- C. Related Requirements:
 - 1. Division 01 Section "Cutting and Patching" specifies requirements for repair and restoration of construction disturbed by inspection and testing activities.
 - 2. Division 01 Section "Submittal Procedures" specifies requirements for development of a schedule of required tests and inspections.

1.3 DEFINITIONS

- A. Experienced: When used with an entity or individual, "experienced" unless otherwise further described means having successfully completed a minimum of five previous projects similar in nature, size, and extent to this Project; being familiar with special requirements indicated; and having complied with requirements of authorities having jurisdiction.

- B. Field Quality-Control Tests: Tests and inspections that are performed on-site for installation of the Work and for completed Work.
- C. Installer/Applicator/Erector: Contractor or another entity engaged by Contractor as an employee, Subcontractor, or Sub-subcontractor, to perform a particular construction operation, including installation, erection, application, assembly, and similar operations.
 - 1. Use of trade-specific terminology in referring to a 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).
- D. Preconstruction Testing: Tests and inspections performed specifically for Project before products and materials are incorporated into the Work, to verify performance or compliance with specified criteria.
- E. Product Tests: Tests and inspections that are performed by a nationally recognized testing laboratory (NRTL) according to 29 CFR 1910.7, by a testing agency accredited according to NIST's National Voluntary Laboratory Accreditation Program (NVLAP), or by a testing agency qualified to conduct product testing and acceptable to authorities having jurisdiction, to establish product performance and compliance with specified requirements.
- F. Source Quality-Control Tests: Tests and inspections that are performed at the source; for example, plant, mill, factory, or shop.
- G. Testing Agency: An entity engaged to perform specific tests, inspections, or both. Testing laboratory shall mean the same as testing agency.
- H. Quality-Assurance Services: Activities, actions, and procedures performed before and during execution of the Work to guard against defects and deficiencies and substantiate that proposed construction will comply with requirements.
- I. Quality-Control Services: Tests, inspections, procedures, and related actions during and after execution of the Work to evaluate that actual products incorporated into the Work and completed construction comply with requirements. Contractor's quality-control services do not include contract administration activities performed by Engineer or Construction Manager.

1.4 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 Engineer/Architect.

1.5 CONFLICTING REQUIREMENTS

- A. **Conflicting Standards and Other Requirements:** If compliance with two or more standards or requirements are specified and the standards or requirements 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 Engineer for direction 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 Engineer for a decision before proceeding.

1.6 ACTION SUBMITTALS

- A. **Shop Drawings:** For integrated exterior mockups.
 - 1. Include plans, sections, and elevations, indicating materials and size of mockup construction.
 - 2. Indicate manufacturer and model number of individual components.
 - 3. Provide axonometric drawings for conditions difficult to illustrate in two dimensions.
- B. **Delegated-Design Services Submittal:** In addition to Shop Drawings, Product Data, and other required submittals, submit a statement signed and sealed by the responsible design professional, for each product and system specifically assigned to Contractor to be designed or certified by a design professional, indicating that the products and systems are in compliance with performance and design criteria indicated. Include list of codes, loads, and other factors used in performing these services.

1.7 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. **Contractor's Statement of Responsibility:** When required by authorities having jurisdiction, submit copy of written statement of responsibility submitted to authorities having jurisdiction before starting work on the following systems:
 - 1. Seismic-force-resisting system, designated seismic system, or component listed in the Statement of Special Inspections.
 - 2. Main wind-force-resisting system or a wind-resisting component listed in the Statement of Special Inspections.

- D. 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.
- E. 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.
- F. Reports: Prepare and submit certified written reports and documents as specified.
- G. Permits, Licenses, and Certificates: For City's record, submit copies of permits, licenses, certifications, inspection reports, releases, jurisdictional settlements, notices, receipts for fee payments, judgments, correspondence, records, and similar documents established for compliance with standards and regulations bearing on performance of the Work.

1.8 REPORTS AND DOCUMENTS

- A. Test and Inspection Reports: Prepare and submit certified written reports specified in other Sections. Include the following:
 - 1. Date of issue.
 - 2. Project title and number.
 - 3. Name, address, telephone number, and email address of testing agency.
 - 4. Dates and locations of samples and tests or inspections.
 - 5. Names of individuals making tests and inspections.
 - 6. Description of the Work and test and inspection method.
 - 7. Identification of product and Specification Section.
 - 8. Complete test or inspection data.
 - 9. Test and inspection results and an interpretation of test results.
 - 10. Record of temperature and weather conditions at time of sample taking and testing and inspection.
 - 11. Comments or professional opinion on whether tested or inspected Work complies with the Contract Document requirements.
 - 12. Name and signature of laboratory inspector.
 - 13. Recommendations on retesting and reinspecting.
- B. Manufacturer's Technical Representative's Field Reports: Prepare written information documenting manufacturer's technical representative's tests and inspections specified in other Sections. Include the following:

1. Name, address, telephone number, and email address 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, telephone number, and email address 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.

1.9 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. As applicable, procure products from manufacturers able to meet qualification requirements, warranty requirements, and technical or factory-authorized service representative requirements.
- C. Fabricator Qualifications: A firm experienced in producing products similar to those indicated for this Project and with a record of successful in-service performance, as well as sufficient production capacity to produce required units.
- D. Installer Qualifications: A firm or individual experienced in installing, erecting, applying, or assembling work similar in material, design, and extent to that indicated for this Project, whose work has resulted in construction with a record of successful in-service performance.
- E. Professional Engineer Qualifications: A professional engineer who is legally qualified to practice in jurisdiction where Project is located and who is experienced in providing engineering services of the kind indicated. Engineering services are defined as those performed for installations of the system, assembly, or product that are similar in material, design, and extent to those indicated for this Project.

- F. 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 inspection 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.
- 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. Mockups: Before installing portions of the Work requiring mockups, build mockups for each form of construction and finish required to comply with the following requirements, using materials indicated for the completed Work:
1. Build mockups of size indicated.
 2. Build mockups in location indicated or, if not indicated, as directed by Engineer/Architect or Construction Manager.
 3. Notify Engineer and Construction Manager 7 days in advance of dates and times when mockups will be constructed.
 4. Employ supervisory personnel who will oversee mockup construction. Employ workers that will be employed to perform same tasks during the construction at Project.
 5. Demonstrate the proposed range of aesthetic effects and workmanship.
 6. Obtain Engineer's/Architect's and Construction Manager's approval of mockups before starting corresponding work, fabrication, or construction.
 - a. Allow 7 days for initial review and each re-review of each mockup.
 7. Maintain mockups during construction in an undisturbed condition as a standard for judging the completed Work.
 8. Demolish and remove mockups when directed unless otherwise indicated.
- K. Integrated Exterior Mockups: Construct integrated exterior mockup according to approved Shop Drawings indicated on Drawings. Coordinate installation of exterior envelope materials and products for which mockups are required in individual Specification Sections, along with supporting materials. Comply with requirements in "Mockups" Paragraph.

1.10 RESPONSIBILITIES

- A. City Responsibilities **(Typically through Construction Manager)**: Where quality-control services are indicated as City's responsibility, City will engage a qualified testing agency to perform these services.
1. City will furnish Contractor with names, addresses, and telephone numbers of testing agencies engaged and a description of types of testing and inspection they are engaged to perform.
 2. Costs for retesting and reinspecting construction that replaces or is necessitated by work that failed to comply with the Contract Documents will be charged to Contractor.
- B. Contractor Responsibilities: Tests and inspections not explicitly assigned to City are Contractor's responsibility. Perform additional quality-control activities, whether specified or not, to verify and document that the Work complies with requirements.
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. Engage a qualified testing agency to perform quality-control services.
 - a. Contractor shall not employ same entity engaged by City, unless agreed to in writing by City.
 3. Notify testing agencies at least 24 hours in advance of time when Work that requires testing or inspection 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 inspection 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. Retesting/Reinspecting: Regardless of whether original tests or inspections were Contractor's responsibility, provide quality-control services, including retesting and reinspecting, for construction that replaced Work that failed to comply with the Contract Documents.
- D. Manufacturer's Field Services: Where indicated, engage a factory-authorized service representative to inspect field-assembled components and equipment installation, including service connections. Report results in writing as specified in Division 01 Section "Submittal Procedures."
- E. 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.

- F. Associated Contractor Services: Cooperate with agencies and representatives performing required tests, inspections, and similar quality-control services, and provide reasonable auxiliary services as requested. Notify agency sufficiently in advance of operations to permit assignment of personnel. Provide the following:
1. Access to the Work.
 2. Incidental labor and facilities necessary to facilitate tests and inspections.
 3. Adequate quantities of representative samples of materials that require testing and inspection. Assist agency in obtaining samples.
 4. Facilities for storage and field curing of test samples.
 5. Preliminary design mix proposed for use for material mixes that require control by testing agency.
 6. Security and protection for samples and for testing and inspection equipment at Project site.
- G. Coordination: Coordinate sequence of activities to accommodate required quality-assurance and quality-control services with a minimum of delay and to avoid necessity of removing and replacing construction to accommodate testing and inspection.
1. Schedule times for tests, inspections, obtaining samples, and similar activities.

1.11 SPECIAL TESTS AND INSPECTIONS

- A. Special Tests and Inspections: City will engage a qualified testing agency special inspector to conduct special tests and inspections required by authorities having jurisdiction as the responsibility of City, as indicated in the Statement of Special Inspections attached to this Section, and as follows:
1. Verifying that manufacturer maintains detailed fabrication and quality-control procedures and reviewing the completeness and adequacy of those procedures to perform the Work.
 2. Notifying Engineer/Architect, Construction Manager and Contractor promptly of irregularities and deficiencies observed in the Work during performance of its services.
 3. Submitting a certified written report of each test, inspection, and similar quality-control service to Engineer/Architect, construction manager with copy to Contractor and to authorities having jurisdiction.
 4. Submitting a final report of special tests and inspections at Substantial Completion, which includes a list of unresolved deficiencies.
 5. Interpreting tests and inspections and stating in each report whether tested and inspected work complies with or deviates from the Contract Documents.
 6. Retesting and reinspecting corrected work.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION

3.1 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 Engineer.
 - 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 Engineer's/Architect's, Commissioning Authority's and Construction Manager's reference during normal working hours.
 - 1. Submit log at Project closeout as part of Project Record Documents.

3.2 REPAIR AND PROTECTION

- A. General: On completion of testing, inspection, sample taking, and similar services, repair damaged construction and restore substrates and finishes.
 - 1. Provide materials and comply with installation requirements specified in other Specification Sections or matching existing substrates and finishes. Restore patched areas and extend restoration into adjoining areas with durable seams that are as invisible as possible. Comply with the Contract Document requirements for cutting and patching in Division 01 Section "Execution."
- B. Protect construction exposed by or for quality-control service activities.
- C. Repair and protection are Contractor's responsibility, regardless of the assignment of responsibility for quality-control services.

END OF SECTION 01 40 00

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SECTION 01 42 00 - REFERENCES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General Agreement 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 Engineer's action on Contractor's submittals, applications, and requests, "approved" is limited to Engineer's duties and responsibilities as stated in the Conditions of the Contract.
- C. "Directed": A command or instruction by Engineer. 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": Unload, temporarily store, unpack, assemble, erect, place, anchor, apply, work to dimension, finish, cure, protect, clean, and similar operations at Project site.
- 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.

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. Industry Organizations: Where abbreviations and acronyms are used in Specifications or other Contract Documents, they shall mean the recognized name of the entities in the following list. This information is subject to change and is believed to be accurate as of the date of the Contract Documents.
 - 1. AABC - Associated Air Balance Council; www.aabc.com.
 - 2. AAMA - American Architectural Manufacturers Association; www.aamanet.org.
 - 3. AAPFCO - Association of American Plant Food Control Officials; www.aapfco.org.
 - 4. AASHTO - American Association of State Highway and Transportation Officials; www.transportation.org.
 - 5. AATCC - American Association of Textile Chemists and Colorists; www.aatcc.org.
 - 6. ABMA - American Bearing Manufacturers Association; www.americanbearings.org.
 - 7. ABMA - American Boiler Manufacturers Association; www.abma.com.
 - 8. ACI - American Concrete Institute; (Formerly: ACI International); www.abma.com.
 - 9. ACPA - American Concrete Pipe Association; www.concrete-pipe.org.
 - 10. AEIC - Association of Edison Illuminating Companies, Inc. (The); www.aeic.org.
 - 11. AF&PA - American Forest & Paper Association; www.afandpa.org.
 - 12. AGA - American Gas Association; www.aga.org.
 - 13. AHAM - Association of Home Appliance Manufacturers; www.aham.org.
 - 14. AHRI - Air-Conditioning, Heating, and Refrigeration Institute (The); www.ahrinet.org.
 - 15. AI - Asphalt Institute; www.asphaltinstitute.org.
 - 16. AIA - American Institute of Architects (The); www.aia.org.
 - 17. AISC - American Institute of Steel Construction; www.aisc.org.

18. AISI - American Iron and Steel Institute; www.steel.org.
19. AITC - American Institute of Timber Construction; www.aitc-glulam.org.
20. AMCA - Air Movement and Control Association International, Inc.; www.amca.org.
21. ANSI - American National Standards Institute; www.ansi.org.
22. AOSA - Association of Official Seed Analysts, Inc.; www.aosaseed.com.
23. APA - APA - The Engineered Wood Association; www.apawood.org.
24. APA - Architectural Precast Association; www.archprecast.org.
25. API - American Petroleum Institute; www.api.org.
26. ARI - Air-Conditioning & Refrigeration Institute; (See AHRI).
27. ARI - American Refrigeration Institute; (See AHRI).
28. ARMA - Asphalt Roofing Manufacturers Association; www.asphaltroofing.org.
29. ASCE - American Society of Civil Engineers; www.asce.org.
30. ASCE/SEI - American Society of Civil Engineers/Structural Engineering Institute; (See ASCE).
31. ASHRAE - American Society of Heating, Refrigerating and Air-Conditioning Engineers; www.ashrae.org.
32. ASME - ASME International; (American Society of Mechanical Engineers); www.asme.org.
33. ASSE - American Society of Safety Engineers (The); www.asse.org.
34. ASSE - American Society of Sanitary Engineering; www.asse-plumbing.org.
35. ASTM - ASTM International; www.astm.org.
36. ATIS - Alliance for Telecommunications Industry Solutions; www.atis.org.
37. AWEA - American Wind Energy Association; www.awea.org.
38. AWI - Architectural Woodwork Institute; www.awinet.org.
39. AWMAC - Architectural Woodwork Manufacturers Association of Canada; www.awmac.com.
40. AWWPA - American Wood Protection Association; www.awpa.com.
41. AWS - American Welding Society; www.aws.org.
42. AWWA - American Water Works Association; www.awwa.org.
43. BHMA - Builders Hardware Manufacturers Association; www.buildershardware.com.
44. BIA - Brick Industry Association (The); www.gobrick.com.
45. BICSI - BICSI, Inc.; www.bicsi.org.
46. BIFMA - BIFMA International; (Business and Institutional Furniture Manufacturer's Association); www.bifma.org.
47. BISSC - Baking Industry Sanitation Standards Committee; www.bissc.org.
48. BWF - Badminton World Federation; (Formerly: International Badminton Federation); www.bissc.org.
49. CDA - Copper Development Association; www.copper.org.
50. CEA - Canadian Electricity Association; www.electricity.ca.
51. CEA - Consumer Electronics Association; www.ce.org.
52. CFFA - Chemical Fabrics and Film Association, Inc.; www.chemicalfabricsandfilm.com.
53. CFSEI - Cold-Formed Steel Engineers Institute; www.cfsei.org.
54. CGA - Compressed Gas Association; www.cganet.com.
55. CIMA - Cellulose Insulation Manufacturers Association; www.cellulose.org.
56. CISCA - Ceilings & Interior Systems Construction Association; www.cisca.org.
57. CISPI - Cast Iron Soil Pipe Institute; www.cispi.org.
58. CLFMI - Chain Link Fence Manufacturers Institute; www.chainlinkinfo.org.

59. CPA - Composite Panel Association; www.pbmdf.com.
60. CRI - Carpet and Rug Institute (The); www.carpet-rug.org.
61. CRRC - Cool Roof Rating Council; www.coolroofs.org.
62. CRSI - Concrete Reinforcing Steel Institute; www.crsi.org.
63. CSA - Canadian Standards Association; www.csa.ca.
64. CSA - CSA International; (Formerly: IAS - International Approval Services); www.csa-international.org.
65. CSI - Construction Specifications Institute (The); www.csinet.org.
66. CSSB - Cedar Shake & Shingle Bureau; www.cedarbureau.org.
67. CTI - Cooling Technology Institute; (Formerly: Cooling Tower Institute); www.cti.org.
68. CWC - Composite Wood Council; (See CPA).
69. DASMA - Door and Access Systems Manufacturers Association; www.dasma.com.
70. DHI - Door and Hardware Institute; www.dhi.org.
71. ECA - Electronic Components Association; (See ECIA).
72. ECAMA - Electronic Components Assemblies & Materials Association; (See ECIA).
73. ECIA - Electronic Components Industry Association; www.eciaonline.org.
74. EIA - Electronic Industries Alliance; (See TIA).
75. EIMA - EIFS Industry Members Association; www.eima.com.
76. EJMA - Expansion Joint Manufacturers Association, Inc.; www.ejma.org.
77. ESD - ESD Association; (Electrostatic Discharge Association); www.esda.org.
78. ESTA - Entertainment Services and Technology Association; (See PLASA).
79. EVO - Efficiency Valuation Organization; www.evo-world.org.
80. FCI - Fluid Controls Institute; www.fluidcontrolsintstitute.org.
81. FIBA - Federation Internationale de Basketball; (The International Basketball Federation); www.fiba.com.
82. FIVB - Federation Internationale de Volleyball; (The International Volleyball Federation); www.fivb.org.
83. FM Approvals - FM Approvals LLC; www.fmglobal.com.
84. FM Global - FM Global; (Formerly: FMG - FM Global); www.fmglobal.com.
85. FRSA - Florida Roofing, Sheet Metal & Air Conditioning Contractors Association, Inc.; www.floridarooft.com.
86. FSA - Fluid Sealing Association; www.fluidsealing.com.
87. FSC - Forest Stewardship Council U.S.; www.fscus.org.
88. GA - Gypsum Association; www.gypsum.org.
89. GANA - Glass Association of North America; www.glasswebsite.com.
90. GS - Green Seal; www.greenseal.org.
91. HI - Hydraulic Institute; www.pumps.org.
92. HI/GAMA - Hydronics Institute/Gas Appliance Manufacturers Association; (See AHRI).
93. HMMA - Hollow Metal Manufacturers Association; (See NAAMM).
94. HPVA - Hardwood Plywood & Veneer Association; www.hpva.org.
95. HPW - H. P. White Laboratory, Inc.; www.hpwhite.com.
96. IAPSC - International Association of Professional Security Consultants; www.iapsc.org.
97. IAS - International Accreditation Service; www.iasonline.org.
98. IAS - International Approval Services; (See CSA).
99. ICBO - International Conference of Building Officials; (See ICC).

100. ICC - International Code Council; www.iccsafe.org.
101. ICEA - Insulated Cable Engineers Association, Inc.; www.icea.net.
102. ICPA - International Cast Polymer Alliance; www.icpa-hq.org.
103. ICRI - International Concrete Repair Institute, Inc.; www.icri.org.
104. IEC - International Electrotechnical Commission; <http://www.iec.ch>.
105. IEEE - Institute of Electrical and Electronics Engineers, Inc. (The); www.ieee.org.
106. IES - Illuminating Engineering Society; (Formerly: Illuminating Engineering Society of North America); www.ies.org.
107. IESNA - Illuminating Engineering Society of North America; (See IES).
108. IEST - Institute of Environmental Sciences and Technology; www.iest.org.
109. IGMA - Insulating Glass Manufacturers Alliance; www.igmaonline.org.
110. IGSHPA - International Ground Source Heat Pump Association; www.igshpa.okstate.edu.
111. ILI - Indiana Limestone Institute of America, Inc.; www.ili.ai.com.
112. Intertek - Intertek Group; (Formerly: ETL SEMCO; Intertek Testing Service NA); www.intertek.com.
113. ISA - International Society of Automation (The); (Formerly: Instrumentation, Systems, and Automation Society); www.isa.org.
114. ISAS - Instrumentation, Systems, and Automation Society (The); (See ISA).
115. ISFA - International Surface Fabricators Association; (Formerly: International Solid Surface Fabricators Association); www.isfanow.org.
116. ISO - International Organization for Standardization; www.iso.org.
117. ISSFA - International Solid Surface Fabricators Association; (See ISFA).
118. ITU - International Telecommunication Union; www.itu.int/home.
119. KCMA - Kitchen Cabinet Manufacturers Association; www.kcma.org.
120. LMA - Laminating Materials Association; (See CPA).
121. LPI - Lightning Protection Institute; www.lightning.org.
122. MBMA - Metal Building Manufacturers Association; www.mbma.com.
123. MCA - Metal Construction Association; www.metalconstruction.org.
124. MFMA - Maple Flooring Manufacturers Association, Inc.; www.maplefloor.org.
125. MFMA - Metal Framing Manufacturers Association, Inc.; www.metalframingmfg.org.
126. MHIA - Material Handling Industry of America; www.mhia.org.
127. MIA - Marble Institute of America; www.marble-institute.com.
128. MMPA - Moulding & Millwork Producers Association; www.wmmpa.com.
129. MPI - Master Painters Institute; www.paintinfo.com.
130. MSS - Manufacturers Standardization Society of The Valve and Fittings Industry Inc.; www.mss-hq.org.
131. NAAMM - National Association of Architectural Metal Manufacturers; www.naamm.org.
132. NACE - NACE International; (National Association of Corrosion Engineers International); www.nace.org.
133. NADCA - National Air Duct Cleaners Association; www.nadca.com.
134. NAIMA - North American Insulation Manufacturers Association; www.naima.org.
135. NBGQA - National Building Granite Quarries Association, Inc.; www.nbgqa.com.
136. NBI - New Buildings Institute; www.newbuildings.org.
137. NCAA - National Collegiate Athletic Association (The); www.ncaa.org.
138. NCMA - National Concrete Masonry Association; www.ncma.org.
139. NEBB - National Environmental Balancing Bureau; www.nebb.org.
140. NECA - National Electrical Contractors Association; www.necanet.org.

141. NeLMA - Northeastern Lumber Manufacturers Association; www.nelma.org.
142. NEMA - National Electrical Manufacturers Association; www.nema.org.
143. NETA - InterNational Electrical Testing Association; www.netaworld.org.
144. NFHS - National Federation of State High School Associations; www.nfhs.org.
145. NFPA - National Fire Protection Association; www.nfpa.org.
146. NFPA - NFPA International; (See NFPA).
147. NFRC - National Fenestration Rating Council; www.nfrc.org.
148. NHLA - National Hardwood Lumber Association; www.nhla.com.
149. NLGA - National Lumber Grades Authority; www.nlga.org.
150. NOFMA - National Oak Flooring Manufacturers Association; (See NWFA).
151. NOMMA - National Ornamental & Miscellaneous Metals Association; www.nomma.org.
152. NRCA - National Roofing Contractors Association; www.nrca.net.
153. NRMCA - National Ready Mixed Concrete Association; www.nrmca.org.
154. NSF - NSF International; www.nsf.org.
155. NSPE - National Society of Professional Engineers; www.nspe.org.
156. NSSGA - National Stone, Sand & Gravel Association; www.nssga.org.
157. NTMA - National Terrazzo & Mosaic Association, Inc. (The); www.ntma.com.
158. NWFA - National Wood Flooring Association; www.nwfa.org.
159. PCI - Precast/Prestressed Concrete Institute; www.pci.org.
160. PDI - Plumbing & Drainage Institute; www.pdionline.org.
161. PLASA - PLASA; (Formerly: ESTA - Entertainment Services and Technology Association); www.plasa.org.
162. RCSC - Research Council on Structural Connections; www.boltcouncil.org.
163. RFCI - Resilient Floor Covering Institute; www.rfci.com.
164. RIS - Redwood Inspection Service; www.redwoodinspection.com.
165. SAE - SAE International; www.sae.org.
166. SCTE - Society of Cable Telecommunications Engineers; www.scte.org.
167. SDI - Steel Deck Institute; www.sdi.org.
168. SDI - Steel Door Institute; www.steeldoor.org.
169. SEFA - Scientific Equipment and Furniture Association (The); www.sefalabs.com.
170. SEI/ASCE - Structural Engineering Institute/American Society of Civil Engineers; (See ASCE).
171. SIA - Security Industry Association; www.siaonline.org.
172. SJI - Steel Joist Institute; www.steeljoist.org.
173. SMA - Screen Manufacturers Association; www.smainfo.org.
174. SMACNA - Sheet Metal and Air Conditioning Contractors' National Association; www.smacna.org.
175. SMPTE - Society of Motion Picture and Television Engineers; www.smpte.org.
176. SPFA - Spray Polyurethane Foam Alliance; www.sprayfoam.org.
177. SPIB - Southern Pine Inspection Bureau; www.spib.org.
178. SPRI - Single Ply Roofing Industry; www.spri.org.
179. SRCC - Solar Rating & Certification Corporation; www.solar-rating.org.
180. SSINA - Specialty Steel Industry of North America; www.ssina.com.
181. SSPC - SSPC: The Society for Protective Coatings; www.sspc.org.
182. STI - Steel Tank Institute; www.steeltank.com.
183. SWI - Steel Window Institute; www.steelwindows.com.
184. SWPA - Submersible Wastewater Pump Association; www.swpa.org.
185. TCA - Tilt-Up Concrete Association; www.tilt-up.org.

186. TCNA - Tile Council of North America, Inc.; www.tileusa.com.
187. TEMA - Tubular Exchanger Manufacturers Association, Inc.; www.tema.org.
188. TIA - Telecommunications Industry Association (The); (Formerly: TIA/EIA - Telecommunications Industry Association/Electronic Industries Alliance); www.tiaonline.org.
189. TIA/EIA - Telecommunications Industry Association/Electronic Industries Alliance; (See TIA).
190. TMS - The Masonry Society; www.masonrysociety.org.
191. TPI - Truss Plate Institute; www.tpinst.org.
192. TPI - Turfgrass Producers International; www.turfgrasssod.org.
193. TRI - Tile Roofing Institute; www.tilerroofing.org.
194. UL - Underwriters Laboratories Inc.; www.ul.com.
195. UNI - Uni-Bell PVC Pipe Association; www.uni-bell.org.
196. USAV - USA Volleyball; www.usavolleyball.org.
197. USGBC - U.S. Green Building Council; www.usgbc.org.
198. USITT - United States Institute for Theatre Technology, Inc.; www.usitt.org.
199. WASTEC - Waste Equipment Technology Association; www.wastec.org.
200. WCLIB - West Coast Lumber Inspection Bureau; www.wclib.org.
201. WCMA - Window Covering Manufacturers Association; www.wcmanet.org.
202. WDMA - Window & Door Manufacturers Association; www.wdma.com.
203. WI - Woodwork Institute; www.wicnet.org.
204. WSRCA - Western States Roofing Contractors Association; www.wsrca.com.
205. WWPA - Western Wood Products Association; www.wwpa.org.

C. Code Agencies: Where abbreviations and acronyms are used in Specifications or other Contract Documents, they shall mean the recognized name of the entities in the following list. This information is believed to be accurate as of the date of the Contract Documents.

1. DIN - Deutsches Institut für Normung e.V.; www.din.de.
2. IAPMO - International Association of Plumbing and Mechanical Officials; www.iapmo.org.
3. ICC - International Code Council; www.iccsafe.org.
4. ICC-ES - ICC Evaluation Service, LLC; www.icc-es.org.

D. Federal Government Agencies: Where abbreviations and acronyms are used in Specifications or other Contract Documents, they shall mean the recognized name of the entities in the following list. Information is subject to change and is up to date as of the date of the Contract Documents.

1. COE - Army Corps of Engineers; www.usace.army.mil.
2. CPSC - Consumer Product Safety Commission; www.cpsc.gov.
3. DOC - Department of Commerce; National Institute of Standards and Technology; www.nist.gov.
4. DOD - Department of Defense; www.quicksearch.dla.mil.
5. DOE - Department of Energy; www.energy.gov.
6. EPA - Environmental Protection Agency; www.epa.gov.
7. FAA - Federal Aviation Administration; www.faa.gov.
8. FG - Federal Government Publications; www.gpo.gov/fdsys.
9. GSA - General Services Administration; www.gsa.gov.

10. HUD - Department of Housing and Urban Development; www.hud.gov.
11. LBL - Lawrence Berkeley National Laboratory; Environmental Energy Technologies Division; www.eetd.lbl.gov.
12. OSHA - Occupational Safety & Health Administration; www.osha.gov.
13. SD - Department of State; www.state.gov.
14. TRB - Transportation Research Board; National Cooperative Highway Research Program; The National Academies; www.trb.org.
15. USDA - Department of Agriculture; Agriculture Research Service; U.S. Salinity Laboratory; www.ars.usda.gov.
16. USDA - Department of Agriculture; Rural Utilities Service; www.usda.gov.
17. USDOJ - Department of Justice; Office of Justice Programs; National Institute of Justice; www.ojp.usdoj.gov.
18. USP - U.S. Pharmacopeial Convention; www.usp.org.
19. USPS - United States Postal Service; www.usps.com.

E. 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 in the following list. This information is subject to change and is believed to be accurate as of the date of the Contract Documents.

1. CFR - Code of Federal Regulations; Available from Government Printing Office; www.gpo.gov/fdsys.
2. DOD - Department of Defense; Military Specifications and Standards; Available from DLA Document Services; www.quicksearch.dla.mil.
3. DSCC - Defense Supply Center Columbus; (See FS).
4. FED-STD - Federal Standard; (See FS).
5. FS - Federal Specification; Available from DLA Document Services; www.quicksearch.dla.mil.
 - a. Available from Defense Standardization Program; www.dsp.dla.mil.
 - b. Available from General Services Administration; www.gsa.gov.
 - c. Available from National Institute of Building Sciences/Whole Building Design Guide; www.wbdg.org/cdb.
6. MILSPEC - Military Specification and Standards; (See DOD).
7. USAB - United States Access Board; www.access-board.gov.
8. USATBCB - U.S. Architectural & Transportation Barriers Compliance Board; (See USAB).

F. State Government Agencies: Where abbreviations and acronyms are used in Specifications or other Contract Documents, they shall mean the recognized name of the entities in the following list. This information is subject to change and is believed to be accurate as of the date of the Contract Documents.

1. CBHF; State of California; Department of Consumer Affairs; Bureau of Electronic and Appliance Repair, Home Furnishings and Thermal Insulation; www.bearhfti.ca.gov.
2. CCR; California Code of Regulations; Office of Administrative Law; California Title 24 Energy Code; www.calregs.com.
3. CDHS; California Department of Health Services; (See CDPH).

4. CDPH; California Department of Public Health; Indoor Air Quality Program; www.cal-iaq.org.
5. CPUC; California Public Utilities Commission; www.cpuc.ca.gov.
6. SCAQMD; South Coast Air Quality Management District; www.aqmd.gov.
7. TFS; Texas A&M Forest Service; Sustainable Forestry and Economic Development; www.txforestservation.tamu.edu.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION (NOT USED)

END OF SECTION 01 42 00

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SECTION 01 50 00 - TEMPORARY FACILITIES AND CONTROLS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. **Temporary Facilities and Controls will be provided by the Developer's General Contractor**
- B. Section includes requirements for temporary utilities, support facilities, and security and protection facilities.
- C. Related Requirements:
 - 1. Division 01, Section "Summary of "Work" for work restrictions and limitations on utility interruptions.
 - 2. Division 01, Section "Temporary Facilities and Controls" for responsibilities for temporary facilities and controls for projects utilizing multiple contracts.
 - 3. Division 31, Section "Dewatering" for disposal of ground water at Project site.

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 engaged in the Project to use temporary services and facilities without cost, including, but not limited to, Owner's construction forces, Architect/Engineer, occupants of Project, testing agencies, and authorities having jurisdiction.
- B. Sewer Service: Pay sewer-service use charges for sewer usage by all entities for construction operations.
- C. Water Service: Pay water-service use charges for water used by all entities for construction operations.
- D. Electric Power Service: Pay electric-power-service use charges for electricity used by all entities for construction operations.

1.4 INFORMATIONAL SUBMITTALS

- A. Site Utilization Plan: Show temporary facilities, temporary utility lines and connections, staging areas, construction site entrances, vehicle circulation, and parking areas for construction personnel.
- B. Implementation and Termination Schedule: Within 15 days of date established for commencement of the Work, submit schedule indicating implementation and termination dates of each temporary utility.
- C. Project Identification and Temporary Signs: Show fabrication and installation details, including plans, elevations, details, layouts, typestyles, graphic elements, and message content.
- D. Fire-Safety Program: Show compliance with requirements of NFPA 241 and authorities having jurisdiction. Indicate Contractor personnel responsible for management of fire-prevention program.
- E. Moisture- and Mold-Protection Plan: Describe procedures and controls for protecting materials and construction from water absorption and damage and mold.

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.

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 City'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. Portable 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 and bottom rails. Provide concrete OR galvanized-steel bases for supporting posts.

- C. Dust-Control Adhesive-Surface Walk-Off Mats: Provide mats minimum 36 by 60 inches

2.2 TEMPORARY FACILITIES

- A. Field Offices, General: If Space available on site provide prefabricated or mobile units with serviceable finishes, temperature controls, and foundations adequate for normal loading.
- B. 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 City 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 TEMPORARY FACILITIES, GENERAL

- A. Conservation: Coordinate construction and use of temporary facilities with consideration given to conservation of energy, water, and materials. Coordinate use of temporary utilities to minimize waste.
1. Salvage materials and equipment involved in performance of, but not actually incorporated into, the Work. See other Sections for disposition of salvaged materials that are designated as City's property.

3.2 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.
 - 1. Locate facilities to limit site disturbance as specified in Division 01 Section "Summary."
- 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.

3.3 TEMPORARY UTILITY INSTALLATION

- A. General: Install temporary service or connect to existing service.
 - 1. Arrange with utility company, City, 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: Install water service and distribution piping in sizes and pressures adequate for construction.
- D. Water Service: Connect to City's existing water service facilities. Clean and maintain water service facilities in a condition acceptable to City. At Substantial Completion, restore these facilities to condition existing before initial use.
- E. 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.
- F. Temporary Heating and Cooling: Provide temporary heating and cooling required by construction activities for curing or drying of completed installations or for protecting installed construction from adverse effects of low temperatures or high humidity. Select equipment that will not have a harmful effect on completed installations or elements being installed.
 - 1. Provide temporary dehumidification systems when required to reduce ambient and substrate moisture levels to level required to allow installation or application of finishes and their proper curing or drying.
- G. Electric Power Service: Provide electric power service and distribution system of sufficient size, capacity, and power characteristics required for construction operations.

- H. 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.
- I. Telephone Service: Provide temporary telephone service in common-use facilities for use by all construction personnel. Install WiFi cell phone access equipment and one land-based telephone line(s) for each field office.
 - 1. At each telephone, post a list of important telephone numbers.
 - a. Police and fire departments.
 - b. Ambulance service.
 - c. Contractor's home office.
 - d. Contractor's emergency after-hours telephone number.
 - e. Architect's office.
 - f. Construction Manager's home & office.
 - g. Engineers' offices.
 - h. City's office.
 - i. Principal subcontractors' field and home offices.

3.4 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 City.
- 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 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 Planned 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. Prepare subgrade and install subbase and base for temporary roads and paved areas according to Division 31, Section "Earth Moving."
 3. Recondition base after temporary use, including removing contaminated material, regrading, proofrolling, compacting, and testing.
 4. Delay installation of final course of permanent hot-mix asphalt pavement until immediately before Substantial Completion. Repair hot-mix asphalt base-course pavement before installation of final course according to Division 32 Section "Asphalt Paving."
- 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. Parking: Provide temporary parking areas for construction personnel.
- F. 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.
- G. Project Signs: Provide Project signs as indicated. Unauthorized signs are not permitted.
1. Identification Signs: Provide Project identification signs as indicated on Drawings.
 2. Temporary Signs: Provide other signs as indicated and as required to inform public and individuals seeking entrance to Project.
 - a. Provide temporary, directional signs for construction personnel and visitors.
 3. Maintain and touch up signs so they are legible at all times.
- H. 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 Division 01 Section "Execution."
- I. 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.
- J. Temporary Stairs: Until permanent stairs are available, provide temporary stairs where ladders are not adequate.
- 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.

3.5 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.
 - 1. Where access to adjacent properties is required in order to affect protection of existing facilities, obtain written permission from adjacent property Owner to access property for that purpose.
- 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 Division 01 Section "Summary of Work."
- C. Temporary Erosion and Sedimentation Control: Comply with requirements of EPA Construction General Permit or authorities having jurisdiction, whichever is more stringent and requirements specified in Division 31 Section "Site Clearing."
- D. 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.
- E. Tree and Plant Protection: Install temporary fencing located as indicated or outside the drip line of trees to protect vegetation from damage from construction operations. Protect tree root systems from damage, flooding, and erosion.
- F. Pest Control: Engage pest-control service to recommend practices to minimize attraction and harboring of rodents, roaches, and other pests and to perform extermination and control procedures at regular intervals so Project will be free of pests and their residues at Substantial Completion. Perform control operations lawfully, using materials approved by authorities having jurisdiction.
- G. Site Enclosure Fence: Prior to commencing earthwork, furnish and install site enclosure fence in a manner that will prevent people from easily entering site except by entrance gates.
 - 1. Extent of Fence: As required to enclose entire Project site or portion determined sufficient to accommodate construction operations.
- H. Security Enclosure and Lockup: Install temporary enclosure around partially completed areas of construction. Provide lockable entrances to prevent unauthorized entrance, vandalism, theft, and similar violations of security. Lock entrances at end of each workday.
- I. Barricades, Warning Signs, and Lights: Comply with requirements of authorities having jurisdiction for erecting structurally adequate barricades, including warning signs and lighting.

- J. Temporary Egress: Maintain temporary egress from existing occupied facilities as indicated and as required by authorities having jurisdiction.
- K. Covered Walkway: Erect protective, covered walkway for passage of individuals through or adjacent to Project site. Coordinate with entrance gates, other facilities, and obstructions. Comply with regulations of authorities having jurisdiction and requirements indicated on Drawings.
 - 1. Provide overhead decking, protective enclosure walls, handrails, barricades, warning signs, exit signs, lights, safe and well-drained walkways, and similar provisions for protection and safe passage.
 - 2. Paint and maintain appearance of walkway for duration of the Work.
- L. Temporary Enclosures: Provide temporary enclosures for protection of construction, in progress and completed, from exposure, foul weather, other construction operations, and similar activities. Provide temporary weathertight enclosure for building exterior.
 - 1. Where heating or cooling is needed and permanent enclosure is incomplete, insulate temporary enclosures.
- M. Temporary Partitions: Provide floor-to-ceiling dustproof partitions to limit dust and dirt migration and to separate areas occupied by City and tenants from fumes and noise.
 - 1. Construct dustproof partitions with gypsum wallboard with joints taped on occupied side, and fire-retardant-treated plywood on construction operations side.
 - 2. Construct dustproof partitions with two layers of 6-mil (0.14-mm) polyethylene sheet on each side. Cover floor with two layers of 6-mil (0.14-mm) polyethylene sheet, extending sheets 18 inches (460 mm) up the sidewalls. Overlap and tape full length of joints. Cover floor with fire-retardant-treated plywood.
 - a. Construct vestibule and airlock at each entrance through temporary partition with not less than 48 inches (1219 mm) between doors. Maintain water-dampened foot mats in vestibule.
 - 3. Where fire-resistance-rated temporary partitions are indicated or are required by authorities having jurisdiction, construct partitions according to the rated assemblies.
 - 4. Insulate partitions to control noise transmission to occupied areas.
 - 5. Seal joints and perimeter. Equip partitions with gasketed dustproof doors and security locks where openings are required.
 - 6. Protect air-handling equipment.
 - 7. Provide walk-off mats at each entrance through temporary partition.
- N. 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. Comply with additional limits on smoking specified in other Sections.

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.
4. Provide temporary standpipes and hoses for fire protection. Hang hoses with a warning sign stating that hoses are for fire-protection purposes only and are not to be removed. Match hose size with outlet size and equip with suitable nozzles.

3.6 MOISTURE AND MOLD CONTROL

- A. Contractor's Moisture-Protection Plan: Describe delivery, handling, storage, installation, and protection provisions for materials subject to water absorption or water damage.
 1. Indicate procedures for discarding water-damaged materials, protocols for mitigating water intrusion into completed Work, and replacing water-damaged Work.
 2. 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.
 3. Indicate methods to be used to avoid trapping water in finished work.
- B. Exposed Construction Period: 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 Period: 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 and replace stored or installed material that begins to grow mold.
 7. Perform work in a sequence that allows wet materials adequate time to dry before enclosing the material in gypsum board or other interior finishes.

- D. Controlled Construction Period: After completing and sealing of the building enclosure but prior to the full operation of permanent HVAC systems, maintain as follows:
1. Control moisture and humidity inside building by maintaining effective dry-in conditions.
 2. Use temporary or permanent HVAC system to control humidity within ranges specified for installed and stored materials.
 3. Comply with manufacturer's written instructions for temperature, relative humidity, and exposure to water limits.
 - a. Hygroscopic materials that may support mold growth, including wood and gypsum-based products, that become wet during the course of construction and remain wet for 48 hours are considered defective and require replacing.
 - b. Measure moisture content of materials that have been exposed to moisture during construction operations or after installation. Record readings beginning at time of exposure and continuing daily for 48 hours. Identify materials containing moisture levels higher than allowed. Report findings in writing to Architect.
 - c. Remove and replace materials that cannot be completely restored to their manufactured moisture level within 48 hours.

3.7 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. City reserves right to take possession of Project identification signs.
 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 "Closeout Procedures."

END OF SECTION 01 50 00

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SECTION 01 60 00 - PRODUCT REQUIREMENTS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. This Section specifies administrative and procedural requirements governing Contractor's selection of products for use in Project.
 - 1. Multiple Prime Contracts: Provisions of this Section apply to construction activities of each prime Contractor.
- B. Related Requirements:
 - 1. Division 01 Section "Alternates" for products selected under an alternate.
 - 2. Division 01 Section "References" for applicable industry standards for products specified.
 - 3. Division 01 Section "Submittal Procedures" specifies requirements for submittal of the Contractor's Construction Schedule and the Submittal Schedule.
 - 4. Division 01 Section "Product Substitution Procedures" specifies administrative procedures for handling requests for substitutions made after award of the Contract.

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.
- B. Definitions used in this Article are not intended to change meaning of other terms used in Contract Documents, such as "specialties," "systems," "structure," "finishes," "accessories," and similar terms. Such terms such are self-explanatory and have well recognized meanings in construction industry.
 - a. 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.

- b. New Products: Items that have not previously been incorporated into another project or facility. Products salvaged or recycled from other projects are not considered new products.
 - c. Comparable Product: Product that is demonstrated and approved by Engineer through submittal process to have the indicated qualities related to type, function, dimension, in-service performance, physical properties, appearance, and other characteristics that equal or exceed those of specified product.
 - d. "Foreign Products," as distinguished from "domestic products," are items substantially manufactured (50% or more of value) outside of United States and its possessions; or produced or supplied by entities substantially owned (more than 50%) by persons who are not citizens of nor living within United States and its possessions.
- 2. "Materials" are products that are substantially shaped, cut, worked, mixed, finished, refined or otherwise fabricated, processed, or installed to form part of Work.
- 3. "Equipment" is a product with operational parts, whether motorized or manually operated, that requires service connections such as wiring or piping.
- C. Basis-of-Design Product Specification: A specification in which a single manufacturer's product is named and accompanied by the words "basis-of-design product," including make or model number or other designation. In addition to the basis-of-design product description, product attributes and characteristics may be listed to establish the significant qualities related to type, function, in-service performance and physical properties, weight, dimension, durability, visual characteristics, and other special features and requirements for purposes of evaluating comparable products of additional manufacturers named in the specification.
- D. Subject to Compliance with Requirements: Where the phrase "Subject to compliance with requirements" introduces a product selection procedure in an individual Specification Section, provide products qualified under the specified product procedure. In the event that a named product or product by a named manufacturer does not meet the other requirements of the specifications, select another named product or product from another named manufacturer that does meet the requirements of the specifications. Submit a comparable product request, if applicable.

1.4 ACTION SUBMITTALS

- A. Comparable Product Request Submittal: Submit request for consideration of each comparable product. Identify basis-of-design 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. Engineer's Action: If necessary, Engineer will request additional information or documentation for evaluation within 14 days of receipt of a comparable product request. Engineer will notify Contractor through Construction Manager of

approval or rejection of proposed comparable product request within 15 days of receipt of request, or 7 days of receipt of additional information or documentation, whichever is later.

- a. Form of Engineer's Approval of Submittal: As specified in Division 01, Section "Submittal Procedures."
 - b. Use product specified if Engineer 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 Division 01, Section "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, Engineer will determine which products shall be used.
- B. Identification of Products: Except for required labels and operating data, do not attach or imprint manufacturer or product names or trademarks on exposed surfaces of products or equipment that will be exposed to view in occupied spaces or on the exterior.
1. Labels: Locate required product labels and stamps on a concealed surface, or, where required for observation following installation, on a visually accessible surface that is not conspicuous.
 2. Equipment Nameplates: Provide a permanent nameplate on each item of service-connected or power-operated equipment. Locate on a visually accessible but inconspicuous surface. Include information essential for operation, including the following:
 - a. Name of product and manufacturer.
 - b. Model and serial number.
 - c. Capacity.
 - d. Speed.
 - e. Ratings.
 3. See individual identification Sections in Divisions 21, 22, 23, and 26 for additional identification requirements.

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 weathertight enclosure above ground, with ventilation adequate to prevent condensation.
 - 4. Protect foam plastic from exposure to sunlight, except to extent necessary for period of installation and concealment.
 - 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 City's construction forces. Coordinate location with City.

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 City.
 - 2. Special Warranty: Written warranty required by the Contract Documents to provide specific rights for City.
- 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 "Closeout Procedures."

PART 2 - PRODUCTS

2.1 PRODUCT SELECTION

- 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. City reserves the right to limit selection to products with warranties meeting requirements of the Contract Documents.
 4. Where products are accompanied by the term "as selected," Architect/Engineer 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 "or approved equal," or "or approved," comply with requirements in "Comparable Products" Article to obtain approval for use of an unnamed product.
 - a. Submit additional documentation required by Engineer/Architect through Construction Manager in order to establish equivalency of proposed products. Evaluation of "or equal" product status is by the Engineer, whose determination is final.
- B. Product Selection Procedures:
1. Sole Product: Where Specifications name a single manufacturer and product, provide the named product that complies with requirements. Comparable products or substitutions for Contractor's convenience will not be considered.
 - a. Sole product may be indicated by the phrase: "Subject to compliance with requirements, provide the following: ..."
 2. Sole Manufacturer/Source: Where Specifications name a single manufacturer or source, provide a product by the named manufacturer or source that complies with requirements. Comparable products or substitutions for Contractor's convenience will not be considered.

- a. Sole manufacturer/source may be indicated by the phrase: "Subject to compliance with requirements, provide products by the following: ..."
3. Limited List of Products: Where Specifications include a list of names of both manufacturers and products, provide one of the products listed that complies with requirements. Comparable products or substitutions for Contractor's convenience will not be considered unless otherwise indicated.
 - a. Limited list of products may be indicated by the phrase: "Subject to compliance with requirements, provide one of the following: ..."
4. Non-Limited List of Products: Where Specifications include a list of names of both available manufacturers and products, provide one of the products listed, or an unnamed product, which complies with requirements.
 - a. Non-limited list of products is indicated by the phrase: "Subject to compliance with requirements, available products that may be incorporated in the Work include, but are not limited to, the following: ..."
 - b. Limited list of manufacturers is indicated by the phrase: "Subject to compliance with requirements, provide products by one of the following: ..."
5. Non-Limited List of Manufacturers: Where Specifications include a list of available manufacturers, provide a product by one of the manufacturers listed, or a product by an unnamed manufacturer, which complies with requirements.
 - a. Non-limited list of manufacturers is indicated by the phrase: "Subject to compliance with requirements, available manufacturers whose products may be incorporated in the Work include, but are not limited to, the following: ..."
6. 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.
 - a. For approval of products by unnamed manufacturers, comply with requirements in Section "Substitution Procedures" for substitutions for convenience.
- C. Visual Matching Specification: Where Specifications require "match Engineer's sample," provide a product that complies with requirements and matches Engineer's sample. Engineer's decision will be final on whether a proposed product matches.
 1. If no product available within specified category matches and complies with other specified requirements, comply with requirements in Section "Substitution Procedures" for proposal of product.
- D. Visual Selection Specification: Where Specifications include the phrase "as selected by Engineer from manufacturer's full range" or similar phrase, select a product that complies with requirements. Engineer will select color, gloss, pattern, density, or

texture from manufacturer's product line that includes both standard and premium items.

2.2 COMPARABLE PRODUCTS

- A. Conditions for Consideration of Comparable Products: Engineer will consider Contractor's request for comparable product when the following conditions are satisfied. If the following conditions are not satisfied, Engineer may return requests without action, except to record noncompliance with these requirements:
1. Evidence that proposed product does not require revisions to the Contract Documents, is consistent with the Contract Documents, will produce the indicated results, and is compatible with other portions of the Work. Detailed comparison of significant qualities of proposed product with those named in the Specifications. Significant product qualities include attributes such as type, function, in-service performance and physical properties, weight, dimension, durability, visual characteristics, and other specific features and requirements.
 2. Evidence that proposed product provides specified warranty.
 3. List of similar installations for completed projects with project names and addresses and names and addresses of Engineers and City, if requested.
 4. Samples, if requested.
- B. Submittal Requirements: Approval by the Engineer of Contractor's request for use of comparable product is not intended to satisfy other submittal requirements. Comply with specified submittal requirements.

PART 3 - EXECUTION

3.1 INSTALLATION OF PRODUCTS:

- A. Comply with manufacturer's instructions and recommendations for installation of products in applications indicated. Anchor each product securely in place, accurately located and aligned with other Work.
1. Clean exposed surfaces and protect as necessary to ensure freedom from damage and deterioration at time of Substantial Completion.

END OF SECTION 01 60 00

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SECTION 01 60 10 - PRODUCT SUBSTITUTION PROCEDURES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. This Section specifies administrative and procedural requirements for handling requests for substitutions made after award of Contract.
- B. Requests for substitution shall not be submitted by the contractor for products, materials, equipment or methods of construction when substitutions are not allowed by the technical specification sections.
- C. Related Requirements:
 - 1. Division 01 Section "Alternates" for products selected under an alternate.
 - 2. Division 01 Section "Reference Standards and Definitions" for applicability of industry standards to products specified
 - 3. Division 01 Section "Product Requirements" for requirements for submitting comparable product submittals for products by listed manufacturers.
- D. Engineer's policy is to reject requests for substitution unless paragraph "Substitutions" under Article "Definitions" applies. Vendors wishing inclusion in Engineer's master specification: contact Engineer for procedure.

1.3 DEFINITIONS

- A. Definitions used in this Article are not intended to change or modify meaning of other terms used in Contract Documents.
- B. Substitutions: Requests for changes in products, materials, equipment, and methods of construction required by Contract Documents proposed by Contractor after award of Contract are considered requests for "substitutions." Following are not considered substitutions:
 - 1. Revisions to Contract Documents requested by City or Engineer.
 - 2. Specified options of products and construction methods included in Contract Documents.
 - 3. Contractor's determination of and compliance with governing regulations and orders issued by governing authorities.

1.4 SUBMITTALS

- A. Substitution Request Submittal: Requests for substitution will be considered if received within 30 days after commencement of Work. Requests received more than 30 days after commencement of Work may be considered or rejected at discretion of Engineer/Architect.
1. Submit 3 copies of each request for substitution for consideration. Submit requests on forms included at end of this Section and in accordance with procedures required for Change Order proposals.
 2. Identify product, or fabrication or installation method to be replaced in each request. Include Specification Section number and title and Drawing numbers and titles. Provide complete documentation showing compliance with requirements for substitutions, and the following information, as appropriate:
 - a. Statement indicating why specified product or fabrication or installation method cannot be provided, if applicable.
 - b. Coordination of information, including a list of changes or revisions needed to other parts of the Work and to construction performed by City and separate contractors that will be necessary to accommodate proposed substitution.
 - c. Detailed comparison of significant qualities of proposed substitutions with those of the Work specified. Include annotated copy of applicable Specification Section. Significant qualities may include attributes, such as performance, weight, size, durability, visual effect, sustainable design characteristics, warranties, and specific features and requirements indicated. Indicate deviations, if any, from the Work specified.
 - d. Product Data, including drawings and descriptions of products and fabrication and installation procedures.
 - e. Samples, where applicable or requested.
 - f. Certificates and qualification data, where applicable or requested.
 - g. List of similar installations for completed projects, with project names and addresses as well as names and addresses of architects and City.
 - h. Material test reports from a qualified testing agency, indicating and interpreting test results for compliance with requirements indicated.
 - i. Research reports evidencing compliance with building code in effect for Project, from ICC-ES.
 - j. Detailed comparison of Contractor's construction schedule using proposed substitutions with products specified for the Work, including effect on the overall Contract Time. If specified product or method of construction cannot be provided within the Contract Time, include letter from manufacturer, on manufacturer's letterhead, stating date of receipt of purchase order, lack of availability, or delays in delivery.
 - k. Cost information, including a proposal of change, if any, in the Contract Sum.
 - l. Contractor's certification that proposed substitution complies with requirements in the Contract Documents, except as indicated in substitution

request, is compatible with related materials and is appropriate for applications indicated.

- m. Contractor's waiver of rights to additional payment or time that may subsequently become necessary because of failure of proposed substitution to produce indicated results.
- 3. Engineer's Action: If necessary, Engineer will request additional information or documentation for evaluation within 14 days of receipt of a request for substitution. Engineer will notify Contractor through Construction Manager of acceptance or rejection of proposed substitution within 15 days of receipt of request, or seven days of receipt of additional information or documentation, whichever is later.
 - a. Forms of Acceptance: Change Order, Construction Change Directive, or Engineer's Supplemental Instructions for minor changes in the Work.
 - b. Use product specified if Engineer does not issue a decision on use of a proposed substitution within time allocated.

1.5 QUALITY ASSURANCE

- A. Compatibility of Substitutions: Investigate and document compatibility of proposed substitution with related products and materials. Engage a qualified testing agency to perform compatibility tests recommended by manufacturers.

1.6 PROCEDURES

- A. Coordination: Revise or adjust affected work as necessary to integrate work of the approved substitutions.

1.7 SUBSTITUTIONS

- A. Substitutions for Cause: Submit requests for substitution immediately on discovery of need for change, but not later than 15 days prior to time required for preparation and review of related submittals.
 - 1. Conditions: Engineer will consider Contractor's request for substitution when the following conditions are satisfied. If the following conditions are not satisfied, Engineer will return requests without action, except to record noncompliance with these requirements:
 - a. Requested substitution is consistent with the Contract Documents and will produce indicated results.
 - b. Substitution request is fully documented and properly submitted.
 - c. Requested substitution will not adversely affect Contractor's construction schedule.
 - d. Requested substitution has received necessary approvals of authorities having jurisdiction.
 - e. Requested substitution is compatible with other portions of the Work.

- f. Requested substitution has been coordinated with other portions of the Work.
 - g. Requested substitution provides specified warranty.
 - h. If requested substitution involves more than one contractor, requested substitution has been coordinated with other portions of the Work, is uniform and consistent, is compatible with other products, and is acceptable to all contractors involved.
- B. Substitutions for Convenience: Engineer will consider requests for substitution if received within 30 days after commencement of the Work. Requests received after that time may be considered or rejected at discretion of Engineer.
- 1. Conditions: Engineer will consider Contractor's request for substitution when the following conditions are satisfied. If the following conditions are not satisfied, Engineer will return requests without action, except to record noncompliance with these requirements:
 - a. Requested substitution offers City a substantial advantage in cost, time, energy conservation, or other considerations, after deducting additional responsibilities City must assume. City's additional responsibilities may include compensation to Engineer for redesign and evaluation services, increased cost of other construction by City, and similar considerations.
 - b. Requested substitution does not require extensive revisions to the Contract Documents.
 - c. Requested substitution is consistent with the Contract Documents and will produce indicated results.
 - d. Substitution request is fully documented and properly submitted.
 - e. Requested substitution will not adversely affect Contractor's construction schedule.
 - f. Requested substitution has received necessary approvals of authorities having jurisdiction.
 - g. Requested substitution is compatible with other portions of the Work.
 - h. Requested substitution has been coordinated with other portions of the Work.
 - i. Requested substitution provides specified warranty.
 - j. If requested substitution involves more than one contractor, requested substitution has been coordinated with other portions of the Work, is uniform and consistent, is compatible with other products, and is acceptable to all contractors involved.
- C. Contractor's submittal and Engineer's acceptance of Shop Drawings, Product Data or Samples that relate to construction activities not complying with Contract Documents does not constitute an acceptable or valid request for substitution, nor does it constitute approval.

PART 2 - PRODUCTS (NOT APPLICABLE)

PART 3 - EXECUTION (NOT APPLICABLE)

END OF SECTION 01 60 10

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REQUEST FOR SUBSTITUTION

To:

Attention:

From:

Name of Company

Address

City, State, Zip Code

Phone

Fully answer all information requested below. Failure to answer any item may cause rejection of request for substitution. If requested by Engineer, submit information about manufacturer and vendor history, financial stability, distribution and support systems. Use one form for each product requested. Only first product listed will be considered on forms with more than one product listed.

Specification Section Number: _____ Drawing Number: _____

Para Number: _____ Detail Number: _____

Specified Product: _____

Proposed Substitution: _____

Answer the following questions. Attach an explanation sheet on your company's letterhead when required.

Does the proposed substitution affect dimensions indicated on Drawings?

No _____ Yes _____ (If yes, explain below).

Does the proposed substitution require changes in Drawings and/or design or installation changes?

No _____ Yes _____

If yes, is the cost of these changes included in the proposed amount? No _____ Yes _____

Does the proposed substitution affect other trades? No _____ Yes _____

(If yes, explain who and how)

If the proposed product does affect the work of other trades, has the cost impact on their work been included in the price of the proposed substitution?

No _____ Yes _____

Does the proposed product's guarantee differ from that of the specified product's?

No _____ Yes _____ (If yes, explain below).

Why is this proposal for substitution being submitted? List reasons below.

Attach a listing of 3 projects using proposed substitution completed within the past 5 yrs in geographic and climatic region of Project. One of applications shall have been in service for at least 3 yrs.

Attach product data/brochures and Vendor Qualification Form for the specified and substitute product.

Undersigned has examined Construction Documents, is familiar with specified product, understands indicated application of product, and understands design intent of Engineer. Undersigned states that proposed substitution complies with Construction Documents and will perform at least equally to specified product within limitations stated above. Undersigned accepts responsibility for coordinating application and installation of proposed substitution and waives all claims for additional costs resulting from incorporation of proposed substitution into Project or its subsequent failure to perform according to specified requirements.

Submitted By: _____
Typed Signature

Date: _____

**Vendor Qualification Form
Walker Consultants**

1. Statement of Confidentiality:

Walker Consultants (Walker) will treat any information as confidential which is clearly labeled so. A "clear label" is defined as the word "Confidential" marked in red ink on each and every page desired confidential in letters no less than one half inch high. At most, only two Walker staff will have access to vendor information marked "Confidential", Brian Preston and his designate.

2. Statement of Walker's Commitment to Quality:

WALKER is committed to providing quality service to its clients. As part of this commitment, WALKER never makes a promise it cannot keep. WALKER requires the same commitment from its vendors, whether direct or indirect.

3. Statement of WALKER's Relationship to its Vendors:

Mutual trust is the relationship WALKER desires with all its vendors. Both WALKER and its vendors must realize that trust must be earned over time. Trust is easily damaged and sometimes impossible to recover.

4. Vendor's Organization:

For the product being considered, list the number of employees in:

_____	Product manufacture
_____	Product sales
_____	Product marketing
_____	Product R & D
_____	Product technical service
=====	TOTAL

5. Financial Stability:

Provide past 5 yrs sales history and current audited financial statement or equivalent documentation of financial stability.

6. Safety and Environment:

Define vendor policies.

7. Sales/Service Offices:

List all locations.

8. Geographic Markets:

List all areas served.

9. Products:

On (a) separate sheet(s) for each product, list product name, uses, length of time in service, test data. Provide Material Safety Data Sheet(s). Provide case history data of product use in 5 major projects within the last 2 yrs.

10. Quality Assurance:

Define manufacturing program. Define installation program.

11. Installation:

By manufacturer?	_____ Y	_____ N
By certified applicators?	_____ Y	_____ N
By approved applicators?	_____ Y	_____ N
By any applicator?	_____ Y	_____ N

12. Comments:

13. Standard Warranty:

Provide copy of terms.

14. References:

Provide three.

Signature: _____

Printed name: _____

Title: _____

Date: _____

Have this statement notarized.

Decision of Engineer regarding acceptance or rejection of proposed substitution will be based, at least in part, on information supplied above and in attached explanations and product data.

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SECTION 01 73 00 - EXECUTION

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. This Section includes general procedural requirements governing execution of the Work including, but not limited to, the following:
 - 1. Construction layout.
 - 2. Field engineering and surveying.
 - 3. Installation of the Work.
 - 4. Cutting and patching.
 - 5. Coordination of City-installed products.
 - 6. Progress cleaning.
 - 7. Starting and adjusting.
 - 8. Protection of installed construction.
- B. Related Requirements:
 - 1. Division 01 "Summary of Work" for limits on use of Project site.
 - 2. Division 01 Section "Project Management and Coordination" for procedures for coordinating field engineering with other construction activities.
 - 3. Division 01 Section "Submittal Procedures" for submitting surveys.-
 - 4. Division 01 Section "Closeout Procedures" for submitting final property survey with Project Record Documents, recording of City-accepted deviations from indicated lines and levels, and final cleaning.
- C. Cutting: Removal of in-place construction necessary to permit installation or performance of subsequent work.
- D. Patching: Fitting and repair work required to restore construction to original conditions after installation of subsequent work.

1.3 PREINSTALLATION MEETINGS

- A. Cutting and Patching Conference: Conduct conference at Project site.
 - 1. Prior to commencing work requiring cutting and patching, review extent of cutting and patching anticipated and examine procedures for ensuring satisfactory result

from cutting and patching work. Require representatives of each entity directly concerned with cutting and patching to attend, including the following:

- a. Contractor's superintendent.
 - b. Trade supervisor responsible for cutting operations.
 - c. Trade supervisor(s) responsible for patching of each type of substrate.
 - d. Mechanical, electrical, and utilities subcontractors' supervisors, to the extent each trade is affecting by cutting and patching operations.
2. Review areas of potential interference and conflict. Coordinate procedures and resolve potential conflicts before proceeding.

1.4 INFORMATIONAL SUBMITTALS

- A. Qualification Data: For land surveyor to demonstrate their capabilities and experience. Include lists of completed projects with project names and addresses, names and addresses of Engineers and Citys, and other information specified.
- B. Certificates: Submit certificate signed by land surveyor certifying that location and elevation of improvements comply with requirements.
- C. Landfill Receipts: Submit copy of receipts issued by a landfill facility, licensed to accept hazardous materials, for hazardous waste disposal.
- D. Certified Surveys: Submit two copies signed by land surveyor.
- E. Final Property Survey: Submit 10 copies showing the Work performed and record survey data.

1.5 QUALITY ASSURANCE

- A. Land Surveyor Qualifications: A professional land surveyor who is legally qualified to practice in jurisdiction where Project is located and who is experienced in providing land-surveying services of the kind indicated.
- B. Cutting and Patching: Comply with requirements for and limitations on cutting and patching of construction elements.
 1. Structural Elements: When cutting and patching structural elements, notify Engineer of locations and details of cutting and await directions from Engineer before proceeding. Shore, brace, and support structural elements during cutting and patching. Do not cut and patch structural elements in a manner that could change their load-carrying capacity or increase deflection.
 2. Operational Elements: Do not cut and patch operating elements and related components in a manner that results in reducing their capacity to perform as intended or that results in increased maintenance or decreased operational life or safety.

3. Other Construction Elements: Do not cut and patch other construction elements or components in a manner that could change their load-carrying capacity, that results in reducing their capacity to perform as intended, or that results in increased maintenance or decreased operational life or safety.
 4. Visual Elements: Do not cut and patch construction in a manner that results in visual evidence of cutting and patching. Do not cut and patch exposed construction in a manner that would, in Engineer's opinion, reduce the building's aesthetic qualities. Remove and replace construction that has been cut and patched in a visually unsatisfactory manner.
- C. Manufacturer's Installation Instructions: Obtain and maintain on-site manufacturer's written recommendations and instructions for installation of products and equipment.

PART 2 - PRODUCTS

2.1 MATERIALS

- A. General: Comply with requirements specified in other Sections.
1. For projects requiring compliance with sustainable design and construction practices and procedures, use products for patching that comply with sustainable design requirements.
- B. In-Place Materials: Use materials for patching identical to in-place materials. For exposed surfaces, use materials that visually match in-place adjacent surfaces to the fullest extent possible.
1. If identical materials are unavailable or cannot be used, use materials that, when installed, will provide a match acceptable to Engineer for the visual and functional performance of in-place 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.

3.2 PREPARATION

- A. Existing Utility Information: Furnish information to local utility that is necessary to adjust, move, or relocate existing utility structures, utility poles, lines, services, or other utility appurtenances located in or affected by construction. Coordinate with authorities having jurisdiction.
- B. Field Measurements: Take field measurements as required to fit the Work properly. Recheck measurements before installing each product. Where portions of the Work are indicated to fit to other construction, verify dimensions of other construction by field measurements before fabrication. Coordinate fabrication schedule with construction progress to avoid delaying the Work.
- C. Space Requirements: Verify space requirements and dimensions of items shown diagrammatically on Drawings.
- D. Review of Contract Documents and Field Conditions: Immediately on discovery of the need for clarification of the Contract Documents caused by differing field conditions outside the control of Contractor, submit a request for information to Engineer according to requirements in Division 01, Section "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 Engineer and Construction Manager promptly.
- B. General: Engage a land surveyor to lay out the Work using accepted surveying practices **for work beyond that provided by the Construction Manager as identified on Section 01 11 00, Summary of Work.**
 - 1. Establish benchmarks and control points to set lines and levels at each story of construction and elsewhere as needed to locate each element of Project.
 - 2. Establish limits on use of Project site.
 - 3. Establish dimensions within tolerances indicated. Do not scale Drawings to obtain required dimensions.
 - 4. Inform installers of lines and levels to which they must comply.
 - 5. Check the location, level and plumb, of every major element as the Work progresses.
 - 6. Notify Engineer and Construction Manager when deviations from required lines and levels exceed allowable tolerances.
 - 7. Close site surveys with an error of closure equal to or less than the standard established by authorities having jurisdiction.
- C. Site Improvements: Locate and lay out site improvements, including pavements, grading, fill and topsoil placement, utility slopes, and rim and invert elevations.
- D. Building Lines and Levels: Locate and lay out control lines and levels for structures, building foundations, column grids, and floor levels, including those required for mechanical and electrical work. Transfer survey markings and elevations for use with control lines and levels. Level foundations and piers from two or more locations.
- E. Record Log: Maintain a log of layout control work. Record deviations from required lines and levels. Include beginning and ending dates and times of surveys, weather conditions, name and duty of each survey party member, and types of instruments and tapes used. Make the log available for reference by Engineer and Construction Manager.

3.4 FIELD ENGINEERING

- A. Identification: City will identify existing benchmarks, control points, and property corners.
- B. Reference Points: Locate existing permanent benchmarks, control points, and similar reference points before beginning the Work. Preserve and protect permanent benchmarks and control points during construction operations.
 - 1. Do not change or relocate existing benchmarks or control points without prior written approval of Engineer or Construction Manager. Report lost or destroyed permanent benchmarks or control points promptly. Report the need to relocate permanent benchmarks or control points to Engineer and Construction Manager 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.
- D. Certified Survey: On completion of foundation walls, major site improvements, and other work requiring field-engineering services, prepare a certified survey showing dimensions, locations, angles, and elevations of construction and sitework.
- E. Final Property Survey: Prepare a final property survey showing significant features (real property) for Project. Include on the survey a certification, signed by land surveyor professional engineer, that principal metes, bounds, lines, and levels of Project are accurately positioned as shown on the survey.
 1. Show boundary lines, monuments, streets, site improvements and utilities, existing improvements and significant vegetation, adjoining properties, acreage, grade contours, and the distance and bearing from a site corner to a legal point.
 2. Recording: At Substantial Completion, have the final property survey recorded by or with authorities having jurisdiction as the official "property survey."

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.
 4. Maintain minimum headroom clearance of **8'-2"** in occupied and unoccupied spaces.
- B. Comply with manufacturer's written instructions and recommendations for installing products in applications indicated.
- C. Install products at the time and under conditions that will ensure the best possible results. Maintain conditions required for product performance until Substantial Completion.

- D. Conduct construction operations so no part of the Work is subjected to damaging operations or loading in excess of that expected during normal conditions of occupancy.
- E. Tools and Equipment: Where possible, select tools or equipment that minimize production of excessive noise levels
- F. 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 Engineer.
 - 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.
- G. Joints: Make joints of uniform width. Where joint locations in exposed work are not indicated, arrange joints for the best visual effect. Fit exposed connections together to form hairline joints.
- H. Repair or remove and replace damaged, defective, or nonconforming Work.
 - 1. Comply with Section "Closeout Procedures" for repairing or removing and replacing defective Work.

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 Division 01, Section "Summary of Work."
- 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.
4. Ceilings: Patch, repair, or rehang in-place ceilings as necessary to provide an even-plane surface of uniform appearance.
5. Exterior Building Enclosure: Patch components in a manner that restores enclosure to a weathertight condition and ensures thermal and moisture integrity of building enclosure.
- 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 CITY-INSTALLED PRODUCTS

- A. Site Access: Provide access to Project site for City's construction forces.
- B. Coordination: Coordinate construction and operations of the Work with work performed by City's construction forces.
 1. Construction Schedule: Inform City of Contractor's preferred construction schedule for City's portion of the Work. Adjust construction schedule based on a mutually agreeable timetable. Notify City if changes to schedule are required due to differences in actual construction progress.
 2. Preinstallation Conferences: Include City's construction forces at preinstallation conferences covering portions of the Work that are to receive City's work. Attend preinstallation conferences conducted by City's construction forces if portions of the Work depend on City's construction.

3.8 PROGRESS CLEANING

- A. General: Clean Project site and work areas daily, including common areas. Coordinate progress cleaning for joint-use areas where more than one installer has worked. Enforce requirements strictly. Dispose of materials lawfully.
 1. Comply with requirements in NFPA 241 for removal of combustible waste materials and debris.
 2. Do not hold materials more than 7 days during normal weather or 3 days if the temperature is expected to rise above 80 deg F (27 deg C).
 3. Containerize hazardous and unsanitary waste materials separately from other waste. Mark containers appropriately and dispose of legally, according to regulations.
 4. Coordinate progress cleaning for joint-use areas where Contractor and other contractors are working concurrently.
- B. Site: Maintain Project site free of waste materials and debris.

- C. Work Areas: Clean areas where work is in progress to the level of cleanliness necessary for proper execution of the Work.
 - 1. Remove liquid spills promptly.
 - 2. Where dust would impair proper execution of the Work, broom-clean or vacuum the entire work area, as appropriate.
- D. Installed Work: Keep installed work clean. Clean installed surfaces according to written instructions of manufacturer or fabricator of product installed, using only cleaning materials specifically recommended. If specific cleaning materials are not recommended, use cleaning materials that are not hazardous to health or property and that will not damage exposed surfaces.
- E. Concealed Spaces: Remove debris from concealed spaces before enclosing the space.
- F. Exposed Surfaces: Clean exposed surfaces and protect as necessary to ensure freedom from damage and deterioration at time of Substantial Completion.
- G. Cutting and Patching: Clean areas and spaces where cutting and patching are performed. Completely remove paint, mortar, oils, putty, and similar materials.
 - 1. Thoroughly clean piping, conduit, and similar features before applying paint or other finishing materials. Restore damaged pipe covering to its original condition.
- H. Waste Disposal: 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 Division 01, Section "Temporary Facilities and Controls."
- I. During handling and installation, clean and protect construction in progress and adjoining materials already in place. Apply protective covering where required to ensure protection from damage or deterioration at Substantial Completion.
- J. Clean and provide maintenance on completed construction as frequently as necessary through the remainder of the construction period. Adjust and lubricate operable components to ensure operability without damaging effects.
- K. Limiting Exposures: Supervise construction operations to assure that no part of the construction, completed or in progress, is subject to harmful, dangerous, damaging, or otherwise deleterious exposure during the construction period.

3.9 STARTING AND ADJUSTING

- A. Coordinate startup and adjusting of equipment and operating components with requirements in Division 01 Section "General Commissioning Requirements."
- B. Start equipment and operating components to confirm proper operation. Remove malfunctioning units, replace with new units, and retest.

- C. Adjust operating components for proper operation without binding. Adjust equipment for proper operation.
- D. Test each piece of equipment to verify proper operation. Test and adjust controls and safeties. Replace damaged and malfunctioning controls and equipment.
- E. Manufacturer's Field Service: Comply with qualification requirements in Division 01 Section "Quality Control."

3.10 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.

END OF SECTION 01 73 00

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SECTION 01 77 00 - CLOSEOUT PROCEDURES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. This Section specifies administrative and procedural requirements for project closeout, including but not limited to:
 - 1. Substantial Completion procedures.
 - 2. Final completion procedures.
 - 3. Warranties.
 - 4. Final cleaning.
 - 5. Repair of the Work.
- B. Related Requirements:
 - 1. Division 01 Section "Operation and Maintenance Data" for additional operation and maintenance manual requirements.
 - 2. Division 01 Section "Project Record Documents" for submitting Record Drawings, Record Specifications, and Record Product Data.
 - 3. Division 01 Section "Demonstration and Training" for requirements to train the City's maintenance personnel to adjust, operate, and maintain products, equipment, and systems.
 - 4. Closeout requirements for specific construction activities are included in appropriate Sections in Divisions 02 through 14, 21-27, and 31-33.

1.3 ACTION SUBMITTALS

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

1.4 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** 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 City unrestricted use of the Work and access to services and utilities. Include occupancy permits, operating certificates, and similar releases.
 2. Submit closeout submittals specified in other Division 01 Sections, including project record documents, operation and maintenance manuals, damage or settlement surveys, property surveys, and similar final record information.
 3. Submit closeout submittals specified in individual Sections, including specific warranties, workmanship bonds, maintenance service agreements, final certifications, and similar documents.
 4. Submit maintenance material submittals specified in individual Sections, including tools, spare parts, extra materials, and similar items, and deliver to location designated by Engineer/Architect and Construction Manager. Label with manufacturer's name and model number.
 - 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 **Construction Manager's** signature for receipt of submittals.
 5. Submit testing, adjusting, and balancing records.
 6. Submit changeover information related to City's occupancy, use, operation, and maintenance.
- C. Procedures Prior to Substantial Completion: Complete the following a minimum of 10 days prior to requesting inspection for determining date of Substantial Completion. List items below that are incomplete at time of request.
1. Advise City of pending insurance changeover requirements.
 2. Make final changeover of permanent locks and deliver keys to City. Advise City'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 City's personnel in operation, adjustment, and maintenance of products, equipment, and systems. Submit demonstration and training video recordings specified in Division 01 Section "Demonstration and Training."
 6. Advise City of changeover in utility services.
 7. Participate with City 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.
 10. Touch up paint and otherwise repair and restore marred exposed finishes to eliminate visual defects.
- D. Inspection: Submit a written request for inspection to determine Substantial Completion a minimum of 10 days prior to date the Work will be completed and ready for final inspection and tests. On receipt of request, Engineer and Construction Manager will either proceed with inspection or notify Contractor of unfulfilled requirements. Engineer 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 Engineer, that must be completed or corrected before certificate will be issued.
1. 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 Division 01, Section "Payment Procedures."
 2. Certified List of Incomplete Items: Submit certified copy of Engineer's Substantial Completion inspection list of items to be completed or corrected (punch list), endorsed and dated by Engineer. 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.
 5. Submit final completion photographic documentation.
- B. Inspection: Submit a written request for final inspection to determine acceptance a minimum of 10 days prior to date the work will be completed and ready for final inspection and tests. On receipt of request, Engineer/Architect and Construction Manager will either proceed with inspection or notify Contractor of unfulfilled requirements. Engineer 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. Request reinspection when the Work identified in previous inspections as incomplete is completed or corrected.
 - a. Engineer will provide one repeat inspection under its contract with City. Subsequent inspections shall be at Contractor's expense.
 - b. Upon completion of reinspection, Engineer 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.
 - c. If necessary, reinspection will be repeated.

1.8 LIST OF INCOMPLETE ITEMS (PUNCH LIST)

- A. Organization of List: Include name and identification of each space and area affected by construction operations for incomplete items and items needing correction including, if necessary, areas disturbed by Contractor that are outside the limits of construction.
 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 Engineer/Architect and Construction Manager.
 - d. Name of Contractor.
 - e. Page number.
 4. Submit list of incomplete items in the following format:
 - a. MS Excel electronic file. Engineer through Construction Manager will return annotated file.
 - b. PDF electronic file. Engineer through Construction Manager, will return annotated file.

1.9 SUBMITTAL OF PROJECT WARRANTIES

- A. Time of Submittal: Submit written warranties on request of Engineer for designated portions of the Work where warranties are indicated to commence on dates other than date of Substantial Completion, or when delay in submittal of warranties might limit City's rights under warranty.
- B. Partial Occupancy: Submit properly executed warranties within 15 days of completion of designated portions of the Work that are completed and occupied or used by City 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.
- D. Warranty Electronic File: Provide warranties and bonds in PDF format. Assemble complete warranty and bond submittal package into a single electronic PDF file with bookmarks enabling navigation to each item. Provide bookmarked table of contents at beginning of document.
 - 1. Submit on digital media acceptable to Engineer/Architect by uploading to web-based project software site by email to Engineer/Architect.
- E. Warranties in Paper Form:
 - 1. Bind warranties and bonds in heavy-duty, three-ring, vinyl-covered, loose-leaf binders, thickness as necessary to accommodate contents, and sized to receive 8-1/2-by-11-inch (215-by-280-mm) paper.
 - 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.
- F. Provide additional copies of each warranty to include in operation and maintenance manuals.

PART 2 - PRODUCTS (NOT APPLICABLE).

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 not planted, mulched, or 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 ACR. 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 Division 01 Section "Temporary Facilities and Controls." Prepare written report.
- D. Construction Waste Disposal: Comply with waste disposal requirements in Division 01 Section "Temporary Facilities and Controls."

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 01 77 00

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SECTION 01 78 23 - OPERATION AND MAINTENANCE DATA

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. This Section includes administrative and procedural requirements for preparing operation and maintenance manuals, including the following:
 - 1. Operation and maintenance documentation directory manuals.
 - 2. Emergency manuals.
 - 3. Systems and equipment operation manuals.
 - 4. Systems and equipment maintenance manuals.
 - 5. Product maintenance manuals.
- B. Related Requirements:
 - 1. Division 01 Section "Submittal Procedures" for submitting copies of submittals for operation and maintenance manuals.
 - 2. Division 01 Section "General Commissioning Requirements" for verification and compilation of data into operation and maintenance manuals.
 - 3. For applicable Contracts: see Divisions 02 through 14, 21-27, and 31-33 Sections for specific operation and maintenance manual requirements for products in those Sections.

1.3 DEFINITIONS

- A. System: An organized collection of parts, equipment, or subsystems united by regular interaction.
- B. Subsystem: A portion of a system with characteristics similar to a system.

1.4 CLOSEOUT SUBMITTALS

- A. Submit operation and maintenance manuals indicated. Provide content for each manual as specified in individual Specification Sections, and as reviewed and approved at the time of Section submittals. Submit reviewed manual content formatted and organized as required by this Section.

1. Engineer/Architect and Commissioning Authority will comment on whether content of operation and maintenance submittals is acceptable.
 2. Where applicable, clarify and update reviewed manual content to correspond to revisions and field conditions.
- B. Format: Submit operation and maintenance manuals in the following format:
1. Submit on digital media acceptable to Engineer/Architect by uploading to web-based project software site by email to Engineer/Architect. Enable reviewer comments on draft submittals.
- C. Initial Manual Submittal: Submit draft copy of each manual at least 30 days before commencing demonstration and training. Engineer/Architect and Commissioning Authority will comment on whether general scope and content of manual are acceptable.
- D. Final Manual Submittal: Submit each manual in final form prior to requesting inspection for Substantial Completion and at least 15 days before commencing demonstration and training. Engineer/Architect and Commissioning Authority will return copy with comments.
1. Correct or revise each manual to comply with Engineer's/Architect's and Commissioning Authority's comments. Submit copies of each corrected manual within 15 days of receipt of Engineer's/Architect's and Commissioning Authority's comments and prior to commencing demonstration and training.
- E. Comply with Division 01 Section "Closeout Procedures" for schedule for submitting operation and maintenance documentation.

1.5 FORMAT OF OPERATION AND MAINTENANCE MANUALS

- A. Manuals, Electronic Files: Submit manuals in the form of a multiple file composite electronic PDF file for each manual type required.
1. Electronic Files: Use electronic files prepared by manufacturer where available. Where scanning of paper documents is required, configure scanned file for minimum readable file size.
 2. File Names and Bookmarks: Bookmark individual documents based on file names. Name document files to correspond to system, subsystem, and equipment names used in manual directory and table of contents. Group documents for each system and subsystem into individual composite bookmarked files, then create composite manual, so that resulting bookmarks reflect the system, subsystem, and equipment names in a readily navigated file tree. Configure electronic manual to display bookmark panel on opening file.
- B. Manuals, Paper Copy: Submit manuals in the form of hard-copy, bound and labeled volumes.

1. Binders: Heavy-duty, three-ring, vinyl-covered, loose-leaf binders, in thickness necessary to accommodate contents, sized to hold 8-1/2-by-11-inch paper; with clear plastic sleeve on spine to hold label describing contents and with pockets inside covers to hold folded oversize sheets.
 - a. If two or more binders are necessary to accommodate data of a system, organize data in each binder into groupings by subsystem and related components. Cross-reference other binders if necessary to provide essential information for proper operation or maintenance of equipment or system.
 - b. Identify each binder on front and spine, with printed title "OPERATION AND MAINTENANCE MANUAL," Project title or name, and subject matter of contents. Indicate volume number for multiple-volume sets.
2. Dividers: Heavy-paper dividers with plastic-covered tabs for each section of the manual. Mark each tab to indicate contents. Include typed list of products and major components of equipment included in the section on each divider, cross-referenced to Specification Section number and title of Project Manual.
3. Supplementary Text: Prepared on 8-1/2-by-11-inch (215-by-280-mm) white bond paper.
4. Drawings: Attach reinforced, punched binder tabs on drawings and bind with text.
 - a. If oversize drawings are necessary, fold drawings to same size as text pages and use as foldouts.
 - b. If drawings are too large to be used as foldouts, fold and place drawings in labeled envelopes and bind envelopes in rear of manual. At appropriate locations in manual, insert typewritten pages indicating drawing titles, descriptions of contents, and drawing locations.

1.6 REQUIREMENTS FOR EMERGENCY, OPERATION, AND MAINTENANCE MANUALS

- A. Organization of Manuals: Unless otherwise indicated, organize each manual into a separate section for each system and subsystem, and a separate section for each piece of equipment not part of a system. Each manual shall contain the following materials, in the order listed:
 1. Title page.
 2. Table of contents.
 3. Manual contents.
- B. Title Page: Include the following information:
 1. Subject matter included in manual.
 2. Name and address of Project.
 3. Name and address of City.
 4. Date of submittal.
 5. Name and contact information for Contractor.
 6. Name and contact information for Construction Manager.

7. Name and contact information for Engineer/Architect.
 8. Name and contact information for Commissioning Authority.
 9. Names and contact information for major consultants to the Engineer/Architect that designed the systems contained in the manuals.
 10. Cross-reference to related systems in other operation and maintenance manuals.
- C. Table of Contents: List each product included in manual, identified by product name, indexed to the content of the volume, and cross-referenced to Specification Section number in Project Manual.
1. If operation or maintenance documentation requires more than one volume to accommodate data, include comprehensive table of contents for all volumes in each volume of the set.
- D. Manual Contents: Organize into sets of manageable size. Arrange contents alphabetically by system, subsystem, and equipment. If possible, assemble instructions for subsystems, equipment, and components of one system into a single binder.
- E. Identification: In the documentation directory and in each operation and maintenance manual, identify each system, subsystem, and piece of equipment with same designation used in the Contract Documents. If no designation exists, assign a designation according to ASHRAE Guideline 4, "Preparation of Operating and Maintenance Documentation for Building Systems."

1.7 OPERATION AND MAINTENANCE DOCUMENTATION DIRECTORY MANUAL

- A. Operation and Maintenance Documentation Directory: Prepare a separate manual that provides an organized reference to emergency, operation, and maintenance manuals. List items and their location to facilitate ready access to desired information. Include the following:
1. List of Systems and Subsystems: List systems alphabetically. Include references to operation and maintenance manuals that contain information about each system.
 2. List of Equipment: List equipment for each system, organized alphabetically by system. For pieces of equipment not part of system, list alphabetically in separate list.
 3. Tables of Contents: Include a table of contents for each emergency, operation, and maintenance manual.

1.8 EMERGENCY MANUALS

- A. Emergency Manual: Assemble a complete set of emergency information indicating procedures for use by emergency personnel and by City's operating personnel for types of emergencies indicated.
- B. Content: Organize manual into a separate section for each of the following:

1. Type of emergency.
 2. Emergency instructions.
 3. Emergency procedures.
- C. Type of Emergency: Where applicable for each type of emergency indicated below, include instructions and procedures for each system, subsystem, piece of equipment, and component:
1. Fire.
 2. Flood.
 3. Gas leak.
 4. Water leak.
 5. Power failure.
 6. Water outage.
 7. System, subsystem, or equipment failure.
 8. Chemical release or spill.
- D. Emergency Instructions: Describe and explain warnings, trouble indications, error messages, and similar codes and signals. Include responsibilities of City's operating personnel for notification of Installer, supplier, and manufacturer to maintain warranties.
- E. Emergency Procedures: Include the following, as applicable:
1. Instructions on stopping.
 2. Shutdown instructions for each type of emergency.
 3. Operating instructions for conditions outside normal operating limits.
 4. Required sequences for electric or electronic systems.
 5. Special operating instructions and procedures.

1.9 SYSTEMS AND EQUIPMENT OPERATION MANUALS

- A. Systems and Equipment Operation Manual: Assemble a complete set of data indicating operation of each system, subsystem, and piece of equipment not part of a system. Include information required for daily operation and management, operating standards, and routine and special operating procedures.
1. Engage a factory-authorized service representative to assemble and prepare information for each system, subsystem, and piece of equipment not part of a system.
 2. Prepare a separate manual for each system and subsystem, in the form of an instructional manual for use by City's operating personnel.
- B. Content: In addition to requirements in this Section, include operation data required in individual Specification Sections and the following information:
1. System, subsystem, and equipment descriptions. Use designations for systems and equipment indicated on Contract Documents.
 2. Performance and design criteria if Contractor has delegated design responsibility.

3. Operating standards.
4. Operating procedures.
5. Operating logs.
6. Wiring diagrams.
7. Control diagrams.
8. Piped system diagrams.
9. Precautions against improper use.
10. License requirements including inspection and renewal dates.

C. Descriptions: Include the following:

1. Product name and model number. Use designations for products indicated on Contract Documents.
2. Manufacturer's name.
3. Equipment identification with serial number of each component.
4. Equipment function.
5. Operating characteristics.
6. Limiting conditions.
7. Performance curves.
8. Engineering data and tests.
9. Complete nomenclature and number of replacement parts.

D. Operating Procedures: Include the following, as applicable:

1. Startup procedures.
2. Equipment or system break-in procedures.
3. Routine and normal operating instructions.
4. Regulation and control procedures.
5. Instructions on stopping.
6. Normal shutdown instructions.
7. Seasonal and weekend operating instructions.
8. Required sequences for electric or electronic systems.
9. Special operating instructions and procedures.

E. Systems and Equipment Controls: Describe the sequence of operation, and diagram controls as installed.

F. Piped Systems: Diagram piping as installed, and identify color coding where required for identification.

1.10 SYSTEMS AND EQUIPMENT MAINTENANCE MANUALS

- A. Systems and Equipment Maintenance Manuals: Assemble a complete set of data indicating maintenance of each system, subsystem, and piece of equipment not part of a system. Include manufacturers' maintenance documentation, preventive maintenance procedures and frequency, repair procedures, wiring and systems diagrams, lists of spare parts, and warranty information.

1. Engage a factory-authorized service representative to assemble and prepare information for each system, subsystem, and piece of equipment not part of a system.
 2. Prepare a separate manual for each system and subsystem, in the form of an instructional manual for use by City's operating personnel.
- B. Content: For each system, subsystem, and piece of equipment not part of a system, include source information, manufacturers' maintenance documentation, maintenance procedures, maintenance and service schedules, spare parts list and source information, maintenance service contracts, and warranties and bonds as described below.
- C. Source Information: List each system, subsystem, and piece of equipment included in manual, identified by product name and arranged to match manual's table of contents. For each product, list name, address, and telephone number of Installer or supplier and maintenance service agent, and cross-reference Specification Section number and title in Project Manual and drawing or schedule designation or identifier where applicable.
- D. Manufacturers' Maintenance Documentation: Include the following information for each component part or piece of equipment:
1. Standard maintenance instructions and bulletins; include only sheets pertinent to product or component installed. Mark each sheet to identify each product or component incorporated into the Work. If data include more than one item in a tabular format, identify each item using appropriate references from the Contract Documents. Identify data applicable to the Work and delete references to information not applicable.
 - a. Prepare supplementary text if manufacturers' standard printed data are not available and where the information is necessary for proper operation and maintenance of equipment or systems.
 2. Drawings, diagrams, and instructions required for maintenance, including disassembly and component removal, replacement, and assembly.
 3. Identification and nomenclature of parts and components.
 4. List of items recommended to be stocked as spare parts.
- E. Maintenance Procedures: Include the following information and items that detail essential maintenance procedures:
1. Test and inspection instructions.
 2. Troubleshooting guide.
 3. Precautions against improper maintenance.
 4. Disassembly; component removal, repair, and replacement; and reassembly instructions.
 5. Aligning, adjusting, and checking instructions.
 6. Demonstration and training video recording, if available.

- F. Maintenance and Service Schedules: Include service and lubrication requirements, list of required lubricants for equipment, and separate schedules for preventive and routine maintenance and service with standard time allotment.
 - 1. Scheduled Maintenance and Service: Tabulate actions for daily, weekly, monthly, quarterly, semiannual, and annual frequencies.
 - 2. Maintenance and Service Record: Include manufacturers' forms for recording maintenance.
- G. Spare Parts List and Source Information: Include lists of replacement and repair parts, with parts identified and cross-referenced to manufacturers' maintenance documentation and local sources of maintenance materials and related services.
- H. Maintenance Service Contracts: Include copies of maintenance agreements with name and telephone number of service agent.
- I. Warranties and Bonds: Include copies of warranties and bonds and lists of circumstances and conditions that would affect validity of warranties or bonds.
 - 1. Include procedures to follow and required notifications for warranty claims.
- J. Drawings: Prepare drawings supplementing manufacturers' printed data to illustrate the relationship of component parts of equipment and systems and to illustrate control sequence and flow diagrams. Coordinate these drawings with information contained in record Drawings to ensure correct illustration of completed installation.
 - 1. Do not use original project record documents as part of maintenance manuals.

1.11 PRODUCT MAINTENANCE MANUALS

- A. Product Maintenance Manual: Assemble a complete set of maintenance data indicating care and maintenance of each product, material, and finish incorporated into the Work.
- B. Content: Organize manual into a separate section for each product, material, and finish. Include source information, product information, maintenance procedures, repair materials and sources, and warranties and bonds, as described below.
- C. Source Information: List each product included in manual, identified by product name and arranged to match manual's table of contents. For each product, list name, address, and telephone number of Installer or supplier and maintenance service agent, and cross-reference Specification Section number and title in Project Manual and drawing or schedule designation or identifier where applicable.
- D. Product Information: Include the following, as applicable:
 - 1. Product name and model number.
 - 2. Manufacturer's name.
 - 3. Color, pattern, and texture.
 - 4. Material and chemical composition.

5. Reordering information for specially manufactured products.
- E. Maintenance Procedures: Include manufacturer's written recommendations and the following:
 1. Inspection procedures.
 2. Types of cleaning agents to be used and methods of cleaning.
 3. List of cleaning agents and methods of cleaning detrimental to product.
 4. Schedule for routine cleaning and maintenance.
 5. Repair instructions.
- F. Repair Materials and Sources: Include lists of materials and local sources of materials and related services.
- G. Warranties and Bonds: Include copies of warranties and bonds and lists of circumstances and conditions that would affect validity of warranties or bonds.
 1. Include procedures to follow and required notifications for warranty claims.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION (NOT USED)

END OF SECTION 01 78 23

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SECTION 01 78 39 - PROJECT RECORD DOCUMENTS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General Agreement 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 and Work Item Unit Quantity Drawings.
 - 2. Record Specifications.
 - 3. Record Product Data.
- B. Related Requirements:
 - 1. Section "Summary of Work" for coordinating project record documents covering the Work of multiple contracts.
 - 2. Division 01, Section "Execution" for final property survey.
 - 3. Division 01, Section "Closeout Procedures" for general closeout procedures and maintenance manual requirements.
 - 4. Division 01 Section "Operation and Maintenance Data" for operation and maintenance manual requirements.
 - 5. For applicable Contracts: see Divisions 02 through 14, 21-27, and 31-33 Sections for specific requirements for Project Record Documents of products in those Sections.

1.3 CLOSEOUT SUBMITTALS

- A. Record Drawings: Comply with the following:
 - 1. Number of Copies: Submit two sets of marked-up Record Prints.
 - a. Initial Submittal:
 - 1) Submit record digital data files and 1 set of marked-up Record Prints.
 - 2) Architect will indicate whether general scope of changes, additional information recorded, and quality of drafting are acceptable.
 - b. Final Submittal:
 - 1) Submit PDF electronic files of scanned record prints and 2 set(s) of prints.

- 2) Print each drawing, whether or not changes and additional information were recorded.
- B. Record Specifications: Submit one paper copy, annotated PDF electronic files of Project's Specifications, including addenda and contract modifications.
- C. Record Product Data: Submit one paper copy, annotated PDF electronic files and directories of each submittal.
 1. Where record Product Data are required as part of operation and maintenance manuals, submit duplicate marked-up Product Data as a component of manual.
- D. Miscellaneous Record Submittals: See other Specification Sections for miscellaneous record-keeping requirements and submittals in connection with various construction activities. Submit annotated PDF electronic files and directories of each submittal.
- E. Reports: Submit written report weekly 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.

1.4 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 and unit quantity where installation varies from that shown originally. Require individual or entity who obtained record data, whether individual or entity is Installer, subcontractor, or similar entity, to provide information for preparation of corresponding marked-up record prints.
 - a. Give particular attention to information on concealed elements that would be difficult to identify or measure and record later.
 - b. Accurately record information in an acceptable drawing technique.
 - c. Record data as soon as possible after obtaining it.
 - d. Record and check the markup before enclosing concealed installations.
 - e. Cross-reference record prints to corresponding photographic documentation.
 2. Content: Types of items requiring marking include, but are not limited to, the following:
 - a. Dimensional changes to Drawings.
 - b. Revisions to details shown on Drawings.
 - c. Depths of foundations.
 - d. Locations and depths of underground utilities.
 - e. Revisions to routing of piping and conduits.
 - f. Revisions to electrical circuitry.

- g. Actual equipment locations.
 - h. Duct size and routing.
 - i. Locations of concealed internal utilities.
 - j. Changes made by Change Order or Construction Change Directive.
 - k. Changes made following Engineer/Architect's written orders.
 - l. Details not on the original Contract Drawings.
 - m. Field records for variable and concealed conditions.
 - n. Record information on the Work that is shown only schematically.
 - o. Actual location and quantity of unit price items of the Work.
- 3. Mark the Contract Drawings and Shop Drawings completely and accurately. Use personnel proficient at recording graphic information in production of marked-up record prints.
 - 4. Mark record sets with erasable, red-colored pencil. Use other colors to distinguish between changes for different categories of the Work at same location.
 - 5. Mark important additional information that was either shown schematically or omitted from original Drawings.
 - 6. Note Construction Change Directive numbers, alternate numbers, Change Order numbers, and similar identification, where applicable.
- B. Record Digital Data Files: Immediately before inspection for Certificate of Substantial Completion, review marked-up Record Prints with Engineer/Architect and Construction Manager]. When authorized, prepare a full set of corrected digital data files of the Contract Drawings, as follows:
- 1. Format: Same digital data software program, version, and operating system as the original Contract Drawings.
 - 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 Engineer/Architect through Construction Manager for resolution.
 - 4. Architect will furnish Contractor with one set of digital data files of the Contract Drawings for use in recording information.
 - a. See Division 01, Section "Project Management and Coordination" for requirements related to use of Engineer/Architect's digital data files.
 - 5. Engineer/Architect will provide data file layer information. Record markups in separate layers.
- C. Format: Identify and date each Record Drawing; include the designation "PROJECT RECORD DRAWING" in a prominent location.
- 1. Record Prints: Organize record prints into manageable sets. Bind each set with durable paper cover sheets. Include identification on cover sheets.
 - 2. Format: Annotated PDF electronic file with comment function enabled.
 - 3. Record Digital Data Files: Organize digital data information into separate electronic files that correspond to each sheet of the Contract Drawings. Name each file with the sheet identification. Include identification in each digital data file.
 - 4. Identification: As follows:

- a. Project name.
- b. Date.
- c. Designation "PROJECT RECORD DRAWINGS."
- d. Name of Engineer/Architect and Construction Manager.
- e. Name of Contractor.

1.5 RECORD SPECIFICATIONS

- A. Preparation: Mark Specifications to indicate the actual product installation where installation varies from that indicated in Specifications, addenda, and contract modifications.
 - 1. Give particular attention to information on concealed products and installations that cannot be readily identified and recorded later.
 - 2. Mark copy with the proprietary name and model number of products, materials, and equipment furnished, including substitutions and product options selected.
 - 3. Record the name of manufacturer, supplier, Installer, and other information necessary to provide a record of selections made.
 - 4. For each principal product, indicate whether Record Product Data has been submitted in operation and maintenance manuals instead of submitted as Record Product Data.
 - 5. Note related Change Orders, Record Drawings, and record Drawings where applicable.
- B. Format: Submit record Specifications as annotated PDF electronic file.

1.6 RECORD PRODUCT DATA

- 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. Preparation: Mark Product Data to indicate the actual product installation where installation varies substantially from that indicated in Product Data submittal.
 - 1. Give particular attention to information on concealed products and installations that cannot be readily identified and recorded later.
 - 2. Include significant changes in the product delivered to Project site and changes in manufacturer's written instructions for installation.
 - 3. Note related Change Orders record Drawings, where applicable.
- C. Format: Submit record Product Data as annotated PDF electronic file.
 - 1. Include record Product Data directory organized by Specification Section number and title, electronically linked to each item of record Product Data.

1.7 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 PDF electronic file.
 - 1. Include miscellaneous record submittals directory organized by Specification Section number and title, electronically linked to each item of miscellaneous record submittals.

1.8 MAINTENANCE OF RECORD DOCUMENTS

- A. 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 Engineer/Architect's and Construction Manager's reference during normal working hours.

PART 2 - PRODUCTS (NOT APPLICABLE)

PART 3 - EXECUTION (NOT APPLICABLE)

END OF SECTION 01 78 39

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SECTION 01 79 00 - DEMONSTRATION AND TRAINING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. This Section includes administrative and procedural requirements for instructing City's personnel where such is required elsewhere in the project documentation, including the following:
 - 1. Demonstration of operation of systems, subsystems, and equipment.
 - 2. Training in operation and maintenance of systems, subsystems, and equipment.
- B. Related requirements:
 - 1. Division 01 Section "Project Management and Coordination" for requirements for pre-instruction conferences.

1.3 INFORMATIONAL SUBMITTALS

- A. Instruction Program: Submit outline of instructional program for demonstration and training, including a list of training modules and a schedule of proposed dates, times, length of instruction time, and instructors' names for each training module. Include learning objective and outline for each training module.
 - 1. Indicate proposed training modules using manufacturer-produced demonstration and training video recordings for systems, equipment, and products in lieu of video recording of live instructional module.
- B. Qualification Data: For firms and persons specified in "Quality Assurance" Article to demonstrate their capabilities and experience. Include lists of completed projects with project names and addresses, names and addresses of Engineer/Architects and City, and other information specified.
- C. Attendance Record: For each training module, submit list of participants and length of instruction time.
- D. Evaluations: For each participant and for each training module, submit results and documentation of performance-based test.

1.4 CLOSEOUT SUBMITTALS

- A. Demonstration and Training Video Recordings: Submit two copies within seven days of end of each training module.
 - 1. Identification: On each copy, provide an applied label with the following information:
 - a. Name of Project.
 - b. Name and address of videographer.
 - c. Name of Engineer.
 - d. Name of Construction Manager.
 - e. Name of Contractor.
 - f. Date of video recording.
 - 2. Transcript: Prepared and bound in format matching operation and maintenance manuals. Mark appropriate identification on front and spine of each binder. Include a cover sheet with same label information as the corresponding video recording. Include name of Project and date of video recording on each page.
 - 3. At completion of training, submit complete training manual(s) for City's use prepared in same paper and PDF file format required for operation and maintenance manuals specified in Division 01, Section "Operation and Maintenance Data."

1.5 QUALITY ASSURANCE

- A. Facilitator Qualifications: A firm or individual experienced in training or educating maintenance personnel in a training program similar in content and extent to that indicated for this Project, and whose work has resulted in training or education with a record of successful learning performance.
- B. Instructor Qualifications: A factory-authorized service representative, complying with requirements in Division 01 Section "Quality Requirements," experienced in operation and maintenance procedures and training.
- C. Pre-instruction Conference: Conduct conference at Project site to comply with requirements in Division 01 Section "Project Management and Coordination." Review methods and procedures related to demonstration and training including, but not limited to, the following:
 - 1. Inspect and discuss locations and other facilities required for instruction.
 - 2. Review and finalize instruction schedule and verify availability of educational materials, instructors' personnel, audiovisual equipment, and facilities needed to avoid delays.
 - 3. Review required content of instruction.
 - 4. For instruction that must occur outside, review weather and forecasted weather conditions and procedures to follow if conditions are unfavorable.

1.6 COORDINATION

- A. Coordinate instruction schedule with City's operations. Adjust schedule as required to minimize disrupting City's operations.
- B. Coordinate instructors, including providing notification of dates, times, length of instruction time, and course content.
- C. Coordinate content of training modules with content of approved emergency, operation, and maintenance manuals. Do not submit instruction program until operation and maintenance data has been reviewed and approved by Engineer.

1.7 INSTRUCTION PROGRAM

- A. Program Structure: Develop an instruction program that includes individual training modules for each system and for equipment not part of a system, as required by individual Specification Sections.
- B. Training Modules: Develop a learning objective and teaching outline for each module. Include a description of specific skills and knowledge that participant is expected to master. For each module, include instruction for the following as applicable to the system, equipment, or component:
 - 1. Basis of System Design, Operational Requirements, and Criteria: Include the following:
 - a. System, subsystem, and equipment descriptions.
 - b. Performance and design criteria if Contractor is delegated design responsibility.
 - c. Operating standards.
 - d. Regulatory requirements.
 - e. Equipment function.
 - f. Operating characteristics.
 - g. Limiting conditions.
 - h. Performance curves.
 - 2. Documentation: Review the following items in detail:
 - a. Emergency manuals.
 - b. Systems and equipment operation manuals.
 - c. Systems and equipment maintenance manuals.
 - d. Product maintenance manuals.
 - e. Project Record Documents.
 - f. Identification systems.
 - g. Warranties and bonds.
 - h. Maintenance service agreements and similar continuing commitments.

3. Emergencies: Include the following, as applicable:
 - a. Instructions on meaning of warnings, trouble indications, and error messages.
 - b. Instructions on stopping.
 - c. Shutdown instructions for each type of emergency.
 - d. Operating instructions for conditions outside of normal operating limits.
 - e. Sequences for electric or electronic systems.
 - f. Special operating instructions and procedures.
4. Operations: Include the following, as applicable:
 - a. Startup procedures.
 - b. Equipment or system break-in procedures.
 - c. Routine and normal operating instructions.
 - d. Regulation and control procedures.
 - e. Control sequences.
 - f. Safety procedures.
 - g. Instructions on stopping.
 - h. Normal shutdown instructions.
 - i. Operating procedures for emergencies.
 - j. Operating procedures for system, subsystem, or equipment failure.
 - k. Seasonal and weekend operating instructions.
 - l. Required sequences for electric or electronic systems.
 - m. Special operating instructions and procedures.
5. Adjustments: Include the following:
 - a. Alignments.
 - b. Checking adjustments.
 - c. Noise and vibration adjustments.
 - d. Economy and efficiency adjustments.
6. Troubleshooting: Include the following:
 - a. Diagnostic instructions.
 - b. Test and inspection procedures.
7. Maintenance: Include the following:
 - a. Inspection procedures.
 - b. Types of cleaning agents to be used and methods of cleaning.
 - c. List of cleaning agents and methods of cleaning detrimental to product.
 - d. Procedures for routine cleaning.
 - e. Procedures for preventive maintenance.
 - f. Procedures for routine maintenance.
 - g. Instruction on use of special tools.
8. Repairs: Include the following:
 - a. Diagnosis instructions.
 - b. Repair instructions.

- c. Disassembly; component removal, repair, and replacement; and reassembly instructions.
- d. Instructions for identifying parts and components.
- e. Review of spare parts needed for operation and maintenance.

1.8 PREPARATION

- A. Assemble educational materials necessary for instruction, including documentation and training module. Assemble training modules into a training manual organized in coordination with requirements in Division 01 Section "Operation and Maintenance Data."
- B. Set up instructional equipment at instruction location.

1.9 INSTRUCTION

- A. Facilitator: Engage a qualified facilitator to prepare instruction program and training modules, to coordinate instructors, and to coordinate between Contractor and City for number of participants, instruction times, and location.
- B. Engage qualified instructors to instruct City's personnel to adjust, operate, and maintain systems, subsystems, and equipment not part of a system.
 - 1. Engineer will furnish an instructor to describe basis of system design, operational requirements, criteria, and regulatory requirements.
 - 2. City will furnish Contractor with names and positions of participants.
- C. Scheduling: Provide instruction at mutually agreed-on times. For equipment that requires seasonal operation, provide similar instruction at start of each season.
 - 1. Schedule training with City, through Construction Manager, with at least seven days' advance notice.
- D. Training Location and Reference Material: Conduct training on-site in the completed and fully operational facility using the actual equipment in-place. Conduct training using final operation and maintenance data submittals.
- E. Evaluation: At conclusion of each training module, assess and document each participant's mastery of module by use of an oral OR a written performance-based test.
- F. Cleanup: Collect used and leftover educational materials and give to City. Remove instructional equipment. Restore systems and equipment to condition existing before initial training use.

PART 2 - PRODUCTS (NOT APPLICABLE)

PART 3 - EXECUTION (NOT APPLICABLE)

END OF SECTION 01 79 00

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SECTION 018900

SITE CONSTRUCTION PERFORMANCE REQUIREMENTS

PART 1 - GENERAL

1.1 DESCRIPTION

- A. This Section specifies the general requirements for the site work included in the Contract.
- B. These requirements supplement those contained in the Standard General Conditions of the Construction Contract and their Supplemental Conditions.
- C. References are included in this Section to Articles of the General Conditions to call the Contractor's attention to frequently needed requirements.

1.2 PERMITS

- A. Unless otherwise provided in the Supplementary Conditions, the Contractor shall obtain and pay for all construction permits and licenses. The Owner shall assist Contractor, when necessary, in obtaining such permits and licenses. The Contractor shall pay all charges and inspection fees necessary for the prosecution of the Work, and shall pay all charges of utility owners for connections to the Work.

1.3 LAWS AND REGULATIONS

- A. Contractor shall give all notices and comply with all laws and regulations applicable to furnishing and performance of the Work.
- B. If the Contractor performs any work that is contrary to laws or regulations, the Contractor shall bear all claims, costs, losses and damages caused by, arising out of or resulting therefrom.

1.4 UTILITIES

- A. Shown or Indicated: The information and data shown or indicated in the Contract Documents with respect to existing underground facilities (utilities) at or contiguous to the site is based on information and data furnished to Owner or Engineer by the owners of such underground facilities (utilities) or by others.
 - 1. The Owner and Engineer shall not be responsible for the accuracy or completeness of any such information or data;
 - 2. The cost of all of the following will be included in the Contract and Contractor shall have full responsibility for: (i) reviewing and checking all such information and data; (ii) locating all underground facilities (utilities) shown or indicated in the Contract Documents; (iii) coordination of the Work with the owners of such underground facilities (utilities) during construction; and (iv) the safety and protection of all such underground facilities (utilities) and repairing any damage thereto resulting from the Work.
- B. Not Shown or Indicated: If an underground facility (utility) is uncovered or revealed at or contiguous to the site which was not shown or indicated in the Contract Documents, the

Contractor shall, promptly after becoming aware thereof and before further disturbing conditions affected thereby or performing any Work in connection therewith (except in an emergency), identify the owner of such underground facility (utility) and give written notice to that facility (utility) owner and to Owner and Engineer. Engineer will promptly review the underground facility (utility) and determine the extent, if any, to which a change is required in the Contract Documents to reflect and document the consequences of the existence of the underground facility (utility). If the Engineer concludes that a change in the Contract Documents is required, revised plans and specifications will be issued to reflect and document such consequences. During such time, the Contractor shall be responsible for the safety and protection of such underground facility (utility).

- C. Contractor shall notify all municipal agencies and utility companies owning or operating utilities, of proposed work affecting the utilities, or agencies.
- D. Contractor shall give written notification within the time period required by the agency or company for advance notification. A copy of the notification shall be furnished to the Engineer.
- E. Contractor shall notify "Dig Safely" before commencing any work in the vicinity of existing subsurface utilities.
- F. Contractor shall secure in-place existing utilities whose support is affected by the work and cooperate and assist the agency or company operating the utility in maintaining the utility services. Contractor shall correct any damage to the utilities caused by construction operations by repair or replacement, as required by the utility owner. When the repair or replacement is made by the utility owner, Contractor shall pay all costs assessed by the utility owner for the work.
- G. If the existing utilities are found to conflict with the proposed work, the Contractor shall protect and maintain the utilities and take measurements to determine the location, type and dimensions of the utility. The information shall be furnished to the Engineer who will determine the changes required in the proposed work or existing utilities to resolve the conflict as soon thereafter as is reasonable.
- H. Contractor shall verify the location, size, invert elevation and type of existing facilities at all points of connection prior to ordering new utility materials.

1.5 SOILS INFORMATION

- A. A geotechnical report on site soil conditions has been prepared for the Owner. Refer to the Geotechnical specifications for information about and use of the geotechnical report.
- B. The geotechnical report and the soils data are furnished to Contractor for informational purposes only and are specifically not a part of these Contract Documents. The Owner does not guarantee that the information is representative of all soils, rock, and other materials that may be encountered on the site.
- C. Contractor may make additional subsurface explorations upon written request to, and upon approval by, the Owner at no additional cost to the Owner.

1.6 SOIL SUPPORT

- A. Contractor shall furnish and install excavation soil support devices or use soil strengthening techniques required to perform excavations in accordance with the current requirements of the

U.S. Department of Labor, Occupational Health & Safety Administration and all federal, state, and municipal laws and regulations

1.7 REFERENCE STANDARDS

- A. References are made to technical societies, organizations and groups using the following abbreviations. All work so referred shall conform to the current edition of the referenced standard.

AASHTO American Association of State Highway Transportation Officials

ACI American Concrete Institute

ACOE United States Army Corps of Engineers

AGC Associated General Contractors of America

ANSI American National Standards Institute

AOAC Association of Official Agricultural Chemists

ASTM American Society for Testing and Materials

AWPA American Wood Preservers Association

AWWA American Water Works Association

NEMA National Electrical Manufacturers Association

OSHA Occupational Safety and Health Administration

UL Underwriters Laboratory

1.8 TRAFFIC MAINTENANCE

- A. Contractor shall maintain access to the site and through the work zones for personnel and vehicles of emergency services, utility agencies, inspection services, and others authorized to enter, move about and work on the site.
- B. When work is required on public roadways, Contractor shall furnish, install, maintain, and remove all signs, drums, barricades, steel plates, and other devices required by the federal or state government or municipality to maintain and protect pedestrians and vehicular traffic.
- C. Protective measures shall be installed at site access points to prevent mud and other debris from being deposited on the public roadways by construction traffic. The public roadways shall be swept as required to remove any deposits.

1.9 STATE AND LOCAL REFERENCE STANDARDS

- A. New York State Building Code

NYSDEC New York State Department of Environmental Conservation

NRDPW New Rochelle Department of Public Works

NYS DOT New York State Department of Transportation

END OF SECTION

SECTION 01 91 13 - GENERAL COMMISSIONING REQUIREMENTS

1.1 SUMMARY

- A. Section includes commissioning process requirements for systems, assemblies, and equipment. The Contractor understands that Ettinger Engineering Associates (EEA) has been retained by Ownership to serve as a third party commissioning agent (CxA). EEA will oversee commissioning (Cx) activities accordingly and Contractor will cooperate with EEA fully in this capacity.
- B. Applicable Codes and Standards:
 - 1. 2020 New York State Energy Code (by Application of 90.1 2013)
- C. The following are to be commissioned:
 - 1. Systems required under 2020 NYS ECC Commissioning:
 - a. Heating, cooling, air handling and distribution, ventilation, and exhaust systems, and their related air quality monitoring systems.
 - b. Air, water, and other energy recovery systems.
 - c. Manual or automatic controls, whether local or remote, on energy using systems including but not limited to temperature controls, setback sequences, and occupancy based control, including energy management functions of the building management system.
 - d. Plumbing, including insulation of piping and associated valves, domestic and process water pumping, and mixing systems.
 - e. Mechanical heating systems and service water heating systems.
 - f. Refrigeration systems
 - g. Renewable energy and energy storage systems.
 - h. Other systems, equipment and components that are used for heating, cooling or ventilation and that affect energy use.
 - i. Lighting Controls

1.2 OVERVIEW OF CONTRACTORS' RESPONSIBILITIES

- A. Attend construction and coordination meetings.
- B. Provide information requested by the CxA for commissioning documentation including, but not limited to the documentation outlined in sections 1.5, 1.6, 3.2, and 3.6.
- C. Provide measuring instruments and logging devices to record test data, and provide data acquisition equipment to record data for the complete range of testing for the required test period. Provide necessary measuring locations and test holes, along with approved plugs, as directed by the CxA.
- D. For variable refrigerant flow systems:
 - 1. Provide pressure and vacuum testing procedures to CxA prior to conducting these tests.
 - 2. Provide startup report template prior to startup to allow for CxA comments.
- E. Perform functional commissioning tests at the direction of the CxA. General & sub contractors shall be present along with equipment manufacturer if equipment has local controls or is otherwise

complex. **Equipment that requires manufacturer's representative to be present** for functional testing includes but is not limited to:

1. Booster Pumps
2. Boilers/Hot Water Heaters
3. Packaged units such as RTUs
4. Variable Refrigerant Systems

- F. Perform functional commissioning tests at the direction of the CxA. General & sub-contractors shall be present along with equipment manufacturer if equipment has local controls or is otherwise complex. **Equipment that requires manufacturer's representative to be present** for functional testing includes but is not limited to:
1. Booster Pumps
 2. Boilers/Hot Water Heaters
 3. Packaged units such as RTUs
 4. Variable Refrigerant Systems
- G. Functional testing visits will be completely separate and take place after full completion of Manufacturer's Representative start up and testing and balancing. Functional testing will also be separate from and take place prior to training. Note that this may necessitate the Manufacturer's representative coming to the site 3 times or more. All of these visits shall be included in the scope of this contract.
- H. Provide designated Owner personnel with comprehensive orientation and training in the understanding of the systems and operation and maintenance of each piece of equipment, as detailed under Section 3.6 and an Owner's Manual as detailed in section 3.5.
- I. Contractor is responsible for correcting all deficiencies in accordance Deficiency Correction subsection below.
- J. Contractor is responsible for ALL provisions of this specification section unless specifically identified as by CxA. The general contractor shall be an integral member of the commissioning team and shall assist the CxA in facilitating the process as described in this specification and the Commissioning Plan.

1.3 COMMISSIONING AGENT (CxA) RESPONSIBILITIES

- A. Review testing, adjusting, and balancing reports.
- B. Provide project-specific commissioning Functional Test Procedures (FTP) for actual systems, assemblies, equipment, and components to be furnished and installed as part of the construction contract as needed.
- C. Direct commissioning functional testing on all equipment identified in this specification. Contractor is responsible for checking operation of 100% of the equipment. The CxA will observe functional testing on a sample (minimum of 10) for similar equipment.
- D. Identify non-conformance and functional issues in the commissioned systems.
- E. Provide commissioning test data and inspection reports.

1.5 COMMISSIONING DOCUMENTATION

- A. Provide the following information to the CxA for inclusion in the commissioning plan:
1. Plan for delivery and review of submittals, systems manuals, and other documents and reports. CxA submittal review shall coincide with A/E submittal reviews.
 2. Identification of installed systems, assemblies, equipment, and components including design changes that occurred during the construction phase.
 3. Process and schedule for completing construction checklists and manufacturer's prestart and startup checklists for systems, assemblies, equipment, and components to be verified and tested.
 4. Test and inspection reports and certificates as required by other specifications.
 5. Method of deficiency correction and documentation and communication strategies.

1.6 SUBMITTALS

- A. Equipment submittals
1. Manufacturer Product Literature (approved by engineer)
 2. Product Installation Instructions
 3. Product Operating Manuals
- B. Shop Drawings (not reviewed by CxA but requested for reference during Cx)
- C. Full list of equipment with specific equipment names/tags
- D. Refrigerant pressure and vacuum testing procedures
- E. Testing reports including, but not limited to pipe pressure/vacuum testing, refrigerant charge calculations, and final refrigerant charge amounts
- F. Manufacturers prestart and startup checklists and reports
- G. Testing and Balancing Procedures
- H. Testing and Balancing Reports
- I. Operations and Maintenance Manual
- J. As-built Drawings, valve tag reports, complete list of terminal equipment with unique tags, etc.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION

3.1 FUNCTIONAL TESTING PREPARATION

- A. Certify that systems, subsystems, and equipment have been installed, calibrated, and started and are operating according to the Contract Documents.
- B. Certify that instrumentation and control systems have been completed and calibrated, that they are operating according to the Contract Documents, and that pretest set points have been recorded.
- C. Certify that testing, adjusting, and balancing procedures have been completed and that testing, adjusting, and balancing reports have been submitted, discrepancies corrected, and corrective work approved.
- D. Set systems, subsystems, and equipment into operating mode to be tested (e.g., normal shutdown, normal auto position, normal manual position, unoccupied cycle, emergency power, and alarm conditions).
- E. Inspect and verify the position of each device and interlock identified on checklists.
- F. Check safety cutouts, alarms, and interlocks with smoke control and life-safety systems during each mode of operation.
- G. Pre-test 100% of commissioned systems using the CxA's written Functional Test Procedures.
- H. If additional time is required from the CxA due to failure to complete all of the preparation outlined above this additional time will be charged to the responsible contractor.

3.2 AIR AND WATER BALANCING VERIFICATION

- A. HVAC System Testing and Balancing must be completed in accordance with NYS ECC section C408.2.2:
 - 1. Each supply air outlet and zone terminal device shall be equipped with means for air balancing in accordance with the requirements of Chapter 6 of the New York State Mechanical Code. Discharge dampers are prohibited on constant volume fans and variable volume fans with motors 10 hp (18.6 kW) and larger. Air systems shall be balanced in a manner to first minimize throttling losses then, for fans with system power of greater than 1 hp (0.74kW), fan speed shall be adjusted to meet design flow conditions.
Exception: Fans with fan motors of 1 hp (0.74 kW) or less are not required to be provided with a means for air balancing.
 - 2. Individual hydronic heating and cooling coils shall be equipped with means for balancing and measuring flow. Hydronic systems shall be proportionately balanced in a manner to first minimize throttling losses, then the pump impeller shall be trimmed or pump speed shall be adjusted to meet design flow conditions. Each hydronic system shall have either the capability to measure pressure across the pump, or test ports at each side of each pump.
Exceptions:

- 1) Pumps with pump motors of 5 hp (3.7 kW) or less.
 - 2) Where throttling results in no greater than five percent of the nameplate horsepower draw above that required if the impeller were trimmed.
- B. Plumbing systems balancing must be conducted to ensure proper cold, hot and return water flow and pressure throughout the system.
- C. Prior to performance of testing and balancing Work, provide copies of procedures, sample forms, checklists, and certificates to the CxA for review
- D. Notify the CxA at least 10 days in advance of testing and balancing Work, and provide access for the CxA to witness testing and balancing Work if necessary.
- E. Provide technicians familiar with the installation and location of all components and capable of performing all of the balancing & measurements outlined in the TAB procedures. Failure to provide appropriate personnel may result in charges to the contractor for additional time spent by the CxA.
- F. After submission of final TAB report, the commissioning authority may request to verify select measurements shown on the report. Provide instrumentation, and tools to verify testing and balancing of systems at the direction of the CxA.
1. The CxA will notify testing and balancing Contractor 10 days in advance of the date of field verification. Notice will not include data points to be verified.
 2. The testing and balancing Contractor shall use the same instruments (by model and serial number) that were used when original data were collected.
 3. Failure of an item includes, other than sound, a deviation of more than 10 percent. Failure of more than 10 percent of selected items shall result in rejection of final testing, adjusting, and balancing report.
 4. Remedy the deficiency and notify the CxA so verification of failed portions can be performed.
 5. Contractor shall bear the cost of CxA's time to re-verify a deficient tab report.

3.3 GENERAL FUNCTIONAL TESTING REQUIREMENTS

- A. Review Functional Testing Procedures (FTP) provided by the CxA (to be developed after approved submittals). The CxA along with the Contractor, testing and balancing Contractor, and Instrumentation and Control Contractor shall prepare detailed testing plans, procedures, and checklists for systems, subsystems, and equipment.
- B. Provide technicians familiar with the installation and location of all components and capable of performing all of the tests outlined in the procedures. Failure to provide appropriate personnel may result in charges to the contractor for additional time spent by the CxA.
- C. Provide instrumentation, tools, and equipment to perform commissioning test at the direction of the CxA.
- D. Scope of testing shall include entire installation, from central equipment for heat generation, ventilation and refrigeration through distribution systems to each conditioned space or terminal unit.
- E. Test all operating modes, interlocks, control responses, and responses to abnormal or emergency conditions, and verify proper response of building automation system controllers and sensors.

- F. Tests will be performed during design conditions whenever possible. The CxA may direct that set points be altered when simulating conditions is not practical.
- G. When it is not practical to test under design conditions, simulated conditions may need be used at the discretion of the CxA. Before simulating conditions, calibrate testing instruments. Provide equipment to simulate loads. Set simulated conditions as directed by the CxA and document simulated conditions and methods of simulation. After tests, return settings to normal operating conditions.
- H. If tests cannot be completed because of a deficiency outside the scope of the system, document the deficiency and report it to the Owner. After deficiencies are resolved, reschedule tests.
- I. If the testing plan indicates specific seasonal testing, complete appropriate initial performance tests and documentation and schedule seasonal tests.

3.4 SYSTEMS, SUBSYSTEMS, AND EQUIPMENT TESTING PROCEDURES

- A. Equipment Testing Requirements: The complete testing procedure is outlined in the Commissioning Plan. Specific equipment testing requirements are outlined in the respective test procedures. The following general testing requirements are applicable to all equipment in the commissioning scope:
 - 1. Prior to pre-functional and functional testing, all static tests related to each piece of equipment shall be completed.
 - 2. For variable refrigerant flow systems the manufacturer shall be present during equipment start up.
- B. Pre-functional testing:
 - 1. Shall be performed to ensure proper installation & general functionality of specified equipment. Testing shall be performed by the applicable Contractor or manufacturer's representative. Pre-functional testing procedures shall include, but are not limited to, the following:
 - a. Checking all necessary connections and access clearances
 - b. Testing of all accessories and associated safety equipment
 - 2. Deficiencies: Correct deficiencies and re-inspect or re-test, as applicable, at no extra cost to the owner.
 - a. If difficulty in correction would delay progress, report deficiency to the CxA immediately.
- C. HVAC and Service Hot Water Functional Testing:
 - 1. Shall be performed to ensure full functionality and performance in accordance with design. Functional testing plans will be provided by the CxA and completed by the contractor in the presence of the CxA or designated commissioning representative. The contractor is responsible for Pre-testing the systems prior to the CxA's arrival to ensure the systems are complete and fully operational. Functional testing procedures shall include, but are not limited to, the following:
 - a. Full design load performance (simulated or actual)
 - b. Part load conditions
 - c. Control systems related to equipment
 - d. All modes as described in the sequence of operation;
 - e. Redundant or automatic back-up mode;
 - f. Performance of alarms

- g. Mode of operation upon a loss of power and restoration of power.
 - h. Air economizers testing to verify compliance with manufacturer's specifications.
 - 2. ATC Contractor shall set up and provide trend data as requested by CxA
 - a. initial trend logs for all controls points. Change of Value for binary points, 15 minute interval for most control points, 5 minute intervals for critical points and points prone to fluctuations (with minimum 1 week duration).
 - b. CxA reserves the right to request additional trends to facilitate testing.
 - c. ATC contractor to provide trend data to CxA up to 3 separate times for initial, retest, and/or seasonal testing.
- D. Heat Trace Commissioning Requirements: Any piping (sprinkler, plumbing, hvac, other) heat traced for freeze protection must be coordinated and demonstrated as functioning reliably and efficiently to the CxA (typically by electrical contractor, GC to coordinate)
 - 1. Submit shop drawing markups showing all locations of heat trace and include: unique tag for each circuit, start and end-point for each system, location of thermostat/ controller, connected electrical circuit breaker, length of heat trace installation.
 - 2. Submit photographs of heat trace installation prior to insulation showing compliance with manufacturer's recommendations.
 - 3. Contractor to submit startup report indicating temperature setpoint, and heat trace current draw and estimated pipe temperature prior to CxA witnessed commissioning test.
- E. Lighting Controls Functional Testing (per NYS Energy Code Requirements)
 - 1. Shall be performed to ensure full functionality and performance in accordance with design. Functional testing plans will be provided by the CxA and completed by the contractor in the presence of the CxA or designated commissioning representative. The contractor is responsible for Pre-testing the systems prior to the CxA's arrival to ensure the systems are complete and fully operational. Functional testing can be performed in conjunction with balancing, where approved by the CxA.
 - 2. Prior to passing final inspection, the commissioning authority shall provide evidence that the lighting control systems have been tested to ensure that control hardware and software are calibrated, adjusted, programmed and in proper working condition in accordance with the construction documents and manufacturer's instructions.
 - 3. Where occupant sensor controls are provided, the following procedures shall be performed:
 - a. Certify that the occupant sensor has been located and aimed in accordance with manufacturer recommendations.
 - b. For projects with seven or fewer occupant sensors, each sensor shall be tested.
 - c. For projects with more than seven occupant sensors, testing shall be done for each unique combination of sensor type and space geometry. Where multiples of each unique combination of sensor type and space geometry are provided, not less than 10 percent, but in no case less than one, of each combination shall be tested unless the code official or design professional requires a higher percentage to be tested. Where 30 percent or more of the tested controls fail, all remaining identical combinations shall be tested.
 - d. Where occupant sensor controls include status indicators, verify correct operation.
 - e. The controlled lights turn off or down to the permitted level within the required time.
 - f. For auto-on occupant sensor controls, the lights turn on to the permitted level when an occupant enters the space.
 - g. For manual-on occupant sensor controls, the lights turn on only when manually activated.

- h. The lights are not incorrectly turned on by movement in adjacent areas or by HVAC operation.
- 4. Where time-switch controls are provided, the following procedures shall be performed:
 - a. Confirm that the time-switch control is programmed with accurate weekday, weekend and holiday schedules.
 - b. Provide documentation to the owner of time-switch controls programming including weekday, weekend, holiday schedules, and set-up and preference program settings.
 - c. Verify the correct time and date in the time switch.
 - d. Verify that any battery back-up is installed and energized.
 - e. Verify that the override time limit is set to not more than 2 hours.
 - f. In a simulated occupied condition, all lights can be turned on and off by their respective area control switch.
 - g. In a simulated occupied condition, the switch only operates lighting in the enclosed space in which the switch is located.
 - h. In a simulated unoccupied condition, nonexempt lighting turns off.
 - i. In a simulated occupied condition, manual override switch allows only the lights in the enclosed space where the over-ride switch is located to turn on or remain on until the next scheduled shutoff occurs.
 - j. Additional testing as specified by the registered design professional.
- 5. Where daylight responsive controls are provided, the following shall be verified:
 - a. Control devices have been properly located, field calibrated and set for accurate setpoints and threshold light levels.
 - b. Daylight controlled lighting loads adjust to light level set points in response to available daylight.
 - c. The locations of calibration adjustment equipment are readily accessible only to authorized personnel.

3.5 DEFICIENCY CORRECTION

- A. Contractor must provide written responses to all unresolved commissioning issues including photographs as needed to show issue has been resolved. Written responses photos and all other documentation must be uploaded directly to the commissioning software.
- B. Deficiencies are any condition in the installation or function of a component, piece of equipment or system that is not in compliance with the Contract Documents or does not perform properly.
- C. When the deficiency has been corrected, the Contractor notifies the CxA that the item is ready to be re-tested and returns the form to the CxA; the CxA will reschedule the test and the Contractor shall re-test.
- D. Identical or Near-Identical Items: If 10 percent, or two, whichever is greater, of identical or near-identical items fail to perform due to material, manufacturing, or installation defect, all items will be considered defective; provide a plan for correction within 2 weeks after notification of defect, including provision for testing sample installations prior to replacement of all items.
- E. Contractor shall bear the cost of Owner and CxA personnel time witnessing re-testing. Repeat or systemic failures will result in additional retesting and additional sampling. The responsible contractor will cover the costs of additional sampling required as well as retesting upon repeat failures

- F. Contractor must provide written responses to all unresolved commissioning issues including photographs as needed to show issue has been resolved. Written responses photos and all other documentation must be uploaded directly to the commissioning software.
- G. All deficiencies must be corrected within 8 months of the first temporary certificate of occupancy so that the corrections can be verified and the final commissioning report can be submitted to the city as required.

3.6 CLOSE OUT DOCUMENTATION

- A. Provide the following documentation to the Owner for CxA review within 90 days of receipt of the first certificate of occupancy:
 - 1. Final As-built drawings including location and performance data on each piece of equipment.
 - 2. Submittal data stating equipment size and selected options for each piece of equipment requiring maintenance.
 - 3. Manufacturer's operation manuals and maintenance manuals for each piece of equipment requiring maintenance. Required routine maintenance actions shall be clearly identified.
 - 4. Name and address of at least one service agency.
 - 5. HVAC controls system maintenance and calibration information, including wiring diagrams, schematics, and control sequence descriptions. Desired or field-determined setpoints shall be permanently recorded on control drawings at control devices or, for digital control systems, in system programming instructions.
 - 6. Submittal data indicating all selected options for each piece of lighting equipment and lighting controls.
 - 7. Operations and maintenance manuals for each piece of lighting equipment. Required routine maintenance actions, cleaning and recommended relamping shall be clearly identified.
 - 8. A schedule for inspecting and recalibrating lighting controls.
 - 9. A narrative of how each system is intended to operate, including recommended setpoints.
 - 10. Final TAB Report.

3.7 PRELIMINARY COMMISSIONING REPORT (BY CXA)

- A. A preliminary report of commissioning test procedures and results shall be completed by the commissioning authority and provided to the building owner. The report shall be identified as "Preliminary Commissioning Report".
 - 1. Itemization of deficiencies found during testing required by this section that have not been corrected at the time of report preparation.
 - 2. Deferred tests that cannot be performed at the time of report preparation because of climatic conditions.
 - 3. Climatic conditions required for performance of the deferred tests.
- B. Buildings, or portions thereof, shall not pass the final DOB mechanical inspection until the code official has received a letter of transmittal from the building owner acknowledging that the building owner or owner's authorized agent has received the Preliminary Commissioning Report. The code official shall be permitted to require that a copy of the Preliminary Commissioning Report be made available for review by the code official.
- C. At a minimum, the commissioning authority must have received the following documentation prior to providing the preliminary commissioning report:

1. Start-up checklists and reports (completed by the manufacturer's representative or by the applicable trade, as required) for all equipment serving the spaces covered under the temporary certificate of occupancy
 - a. Gas service from utility is required for start-up of equipment utilizing gas for normal operation
 2. VRF and split system heat pump testing reports including, but not limited to, pipe pressure/vacuum testing, refrigerant charge calculations, and final refrigerant charge amounts
 3. As-built lighting drawings, showing all lighting sensor locations and controls wiring
 4. Lighting controls sequence of operations
 5. Packaged equipment internal sequences of operation, including all setpoints
 6. Responses from engineer and contractor to functional testing clarification comments
 7. Submittals for all equipment that will be tested by CxA, including controls submittal with wiring diagrams and sequences of operation
 8. Updated COMcheck (where applicable)
- D. The commissioning authority shall provide documentation to the building owner within 90 days of receipt of the first certificate of occupancy certifying that the installed lighting controls meet documented performance criteria.

3.8 FINAL COMMISSIONING REPORT

- A. Within 18 months of the issuance of certificate of occupancy or letter of completion, the commissioning authority shall prepare a report of test procedures and results, including test procedures and results performed after occupancy. The report shall be identified as the "Final Commissioning Report".
1. Results of functional performance tests.
 2. Disposition of deficiencies found during testing, including details of corrective measures used or proposed.
 3. Functional performance test procedures used during the commissioning process including measurable criteria for test acceptance.
 - a. Exception: Deferred tests that cannot be performed at the time of report preparation due to climatic conditions.
- B. Buildings, or portions thereof, shall not pass the final DOB mechanical inspection until the code official has received a letter of transmittal from the building owner acknowledging that the building owner or owner's authorized agent has received the Preliminary Commissioning Report. The code official shall be permitted to require that a copy of the Preliminary Commissioning Report be made available for review by the code official.

END OF SECTION 01 91 13