CITY OF NEW BRUNSWICK
MIDDLESEX COUNTY, NJ

INTERIOR IMPROVEMENTS FOR FIRE STATION HEADQUARTERS AT 93 JOYCE KILMER AVE

SPECIFICATION NO. 1029-26
OCTOBER 2026

WARNING
These specifications may be invalid if not received directly from the City of New Brunswick, Department of Engineering.

MW Studios
David Woodward
New Jersey Architect No. 21AI01972400
Expiry 07/31/2027

THIS IS TO CERTIFY THAT THE MEMBERS OF THE MUNICIPAL COUNCIL OF THE CITY OF NEW BRUNSWICK HAVE APPROVED SPECIFICATION NO. 1029-26 ENTITLED:

INTERIOR IMPROVEMENTS FOR FIRE STATION HEADQUARTERS AT 93 JOYCE KILMER AVE

CONSISTING OF PAGES TITLE THROUGH 10 2800

DATED: OCTOBER 2026 AND PREPARED BY:

MW Studios

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(Council Vice President)

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NOTICE TO BIDDERS

Sealed proposals will be received by the Purchasing Board of the City of New Brunswick, NJ at City Hall, 78 Bayard Street, New Brunswick, NJ. The bids will be opened and read **virtually** on **Wednesday, December 9, 2026** at **10:00 a.m.**, prevailing time for **INTERIOR IMPROVEMENTS FOR FIRE STATION HEADQUARTERS AT 93 JOYCE KILMER AVE, Specification No. 1029-26** for the City of New Brunswick.

The work will be in accordance with the specifications prepared by MW Studios and adopted by the City Council of the City of New Brunswick, NJ. **Vendors interested in obtaining a set of Plans and Specifications should contact the City Engineer's Office at 732-745-5056 or email at engineering@cityofnewbrunswick.org for the electronic distribution link.**

At the designated date and time, the City Clerk will open and read **virtually,** the sealed bids.

Please join the meeting from your computer, tablet or smartphone.
https://www.zoomgov.com/j/1659430296?pwd=8zJvv2IJ5a1yot3WeW3C4U4IOq9jgC.1

Join from a video-conferencing room or system.
Meeting ID: 165 943 0296
Passcode: 493178

Get the app now and be ready when your first meeting starts:
https://zoom.us/download

Please note that there will be no in-person opening of the bids and all bids must be submitted by 10:00 a.m. on the designated day of the bid opening to the City Clerk's Office, 78 Bayard Street, New Brunswick NJ 08901. Please note if you are hand delivering a bid, that access to the City Clerk's Office is only available via the back parking lot door.

Each bidder is required to bid each item on a fixed unit price basis, which will be maintained throughout the contract.

Each bid shall be accompanied by a certified check, cashier's check or bid bond payable to the City Treasurer of the City of New Brunswick, as a guarantee that if the contract is awarded to the bidder, the bidder will enter into a contract therefore. The amount so deposited shall be ten percent (10%) of the bid, but in no case in excess of $20,000.00.

N.J.S.A. 40A11-14, provides that the Governing Body of any municipality may provide the form and manner of approval of all guarantee, indemnity, fidelity or other bonds required.

Bidders must comply with P.L.1963 Chapter 150 (Prevailing Wage), P.L.1975 Chapter 127, N.J.A.C. 17:27, N.J.S.A. 10:5-31 et seq., P.L. 1977 Chapter 33 and with P.L. 1999 Chapter 238. In addition, all bidders must comply with the Public Works Contractor Registration Act - N.J.S.A. 34:11-56.48 et seq., when applicable and comply with the Contractor Responsibility Certification and respond to the Disclosure of Investment Activities in

Iran form. According to 40A:11-23, the City is prohibited from receiving bids on Mondays or any day directly following a State or Federal Holiday.

The City Council of the City of New Brunswick reserves the right to reject any and all bids if in its opinion it is in the best interest so to do.

THE ENVELOPE CONTAINING THE BID SHALL BE ADDRESSED TO:
City Clerk
78 Bayard Street
New Brunswick, NJ 08903

MARKED: **NEW BRUNSWICK FIRE DEPARTMENT HEADQUARTERS**
INTERIOR RENOVATION
AT 93 JOYCE KILMER AVE
Specification No. **1029-26**
Due: **December 9, 2026 at 10:00 am.**

P R O P O S A L

For **INTERIOR IMPROVEMENT FOR FIRE STATION HEADQUARTERS AT 93 JOYCE KILMER AVE, Specification No. 1029-26** as listed below in the City of New Brunswick, County of Middlesex to the Governing Body of the City of New Brunswick, NJ.

The undersigned hereby declares that he has carefully examined the Notice to Bidders and Specifications for the project, and he will contract to furnish the items at the prices bid.

S C H E D U L E O F P R I C E S

ITEM NO.	DESCRIPTION	UNIT	QUANTITY	UNIT PRICE	TOTAL
1	Mobilization	LS		$	$
2	Selective Demolition	LS		$	$
3	Concrete Repairs	LS		$	$
4	Structural Steel	LS		$	$
5	Plastic Laminate Casework and Countertop	LS		$	$
6	Non-Structural Metal Framing and Gypsum Board Assemblies	LS		$	$
7	Tiling	LS		$	$
8	Painting	LS		$	$
9	Plastic Toilet Compartments	LS		$	$
10	Toilet Accessories	LS		$	$
11	Plumbing	LS		$	$
12	Electrical	LS		$	$
13	Roof Repair, Allowance	LS		$40,000.00	$40,000.00
14	Additional Work as Directed by the Engineer, Allowance	DOLLARS	1	$50,000.00	$50,000.00
15	Unforeseen Hazardous Materials, Allowance	DOLLARS	1	$20,000.00	$20,000.00

P R O P O S A L (con't)

TOTAL BID (in figures) $_____

TOTAL BID (in words) _____Dollars

NOTE: 1) The City reserves the right to increase, decrease or eliminate any item in the contract as permitted by law.

2) The City reserves the right to award the Base Bid only or Base Bid plus Add-On Items.

3) Proposals and Forms to be submitted at the time of bid shall NOT be removed from these documents. The Contractor may reattach completed Proposal and Forms to the documents prior to submission at time of bid.

4) **QUANTITIES MAY VARY FROM PLAN SHEET** - due to allowance for field changes. Payment will be based on actual quantities installed.

TIME OF COMPLETION: 120 CALENDAR DAYS
Failure to complete the project within the authorized time may result in liquidated damages in the amount of $ 250.00 per day plus compensatory damages.

_____

Accompanying the Proposal is a:

□ CERTIFIED CHECK payable to the City of New Brunswick in the sum of $_____.

□ BID BOND in the amount of $_____.

which the bidder agrees is to be forfeited as liquidated damage, and not as a penalty, if the contract is awarded to the bidder and the bidder shall fail to execute the Contract for the project or furnish the bond required within the stipulated time. Otherwise, the check will return to the bidder.

P R O P O S A L (con't)

The undersigned bidder hereby declares to be completely familiar with the intent and scope of this project and to have carefully examined these specifications, plans (if any) and project site prior to preparing this proposal. The bidder certifies to the validity of the bid prices and that the contract item(s) will be provided at the prices listed.

The bidder is (an Individual) (a Partnership) (a Corporation) under the laws of the State of _____

having principal offices at _____.

SIGNATURE _____

SIGNATURE (typed or printed)_____

COMPANY NAME _____
ADDRESS _____
_____

DATE_____ PHONE NO. _____

FEDERAL I.D. #_____ FAX NO. _____

SECTION 00100

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SECTION 00100
INSTRUCTIONS TO BIDDERS FOR

INTERIOR IMPROVEMENTS FOR FIRE STATION HEADQUARTERS AT 93 JOYCE KILMER AVE

CITY OF NEW BRUNSWICK, MIDDLESEX COUNTY, NEW JERSEY

CONTRACT NO. 1029-26

1. RECEIPT AND OPENING OF BIDS

The City of New Brunswick, (hereinafter called Owner), acting by and through the Mayor and Municipal Council, invites bids on the form attached hereto, all blanks of which must be appropriately filled in. Bids will be received at the offices of the City Clerk, City Hall, 78 Bayard Street, New Brunswick, New Jersey 08901, until **10:00 a.m**. prevailing local time on **December 9, 2026** at which time said bids will be **virtually** opened and read aloud. See Notice to Bidders for further details.

2. FORMAT

The Contract Documents are divided into Parts, Divisions, and Sections to separate categories of subject matter for convenient reference thereto. Generally, there has been no attempt to divide the Specification Sections into work executed by the various building trades, work by separate contractors or subcontractors, or work required for separate facilities.

The Bid Section represents the contract covering facilities, which will become part of the City, and has been designed and packaged by The Department of Engineering, City of New Brunswick, 25 Kirkpatrick Street 2nd Floor, New Brunswick, NJ 08901. The Contract, Specifications and Figures are presented herein.

3. PREPARATION AND AWARD OF BID

All Bidders are required to examine the site of the work included in this Contract, as well as the means of access to the site and areas for storage of equipment and materials.
Bidders shall make all necessary investigations in order to become thoroughly informed as to the character and magnitude of all work involved in the complete execution of the Contract, including facilities for delivery and handling of material, plant, if any, at site, and conditions and difficulties that will be encountered in the performance of the work specified herein. All such examinations and investigations must be made prior to submission of bids.

Each Bidder must be fully informed as to the conditions under which the work is to be performed. Failure to do so will not relieve the successful Bidder of obligation to furnish all material, labor and equipment necessary to complete the work as specified, for the consideration set forth in the bid. These conditions shall include problems of construction, availability of labor and equipment, transportation, storage of materials, and all else necessary to perform and complete the project as specified herein.
The Contractor shall adopt such methods as are necessary to avoid interruption of or interference with the work of another Contractor.

All bids must be submitted upon the blank Bid Forms annexed hereto. The bid shall state the proposed price for each item of work, both in words and/or figures as indicated on the bid form, and shall be signed by the Bidder with the Bidder's business address, place of residence and telephone number.

Bidder shall not remove and submit Bid pages separate from the volume of Contract Documents, but shall submit the Bid and Bonds with the complete volume of bound Contract Documents, including all pages correctly assembled.

Each bid shall be delivered to the Owner in a sealed opaque envelope bearing on the outside the name of the Bidder, the Bidder's address, and the name of the project for which the bid is submitted. If forwarded by mail, the envelope containing this bid must be enclosed in another envelope. The outer mailing envelope shall be addressed to the City Clerk, City of New Brunswick, 78 Bayard Street, New Brunswick, New Jersey 08903. The outer mailing envelope shall be clearly identified by project name and contract number. The City of New Brunswick shall not be responsible for, nor be required to, grant relief from non-delivery or late delivery of bids forwarded by mail or third party messenger/delivery services.

When the Bid is made on a unit price basis, the Bidder shall state, in the Bid Form, the price per unit of measure for each item of work, for which the Bidder will agree to carry out the work, as well as the total price for the performance of the Item as determined by multiplying the estimated quantity by the price per unit of measure bid therefore.

In evaluating bids, discrepancies between words and figures shall be resolved in favor of words. Discrepancies between unit prices and the total price extension shall be resolved in favor of the unit price and the extension adjusted accordingly. Discrepancies between the indicated sum of any column of figures and the correct sum thereof shall be resolved in favor of the correct sum.

If an individual makes the bid, the individual's post office address shall be stated and the individual shall sign the Bid Form. If made by a firm or partnership, its name and post office address shall be stated and the Bid Form shall be signed by one or more of the general partners. If made by a corporation, its name and principal post office address shall be stated and the Bid Form shall be signed by an authorized official of the corporation. Before award is made to a Bidder not a resident of the State of New Jersey, such Bidder shall designate a proper agent in the State of New Jersey on whom service can be made in the event of litigation.

A Contract shall be awarded to a responsible, responsive Bidder submitting the lowest total Bid as defined in the Contract Documents and satisfying all other requirements of said documents, subject to the Owner's right to reject any and all bids should the Owner deem it to be in the City's best interest to do so.

The Owner may waive any informalities or reject any and all bids. Any bid may be withdrawn by properly notarized written request served to the City Clerk, City of New Brunswick, prior to the above scheduled time for opening of bids or authorized postponement thereof. Any bid received after the time and date specified shall not be considered. Award or rejection of all bids shall be made within sixty (60) days of receipt of bids and no Bidder may withdraw a bid during this period.

4. CHALLENGES TO THE SPECIFICATIONS

Any prospective bidder who wishes to challenge a bid specification shall file such challenges in writing with the Purchasing Agent no less than three (3) business days prior to the opening of bids. Challenges filed after that time shall be considered void and having no impact on the City of New Brunswick or the award of contract.

5. QUALIFICATION

Owner may make such investigations as deemed necessary to determine the ability of the Bidder to perform the work, and the Bidder shall furnish to the Owner all such information and data for this purpose as the Owner may request. The Owner reserves the right to reject any Bid if the evidence submitted by, or investigation of, such Bidder fails to satisfy the Owner that such Bidder is properly qualified to carry out the obligations of the Contract and to complete the Work contemplated herein. Conditional bids will not be accepted.

Bidder shall furnish satisfactory evidence that it has the ability and experience to perform the Work and that it has sufficient plant to enable it to execute the same successfully and complete the Work within the time period stated herein.

The Bidder shall provide a list of projects similar in nature to that described in the bid and shall provide the name and addresses of purchasers who may give information regarding the Bidder's performance to date.

The Bidder shall provide the name of the person to be in responsible charge of the project. Their function and experience in performing this type of work shall also be supplied on the form provided herein.

6. BID SECURITY

Each Bid shall be accompanied by a bid security in the amount of ten percent (10%) of the total Bid, but not to exceed a total amount of $20,000. The bid security shall be a certified check or cashier's or treasurer's check or a bid bond executed by the principal and surety company attorney in fact and witnessed and attested to with the power of attorney attached. Each bid shall also include a Consent of Surety prepared on the form attached hereto, duly executed by the Bidder as Principal and having as surety a surety company duly authorized and licensed to conduct business in the State of New Jersey by the Department of Insurance and acceptable to the Owner. Certified check or cashier's or treasurer's check shall be payable to the order of the Treasurer, City of New Brunswick. Such checks or bid bonds will be returned to all except the three lowest responsible bidders within ten (10) days, excluding Sundays and Holidays, after opening of bids. The checks or bid bonds of the remaining unsuccessful Bidders will be returned within three (3) days, excluding Sundays and Holidays, after award of the Contract by the Owner to the successful Bidder. (See Page 00700-2 for rating requirements of surety company).

7. LIQUIDATED DAMAGES FOR FAILURE TO ENTER INTO CONTRACT AND FOR NOT COMMENCING AND COMPLETING ON TIME

The parties acknowledge that in the event of a default in performance by the Contractor it is

foreseeable that the Owner will suffer damages for which it is entitled to be compensated, both by virtue of the provisions of this Contract and as a matter of applicable law. Certain of these damages may be reasonably ascertaining. Others shall consist of intangible losses, which are difficult of calculation, including but not limited to revenue losses and general and administrative costs. For these intangible losses, in the event the Contractor fails satisfactorily to complete all work for the entire project as contemplated and provided for under this Contract on or before the time wherein final completion is required under the terms of the Contract Documents, the Contractor shall be liable for, and the Owner may deduct from the Contract price, the sum of the amount as specified in the Proposal as liquidated damages for each calendar day (Sundays and legal holidays included) of delay. Such damages shall continue for the period of time that final completion has not been met and the sum thereof is hereby, in view of the difficulty of estimating such damages, fixed and determined as liquidated damages which the Owner will suffer by such time delay. The sum determined pursuant to this paragraph is not a penalty but an attempt reasonably to forecast the potential harm due to intangible losses caused by delay. The Contractor acknowledges that in submitting its bid and in setting the amount thereof it has ascertained the risk of nonperformance under this Article to the same extent as if the Contractor and the Owner had negotiated the amount of liquidated damages at arm's length. In addition to and not in lieu of liquidated damages for the intangible costs of delay, the Contractor shall be liable for compensatory damages as allowed by law and in addition as hereinafter provided.

The Contractor agrees that, as compensatory damages due on account of delay in performance of the Contract, the Contractor shall be liable for and the Owner may deduct from the Contract Price the actual costs, resulting from the Contractor's failure to complete the work contemplated herein within the time provided, for payment for the services of construction observers necessarily employed on the work and for the services of the City Engineer for any number of days in excess of the time allowed in the Contract Documents and for payment for all fines and penalties of whatever description imposed by the State of New Jersey or other governmental agency.

If the amounts of liquidated or compensatory damages due from the Contractor exceed the amount of all monies due and to become due to the Contractor, the Contractor or his Surety shall pay the balance to the Owner.

8. TIME FOR COMPLETION

The Work shall be completed within the time limit as set forth in the Proposal and shall begin upon the date specified in the Notice to Proceed issued by the Owner to the successful Bidder.

Failure to complete any of this work by the date specified herein shall subject the successful Bidder to liquidated and direct damages as described elsewhere in the Contract Documents.

9. OBLIGATION OF BIDDER

At the time of the opening of Bids, each Bidder will be presumed to have read and to be thoroughly familiar with the Contract Documents (including all addenda). The failure or omission of any Bidder to examine any form, instrument, or documents shall in no way relieve any Bidder from any obligation in respect to its bid.

Each Bidder must be fully informed of the conditions relating to the construction, fabrication and delivery of the Work and the employment of labor therefore. Failure to do so will not

relieve a successful Bidder of any obligation to furnish all material and labor necessary to carry out the provisions of this Contract. Insofar as possible, the successful Bidder, in carrying out this work, must employ such methods or means as will not cause any interruption or interference with the work of any other contractor on this or any other project or the Owner.

10. ADDENDUM AND INTERPRETATIONS

No interpretation of the meaning of the Specifications or other pre-bid documents will be made to any Bidder orally.

Every request for such interpretation shall be in writing, addressed to the City Engineer, City of New Brunswick, 78 Bayard Street, New Brunswick, NJ 08903 Telephone No. (732) 745-5056 Fax No. (732) 565-7531. Requests for interpretation must be received at least ten (10) days prior to the date fixed for the opening of bids to be given consideration. Any and all such interpretations and any supplemental instructions will be in the form of written addenda to the Specifications which, if issued, will be mailed by certified mail to all prospective Bidders (at the respective address furnished for such purposes) no later than seven (7) days, Saturdays, Sundays, and Holidays excepted, prior to the date for the acceptance of bids.

Failure of any Bidder to receive any such addendum or interpretation shall not relieve such Bidder from any obligation under the bid as submitted. All addenda so issued will become part of the Contract Documents. The Owner or Engineer will not be responsible for any oral interpretation of the Specifications or other Contract Documents.

11. SECURITY FOR FAITHFUL PERFORMANCE

Bidders are required to submit, along with their bids, Consent of Surety, from a surety licensed to conduct business in the State of New Jersey and acceptable to the Owner, that in the event of award of the Contract to the Bidder said surety will furnish the required bonds. See Page 00700-2 for rating requirements of Surety Company.

After notification of the acceptance of the Contractor's proposal, the Owner shall prepare the Contract Documents and forward them in triplicate (3) to the Contractor for execution.

Simultaneously with the delivery of the executed Contract, the successful Bidder shall furnish a surety bond or bonds as security for faithful performance of this Contract, for the payment of all persons performing labor on the Project under this Contract and furnishing materials in connection with the Contract, as specified in the General Provisions included herein. The surety on such bond or bonds shall be a duly authorized surety company licensed to conduct business in the State of New Jersey by the Department of Insurance and acceptable to the Owner.

Unless otherwise noted, the following bonds in the form specified are required:

a. 100% Performance Bond (based on award amount) and Surety Disclosure Statement and Certification

b. 100% Labor and Materials Bond (based on award amount)

c. 100% Maintenance Bond (based on final construction cost)

12. POWER OF ATTORNEY

Attorney-in-fact who signs bid bonds or contract bonds must file with each bond a notarized and effectively dated copy of their power of attorney.

13. LAWS AND REGULATIONS

The Bidder's attention is directed to the fact that all applicable Federal and State laws, municipal ordinances and rules and regulations of all authorities having jurisdiction over construction of the Project shall apply to the Contract throughout the term of the Project, and they shall deem to be included in the Contract the same as though herein written out in full.

14. PARTNERSHIP AND STOCKHOLDERS DISCLOSURE

In accordance with Chapter 33 of the New Jersey Public Laws of 1977, the Bidder, if a Corporation or a Partnership, shall submit with the bid a statement which shall set forth the names and addresses of all stockholders in the Corporation who own ten (10%) percent or more of its stock of any class, or of all individual partners in the partnership who own a ten (10%) percent or greater interest therein.

The same shall apply where one of the stockholders is another Corporation or Partnership and a similar disclosure statement shall be submitted for such other Corporation or Partnership.

15. DEBARRED, SUSPENDED AND DISQUALIFIED BIDDER PROVISION

The Bidder shall submit with the bid a sworn statement, as set forth in these Contract Documents, signed by an officer or general partner of the Bidder, indicating whether or not the Bidder is, at the time of the bid, included on the New Jersey State Treasurer's List of Debarred, Suspended, or Disqualified Bidders. The Bidder may be debarred, suspended or disqualified from contracting with the State of New Jersey and NJDEPE if the Bidder commits any of the acts listed in N.J.A.C. 7:1-5.2. The City may reject Bidders who are debarred, suspended or disqualified as set forth above.

16. MECHANIC'S LIENS

The successful Bidder shall not permit any mechanic's liens or other encumbrances to be filed with respect to the work or any labor, materials, supplies, or other items used in performing the Work or which are intended to or become part of the completed Work. If such a mechanic's lien or other encumbrance is filed, within thirty (30) days of the filing thereof, the successful Bidder shall discharge such mechanic's lien or other encumbrance or shall post such security in sufficient amount and appropriate form with the proper authorities as may be necessary to satisfy such mechanic's lien or other encumbrance. In addition and not by way of limitation to the Owner's right to insist upon and obtain compliance with this Article by the successful Bidder, the Owner shall concurrently have all the rights and remedies set forth in these Specifications upon the breach of this Article.

Furthermore, under the New Jersey Surety Bond Act (N.J.S.A. 2A:44-143 through 147), also referred to as the Public Works Bond Act, it is generally the responsibility of the subcontractor who receives payment from the general contractor to pay any “sub- sub-contractors” for work performed or materials delivered with regard to the sub-contractor’s project obligations (N.J.S.A. 2A:44-143a(1)). A “sub-sub-contractor” that does not receive payment from the subcontractor (despite the subcontractor being paid by the contractor) may file a lien for work

performed or materials supplied directly against the general contractor or against the labor and material bond posted with the local contracting unit by the general contractor (N.J.S.A. 2A:44-144).

17. AFFIRMATIVE ACTION REQUIREMENTS

The Contractor shall obtain, complete and submit the Initial Project Manning Report AA-201 and mandatory Affirmative Action Language Exhibit B to the City of New Brunswick, Department of Engineering prior to award of the project. The Project will not be awarded until a copy of the form is filed with the Owner.

18. MANDATORY AFFIRMATIVE ACTION LANGUAGE - EXHIBIT B

EXHIBIT B

MANDATORY EQUAL EMPLOYMENT OPPORTUNITY LANGUAGE
N.J.S.A. 10:5-31 et seq. (P.L. 1975, C. 127) N.J.A.C. 17:27

CONSTRUCTION CONTRACTS

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

The contractor or subcontractor, where applicable, will not discriminate against any employee or applicant for employment because of age, race, creed, color, national origin, ancestry, marital status, affectional or sexual orientation, gender identity or expression, disability, nationality or sex. Except with respect to affectional or sexual orientation and gender identity or expression, the contractor will ensure that equal employment opportunity is afforded to such applicants in recruitment and employment, and that employees are treated during employment, without regard to their age, race, creed, color, national origin, ancestry, marital status, affectional or sexual orientation, gender identity or expression, disability, nationality or sex. Such equal employment opportunity shall include, but not be limited to the following: employment, up-grading, demotion, or transfer; recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship. The contractor agrees to post in conspicuous places, available to employees and applicants for employment, notices to be provided by the Public Agency Compliance Officer setting forth provisions of this nondiscrimination clause.

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

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

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

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

(A) If the contractor or subcontractor has a referral agreement or arrangement with a union for a construction trade, the contractor or subcontractor shall, within three business days of the contract award, seek assurances from the union that it will cooperate with the contractor or subcontractor as it fulfills its affirmative action obligations under this contract and in accordance with the rules promulgated by the Treasurer pursuant to N.J.S.A. 10:5-31 et. seq., as supplemented and amended from time to time and the Americans with Disabilities Act. If the contractor or subcontractor is unable to obtain said assurances from the construction trade union at least five business days prior to the commencement of construction work, the contractor or subcontractor agrees to afford equal employment opportunities minority and women workers directly, consistent with this chapter. If the contractor's or subcontractor's prior experience with a construction trade union, regardless of whether the union has provided said assurances, indicates a significant possibility that the trade union will not refer sufficient minority and women workers consistent with affording equal employment opportunities as specified in this chapter, the contractor or subcontractor agrees to be prepared to provide such opportunities to minority and women workers directly, consistent with this chapter, by complying with the hiring or scheduling procedures prescribed under (B) below; and the contractor or subcontractor further agrees to take said action immediately if it determines that the union is not referring minority and women workers consistent with the equal employment opportunity goals set forth in this chapter.

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

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

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

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

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

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

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

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

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

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

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

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

(C) The contractor or subcontractor agrees that nothing contained in (B) above shall

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

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

The contractor agrees to cooperate with the public agency in the payment of budgeted funds, as is necessary, for on-the-job and/or off-the-job programs for outreach and training of minorities and women.

(D) The contractor and its subcontractors shall furnish such reports or other documents to the Division of Public Contracts Equal Employment Opportunity Compliance as may be requested by the Division from time to time in order to carry out the purposes of these regulations, and public agencies shall furnish such information as may be requested by the Division of Public Contracts Equal Employment Opportunity Compliance for conducting a compliance investigation pursuant to Subchapter l0 of the Administrative Code (NJAC 17:27).

(REVISED 4/10)

19. UNSATISFACTORY MATERIALS/SERVICE

If during the course of this project the Contractor fails to perform or supply materials satisfactorily, a Notice of Unsatisfactory Material/Service (similar to the form below) will be sent to the Contractor. In addition to actions by the City permitted under this contract, such notice(s) may be used in determining the Contractor qualified for future bid awards.

Project Name:_____ File No: _____

Contractor/Vendor Name: _____

Date: _____

Statement of Problem: _____
_____
_____
_____

Report Prepared by: _____

Authorized Signature: _____

(City Engineer)

==========

Contractor to complete and return to Engineering Department, City of New Brunswick, 78 Bayard Street, New Brunswick, NJ 08903.

Kindly respond within **10 days**. Failure to respond may be grounds for disqualification from future project award considerations.

Contractor's Answer to Complaint:

_____
_____
_____
_____

Authorized Contractor's Signature: _____

Title: _____ Date: _____

20. PREVAILING WAGE RATES

Latest prevailing wage rates published by New Jersey State Department of Labor and Industry shall be considered to be a part of these Contract Documents.

Prevailing wage rates shall be made a part of the Contract for performance of the described work. Contractors and subcontractors performing work shall post prevailing wage rates for each craft and classification involved as herein determined in prominent and easily accessible places at site of work or at such place or places as are used to pay workmen their wages.

Fringe benefits are part of prevailing wage rates; employers not paying these benefits to a party designated in a collective bargaining agreement shall pay benefits directly to employee on each pay day.

Each bidder shall read carefully and fully said published wage rates, and shall predicate his bid on said rates as minimum requirements. Submission of bid shall imply that Bidder has carefully inspected all said wage rates, that the Bidder is thoroughly familiar with all provisions of the Prevailing Wage Act and that should he be awarded a contract, he will fully and faithfully comply with all provisions of the Prevailing Wage Act.

Prevailing Wage Rates are on file in the Office of the City Engineer 25 Kirkpatrick Street, 2ND Floor New Brunswick, NJ 08901, where they may be seen or procured by bidders. Bidders may contact the Engineering Office at (732) 745-5056.

CITY OF NEW BRUNSWICK

MIDDLESEX COUNTY, NEW JERSEY

INTERIOR IMPROVEMENTS FOR FIRE STATION HEADQUARTERS AT 93 JOYCE KILMER AVE
Specification No. 1029-26

AGREEMENT

This agreement is dated as of the_____Day of_____in the year 20____, between the City of New Brunswick, hereinafter called the Owner, and

(Name of Contractor)

(Address of Contractor)

hereinafter called the Contractor.

Owner and Contractor, in consideration of the Mutual Covenants hereinafter set forth, agree as follows:

ARTICLE 1. WORK

The Contractor shall complete all work required by the Contract Documents for the **INTERIOR IMPROVEMENTS FOR FIRE STATION HEADQUARTERS AT 93 JOYCE KILMER AVE, Specification No. 1029-26,** in complete conformance with the Contract Documents.

ARTICLE 2. CONTRACT DRAWINGS

The drawings compromise a set of drawings entitled the **INTERIOR IMPROVEMENTS FOR FIRE STATION HEADQUARTERS AT 93 JOYCE KILMER AVE, Specification No. 1029-26,** dated **October 2026** and Bid Specifications dated **October 2026**, and include the following:

DRAWING NO.	TITLE
G000	Cover Sheet
G001	Code Analysis & Diagram
G010	Typical Accessibility Guidelines
A100	Assembly Types & Notes
A101	Floor Plans - Existing & Demolition
A102	Floor Plans - Proposed
A700	Enlarged Plans & Int. Elevations
A701	Enlarged Plans & Int. Elevations
A702	Enlarged Plans & Int. Elevations
A801	Reflected Ceiling Plan
A900	Roof Plan

S001	Structural General Notes and Abbreviations

DRAWING NO.	TITLE
S100	Structural First Floor Repair Plan
S200	Structural Repair Details 1
S201	Structural Repair Details 2
P-001	Plumbing General Notes, Legends and Abbreviations
PD-100	Plumbing Demolition Basement, First Floor and Second Floor Plan
PD-200	Plumbing Demolition Enlarged Plans
P-100	Plumbing Basement, First Floor Plan and Second Floor Plan
P-200	Plumbing Enlargement Enlarged Plans
P-300	Plumbing Schedule and Details
P-500	Plumbing Specifications
E-001	Electric General Notes, Legends and Abbreviations
E-100	Electrical Basement, First Floor and Second Floor Plan
E-200	Electric Enlarged Plans

ARTICLE 3. ENGINEER

The Contract Documents have been prepared by the City Engineer, who is hereinafter called the Engineer who is to assume all duties and responsibilities and have the rights and authority assigned to the Engineer in the Contract Documents in connection with completion of the work in accordance with the Contract Documents.

The Owner may furnish members of its own staff to be the Project Inspector and assistants, who are to assume all duties and responsibilities, and have the rights and authority assigned to the inspector in the Contract Documents in connection with the completion of the work in accordance with the Contract Documents.

ARTICLE 4. CONTRACT TIME

This work will be completed and ready for final payment in accordance with the General Provisions within **120 calendar days** from the time the Notice to Proceed is issued.

Liquidated damages: Owner and Contractor recognize that time is of the essence of this agreement and that the Owner will suffer financial loss if the work is not completed within the time specified in the paragraph above, plus any extensions thereof allowed in accordance with the General Provisions. They also recognize the delays, expense and difficulties involved in proving in a legal preceding the actual loss suffered by the Owner if the work is not complete on time. Accordingly, instead of requiring any such proof, Owner and Contractor agree that as liquidated damages for delay (but not as a penalty) the Contractor shall pay Owner **Two Hundred Fifty xx/100** (**$250.00)** Dollars **for each day** that expires after times specified in the paragraph above for completion until the work is complete. In addition to the amounts provided for liquidated damages the Contractor shall pay to the Owner for all the time stipulated for completion of the work or as it may be extended as provided herein.

ARTICLE 5. CONTRACT PRICE

The Owner shall pay the Contractor for completion of the work included in this Contract, the price(s)

stipulated in the Bid Form hereto attached. Payment shall be subject to additions and deductions by Change order provided in Article 15 of the General Provisions.

ARTICLE 6. PAYMENT PROCEDURES

The Contractor shall submit applications for payment in accordance with the General Provisions. Applications for payment will be processed by the Owner's Inspector and approved by the Engineer as provided in the General Provisions. All invoices must be submitted with a signed voucher. Payment processing by the Owner will commence only after approval by the City Engineer of a signed voucher.

Based upon applications for payment submitted to the owner's Project Inspector and his recommendation for payment, and the review and recommendation of the Engineer, the Owner will make progress payments on account of the Contract Price to the Contractor as provided in the General Provisions.

In accordance with the New Jersey State Law NJSA 40A:11-163, the Owner shall retain from the Contractor two percent of each progress payment until final completion and acceptance of all work covered by the Contract Documents.

At the point of substantial completion, the Owner may reduce the retainage below the two percent level, but the retainage shall not be less than twice the amount required to perform the remaining work at current prices.

ARTICLE 7. CONTRACTOR'S REPRESENTATIONS

In order to induce Owner to enter into this agreement, Contractor makes the following representations:

Contractor has familiarized itself with the nature and extent of the Contract Documents, work, site, locality, and all local conditions and any laws and regulations that may in any manner affect cost, progress, performance, or furnishing of the work.

Contractor has visited the site, as evidence by his execution of the statement included in his bid, and has familiarized himself with all local conditions and federal, state, and local laws, ordinances, rules and regulations that in any manner may affect cost, progress, or performance of the work.

Contractor has obtained and carefully studied (or assumes responsibility for obtaining and carefully studying) all such examinations, investigations, explorations, tests, reports and studies which pertain to the subsurface or physical conditions at or contiguous to the site or otherwise may affect cost, progress, performance or furnishing of the work as Contractor considers necessary for the performance or furnishing of the work at Contract Price, within the Contract Documents, and no additional examinations, investigations, explorations, tests, reports, studies or other similar information or date are or will be required by Contractor for such purposes.

Contractor has reviewed and checked all information and data shown or indicated in the Contract Documents with respect to existing underground facilities at or contiguous to the site and assumes responsibility for the accurate location of said underground facilities are or will be required by the Contractor in order to perform and furnish the work at the Contract Price, within the Contract Time and in accordance with the other terms and conditions of the Contract Documents.

Contractor has correlated the results of all such observations, examination, investigations, exploration, tests, reports and studies with the terms and conditions of the Contract.

Contractor has given Engineer written notice of all conflicts, errors or discrepancies that he has discovered in the Contract Documents and the written resolution thereof by Engineer is acceptable to Contractor.

ARTICLE 8. CONTRACT DOCUMENTS

The Contract Documents are defined in the General Provisions. The Contract Documents form the Contract, and all are as fully a part of the Contract as if attached to the Agreement or repeated herein. Contractor covenants that he has read all the Contract Documents and will follow them.

ARTICLE 9. ACCOUNTING RECORDS

Contractor shall check all materials, equipment and labor entering into the work and shall keep such full and detailed accounts as may be necessary for proper financial management under this Agreement.

ARTICLE 10. MISCELLANEOUS

Terms used in the Agreement will have the meanings indicated in the General Conditions.

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

Owner and Contractor each binds itself, his partners, successors, assigns and legal representatives to the other party hereto, its partners, successors, assigns and legal representatives in respect to all covenants, agreements and obligations contained in the Contract Documents.

The performance, labor and materials, and maintenance bonds shall name the City of New Brunswick as obligee with respect to the Contractor’s and Surety’s obligations thereunder.

In witness whereof, the parties to these presents have executed this Agreement in two (2) counterparts, each of which shall be deemed an original, in the year and day first abovementioned.

This Agreement will be effective on_____of 20_____

Owner: _____ Contractor: _____

_____ _____

_____ _____

By: _____ _____

(Corporate seal)

Attest: _____ Attest: _____

Address for Giving Notice: Address for Giving Notice:

_____ _____

_____ _____

_____ _____

(Attached evidence of authority to sign and resolution or other documents authorizing execution of Agreement.)

(If Contractor is a Corporation, attach evidence of authority to sign.)

ACKNOWLEDGEMENT FOR PRINCIPAL

(INDIVIDUAL)

STATE OF _____

CITY OF _____

TO WHICH I, _____,

A NOTARY PUBLIC IN AND FOR THE CITY AND STATE AFORESAID, DO CERTIFY THAT

_____, WHOSE NAME IS SIGNED TO THE FOREGOING BONDS,

PERSONALLY APPEARED BEFORE ME IN MY CITY AND STATE AFORESAID AND

ACKNOWLEDGED THE SAME TO BE HIS ACT AND DEED.

ACKNOWLEDGE AND SWORN BEFORE

ME THIS_____DAY OF _____

NOTARY PUBLICMY COMMISSION

EXPIRES_____

ACKNOWLEDGEMENT FOR PRINCIPAL

(PARTNERSHIP)

STATE OF _____

CITY OF _____

TO WHICH I, _____,

A NOTARY PUBLIC IN AND FOR THE CITY AND STATE AFORESAID, DO CERTIFY

THAT _____

AND _____

PARTNERS DOING BUSINESS AS _____

WHOSE NAMES ARE SIGNED TO THE FOREGOING BONDS, PERSONALLY APPEARED BEFORE ME IN MY CITY AND STATE AFORESAID AND ACKNOWLEDGED THE SAME TO BE THEIR ACT AND DEED.

ACKNOWLEDGE AND SWORN BEFORE

ME THIS _____ DAY OF _____

NOTARY PUBLIC

MY COMMISSION EXPIRES _____

ACKNOWLEDGEMENT FOR PRINCIPAL

(CORPORATION)

STATE OF _____

CITY OF _____

TO WHICH I,_____,

A NOTARY PUBLIC IN AND FOR THE CITY AND STATE AFORESAID, DO CERTIFY THAT _____,

AND_____, WHOSE

NAMES ARE SIGNED TO THE FOREGOING BONDS AS _____,

AND _____OF_____,

PERSONALLY APPEARED BEFORE ME IN MY CITY AND STATE AFORESAID AND

ACKNOWLEDGED THE SAME TO BE THEIR ACT AND DEED OF SAID CORPORATION.

ACKNOWLEDGE AND SWORN BEFORE

ME THIS_____DAY OF _____

NOTARY PUBLIC

MY COMMISSION EXPIRES_____

CERTIFICATE OF OWNER'S ATTORNEY

I HAVE EXAMINED THE CONTRACT DOCUMENTS AND BONDS AND FIND THEM TO BE EXECUTED IN PROPER FORM. I HEREBY CERTIFY THAT IN MY OPINION THE OWNER HAS THE AUTHORITY AND POWER TO EXECUTE THE FOREGOING CONTRACT.

_____ _____

DATE ATTORNEY

BID CHECK LIST

Bidder acknowledges and agrees to complete the following forms at the times indicated below:

I. TO BE COMPLETED AND SUBMITTED AT TIME OF BID

- ❑ PROPOSAL FORM
- ❑ CONTRACTOR DISCLOSURE FORM
- ❑ CERTIFICATION OF SHAREHOLDERS, OFFICERS OR PARTNERS
- ❑ BID BOND (10% OF TOTAL BID, NOT TO EXCEED $20,000)
- ❑ CONSENT OF SURETY
- ❑ STATEMENT OF QUALIFICATIONS
- ❑ LIST OF SUBCONTRACTORS
- ❑ CERTIFICATION OF EQUIPMENT
- ❑ MAJOR EQUIPMENT AND MATERIAL SCHEDULE
- ❑ AFFIDAVIT OF NON-COLLUSION
- ❑ FORM W-9 - REQUEST FOR TAXPAYER ID NO. AND CERTIFICATION
- ❑ PROPOSAL ACKNOWLEDGMENT
- ❑ PUBLIC WORKS CONTRACTOR REGISTRATION
- ❑ AFFIRMATIVE ACTION COMPLIANCE NOTICE
- ❑ CONTRACTOR RESPONSIBILITY CERTIFICATION
- ❑ DISCLOSURE OF INVESTMENT ACTIVITIES IN IRAN

II. TO BE SUBMITTED PRIOR TO AWARD

- ❑ BUSINESS REGISTRATION CERTIFICATE

III. TO BE SUBMITTED PRIOR TO SIGNING THE CONTRACT

- ❑ FORM AA-201 INITIAL PROJECT WORKFORCE REPORT

IV. TO BE SUBMITTED PRIOR TO START OF CONSTRUCTION

- ❑ PERFORMANCE BOND AND PAYMENT BOND (100 % OF BID AMOUNT)
- ❑ CERTIFICATE OF INSURANCE (NAMING CITY AS ADDITIONAL-INSURED)
- ❑ PROJECT WORK SCHEDULE (TIME LINE)
- ❑ PRE-CONSTRUCTION PHOTOGRAPHS OR VIDEO
- ❑ SURETY DISCLOSURE STATEMENT AND CERTIFICATION
- ❑ INDEMNIFICATION/HOLD HARMLESS AGREEMENT
- ❑ SHOP DRAWINGS, MATERIAL CERTIFICATIONS

V. TO BE SUBMITTED AT COMPLETION AND ACCEPTANCE OF PROJECT

- ❑ MAINTENANCE BOND (100% OF FINAL CONTRACT PRICE)
- ❑ FINAL RELEASE & INDEMNITY AGREEMENT
- ❑ PROJECT GUARANTEES/WARRANTIES (IF APPLICABLE)
- ❑ INSTRUCTION AND O & M MANUALS (IF APPLICABLE)
- ❑ CONTRACTOR'S AFFIDAVIT OF PAYMENT OF DEBTS AND CLAIMS
- ❑ CONTRACTOR'S AFFIDAVIT OF RELEASE OF LIENS
- ❑ CONSENT OF SURETY TO FINAL PAYMENT
- ❑ CONDITIONAL WAIVER AND RELEASE IPON FINAL PAYMENT
- ❑ GUARANTEE FOR CORRECTION OF WORK AFTER SUBSTANTIAL COMPLETION OR FINAL PAYMENT

The above information will **ONLY** be accepted in complete package form.
Submission of any item individually **WILL NOT BE ACCEPTED.**

_____
AUTHORIZED SIGNATURE

_____
TRADE, COMPANY OR CORPORATE NAME

CONTRACTOR DISCLOSURE FORM

The attached form for "Acknowledgment of Contract if a Corporation" and "Certification of Shareholders, Officers or Partners" must be executed if applicable.

Subscribed and Sworn to before me this
_____day of_____20___.

_____
Notary Public of N.J.
Commission Expires_____

Acknowledgment of Contractor if a Corporation:

STATE OF_____
COUNTY OF_____

BE IT REMEMBERED that on this ___ day of_____, 20___, before me personally came and appeared _____ to me known, who, being by me duly sworn on this oath, doth depose and make proof to my satisfaction that he/she is the _____ of the Corporation mentioned in the within instrument.
Role (President/Secretary)

_____ is the _____ of said corporation, that the
Role (President/Secretary)
execution as well as the making of this instrument has been duly authorized by a proper resolution of the board of directors of said corporation; that deponent well knows the corporate seal of said corporation and the seal affixed to said instrument is such corporate seal and was thereto affixed, and said instrument signed and delivered by said _____ President/Secretary, as and for his/her voluntary act and deed and as for the voluntary act and deed of said corporation in presence of deponent, who thereupon subscribed his/her name hereto as witness.

_____
, President/Secretary

Subscribed and Sworn to before me this
_____day of_____20___.

_____
Notary Public of N.J.
Commission Expires_____

CERTIFICATION OF SHAREHOLDERS, OFFICERS OR PARTNERS

ALL CORPORATE OR PARTNERSHIP BIDDERS MUST COMPLETE THIS FORM IN ACCORDANCE WITH N.J.S.A. 52:25-24.2.

List all shareholders or partners with ten percent (10%) or more of the stock or interest in said corporation or partnership (all corporate partners or shareholders owning ten percent (10%) or more of the stock must disclose their holdings).

Shareholder or Partner	% Interest	Address
_____	_____	_____
_____	_____	_____
_____	_____	_____

( ) Please check here if no stockholder or partner owns ten percent (10%) or more of the stock or interest in the corporation or partnership.

List all directors and officers of corporation:

Name:	Address:	Title: (List all positions)
_____	_____	_____
_____	_____	_____
_____	_____	_____

I hereby certify that the information given above is true and correct as of: _____
(Date of Bid)

I am aware that if any of the foregoing statements made by me above is willfully false, I am subject to punishment.

_____ _____
(Partner or Corporate Officer Signature) (Title)

NOTICE: If there are any questions concerning this form or its completion, refer to N.J.S.A. 52:25-24.2.

BID BOND

KNOW ALL PERSONS BY THESE PRESENTS, that we, the undersigned

_____as Principal,

and_____as Surety, are hereby held and

firmly bound unto the City of New Brunswick as Owner in the penal sum of_____

for the payment of which, well and truly to be made, we hereby jointly and severally bind ourselves, our heirs, executors, administrators, successors and assigns.

SIGNED THIS _____DAY OF_____, 20___.

The condition of the above obligation is such that whereas the Principal has submitted to the Owner a certain bid, attached hereto, a part hereof to enter into a Contract in writing, for the renovation of the **INTERIOR IMPROVEMENTS FOR FIRE STATION HEADQUARTERS AT 93 JOYCE KILMER AVE,** City of New Brunswick, **Contract No. 1029-26.**

NOW, THEREFORE,

(a) If said bid shall be rejected, or in the alternate,

(b) If said bid shall be accepted and the Principal shall execute and deliver a Contract in the Form of Contract attached hereto (properly completed in accordance with said bid) and shall furnish Bonds for his faithful performance of said Contract (Performance Bond, Labor and Materials Bond, and Maintenance Bond) for the payment of all persons performing labor or furnishing materials in connection therewith, and shall in all other respects perform the Agreement created by the acceptance of said bid, then this obligation shall be void, otherwise the same shall remain in force and effect; it being expressly understood and agreed that the liability of the Surety for any and all claims hereunder shall, in no event, exceed the penal amount of this obligation as herein stated.

The Surety, for value received, hereby stipulates and agrees that the obligations of said Surety and its bond shall be in no way impaired or affected by any extension of the time within which the Owner may accept such bid; and said surety does hereby waive notice of any such extension.

IN WITNESS WHEREOF, the Principal and the Surety have hereunto set their hands and seals, and such of them as are corporations, have caused their corporate seals to be hereto affixed and these presents to be signed by their proper officers, the day and year first set forth above.

(SEAL) _____ (L.S.)
Principal

STATE OF_____

COUNTY OF_____

_____
Surety**

BY_____

**Note: The Surety Company Attorney-In-Fact shall also submit a duly notarized Power-of-Attorney.

CONSENT OF SURETY

TO: CITY OF NEW BRUNSWICK

RE: _____
(Contractor)

Construction of the **INTERIOR IMPROVEMENTS FOR FIRE STATION HEADQUARTERS INTERIOR RENOVATION AT 93 JOYCE KILMER AVE,** of New Brunswick, **Contract No. 1029-26.**

This is to certify that the_____ shall provide to
Surety Company

_____ the required Performance Bond, Labor and Materials Bond,
Contractor

Maintenance Bond in accordance with the Contract Documents in the event that said

_____ is awarded a Contract for the above project.
Contractor

_____
Attorney-In-Fact of Surety Company**

** CERTIFICATE OF SURETY MUST BE SIGNED BY AN AUTHORIZED AGENT OR REPRESENTATIVE OF A SURETY COMPANY AND NOT BE THE INDIVIDUAL OR COMPANY SUBMITTING THE BID. THE SURETY COMPANY ATTORNEY-IN-FACT SHALL ALSO SUBMIT A DULY NOTARIZED POWER OF ATTORNEY.

STATEMENT OF QUALIFICATIONS

Name of Bidder: _____

Principal Office: _____
(Street or Post Office Box)

_____
(City) (State) (Zip Code)

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

   When was it organized? _____

   When was it incorporated? _____

2. How many years of experience has your organization had in the type of work similar to the work which you are bidding? _____

3. List below projects involving similar work that your organization has completed in the last five years, together with the name and address of the owner and project cost.

   Location of the Project: _____

   Year: _____ Contract price: _____

   Name of Owner: _____

   Address: _____

   Phone Number: _____

.....

Location of the Project: _____

Year: _____ Contract price: _____

Name of Owner: _____

Address: _____

Phone Number: _____

.....

Location of the Project: _____

Year: _____ Contract price: _____

Name of Owner: _____

Address: _____

Phone Number: _____

.....

Location of the Project: _____

Year: _____ Contract price: _____

Name of Owner: _____

Address: _____

Phone Number: _____

.....

(Use blank sheet(s) if additional space is needed)

4. List below all projects currently being worked on and the date.

Project Location	Brief Description	Contract Amount	Phone#

(Use blank sheet(s) if additional space is needed)

5. References: Name only the engineers, owners or representatives including public agencies for whom you have performed work.

Name	Address	Engineer, Owner or Agency	Phone#

6. Provide as references the names of those banks which can substantiate the financial responsibility of the bidder.

Name	Address	Contract	Phone#

(Use blank sheet(s) if additional space is needed)

7. Has Contractor, or any principal or officer or director of Contractor ever refused to sign a contract after submitting a bid and after an award as issued? _____

   If the answer to this question is in the affirmative, please provide explanation. (Attach additional sheet(s))

   _____

   _____

   _____

8. Has Contractor, principal, or any director, shareholder or partner ever been declared in default on any contract?_____

   If the answer to this question is in the affirmative, please provide a detailed explanation for such action.

   _____

   _____

   _____

The undersigned certifies that the foregoing statements made by him are true and accurate and if any of the foregoing statements made by him are willfully false, he recognizes that he is subject to punishment.

_____
(To be executed by General Partner, if partnership or corporate officer, if corporation)

Subscribed and Sworn to before me this
_____day of_____20___.

Name: _____

Title: _____

_____
Notary Public of_____
Commission Expires _____

LIST OF SUBCONTRACTORS

The Bidder shall list below those subcontractors whom the Bidder intends to employ in executing the work, in accordance with Local Public Contracts Law, N.J.S.A. 40A:11-16. The Bidder proposes that the following subcontracting firms and/or businesses will be awarded subcontracts for the portions of the work listed below, in the event that the Bidder is awarded the Contract. In no event shall a Contractor be allowed to subcontract more than sixty (60%) percent of the total value of the Contract Bid Amount. The Bidder further certifies that except as otherwise provided herein, **it does not intend to use subcontracts if no subcontractors are listed below:**

Subcontractor's Name And Address	**Scope & Type of Work**	**Price Quote**
_____	_____	$_____
_____	_____	
_____	_____	
_____	_____	$_____
_____	_____	
_____	_____	
_____	_____	$_____
_____	_____	
_____	_____	
_____	_____	$_____
_____	_____	
_____	_____	
_____	_____	$_____
_____	_____	
_____	_____	
_____	_____	$_____
_____	_____	
_____	_____	

Name of Bidder:
_____

Certified to by: _____
Name (Print)

Date: _____

_____
Title (Print)

CERTIFICATION OF EQUIPMENT

_____ hereby

(Name of Bidder)

certify that the Bidder(s) is or are the owner or leasee of the equipment necessary for the execution of this Contract, and further certify that the Bidder(s) is or are fully prepared with the necessary capital, material, and machinery to conduct this work as herein specified. The equipment available for the execution of the contract is listed below:

QUANTITY	DESCRIPTION/ CAPACITY	YEAR	CONDITION

_____
Name of Bidder

By: _____

_____

_____

MAJOR EQUIPMENT AND MATERIAL SCHEDULE

The items in the following table are designated as major equipment or material items to be furnished. The Bidder must indicate which Manufacturer/Suppler of equipment or material the Bidder intends to supply in the space provided. Only one manufacturer shall be named for each piece of equipment.

Equipment, other than that named in the Specifications, will generally be deemed equal provided that the "equal" product is the same or better than the product named in function, performance, reliability, quality and general configuration. Determination of equality in reference to the project design requirements will be made by the City Engineer.

No alternative equipment will be considered unless, in the opinion of the City Engineer, it conforms to the contract Drawings and Specifications in all respects, except for make and manufacturer and minor details.

Should the proposed item be determined "not equal" by the City Engineer, then the Bidder hereby agrees to provide the item as specified for the amount included in the appropriate Lump Sum Bid Item with NO change in the Contract Price.

Allowance of proposed "or equal" equipment is defined as equipment proposed and named by the Bidder under the Manufacturer/Supplier column in the Major Equipment Schedule Table as equal and equivalent to the specified equipment.

Within 15 calendar days after receiving the proposed "or equal" major equipment shop drawing submittal, the City Engineer will notify the Contractor, as to whether or not the submitted proposed "or equal" equipment, if any, are accepted as meeting the general specification requirements.

MAJOR EQUIPMENT AND MATERIAL SCHEDULE TABLE

Section Number	Description	Manufacturer Supplier

NON-COLLUSION AFFIDAVIT

STATE OF NEW JERSEY:
ss:

COUNTY OF:

I,_____, of the City of_____, in the

County of _____ State of_____, of full age, being duly sworn according to

law on my oath depose and say that:

I am_____of the firm of_____, the Bidder making the Proposal for the above named Project, and that I executed the said Proposal with full authority to do so; that said Bidder has not, directly or indirectly, entered into any agreement, participated in any collusion, or otherwise taken any action in restraint of free, competitive bidding in connection with the above named Project; and that all statements contained in said Proposal and in this Affidavit are true and correct, and made with full knowledge that the Owner relied upon the truth of the statements contained in said Proposal and in the statements contained in the Affidavit in awarding the Contractor for the said Proposal.

I further warrant that no person or selling agency has been employed or retained to solicit or secure such Contract upon an agreement or understanding for a commission, percentage, brokerage, or contingent fee, except bonafide employees or bonafide established commercial or selling agencies maintained by_____.
Name of Bidder

Bidder_____

By_____

_____
(type or print name of affiant)

Subscribed and Sworn to before me this
_____day of_____20___.

_____
Notary Public of_____
Commission Expires _____

Form **W-9**
(Rev. October 2018)
Department of the Treasury
Internal Revenue Service

Request for Taxpayer Identification Number and Certification

▶ Go to *www.irs.gov/FormW9* for instructions and the latest information.

Give Form to the requester. Do not send to the IRS.

Print or type. See Specific Instructions on page 3.

1 Name (as shown on your income tax return). Name is required on this line; do not leave this line blank.

2 Business name/disregarded entity name, if different from above

3 Check appropriate box for federal tax classification of the person whose name is entered on line 1. Check only **one** of the following seven boxes.

☐ Individual/sole proprietor or single-member LLC ☐ C Corporation ☐ S Corporation ☐ Partnership ☐ Trust/estate

☐ Limited liability company. Enter the tax classification (C=C corporation, S=S corporation, P=Partnership) ▶ _____

Note: Check the appropriate box in the line above for the tax classification of the single-member owner. Do not check LLC if the LLC is classified as a single-member LLC that is disregarded from the owner unless the owner of the LLC is another LLC that is **not** disregarded from the owner for U.S. federal tax purposes. Otherwise, a single-member LLC that is disregarded from the owner should check the appropriate box for the tax classification of its owner.

☐ Other (see instructions) ▶

4 Exemptions (codes apply only to certain entities, not individuals; see instructions on page 3):

Exempt payee code (if any) _____

Exemption from FATCA reporting code (if any) _____

(Applies to accounts maintained outside the U.S.)

5 Address (number, street, and apt. or suite no.) See instructions.

Requester's name and address (optional)

6 City, state, and ZIP code

7 List account number(s) here (optional)

Part I Taxpayer Identification Number (TIN)

Enter your TIN in the appropriate box. The TIN provided must match the name given on line 1 to avoid backup withholding. For individuals, this is generally your social security number (SSN). However, for a resident alien, sole proprietor, or disregarded entity, see the instructions for Part I, later. For other entities, it is your employer identification number (EIN). If you do not have a number, see *How to get a TIN*, later.

Note: If the account is in more than one name, see the instructions for line 1. Also see *What Name and Number To Give the Requester* for guidelines on whose number to enter.

Social security number

			–			–				

or

Employer identification number

		–							

Part II Certification

Under penalties of perjury, I certify that:

1. The number shown on this form is my correct taxpayer identification number (or I am waiting for a number to be issued to me); and
2. I am not subject to backup withholding because: (a) I am exempt from backup withholding, or (b) I have not been notified by the Internal Revenue Service (IRS) that I am subject to backup withholding as a result of a failure to report all interest or dividends, or (c) the IRS has notified me that I am no longer subject to backup withholding; and
3. I am a U.S. citizen or other U.S. person (defined below); and
4. The FATCA code(s) entered on this form (if any) indicating that I am exempt from FATCA reporting is correct.

Certification instructions. You must cross out item 2 above if you have been notified by the IRS that you are currently subject to backup withholding because you have failed to report all interest and dividends on your tax return. For real estate transactions, item 2 does not apply. For mortgage interest paid, acquisition or abandonment of secured property, cancellation of debt, contributions to an individual retirement arrangement (IRA), and generally, payments other than interest and dividends, you are not required to sign the certification, but you must provide your correct TIN. See the instructions for Part II, later.

Sign Here Signature of U.S. person ▶ Date ▶

General Instructions

Section references are to the Internal Revenue Code unless otherwise noted.

Future developments. For the latest information about developments related to Form W-9 and its instructions, such as legislation enacted after they were published, go to *www.irs.gov/FormW9*.

Purpose of Form

An individual or entity (Form W-9 requester) who is required to file an information return with the IRS must obtain your correct taxpayer identification number (TIN) which may be your social security number (SSN), individual taxpayer identification number (ITIN), adoption taxpayer identification number (ATIN), or employer identification number (EIN), to report on an information return the amount paid to you, or other amount reportable on an information return. Examples of information returns include, but are not limited to, the following.

- Form 1099-INT (interest earned or paid)
- Form 1099-DIV (dividends, including those from stocks or mutual funds)
- Form 1099-MISC (various types of income, prizes, awards, or gross proceeds)
- Form 1099-B (stock or mutual fund sales and certain other transactions by brokers)
- Form 1099-S (proceeds from real estate transactions)
- Form 1099-K (merchant card and third party network transactions)
- Form 1098 (home mortgage interest), 1098-E (student loan interest), 1098-T (tuition)
- Form 1099-C (canceled debt)
- Form 1099-A (acquisition or abandonment of secured property)

Use Form W-9 only if you are a U.S. person (including a resident alien), to provide your correct TIN.

If you do not return Form W-9 to the requester with a TIN, you might be subject to backup withholding. See What is backup withholding, *later.*

PROPOSAL ACKNOWLEDGEMENT FORM

This proposal is accompanied by bid security either in the form of a certified check on the

_____Bank of _____

in the amount of_____Dollars or a Bid

Bond in the amount of_____Dollars guaranteed

by the undersigned as Bidder and _____ as Surety.

This proposal is also accompanied by a Consent of Surety for Performance Bond and Labor and Material Payment Bond in accordance with the conditions named in the foregoing Information for Bidders.

The undersigned Bidder hereby agrees that if this Proposal shall be accepted by the Owner and the undersigned shall fail to execute and deliver the Contract and Contract Bonds in accordance with the terms of this Proposal and with the requirements of the foregoing Information for Bidders, then the undersigned shall be deemed to have abandoned the Contract, and thereupon the Proposal and its acceptance shall be null and void (1) if certified check is herewith submitted as bid security, the amount of said check accompanying this Proposal shall be due and payable thereunder to the Owner as liquidated damages; otherwise the said certified check, or the amount thereof, shall be returned to the undersigned, or (2) if a Bid Bond is herewith submitted as bid security, the amount specified in the Bid Bond shall be due and payable thereunder to the Owner as liquidated damages in accordance with said Bid Bond; otherwise the Bid Bond shall become null and void.

In addition, the undersigned Bidder also acknowledges receipt to the following Addenda:

Addendum No.	**Dated**
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____

CONTRACTOR REGISTRATION ADVISEMENT
FOR PUBLIC WORKS PROJECTS

A new law, known as "The Public Works Contractor Registration Act" (P.L. 1999, c.238), will become effective April 11, 2000. Under the Act, no contractor/subcontractor will be permitted to bid on or engage in any contract for public work, as defined in section 2 of P.L. 1963, c.150 (C:34:11-56.26), unless that contractor/subcontractor is registered with the New Jersey Department of Labor. The Act provides that upon registration with the Department, indicating compliance with the Act's requirements. The registration fee has been set at $300 per year. Upon the effective date of the Act, public bodies will be expected to request production of such a certificate from those bidding on or engaging in public works projects.

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

Registration forms, copies of the Act and other relevant information will be available January 2000, to be placed on our mailing list, please contact:

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

Contractors submitting a bid must comply with the above referenced law and provide, at the time of bid, a copy of the certification.

AFFIRMATIVE ACTION COMPLIANCE NOTICE
N.J.S.A. 10:5-31 AND N.J.A.C. 17:27

CONSTRUCTION CONTRACTS

This form is a summary of the successful bidder's requirement to comply with the requirements of N.J.S.A. 10:5-31 and N.J.A.C. 17:27.

After notification of award, but prior to signing the contract, the contractor shall submit to the City Engineer and the Division of Contract Compliance and Equal Employment Opportunity in Public Contracts Division an initial project workforce report (Form AA201) provided.

The contractor shall also submit a copy of the Monthly Project Workforce Report once a month thereafter for the duration of the contract to the Division and to the City Engineer.

The undersigned vendor certifies that he/she is aware of the commitment to comply with the requirements of N.J.S.A. 10:5-31 and N.J.A.C. 17:27 and agrees to furnish the required forms of evidence.

The undersigned vendor further understands that his/her bid shall be rejected as non-responsive if said contractor fails to comply with the requirements of N.J.S.A. 10:5-31 and N.J.A.C. 17:27.

COMPANY: _____

SIGNATURE: _____

PRINT NAME: _____

TITLE: _____

DATE: _____

CITY OF NEW BRUNSWICK

CONTRACTOR RESPONSIBILITY CERTIFICATION

Contractor shall certify the following facts regarding their past performance and work history and its current qualifications and performance capabilities:

1. The firm has valid, effective licenses, registrations or certificates required by federal, state, county or local law, including, but not limited to, licenses, registrations or certificates required to: a) do business in the state; and b) perform the contract work it seeks to perform.

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

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

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

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

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

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

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

9. If applicable, the firm participates in an Apprenticeship Program that is currently registered with the United states department of labor or a state apprenticeship agency for each craft or trade in which it apprentices. The firm shall provide proof of meeting this qualification standard by submitting appropriate documentation as an attachment to this certification. The firm shall continue to participate in applicable apprenticeship programs for the full duration of the contract work. The apprenticeship program in which the firm participates shall meet the following criteria:

    a. The program has graduated at least (1) enrollee in each of the past three (3) years. If the program has not existed for three years, this requirement shall not apply until the program has been in existence for three (3) years. At that time, compliance with these criteria is required.

    b. The program has graduated at least seventy-five (75%) percent of program enrollees in each of the past three (3) years*

10. The firm provides health and hospital insurance plans, and an ERISA compliant retirement plan.

* Graduation rates for any particular year shall be calculated based on the number of enrollees who graduated in a given year divided by the total number of enrollees (and former enrollees) who could have been eligible to graduate in that year had they remained enrolled and timely completed the program. The term “total number or enrollees” shall be computed by counting the total number of persons enrolled in approved Apprenticeship programs for each separate trade or craft approved by the State of New Jersey. For example, the total number of enrollees in the electrical trade would consist of all persons currently enrolled in an approved Apprenticeship Program for electricians in the State of New Jersey. If the New Jersey based trade or craft conducts education classes outside the State, those attendees shall count as enrollees for the purposes of this subparagraph. Enrollees who withdraw for reasons of military service, residence relocation, death, sickness or hardship as approved by the teaching staff shall not be counted as enrollees for the purposes of calculating the graduation RATE.

_____
Signature

_____
Print Name

_____
Title

_____
Firm

_____
Date

STATE OF NEW JERSEY -- DIVISION OF PURCHASE AND PROPERTY
DISCLOSURE OF INVESTMENT ACTIVITIES IN IRAN

Quote Number: _____ **Bidder/Offeror:** _____

PART 1: CERTIFICATION
BIDDERS MUST COMPLETE PART 1 BY CHECKING EITHER BOX.
FAILURE TO CHECK ONE OF THE BOXES WILL RENDER THE PROPOSAL NON-RESPONSIVE.

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

PLEASE CHECK THE APPROPRIATE BOX:

☐ **I certify, pursuant to Public Law 2012, c. 25, that neither the bidder listed above nor any of the bidder's parents, subsidiaries, or affiliates is listed** on the N.J. Department of the Treasury"s list of entities determined to be engaged in prohibited activities in Iran pursuant to P.L. 2012, c. 25 ("Chapter 25 List"). I further certify that I am the person listed above, or I am an officer or representative of the entity listed above and am authorized to make this certification on its behalf. **I will skip Part 2 and sign and complete the Certification below.**

OR

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

PART 2: PLEASE PROVIDE FURTHER INFORMATION RELATED TO INVESTMENT ACTIVITIES IN IRAN
You must provide a detailed, accurate and precise description of the activities of the bidding person/entity, or one of its parents, subsidiaries or affiliates, engaging in the investment activities in Iran outlined above by completing the boxes below.

EACH BOX WILL PROMPT YOU TO PROVIDE INFORMATION RELATIVE TO THE ABOVE QUESTIONS. PLEASE PROVIDE THOROUGH ANSWERS TO EACH QUESTION. IF YOU NEED TO MAKE ADDITIONAL ENTRIES, CLICK THE "ADD AN ADDITIONAL ACTIVITIES ENTRY" BUTTON.

Name _____ Relationship to Bidder/Offeror _____

Description of Activities _____

_____

Duration of Engagement _____ Anticipated Cessation Date _____

Bidder/Offeror Contact Name _____ Contact Phone Number _____

ADD AN ADDITIONAL ACTIVITIES ENTRY

Certification: I, being duly sworn upon my oath, hereby represent and state that the foregoing information and any attachments thereto to the best of my knowledge are true and complete. I attest that I am authorized to execute this certification on behalf of the above-referenced person or entity. I acknowledge that the State of New Jersey is relying on the information contained herein and thereby acknowledge that I am under a continuing obligation from the date of this certification through the completion of any contracts with the State to notify the State in writing of any changes to the answers of information contained herein. I acknowledge that I am aware that it is a criminal offense to make a false statement or misrepresentation in this certification, and if I do so, I recognize that I am subject to criminal prosecution under the law and that it will also constitute a material breach of my agreement(s) with the State of New Jersey and that the State at its option may declare any contract(s) resulting from this certification void and unenforceable.

Full Name (Print): _____ Signature: _____

Title: _____ Date: _____

BUSINESS REGISTRATION ADVISEMENT

FOR ALL BUSINESS BIDDING OR ENTERING INTO A CONTRACT THAT IS PUBLICLY BID

The Bidder's attention is directed to the provisions of P.L. 2004, c 57 (N.J.S.A. 52:32-44) which requires registration with the New Jersey Department of Treasury, Division of Revenue as a condition to bidding on or engaging in a contract that is publicly bid.

Bidders and their subcontractors of any tier must comply with the provisions of P.L. 2004, c 57 (N.J.S.A. 52:32-44). Pursuant to N.J.S.A. 40A:11-16, Bidder shall submit to the Owner, with the Bid or prior to the award, a copy of the Business Registration Certificates issued by the New Jersey Department of Treasury , Division of Revenue to the Bidder. Bidder shall also submit, with the Bid or prior to award, copies of the Business Registration Certificates of all subcontractors required to be listed by the Bidder on the "Listing of Subcontractors to be Used" form of the Bid pages of the Contract Documents.

Unless the Bidder and all subcontractors required to be listed by the Bidder on the "Listing of Subcontractors to be Used" form of the Bid pages of the Contract Documents pursuant to N.J.S.A, 40A: 11-16 have registered with the New Jersey Department of Treasury, Division of Revenue, the bid will be considered non-responsive.

Bidders and Contractors should note that the "Business Registration Certificate" is *in addition to* the "Contractor's Registration Certificate" which is issued by the NJ Department of Labor.

STATE OF NEW JERSEY

DEPARTMENT OF LABOR & WORKFORCE DEVELOPMENT
CONSTRUCTION EEO COMPLIANCE MONITORING PROGRAM

FORM AA-201
Revised 11/11

INITIAL PROJECT WORKFORCE REPORT CONSTRUCTION

Official Use Only

Assignment

Code

For instructions on completing the form, go to: http://www.state.nj.us/treasury/contract_compliance/pdf/aa201ins.pdf

1. FID NUMBER

2. CONTRACTOR ID NUMBER

3. NAME AND ADDRESS OF PRIME CONTRACTOR

(Name)

(Street Address)

(City) (State) (Zip Code)

4. IS THIS COMPANY MINORITY OWNED [ ] OR WOMAN OWNED [ ]

5. NAME AND ADDRESS OF PUBLIC AGENCY AWARDING CONTRACT

Name:
Address:

CONTRACT NUMBER DATE OF AWARD DOLLAR AMOUNT OF AWARD

6. NAME AND ADDRESS OF PROJECT

Name:
Address:

COUNTY

7. PROJECT NUMBER

8. IS THIS PROJECT COVERED BY A PROJEC
LABOR AGREEMENT (PLA)? YES

9. TRADE OR CRAFT	PROJECTED TOTAL EMPLOYEES				PROJECTED MINORITY EMPLOYEES				PROJECTED PHASE - IN DATE	PROJECTED COMPLETION DATE
	MALE		FEMALE		MALE		FEMALE			
	J	AP	J	AP	J	AP	J	AP		
1. ASBESTOS WORKER										
2. BRICKLAYER OR MASON										
3. CARPENTER										
4. ELECTRICIAN										
5. GLAZIER										
6. HVAC MECHANIC										
7. IRONWORKER										
8. OPERATING ENGINEER										
9. PAINTER										
10. PLUMBER										
11. ROOFER										
12. SHEET METAL WORKER										
13. SPRINKLER FITTER										
14. STEAMFITTER										
15. SURVEYOR										
16. TILER										
17. TRUCK DRIVER										
18. LABORER										
19. OTHER										
20. OTHER										

I hereby certify that the foregoing statements made by me are true. I am aware that if any of the foregoing statements are willfully false, I am subject to punishment.

(Signature)

10. (Please Print Your Name) (Title)

(Area Code) (Telephone Number) (Ext.) (Date)

PERFORMANCE BOND

KNOW ALL PERSONS BY THESE PRESENTS, that we, _____ hereinafter called "Principal" and _____ State of _____, hereinafter called the "Surety", are held and firmly bound unto the City of New Brunswick, hereinafter called the "Owner", in the penal sum of _____ dollars ($_____) 100% of bid award amount, in lawful money of the United States, for the payment of which sum well and truly to be made, we bond ourselves, our heirs, executors, administrators and successors, jointly and severally, firmly by these presents.

THE CONDITION OF THIS OBLIGATION is such that whereas, the Principal entered into a certain Contract with the Owner, dated the____ day of _____ 20___, which said Contract is made a part of this bond the same as set forth herein for:

INTERIOR IMPROVEMENTS FOR FIRE STATION HEADQUARTERS INTERIOR RENOVATION
AT 93 JOYCE KILMER AVE
City of New Brunswick
Specification No. 1029-26

WHEREAS, the Owner has required this bond guaranteeing satisfactory performance of the Work;

NOW, THEREFORE, if the Principal shall well, truly and faithfully perform its duties, all the undertakings, covenants, terms, conditions and agreements of said Contract during the original term thereof, and any extensions thereof which may be granted by the Owner, with or without notice to the Surety, and if the Principal shall satisfy all claims and demands incurred under such Contract, and shall fully indemnify and save harmless the Owner from all costs and damages which it may suffer by reason of failure to do so, and shall reimburse and repay the Owner all outlay and expense which the Owner may incur in making good any default, then this obligation shall be void; otherwise to remain in full force and effect.

PROVIDED FURTHER, that 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 hereunder or the Specifications accompanying the same shall in any way affect its obligation on this Bond, and it does hereby waive notice of such change, extension of time, alteration or addition, and further;

PROVIDED, that no final settlement between the Owner and the Principal shall abridge the right of any beneficiary hereunder, whose claim may be unsatisfied.

IN WITNESS WHEREOF, this instrument is executed in three (3) counterparts, each one of which shall be deemed an original, this the____ day of _____, 20____.

ATTEST:

_____ _____
SECRETARY PRINCIPAL

(SEAL) BY: _____

_____ _____
WITNESS AS TO PRINCIPAL ADDRESS

_____
ADDRESS

ATTEST:

_____ _____
SECRETARY SURETY

(SEAL) BY: _____
ATTORNEY-IN-FACT***

_____ _____
WITNESS AS TO SURETY ADDRESS

_____
ADDRESS

LABOR AND MATERIALS BOND

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

_____as Principal and _____as Surety,

are hereby held and firmly bound unto the City of New Brunswick in the penal sum of

_____Dollars, for the payment of which will and truly to be made, we hereby jointly and severally bind ourselves, our heirs, executors, administrators, successors and assigns.

Signed this_____day of_____20____

The Condition of the above obligation is such that whereas the above named principal did on the _____day of_____20__, enter into a contract with the City of New

Brunswick, which said contract is set forth herein.

NOW, if the said Principal shall promptly make payment to all persons, firms, subcontractors, and corporations furnishing materials for or performing labor in the prosecution of the work provided for in such Contract, and any authorized extension or modification thereof, including all amounts due for material, lubricants, oil, gasoline, repairs on machinery, equipment and tools, consumed or used in connection with such work, and all insurance premiums on said work, and for all labor performed in such, whether by subcontractors or otherwise, we agreeing and assenting that this undertaking shall be for the benefit of the obligee herein; then this obligation shall be void, otherwise the same shall remain in full force and effect; it being expressly understood and agreed that the liability of the surety for any and all claims hereunder shall in no event exceed the penal amount of this obligation as herein stated.

The said surety hereby stipulates and agrees that no modifications, omissions or additions in or to the terms of said Contract or in the plans and specifications therefore shall in any way affect the obligations of said surety on its bond.

_____
PRINCIPAL

_____
SURETY

(SEAL)
(Acknowledgement)

NOTE: **The attorney-in-fact signing the Labor and Materials Payment Bond on behalf of the surety should attach a valid notarized power of attorney to the Labor and Materials Payment Bond.

** See Pg. 00700-02 for rating requirements of surety company. Surety company may provide its own form.

MAINTENANCE BOND

KNOW ALL PERSONS BY THESE PRESENTS, that we_____

hereinafter called "Principal" and_____

_____State of_____, hereinafter

called "Surety", are held and firmly bound unto City of New Brunswick, hereinafter called "Owner" in the

penal sum of_____Dollars ($_____)
100% of final contract amount, in lawful money of the United States, for the payment of which sum well and truly to be made, we bind ourselves, our heirs, executors, administrators and successors, jointly and severally, firmly by these presents.

THE CONDITION OF THIS OBLIGATION, is such that whereas the Principal entered into a

certain Contract with the Owner, dated_____day of_____, 20____, which said Contract is made a part of this bond the same as set forth herein for:

INTERIOR IMPROVEMENTS FOR FIRE STATION HEADQUARTERS INTERIOR RENOVATION AT 93 JOYCE KILMER AVE

City of New Brunswick
Specification No. 1029-26

WHEREAS, the Owner has required this bond guaranteeing the repair and replacement necessitated by defects in materials or workmanship in accordance with Article 18 of the General Provisions, Guarantee of Work.

NOW, THEREFORE, if the Principal shall well, truly and faithfully perform its duties, all the undertakings, covenants, terms, conditions and agreements of said Contract during the guarantee period of **one year** effective_____, and if the Principal shall satisfy all claims and demands incurred under such Contract, and shall fully indemnify and save harmless the Owner from all costs and damages which it may suffer by reason of failure to do so, and shall reimburse and repay the Owner all outlay and expense which the Owner may incur in making good any default, then this obligation shall be void; otherwise to remain in full force and effect.

PROVIDED, HOWEVER, that the said Surety for value received hereby stipulates and agrees that no change, extension, alteration or addition to the terms of the Contract or to the work to be performed thereunder or the Specifications accompanying the same shall in any wise affect its obligation on this Bond, and it does hereby waive notice of any such change, extension, alteration or addition, and further;

PROVIDED, that no final settlement between the Owner and the Contractor shall abridge the right of any beneficiary hereunder, whose claim may be unsatisfied.

IN WITNESS WHEREOF, this instrument is executed in three (3) counterparts, each one of which shall be deemed an original, this_____day of_____, 20____.

ATTEST:

_____
SECRETARY

(SEAL)

_____
WITNESS AS TO PRINCIPAL

_____
ADDRESS

_____
PRINCIPAL

BY: _____

_____
ADDRESS

ATTEST:

_____
SECRETARY

(SEAL)

_____
WITNESS AS TO SURETY

_____
ADDRESS

_____
SURETY

BY: _____
ATTORNEY-IN-FACT***

_____
ADDRESS

** The surety company attorney-in-fact shall also submit a duly notarized power attorney
** See pg 00700-02 for rating requirements of surety company. Surety company may provide its own form.

SURETY DISCLOSURE STATEMENT AND CERTIFICATION

_____, surety(ies) on the attached bond, hereby certifies(y) the following:

(1). The surety meets the applicable capital and surplus requirements of R.S. 17:17-6 or R.S. 17:17-7 as part of the surety's most current annual filing with the New Jersey Department of Insurance.

(2). The capital (where applicable) and surplus, as determined in accordance with the applicable laws of this State, of the surety(ies) participating in the issuance of the attached bond is (are) in the following amount(s) as of the calendar year ended December 31, (most recent calendar year for which capital and surplus amounts are available), which amounts have been certified as indicated by certified public accountants (indicating separately for each surety that surety's capital and surplus amounts, together with the name and address of the firm of certified public accountant that shall have certified those amounts):

(3)(a) With respect to each surety participating in the issuance of the attached bond that has received from the United States Secretary of the Treasury a certificate of authority pursuant to 31 U.S.C. §9305, the underwriting limitation established therein and the date as of which that limitation was effective is as follows (indicating for each such surety that surety's underwriting limitation and the effective date thereof):

(b) With respect to each surety participating in the issuance of the attached bond that has not received such a certificate of authority from the United States Secretary of the Treasury, the underwriting limitation of that surety as established pursuant to R.S. 17:18-9 as of (date of which such limitation was so established) is as follows (indicating for each such surety that surety's underwriting limitation and the date on which that limitation was established):

(4). The amount of the bond to which this statement and certification is attached is: $_____

(5). If, by virtue of one or more contracts of reinsurance, the amount of the bond indicated under item (4) above exceeds the total underwriting limitation of all sureties on the bond as set forth in items (3)(a) or (3)(b) above, or both, then for each such contract of reinsurance:

(a) The name and address of each such reinsurer under that contract and the amount of that reinsurer's participating in the contract is as follows:

_____
_____
_____
_____; and

(b) Each surety that is party to any such contract of reinsurance certifies that each reinsurer listed under item (5)(a) satisfies the credit for reinsurance requirement established under P.L. 1993, c. 243 (C. 17:51B-1 et. seq.) and any applicable regulations in effect as of the date on which the bond to which this statement and certification is attached shall have been filed with the appropriate public agency.

CERTIFICATE

(To be completed by an authorized certifying agent for each surety on the bond)

I,_____ (name of agent),

as_____ (title of agency)

for_____ (name of surety), a corporation/mutual insurance company/other (indicating type of business organization) (circle one) domiciled in (state of domicile), DO HEREBY CERTIFY that, to the best of my knowledge, the foregoing statements made by me are true, and ACKNOWLEDGE that, if any of those statements are false, this bond is VOIDABLE.

_____
(Signature of certifying agent)

_____
(Printed name of certifying agent)

_____
(Title of certifying agent)

INDEMNIFICATION / HOLD HARMLESS AGREEMENT

_____
CONTRACTOR'S NAME

In consideration of the City of New Brunswick granting approval for **INTERIOR IMPROVEMENTS FOR FIRE STATION HEADQUARTERS INTERIOR RENOVATION AT 93 JOYCE KILMER AVE, Specification No. 1029-26** agrees as follows:

_____ shall indemnify and hold harmless the City
CONTRACTOR'S NAME

and its Agents from and against all losses and all claims, demands, payments, suits, actions, recoveries and judgments of any nature and description brought or recovered against it by reason of any act or omission of the_____, its agents
CONTRACTOR'S NAME

and employees in connection with the opening or obstruction of the Public Right-of-Way or property owned or controlled by the City of New Brunswick and any costs incurred by City in defense of any claims, demands, payments, suits, actions, recoveries and judgments of any nature which are found not to be the sole responsibility of City, shall be reimbursed to the City by_____.
CONTRACTOR'S NAME

Cost shall be deemed to include, but not be limited to attorney fees, filing expenses, expert witness fees, reproduction cost and long-distance travel and toll telephone expenses in connection with the defense. All amounts payable hereunder shall bear interest at the prevailing rate of interest.

_____ shall be responsible to the City for all damage to
CONTRACTOR'S NAME

persons or property caused or alleges to have been caused by or incident to the undertakings as set forth above, and shall defend suits or claims arising from or incident to the work without expense or annoyance to the City, its officers, agents or employees.

ATTEST:

_____ _____
(NOTARY OR CORPORATE SEAL) BY:

DATED:_____

FINAL RELEASE & INDEMNITY AGREEMENT

WHEREAS, Pursuant to Contract dated_____ for the **INTERIOR IMPROVEMENTS FOR FIRE STATION HEADQUARTERS INTERIOR RENOVATION AT 93 JOYCE KILMER AVE, Specification No. 1029-26** by and between_____ in the County of_____, State of____,

hereinafter called Owner, and _____ hereinafter called Contractor, final

payment is about to be made.

NOW THEREFORE, in consideration of the premises and of the sum of

_____

(Final Amount of Contract)

lawful money of the United States, being the full and entire sum due upon the completion of the Contract aforesaid, (less the sum of

_____

(Retainage)

still retained by the Owner) to the said Contractor in hand paid by Owner, receipt of which is hereby acknowledged, said Contractor does hereby remise, release and forever discharge the Owner of and from any and all manner of actions, suits, debts, dues, sums of money, accounts, reckonings, bonds, bills, covenants, controversies, agreements, promises, claims and demands whatsoever in law or in equity which the said Contractor has or may have for or on account in connection with the Contract aforesaid.

The Contractor certifies the release or waiver of liens attached hereto include the Contractor, all subcontractors, all suppliers of materials and equipment, and all performers of work, labor or services who have or may have liens against any property of the Owner arising in any manner out of performance of the Contract referenced above.

The Contractor hereby certifies that no other subcontractor's were used on this project other than those listed in the "List of Subcontractors" or subsequently approved by the City Engineer.

The Contractor further agrees to indemnify and hold harmless the Owner from loss, expense, damage or injury as a result of claims arising out of or in connection with the execution of the work provided for in said Contract, including any claim made by any laborer, contractor or materialman that may have furnished labor or material directly or indirectly to the Contractor or by reason of any action brought or judgement recovered by such laborer, contractor or materialman.

FINAL RELEASE & INDEMNITY AGREEMENT (con't)

IN WITNESS WHEREOF, the Contractor has caused its name to be hereunto subscribed and its seal to be hereunto affixed this_____day of_____, 20____.

(SEAL)

_____
(Corporate Title of Contractor)

ATTEST:

BY_____
(President)

_____
(Secretary)

Sworn to and subscribed before me
this___day of_____, 20___

CONTRACTOR'S AFFIDAVIT
OF PAYMENT OF DEBTS AND CLAIMS

To (Owner): City of New Brunswick
78 Bayard Street
New Brunswick, NJ 08901

CONTRACT NO. _____

CONTRACT FOR: _____

CONTRACT DATED: _____

PROJECT: _____
(Name and Location)

CONTRACTOR: _____

State of: New Jersey .

The undersigned hereby certifies that, except as listed below, payment has been made in full and all obligations have otherwise been satisfied for all materials and equipment furnished, for all work, labor, and services performed, and for all known indebtedness and claims against the Contractor for damages arising in any manner in connection with the performance of the Contract referenced above for which the Owner or Owner's property might in any way be held responsible or encumbered.

EXCEPTIONS:

CONTRACTOR: _____

BY: _____
(Signature of authorized representative)

_____
(Print name and title)

Subscribed and sworn before me this

_____day of_____, 20____

Notary Public:

My Commission Expires:

CONTRACTOR'S AFFIDAVIT
OF RELEASE OF LIENS

To (Owner): City of New Brunswick
78 Bayard Street
New Brunswick, NJ 08901

CONTRACT NO. _____

CONTRACT FOR: _____

CONTRACT DATED: _____

PROJECT: _____
(Name and Location)

CONTRACTOR: _____

State of: New Jersey .

The undersigned, pursuant to Article 17, 18 and 19 of the General Provisions, hereby certifies, that to the best of his knowledge, information and belief, except as listed below, the Releases or Waivers of Lien attached hereto include the Contractor, all Subcontractors, all suppliers of materials and equipment, and all performers of Work, labor or services who have or may have liens against any property of the Owner arising in any manner out of the performance of the Contract referenced above.

EXCEPTIONS:

CONTRACTOR: _____

BY: _____
(Signature of authorized representative)

_____
(Print name and title)

Subscribed and sworn before me this

_____day of_____, 20____

Notary Public:

My Commission Expires:

CONSENT OF SURETY
TO FINAL PAYMENT

To (Owner): City of New Brunswick
78 Bayard Street
New Brunswick, NJ 08901

CONTRACT NO. _____

CONTRACT FOR: _____

CONTRACT DATED: _____

PROJECT: _____
(Name and Location)

CONTRACTOR: _____

In accordance with the provisions of the contract between the Obligee and the Principal described above, _____ as Surety (the "Surety"), on the Principal's bond number _____ (the "Bond") hereby consents to the final payment to the Principal by the Obligee and agrees that final payment to the Principal shall not relieve the Surety of any of its obligations to Obligee as set forth in the Bond. IN WITNESS WHEREOF, the Surety has hereunto set its hand and seal this _____ day of _____, 20__.

Surety
By: _____ (SEAL)
(Attorney-In-Fact)

Subscribed and sworn before me this

_____ day of _____, 20____

Notary Public:

My Commission Expires:

CONDITIONAL WAIVER
AND RELEASE UPON FINAL PAYMENT

To (Owner): City of New Brunswick
78 Bayard Street
New Brunswick, NJ 08901

CONTRACT NO. _____

CONTRACT FOR: _____

CONTRACT DATED: _____

PROJECT: _____
(Name and Location)

CONTRACTOR: _____

Upon receipt by the undersigned of a check from the above named Owner for final payment in the sum of $_____ payable to _____ and when the check has been
(Contractor)
properly endorsed and has been paid by the bank upon which it is drawn, this document shall become effective to release any mechanic's lien, stop notice, or bond right the undersigned has on the above named Project, for the above named owner. This release covers the final payment to the undersigned for all labor, services, equipment, or material furnished on the project.

The Contractor further agrees to indemnify and hold harmless the Owner from loss, expense, damage or injury as a result of claims arising out of or in connection with the execution of the work provided for in said contract, including any claim made by a laborer, contractor or supplier that may have furnished labor or material directly or indirectly to the Contractor or by reason of any action brought or judgment recovered by such laborer, contractor or material supplier.

Dated: _____ _____
(Company Name)

By: _____
(Print Name and Title)

Signature: _____

Subscribed and sworn before me this

_____day of_____, 20____

Notary Public:
My Commission Expires:

GUARANTEE FOR CORRECTION OF WORK
AFTER SUBSTANTIAL COMPLETION
OR FINAL PAYMENT

To (Owner): City of New Brunswick
78 Bayard Street
New Brunswick, NJ 08901

CONTRACT NO. _____

CONTRACT FOR: _____

CONTRACT DATED: _____

PROJECT: _____
(Name and Location)

CONTRACTOR: _____

State of: New Jersey .

Being duly sworn according to law upon his oath, _____
(Name of Authorized Representative)

deposes and says that he is the _____ of _____,
(Title of Authorized Representative)

in the County of _____, State of New Jersey, and as such has full authority to sign this Affidavit.

NOW, THEREFORE, he shall correct his work in accordance with the General Provisions Article 18 Guarantee of Work.

CONTRACTOR: _____

BY: _____
(Signature of authorized representative)

_____
(Print name and title)

Subscribed and sworn before me this

_____ day of _____, 20____

Notary Public:

My Commission Expires:

CONTRACTOR'S AFFIDAVIT
OF PREVAILING WAGE RATE

To (Owner): City of New Brunswick
78 Bayard Street
New Brunswick, NJ 08901

CONTRACT NO. _____

CONTRACT FOR: _____

CONTRACT DATED: _____

PROJECT: _____
(Name and Location)

CONTRACTOR: _____

State of: New Jersey .

Being duly sworn according to law upon his oath, _____
(Name of Authorized Representative)

deposes and says that he is the _____ of _____,
(Title of Authorized Representative)

in the County of _____, State of New Jersey, and as such has full authority to sign this Affidavit.

NOW, THEREFORE, he has read and understand the prevailing wage rate requirements and have paid all his employees as required pursuant to Chapter 150 of the New Jersey laws of 1963 and have complied with regulation NJAC 12:60-2.1 and 6.1 of the New Jersey Prevailing Wage Act, NJSA 34:11-55.25 et.seq. which requires _____ to file certified payroll records.

I certify that all statements contained in this affidavit are true and correct, and made with full knowledge that Owner relies upon the truth of the statements made above in closing out the project listed above.

CONTRACTOR: _____

BY: _____
(Signature of authorized representative)

_____
(Print name and title)

Subscribed and sworn before me this
_____ day of _____, 20____

Notary Public:

My Commission Expires:

SECTION 00700

GENERAL PROVISIONS

ARTICLE 1 - DEFINITIONS

(1) DEFINITIONS

Wherever in this Contract the following terms, or pronouns in place of them are used, their intent and meaning shall be interpreted as follows:

APPLICABLE LAW: Refers to any applicable federal, state, county or local statute, regulation ordinance, resolution, enactment or other law with which the Contractor or Owner, as the case may be, must comply.

BIDDER: An individual, firm, partnership, or corporation acting directly or through a duly authorized representative, legally submitting a proposal.

CONTRACT: The Agreement, covering the performance of the project, hereinafter defined, and payments therefore, including but not limited to:

Notice to Bidders	Bid Forms
Instructions to Bidders	Bonds
Resolution of Award of Contract	Contract
General Provisions	Addenda
Detailed Technical Specifications	Wage Rates
Contract Drawings	

and Supplementary Agreements, which may be entered into, all of which documents are to be treated as one instrument whether or not set forth at length in the form of Contract.

CONTRACTOR: The successful Bidder selected by the Owner to perform the Work herein specified.

ENGINEER OR OWNER'S ENGINEER: City Engineer or Authorized Representative, City of New Brunswick, 78 Bayard Street, New Brunswick, NJ, 08901 or Contract Engineer acting on behalf of the Owner.

GOVERNMENTAL AUTHORITY: Refers to any federal, state, county or local agency, authority or other similar entity having jurisdiction.

INSPECTOR: Authorized representative of the Engineer or Owner, assigned to inspection of the work and materials.

OWNER OR CITY: City of New Brunswick, City Hall, 78 Bayard Street, New Brunswick, New Jersey 08901.

PENALTY: Refers to any fine, levy and/or charge imposed by any Governmental Authority for violations of Applicable Law.

PLANS: Drawings or reproduction thereof, furnished by the Engineer, pertaining to the Project.

PROJECT: The entire work to be performed under the Contract.

PROPOSAL: The prepared Bid Forms, furnished by the Owner properly filled in and executed and submitted as a bid for the performance of the Project.

ARTICLE 2 - BONDS AND INSURANCE

(1) BONDS

The Bidder to whom the Owner proposes to award the Contract shall furnish and deliver, within ten (10) days of the date of the acceptance of the Proposal, Surety Corporation Bonds, from reputable sureties authorized and licensed to do business in New Jersey and acceptable to the Owner for a) 100% Performance Bond, b) 100% Maintenance Bond and if required, 100% Labor and Material Payment Bond. All bonds including Bid Bond, Performance Bond, Labor and Material Payment Bond and Maintenance Bond shall be issued by a Surety **Rated B plus (B+) or better by Best's Insurance Report for Property and Casualty.**

NOTE: Approved Performance Bond, Labor and Material Payment Bond and Maintenance Bond supplied by a New Jersey licensed Surety Company may be submitted in lieu of the enclosed Performance and Maintenance Bond Forms. Performance Bonds shall be accompanied by a Surety Disclosure Statement and Certification.

Any change in the plans, specifications or quantities shall in no way vitiate said bond. Said bond shall be in the sum not less than the amount of the bid and shall be maintained by the Contractor until the final acceptance of the Work. Date of acceptance of the Work shall be determined by the Owner after it shall have duly considered the acceptance report of the Engineer and authorized final payment. The Owner shall not unreasonably withhold acceptance.

(2) INSURANCE

The Contractor shall **not** commence any work until he obtains, at his own expense, all the required insurance. Nothing contained in these insurance requirements is to be construed as limiting the extent of the Contractor's responsibility for payment of damages resulting from his work performed or furnished by the Contractor or by any subcontractor, by anyone directly or indirectly employed by any of them, or by anyone for whose acts any of them may be liable under this Contract. The insurance certificate shall include the following language and endorsements:

1. City of New Brunswick as Additional Insured.

2. Insured for (Specific project name and/or location).

The Contractor shall purchase and maintain insurance with companies authorized to write insurance policies in the State of New Jersey and satisfactory to the Owner as follows:

a. Workmen's Compensation and Employers Liability Insurance covering all of the Contractor's employees directly or indirectly engaged in the performance of this Contract. This insurance shall comply with the statutory requirements of the state or states involved and shall have an Employer's Liability Insurance limit of not less than $500,000.00.

b. Comprehensive General Liability Insurance Including Contractor's Protective, Completed Operations and Contract Liability Insurance with minimum limits of not less than $1,000,000 any one person and $3,000,000 any one occurrence for bodily injury, sickness, disease or death, and $1,000,000 any one occurrence and $3,000,000 aggregate for property damage. The property damage liability insurance shall include the Broad Form Property Damage Liability Endorsement as well as coverage for explosion, collapse, and underground hazards (XCU). All liability coverages shall be on an occurrence basis.

c. Comprehensive Automobile Liability Insurance covering Contractor for claims arising from all Owned, Hired and Non-Owned vehicles with limits of not less than $1,000,000 any one person and $3,000,000 any one accident for bodily injury and $1,000,000 each accident for property damage.

d. Contractual Liability Insurance must be included in the Comprehensive General Liability Insurance described in subparagraph b. above, specifically, insuring the Indemnification Clause specified hereinafter.

Policy limits specified above are minimum, and wherever the law requires higher limits, the higher limits shall govern.

Certificates of the insurance required above must be filed with the Engineer and Owner before the Contract is signed. The comprehensive General Liability certificate must specifically state that Standard Contractual Liability Insurance is in force insuring the Indemnification Clause, and the Indemnification Clause must be typed on the certificate. All certificates must provide for 15 days prior written notice to the Owner of policy cancellation or material change.

Copies of the Insurance Policies required must be filed with the Engineer and Owner before any work is started by the Contractor.

Policies shall Remain in Force until all work has been completed and until all retained percentages and maintenance bonds have been released.

Subcontractors shall be required by the Contractor to provide the same type of insurance with the same limits. The Contractor shall not allow any subcontractor to commence work on his subcontract until all similar insurance required of the subcontractor has been so obtained and approved. Approval of the insurance by the Owner shall not relieve or decrease the liability of the Contractor hereunder. Certificates and policies of insurance covering each subcontractor shall also be filed with the Engineer and Owner before any work is begun by a subcontractor.

Indemnification Clause. The Contractor shall hold harmless, indemnify and defend the City of New Brunswick, and each of their officers, employees and agents, from any and all liability, claims, losses or damage arising or alleged to arise from the performance of the work described herein, but not including the sole negligence of the City of New Brunswick.

Acceptance of the Contractor's insurance by the Owner shall not relieve or decrease the liability of the Contractor hereunder.

ARTICLE 3 - OWNER'S ENGINEER

(1) AUTHORITY OF THE ENGINEER

The City Engineer shall be the sole judge of the intent and meaning of the Drawings and Specifications and his decisions thereon and the City Engineer's interpretation thereof shall be final, conclusive and binding on all parties.

The City Engineer shall be the Owner's representative during the life of the Contract and he shall observe the work in progress on behalf of the Owner. The City Engineer shall have authority (1) to act on behalf of the Owner to the extent expressly provided in the Contract or otherwise in writing; (2) to determine the amount, quality, acceptability and fitness of all work, materials and equipment required by the Contract; and (3) to decide all questions which arise in relation to the Work, the execution thereof, and the fulfillment of the Contract.

The Contractor shall proceed without delay to perform the Work as directed, instructed, determined or decided by the City Engineer and shall comply promptly with such directions, instructions, determinations or decisions be put in writing and within ten (10) days after receipt of any such writing the Contractor may file a written protest with the Owner stating clearly and in detail the objections, the reasons, therefore, and the nature and amount of additional compensation, if any, to which he claims he will be entitled thereby. A copy of such protest shall be filed with the City Engineer at the same time it is filed with the Owner. Unless the Contractors request that any such direction, instruction, determination or decision be put in writing, within ten (10) days of having received such directions, instructions, determinations or decisions and unless the Contractor files such written protest with the Owner and City Engineer within such ten (10) day period, he shall be deemed to have waived all grounds for protest of such direction, instruction, determination, or decision and all claims for additional compensation or damages occasioned thereby, and shall further be deemed to have accepted such direction, instruction, determination, or decision as being fair, reasonable, and finally determinative of his obligations and rights under the Contract.

(2) ENGINEER'S CONTROL NOT LIMITED

The enumeration herein or elsewhere in the Contract Documents of particular instances in which the opinion, judgment, discretion or determination of the City Engineer shall control or in which work shall be performed to the City Engineer's satisfaction or subject to the City Engineer's approval or inspection, shall not imply that only matters similar to those enumerated shall be so governed, but without exception all work shall be governed and so performed.

All work under this Contract shall be done to the satisfaction of the City Engineer and Owner, who shall in all cases determine all questions respecting the true construction or meaning of the plans and specifications and their determination and decision in case any questions may arise shall be a condition precedent to the right of the Contractor to receive any amount there under.

The approval of all materials used, and all workmanship, shall rest with the Engineer and Owner.

If a difference of opinion arises between the City Engineer or Owner and the Contractor relating to the performance of the Work, the City Engineer and the Owner have the power to suspend the Work until the question at issue can be referred to the City Engineer and decided by the Owner.

(3) OWNERS/ENGINEERS ACCESS TO WORK

The Contractor is responsible for all work regardless of whether an Inspector is present or not. The City shall not be responsible or liable for field changes requested by the Contractor and approved by the Inspector. Otherwise field changes can only be approved by the City Engineer after sufficient written documentation has been submitted by the Contractor and reviewed by the City Engineer.

The Owner, the City Engineer, and the persons designated by either shall have free access to the Work and places of manufacture or fabrication of materials and the Contractor shall provide assistance and safe and proper facilities therefore. The Contractor shall notify the City Engineer, a sufficient time in advance, of the time and place of manufacture or fabrication of any materials so that the City Engineer may have a representative there if he so desires.

(4) SUSPENSION OF WORK

If the City Engineer deems it advisable, the City Engineer may notify the Contractor in writing to suspend work on all or any part of the Project, after receiving authorization from the Owner. The Contractor shall do no work where so suspended until notice to resume has been received from the City Engineer.

No compensation or allowance will be made on account of such suspension, however; the Contractor shall be entitled to an equitable extension of milestone dates.

(5) INSPECTOR

Where an inspector is deemed necessary, the inspector shall be a representative of the Engineer or Owner authorized to inspect work on the project site.

The inspector or other representative of the City Engineer or Owner is not authorized to revoke, alter, enlarge, relax or release any requirements of the Specifications or to issue instructions contrary to the Plans and Specifications. The inspector shall not act as foreman or perform other duties for the Contractor nor shall he interfere with the management of the Contractor's work. The purpose of the inspector is to observe the work by the Contractor.

The Contractor solely bears responsibility of errors in construction, scheduling and methods, coordination, etc., during the course of the project. The inspector is not authorized to make or approve design, changes, product substitutions, etc., without obtaining the approval of the City Engineer.

ARTICLE 4 - CONTRACTOR'S WORK DOCUMENTS

(1) DRAWINGS

The drawings on file in the office of the City Engineer for the Owner, show general location and plans of project. The Contractor shall keep at the site of the work at least one copy of the contract documents signed and identified by the City Engineer and shall at all times give the Engineer, and other representatives, of the Owner access thereto. Anything shown on the plans and not mentioned in the specifications, or mentioned in the specifications and not shown on the plans, shall have the same effect as if shown or mentioned respectively, on both.

If, in the opinion of the City Engineer, there is a conflict between the drawings and the specifications, and both are not clear as to:

a. the method of performing any part of the work or as to;
b. the types of materials or equipment necessary or as to;
c. the quantities required,

in every such situation the Contractor shall be deemed to have based his bid upon performing the work and furnishing materials or equipment in the manner most expensive and costly to the Contractor at no extra cost to the Owner.

If such conflict and/or ambiguities arise, the Engineer will furnish and supply the Contractor with supplementary drawings showing the manner in which the work shall be performed and the type or types of material or equipment that shall be installed. Any conflict or discrepancy between the figures and drawings, plans or specifications will be submitted by the Contractor to the City Engineer, whose decision shall be conclusive with respect to the inconsistency.

The Engineer will make all necessary explanations as to the meaning and intention of the contract, specifications and drawings, and will give all orders and directions contemplated therein or thereby in every case in which difficult or unforeseen conditions shall arise in the performance of the work.

(2) CONTRACTOR'S SHOP AND WORKING DRAWINGS (If Required)

The Contractor shall submit shop and working drawings of structural details, piping layout, wiring, materials fabricated especially for the Contract, and the materials and equipment for which such drawings are specifically requested. A minimum of five (5) copies of each shop drawing shall be required. Reproducible transparencies may be submitted in lieu of the five (5) copies for 24 inch by 36 inch drawings.

Such drawings shall show the principal dimensions, weight, structural and operating features, space required, clearances, type and/or brand of finish or shop coat, grease fittings, etc., depending on the subject of the drawing. When it is customary to do so, when the dimensions are of particular importance, or when so specified, the drawings shall be certified by the manufacturer or fabricator as correct for the Contract.

When so specified or if considered by the City Engineer to be acceptable, manufacturer's specifications, detailed fabrication drawings, descriptive matter, illustrations, etc., may be submitted in place of shop and working drawings. In such case, the requirements shall be as specified for shop and working drawings, insofar as applicable, except that the submission shall be in quadruplicate.

The Contractor shall be responsible for the prompt and timely submittal of all shop and working

drawings so that there shall be no delay to the Work due to the absence of such drawings. Within fourteen (14) calendar days from the Notice to Proceed, the Contractor shall submit a schedule of proposed shop drawing transmittals. The schedule shall identify the subject matter of each transmittal, the corresponding specification section number and the proposed date of submission. During the progress of the Work, the schedule shall be revised and resubmitted as necessary.

No material or equipment shall be purchased or fabricated especially for the Contract until the required shop and working drawings have been submitted as hereinabove provided and reviewed for conformance to the Contract requirements. All such materials and equipment and the work involved in their installation or incorporation into the Work shall then be as shown in and represented by said drawings.

Until the necessary review has been made, the Contractor shall not proceed with any portion of the Work (such as the construction of foundations, etc.), the design or details of which are dependent upon the design or details of work, materials, equipment or other features for which review is required.

All shop and working drawings shall be submitted to the Engineer by and/or through the Contractor, who shall be responsible for obtaining shop and working drawings from his subcontractors and returning reviewed drawings to them. All shop and working drawings shall be prepared on standard size, 24-inch by 36-inch sheets, except those which are made by changing existing standard shop or working drawings. All drawings shall be clearly marked with the names of the Owner, Contractor, and building, equipment, or structure to which the drawing applies, and shall be suitable numbered. Each shipment of drawings shall be accompanied by a letter of transmittal giving a list of the drawing numbers and the names mentioned above.

Only drawings which have been checked and corrected by the fabricator shall be submitted to the Contractor by his subcontractors and vendors. Prior to submitting drawings to the Engineer, the Contractor shall check thoroughly all such drawings to satisfy himself that the subject matter thereof conforms to the Drawings and Specifications in all respects. All drawings which are corrected shall be marked with the date, checker's name, and indication of the Contractor's approval, and they shall be submitted to the Engineer; other drawings shall be returned for correction.

If a shop drawing shows any deviation from the Contract requirements, the Contractor shall make specific mention of the deviations in his letter of transmittal.

The review of shop and working drawings hereunder will be general only, and nothing contained in this specification shall relieve, diminish or alter in any respect the responsibilities of the Contractor under the Contract Documents and in particular, the specific responsibility of the Contractor for details of design and dimensions necessary for proper fitting and construction of the Work as required by the Contract and for achieving the result and performance specified there under.

Should the Contractor submit equipment that requires modifications to the structures, piping, electrical, wires and appurtenances, layout, etc., detailed on the Drawings, he shall also submit details of the proposed modifications. If such equipment and modifications are accepted, the Contractor, at no additional cost to the Owner, shall do all work necessary to make such modifications.

The Engineer will endeavor to return the marked-up reproducible of the shop and working drawings or one marked-up copy of catalog cuts to the Contractor within ten (10) working days of receipt. The Contractor shall furnish additional copies of such drawings or catalog cuts when so requested.

(3) SURVEY CONTROL AND LAYOUT

The contractor shall provide engineers and surveyors to layout and survey the proposed construction lines and to set grade stakes as required at no extra cost to the Owner.

The engineer will provide a bench mark and initial horizontal control as the project site to be used by the Contractor's surveyors. Where there is any question as to the location, alignment or grade of the proposed project, the contractor shall report his findings to the engineer for any decisions that must be made with regard to location or grade.

The contractor shall in no case make changes in the locations or grades without the written approval of the engineer. The cost of all construction layout shall be included in the unit price bid for various items of this project.

The contractor shall be responsible for the finished work conforming to the lines, grades and benchmarks given by the Engineer. The contractor shall exercise care in the preservation of existing benchmarks, monuments or stakes within the project area. If such monuments, benchmarks, or stakes are damaged, lost, displaced or removed by the Contractor, they shall be reset at the Contractor's expense.

(4) MODIFICATIONS IN LINES, GRADES, DIMENSIONS

The Owner reserves the right, wherever, in its opinion it may find that sufficient reason exists, to modify the grade of the structures and their dimensions. The Contractor shall accept such modifications, when so ordered in writing by the Owner through the Engineer. Any such changes as may seem judicious in the interests of the Owner will not subject the Contractor to increased expenses based upon bids submitted and accepted. And, if modifications call for a decrease in the cost of the work involved, then an equitable deduction shall be negotiated. No material modifications in the work shown on the Plans and Specifications shall be made without the nature and extent being first certified to by the Engineer in writing and send to the Contractor.

(5) INCORPORATION OF INFORMATION: CONFLICT BETWEEN CONTRACT DOCUMENTS

The provisions set forth in the Information to Bidders are incorporated herein. However, in the event of any conflict of the provisions of the Information to Bidders with the other Contract Documents, the other Contract Documents shall control.

Similarly, in the event of a conflict between the General Provisions, the Special Provisions and the Detailed Specifications shall prevail, followed by the Special Provisions and then the General Provisions.

ARTICLE 5 - APPLICABLE LAW

(1) PROVISIONS REQUIRED BY LAW DEEMED INSERTED

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

(2) LAWS AND REGULATIONS

The Contractor shall keep informed of all existing and future laws, rules, ordinances and regulations, local, State and National, in any manner affecting the work herein specified and shall at all times observe and comply with said laws, rules, ordinances, and regulations and shall protect and indemnify the Owner, its officers, and agents against any claim or liability arising from or based on the violation of any such laws, rules, ordinances, and regulations.

(3) PERMITS AND REGULATIONS

Federal, State, County and Municipal permits as a result of the construction activity within the delineated site shall be obtained by the Contractor and associated fees shall be paid by the Contractor unless otherwise noted in these Specifications. The City will waive municipal permit fees, excluding DCA training fees.

(4) REPRESENTATIONS OF THE CONTRACTOR

The Contractor represents and warrants:

a. Financial solvency and experienced in, and competent to perform the type of work or to furnish the plant, materials, supplies and equipment to be so performed or furnished; and

b. Familiarity with all Federal, State and Municipal laws, ordinances and regulations of any agency which may in any way affect the work of those employed therein, including, but not limited to, any special acts relating to the work or to the Project of which it is a part; and

c. The such temporary and permanent work required by the Contract Documents or other contracts as is to be done by the Contractor can be satisfactorily constructed and used for the purpose for property; and

d. Plans, Contract Documents, Specifications and work site have been carefully examined and that the Contractor is satisfied as to the nature and location of the Work, the character, quality and quantity of subsurface materials likely to be encountered, the character of equipment and other facilities needed for the performance of the Work, the general and local conditions and all other materials which may in any way affect the work or its performance.

ARTICLE 6 - CONTRACTOR'S REPRESENTATIONS AND OBLIGATIONS

(1) WORK TO BE DONE

The Contractor shall perform all work and furnish all materials, tools, labor, and construction equipment and permanent equipment specified, necessary, proper, and incidental to the Work shown on the Contract Drawings and in the specifications, or directed in accordance with the requirements thereof, in the manner, within the time, and for the consideration herein stipulated and agreed upon.

(2) INTENT

All work called for in the specifications applicable to this Contract, but not shown on the plans in their present form, or vice versa, shall be of like effect as if shown or mentioned in both. Work not specified in either the Plans or in the Specifications, but involved in carrying out their intent or in the complete and proper execution of the Work, is required and shall be performed by the Contractor as though it were specifically delineated or described.

The apparent silence of the Specifications as to any detail, or the apparent omission from them of a detailed description concerning any work to be done and materials to be furnished, shall be regarded as meaning that only the best general practice is to prevail and that only material and workmanship of the best type and quality is to be used and interpretation of these Specifications shall be made upon that basis.

(3) MATERIALS, SERVICES AND FACILITIES

It is understood that except as otherwise specifically stated in the Contract Documents, the Contractor shall provide and pay for all materials, labor, tools, equipment, water, light, power, transportation, superintendence, temporary construction of every nature and all other services and facilities of every nature whatsoever necessary to satisfactorily execute, complete, and deliver the Work within the specified time.

Any work necessary to be performed after regular working hours, or Sundays or legal holidays, shall be performed without additional expense to the Owner.

Unless otherwise noted in the Technical Specifications, no work shall be performed prior to 7:00 a.m. or after 6:00 p.m. or on Saturdays or Sundays or legal holidays unless approved by the City Council or unless failure to perform such work would constitute a hazard or dangerous condition, loss or injury of property and for safety of life to the general public, adjoining property owners or the work. Inspection before 8:30 a.m. or after 4:30 p.m. or on Saturday, Sunday or Holidays shall be upon approval by the Engineer at the expense of the Contractor. Otherwise, only work requiring no inspection may be performed during said time.

If an Inspector or Engineer is required by the Contractor during hours other than the normal work hours, the Contractor shall bear the cost of the Inspector and Engineer at the current overtime rate plus thirty-five (35%) percent including out of pocket cost benefits. Payments shall be made to the Inspector and/or Engineer directly by the Contractor. Contractor shall submit proof of the amount of payments with supporting documentation to the City.

(4) SUPERVISION OF WORK

The Contractor shall be solely responsible for supervision of the Work, shall give the Work the constant attention necessary to ensure the expeditious and orderly progress thereof, and shall cooperate with the City Engineer in every possible way.

At all times, the Contractor shall have an agent on the job site. The agent shall be a competent superintendent capable of reading and thoroughly understanding the Drawings and Specifications, with full authority to execute the directions of the City Engineer without delay to supply promptly such labor, services, materials, equipment, plant, apparatus, appliances, tools, supplies and other items as may be required. Such superintendent shall not be removed from the work without prior written consent of the City Engineer. If, in the opinion of the City Engineer, the superintendent or any successor proves incompetent, the Contractor shall replace the Superintendent with another person approved by the City Engineer; such approval, however, shall in no way relieve or diminish the Contractor's responsibility for supervision of the Work. The agent or superintendent shall be fluent and comprehensible in the English language.

Whenever the Contractor or his agent or superintendent is not present on any part of the work where it may be necessary to give directions or instructions with respect to such work, such directions or instructions may be given by the City Engineer to and shall be received and obeyed by the foreman or any other person in charge of the particular work involved.

(5) CONSTRUCTION EQUIPMENT

The Contractor shall furnish all transportation, apparatus, ways, works, machinery and plant, and all suitable appliances requisite for the execution of this contract and shall be solely answerable for the same and for the safe and proper and lawful construction, maintenance, and use thereof.

Only good equipment shall be used and it shall be in proper working condition. Sufficient equipment shall be used to insure the completion of the project within the time specified.

The equipment shall be so operated as not to damage public or private property or to cause injury to any person. If the Contractor or his subcontractors do not own all or part of the equipment required, a written statement shall be submitted by the Contractor or his subcontractors respectively, of the name and address of the Owner or Owners stating that
an agreement has been made to lease or loan the equipment, and that in the event of default, the Owner has the right to take over and use such equipment, or cause it to be used, for completing the project.

The Contractor assumes full responsibility for materials and equipment employed in the construction of the project and agrees to make no claims against the Owner for damage to such material and equipment from any cause whatsoever.

(6) TEMPORARY STRUCTURES

All false work, scaffolding, ladders hoistways, braces, pumping plants, shields, trestles, roadways, sheeting, centering forms, barricades, drains, flumes, and the like, any of which may be needed in the construction of any part of the work and which are not herein described or specified in detail, must be furnished, maintained and removed by the Contractor and he shall be responsible for the safety and efficiency of such works and for any damage that may result from their failure or from their improper

construction, maintenance and operation.

All material sheds and other temporary structures shall be of substantial construction, neat appearance, and shall be painted in a uniform subdued color.

(7) TEMPORARY UTILITIES

The Contractor shall make all necessary arrangements and pay for all temporary utilities required, such as water and electricity, necessary to complete the Work. No additional payment will be made for the cost of such utilities other than that included in the prices bid for the Work.

(8) MAINTENANCE OF TRAFFIC

During the performance of the Contract, adequate safeguards shall be maintained to insure the protection and maintenance of all traffic, through, around or near the work area. Unless, otherwise shown on the plans and set forth in the specifications, there shall be **no** interruption or rerouting of vehicular or pedestrian traffic. Request for permission to interrupt or reroute normal flow of traffic must be made to the Engineer and the New Brunswick Police Department at least 72 hours prior to the proposed occurrence. Furthermore, the contractor shall submit a traffic detour plan to the Engineer and the New Brunswick Police for approval prior to the proposed change in traffic patterns. The traffic plan shall be in conformance with Part VI of the Manual or Uniform Traffic Control Devices for Streets and Highways, Latest Edition.

The contractor shall notify the New Brunswick Police at 732- 745-5280 for traffic control officers if same are deemed necessary by the Police to be on the site during construction. Cancellations shall be made at least 1 hour prior to the scheduled appointment otherwise the contractor must pay 4hrs. of service. Cancellations may be made by calling 732-745-5200, unless otherwise indicated.

The contractor's access to and egress from the project site of the work shall not interfere with the operation of the Owner or other contractors (if any) working in the vicinity of the project. The contractor shall conform to the applicable sections of the New Jersey Department of Transportation Standard Specifications for Road and Bridge Construction, latest Edition Section - Traffic Control; and the Manual on Uniform Traffic Control Devices (MUTCD) latest Edition.

(9) EXISTING STRUCTURES AND UTILITIES

(A) No Guarantees

Available information as to the location of existing subsurface structures and utilities has been collected from various responsible sources. The results of such investigations, shown on the Contract Drawings, are not guaranteed as to accuracy.

Attention is particularly directed to the fact that the locations, elevations and sizes of utilities and other surface structures shown on the Contract Drawings are not warranted to be even approximately correct, nor can they be assumed to be the only subsurface utilities or structures which may be encountered in the Work.

(B) Contractor's Obligation

The Contractor shall make diligent inquiries of any utility companies or authorities to determine the

exact location of all surface, overhead and subsurface structures, utilities and service pipe before proceeding with his work.

The Contractor shall notify in writing, two (2) weeks prior to commencement of work, the utility companies or authorities, which may be affected concerning the nature and scope of the work included in this Contract.

In addition, the Contractor shall call Garden State Underground Plant Location Services, Inc. at 1-800-272-1000 for a utility markout before any excavation.

The Contractor shall carry out the work carefully and skillfully, and shall support and secure public utilities and structures so as to avert their being damaged. The Contractor shall not move without the Owner's consent any public utilities, structures and at the completion of the work, their condition shall be as safe and as permanent as before.

The cost of removing and replacing public utilities and structures as shown on the Plans which interfere with the Contractor's operations shall be borne by the Contractor.

It is hereby agreed that in case any damages or injuries shall result to any utilities, service pipes for water, etc., through or by reasons or any act of negligence on the part of the Contractor, his agents or employees, the said Contractor shall without delay repair the same at his own expense, and to the satisfaction of the Engineer and Utility Company as hereinafter specified, and in case said repairs are not made promptly or satisfactorily, the Owner may employ men to do the said work and the cost may be deducted from any sums due or payable to the said Contractor on account of this contract. This shall include all subsurface utilities and structures not shown on the plans.

(10) MAINTENANCE OF SERVICE IN EXISTING STRUCTURES

Existing surface and subsurface structures and utilities together with all appurtenances and service connections encountered or affected in any way during the construction of any work under this contract shall be maintained in service at all times unless other arrangements satisfactory to the persons responsible for their operation are made with such persons.

(11) COVENANT AGAINST LIENS

The Contractor shall pay promptly for all labor employed upon and any materials furnished and used in the Work and shall permit no lien or encumbrance to be placed upon property under any provision of a lien law or in favor of or upon the suit or proceedings at law for any labor or material. The Owner shall be entitled to deduct and retain, anything herein contained to the contrary notwithstanding, such sum as may be required to settle claims for materials or labor furnished for carrying on the Contract, notice of which claim signed and sworn to by the claimants severally, shall have been duly filed with or against the Owner, and to settle claims against the Owner, its agents or employees relating to the Contract.

ARTICLE 7 - REPORTS, RECORDS AND DATA

(1) REPORTS, RECORDS AND DATA

The Contractor shall submit to the Engineer such schedule of quantities and costs, progress schedules, payrolls, reports, estimates, records and other data as the Owner or Engineer may request concerning work performed or to be performed under this Contract.

(2) WORK SCHEDULE

The time within which the Contract is to be performed and the Work to be completed is the essence of this Agreement. The rate of progress shall be such that all work shall be performed in accordance with the time limits set forth herein.

Upon authorization to proceed, the Contractor shall submit to the Engineer for approval, a schedule showing in detail the proposed sequence of work, the plan and means and methods of construction to be employed, and the estimated date of starting and completing each stage of the work in order to complete the Project within the Contract time. If so required, the schedule shall be revised until it is approved by the Engineer.

The Contractor shall adhere to the approved work schedule for the Contract. In the event the Contractor does not adhere to the approved work schedule and causes other contractors to be damaged, the Contractor shall save the Owner and Engineer harmless from all actions and charges of other contractors against the Owner or Engineer caused by said delay. It is the Contractor=s responsibility to notify the City of any changes in schedule.

(3) MONTHLY PROGRESS REPORT

The Contractor shall be responsible for the proper coordination of the Work so as to maintain his schedules as approved. Failure to adhere to any phase of the approved schedule shall require the Contractor to promptly adopt such additional means or methods of construction, including overtime, as may be required to make up lost time and complete each phase of work in accordance with the schedule, all at not additional cost to the Owner.

The schedule shall be marked by the Contractor to indicate progress and shall be resubmitted to the Engineer monthly, and shall reflect revised estimates of durations of operations and/or actual durations of operations. Resubmitted schedules shall be accompanied by a detailed description of work to be accomplished during the succeeding month.

ARTICLE 8 - SAFETY AND SANITATION

(1) PROTECTION OF WORK AND PROPERTY

Upon commencement and until completion of the Work required in the Contract Documents, the Contractor shall at all times safely guard the Owner's property from injury or loss in connection with this Contract. The Contractor shall at all times safely guard and protect the work and that of adjacent property (as provided by the law and the Contract Documents) from damage. The Contractor shall replace or make good any such damage, loss or injury. All passageways, guard fences, lights and other facilities required for protection by Governmental Authorities, including OSHA and POSHA shall be provided and maintained.

(2) ACCIDENT PREVENTION

Precaution shall be exercised at all times for the protection of persons, including employees, and property. Hazardous conditions shall be guarded against or eliminated. The safety provisions of applicable laws, building and construction codes shall be observed. **Safety at the worksite shall conform to applicable OSHA Regulations.** If working within the roadway, the Contractor shall follow the approved Detour Plans submitted with the Plans for this project. If no traffic detour plans exist, the Contractor shall provide the necessary signage and traffic controls as set forth in the Manual on Uniform Traffic Control Devices for Streets and Highways, Part VI Construction & Maintenance at no extra cost to the City.

(3) FIRST AID

The Contractor shall provide and keep upon the Work a completely equipped first aid kit and shall provide ready access thereto at all times when men are employed on the Work or tests are being run. The Contractor shall designate some proper person to be in charge of first aid and shall cause each such person to receive proper instruction therein.

(4) SANITARY REGULATIONS

Necessary sanitary conveniences for the use of the laborers properly secluded from observation shall be erected and maintained by the Contractor in such manner and quantity and at such points as shall be approved, and their use shall be strictly enforced. The contents of same shall be removed with sufficient frequency to prevent nuisance and be disposed to the satisfaction of the Engineer. The Contractor shall supply sufficient drinking water to all of its employees, but only from such sources as are approved by the Engineer. The Contractor shall obey and enforce precautions against infectious diseases as the Engineer may deem necessary. If any case of infectious disease occurs among the employees, he shall arrange for the immediate removal of the patient from the Work, and isolation from all persons connected with the Work. The Contractor shall rigorously prohibit the committing of nuisance within, on or about the work. Any employees found violating these provisions shall be discharged and not again employed on the Work without the written consent of the Engineer.

ARTICLE 9 - WORK SITE AND CONDITIONS

(1) OTHER CONTRACTS

The Owner reserves the right to allow or to enter into other contracts for work or materials to be constructed or to be placed in or about the work herein described, and to order the starting and progress of such other contracts any time prior to the completion of this contract. The Contractor for the work herein described agrees to allow the construction of or progress of the work under such other contracts, under such arrangements for the joint occupation of the site of the work as the Engineer may approve. The Contractor hereby waives any claim for damages or extra compensation by reason of real or supposed interference with the work performed by the Contractor.

(2) NO EXCLUSIVE OCCUPANCY OF PREMISES

Nothing herein contained and nothing marked on the Drawings shall be interpreted as giving the Contractor exclusive occupancy of the premises provided for in the Scope of Work. The Owner and its employees, for any purposes, and other contractors of the Owner for any purpose required by their respective contracts, may enter upon or cross the premises or occupy of it, as directed or permitted.

(3) WORKING SITE

Any space that the Contractor may require for plant equipment, storage or other purposes, in addition to that available at the site of the Project, shall be procured by the Contractor, and the cost thereof shall be borne by the Contractor. In the event of default, the Owner shall have the right to take over and occupy such space, or cause it to be occupied for the purpose of completing the Project. If leased, the lease shall contain a provision that in the event of default by the Contractor, the lease be assigned to the Owner or its nominee. The Contractor agrees to make such assignment, in the event of said default.

(4) USES OF PREMISES AND REMOVAL OF DEBRIS

The Contractor expressly undertakes at no additional cost to the Owner:

a. To take every precaution against injuries to persons and damage to property.

b. To store his apparatus, materials, supplies and equipment in such orderly fashion at the site of the work as will not unduly interfere with the progress of the work or the work of any other Contractors. Nor shall any of the Contractor's materials or supplies contaminate the soils, water or create air pollution.

c. To place upon the work or any part thereof only such materials as are consistent with the safety of that portion of the work.

d. To frequently and at the end of each work day clean up all refuse, rubbish, scrap materials and debris caused by his operations so that at all times the site of the work shall present a neat, orderly and workmanlike appearance. The Contractor shall provide an adequate number of receptacles and containers for disposal of refuse, rubbish, scrap materials and debris. The Contractor shall engage a hauler, licensed by the New Jersey Department of Environmental Protection and Energy to remove the containers and receptacles from the site at least twice per week.

e. Before final payment, to remove all surplus material, falsework, temporary structures, including foundations thereof, of any description and debris of every nature resulting from his operations and to put the site in a neat orderly condition.

f. To effect all cutting or patching of his work required to make the same conform to plans and specifications and, except with the consent of the Engineer, not to cut or otherwise alter the work of any other Contractor.

g. Restore the site and repair or replace at the Contractor's cost any damage to property.

(5) USE OF PRIVATE PROPERTY

The Contractor shall not enter on or make use of private property unless written permission is secured from the owner. The Contractor shall promptly restore or repair, without cost to the Owner and in a manner satisfactory to its owner, property damaged or destroyed by the Contractor's operations.

(6) LEASE POSSIBLE OBSTRUCTION

The Contractor shall conduct his Work with the least possible obstruction to the regular operation of the Owner or anyone else having business at the site. The convenience of the public and protection of persons and properties of utilities and all other persons are of first importance and shall be provided for by the Contractor in an adequate and satisfactory manner.

(7) CONTRACTOR TO SETTLE DAMAGES TO OTHER CONTRACTORS

If, through acts of neglect on the part of the Contractor, any other contractor or any subcontractor in this or any other project shall suffer loss or damage in their work, the Contractor agrees to settle with such other contractor.

ARTICLE 10 - MATERIALS

(1) OWNERSHIP OF MATERIALS

All materials removed from existing construction and all materials or articles of value found in the excavation shall remain the property of the Owner, and shall be placed conveniently for removal. If not claimed by the Owner, such material or articles shall be removed and disposed of by the Contractor at his own expense.

(2) CONTRACTORS TITLE TO MATERIALS

No materials or supplies for the work shall be purchased by the Contractor or any subcontractor subject to any chattel mortgage or under a conditional sale or other agreement by which an interest is retained by the seller. The Contractor warrants that he has good title to all materials and supplies used by him in the Work.

(3) PATENTS

The Contractor shall hold and save the Owner and its officers, agents, servants and employees harmless from liability of any nature of kind, including costs and expenses, for or on account of any patented or unpatented invention, process, article or appliance, manufactured or used in the performance of the Contract, including its use by the Owner, unless otherwise specifically stipulated in the Contract Documents.

(4) MATERIALS AND EQUIPMENT

All materials, appliances, and type or methods of construction shall be in accordance with the specifications and shall in no event be less than that necessary to conform to the requirements of any applicable laws, ordinances and codes.

All materials and equipment shall be new, unused, correctly designed and certified as the latest and most recent design of the manufacturer. They shall be of standard first-grade quality, produced by expert workmen and be intended for use for which they are offered. Materials or equipment which, in the opinion of the Engineer are inferior or of a lower grade than indicated, specified or required, will not be accepted.

If Applicable, equipment and appurtenances shall be designed in conformity with A.W.W.A., A.N.S.I., A.S.M.E., A.I.E.E. and N.E.M.A. standards and shall be of rugged construction and of sufficient strength to withstand all stresses which may occur during fabrication, testing, transportation, installation, and all conditions of operation. All bearings and moving parts shall be adequately protected against wear by bushings or other approved means and shall be fully lubricated by readily accessible devices. Details gear covers, and the like shall be finished in appearance. All exposed welds shall be ground smooth and the corners of structural shapes shall be mitered.

Machinery parts shall conform exactly to the dimensions shown on the working drawings. There shall be no more fitting or adjusting in setting up a machine than is necessary in assembling high grade apparatus of standard design. The equivalent parts of identical machines shall be made interchangeable. All grease lubricating fittings on equipment shall be of a uniform type and samples thereof shall be in accordance with the approval. All machinery and equipment shall be safeguarded in accordance with the safety codes of O.S.H.A. and any and all pertinent local or State codes or regulations.

(5) APPROVED MATERIALS AND EQUIPMENT

Wherever materials and equipment for use in the Work have been approved by the Engineer, that make or brand of materials or equipment so approved shall be used throughout the Work as long as it meets requirements of the Specifications unless a good and sufficient reason for changing the make or brand is furnished.

(6) "OR EQUAL" CLAUSE

Specific reference in the Specifications to any article, device, product, material, fixture, form or type of construction, by name, make or catalog number, with or without the words "or equal" shall be interpreted as establishing a standard of quality and shall not be construed as limiting competition, and the Contractor in such cases, may at his option use any article, device, product, material, fixture, form or type of construction, which in the judgment of the Engineer, expressed in writing by the Engineer, is equal to that named. In all cases, new materials shall be used unless this provision is waived in writing by the Engineer.

(7) "BUY AMERICAN" PROVISION

In accordance with Local Public Contracts Law, the Bidder shall utilize, supply, and provide only manufactured and farm products of the United States, wherever available, and where such items or materials are either specified, intended, or required for completion of the Work to be done under this Contract.

(8) MANUFACTURER

The names of proposed manufacturers, material men, and dealers who are to furnish materials, fixtures, equipment, appliances or other fittings shall be submitted to the Engineer for approval, within ten (10) days from the Notice to Proceed, to afford proper investigation and checking. No manufacturer will be approved for any materials to be furnished under this Contract unless the manufacturer is of good reputation with a plant of ample capacity. The manufacturer shall, upon the request of the Engineer, submit evidence of having manufactured a similar product to the one specified and that it has been previously used for a like purpose for a sufficient length of time to demonstrate its satisfactory performance.

All transactions with the manufacturers, or subcontractors, shall be through the Contractors unless the Contractor shall request, in writing to the Engineer, that the manufacturer or subcontractor deal directly with the Engineer. Any such transactions will not in any way release the Contractor from his full responsibility under this Contract.

Any two or more pieces of material or equipment of the same kind, type or classification and being used for identical types of service shall be made by the same manufacturer.

(9) REFERENCE TO STANDARDS

Whenever reference is made to the furnishing of materials or testing thereof conforming to the standards of any technical society, organization or body, it shall be construed to mean the latest standard, code, specification or tentative specification adopted and published at the date of advertisement for bids, even though reference has been made to an earlier standard, and such standards are made a part hereof to the extent which is indicated or intended.

Reference to a technical society, organization or body may be in the specifications by abbreviations in accordance with the following list:

A.C.I.	For American Concrete Institute
A.I.	For Asphalt Institute
A.I.E.E.	For American Institute of Electrical Engineers
A.I.S.C.	For American Institute of Steel Construction
A.S.C.E.	For American Society of Civil Engineers
A.N.S.I.	For American National Standards Institute
A.S.T.M.	For American Society for Testing Materials
A.S.M.E.	For American Society of Mechanical Engineers
A.W.S.C.	For American Welding Society Code
A.W.W.A.	For American Water Works Association
C.I.P.R.A.	For Cast Iron Pipe Research Association
Fed. Spec.	For Navy Department Specifications
N.E.C.	For National Electrical Code
N.E.M.A.	For National Electrical Manufacturers Association
S.A.E.	For Society of Automotive Engineers
U.L., Inc.	For Underwriter's Laboratories, Inc.
OSHA	For Occupational Safety Health Act

When no reference is made to a code, standard or specification, the Standard Specifications of the A.N.S.I., the A.W.W.A., the A.S.T.M., the A.S.M.E., the A.I.E.E., or the N.E.M.A. shall govern.

(10) SAMPLES

The Contractor shall, when required, submit to the Engineer for approval typical samples of materials and appliances. The samples shall be properly identified by tags and shall be submitted sufficiently in advance of the time when they are to be incorporated into the Work so that rejections thereof will not cause delay. A letter of transmittal in triplicate from the Contractor requesting approval must accompany all such samples.

(11) DELIVERY

The Contractor shall deliver materials and equipment in ample quantities to insure the most speedy and uninterrupted progress of the work so as to complete the work within the allotted time. The Contractor shall also coordinate deliveries in order to avoid delay in, or impediment of, the progress of the work of any related Contractor.

(12) INSPECTION UPON DELIVERY

Upon delivery of the equipment supplied to the Owner under other contracts, an inspection shall be made jointly by the Engineer, Contractor, and the equipment manufacturer. The Contractor and equipment manufacturer shall each write a report concerning the condition of the equipment, as delivered. Each report shall be delivered to the Engineer within one (1) day of said inspection. The Engineer shall include these reports as along with his Delivery Inspection Report. Two copies of the Delivery Inspection Report shall be delivered to the Owner; one copy to the Contractor; and one copy to the equipment manufacturer.

Replacement of materials and equipment found to be defective shall not relieve the Contractor of his

responsibility under the Contract.

Upon receipt of a certification from the Engineer stating that the equipment and spare parts are complete, free of defects, and in accordance with the requirements of the equipment manufacturer's contract, the Owner shall issue a Certificate of Delivery. The Certificate of Delivery shall transfer the handling, storage, installation, and insurance responsibility of the equipment supplied under other contracts from the equipment manufacturer to the Contractor.

(13) CARE AND PROTECTION

The Contractor shall be solely responsible for properly storing and protecting all materials, equipment and work furnished under this Contract and other contracts as provided for in G.P. 10.12, Inspection Upon Delivery from the time such materials and equipment are delivered at the site of the Work and until final acceptance thereof. The Contractor shall at all times take necessary precautions to prevent injury or damage by water, freezing, inclemency of the weather or vandalism to such materials, equipment and work. All injury or damage to materials, equipment or work resulting from any cause whatsoever shall be made good by the Contractor at no cost to the City.

The Engineer shall in all cases determine the portion of the site used by the Contractor for storage, plant or for other purposes. If, however, it becomes necessary to remove and restack materials, to avoid impeding the progress of any part of the Work or interference with the work to be done by any other contractor, the Contractor shall remove and restack such materials at his own expense.

(14) SERVICE OF MANUFACTURER'S REPRESENTATIVE

The prices bid for equipment shall include the cost of furnishing a competent and experienced manufacturer's representative who shall assist the Contractor, when required, to install, adjust, and test that the equipment conforms with the Contract Documents. After the equipment is placed in permanent operation by the Owner, such manufacturer's representative shall make all adjustments and tests required by the Engineer to prove that such equipment is in proper and satisfactory operating condition. The time required for these services shall be in addition to any time specified elsewhere for services of the manufactures representative.

ARTICLE 11 - INSPECTION OF WORK AND MATERIALS

(1) INSPECTION

All materials and work necessary or proper for the building and completion of the Work herein specified by the Engineer or the Engineer's Inspectors and the Contractor or subcontractors shall furnish the Engineer or the Engineer's Inspectors with all the needed facilities for discharging the assigned duties. When in the judgement of the Engineer, the work or materials are not in accordance with the Specifications, the Engineer shall have the power to stop the work, which shall not be resumed until the Engineer has rendered his opinion upon the matter in dispute. Condemned materials shall be promptly removed from the Work. The power of final approval of all materials to be used in this work rests with the Engineer.

(2) PROPER METHOD OF WORK AND PROPER MATERIALS

The quality and workmanship of the Work covered by this Contract are to be of the best quality throughout, and if any time before the commencement or during the Work the material used or to be used appears to the Engineer as insufficient or improper for securing the quality of work required, or the required rate of progress, the Engineer may order the Contractor to increase their efficiency or improve their character and the Contractor shall conform to such order. The failure of the Engineer to demand any increase of such efficiency or improvements shall not release the Contractor from his obligation to secure the quality or rate of progress specified.

(3) INSPECTION AND TESTING OF MATERIAL

Unless otherwise specifically provided for in the Specifications, the inspection and testing of materials and finished articles to be incorporated in the work at the site shall be made by laboratories or agencies selected by the Engineer. It shall be the obligation of the Contractor to see that satisfactory samples of the materials and finished articles are made available to the testing organization prior to the incorporation of such materials and finished articles in the Work. Except as otherwise specified, the cost of all inspection and testing shall be paid for by the Owner. The Contractor shall promptly segregate and remove rejected materials and finished articles from the site of the Work.

(4) SHOP TESTS OF OPERATING EQUIPMENT

Each piece of equipment for which pressure, duty, capacity, rating, efficiency, performance, function, or special requirements are specified shall be tested in the shop of the maker in a manner which shall conclusively prove that its characteristics comply fully with the requirements of the Contract Documents. No such equipment shall be shipped to the Work until the Engineer notifies the Contractor in writing that the results of such tests are acceptable.

If in the opinion of the Engineer, the Contractor has used inferior or faulty materials, the Engineer reserves the right to have said material tested at no expense to the City (see additional inspection costs).

Five copies of shop test data and the interpreted results thereof, accompanied by a certificate of authenticity sworn to by a responsible official of the manufacturing company, shall be forwarded to the Engineer within ten (10) days of completion of the tests. Final acceptance of the equipment will be dependent on satisfactory results of the field tests. The cost of shop tests and of furnishing manufacturers preliminary and shop test data of operating equipment shall be borne by the Contractor.

(5) CERTIFICATE OF MANUFACTURE

When inspection is waived or when the Engineer so requires, the Contractor shall furnish to the Engineer authoritative evidence in the form of certificates of manufacture that the materials to be used in the Work have been manufactured and tested in conformity with the Contract Documents. These certificates shall be in quintuplicate, and shall include copies of the results of physical tests and chemical analysis that have been made directly on the product or on similar products of the manufacturer.

(6) WORK MAY BE REJECTED AT ANYTIME

If at any time an inspection, test or analysis of work reveals faulty design, inferior or defective materials, poor workmanship, improper installation, excessive wear or nonconformity with the requirements of the Contract Documents, such work will be rejected and shall be replaced with satisfactory work at the Contractor's expense.

The Contractor shall be fully responsible for the proper operation of equipment during tests and instruction periods and shall neither have nor make any claim for damage which may occur to equipment prior to the time the Owner formally takes over the operation thereof except as provided in Article 10.12, Inspection Upon Delivery.

(7) ADDITIONAL INSPECTION COSTS

The Contractor shall reimburse the Owner for expenditures incurred in the making of tests on materials and equipment submitted by the Contractor as the equivalent of that specifically named in the Contract, if such material or equipment is rejected for non-compliance with the Contract Documents.

(8) PRELIMINARY FIELD TESTS

As soon as conditions permit, the Contractor shall furnish all labor, materials and instruments and shall make preliminary field tests of equipment. If the preliminary field tests disclose any equipment furnished under this Contract which does not comply with the requirements of the Contract Documents, the Contractor shall, prior to the acceptance tests, make all changes, adjustments, and replacements required, at no additional cost to the Owner.

ARTICLE 12 - CONTRACTOR'S WORKMEN

(1) WORKMEN AND SUPERVISION

The Contractor shall give personal supervision to the work, shall keep a sufficient number of competent foremen and competent skillful workmen on the work, and shall keep a watchman on the premises when the foreman is not present if public safety indicates that this be done. In an absence of the Contractor, the necessary directions and orders will be given by the Engineer and shall be received and obeyed by the foreman or employee in immediate charge of the portion of the work to which the directions relate.

At the site of the work, the Contractor shall employ a construction superintendent or foreman who shall have full authority to act for the Contractor. It is understood that such representative shall be acceptable to the Engineer and shall be one who can be continued in the capacity for the particular job involved unless he ceases to be on the Contractor's payroll.

The superintendent and/or foreman shall be fluent and comprehensible in the English language.

The Contractor shall employ only competent and skilled men to do the work and whenever the Engineer shall inform him that any man on the work is in his opinion incompetent or disorderly or uses threatening or abusive language to any official having supervision of the work, such man shall be discharged and shall not be again employed on the work without the consent of the Engineer and Owner.

(2) WAGES AND PAYROLL

A clearly legible statement of the minimum wage rate to be paid each trade and occupation employed under this contract and the authorized deductions therefore, if any, shall be posted by the Contractor in a prominent and easily accessible place at the site of the Work.

(3) NON-DISCRIMINATION

There shall be no discrimination by reason of race, creed, color, national origin or political affiliation in neither the employment of qualified persons for work on the Project under this Contract nor in the procurement, manufacture, assembling or furnishing any materials, equipment, supplies or services to be acquired under this Contract. These requirements shall also be binding on all subcontractors.

This Contract may be canceled or terminated by the Owner and all money due or to become due hereunder may be forfeited for a second of any subsequent violation of this section of the Contract.

(4) LABOR REGISTRATION

In case the Engineer so elects, the Contractor shall require that workers on the project under this contract register at such times and places and in such manner as the Engineer may direct.

(5) COLLECTIVE BARGAINING

The legal rights of all workers on the project under this Contract to organize and to bargain collectively, to be protected from the requirement to join a company union, and to enjoy freedom of expression and action with respect to wages, hours and conditions of labor shall not be infringed.

ARTICLE 13 - SUBCONTRACTORS

(1) SUBCONTRACTING

The Bidder is specifically advised that any person, firm, or any other party to whom it is proposed to award any subcontract under this Contract must be a responsible subcontractor acceptable to the Owner. The Bidder must complete and submit with its Bid the List of Subcontractors contained in the Proposal, as required by Section 40A:11-16 of the Local Public Contracts Law.

The Contractor shall cause appropriate provisions to be inserted in all subcontracts relative to the work to bind subcontractors to the Contractor by terms of the Contract insofar as applicable to the work of subcontractors and to give the Contractor the same power as regards termination of any subcontract that the Owner may exercise over the Contractor under any provisions of the Contract Documents. In no event shall a Contractor be allowed to subcontract more than sixty (60%) percent of the total value of the contract bid amount.

Nothing contained in the Contract shall create any contractual relations between any subcontractor and the Owner.

(2) ASSIGNMENTS

The Contractor shall not assign the whole or any part of this Contract or any monies due or to become due hereunder without the written consent of the Engineer, the Owner and all sureties executing any bonds on behalf of the Contractor. In case the Contractor assigns the whole or any part of any monies due or to become due under said Contract, the instrument of assignment shall contain a clause substantially to the effect that it is agreed that the right of the assignee in and to any monies due or to become due the Contractor shall be subject to all the terms and conditions of said Contract and of all instruments that are now or may hereafter be amendatory thereof or supplemental thereto, the rights and remedies of the Owner there under or arising by operation of law and to the liens of all persons, firms and corporations for services rendered or materials supplied in connection with the performance of said Contract.

ARTICLE 14 - EMERGENCIES

(1) POWER OF CONTRACTOR TO ACT IN AN EMERGENCY

In case of an emergency which threatens loss or injury of property and/or safety of life, the Contractor will be allowed to act, without previous instructions from the Engineer, as he sees fit. He shall notify the Engineer thereof, immediately thereafter. Any compensation claimed by the Contractor due to such extra work shall be submitted to the Engineer for approval.

Where the Contractor has not taken action, but has notified the Engineer of an emergency threatening injury to persons or damage to the work or any adjoining property, upon authorization from the Engineer, to prevent such threatened injury or damage, the Contractor shall act as instructed or authorized by the Engineer. The amount of reimbursement claimed by the Contractor on account of any such action shall be determined by the Engineer.

(2) EMERGENCY TELEPHONE

The Contractor shall at all times after regular working hours including weekends and holidays, maintain a telephone where the Contractor or a representative can be reached on an emergency basis. The Contractor or a representative shall be prepared to act to correct conditions on the site deemed to constitute an emergency by either the Owner, the Owner's agent, the Engineer, or the local authority. If a condition on the site requires attention after working hours, either the Owner, agent, Engineer or local authority shall call the Contractor or his representative at the emergency number. The Contractor is expected to dispatch men and equipment to adequately institute corrective measures within two (2) hours. If for some reason the Contractor or his agent cannot be reached at the emergency number after a reasonable time (2 hour) the Owner shall have the right to immediately initiate corrective measures in accordance with Article 14.3 Emergency Services, and the Contractor shall have considered to waive any right to perform emergency service.

(3) EMERGENCY SERVICES

In the event that the Contractor fails to maintain safe traffic conditions and job conditions, including, but not limited to, trench settlement and hazardous piling or storage backfill or construction materials, the Owner, after failure of the Contractor to commence substantial steps at the job site to rectify the situation within two (2) hours of the time the Contractor has been notified pursuant to Article 14.2 Emergency Telephone of the unsafe conditions, may hire guards, take such precautions, make such repairs and take any other steps which the Owner or the Owner's agent in its discretion, considers necessary to protect the property, persons or the Owner. **The cost of any of these precautions, guards, or steps shall be deducted from the payments due the Contractor.**

ARTICLE 15 - CHANGE ORDERS, EXTRA PAYMENTS/CREDITS

(1) CONTRACTOR TO CHECK PLANS AND DATA

The Contractor shall verify all dimensions, quantities, and details shown on the Plans, supplementary drawings, shop drawings, schedules, or other data received from the Engineer and shall notify him of all errors, omissions, conflicts and discrepancies found therein. Failure to discover or correct errors, conflictions or discrepancies shall not relieve the Contractor of full responsibility for unsatisfactory work, faulty construction of improper operation resulting therefrom nor from rectifying such conditions at his own expense. He will not be allowed to take advantage of any error or omissions, as full instructions will be furnished by the Engineer should such error or omissions be discovered. All schedules are given for the convenience of the Engineer and the Contractor and are not guaranteed to be complete. The Contractor shall assume all responsibility for making estimates or the size, kind, and quality of materials and equipment included in Work to be done under the Contract.

(2) QUANTITIES OF ESTIMATE

The quantities of the various items of work to be done and materials to be furnished under this Contract, which have been estimated as shown in the Proposal are approximate only and given for use in comparing bids and the right is especially reserved except as herein otherwise specifically limited, to increase or diminish them as may be deemed reasonably necessary or desirable by the Owner. The Owner is not to be held responsible that any of the said estimated quantities shall be found even approximately correct in the construction of the work, and the Contractor shall make no claim for anticipated profits, or for loss of profit, because of a difference between the estimated quantities of the various items of work stated in the proposal, and the quantities actually performed, or materials actually delivered. The Owner may increase or decrease the contract amount as permitted by the NJSA 40A:11-1
et seq.

(3) SUBSURFACE CONDITIONS FOUND DIFFERENT

Should the Contractor encounter, or the Engineer discover, during the progress of the work subsurface or latent conditions at the site materially differing from those shown on the drawings or indicated in the specifications, or unknown conditions of an unusual nature differing materially from those ordinarily encountered and generally covered by the specifications, the attention of the Engineer shall be called immediately to such conditions before they are disturbed. The Engineer shall thereupon promptly investigate the conditions, and if the conditions do so materially differ, the Contractor may, with the written approval of the Engineer, be modified to provide for cost associated with the difference in manpower or materials resulting from such conditions.

The Engineer will consider the effects of materially different subsurface conditions to the extent that they adversely affect the final product. It is recognized by the Owner and the Contractor that changes in subsurface conditions can aid the Contractor in the performance of work as they can impede such progress. Accordingly, the Contractor shall become familiar with the project area, its physical characteristics and such information that is made available herein or through the Contractor's own efforts and price the product to include normally anticipated features of the terrain which both aid and hinder progress.

(4) CHANGES IN WORK

No Change Order or Claim for Extra based on a Change Order shall be valid unless approved by one of the methods set forth hereafter:

a. With respect to any Change Order that will result in any increase or decrease in the cost of the work, Contractor shall request in writing approval by Owner's representative; or

b. In the event of an emergency situation, Contractor may request orally, approval of a Change Order by Owner's representative in a specific amount or on some other specifically determinable basis and may, if same is approved, proceed with the Change Order, provided that the Contractor shall, within one (1) working day, present the Owner's representative written description of the Change Order, the nature of emergency, the amount of the Change Order and the time and manner of oral approval by Owner's representative. The request shall be signed by Contractor and countersigned by Owner's representative.

c. Changes in work must be noted on **AS-BUILT DRAWINGS** which must be submitted at the end of the project unless permitted otherwise by the City Engineer.

Request for payment for any Change Order approved as provided in a) or b) above may be submitted to the Owner with the Contractor's next regular request for payment. Work shall continue during the time the Change Order is requested, negotiated if required, and approved.

(5) PRICES FOR CHANGES IN WORK

The Engineer shall use one of the following methods of determining the charge of credit for changes in work:

a. Unit prices bid for the work.

b. By establishing a total lump sum value of the change in work and setting forth the price which shall be added to or deducted from the Contract price, which price shall include the Contractor's overhead and profit.

c. By ordering the Contractor to proceed with the work and to keep and present in such form as the Engineer may direct a correct amount of the cost of the change together with all vouchers therefore. The Contractor or Subcontractor cost may include an allowance for overhead and profit not to exceed 20% of the net cost (i.e., labor, materials and equipment). If subcontract work is included as part of a Change Order, Contractor overhead and profit is limited to 5% of the subcontractor cost. The cost may also include all items of labor or materials, the use of power tools and other equipment actually used, power and all items of cost such as public liability and workmen's compensation insurance, pro rata charges for foremen, Social Security, old age and unemployment insurance.

If deductions are ordered, the credits shall be the net cost.

Among the items considered as overhead are included insurance other than mentioned above, bond or bonds, superintendent, timekeeper, clerks, guards, use of small tools, incidental job burdens and general office expenses.

The Contractor shall, when required by the Engineer, furnish to the Engineer an itemized breakdown of

the quantities and prices used in computing the value of any change that might be ordered.

ARTICLE 16 - ACCEPTANCE

(1) PARTIAL ACCEPTANCE

If at any time during the prosecution of the Project the Contractor completes a unit or portion of the Project, the Contractor may request the Engineer to make final inspection of that unit. If the Engineer finds upon inspection that the unit has been satisfactorily completed in compliance with the Contract, the Engineer may accept that unit as being completed, and the Contractor may be, upon written request, relieved of the responsibility of doing further Work on or maintaining that unit or portion of the Project. The Engineer reserves the right to reject the request made by the Contractor, if the Engineer determines that the unit or portion of the Project should not be the subject of a partial acceptance. Such partial acceptance shall in no way void or alter any of the terms of the Contract, nor shall it be construed as relieving the Contractor of fully responsibility for making good defective work or materials found at any time before Final Acceptance.

(2) SUBSTANTIAL COMPLETION

The term “Substantial Completion” means the point at which the performance of all Work on the Project has been completed except (if applicable) landscaping items (including the plating of trees, shrubs, vines, ground covers and seedlings), final cleanup, repair of unacceptable Work, and provided the Engineer has solely determined that:

a. The project is safe and convenient for use by the public; and

b. Failure to complete the work and repairs excepted above does not result in the deterioration of other completed work; and provided further, that the value of landscaping work, if applicable, remaining to be performed, repairs and cleanup is less than two percent of the Total Adjusted Contract Price.

When the Contractor determines that the work is substantially complete, the Contractor shall prepare a written notice thereof for submission to the Engineer listing the items remaining to be completed or corrected. The failure to include any items on such list does not alter the responsibility of the Contractor to complete all work in accordance with the Contract Documents. If the Engineer determines that the work is substantially complete, the Engineer will then prepare a letter which states the date of substantial completion and established a reasonable time within which the Contractor shall complete the planting of trees, shrubs, vines, ground covers and seedlings, perform the final cleanup and repair unacceptable work, which time may be prior to Contract Time as modified. The letter will be submitted to the Contractor for its prompt compliance therewith.

If however, the inspection discloses that the Work is not substantially completed to the Engineer’s satisfaction, the Engineer will give the Contractor the necessary instructions for completion and correction of same, and the Contractor shall immediately comply with and execute such instructions. Upon completion and correction of the Work, the Contractor shall notify the Engineer and another inspection will be made.

(3) FINAL ACCEPTANCE (CERTIFICATE OF COMPLETION)

Upon receipt by the Engineer of written notice from the Contractor that the Work has reached Completion and is ready for final inspection and Acceptance, the Engineer will promptly make such

inspection. When such inspection indicates that the Work is in compliance with the Contract, the Engineer will promptly issue a Certificate of Completion stating that, to the best of its knowledge, information, and belief, and on the basis of observations and inspections, the Work has been completed in accordance with the terms and conditions of the Contract. If, however, the final inspection discloses that the Work has not reached Completion, the Engineer will give the Contractor the necessary instructions for the correction of the deficiencies (or punch list items), and the Contractor shall immediately comply with and execute such instructions. Upon correction of the deficiencies (or punch list items), the Contractor shall renotify the Engineer, and another inspection will be made. This procedure is to be repeated until a Certificate of Completion is issued.

At the request of the Contractor, the Engineer may issue a Certificate of Completion without receiving all required documents, certificates, or proofs of compliance. The Contractor's request must satisfactorily establish that the Contractor could not reasonably and in good faith provide some of the required documents, certificates, or proofs of compliance at a time contemporaneous with Completion and with the Project being ready for use by the City to the degree contemplated by the Contract. In such instances where a Certificate of Completion is issued, the Contractor shall expeditiously attempt to provide the exempted document, certificate, or proofs of compliance. Final payment will not be made, however, until all such documents, certificates, and proofs of compliance have been satisfactorily executed and delivered to the Engineer.

The Certificate of Completion is issued establishing Completion as of the date of the notice or re-notice from the Contractor.

After Final Acceptance, the Contractor is relieved of the duty of maintaining and protecting the Work as a whole, and is not required to perform any further Work thereon. In addition, the Contractor is relieved of its responsibility for damage to the Work which may occur after Final Acceptance.

(4) FINAL FIELD TESTS AND PROJECT WALK THROUGH

Upon completion of the work and prior to acceptance, all equipment and appliances installed under this contract shall be subjected to acceptance tests as specified or required to prove compliance with the Contract Documents.

Except where specifically provided otherwise, the Contractor shall furnish labor, fuel, energy, water and all other materials, equipment and instruments necessary for all acceptance tests, at no additional cost to the Owner.

The Contractor's attention is directed to the provision of the Detailed Specifications regarding the field tests of equipment and materials furnished and installed. The Detailed Specifications shall govern whenever there appears to be conflict between the General Provisions and the Detailed Specifications.

In addition to final field testing, there shall be a walk through of the entire project with the Contractor, Engineer and other City officials present.

ARTICLE 17 - PAYMENTS TO CONTRACTOR

(1) MEASUREMENT OF QUANTITIES

All work completed under the Contract will be measured by the Engineer according to United States Standard Measures.

(2) PAYMENT

The lump sum and unit prices submitted by the successful bidder shall represent payment in full for all material, equipment, labor, overhead, and profit, bond cost, insurance fees, etc., and all other expenses required to make the Project complete, acceptable, and workable, in conformity with the Contract Documents. Partial and final payment will only be made for work completed and approved as measured in place on the project site. The Contractor shall submit an invoice on the forms supplied by the City or forms approved by the City Engineer. In addition, the Contractor must submit corresponding payroll sheets and Manning Reports. The City may require other submissions as set forth at the preconstruction meeting.

A schedule of values shall be prepared and submitted by the contractor for all lump sum contracts or bid items. The contractor shall sub-divide the lump sum price into as many individual work items as appropriate with estimated cost of each, which totals the lump sum price. The schedule of values shall be subject to the City Engineer's approval, prior to the start of the work, including the breakdown of the work and the cost of each. The contractor, and subcontractors, must understand and agree as follows: 1) should an item of work specifically identified in the schedule of values be deleted from the project, the cost identified for the deleted work item will be the value used in a change order, and 2) the schedule of values cannot be broken down into every finite element of the work but rather each scheduled value may include multiple tasks with associated cost and as such, progress payments may be limited to only partial payment of specific scheduled work.

(3) NO EXTRA PAYMENT EXCEPT WHERE ORDERED IN WRITING

In no case will any work in excess of that shown on the original Contract Plans be paid for unless ordered in writing by the Engineer and approved by the Owner, and all extra work, when it is agreed upon, or when it becomes as necessary, as stated in the Contract, shall be paid for as described in the Contract.

(4) PARTIAL PAYMENTS

Partial Payment shall not imply acceptance or partial acceptance of the project, unless otherwise agreed upon by the Engineer.

For Projects $100,000.00 or Less

For Contract amount $100,000 or less the Contractor shall agree to the withholding of five (5%) percent of each partial payment pending completion of the project. **The Contractor may make a request for payment at any time during the course of the project for actual work completed and approved by the City up to 75% of the project cost**. The remaining 25% inclusive of retainage may be invoiced at the completion of the project as final payment. The Contractor is referred to the section on FINAL

PAYMENT for required submission.

For Projects Over $100,000.00
The Contractor shall agree to withholding of payments pursuant to P.L. 1979.C152 (C40A:11-16.1) of two (2%) percent of the amount due on each partial payment for work actually completed and approved by the City. **The Contractor may make a request for payment at any time during the course of the project for actual work completed and approved by the City up to 75% of the project cost.** Final Payment inclusive of retainage will be made subjected to the terms and conditions set forth in the section on FINAL PAYMENT below.

(5) FINAL PAYMENT

Final Payment will be made by the City under the provisions of these contract documents after the following conditions have been met:

a. The City has accepted the completed work or formally waived nonconforming work to the extent of the nonconformity and issued a letter of acceptance.

b. The Contractor has submitted **PROJECT AS-BUILT DRAWINGS** unless same has been waived by the City Engineer.

c. The Contractor has furnished the City with the following executed Documents:

    1. Maintenance Bond (100% of Final Contract Amount)
    2. Final Release & Indemnity Agreement
    3. Project Guarantees/Warranties (if applicable)
    4. Instructions and O&M Manuals (if applicable)
    5. Project photographs or Video (unless waived by the City Engineer)
    6. All asphalt, concrete slips, test results, etc. not previously submitted to the Inspector, (if applicable)

d. The Contractor has complied with all other provisions of the Contract Documents.

e. Submit maintenance bond, guarantees, instruction manuals, etc.

Neither the final payment or any partial payment shall operate to release the Contractor or his sureties from any obligation under this Contract or any bond or guarantee, as herein provided.

Unless otherwise agreed upon by the Engineer, the date of **approval of final payment shall constitute final project approval** and said date should be used as project completion date.

(6) OWNER'S RIGHT TO WITHHOLD PAYMENTS

The Owner may withhold from the Contractor so much of any approved payments due him as may in the judgement of the Engineer be necessary:

a. To assure the payment of just claims then due and unpaid of any persons supplying labor or materials for the Work;

b. To assure the payment of losses due to defective work not remedied; and/or

c. To assure payment of losses due to injury to persons or damage to the Work or property of other contractors, subcontractors or others caused by the negligence of the Contractor or any of its subcontractors.
d. To satisfy such other obligations of the Contractor when such withholding is permitted by another provision of these Specifications.

The Owner shall have the right as agent for the Contractor to apply any such amounts so withheld in such manner as the Owner may deem proper to satisfy such claims or to secure such protection. Such application of such money shall be deemed payments for the account of the Contractor.

(7) WAGE UNDERPAYMENTS AND ADJUSTMENTS

The Contractor agrees that, in case of underpayment of wages to any worker on the project under this Contract by the Contractor of any subcontractor, the Owner shall withhold from the Contractor, out of payments due, an amount sufficient to pay such worker the difference between the wages required to be paid under this Contract and the wages actually paid such worker for the total number of hours worked and that the Owner may disburse such amounts so withheld by it for and on account of the Contractor to the worker to whom such amount is due. The Contractor further agrees that the amount to be withheld pursuant to other provisions in this Contract, such as retained percentage, shall be separate from the provisions in this paragraph, those retained in accordance with this Article being in addition to any retained percentage.

(8) ACCEPTANCE OF FINAL PAYMENT CONSTITUTES RELEASE

The acceptance by the Contractor of final payment shall be and shall operate as a release to the Owner of all claims and all liability to the Contractor for all things done or furnished in connection with this Work and for every act and neglect of the Owner and others relating to or arising out of this Work, excepting the Contractor's claims for interest upon the final payment, if this payment be improperly delayed. No payment, however, final or otherwise, shall operate to release the Contractor or his sureties from any obligation under this Contract or the performance bonds.

(9) DEFERRED PAYMENTS

When the Contractor shall have given the Owner satisfactory evidence that all suits or claims of every description arising from or through the execution of the Work have been fulfilled, then such portion of any deducted sums as the Contractor is entitled to shall be paid him and his bond shall be released.

(10) TERMINATION OF RESPONSIBILITY

When all the work included in this Contract has been accepted by the Owner, the Project shall be considered as completed and the Contractor shall be released from all further obligations and requirements except as set forth and provided in previous paragraphs headed "Substantial Completion," "Guarantee Against Defective Work," and "Maintenance Bond."

(11) REQUEST FOR PAYMENTS

In order for payments to be made in a timely manner, the Contractor must submit an invoice and necessary documentation as set forth elsewhere in these specifications. Incomplete submissions will be returned to the Contractor without any further action by the City.

Request for payments, in complete package form, must be made no later than as noted on the

Schedule for Submission, in order to be considered for payment at the subsequent Council Meeting. Said Schedule for Submission will be distributed to the awarding contractor at the preconstruction meeting. The City reserves the right to change the deadline submission date.
Payments by Owner will only be made once a month.

(12) PROMPT PAYMENT

Prompt payment of construction contracts P.L. 2006,c.96. The City of New Brunswick complies with Prompt Payment of Construction Contracts, 2006, c.96, provided the contractor submits all required documents as had been agreed upon and by the deadlines established with Schedule of Submissions, and provided the payment requested represents the true value of completed work.

ARTICLE 18 - GUARANTEE OF WORK

(1) GUARANTEE AGAINST DEFECTIVE WORK

Unless specifically stated otherwise in the Contract Documents, all work shall be fit for the particular purpose for which used, and be guaranteed by the Contractor against all defects in workmanship and material for a period of 1 year following Contract Completion or, for a period of 1 year following the date of Substantial Completion as established by the Engineer for specified items of equipment or other designated parts of the work, as enumerated in each Certificate of Substantial Completion issued by the Engineer.

The Contractor shall make, at no additional cost to the Owner, all repairs and replacements necessitated by defects in materials or workmanship in work provided by the Contractor or any subcontractors, equipment manufacturers and suppliers, and pay for any damage to other works resulting from such defects, which become evident within the guarantee period.

The Contractor also agrees to hold the Owner and Engineer harmless from liability of any kind arising from damage due to said defects. The Contractor shall make all repairs and replacements promptly upon receipt of written orders from the Owner. If within 10 days (or such longer period as the Owner may allow) after the Owner has notified the Contractor of a defect, the Contractor has not started to make the necessary corrections, the Owner may make the corrections or order them done by a third party, and the cost of the corrections shall be paid by the Contractor as well as other necessary and reasonable costs incurred by the Owner as a result of the Contractor's failure to properly effectuate such repairs and replacements, including but not limited to consultant fees and attorney fees. In the event that the Contractor fails to pay the aforementioned costs, the Owner shall seek recovery under the Contractor's Maintenance Bond.

Repetitive malfunction of equipment shall be cause for equipment replacement and an extension of the guarantee period to a date one year following acceptable replacement.

The Owner's rights under this Article shall in addition to, and not a limitation of, any other rights and remedies available by law.

In addition to guarantees and warranties supplied by manufacturers and supplies, all work shall be guaranteed by the Contractor against all defects in workmanship and material for a period of one year following the issuance of the Certificate of Substantial Completion, unless specifically stated otherwise in the Specifications. It shall be the Contractor's responsibility to obtain and include as part of the Contractor's Work, all guarantees, cost and other assurances from manufacturers, suppliers, and vendors to provide the Contractor and Owner adequate protection for enforcement of such guarantee provisions of this Contract.

(2) MAINTENANCE BOND

For a period of one year after Contract Completion, or for a period of one year following the date of Substantial Completion as established by the Engineer for specified items of equipment or other designated parts of the Work, the Contractor shall provide all required repairs and replacements.

As security for performance by the Contractor of its obligations during the guarantee period, the Contractor shall within fifteen (15) days after notification of the acceptance of the work, provide a Surety Corporation Bond, which shall be:

1. in triplicate, in the form provided herein.

2. issued by a Surety **Rated B plus (B+) or better by Best's Insurance Report for Property and Casualty** and licensed and authorized to do business in the State of New Jersey and acceptable to the Owner; and

3. in an amount equal to 100 percent of the **final** Contract price.

Any change in the Plans, Specifications or quantities shall in no way viciate said Bond.

(3) RIGHT OF THE OWNER TO TERMINATE CONTRACT

If the Contractor be adjudged bankrupt, or should make a general assignment for the benefit of the Contractor's creditors, or if a receiver should be appointed for the Contractor, or any of the Contractor's property, or if the Contractor should persistently or repeatedly refuse or fail to supply enough properly skilled workers or proper materials, or if the Contractor should refuse or fail to make prompt payment to persons supply labor or materials for the Work under the Contract or persistently disregard instructions of the Engineer or fail to observe or perform any provisions of the Contract Documents, or otherwise be guilty of a substantial violation of the Contract Documents, then the Owner, may by at least five (5) days prior written notice to the Contractor, without prejudice to any other right or remedies of the Owner may take over the Work and prosecute the same to completion, by contract or otherwise, and the Contractor and the Contractor's sureties shall be liable to the Owner for any excess cost, including an appropriate allowance for administration and overhead, occasioned to the Owner thereby; and in any such case, the Owner may take possession of and utilize in completing the Work, such materials, appliances and plant as may be on the site of the Work and necessary therefore. The foregoing conditions are in addition to, and not in limitation of, the rights of the Owner under any other provisions of the Contract Documents. The expenses incurred by the Owner as herein provided, either for furnishing materials or for furnishing the work, and any damaged incurred through default of the Contractor, shall be audited and certified by the Engineer whose certification thereof shall be conclusive and binding upon the parties to this Contract except that the Contractor may appeal therefrom as provided hereinafter.

(4) DELAYS - DAMAGES

If the Contractor refuses to or fails to prosecute the Work or any separable part thereof, with such diligence as will insure its completion within the time specified by the City and/or set forth by the schedule submitted by the Contractor or any approved extension thereof, or fails to complete said work within such time, the Owner may, by at least five (5) days prior written notice to the Contractor, terminate the Contractor's right to proceed with the Work or such part of the Work as to which there has been delay. In such event, the Owner may take over the Work and prosecute the same to completion, by contract or otherwise, and the Contractor and the Contractor's sureties shall be liable to the Owner for any excess cost, including an appropriate allowance for administration and overhead, occasioned the Owner thereby as well as liquidated damages for delay in amounts provided herein up to the date of termination, which date shall be reasonable under the circumstances. If the Contractor's right to proceed is so terminated, the Owner may take possession of, and utilize in completing the Work, such materials, appliances and plant as may be on the site of the Work and necessary therefore. The City may utilize remaining funds under the contract to complete the work and pay for any additional costs set forth above. If the Owner does not terminate the right of the Contractor to proceed, the Contractor

shall continue the Work. In such event, the actual damages for the delay will be impossible to determine and in lieu thereof, the Contractor shall pay to the Owner as fixed and agreed the liquidated damages of the amount as set forth in the proposal for each calendar day of delay until the Work is completed or accepted, and the Contractor and the Contractor's sureties shall be liable for the amount thereof. Such liquidated damages shall be the Owner's exclusive remedy for delay.

The right of the Contractor to proceed shall not be terminated or the Contractor charged with liquidated damages because of any delay in the completion of the Work due to unforeseeable causes beyond the control and without the fault or negligence of the Contractor, including, but not restricted to: acts of God, or of the public enemy, acts of the Government, acts of other Contractors in the performance of the Contract, fires, floods, epidemics, quarantine restrictions, strikes, freight embargoes, unusually severe weather, or delays of subcontractors due to such causes. Contractor shall within ten (10) days from the beginning of such delay (unless the Engineer shall grant a further period of time prior to the date of final settlement of the Contract) notify the Engineer in writing of the causes of delay, who shall ascertain the facts and extent of the delay and extend the time of completing the Work when in the Engineer's judgement the findings of fact justify such an extension, and the Engineer's finding of fact thereon shall be final and conclusive on the parties thereto, subject only to appeal, within thirty (30) days, by the Contractor to the Owner, whose decision on such appeal as to the facts of delay and extension of time for completing the Work shall be final and conclusive on the parties hereto.

(5) UNAVOIDABLE DELAYS

If for any reason beyond the control of the Contractor, the Work shall be delayed, the Contractor shall have no right to, nor shall the Contractor make any claim whatsoever for damages or additional compensation by reason of the delay. It shall be incumbent upon the Contractor to request an extension within ten (10) calendar days upon realization of a delay. The City Engineer may grant an extension of time provided appropriate and sufficient proof of causes for delay have been submitted by the Contractor.

(6) UNAUTHORIZED OR DEFECTIVE WORK

The Contractor shall perform no work not designated in the Contract, unless a written order therefore has been given.

Unauthorized work or work performed which does not comply with the requirements of the Plans and Specifications will be rejected and shall be removed, replaced or repaired by the Contractor as the Engineer may direct and in a manner satisfactory to the Engineer. The City may accept the work to remain in place, but at not extra cost to the City.

(7) CORRECTION OF WORK

All work, all materials whether incorporated in the Work or not, all processes of manufacture, and all methods of construction shall be at all times and places subject to the inspection of the Engineer who shall be the final judge of the quality and suitability of the work, materials, processes of manufacture, and methods of construction for the purposes for which they are to be used. Should they fail to meet the Engineer's approval they shall be forthwith reconstructed, made good, replaced and/or corrected, as the case may be, by the Contractor at no additional cost to the Owner. Rejected material shall immediately be removed from the site, and all work that has been so condemned shall immediately be taken down and reconstructed to the satisfaction of the Engineer. Acceptance of material and workmanship by the inspectors shall not relieve the Contractor from any obligation to supply other

material and workmanship when so ordered by the Engineer.

(8) NEGLECT OF DUTIES REMEDIED BY OUTSIDE PARTIES

Whenever the Contractor neglects to carry out the requirements set forth hereinbefore to repair or to replace other property damages caused by the construction, the Engineer will give notice to that effect to the Contractor and if said work as stated in such notice is not begun within two (2) days thereafter, the Owner reserves the right to authorize the Engineer to employ outside parties to do the work, and the expense thus incurred will be deducted from any monies due or that may become due the Contractor.

(9) WAIVER

Neither an extension of time for any reason beyond the date originally stipulated herein for the completion of the Work nor the acceptance of any part of the Work called for by this Contract, shall be deemed to be a waiver by the Owner of the right to abrogate this Contract for abandonment or delay in the manner provided herein. No payment of money under this Contract, the acceptance or possession taken of the Work done by the Contractor nor any estimate or certificate given shall be evidence of the performance of this Contract or be construed as a waiver of any of its provisions by the Owner nor shall any waiver of any breach of this Contract be held to be a waiver of other or subsequent breach.

(10) NO ESTOPPEL

The Owner, its departments, officers, employees, agents and appointees shall not be precluded nor estopped from challenging and return, certificate or other document, prepared by the Engineer, the Owner, their officers, employees, agents and/or appointees, showing the amount and/or character of the work performed or materials furnished by or through the Contractor, its subcontractors, suppliers and/or materialmen pursuant to or in accordance with the Contract Documents, unless and until the work is finally completed, accepted and paid for by the Owner in accordance herewith; and, until such final completion, acceptance and payment, the Owner, its departments, officers, employees, agents and appointees shall not be precluded nor estopped from challenging and declaring any such return, certificate or other document as being false, untrue, incorrect and/or improperly made or given in any particular, and/or as not accurately showing that the work and materials or any part or portion thereof conform to the requirements of the Contract Documents; and, until such final completion, acceptance and payment, and notwithstanding any such return, certificate or other document, the Owner shall not be precluded nor estopped from demanding and recovering such damages and/or other relief from the Contractor by reason of the Contractor's failure to comply with and satisfy the requirements of the Contract Documents.

The final inspection of the work covered by the Drawings and Specifications forming a part of this contract shall not be binding or conclusive upon the Owner, if it subsequently appears that the Contractor has willfully or fraudulently or through collusion with a representative of the Owner or other person, supplied inferior materials or workmanship or has departed from the terms of the Contract, notwithstanding the acceptance of said work and the payment by the Owner of all estimates.

(11) RISKS ASSUMED BY CONTRACTOR

The Contractor assumes the following distinct and several risks, whether they arise from acts or omissions, whether negligent or not, of the Contractor, its subcontractors, suppliers, material men,

employees, agents, and all others working for the Contractor on the Project, of the City, or of third persons, or from any other cause, and whether such risks are within or beyond the control of the Contractor described below. Excepted from this assumption of risks are only those risks which arise from soley affirmative acts done by the City subsequent to the execution of the Contract with actual and willful intent to cause loss, damage and injury. The risks are as follows:

1. **Risks of Loss or Damage to the Permanent Construction**. Until acceptance, the Contractor shall bear the risk of loss or damage to the permanent construction, temporary construction, and to materials, whether or not the Contractor has received payment for such construction or materials. The Contractor shall take every precaution against injury or damage to any part of the construction or to materials by the action of the elements or from any other cause, whether arising from the execution or the nonexecution of the Work. The Contractor shall promptly repair, replace and make good any such loss or damage without cost to the City. However, the Contractor shall not bear such risk or loss or damage which arises from acts of war or floods, tidal waves, earthquakes, cyclones, tornadoes, hurricanes, or other cataclysmic natural phenomenon unless such loss or damage is covered by insurance.

   The Contractor shall, in furtherance of the above paragraph, but not by way of limitation, at the Contractor's expense, provide suitable drainage for the Project and erect such temporary structures where necessary to protect the Work from damage. The risks for failure to take such actions shall be assumed by the Contractor.

In case of suspension of the Work from any cause whatever, the Contractor shall continue to be responsible for the Project as provided above and shall take such precautions as may be necessary to prevent damage to the Project, provide for drainage, and shall erect any necessary temporary structures, signs, or the properly and continuously maintain in an acceptable growing condition all living material in newly established plantings, seedings, and soddings furnished under the Contract, and shall take adequate precautions to protect new tree growth and other important vegetative growth against injury. If ordered by the Engineer, the Contractor shall properly store, during such suspension of the Work, materials which have been partially paid for or furnished by the City. The City will be entitled to the possession of such materials, and the Contractor shall promptly return the same to the Project site when requested. The Contractor shall not dispose of any of the materials so stored except on written authorization. The Contractor shall be responsible for the loss of or damage to such materials.

ARTICLE 19 - INDEMNIFICATION

(1) DEFENSE OF ACTION OR SUITS

In any case action at law or suit in equity may or shall be brought against the Owner or any of its officers or agents for or on account of the failure, omission or neglect of the Contractor, respective subcontractors, the Contractor's or respective subcontractor's employees or agents to do and perform any of the covenants, acts, matters or things by this Contract undertaken to be done or performed by the Contractor or subcontractors or their respective agents or employees, or from any injury or damage done to property or persons and caused by negligence or alleged negligence of the Contract, the Contractor shall immediately assume and take charge of the defense of such action or suits in like manner and to all intents and purposes as if said action or suits had been brought directly against the Owner, its officers or agents and the Contractor shall also indemnify and save harmless the Owner, its officers and agents of and from all cost or damage whatsoever, arising from such. Subcontractors shall be paid by the Contractor and shall be recognized by the Owner only as employees of the Contractor.

(2) DUTIES OF CONTRACTOR

The Contractor shall indemnify and save harmless the Owner, its officers, agents and servants and each and every one of them against all suits and costs of every kind and description and from all damages to which the Owner or any of its officers, agents, or servants may be put to by reason of injury to the person or property of others resulting from the performance of the project, or through the negligence of the Contractor or through any improper or defective machinery, implements or appliances used by the Contractor in the project, or through any act or omission on the part of the Contractor or his agents, employees, or servants; and shall further indemnify and save harmless the Owner, its officers agents and servants from all suits and actions of any kind of character whatsoever which may be brought or instituted by any subcontractor, materialman or laborer who has performed work or furnished materials in or about the project, or by or on account of any claims or amount recovered for any infringement of patent, trademark or copyright. The cost thereof shall be borne by the Contractor.

The Contractor shall bear all loss or damage arising from the nature of the work to be done, the elements, and collision, or from any unforeseen or unusual obstruction or difficulty which may be encountered in the prosecution of the said work or during the period of maintenance.

ARTICLE 20 - MISCELLANEOUS

(1) OTHER PROHIBITED INTERESTS

No official of the Owner who is authorized in such capacity and on behalf of the Owner to negotiate, make, accept or approve, or to take part in negotiating, making accepting, or approving any architectural, engineering, inspection, construction or material supply contract or any subcontract in connection with the construction of the Project, shall become directly or indirectly interested in this Contractor or in any part hereof. No officer, employee, architect, attorney, engineer, or inspector of or for the Owner who is authorized in such capacity and on behalf of the Owner to exercise any legislative, executive, supervisory, or other similar functions in connection with the construction of the project, shall become directly or indirectly interested personally in this Contract or in any part thereof any material supply contract, subcontract, insurance contract, or any other contract pertaining to the Project.

(2) NOTICE AND SERVICE THEREOF

a. All notices, demands, requests, instructions, approvals and claims shall be in writing.

b. Any notice to or demand upon the Contractor shall be sufficiently given if delivered at the office of the Contractor specified in the bid (or at such other office as the Contractor may from time to time designate to the Engineer in writing) or if deposited in the United States mail in a sealed, postage paid envelope, or delivered, with charges prepaid to any telegraph office for transmission in each case addressed to such office.

c. All papers required to be delivered to the Owner shall, unless otherwise specified in writing to the Contractor, be delivered to the Owner at the Owner's offices, and any notice to or demand upon the Owner shall be sufficiently given if delivered to the office of said Owner, or if deposited in the United States mail in a sealed, postage prepaid envelope, or delivered with charges prepaid to any telegraph company for transmission, in each case addressed to said Owner.

d. Any such notice or demand shall be deemed to have been given or made as of the time of actual delivery or (in case of mailing) when the same should have been received in due course of post or (in case of telegrams) at the time of actual receipt as the case may be.

(3) STATE AND FEDERAL SALES TAX EXEMPTION

The attention of the Contractor is directed to the following provision of the New Jersey State Sales and Use Tax Act:

> "Sec. 54:32B-8.22. Sales to Contractors or Repairman; Exemption. Receipts from sales made to contractors or repairman of materials, supplies or services for exclusive use in erecting structures or building on, or otherwise improving, altering or repairing real property of:
>
> a. Organizations described in subsections (a) and (b) of section 9 of the "Sales and Use Tax Act," P.L. 1966, c. 30 (C.54:32B-9);"

The Owner is an exempt organization of the type described in subsection (a) of Section 9 of the Act. In view of the forgoing, the Contractor should not include an amount for such New Jersey State taxes in his prices.

City of New Brunswick Federal I.D. #22-600-2127
City of New Brunswick State I.D. #69-0220869

(4) DISPUTES

In accordance with P.L. 1971 C198 (C40A:11-1 et.seq.), disputes arising under this contract shall be submitted to a process of resolution via the process of non-binding arbitration. Notwithstanding the requirements of C40A:11-1 et. seq. The City reserves the right to seek injunctive or declaratory relief in court at any time.

SECTION 00800

SPECIAL PROVISIONS

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(1) WORK INCLUDED

The work to be performed under this contract consists of the furnishing of all equipment, material, labor and supervision to properly construct this project, together with all the appurtenances and related items of work as shown and described in the accompanying Plans, Specifications and Details.

(2) DAMAGE TO EXISTING UTILITIES AND ADJACENT PROPERTIES

The Contractor shall be responsible for protecting areas outside the limits of the work against damage as a result of the Contractor's work. Any damage to existing utilities, curbs, fences, shrubbery, vegetation, signs, trees, steps, structures, lawns, guardrails, paving, sidewalks, inlets, manholes, etc., caused by deliveries, diversion, or by his workers or equipment, shall be repaired and restored by the contractor at no cost to the owner, to a condition equal to that which existed prior to the construction and to the satisfaction of the Engineer.

(3) AUTHORITIES AND UTILITIES

The Contractor shall direct all inquiries and adhere to all of the requirements of the following during the course of construction:

MW Studios
8098 Sandpiper Circle, Suite H
Nottingham, Maryland
410-344-1460

Verizon
6000 Hadley Road
South Plainfield, NJ 07080
732-846-9942

New Brunswick Public Works
400 Jersey Avenue
New Brunswick NJ 08903
732-745-5105

New Brunswick Water Utility
78 Bayard Street
New Brunswick NJ 08901
732-418-5687

Public Service Electric & Gas Co . (Gas)
150 How Lane
New Brunswick NJ 08901
732-489-0285

Public Service Electric & Gas Co. (Electric)
472 Weston Canal Road
Somerset, NJ 08873
732-764-3129

Cablevision
275 Centennial Avenue
Piscataway, NJ 08855
732-317-7366

Middlesex County Dept of Hwy & Bridges
Apple Orchard Lane
North Brunswick, NJ 08902
732-940-3800

Contractor should contact Garden State Underground Plant Location Services, Inc. 1-800-272-1000 for the location of underground facilities. Except in emergency situations, calls should be made 72 hours in advance of planned work. Furthermore, the Contractor shall be familiar with the State of New Jersey Board of Public Utilities EXCAVATION HANDBOOK for Damage Prevention. A copy may be obtained on the board of Public Utilities website, www.bpu.state.nj.us. The requirements as set forth in the Handbook shall by reference be incorporated into these specifications.

(4) APPROVAL OF MATERIALS

Prior to the start of any work at the construction site, the Contractor shall inform the Engineer in writing of the name of manufacturer of the pipe, precast manhole sections, frames and covers, flow meter, sluice gate, access hatchways, ventilation blower, and water proofing the Contractor proposes to use and will submit for approval purposes, five copies of Drawings and/or catalog cuts. No material will be delivered to the job site until the Contractor has in possession, an approved copy of the Drawings or catalog cuts.

(5) PRE-CONSTRUCTION PHOTOGRAPHS

The Contractor shall furnish a series of photographs or video showing existing conditions prior to the start of work. In right-of-way areas the photographs or video shall be taken prior to the start of construction. Special attention shall be given to critical impact areas, areas requiring extraordinary environmental restraints, and areas of historic interest. Photographs or video taken in these areas may be directed by the Engineer. Unless otherwise directed photographs shall be taken **every 25 feet** showing areas of proposed construction and areas immediately adjacent to construction.

All photographs or video shall be approved by the Engineer and Owner, photograph prints shall be 4"x6" color glossy prints, and shall include the names of the view, the date and the station at which the photograph was taken. One print of each photograph shall be provided for the Engineer and one print of each shall be provided for the Owner. Likewise, if videos are taken, the date and location shall be identified by the Contractor.

In the event that the Contractor delays in complying with the requirements of this item, the Engineer may call in an experienced photographer and institute the taking of such photographs as are required. The cost of such photographs taken by the Engineers' photographer shall be borne by the Contractor and will be deducted from the monthly estimates.

(6) CLEAN-UP

During the course of construction all efforts shall be made to maintain a neat and orderly project. Cleanup shall be pursued on a regular basis and in conjunction with the construction. The Contractor shall be responsible for cleanup during the life of the Contract. Upon completion of all construction, final cleanup shall include removal of all excess material, equipment, backfill, etc., and the site shall be restored to a condition equal to or better than that existing prior to construction. Should the Contractor fail to remove such material, equipment and supplies, the Owner shall have the right to remove them at the expense of the Contractor.

At the completion of construction, the Contractor shall tear down and remove all temporary structures unless expressly directed otherwise, and shall remove remaining rubbish of all kinds from all Contract structures and from the site occupied during the progress of the work. The Contractor shall remove all concrete and ballast droppings and shall leave site and the adjacent property which may have been affected by his operation in a neat and satisfactory condition. All structures and parts thereof constructed by the Contractor shall be thoroughly cleaned up and left in first-class condition.

Following completion of channels and other drainage facilities and prior to final progress estimate, all silt and other foreign material that may have deposited in channels, structures and pipelines during the construction period shall be removed.

During the course of construction, the Contractor shall provide trash receptacles at all work areas and each working day shall clean up all litter and debris generated by construction crews.

(7) WORK IN BAD WEATHER

During freezing, stormy or inclement weather, no work shall be done except such as can be done satisfactorily and in a manner to secure first-class construction throughout as determined by the Engineer.

(8) EMERGENCY TELEPHONE

The Contractor shall at all times after regular working hours including weekends and holidays, maintain a telephone where the Contractor or a representative can be reached on an emergency basis. The Contractor or representative shall be prepared to act to correct conditions on the site deemed to constitute an emergency by either the Owner, its agent, the Engineer, or local authority but shall not wait for instruction before proceeding to properly protect both life and property. If a condition on the site requires attention after working hours, either the Owner's agent, Engineer, or local authority may call the Contractor or the Contractor's representative at the emergency telephone number, identify themself and describe the emergency condition. The Contractor is expected to dispatch workers and equipment to adequately institute corrective measures within two (2) hours. If for some reason the Contractor or respective agent cannot be reached at the emergency number after a reasonable time (2 hour), the Owner shall have the right to immediately initiate corrective measures in accordance with Article 14.3 "Emergency Services" of the General Provisions, and the Contractor shall have been considered to waive any right to perform emergency services. The cost of these emergency corrective services shall be at the Contractor's expense.

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SECTION 00 0103 - PROJECT DIRECTORY

PART 1 GENERAL

1.1 SECTION INCLUDES

A. Identification of project team members and their contact information.
   1. Owner
      a. Owner's Using Agency

B. Architect and Architect's Consultants
   1. Civil Engineering Consultant
   2. Structural Engineering Consultant
   3. Geotechnical Engineering Consultant

1.2 OWNER:

A. Name: City of New Brunswick
   1. Address: 78 Bayard Street .
   2. City: New Brunswick.
   3. State: New Jersey.
   4. Zip Code: 08901.
   5. Telephone: 732-745-5007.

B. Owner's Using Agency: New Brunswick Fire Department.

1.3 ARCHITECT AND ARCHITECT'S CONSULTANTS:

A. Architect: Design Professional of Record.
   1. Company Name: MW Studios.
      a. Address: 8098 Sandpiper Circle, Suite H.
      b. City: Nottingham.
      c. State: Maryland.
      d. Zip Code: 21236.
      e. Telephone: 410-344-1460.
      f. Fax: 443-403-2460.
   2. Primary Contact - Project Manager:
      a. Name: Michael Matula.
      b. Phone Number: 410-699-9228.
      c. Email: mmatula@mwsarch.com.
   3. Primary Contact - Architect/Designer:
      a. Name: John Bailey.
      b. Phone Number: 410-773-9531.
      c. Email: jbailey@mwsarch.com.

B. Civil Engineering Consultant:
   1. Company Name: H2M Architects & Engineers, Inc. (H2M).
      a. Address: 4820 Belmar Boulevard, Ste 201 Wall Township, NJ 07753.
      b. Telephone: 732-414-2661.
      c. Primary Contact:
         1) Title: Central Jersey Office Director.
         2) Name: Alan Hilla, Jr., PE.
         3) Phone: 732-348-7009.

C. Structural Engineering Consultant:
   1. Company Name: French & Parrello Associates.
      a. Address: 1085 Raymond Blvd., Suite 601, Newark, NJ 07102.
      b. Telephone: 973-554-0230.
      c. Primary Contact:
         1) Title: Senior Project Manager.
         2) Name: Kyrillos Maseha, PE.
         3) Email: kyrillows.mesaha@fpaengineers.com.

D. Geotechnical Engineering Consultant:
   1. Company Name: ECS Mid-Atlantic, LLC.
      a. Address: 2550 Eisenhower Avenue, Building B, Suite 204, Norristown, Pennsylvania 19403.
      b. Telephone: 484-438-6682.
      c. Primary Contact: Geotechnical Department Manager & Principal
         1) Name: Robert Valorio, P.E.
         2) Email: rvalorio@ecslimited.com.

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION - NOT USED

END OF SECTION 00 0103

SECTION 00 0115 - LIST OF DRAWING SHEETS

PART 1 GENERAL

1.1 LIST OF DRAWINGS

A. Drawings shall consist of the following separately bound drawing sets or separate drawings:
1. General, Architectural, Structural, Plumbing, and Electrical:
a. Drawings shall include, but not be limited to, the Contract Drawings and drawings listed within the DRAWING INDEX located on sheet G000 "COVER SHEET" of the separately bound drawing set titled City of New Brunswick New Brunswick Fire Department Headquarters - Interior Renovation dated October 22, 2026, as modified by subsequent Addenda and Contract Modifications.

END OF SECTION 00 0115

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SECTION 01 1000 - SUMMARY

PART 1 GENERAL

1.1 SECTION INCLUDES

A. Project Information.

B. Contract Description.

C. Work by Owner.

D. Owner Occupancy.

E. Contractors Use of Site.

F. Work Restrictions.

G. Specifications and Drawing Conventions.

H. Miscellaneous Provisions.

1.2 PROJECT INFORMATION

A. Project Name: City of New Brunswick New Brunswick Fire Department Headquarters Interior Renovation.

B. Project Location: 93 Joyce Kilmer Ave, New Brunswick, New Jersey08901.

C. Owner's Name: City of New Brunswick.

D. Owner's Location: 78 Bayard Street, New Brunswick, New Jersey08901.

E. Architect's Name: MW Studios.

F. Architect's Location: 8098 Sandpiper Circle, Suite H, Nottingham, Maryland 21236.

G. Additional Project contact information is specified in Section 00 0103 - Project Directory.

H. The Work of the Project is defined by the Contract Documents and generally includes, but is not limited to, the following:

1. The scope of this work includes the interior renovation of limited areas within an existing fire station. Toilet rooms will receive new finishes, plumbing, and electrical fixtures will be replaced. Repairs to ceilings will be conducted in areas of damage due to previous water infiltration. Plumbing and electrical work will occur as show in drawings to accommodate renovation work. Structural repairs will be executed as outlined where supports have degraded over the lifetime of the building.

1.3 CONTRACT DESCRIPTION

A. Contract Type: A single prime contract based on a Stipulated Price.

1.4 WORK BY OWNER

A. Cooperate fully with Owner/Owners Contractors, so work may be carried out smoothly, without interference with or delaying Work under this Contract or work by Owner/Owners Contractors. Coordinate the Work of this Contract with work performed by Owner/Owners Contractors.

1.5 OWNER OCCUPANCY

A. Owner intends to occupy the Project upon Substantial Completion.

1.6 CONTRACTOR USE OF SITE AND PREMISES

A. Restricted Use of Site: Contractor shall have limited use of Project site for construction operations as indicated on Drawings by the Contract limits and as indicated by requirements of this Section.
   1. Limits on Use of Site: Limit use of Project site to areas within Contract limits indicated. Do not disturb portions of Project site beyond areas in which the Work is indicated.
   2. Construction Operations: Limited to areas noted on Drawings.
   3. Construction Personnel Parking:
      a. Construction personnel shall not be allowed to utilize the Project site for parking of personal vehicles. Construction personnel shall be required to find and utilize legal offsite parking.
   4. Material Storage and Fabrication Areas: Limit material storage and fabrication areas to those areas indicated on drawings or as directed by Owner/Architect. Schedule deliveries and fabrication times to minimize time requirements and space requirements within the designated areas.

B. Driveways, Walkways and Entrances: Keep driveways, parking garages, loading zones/areas, entrances, and walkways serving premises clear and available to Owner, Owner's employees, and emergency services. Do not use these areas for parking or for storage of materials.
   1. Schedule deliveries to minimize use of driveways and entrances by construction operations.
   2. Schedule deliveries to minimize space and time requirements for storage of materials and equipment on-site.

C. Arrange use of useable/allowable portions of site and premises to facilitate:
   1. Owner occupancy.
   2. Work by Others.
   3. Work by Owner.
   4. Use of site and premises by the public.

D. Condition of Existing Grounds: Maintain portions of existing grounds, landscaping, and hardscaping affected by construction operations throughout construction period. Repair damage caused by construction operations.

1.7 WORK RESTRICTIONS

A. Comply with restrictions on construction operations.
   1. Comply with limitations on use of Project site and premises.
   2. Comply with limitations on use of public streets, work on public streets, rights of ways, and other requirements of authorities having jurisdiction.
   3. Provide access to and from site as required by law, by authorities having jurisdiction, and by the Owner.

4. Emergency Building Exits During Construction: Keep exits required by code open during construction period; provide temporary exit signs, if exit routes are temporarily altered.
5. Existing building spaces may not be used for storage.

B. On-Site Work Hours: Limit work to the time between 7:00 a.m. to 6:00 p.m., Monday through Friday, unless otherwise indicated. Work hours may be modified to meet Project requirements if approved by Owner and authorities having jurisdiction.
1. Weekend Hours: Restricted to Owner Approval; Provide minimum 5 days notice to Owner.
2. Early Morning Hours: Restricted to Owner Approval; Provide minimum 5 days notice to Owner.

C. Noise, Vibration, Dust, and Odors: Coordinate operations that may result in high levels of noise and vibration, dust, odors or other disruptions to Owner occupancy with Owner.
1. Limit conduct of especially noisy, malodorous, and dusty work to the hours indicated above for normal working hours.
2. Performance of especially noisy, malodorous, and dusty work is Restricted to Owner Approval; Provide minimum 5 days notice to Owner.
   a. Obtain Owners written permission before proceeding with disruptive operations.

D. Smoking and Controlled Substances:
1. Smoking and Controlled Substances: Use of tobacco products, alcoholic beverages, and other controlled substances on Owners property is not permitted.

E. Employee Identification and Screening:
1. Employee Identification: Provide identification tags for Contractor personnel working on Project site. Require personnel to use identification tags.
2. Employee Screening: Comply with Owner's requirements for drug and background screening of Contractor personnel working on Project site.
   a. Maintain list of approved screened personnel with Owner's representative.

1.8 SPECIFICATION AND DRAWING CONVENTIONS

A. Specification Content: The Specifications use certain conventions for the style of language and the intended meaning of certain terms, words, and phrases when used in particular situations. These conventions are as follows:
1. Imperative mood and streamlined language are generally used in the Specifications. The words "shall," "shall be," or "shall comply with," depending on the context, are implied where a colon (:) is used within a sentence or phrase.
2. Text Color: Text used in the Specifications, including units of measure, manufacturer and product names, and other text may appear in multiple colors or underlined as part of a hyperlink; no emphasis is implied by text with these characteristics.
3. Hypertext: Text used in the Specifications may contain hyperlinks. Hyperlinks may allow for access to linked information that is not residing in the Specifications. Unless otherwise indicated, linked information is not part of the Contract Documents.
4. Specification requirements are to be performed by Contractor unless specifically stated otherwise.

B. Drawing Coordination: Requirements for materials and products identified on Drawings are described in detail in the Specifications. One or more of the following are used on Drawings to identify materials and products:

1. Terminology: Materials and products are typically identified by the typical generic terms used in the individual Specifications Sections. Some products and materials may defined on the Drawings.
2. Abbreviations: Materials and products may be identified by abbreviations scheduled on Drawings and published as part of the U.S. National CAD Standard. Where discrepancies exist between the drawings and the U.S. National CAD Standards, the Drawings prevail.
3. Keynoting: Materials and products may be identified by reference keynotes referencing Specification Section numbers found in this Project Manual/Specification.

1.9 MISCELLANEOUS PROVISIONS

A. Ensure subcontractors contracted to perform a portion of the Work have possession of Contract Documents. Subcontractors shall be responsible for reviewing Contract Documents including, but not limited to, Drawings and Specifications and providing items outlined within the documents to be provided along with connections, systems, supports, and miscellaneous items required for the items to function properly as intended.

B. Drawing Coordination: Generally, requirements for materials and products identified on the Drawings are described in detail within the Specifications. However, items may be indicated either only on the Drawings or only within the Specifications. If items are indicated in one document only, it is responsibility of the Contractor to provide the item indicated along with the components, connections, systems, supports or other miscellaneous items required for the proper operation and installation of the items identified within the single document.

C. References within the Drawings and/or Specifications to other Drawings and/or Specifications indicates the potential existance of additional information. If no additional information exists within the referenced drawing(s) or specification(s), the Contractor is responsible for the installation of the Work indicated or graphically depicted.
   1. Where Work typically would be structural or load bearing in nature, provide reinforcement, bracketing, bracing, or otherwise attach such Work as indicated within similar details existing within the Drawings and/or Specifications.
   2. Seek clarification for such items prior to submitting a bid to perform the Work. If no clarification is requested for such submission of a bid, it will be deemed that the Contractor understands the extent of Work both indicated and graphically depicted and has included such within the Contract Sum.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION (NOT USED)

END OF SECTION 01 1000

SECTION 01 2100 - ALLOWANCES

PART 1 GENERAL

1.1 SECTION INCLUDES

A. Cash allowances.

B. Payment and modification procedures relating to allowances.

1.2 DEFINITIONS

A. Allowance: A quantity of work or dollar amount included in the Contract, established instead of additional requirements, used to defer selection of actual materials and equipment to a later date when direction will be provided to Contractor. If necessary, additional requirements will be issued by Change Order.

1.3 CASH ALLOWANCES

A. Costs Included in Cash Allowances: Cost of product to Contractor or subcontractor, less applicable trade discounts, less cost of delivery to site, and less applicable taxes.

B. Costs Not Included in Cash Allowances: Product delivery to site and handling at the site, including unloading, uncrating, and storage; protection of products from elements and from damage; and labor for installation and finishing.

C. Architect Responsibilities:
1. Consult with Contractor for consideration and selection of product suppliers and installers.
2. Prepare Change Order.

D. Contractor Responsibilities:
1. Assist Architect in selection of products suppliers and installers.
2. Obtain proposals from suppliers and installers and offer recommendations.
3. Prepare Change Order Request based upon Architect and/or Owner selections.
4. On notification of which products have been selected and approval of Change Order, execute purchase agreement with designated supplier and installer.
5. Arrange for and process shop drawings, product data, and samples.
6. Arrange for delivery.
7. Promptly inspect products upon delivery for completeness, damage, and defects. Submit claims for transportation damage.

E. Differences in costs will be adjusted by Change Order.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION

3.1 ALLOWANCES SCHEDULE

A. Allowance No. 1: Cash Allowance: Include the sum of $40,000; For roof repair, including but not limited to, the following:
   1. Submit proposal outlining issues and solutions required to repair the roof.
   2. Provide roof safety equipment required to complete the work.
   3. Clean and apply silicone seaming mastic at seams and details at deterioration and damage.
   4. Repair and patch damage, deterioration, leakage, and degraded roof coating; replace damaged roofing insulation.
   5. Provide 5-year installer warranty.

END OF SECTION 01 2100

SECTION 01 2500 - SUBSTITUTION PROCEDURES

PART 1 GENERAL

1.1 SECTION INCLUDES

A. Procedural and administrative requirements for proposed substitutions.

1.2 DEFINITIONS

A. Substitutions: Changes from Contract Documents requirements proposed by Contractor to materials, products, assemblies, and equipment.
   1. Substitutions for Cause: Proposed due to changed Project circumstances beyond Contractor's control.
      a. Unavailability of product or material and/or required warranty terms.
      b. Regulatory changes.
   2. Substitutions for Convenience: Proposed due to possibility of offering substantial advantage to the Project.
      a. Substitution requests offering advantages solely to the Contractor will not be considered.
      b. Consideration and review time by the Owner, Architect or other Owner agent or consultant of the substitution for convenience shall not be cause for delay of the Project. Substitution for Convenience requests shall be made by the Contractor with sufficient review time as to not affect the schedule or the progression of the Work. Where a response to a request for review of a substitution for convenience is not received by the Contractor from the Owner, Architect, or Owner's other agent or consultant, the Contractor shall be responsible for providing the Work required by the Contract Documents such that the Work does not delay the Project.

B. Compatibility: Compatibility of substitution shall be cause to reject the substitution proposed by the Contractor. Compatibility shall be determined by the Architect and/or Owner at the time of the substitution request. Products shall not be compatible if the products require the Owner to purchase or maintain attic stock, maintenance stock or replacement parts of two different products that perform the same function.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION

3.1 GENERAL REQUIREMENTS

A. A Substitution Request for products, assemblies, materials, and equipment constitutes a representation that the submitter:
   1. Has investigated proposed product and determined that it meets or exceeds the quality level of the specified product, equipment, assembly, or system.
   2. Agrees to provide the same warranty for the substitution as for the specified product.
   3. Agrees to provide same or equivalent maintenance service and source of replacement parts, as applicable.

4. Agrees to coordinate installation and make changes to other work that may be required for the work to be complete, with no additional cost to Owner.
5. Waives claims for additional costs or time extension that may subsequently become apparent.
6. Agrees to reimburse Owner for Owner's Consultants and agents fees for review or redesign services associated with re-approval by all authorities having jurisdiction.
7. Agrees to reimburse Owner for Owner's Consultants and agents fees for design/redesign services associated with the substitution that are apparent at the time of the substitution or become apparent after the substitution has been accepted.

B. Document each request with complete data substantiating compliance of proposed substitution with Contract Documents. Burden of proof is on proposer.
1. Note explicitly non-compliant characteristics.

C. Content: Include information necessary for tracking the status of each Substitution Request, and information necessary to provide an actionable response.
1. It is the responsibility of the substitution proposer to provide a concise substitution request with required relevant information only. Substitution requests including irrelevant and/or excessive information shall be rejected and returned without review.
2. Forms included in the Project Manual must be used for the submission of a substitution request. Where form is insufficient to provide the required information provide supplemental sheets, drawings, forms, and/or attachments indicating required information and indicate on the required form the title and location, within the substitution request packet, of additional/supplemental sheets, drawings, forms, and/or attachments.
    a. Project Information:
        1) Official project name and number, and any additional required identifiers established in Contract Documents.
        2) Owner's, Architect's, and Contractor's names.
    b. Substitution Request Information:
        1) Discrete and consecutive Substitution Request number, and descriptive subject/title.
        2) Indication of whether the substitution is for cause or convenience.
        3) Issue date.
        4) Reference to particular Contract Document(s) specification section number, title, and article/paragraph(s).
        5) Description of Substitution.
        6) Reason why the specified item cannot be provided.
            a) Where reason for substitution is in whole or in part due to lead times or availability of the specified products, provide letter on manufacturer's letter head stating the following:
                (1) Date of purchase order request or initial contact by Contractor for specified product.
                (2) Lack of availability or extent of lead time as of the date indicated above.
                (3) Reason for delivery delay.
        7) Differences between proposed substitution and specified item.
        8) Description of how proposed substitution affects other parts of work.
            a) Include list of changes or revisions needed to other parts of the Work and to construction performed by Owner and separate Contractors, including design consultants, that will be necessary to accommodate proposed substitutions.
    c. Comparative Data: Provide point-by-point, side-by-side comparison addressing essential attributes, as appropriate and relevant for the item:

1) Physical characteristics.
2) Operational and maintenance clearances.
3) In-service performance.
4) Expected durability.
5) Visual effect.
6) Sustainable design features.
7) Warranties.
8) Compatibility with other items including, but not limited to, Owner's existing and proposed equipment, products, systems, and/or assemblies.
9) Other salient features and requirements.
10) Include, as appropriate or requested, the following types of documentation:
    a) Product Data:
    b) Samples.
    c) Certificates, test, reports or similar qualification data.
    d) Drawings, when required to show impact on adjacent construction elements.

d. Impact of Substitution:
1) Cost of Substitution: Indicate the total cost of the substitution.
2) In addition to the total cost of the substitution, provide the following:
    a) Total deduct or cost savings to the contract price or the total additional cost to the contract price.
    b) Total Substitution cost shall also be broken down to indicate the following:
        (1) Material cost.
        (2) Labor cost.
        (3) Overhead and profit or fee for each contractor.
        (4) Required engineering and/or architectural design/redesign fees including but not limited to resubmission to authorities having jurisdiction for approval of permits or similar regulatory items.
3) Change of Contract Time due to accepting substitution. Indicate total deduction or addition of time to the contract including but not limited to any time for design/redesign and/or AHJ approval processes.

D. Limit each request to a single proposed substitution item.
1. Submit an electronic document, combining the request form with supporting data into single document.
    a. Electronic document shall be submitted in .pdf format and shall be bookmarked to easily navigate to each major item provided within the request.

3.2 SUBSTITUTION PROCEDURES DURING CONSTRUCTION

A. Submittal Form (after award of contract):
1. Submit substitution requests by completing 01 2501 - Substitution Request Form. See this section for additional information and instructions. Use only the form indicated; other forms of submission are unacceptable.

B. Submit request for a Substitution for Cause immediately upon discovery of need for substitution, but not later than 30 calendar days prior to time required for review and approval by Architect, in order to stay on approved project schedule.

C. Substitutions for Convenience will not be allowed unless otherwise indicated.

D. Substitutions will not be considered under one or more of the following circumstances:
   1. When they are indicated or implied on shop drawing or product data submittals, without having received prior approval.
   2. Without a separate written request.
   3. When acceptance will require revisions to Contract Documents.

3.3 RESOLUTION

A. Architect may request additional information and documentation prior to rendering a decision. Provide this data in an expeditious manner but not later then 7 calendar days from the date of the request for additional information.

B. Architect will notify Contractor in writing of decision to accept or reject request.

3.4 ACCEPTANCE

A. Accepted substitutions that change the work of the Project. They will be documented and incorporated into the Work of the project by Change Order, Construction Change Directive, Architectural Supplementary Instructions, or similar instruments provided for in the Conditions of the Contract.

END OF SECTION 01 2500

SUBSTITUTION REQUEST FORM:

Project: City Of New Brunswick
New Brunswick FD HQ - Phase 2 Interior Renovation
To:
Re:

Substitution Request No.:
From:
Date:
Architects Project No. 23-154

Specification Title: Description:
Section No.
Page No. Article

Proposed Substitution:
Manufacturer: Website URL:
Trade Name: Model No:
Installer: Phone No.
Differences between proposed substitution and specified product:

Provide point by point comparative data on separate sheet as attachment to this form. (This is required for review of any substitution.

Reason for not providing specified item:

Similar Installation:
Project: Architect:
Address: Owner:
Does proposed substitution affect other Work? [No] [Yes] (Explain)

Total Cost of Substitution: Dollars: $
Cost change to contract: [Deduct] [Addition] Dollars: $

Schedule Impact: [Deduct] [Addition] days.
Does Substitution Require Redesign: [No] [Yes]

Submitting Representative Initials: _____

THE UNDERSIGNED CERTIFIES:

- The proposed substitution has been fully investigated by the General Contractor and determined to be equal or superior in all respects to the specified materials, products, assemblies, and/or equipment as may be applicable to the substitution request.
- General Contractor acknowledges that this proposed substitution must also meet the design intent expressed in the Contact Documents, as judged by the Architect and substantiated by the materials submitted herewith.
- General Contactor will furnish the same warranty for proposed substitution as for specified material, product, assembly, and/or equipment as may be applicable to the substitution request.
- General Contractor has verified that the same level of maintenance service and similar availability of replacement parts, as applicable, is available.
- General Contractor has verified that the proposed substitution will have no adverse effect on other trades and will not affect or delay progress schedule.
- Cost data as stated above and further broken out on supplemental data sheets where attached is complete. Claims for additional costs related to accepted substitution which may subsequently become apparent will be waived by the General Contractor.
- Proposed substitution does not affect dimensions and functional clearances.
- Payment will be made by the General Contractor for changes to building design, including A/E design, detailing, and construction costs caused by this substitution.
- Coordination, installation, and changes in the Work as necessary for accepted substitution will be completed by the General Contractor.

Submitted By (Printed Name): _____

Signature: _____
On Behalf of (Company Name): _____
Address: _____
E-mail Address _____

Attachments:

_____
_____
_____

ARCHITECT'S REVIEW AND ACTION

_____ Substitution Approved
_____ Substitution Approved as Noted
_____ Substitution Rejected

Architect: MW Studios, Inc.
Reviewed By: _____

Signature: _____
Date: _____

END OF SUBSTITUTION REQUEST FORM

SECTION 01 3000 - ADMINISTRATIVE REQUIREMENTS

PART 1 GENERAL

1.1 SECTION INCLUDES

A. General administrative requirements.

B. Electronic document submittal service.

C. Preconstruction meeting.

D. Site mobilization meeting.

E. Progress meetings.

F. Construction progress schedule.

G. Contractor's daily reports.

H. Progress photographs.

I. Requests for Information (RFI) procedures.

1.2 GENERAL ADMINISTRATIVE REQUIREMENTS

A. Tracking and notification of expiring permissions, permits, and similar regulatory documentation and allowances.
   1. Identify the expiration dates for deadlines/time frames for application of extensions of regulatory permissions including, but not limited to, grading permits and building permits. Include milestones within the Contractor's Construction/Progress Schedule.
   2. Notify Owner and the Architect in writing of approaching deadlines for renewal/extension of regulatory permissions and expiration dates of regulatory permissions.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION

3.1 ELECTRONIC DOCUMENT SUBMITTAL SERVICE

A. All documents transmitted for purposes of administration of the contract are to be in electronic (PDF, MS Word, MS Excel, or JPEG) format, as appropriate to the document, and transmitted via an Internet-based submittal service that receives, logs and stores documents, provides electronic stamping and signatures, and notifies addressees via email.

1. Besides submittals for review, information, and closeout, this procedure applies to Requests for Information (RFIs), progress documentation, contract modification documents (e.g. supplementary instructions, change proposals, change orders), applications for payment, field reports and meeting minutes, Contractor's correction punchlist, and any other document any participant wishes to make part of the project record.
2. Contractor and Architect are required to use this service.
3. It is Contractor's responsibility to submit documents in allowable format.
4. Subcontractors, suppliers, and Architect's consultants are to be permitted to use the service at no extra charge.
5. Users of the service need an email address, internet access, and PDF review software that includes ability to mark up and apply electronic stamps (such as Adobe Acrobat, www.adobe.com, or Bluebeam PDF Revu, www.bluebeam.com), unless such software capability is provided by the service provider.
6. Paper document transmittals will not be reviewed; emailed electronic documents will not be reviewed.
7. All other specified submittal and document transmission procedures apply, except that electronic document requirements do not apply to samples or color selection charts.

B. Cost:
1. Contractor shall pay for the cost of the service and shall include a limited number of user licenses.
   a. Comply with the software service's current published licensing agreements.
2. Contractor shall pay for up to 10 user licenses for use by Owner, Architect, Architect's consultants, Owner's other Consultants, and other entities involved in the Project.
3. Contractor shall provide 2 user licenses for use by the Contractor. Contractor shall purchase additional licenses as they deem necessary for themselves, their subcontractors and other entities involved in the project

C. Training: Contractor shall provide one-hour, web-based training session for users of software service. Further training shall be the responsibility of the user.
1. Representatives of Owner shall be scheduled and included in this training.

D. Project Closeout: Owner determines when to terminate the software service for the project. Each Prime Contractor shall be responsible for obtaining archive copies of files for Owner.

3.2 PRECONSTRUCTION MEETING

A. Schedule shall schedule meeting prior to starting construction, at a time convenient to Owner and Architect, but not later than15 days after execution of the Agreement.

B. Conduct the conference to review responsibilities, personnel assignments and coordination of Project requirements.

C. Attendees: Authorized representatives of Owner and Architect and their consultants; Contractor and its' superintendent; Major subcontractors; and other concerned parties shall attend the meeting. Participants shall be familiar with the Project and authorized to conclude matters relating to the Work.

D. Agenda:
1. Review of portions of the executed Owner-Contractor Agreement affecting the interaction and coordination between the Contractor and the Architect.
2. Verify and Review the submission of executed bonds and insurance certificates.

3. Verify date and version of Contract Documents included within the Owner-Contractor Agreement.
4. Identify/Designate key personnel and their duties.
5. Establish communication hierarchy and requirements.
6. Review Construction Schedule, including a discussion of phasing where applicable, critical work sequences, long lead product procurement.
    a. Establish date/time of re-occuring progress meeting.
7. Submission of initial Submittal schedule.
8. Procedures and processing of field decisions, RFI's, submittals, substitutions, applications for payments, proposal request, Change Orders, and Contract closeout procedures.
    a. Discuss submittal procedures. Modify submittal separation or combination of submittals for the purposes of transmitting individual or combined submittals of each Specification Section within a single or multiple transmittals. All requirements for related submittal submissions shall remain unmodified/unchanged.
9. Record Document preparation and procedures.
10. Use of Project site and premises.
    a. Parking
    b. Security
    c. Deliveries, material storage, lay down, and fabrication areas.
    d. Temporary Facilities
11. Work Restrictions.
    a. Work Hours.
    b. Utility shut downs.
    c. Noisy, malodorous, and dusty work.
12. Owner Occupancy.
13. Progress cleaning.

E. Architect will record minutes and post copies to web-based document management software within five days after meeting.

3.3 PREINSTALLATION MEETINGS

A. Schedule preinstallation meetings at Project Site before each construction activity that requires coordination with other construction and as identified in individual specification sections.

B. Attendees: Installer and representatives of manufacturers and fabricators involved in or affected by the installation and its coordination or integration with other materials and installations that have preceded or will follow, shall attend the meeting. Advise Architect of schedules meeting time/date.

C. Agenda: Review progress of other construction activities and preparations for the particular activity under consideration, including requirements of/for the following:
1. Contract Documents.
2. Related RFI's.
3. Related Change Orders or other modifications to the Contract Documents.
4. Submittals marked other then Rejected, Revised and Resubmit, or Returned Without Action.
5. Review of mock-ups.
6. Possible conflicts and compatibility issues.
7. Schedules.
8. Weather limitations.

9. Manufacturer's information; Written instructions and recommendations, warranty requirements.
10. Acceptability of substrates.
11. Coordination with other work.
12. Protection of other work and existing improvements.

D. Do not proceed with installation if the meeting cannot be successfully concluded. Initiate actions necessary to resolve impediments to performance of the Work and reconvene the meeting at the earliest possible date/time.

E. Architect will record minutes and post copies to web-based document management software within five days after meeting.
1. Record significant meeting discussions, agreements, and disagreement, including required corrective measures and actions.

3.4 PROGRESS MEETINGS

A. Shall be coordinated and scheduled at the PreConstruction Meeting and shall be administered throughout progress of the work at bi-monthly (every two weeks) intervals.

B. Schedule and preside at progress meetings.

C. Attendees: Owner/Owner Representative, Architect, Prime Contractors, and other approved guests; Approved guests shall include any representative of an entity familiar with the project authorized to conclude matters relating to the Work that has been requested to attend and approved by either the Architect or the Owner.

D. Agenda for progress meetings shall set by the previous meeting minutes and shall consist of the following:
1. Review minutes of previous meetings.
2. Review of work progress.
3. Field observations, problems, and decisions.
4. Identification of problems that impede, or will impede, planned progress.
5. Review of submittals schedule and status of submittals.
6. Review of RFIs log and status of responses.
7. Review of off-site fabrication and delivery schedules.
8. Maintenance of progress schedule.
9. Corrective measures to regain projected schedules.
10. Planned progress during succeeding work period.
11. Coordination of projected progress.
12. Maintenance of quality and work standards.
13. Effect of proposed changes on progress schedule and coordination.
14. Other business relating to work.

E. Architect will record minutes and post copies to web-based document management software within five days after meeting.

F. Construction Schedule Update: Contractor shall revise Contractor's Construction Schedule after each progress meeting where revisions to the schedule have been made or recognized during the Progress Meeting. Contractor shall post copies of revised schedule to web-based document management software within three days after the meeting.

3.5 DAILY CONSTRUCTION REPORTS

A. Include only factual information. Do not include personal remarks or opinions regarding operations and/or personnel.

B. In addition to transmitting electronically a copy to Owner and Architect, maintain on-site a daily report log with printed copies of every daily report.

C. Prepare a daily construction report recording the following information concerning events at Project site and project progress:
1. Date.
2. High and low temperatures, and general weather conditions.
3. List of subcontractors at Project site.
4. List of separate contractors at Project site.
5. Approximate count of personnel at Project site.
    a. Include a breakdown for supervisors, laborers, journeymen, equipment operators, helpers, and others.
6. Major equipment at Project site.
7. Material deliveries.
8. Safety, environmental, or industrial relations incidents.
9. Unusual events (submit a separate special report).
10. Stoppages, delays, shortages, and losses. Include comparison between scheduled work activities (in Contractor's most recently updated and published schedule) and actual activities. Explain differences, if any. Note days or periods when no work was in progress and explain the reasons why.
11. Services connected and disconnected and meter readings and similar recordings.
12. Emergency procedures implemented.
13. Directives and requests of Authority(s) Having Jurisdiction (AHJ).
14. Change Orders received and implemented.
15. Testing and/or inspections performed.
16. List of verbal instruction or Construction Change Directives given by Owner and/or Architect.
17. List of and partial completions or occupancies.
18. Signature of Contractor's authorized representative.

D. Site Condition Reports: Immediately upon discovery of a difference between site conditions and the Contract Documents, summarize discrepancy within daily report and prepare and submit a separate detailed report to the Architect. Submit with a Request for Information. Include a detailed description of the differing conditions, together with recommendations for changing the Contract Documents.

3.6 PROGRESS PHOTOGRAPHS

A. Progress photographs shall include Pre-construction photographs, progress photographs, and Final completion construction photographs.

B. Digital Photographs:
1. Digital Device: Camera or other device capable of producing a minimum of 4 megapixel digital photographs.
2. Format: Minimum 2688 x 1520 pixel layout/size, in unaltered original files, with same aspect ratio as produced by the sensor, and uncropped.

3. Identification and Storage: Digital photographs shall contain time, date, and GPS metadata and shall be labeled and shared as follows:
   a. Digital files shall be named with sequential number and date the image was taken.
   b. Digital files shall be uploaded to web-based document software weekly unless photographs are intended to be utilized for immediate discussion and coordination.
4. Usage Rights: Photographer shall release/transfer copyright usage rights to Owner, Architect, and Contractor for unlimited reproduction and photographic documentation.

C. Preconstruction Photographs: Before starting construction operations, take photographs of Project site, surrounding properties, existing items to remain undisturbed, and existing items to be salvaged, from different vantage points.
1. Flag construction limits before taking pre-construction photographs.
2. Take photographs to show existing conditions adjacent to property, adjacent to limits of disturbance, and adjacent to areas of work before starting the Work.
3. Take photographs of existing buildings both located on the property where work is being performed and on adjacent properties to accurately record the physical conditions at the start of construction.
4. Take additional photographs as required to record settlement or cracking of adjacent structures, pavements, and improvements.

D. Construction Progress Photographs:
1. Architect-Directed Construction Photographs: At the Architects discretion, the Architect shall direct the Contractor to take construction progress photographs of ongoing construction activities or in-place construction. The Architect shall provide direction on number of photographs, subject of photographs, vantage points, and other required information to provide the Architect with appropriate detail for coordination or utilization of digital imagery.
2. Contractor Initiated Construction Photographs: Contractor shall take photographs of ongoing construction activities or in-place construction as may be necessary to coordinate construction activities, assist in the resolution of RFI's or other similar correspondence and information items.
3. In addition to periodic, recurring views, take photographs of each of the following events:
   a. Final completion, minimum of thirty (30) photos.

3.7 REQUESTS FOR INFORMATION (RFI)

A. Definition: A request seeking one of the following:
1. An interpretation, amplification, or clarification of some requirement of Contract Documents arising from inability to determine from them the exact material, process, or system to be installed; or when the elements of construction are required to occupy the same space (interference); or when an item of work is described differently at more than one place in Contract Documents.
2. A resolution to an issue which has arisen due to field conditions and affects design intent.

B. Whenever possible, request clarifications at the next appropriate project progress meeting, with response entered into meeting minutes, rendering unnecessary the issuance of a formal RFI.
1. Where RFI's responses will affect the project schedule critical path, submit requests immediately upon discovery.

C. Preparation: Prepare an RFI immediately upon discovery of a need for interpretation of Contract Documents. Failure to submit a RFI in a timely manner is not a legitimate cause for claiming additional costs or delays in execution of the work.
1. Prepare a separate RFI for each specific item.

a. Review, coordinate, and comment on requests originating with subcontractors and/or materials suppliers.
b. Do not forward requests which solely require internal coordination between subcontractors.

2. Prepare in a format and with content acceptable to Owner.
   a. Use AIA G716 - Request for Information .
3. Prepare using software provided by the Electronic Document Submittal Service.
4. Combine RFI and its attachments into a single electronic file. RFI and attachments shall be provided in PDF format. Other formats may be acceptable must must be approved by the Architect prior to submission.

D. Reason for the RFI: Prior to initiation of an RFI, carefully study all Contract Documents to confirm that information sufficient for their interpretation is definitely not included.
1. Include in each request Contractor's signature attesting to good faith effort to determine from Contract Documents information requiring interpretation.
2. Unacceptable Uses for RFIs: Do not use RFIs to request the following::
   a. Approval of submittals (use procedures specified elsewhere in this section).
   b. Approval of substitutions (see Section - 01 6000 - Product Requirements)
   c. Changes that entail change in Contract Time and Contract Sum (comply with provisions of the Conditions of the Contract).
   d. Different methods of performing work than those indicated in the Contract Drawings and Specifications (comply with provisions of the Conditions of the Contract).
3. Improper RFIs: Requests not prepared in compliance with requirements of this section, and/or missing key information required to render an actionable response will be returned without a response.
4. Frivolous RFIs: Requests regarding information that is clearly indicated on, or reasonably inferable from, Contract Documents, with no additional input required to clarify the question will be returned without a response.
   a. The Owner reserves the right to assess the Contractor for the costs (on time-and-materials basis) incurred by the Architect, and any of its consultants, due to processing of such RFIs.
5. RFI's submitted by other than the General Contractor: Requests not submitted by the General Contractor will be returned without a response.

E. Content: Include identifiers necessary for tracking the status of each RFI, and information necessary to provide an actionable response.
1. Official Project name and number, and any additional required identifiers established in Contract Documents.
2. Owner's, Architect's, and Contractor's names.
3. Discrete and consecutive RFI number, and descriptive subject/title.
4. Issue date, and requested reply date.
5. Reference to particular Contract Document(s) requiring additional information/interpretation. Identify pertinent drawing and detail number and/or specification section number, title, and paragraph(s).
6. Annotations: Field dimensions and/or description of conditions which have engendered the request.
7. Contractor's suggested resolution: A written and/or a graphic solution, to scale, is required in cases where clarification of coordination issues is involved, for example; routing, clearances, and/or specific locations of work shown diagrammatically in Contract Documents. If applicable, state the likely impact of the suggested resolution on Contract Time or the Contract Sum.

F. Attachments: Include sketches, coordination drawings, descriptions, photos, submittals, and other information necessary to substantiate the reason for the request.

G. RFI Log: Prepare and maintain a tabular log of RFIs for the duration of the project.
1. Indicate current status of every RFI. Update log promptly and on a regular basis.
2. Note dates of when each request is made, and when a response is received.
3. Highlight items requiring priority or expedited response.
4. Highlight items for which a timely response has not been received to date.
5. Identify and include improper or frivolous RFIs.

H. Review Time: Architect will respond and return RFIs to Contractor within a reasonable time frame as may be applicable to the RFI content and resolution of RFI issues. If the response of an RFI requires more than fourteen (14) calendar days, the design team shall notify the Contractor of the anticipated response time. For the purpose of establishing the start of the mandated response period, RFIs received after 12:00 noon will be considered as having been received on the following regular working day.
1. Response period may be shortened or lengthened for specific items, subject to mutual agreement, and recorded in a timely manner in progress meeting minutes.

I. Responses (Architect's Action):
1. Content of answered RFIs will not constitute in any manner a directive or authorization to perform extra work or delay the project. If, in Contractor's belief, it is likely to lead to a change to Contract Sum or Contract Time, promptly (within fourteen (14) calendar) issue a notice to this effect, and follow up with an appropriate Change Order request to Owner.
2. Response may include a request for additional information, in which case the original RFI will be deemed as having been answered, and an amended one is to be issued forthwith. Identify the amended RFI with an R suffix to the original number.
3. Do not extend applicability of a response to specific item to encompass other similar conditions, unless specifically so noted in the response.
4. Upon receipt of a response, promptly review and distribute it to all affected parties, and update the RFI Log.
5. Notify Architect within seven calendar days if an additional or corrected response is required by submitting an amended version of the original RFI, identified as specified above.

END OF SECTION 01 3000

SECTION 01 3216 - CONSTRUCTION PROGRESS SCHEDULE

PART 1 GENERAL

1.1 SECTION INCLUDES

A. Preliminary schedule.

B. Construction progress schedule, bar chart type.

1.2 DEFINITIONS

A. Activity: A discrete part Project that can be identified for planning, scheduling, monitoring, and controlling the construction project. Activities included in a construction schedule consume time and resources.
   1. Critical Activity: An activity on the critical path that must start and finish on the planned early start and finish times.
   2. Successor Activity: An activity that follows another activity in the network.

B. Event: The starting or ending point of an activity.

C. Resource Loading: The allocation of manpower and equipment necessary for the completion of an activity as scheduled.

1.3 ACTION SUBMITTALS

A. Preliminary Schedule:
   1. Within 14 calendar days after date of Agreement, submit preliminary schedule defining planned operations for the first 60 days of Work, with a general outline for remainder of Work.
      a. Provide list of major subcontractors (subcontractor assigned more than 5% of the Work based on to provide work throughout the duration of the project.
      b. Provide list of long lead-time items and major items, requiring a cycle of more than 60 days, as separate activities in schedule. Procurement cycle activities include, but are not limited to, submittals, approvals, purchasing, fabrication, and delivery.
      c. Provide Submittal Schedule; See Section 01 3000 - Administrative Requirements.
   2. If preliminary schedule requires revision after review, submit revised schedule within 7 calendar days.

B. Complete Schedule:
   1. Within 30 calendar days after review of preliminary schedule, submit draft of proposed complete schedule for review.
      a. Include written certification that major contractors have reviewed and accepted proposed schedule.
   2. Submit updated schedule with each Application for Payment.

C. Submit schedules in PDF format.

1.4 INFORMATIONAL SUBMITTALS

A. Submit under transmittal letter form specified in Section 01 3000 - Administrative Requirements.

1.5 COORDINATION

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

1.6 SCHEDULE FORMAT

A. Listings: In chronological order according to the start date for each activity. Identify each activity with the applicable specification section number.

B. Diagram Sheet Size: Maximum 22 x 17 inches.

C. Sheet Size: Multiples of 8-1/2 x 11 inches.

D. Scale and Spacing: To allow for notations and revisions.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION

3.1 PRELIMINARY SCHEDULE

A. Prepare preliminary schedule in the form of a horizontal bar chart.

3.2 CONTENT

A. Show complete sequence of construction by activity, with dates for beginning and completion of each element of construction.
   1. Include, within schedule, constraints and work restrictions indicated in the Contract Documents and as follows. Show how the sequence of the Work is affected.
      a. Work Restrictions:
         1) Coordination with existing construction.
         2) Use of site and premises restrictions.
         3) Environmental controls.

B. Identify each item by specification section number.

C. Identify work of separate stages and other logically grouped activities.

D. Provide sub-schedules to define critical portions of the entire schedule.

E. Include conferences and meetings in schedule.

F. Include implementation and termination dates for temporary facilities and utilities.

G. Show accumulated percentage of completion of each item, and total percentage of Work completed, as of the first day of each month.

H. Provide separate schedule of submittal dates for shop drawings, product data, and samples, and dates reviewed submittals will be required from Architect. Indicate decision dates for selection of finishes.

I. Coordinate content with schedule of values specified in Section 01 2000 - Price and Payment Procedures.

J. Provide legend for symbols and abbreviations used.

3.3 BAR CHARTS (GANTT CHART)

A. Gantt-Chart Schedule: Submit a comprehensive, fully developed, horizontal, Gantt-chart-type, Contractor's Construction Schedule within 30 days of date established for commencement of the Work.
1. Base schedule on the startup construction schedule and additional information received since the start of Project.

B. Preparation: Indicate each significant construction activity separately. Identify first workday of each week with a continuous vertical line.
1. For construction activities that require three months or longer to complete, indicate an estimated completion percentage in 10 percent increments within time bar.

3.4 REVIEW AND EVALUATION OF SCHEDULE

A. Participate in joint review and evaluation of schedule with Architect at each submittal.

B. Evaluate project status to determine work behind schedule and work ahead of schedule.

C. After review, revise as necessary as result of review, and resubmit within 7 calendar days.

3.5 UPDATING SCHEDULE

A. Maintain schedules to record actual start and finish dates of completed activities.

B. Indicate progress of each activity to date of revision, with projected completion date of each activity.

C. Annotate diagrams to graphically depict current status of Work.

D. Identify activities modified since previous submittal, major changes in Work, and other identifiable changes.

E. Indicate changes required to maintain Date of Substantial Completion.

F. Submit reports required to support recommended changes.

G. Provide narrative report to define problem areas, anticipated delays, and impact on the schedule. Report corrective action taken or proposed and its effect.

3.6 DISTRIBUTION OF SCHEDULE

A. Distribute copies of updated schedules to Contractor's project site file, to subcontractors, suppliers, Architect, Owner, and other concerned parties.

B. Instruct recipients to promptly report, in writing, problems anticipated by projections indicated in schedules.

END OF SECTION 01 3216

SECTION 01 3300 - SUBMITTAL PROCEDURES

PART 1 GENERAL

1.1 SUMMARY

A. Section Includes:
1. Submittal schedule requirements.
2. Administrative and procedural requirements for submittals.

1.2 DEFINITIONS

A. Action Submittals: Written and graphic information and physical samples that require Architect's responsive action. Action submittals are those submittals indicated in individual Specification Sections as "action submittals."

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

1.3 GENERAL ADMINISTRATIVE REQUIREMENTS

A. Make the following types of submittals to Architect:
1. Requests for Information (RFI). Refer to Section 01 3000 - Administrative Requirements.
2. Requests for substitution.
3. Shop drawings, product data, and samples.
4. Test and inspection reports.
5. Design data.
6. Manufacturer's instructions and field reports.
7. Applications for payment and change order requests.
8. Progress schedules.
9. Correction Punch List and Final Correction Punch List for Substantial Completion.
10. Closeout submittals.

1.4 SUBMITTALS FOR REVIEW

A. Written and graphic information and physical samples that require Architect's response action. Action submittals are those submittals indicated in individual Specification Sections as "Action Submittals" or "Submittals for Review".

B. When the following are specified in individual sections, submit them for review:
1. Product data.
2. Design data.
3. Shop drawings.
4. Samples for selection.

5. Samples for verification.

C. Submit to Architect for review for the limited purpose of checking for compliance with information given and the design concept expressed in Contract Documents.

D. Samples will be reviewed for aesthetic, color, or finish selection and texture.

E. After review, provide copies and distribute in accordance with this Section and for record documents purposes described in Section 01 7800 - Closeout Submittals.

1.5 SUBMITTALS FOR INFORMATION

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

B. When the following are specified in individual sections, submit them for information:
1. Certificates.
2. Test reports.
3. Inspection reports.
4. Manufacturer's instructions.
5. Manufacturer's field reports.
6. Field engineering daily reports.
7. Other types indicated.

C. Submit for Architect's knowledge as contract administrator or for Owner.

1.6 SUBMITTALS FOR PROJECT CLOSEOUT

A. Submit Correction Punch List for Substantial Completion.

B. Submit Final Correction Punch List for Substantial Completion.

C. When the following are specified in individual sections, submit them at project closeout in compliance with requirements of Section 01 7800 - Closeout Submittals:
1. Project record documents.
2. Operation and maintenance data.
3. Warranties.
4. Bonds.
5. Other types as indicated within individual Technical Sections.

D. Final Property Survey.

E. Submit for Owner's benefit during and after project completion.

1.7 SUBMITTAL FORMATS

A. General Requirements:

1. Unless otherwise discussed and approved by the Architect and the Owner at the PreConstruction Meeting, use a separate transmittal for each item of a Specification Section.
2. Unless otherwise discussed and approved by the Architect and the Owner at the PreConstruction Meeting, submit separate packages of Submittals for Review and Submittals for Information, when included in the same specification section.
3. Transmit using appended form.
    a. Transmittal shall indicate at a minimum, the following information:
        1) Official Project name and number, and any additional required identifiers established in Contract Documents.
        2) Owner's, Architect's, and Contractor's names.
        3) Category and Type of Submittal
            a) Category: Submittal for Review or Submittal for Information
            b) Type: Product Data, Shop Drawings, Samples, Warranty Information, Design Data, etc.
        4) Submittal Number; Division Number, Specification Number, Sequential Item Number, Sequential Submission Number.
    b. Provide space for Contractor and Architect review stamps.
    c. Apply Contractor's stamp, signed or initialed certifying that review, approval, verification of products required, field dimensions, adjacent construction work, and coordination of information is in accordance with the requirements of the work and Contract Documents.
        1) Submittals from sources other than the Contractor, or without Contractor's stamp will not be acknowledged, reviewed, or returned.
4. Submittal Numbering:
    a. Submittal Number; Division Number, Specification Number, Sequential Item Number, Sequential Submission Number.
        1) Division Number: 01-**06**-1000.01.01.
        2) Specification Number: 01-06-**1000**.01.01.
        3) Sequential Item Number: 01-06-1000.**01**.01.
        4) Sequential Submission Number: 01-06-1000.01.**01.**

B. Identify by highlighting or other identification method, relevant product data including but not limited to, options, specific model information and other relevant information where various non-relevant information exits within the submitted materials. Submittal will be returned without action where relevant information is not identified.
    1. When revised for resubmission, identify all changes made since previous submission.

C. Options: Identify options requiring selection by Architect.

D. Deviations and Additional Information: On each submittal, clearly indicate deviations from requirements in the Contract Documents, including minor variations and limitations; include relevant additional information and revisions, other than those requested by Architect on previous submittals. Indicate by highlighting on each submittal or noting on attached separate sheet.

E. Electronic Submittals: Prepare submittals as PDF package, incorporating complete information into each PDF file. Name PDF file with submittal number.
    1. An electronically-marked up file of the Contract Documents is not acceptable and will be returned unless specifically noted otherwise.
    2. Create PDFs at native size and right-side up; illegible files will be rejected.

1.8 SUBMITTAL PROCEDURES

A. Prepare and submit submittals required by individual Specification Sections. Types of submittals are indicated in individual Specification Sections.
   1. Email: Prepare submittals as PDF package and transmit to Architect by sending via email. Include PDF transmittal form. Include information in email subject line as requested by Architect.
      a. Architect will return annotated file. Annotate and retain one copy of file as a digital Project Record Document file.

B. Coordination: Coordinate preparation and processing of submittals with performance of construction activities.
   1. Coordinate each submittal with fabrication, purchasing, testing, delivery, other submittals, and related activities that require sequential activity.
   2. Submit all submittal items required for each Specification Section concurrently unless partial submittals for portions of the Work are indicated on approved submittal schedule.
   3. Submit action submittals and informational submittals required by the same Specification Section as separate packages under separate transmittals.
   4. Coordinate transmittal of 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. Architect reserves the right to withhold action on a submittal requiring coordination with other submittals until related submittals are received.
      b. Architect will notify the Contractor if additional information or additional submittals are required and when the submittal(s) received was/were not properly coordinated or if it was received with insufficient information to complete a review.

C. Processing Time: Allow time for submittal review, including time for resubmittals, as follows. Time for review shall commence on Architect's receipt of submittal. No extension of the Contract Time will be authorized because of failure to transmit submittals enough in advance of the Work to permit processing, including resubmittals.
   1. Initial Review: Allow 10 business days for initial review of each submittal. Allow additional time if coordination with subsequent submittals is required. Architect will advise Contractor when a submittal being processed must be delayed for coordination.
   2. Intermediate Review: If intermediate submittal is necessary, process it in same manner as initial submittal.
   3. Resubmittal Review: Allow 10 calendar days for review of each resubmittal.
   4. Sequential Review: Where sequential review of submittals by Architect's consultants, Owner, or other parties is indicated, allow 7 calendar days for initial review of each submittal.
   5. For sequential reviews involving approval from authorities having jurisdiction (AHJ), in addition to Architect's approval, allow an additional 30 calendar days.
   6. Concurrent Consultant Review: Where the Contract Documents indicate that submittals may be transmitted simultaneously to Architect and to Architect's consultants, allow 15 business days for review of each submittal. Submittal will be returned to Architect before being returned to Contractor.
      a. Submit one copy of submittal to concurrent reviewer in addition to specified number of copies to Architect.

7. Schedule submittals to expedite the Project, and coordinate submission of related items. The following submittal processing times are estimated processing times. The Architect will attempt to provide submittal reviews within the time frame indicated however additional time may be necessary to review complex, large, or simultaneously provided submittal packages. The Architect will notify the Contractor if the Architect believes the submittal review will extend beyond the time frames indicated below. Submittal review time beyond the time frames indicated below will not be cause for extension to the Contract Time or the Contract Sum. It is the Contractor's responsibility to coordinate submittal submissions to allow for processing time.

D. Resubmittals: Make resubmittals in same form and number of copies as initial submittal.
1. Make revisions as necessary to comply with the requirements of the Contract Documents and the comments of the previous submittal review.
2. Number resubmittal sequentially by modifying the last 2 digits of the submittal number to the next highest number.
3. Note date and content of previous submittal.
4. Note date and content of revision in label or title block, and clearly indicate extent of revision.
5. If a submittal is resubmitted without modification from the original submittal or without the requested information or compliance with the review comments of the previous submittal, the submittal will be returned without action. Where more than 2 non-compliant resubmittals are received and returned without action due to non-compliance with the Contract Documents, or the comments of the previously submitted and returned submittals, the Contractor shall be required to compensate the Owner for additional services for multiple reviews of non-compliant submittals.
6. Resubmit submittals until they are marked with approval notation from Architect's action stamp.

E. Distribution: Furnish copies of final submittals to manufacturers, subcontractors, suppliers, fabricators, installers, authorities having jurisdiction, and others as necessary for performance of construction activities. Show distribution on transmittal forms.

F. Use for Construction: Retain complete copies of submittals on Project site. Use only final action submittals that are marked with approval notation from Architect's action stamp.

G. Digital Data Files:
1. Digital data files may be procured from the Design Team as a convenience to the Contractor, are not guaranteed, and are only available for conditional use as stipulated by the "Release For Transmission of Digital Data".
2. Digital data files including, but not limited to, CAD (.dwg) or Revit (.rvt) may be purchased from the Design Team directly at a cost of One Hundred Dollars ($100.00) per sheet or drawing. The following stipulations apply to the transmission of digital data files and shall be accepted by the purchaser as conditional use of the files.

a. Release For Transmission of Digital Data: The digital data furnished is solely for the exclusive and limited use of the purchaser receiving the data, and solely in direct connection with the Project. The data has been generated by MW Studios. and/or the consultants of MW Studios, Inc.; the details and design intent in the data is the intellectual property of the entity who generated the data. Use of this data in any way for any other project or application represents infringement of MW Studios copyright. The party (the purchaser) receiving the data shall, to the fullest extent permitted by law, indemnify and hold harmless MW Studios, its consultants and the Project Owner from all claims, damages, losses, liability, and expenses, including attorney's fees arising out of or resulting from the use of the data. The recipient (purchaser) acknowledges that any use of this digital data represents full acceptance of and agreement with the terms of this release. MW Studios and its consultants make no warranty or guarantee, either assumed or implied, as to the accuracy of this data. The purchaser accepts that the use of the transmitted data is at the sole risk of the purchaser. The recipient (purchaser) of the digital data shall not transmit the digital data, or materials prepared from this digital data to other entities/parties without first obtaining acceptance in writing from the other entity/party a Release For Transmission of Digital Data including all the stipulations of this Release For Transmission of Digital Data.

1.9 SUBMITTAL REQUIREMENTS

A. Product Data: Collect information into a single submittal for each element of construction and type of product or equipment.
   1. If information must be specially prepared for submittal because standard published data are unsuitable for use, submit as Shop Drawings, not as Product Data.
   2. Mark each copy of each submittal to show which products and options are applicable.
   3. Include the following information, as applicable:
      a. Manufacturer's catalog cuts.
      b. Manufacturer's product specifications.
      c. Standard color charts.
      d. Statement of compliance with specified referenced standards.
      e. Testing by recognized testing agency.
      f. Application of testing agency labels and seals.
      g. Notation of coordination requirements.
      h. Availability and delivery time information.
   4. For equipment, include the following in addition to the above, as applicable:
      a. Wiring diagrams that show factory-installed wiring.
      b. Printed performance curves.
      c. Operational range diagrams.
      d. Clearances required to other construction, if not indicated on accompanying Shop Drawings.
   5. Submit Product Data concurrently with Shop Drawings, and before or concurrently with Samples.
   6. Do not submit Material Safety Data Sheets (MSDS) for materials or products.

B. Shop Drawings: Prepare Project-specific information, drawn accurately to scale. Do not base Shop Drawings on reproductions of the Contract Documents or standard printed data.
   1. Preparation: Fully illustrate requirements in the Contract Documents. Include the following information, as applicable:
      a. Identification of products.
      b. Schedules.

c. Compliance with specified standards.
d. Notation of coordination requirements.
e. Notation of dimensions established by field measurement.
f. Relationship and attachment to adjoining construction clearly indicated.
g. Seal and signature of professional engineer if specified.

2. 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 42 inches.
3. Do not reproduce Contract Documents to create shop drawings.
4. Generic, non-project-specific information submitted as shop drawings do not meet the requirements for shop drawings.

C. Samples: Submit Samples for review of type, 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. Disposition: Maintain sets of approved Samples at Project site, available for quality-control comparisons throughout the course of construction activity. Sample sets may be used to determine final acceptance of construction associated with each set.
a. Samples that may be incorporated into the Work are indicated in individual Specification Sections. Such Samples must be in an undamaged condition at time of use.
b. Samples not incorporated into the Work, or otherwise designated as Owner's property, are the property of Contractor.
5. 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. Architect, through Construction Manager, will return submittal with options selected.
6. Samples for Verification: Submit full-size units or Samples of size indicated, prepared from same material to be used for the Work, cured and finished in manner specified, and physically identical with material or product proposed for use, and that show full range of color and texture variations expected. Samples include, but are not limited to, the following: partial sections of manufactured or fabricated components; small cuts or containers of materials; complete units of repetitively used materials; swatches showing color, texture, and pattern; color range sets; and components used for independent testing and inspection.
a. Number of Samples: Submit three sets of Samples. Architect and Construction Manager will retain two Sample sets; remainder will be returned. Mark up and retain one returned Sample set as a project record Sample.
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 architects and owners, and other information specified.

F. Design Data: Prepare and submit written and graphic information indicating compliance with indicated performance and design criteria in individual Specification Sections. Include list of assumptions and summary of loads. Include load diagrams if applicable. Provide name and version of software, if any, used for calculations. Number each page of submittal.

G. Certificates:
1. Certificates and Certifications Submittals: Submit a statement that includes signature of entity responsible for preparing certification. Certificates and certifications shall be signed by an officer or other individual authorized to sign documents on behalf of that entity. Provide a notarized signature where indicated.
2. Installer Certificates: Submit written statements on manufacturer's letterhead, certifying that Installer complies with requirements in the Contract Documents and, where required, is authorized by manufacturer for this specific Project.
3. Manufacturer Certificates: Submit written statements on manufacturer's letterhead, certifying that manufacturer complies with requirements in the Contract Documents. Include evidence of manufacturing experience where required.
4. Material Certificates: Submit written statements on manufacturer's letterhead, certifying that material complies with requirements in the Contract Documents.
5. Product Certificates: Submit written statements on manufacturer's letterhead, certifying that product complies with requirements in the Contract Documents.
6. Welding Certificates: Prepare written certification that welding procedures and personnel comply with requirements in the Contract Documents. Submit record of AWS B2.1/B2.1M on AWS forms. Include names of firms and personnel certified.

H. Test and Research Reports:
1. Compatibility Test Reports: Submit reports written by a qualified testing agency, on testing agency's standard form, indicating and interpreting results of compatibility tests performed before installation of product. Include written recommendations for substrate preparation and primers required.
2. Field Test Reports: Submit written reports indicating and interpreting results of field tests performed either during installation of product or after product is installed in its final location, for compliance with requirements in the Contract Documents.

3. Material Test Reports: Submit reports written by a qualified testing agency, on testing agency's standard form, indicating and interpreting test results of material for compliance with requirements in the Contract Documents.
4. Preconstruction Test Reports: Submit reports written by a qualified testing agency, on testing agency's standard form, indicating and interpreting results of tests performed before installation of product, for compliance with performance requirements in the Contract Documents.
5. Product Test Reports: Submit written reports indicating that current product produced by manufacturer complies with requirements in the Contract Documents. Base reports on evaluation of tests performed by manufacturer and witnessed by a qualified testing agency, or on comprehensive tests performed by a qualified testing agency.
6. Research Reports: Submit written evidence, from a model code organization acceptable to authorities having jurisdiction, that product complies with building code in effect for Project. Include the following information:
    a. Name of evaluation organization.
    b. Date of evaluation.
    c. Time period when report is in effect.
    d. Product and manufacturers' names.
    e. Description of product.
    f. Test procedures and results.
    g. Limitations of use.

1.10 CONTRACTOR'S REVIEW

A. Action Submittals and Informational Submittals: Review each submittal and check for coordination with other Work of the Contract and for compliance with the Contract Documents. Note corrections and field dimensions. Mark with approval stamp before submitting to Architect.

B. Contractor's Approval: Indicate Contractor's approval for each submittal with a uniform approval stamp. Include name of reviewer, date of Contractor's approval, and statement certifying that submittal has been reviewed, checked, and approved for compliance with the Contract Documents.
    1. Architect will not review submittals received from Contractor that do not have Contractor's review and approval.
    2. Submittals received by the Architect that has not been reviewed by the Contractor, in the opinion of the Architect, represents a blatant disregard of the Contractors responsibilities to review the submittal for compliance, and will be returned to the Contractor without action. Multiple submissions of a submittal representing a blatant disregard for the Contractors responsibility shall be cause for the Contractor to reimburse the Owner for the additional services of the Architect and the Architect's consultants. In addition, the Contractor may be liable for damages owed to the Owner for project delays or other costs resulting from multiple reviews of non-compliant submittals.

1.11 ARCHITECT'S REVIEW

A. Architects review is only for the general conformance with the design concept of the Project and general compliance with the information given in the Contract Documents. Corrections or comments made on the Submittal during this review fo not relieve the Contractor from complying with the requirements of the Contract Documents or any AHJ (Authority Having Jurisdiction). Review of a specific item shall not be deemed a review of the assembly of which the item is a component. The Contractor is responsible for (1) confirmation and correlation of all quantities and dimensions at the job site, (2) information that pertains solely to the fabrication processes or to the means, methods, techniques, sequences, and procedures of construction, (3) the coordination of work with all other trades (4) for performing work in a safe and satisfactory manner, and (5) coordinating substrates and attachments to substrates/supporting materials.

B. Action Submittals: Architect will review each submittal, indicate corrections or revisions required, and return.

C. Architect to return submittal with own Transmittal cover. For reference Transmittals is as attached at the end of the Section.

D. Architect's Actions Definitions:
1. "Approved": Submittal conforms with information given and the design concept in the Contract Documents.
2. "Approved, Comments Noted": Submittal conforms with information given and the design concept expressed in the Contract Documents except as noted. Contractor shall coordinate and/or adjust submittal information/Contractor work plan to conform to the information given and the design concept expressed in the Contract Documents. Do not resubmit unless noted otherwise.
    a. Comments may include the statement to "revise and resubmit for record". Where the statement "revise and resubmit for record" is part of the comments, the Contractor shall resolve or incorporate the comments as may be applicable, shall proceed with the work dependent upon the submittal and also revise and resubmit the submittal for record purposes. Submittals received for record purposes will not be returned.
3. "Revise and Resubmit": Submittal does not conform with information given and/or the design concept expressed in the Contract Documents. Contractor shall coordinate and/or adjust submittal information/Contractors work plan to conform to the information given and the design concept expressed in the Contract Documents and resubmit the submittal.
4. "Rejected": The submittal is non-compliant. The Architect shall provide a reason for noncompliance. Contractor is responsible for providing a compliant submittal.
5. "Returned without Action": Submittal is defined within the Contract Documents as a submittal that does not get a review or response from the Architect. The Architect may provide comments to submittals returned without action.

E. Informational Submittals: Architect will review each submittal and will not return it, or will return it if it does not comply with requirements. Architect will forward each submittal to appropriate party.

F. Partial submittals prepared for a portion of the Work will be reviewed when use of partial submittals has received prior approval from Architect.

G. Incomplete submittals are unacceptable, will be considered nonresponsive, and will be returned for resubmittal without review.

H. Architect will return without review submittals received from sources other than Contractor.

I. Submittals not required by the Contract Documents will be returned by Architect without action.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION (NOT USED)

3.1 ATTACHMENTS

A. MW Studios Submittal Review and Transmittal Template.

END OF SECTION 01 3300

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410.344.1460
8098 Sandpiper Cir Suite H
Nottingham, MD 21236

STUDIOS
ARCHITECTURE
MASTER PLANNING

SUBMITTAL REVIEW AND TRANSMITTAL

Project:	Owner:
Project Name Address 1 Address 2 Address 3	Owner Representatives Name Owner Company Name Address 1 Address 2

Contractor:	Architect:	
Contractor Representative Contracting Company Name Address 1 Address 2	Reviewer Name MW Studios 8098 Sandpiper Cir, Suite H Nottingham, MD 21236	Project Number: xx-xxx

SUBMITTAL

Submittal Number - Name

Shop Drawings are drawings, diagrams, schedules, and other data specially prepared for the Work by the Contractor or a Subcontractor, Sub-subcontractor, manufacturer, supplier, or distributor to illustrate some portion of the Work. The purpose is to demonstrate the way by which the Contractor proposes to conform to the information given and the design concept expressed in the Contract Documents.

ARCHITECTS ACTION

By: Reviewer Name
Date: 01/01/1234

The following indicated "ACTION" is the appropriate deemed "ACTION" for the above indicated "SUBMITTAL". The "ACTION" indicated below is based upon a review of the Contractors "SUBMITTAL" but is only for the limited purpose of checking for conformance with information given and the design concept expressed in the Contract Documents. Review of such "SUBMITTAL" is not conducted for the purpose of determining the accuracy and completeness of the other details such as dimensions and quantities, or for substantiating instructions for installation; All of which remains the responsibility of the Contractor. The Contractor shall not be relieved of responsibility for deviating from requirements of the Contract Documents by the Architects "Approval" of Shop Drawings. The Contractor shall not be relieved of responsibility for errors or omissions in Shop Drawings, Product Data, Samples, or similar Submittals by the Architects "Approval" thereof.

☐ **Approved**	Submittal conforms with information given and the design concept expressed in the Contract Documents
☐ **Approved, Comments Noted**	Submittal conforms with information given and the design concept expressed in the Contract Documents EXCEPT AS NOTED. Contractor shall coordinate and/or adjust submittal information/Contractors work plan to conform to the information given and the design concept expressed in the Contract Documents. DO NOT RESUBMIT unless noted otherwise.
☐ **Revise and Resubmit**	Submittal does not conform with information given and the design concept expressed in the Contract Documents. Contractor shall coordinate and/or adjust submittal information/Contractors work plan to conform to the information given and the design concept expressed in the Contract Documents. RESUBMIT.
☐ **Rejected**	
☐ **Returned without Action.** See comments.	

01/01/1234
Submittal Number - Name

COMMENTS:
1. See ARCHITECTS ACTIONS
2. Contractor shall coordinate submittal information and schedule of the Work with all trades.
3. Dimensional and quantity mark-ups are intended to convey conformance with design concept expressed in the Contract Documents. Contractor remains responsible for given information provided within the Contract Documents and the coordination of all quantities and dimensions with the Work and the existing conditions.

ADDITIONAL COMMENTS:
4.

SECTION 01 4000 - QUALITY REQUIREMENTS

PART 1 GENERAL

1.1 SECTION INCLUDES

A. Quality assurance.

B. Testing and inspection agencies and services.

C. Contractor's construction-related professional design services.

D. Contractor's design-related professional design services.

E. Control of installation.

F. Mock-ups.

G. Tolerances.

H. Manufacturers' field services.

I. Defect Assessment.

1.2 DEFINITIONS

A. Experienced: When used with an entity or individual, "experienced," unless otherwise further described, means having successfully completed a minimum of 5 previous projects similar in nature, size, and extent to this Project; being familiar with special requirements indicated; and having complied with requirements of authorities having jurisdiction.

B. Field Quality-Control Tests and Inspections: Tests and inspections that are performed on-site for installation of the Work and for completed Work.

C. Installer/Applicator/Erector: Contractor or another entity engaged by Contractor as an employee, subcontractor, or sub-subcontractor, to perform a particular construction operation, including installation, erection, application, assembly, and similar operations.

D. Contractor's Quality Control Plan: Contractor's management plan for executing the Contract for Construction.

E. Contractor's Professional Design Services: Design of some aspect or portion of the project by party other than the design professional of record. Provide these services as part of the Contract for Construction.
   1. Design Services Types Required:
      a. Construction-Related: Services Contractor needs to provide in order to carry out the Contractor’s sole responsibilities for construction means, methods, techniques, sequences, and procedures.

b. Design-Related, Delegated Design: Design services for Delegated Design services explicitly required to be performed by another design professional for a specific, specialized, or highly technical portion of the project. Services primarily involve engineering analysis, calculations, and design, and are not intended to alter the aesthetic aspects of the design. Design services for Delegated Design requires services to be performed by an engineer licensed within the state and/or jurisdiction in which the project is located unless otherwise noted.

F. Design Data: Design-related, signed and sealed drawings, calculations, specifications, certifications, shop drawings and other submittals provided by Contractor, and prepared directly by, or under direct supervision of, appropriately licensed design professional.

G. Installer/Applicator/Erector: Contractor or another entity engaged by Contractor as an employee, subcontractor, or sub-subcontractor, to perform a particular construction operation, including installation, erection, application, assembly, and similar operations.
1. Use of trade-specific terminology in referring to a Work result does not require that certain construction activities specified apply exclusively to specific trade(s).

H. Mock-ups: Physical assemblies of portions of the Work constructed to establish the standard by which the Work will be judged. Mockups are not Samples.
1. Mockups are used for one or more of the following:
   a. Verify selections made under Sample submittals.
   b. Demonstrate aesthetic effects.
   c. Demonstrate the qualities of products and workmanship.
   d. Demonstrate successful installation of interfaces between components and systems.
   e. Perform preconstruction testing to determine system performance.
2. Product Mockups: Mockups that may include multiple products, materials, or systems specified in a single Section.
3. In-Place Mockups: Mockups constructed on-site in their actual final location as part of permanent construction.
4. Sample Panel Mockup: Mockups constructed on-site apart from the building, in a location coordinated with the Owner and Architect, to demonstrate aesthetic effects of Sample submittal selection. Disassemble and remove traces of sample panel mockup once scope of work is completed.
5. Field testing may be performed on in-place mockups, exterior envelope mockups, or sample panel mockups. Do not disassemble mockups until after testing and acceptance is completed.

I. Product Tests: Tests and inspections that are performed by a nationally recognized testing laboratory (NRTL) in accordance with 29 CFR 1910.7, by a testing agency accredited in accordance with 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.

J. Source Quality-Control Tests and Inspections: Tests and inspections that are performed at the source (e.g., plant, mill, factory, or shop).

K. Testing Agency: An entity engaged to perform specific tests, inspections, or both. The term "testing laboratory" has the same meaning as the term "testing agency."

L. 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.

M. Quality-Control Services: Tests, inspections, procedures, and related actions during and after execution of the Work, to evaluate that actual products incorporated into the Work and completed construction comply with requirements. Contractor's quality-control services do not include contract administration activities performed by Architect.

1.3 CONTRACTOR'S CONSTRUCTION-RELATED PROFESSIONAL DESIGN SERVICES

A. Coordination: Contractor's professional design services are subject to requirements of project's Conditions for Construction Contract.

1.4 CONTRACTOR'S DESIGN-RELATED PROFESSIONAL DESIGN SERVICES

A. Coordination: Contractor's professional design services are subject to requirements of project's Conditions for Construction Contract.

B. Performance and Design Criteria: Where professional design services or certifications by a design professional are specifically required of Contractor by the Contract Documents, provide products and systems complying with specific performance and design criteria indicated.
1. If criteria indicated are not sufficient to perform services or certification required, submit a written request for additional information to Architect.

C. Delegated Design Services Statement: Submit a statement signed and sealed by the responsible design professional, for each product and system specifically assigned to Contractor to be designed or certified by a design professional, indicating that the products and systems are in compliance with performance and design criteria indicated. Include list of codes, loads, and other factors used in performing these services.

D. Base design on performance and/or design criteria indicated in individual specification sections.
1. Submit a Request for Information to Architect if the criteria indicated are not sufficient to perform required design services.

E. Scope of Contractor's Professional Design Services: Refer to individual technical sections for items of work.

1.5 ACTION SUBMITTALS

A. Mockup Shop Drawings:
1. Include plans, sections, elevations, and details, 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.

1.6 INFORMATIONAL SUBMITTALS

A. Contractor's Quality Control (CQC) Plan: For quality-assurance and quality-control activities and responsibilities.

B. Designer's Qualification Statement: Submit for Architect's knowledge as contract administrator, or for Owner's information.

1. Include information for each individual professional responsible for producing, or supervising production of, design-related professional services provided by Contractor.
    a. Full name.
    b. Professional licensure information.
    c. Statement addressing extent and depth of experience specifically relevant to design of items assigned to Contractor.

C. Design Data: Submit for Architect's knowledge as contract administrator for the limited purpose of assessing compliance with information given and the design concept expressed in the Contract Documents, or for Owner's information.
1. Include calculations that have been used to demonstrate compliance to performance and regulatory criteria provided, and to determine design solutions.
2. Include required product data and shop drawings.
3. Include a statement or certification attesting that design data complies with criteria indicated, including building codes, loads, functional, and similar engineering requirements.
4. Include signature and seal of design professional responsible for allocated design services on calculations and drawings.

D. Schedule of Tests and Inspections: Prepare in tabular form and include the following:
1. Specification Section number and title.
2. Entity responsible for performing tests and inspections.
3. Description of test and inspection.
4. Identification of applicable standards.
5. Identification of test and inspection methods.
6. Number of tests and inspections required.
7. Time schedule or time span for tests and inspections.
8. Requirements for obtaining samples.
9. Unique characteristics of each quality-control service.

E. Test and Inspection Reports: After each test/inspection, promptly submit signed copies of report to Architect, Owner, and Contractor.
1. Include:
    a. Date issued.
    b. Project title and number.
    c. Name and of personnel conducting test and/or inspection.
    d. Date, time, and site conditions at time of sampling or inspection.
    e. Identification of product and specifications section.
    f. Location of test and/or inspection within the Project.
    g. Type of test/inspection and description of test and/or inspection method.
    h. Date of test/inspection.
    i. Results of test/inspection including all data collected.
    j. Statement indicating compliance of results with Contract Documents. Include recommendations for retesting and reinspecting.
    k. Provide interpretation of results.
2. Test report submittals are for Architect's knowledge as contract administrator for the limited purpose of assessing compliance with information given and the design concept expressed in the Contract Documents, or for Owner's information.

F. Test and Inspection Log:
   1. Prepare a record of tests and inspections. Include the following:
      a. Date the test or inspection was performed.
      b. Description of the Work tested or inspected.
      c. Specification Section number and title.
      d. Date test or inspection report was transmitted to Architect.
      e. Identification of testing agency or special inspector conducting the test or inspection.
      f. Compliance or non-compliance with requirements.
      g. Whether or not corrective action was taken or recommended.
   2. Post changes and revisions to the log as they occur. Provide access to Architect and Owner for reference and information.

G. Certificates: When specified in individual specification sections, submit certification by the manufacturer and Contractor or installation/application subcontractor to Architect, in quantities specified for Product Data.
   1. Indicate material or product complies with or exceeds specified requirements. Submit supporting reference data, affidavits, and certifications as appropriate.
   2. Certificates may be recent or previous test results on material or product, but must be acceptable to Architect.

H. Manufacturer's Instructions: When specified in individual specification sections, submit printed instructions for delivery, storage, assembly, installation, start-up, adjusting, and finishing for information. Indicate special procedures, perimeter conditions requiring special attention, and special environmental criteria required for application or installation.

I. Manufacturer's Field Reports: Submit report documenting manufacturer's technical representatives observations, testing results, and inspection results.
   1. Submit report within 7 calendar days of performance of observations, testing, and inspection to Architect for information.
   2. Submit for information for the limited purpose of assessing compliance with information given and the design concept expressed in the Contract Documents.
   3. Include within the report the following information:
      a. Name and signature of technical representative who performed observations, tests, inspections and making report.
      b. Statement indicating suitability of conditions of substrates and surfaces.
      c. Statement that products/equipment at Project site comply with requirements of Contract Documents.
      d. Summary of installation procedures being followed/performed, whether they comply with requirements and, if not, what corrective action was taken.
      e. Results of operational and other tests and a statement of whether observed performance complies with requirements.
      f. Statement indicating whether conditions, products, and installation will affect warranty.
      g. Other items indicated within individual Specification Sections.

J. Erection Drawings: Submit drawings for Architect's benefit as contract administrator or for Owner.
   1. Submit for information for the limited purpose of assessing compliance with information given and the design concept expressed in the Contract Documents.

K. Permits, Licenses, and Certificates: For Owner's record, submit copies of permits, licenses, certifications, inspection reports, releases, jurisdictional settlements, notices, receipts for fee payments, judgments, correspondence, records, and similar documents established for compliance with standards and regulations bearing on performance of the Work.

1.7 QUALITY ASSURANCE

A. Testing Agency Qualifications:
1. Prior to start of work, submit agency name, address, and telephone number, and names of full time registered Engineer and responsible officer.
2. Submit copy of report of laboratory facilities inspection made by NIST Construction Materials Reference Laboratory during most recent inspection, with memorandum of remedies of deficiencies reported by the inspection.
3. Qualification Statement: Provide documentation showing testing laboratory is accredited under IAS AC89.

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. Designer Qualifications: Where professional engineering design services and design data submittals are specifically required of Contractor by Contract Documents, provide services of a Professional Engineer experienced in design of this type of work and licensed in the State in which the Project is located.

F. Highest Quantity and/or Highest Quality: Should the Contract Documents establish different or conflicting requirements for minimum quantities or quality levels, the Contractor shall include within the Contract Sum and account for in the Contract Time the furnishing and installation of the most stringent requirement, the higher quantity, and the higher quality. The Contractor shall submit a Request for Information to clarify the differing or conflicting requirements prior to initiating the Work of the differing or conflicting requirements

G. Manufacturer's Technical Representative Qualifications: An authorized representative of manufacturer who is trained and approved by manufacturer to observe and inspect installation of manufacturer's products that are similar in material, design, and extent to those indicated for this Project.

H. Factory-Authorized Service Representative Qualifications: An authorized representative of manufacturer who is trained and approved by manufacturer to inspect, demonstrate, repair, and perform service on installations of manufacturer's products that are similar in material, design, and extent to those indicated for this Project.

I. Specialists: Certain Specification Sections require that specific construction activities be performed by entities who are recognized experts in those operations. Specialists will satisfy qualification requirements indicated and engage in the activities indicated.
   1. Requirements of authorities having jurisdiction supersede requirements for specialists.

J. Preconstruction Testing: Where testing agency is indicated to perform preconstruction testing for compliance with specified requirements for performance and test methods, comply with the following:
   1. Contractor's Responsibilities:
      a. Provide test specimens representative of proposed products and construction.
      b. Submit specimens in a timely manner with sufficient time for testing and analyzing results to prevent delaying the Work.
      c. Provide sizes and configurations of test assemblies, mockups, and laboratory mockups to adequately demonstrate capability of products to comply with performance requirements.
   2. Build site-assembled test assemblies and mockups, using installers who will perform same tasks for Project.
   3. When testing is complete, remove test specimens and test assemblies[, and mockups]; do not reuse products on Project.
   4. Testing Agency Responsibilities: Submit a certified written report of each test, inspection, and similar quality-assurance service to Architect, with copy to Contractor. Interpret tests and inspections, and state in each report whether tested and inspected Work complies with or deviates from the Contract Documents.

1.8 CONTRACTOR'S QUALITY CONTROL (CQC) PLAN

A. Prior to start of work, submit a comprehensive plan describing how contract deliverables will be produced. Tailor CQC plan to specific requirements of the project. Include the following information:
   1. Management Structure: Identify personnel responsible for quality. Include a chart showing lines of authority.
      a. Include qualifications (in resume form), duties, responsibilities of each person assigned to CQC function.
   2. Management Approach: Define, describe, and include in the plan specific methodologies used in executing the work.
      a. Management and control of documents and records relating to quality.
      b. Communications.
      c. Coordination procedures.
      d. Resource management.
      e. Process control.
      f. Inspection and testing procedures and scheduling.
      g. Control of noncomplying work.
      h. Tracking deficiencies from identification, through acceptable corrective action, and verification.
      i. Control of testing and measuring equipment.
      j. Project materials certification.
      k. Managerial continuity and flexibility.
   3. Owner will not make a separate payment for providing and maintaining a Quality Control Plan. Include associated costs in Bid price.

4. Acceptance of the plan is required prior to start of construction activities not including mobilization work. Owner's acceptance of the plan will be conditional and predicated on continuing satisfactory adherence to the plan. Owner reserves the right to require Contractor to make changes to the plan and operations, including removal of personnel, as necessary, to obtain specified quality of work results.

B. Quality-Control Personnel Qualifications. Engage a person with requisite training and experience to implement and manage quality assurance (QA) and quality control (QC) for the project.
1. Quality control personnel managing the CQC shall have prior experience performing similar duties within the jurisdiction that the Work is being performed. Additionally, the manager of the plan shall have successfully completed the management of a CQC for a project with similar scope and work tasks as the Project.

C. Continuous Inspection of Workmanship: Describe process for continuous inspection during construction to identify and correct deficiencies in workmanship in addition to testing and inspection specified. Indicate types of corrective actions to be required to bring the Work into compliance with standards of workmanship established by Contract requirements and approved mockups.

D. Monitoring and Documentation: Maintain testing and inspection reports, including log of approved and rejected results. Include Work Architect has indicated as nonconforming or defective. Indicate corrective actions taken to bring nonconforming Work into compliance with requirements. Comply with requirements of authorities having jurisdiction.

1.9 TESTING AND INSPECTION AGENCIES AND SERVICES

A. Contractor will employ the services of an independent testing agency to perform testing and inspections as specified within the Contract Documents and may be required by Authority Having Jurisdiction over the Project.

B. As indicated in individual specification sections, Contractor or Owner shall employ and pay for services of an independent testing agency to perform specified testing and inspections.

C. Employment of agency in no way relieves Contractor of obligation to perform Work in accordance with requirements of Contract Documents.

D. Contractor Employed Agency:
1. Testing/Inspection agency: An NRTL, and NVLAP, or an independent agency with experience and capability to conduct testing and/or inspecting services indicated, as documented according to and complying with requirements of ASTM E329, ASTM E543, ASTM E699, ASTM C1021, ASTM C1077, ASTM C1093, and ASTM D3740 as may be applicable; and with additional qualifications specified in individual Sections; and where required by authorities having jurisdiction; and that is acceptable to authorities having jurisdiction.
2. Laboratory Qualifications: Accredited by IAS according to IAS AC89.
3. Laboratory: Authorized to operate in the State in which the Project is located.
4. Laboratory Staff: Maintain a full time registered Engineer on staff to review services.
5. Testing Equipment: Calibrated at reasonable intervals either by NIST or using an NIST established Measurement Assurance Program, under a laboratory measurement quality assurance program.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION

3.1 CONTROL OF INSTALLATION

A. Monitor quality control over suppliers, manufacturers, products, services, site conditions, and workmanship, to produce work of specified quality.

B. Comply with manufacturers' instructions, including each step in sequence.

C. Should manufacturers' instructions conflict with Contract Documents, request clarification from Architect before proceeding.

D. Comply with specified standards as minimum quality for the work except where more stringent tolerances, codes, or specified requirements indicate higher standards or more precise workmanship.

E. Have work performed by persons qualified to produce required and specified quality.

F. 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.

G. Verify that field measurements are as indicated on shop drawings or as instructed by the manufacturer.

H. Secure products in place with positive anchorage devices designed and sized to withstand stresses, vibration, physical distortion, and disfigurement.

3.2 MOCK-UPS

A. Before installing portions of the Work where mock-ups are required, construct mock-ups in location and size indicated for each form of construction and finish required to comply with the following requirements, using materials indicated for the completed Work. The purpose of mock-up is to demonstrate the proposed range of aesthetic effects, technical performance, and quality of installation.

B. Accepted mock-ups establish the standard of quality the Architect will use to judge the Work.

C. Notify Architect and Owner seven (7) calendar days in advance of dates and times when mock-ups will be constructed.

D. Provide supervisory personnel who will oversee mock-up construction. Provide workers that will be employed during the construction at Project.

E. Tests shall be performed under provisions identified in this section and identified in the respective product specification sections.

F. Assemble and erect specified items with specified attachment and anchorage devices, flashings, seals, and finishes.

G. Obtain Architect's approval of mock-ups before starting work, fabrication, or construction.
   1. Architect will issue written comments within seven (7) calendar days of initial review and each subsequent follow up review of each mock-up.

2. Make corrections as necessary until Architect's approval is issued.

H. Architect will use accepted mock-ups as a comparison standard for the remaining Work.

I. Where mock-up has been accepted by Architect and is specified in product specification sections to be removed, protect mock-up throughout construction, remove mock-up and clear area when directed to do so by Architect.

J. Where possible salvage and recycle the demolished mock-up materials.

3.3 TOLERANCES

A. Monitor fabrication and installation tolerance control of products to produce acceptable Work. Do not permit tolerances to accumulate.

B. Comply with manufacturers' tolerances. Should manufacturers' tolerances conflict with Contract Documents, request clarification from Architect before proceeding.

C. Adjust products to appropriate dimensions; position before securing products in place.

3.4 TESTING AND INSPECTION

A. See individual specification sections for testing and inspection required.

B. Testing Agency Duties:
1. Test samples of mixes submitted by Contractor.
2. Provide qualified personnel at site. Cooperate with Architect and Contractor in performance of services.
3. Perform specified sampling and testing of products in accordance with specified standards.
4. Ascertain compliance of materials and mixes with requirements of Contract Documents.
5. Promptly notify Architect and Contractor of observed irregularities or non-compliance of Work or products.
6. Perform additional tests and inspections required by Architect.
7. Attend preinstallation meetings and upon request of the Architect attend progress meetings.
8. Submit reports of tests/inspections specified.

C. Limits on Testing/Inspection Agency Authority:
1. Agency may not release, revoke, alter, or enlarge on requirements of Contract Documents.
2. Agency may not approve or accept any portion of the Work.
3. Agency may not assume duties of Contractor.
4. Agency has no authority to stop the Work.

D. Owner Responsibilities: Where quality-control services are indicated as Owner's responsibility, Owner will engage a qualified testing agency to perform these services.
1. Owner will furnish Contractor with names, addresses, and telephone numbers of testing agencies engaged and a description of types of testing and inspection they are engaged to perform.
2. Costs for retesting and reinspecting construction that replaces or is necessitated by Work that failed to comply with the Contract Documents will be charged to Contractor, and the Contract Sum will be adjusted by Change Order.

E. Contractor Responsibilities:

1. Deliver to agency at designated location, adequate samples of materials proposed to be used that require testing, along with proposed mix designs.
2. Cooperate with laboratory personnel, and provide access to the Work and to manufacturers' facilities.
3. Provide incidental labor and facilities:
   a. To provide access to Work to be tested/inspected.
   b. To obtain and handle samples at the site or at source of Products to be tested/inspected.
   c. To facilitate tests/inspections.
   d. To provide storage and curing of test samples.
4. Notify Architect and laboratory 24 hours prior to expected time for operations requiring testing/inspection services.
5. Employ services of an independent qualified testing laboratory and pay for additional samples, tests, and inspections required by Contractor beyond specified requirements.
6. Arrange with Owner's agency and pay for additional samples, tests, and inspections required by Contractor beyond specified requirements.

F. Re-testing required because of non-compliance with specified requirements shall be performed by the same agency on instructions by Architect.

G. Re-testing required because of non-compliance with specified requirements shall be paid for by Contractor.

3.5 MANUFACTURERS' FIELD SERVICES

A. When specified in individual specification sections, require material or product suppliers or manufacturers to provide qualified staff personnel to attend preinstallation meetings, observe, inspect, and test site conditions, conditions of surfaces and installation of substrates, installation of products, quality of workmanship, start-up of equipment, test, adjust, and balance equipment as applicable, and to report unsatisfactory conditions, and to initiate instructions for repairs when necessary.

B. Submit qualifications of manufacturer's technical representative to Architect 30 days in advance of required observations/services.
   1. Manufacturer's technical representative subject to approval of Architect and Owner.

C. Report observations and site decisions or instructions given to applicators or installers that are supplemental or contrary to manufacturers' written instructions.

3.6 DEFECT ASSESSMENT

A. Replace Work or portions of the Work not complying with specified requirements.

B. If, in the opinion of Architect and Owner, it is not practical to remove and replace the work, Architect and Owner will direct an appropriate remedy or adjust payment.

3.7 REPAIR AND PROTECTION

A. Contractor shall, on completion of testing, inspecting, sample taking, and similar services, repair damaged construction and restore substrates and finishes.

1. Provide materials and comply with installation requirements specified in other Specification Sections or matching existing substrates and finishes. Restore patched areas and extend restoration into adjoining areas with durable seams that are as invisible as possible. Comply with Contract Document requirements for cutting and patching in Section 01 7000 - Execution and Closeout Requirements.

B. Protect existing adjacent surfaces to remain from damage or deterioration due to testing and inspection procedures or repair required by or as a result of testing and inspection procedures.

END OF SECTION 01 4000

SECTION 01 4216 - DEFINITIONS

PART 1 GENERAL

1.1 SUMMARY

A. This section supplements the definitions contained in the General Conditions.

B. Other definitions are included in individual specification sections.

1.2 DEFINITIONS

A. Calendar Days: Every day of the week, including Saturday, Sunday, and holidays, from midnight to midnight.

B. Business Days: Monday through Friday, 9:00 a.m. to 5:00 p.m., excluding weekends and public holidays.

C. Furnish: To supply, deliver, unload, and inspect for damage.

D. Install: To unpack, assemble, erect, apply, place, finish, cure, protect, clean, start up, and make ready for use.

E. Product: Material, machinery, components, equipment, fixtures, and systems forming the work result. Not materials or equipment used for preparation, fabrication, conveying, or erection and not incorporated into the work result. Products may be new, never before used, or re-used materials or equipment.

F. Project Manual: The book-sized volume that includes the procurement requirements, the contracting requirements, and the specifications.

G. Provide: To furnish and install.

H. Supply: Same as Furnish.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION (NOT USED)

END OF SECTION 01 4216

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SECTION 01 4219 - REFERENCE STANDARDS

PART 1 GENERAL

1.1 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.
   1. For standards referenced by applicable building codes, comply with dates of standards as listed in building codes.

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.

1.2 ABBREVIATIONS AND ACRONYMS

A. Industry Organizations: Where abbreviations and acronyms are used in Specifications or other Contract Documents, they are to 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."

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION (NOT USED)

END OF SECTION 01 4219

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SECTION 01 5000 - TEMPORARY FACILITIES AND CONTROLS

PART 1 GENERAL

1.1 SECTION INCLUDES

A. Temporary sanitary facilities.

B. Temporary Controls: Barriers, enclosures, and fencing.

C. Security requirements.

D. Vehicular access and parking.

E. Waste removal facilities and services.

F. Field offices and temporary facilities.

1.2 SUBMITTALS FOR INFORMATION

A. Site Utilization Plan: Show temporary facilities, temporary utility lines and connections, staging areas, lay-down and storage areas, construction site entrances, vehicle circulation, and parking areas for construction personnel (where allowed).

B. Implementation and Termination Schedule: Within 15 calendar days of of date established for commencement of the Work, submit schedule indicating implementation dates of each temporary utility.

C. Fire-Safety Program: Show compliance with requirements of NFPA 241 and authorities having jurisdiction. Indicate Contractor personnel responsible for management of fire-prevention program.

D. Noise and Vibration Control Plan: Identify construction activities that may impact the occupancy and use of existing spaces within the building or adjacent existing buildings, whether occupied by others, or occupied by Owner. Include the following:
1. Methods used to meet the goals and requirements of Owner.
2. Concrete cutting method(s) to be used.
3. Location of construction devices on the site.
4. Show compliance with the use and maintenance of quieted construction devices for the duration of the Project.
5. Indicate activities that may disturb building occupants and that are planned to be performed during non-standard working hours as coordinated with Owner.

1.3 TEMPORARY LIGHTING FOR CONSTRUCTION PURPOSES

A. Provide and maintain LED lighting as suitable for the application for construction operations in accordance with requirements of 29 CFR 1926 and authorities having jurisdiction.
1. Install and operate temporary lighting that fulfills security and protection requirements without operating entire system.

1.4 TEMPORARY SANITARY FACILITIES

A. Provide temporary toilets, wash facilities, safety shower and eyewash 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.

B. Use of permanent toilet facilities is not permitted.

C. Maintain daily in clean and sanitary condition.

D. At end of construction, return facilities to same or better condition as originally found.

1.5 TEMPORARY HEATING, VENTILATION, AND COOLING

A. Provide temporary heating and cooling as required by construction operations for curing or drying of completed installations or for protecting installed construction from adverse effects of low temperature or high humidity. Select equipment that will not have a harmful effect on completed installations or elements being installed.

B. 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. Maintain dehumidification systems where installed Work requires controlled humidity levels until such time that permanent systems are installed and maintaining required humidity levels.

C. Provide temporary ventilation equipment to maintain clean air for construction operations, and as required within individual Specification Sections.

D. Equipment:
1. Permanent HVAC System: If Owner authorizes use of permanent HVAC system for temporary use during construction, provide with MERV 8 filter at each return air grille in system and remove at end of construction and clean HVAC system as required in Section 01 7000 - Execution and Closeout Requirements.
2. Unless Owner authorizes use of permanent HVAC systems, provide vented self contained, liquid-propane-gas or fuel-oil heaters with individual space thermostatic control.
    a. Use of gasoline burning space heaters, open flames heaters, or salamander-type heating units is prohibited.
3. Heating, Cooling, and Dehumidifying Units: Listed and labeled for type of fuel being consumed, by qualified testing agency acceptable to authorities having jurisdiction, and marked for intended location and application.

1.6 SECURITY AND PROTECTION

A. Barriers:
1. Provide barriers to prevent unauthorized entry to construction areas, to prevent access to areas that could be hazardous to workers or the public, to allow for owner's use of site and to protect existing facilities and adjacent properties from damage from construction operations and demolition.
2. Provide structurally adequate barricades and covered walkways required by governing authorities for public rights-of-way. Design and engineering of barricades shall be responsibility of the Contractor. Provide warning signs and lighting.

B. Provide protection for plants designated to remain. Replace damaged plants.

C. Protect non-owned vehicular traffic, stored materials, site, and structures from damage.

D. Traffic Controls:
1. Provide traffic controls for construction operations as required by and in compliance with Authority Having Jurisdiction.
2. Flag Persons: Provide trained and equipped flag persons to regulate traffic when construction operations or traffic encroach on public traffic lanes.
3. Flares and Lights: Use flares and lights during hours of low visibility to delineate traffic lanes and guide traffic.
4. At approaches to site and on site, install traffic signs and signals at crossroads, detours, parking areas, and elsewhere as required to direct construction and affected public traffic and as required by AHJ.

E. Temporary Fire Protection: Install and maintain temporary fire protection facilities of types 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 in accordance with requirements of AHJ.
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. Fire Extinguishers: Provide portable, UL rated; with class and extinguishing agent as required by locations and classes of fire exposure.

1.7 FENCING

A. Site Enclosure Fence:
1. Prior to start of construction operations, furnish and install site enclosure fence in a manner that prevents people form easily entering site except by entrance gates.

B. Work Area Enclosure Fence:
1. Prior to start of construction operations, furnish and install work area enclosure fence around the work areas indicated within the Contract Documents.
    a. Coordinate extent of fencing with Owner, using agency and occupants such that fencing does not interfere with operations of Owner, using agency, or current occupants.

C. Construction: Commercial grade chain link fence.

D. Provide 6 foot high fence around construction site; equip with vehicular and pedestrian gates with locks.
1. Maintain security by limiting number of keys and restricting distribution to authorized personnel. Furnish one set of keys to Owner.

E. Coordinate emergency response path and egress requirements from site and buildings for Owner's continued operations.

1.8 INTERIOR ENCLOSURES

A. Provide temporary partitions and ceilings to separate work areas from Owner-occupied areas, to prevent penetration of dust, fumes, odors, and moisture into Owner-occupied areas, and to prevent damage to existing materials and equipment.

B. Construction: Framing and gypsum board sheet materials with closed joints and sealed edges at intersections with existing surfaces:
   1. Framing: Minimum 3-5/8 inch metal studs; size metal studs per span tables of metal stud manufacturer.
   2. Insulated; fill stud cavity with mineral wool insulation.
   3. Minimum STC rating of 35 in accordance with ASTM E90.
   4. Maximum flame spread rating of 75 in accordance with ASTM E84.

C. Where fire resistance rated temporary partitions are indicated or are required by authorities having jurisdiction, construct partitions according to tested assembly requirements.

D. Where access is required to be installed within the temporary partition, construct a vestibule airlock with not less than 48 inches between doors.
   1. Provide walk-off sticky mats at each entrance through temporary partition.
   2. Provide gasketed dustproof doors and security locks.

E. Prior to commencing work, isolate the HVAC system in the area bound by the temporary partition and other existing work area boundary assemblies by disconnecting supply and return ductwork serving the work area.
   1. Seal openings in ductwork where ductwork continues to serve occupied areas.

F. Maintain negative air pressure within work area, using HEPA-equipped air filtration units, starting with commencement of temporary partition construction, and continuing until removal of temporary partitions is complete.

G. Paint surfaces exposed to view from Owner-occupied areas.

1.9 SECURITY

A. Provide security and facilities to protect Work, existing facilities, and Owner's operations from unauthorized entry, vandalism, or theft.

B. Coordinate with Owner's security program.

1.10 LIFTS, STAIRS, AND ELEVATORS

A. Lifts and Hoists: Provide facilities necessary for hoisting materials and personnel.

B. Truck cranes and similar devices used for hoisting materials are considered "tools and equipment" and not temporary facilities.

1.11 VEHICULAR ACCESS AND PARKING

A. Dust Control: Provide dust control treatment that is non-polluting and non-tracking. Re-apply treatment as required to minimize dust to greatest extent possible.

B. Access Roads:
   1. Minimize, to the greatest extent possible, use of existing on-site streets and driveways for construction traffic. Coordinate access to construction entrance.
   2. Contractor shall construct temporary roads and paved areas to facilitate access to the project site, including but not limited to, temporary facilities, parking areas, staging areas, storage areas, and areas of construction operations.
   3. Tracked vehicles and equipment are prohibited on paved areas.

C. Parking:
   1. Construction personnel are prohibited from utilizing existing on site parking facilities. Construction personnel shall be required to find and utilize off-site legal parking.

D. Maintenance:
   1. Maintain traffic and parking areas in sound condition free of excavated materials, construction equipment, products, trash/debris, gravel/stone, mud, snow, and ice.
   2. Maintain paved areas used for construction; promptly repair breaks, potholes, low areas, standing water, and other deficiencies, to maintain paving and drainage in original, or specified, condition.

E. Comply with regulations relating to use of streets and sidewalks, access to emergency facilities, and access for emergency vehicles.

F. Coordinate access and haul routes with governing authorities and Owner.

G. Provide and/or maintain access to fire hydrants and control valves, free of obstructions.

H. Provide means of removing mud and debris from vehicles and wheels before entering streets.

1.12 WASTE REMOVAL

A. Provide waste removal facilities and services as required to maintain the site in clean and orderly condition.

B. Provide containers with lids. Remove trash from site periodically.

C. If materials to be recycled or re-used on the project must be stored on-site, provide suitable non-combustible containers; locate containers holding flammable material outside the structure unless otherwise approved by the authorities having jurisdiction.

D. Open free-fall chutes are not permitted. Terminate closed chutes into appropriate containers with lids.

1.13 FIELD OFFICES AND TEMPORARY FACILITIES - SEE SECTION 01 5213

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION

3.1 REMOVAL OF UTILITIES, FACILITIES, AND CONTROLS

A. Remove temporary utilities, equipment, facilities, materials, prior to Date of Substantial Completion inspection.

B. Remove underground installations to a minimum depth of 2 feet. Grade site as indicated.

C. Clean and repair damage caused by installation or use of temporary work.

D. Restore existing facilities used during construction to original condition.

E. Restore new permanent facilities used during construction to specified condition.

END OF SECTION 01 5000

SECTION 01 5213 - FIELD OFFICES AND SHEDS

PART 1 GENERAL

1.1 SECTION INCLUDES

A. Temporary field offices for use by entities involved with the project; Common Use Field Office.

B. Temporary field offices for use of Contractor.

C. Maintenance and removal.

1.2 USE OF PERMANENT FACILITIES

A. Do not use permanent facilities for field offices.

PART 2 PRODUCTS

2.1 MATERIALS, EQUIPMENT, FURNISHINGS

A. Materials, Equipment, Furnishings: Serviceable, new or used, adequate for required purpose.

2.2 CONSTRUCTION

A. Portable or mobile buildings, securely fixed to foundations, with steps and landings at entrance doors.
   1. Where required by authorities having jurisdiction, provide accessible access to temporary facilities, including but not limited to, ramps, guard rails, handrails, and landings.
      a. Refer to the drawings for the configuration of access deck/landing and associated components.

B. Construction: Structurally sound, secure, weather tight enclosures. Maintain during progress of Work; remove prior to Substantial Completion, as directed by Owner or Architect, or after field offices are transitioned to location within permanent facilities; Obtain Owner's permission in writing prior to moving offices.

C. Lighting for Offices: 50 fc at desk top height, exterior lighting at entrance doors.

D. Fire Extinguishers: Appropriate type fire extinguisher at each office.

E. Permitting: Obtain permits for temporary facilities. This Work includes the production of and provision for documents required.

2.3 ENVIRONMENTAL CONTROL

A. Heating, Cooling, and Ventilating: Automatic equipment to maintain 68 degrees F heating and 76 degrees F cooling.

2.4 COMMON USE FIELD OFFICE

A. The Common Use Field Office may be combined with Contactor's Office and other administrative offices in a single portable or mobile unit; Each work space and meeting space must be separated by partitions and be equipped with doors. Contractor's Office and Administrative Office(s) shall comply with requirements as indicated within each following Article respectively.

B. Furnishings in Meeting Area: Conference table and chairs to seat at least 20 persons; racks and files for each separate contract package, submittals, and project record documents.
   1. Plans table.
   2. Tack strip or board(s) sufficient to hang project schedule, calendar, finish boards(2 - 24x36 boards), and Architectural renderings (4 - 24x36 boards).

C. Provide drinking water dispenser and disposable cups.

2.5 CONTRACTOR OFFICE AND FACILITIES

A. Size:
   1. Trailer shall be between 50 feet and 60 feet in length and 10 feet to 12 feet in width with two private offices, a conference meeting area, and a private toilet facility.

B. Other Furnishings: Contractor's option.

C. Equipment: Six adjustable band protective helmets for visitors, one 10 inch outdoor weather thermometer .

2.6 STORAGE AND FABRICATION SHEDS

A. Provide sheds sized, furnished, and equipped to accommodate materials and equipment for construction operations.

B. Separte storage of combustible materials from the building by a minimum of 30 feet.

PART 3 EXECUTION

3.1 PREPARATION

A. Fill and grade sites for temporary structures to provide drainage away from buildings.

3.2 INSTALLATION

A. Install office spaces ready for occupancy 15 days after date fixed in Notice to Proceed.

B. Employee Residential Occupancy: Not allowed on Owner's property.

3.3 MAINTENANCE AND CLEANING

A. Maintain facilities in good operating condition until removal.

B. Weekly janitorial services for offices; periodic cleaning and maintenance for offices. Owner will provide janitorial services for Owner/Using Agency temporary facilities.

C. Maintain approach walks free of mud, water, and snow.

3.4 TERMINATION AND REMOVAL

A. Remove each temporary facility and associated foundations, utility services, and debris, when need for its service has ended, when it has been replaced by authorized use of permanent facilities, or no later than Substantial Completion.

B. Complete or, if necessary, restore permanent construction that may have been affected by and/or delayed because of interference with a temporary facility.

C. Repair damaged Work or construction to remain, clean exposed surfaces, and replace construction that cannot be satisfactorily repaired.

D. Materials and facilities that constitute temporary facilities are the property of the Contractor.

E. Prior to Substantial Completion, repair, renovate, and clean permanent facilities used during construction period. Comply with final cleaning requirements specified in Section 01 7000 - Execution and Closeout Requirements.

END OF SECTION 01 5213

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SECTION 01 6000 - PRODUCT REQUIREMENTS

PART 1 GENERAL

1.1 SECTION INCLUDES

A. General product requirements.

B. Re-use of existing products.

C. Transportation, handling, storage and protection.

D. Product option requirements.

E. Substitution limitations.

F. Maintenance materials, including extra materials, spare parts, tools, and software.

1.2 DEFINITIONS

A. Products: Items for incorporating into the Work, whether purchased for Project or taken from previously purchased stock. The term "product" includes the terms "material", "equipment", "system", and terms of similar intent.

1. Named Products: Items identified by manufacturer's product name, including make and/or model number/name or other designation shown or listed in manufacturer's published product literature, that is current as of date of the Contract Documents.
2. New Products: Items that have not previously been purchased for or incorporated into another project or facility and purchased from a product supplier, distributor, or manufacturer specifically for this Project. Products salvaged or recycled from other projects are not considered new products.
3. Comparable Product: Product that is demonstrated by manufacturers literature, product data, and testing results/reports/certifications to meet or exceed the minimum characteristics of Named Products and/or listed minimum requirements of the Contract Documents.
    a. Minimum Characteristics of products include but are not limited to, function, dimensions, in-service performance, physical properties, appearance, options (including color selection), and usability.
    b. The Owner and Architect have final determination whether or not a product meets or exceeds the minimum characteristics of the Named Product(s) and/or listed minimum requirements of the Contract Documents.
4. Basis of Design Product: 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. Published attributes and characteristics of basis-of-design product establish salient characteristics of products. Minimum requirements of a Basis of Design Product may be supplemented with additional requirements listed within the Contract Documents.
    a. Basis of Design Products are not intended to limit procurement of products to the Named Product unless noted within the product specification with "No Substitutions Allowed" or verbiage of similar intent.

b. Manufacturer's published attributes and characteristics of basis-of-design product establish salient characteristics of products for purposes of evaluating comparable products.

1.3 ACTION SUBMITTALS

A. Product Data Submittals: Submit manufacturer's standard published data. Mark each copy to identify applicable products, models, options, and other data. Supplement manufacturers' standard data to provide information specific to this Project.

B. Shop Drawing Submittals: Prepared specifically for this Project; indicate utility and electrical characteristics, utility connection requirements, and location of utility outlets for service for functional equipment and appliances. Show coordination with adjacent products, accessories, and other construction.

C. Sample Submittals: Illustrate functional and aesthetic characteristics of the product, with integral parts and attachment devices. Coordinate sample submittals for interfacing work.
1. For selection from standard finishes, submit samples of the full range of the manufacturer's standard colors, textures, and patterns.

1.4 MAINTENANCE MATERIALS

A. Furnish extra materials, spare parts, tools, and software of types and in quantities specified in individual specification sections.

B. Deliver to Project site; obtain receipt prior to final payment.

1.5 TRANSPORTATION AND HANDLING

A. Package products for shipment in manner to prevent damage; for equipment, package to avoid loss of factory calibration.

B. If special precautions are required, attach instructions prominently and legibly on outside of packaging.

C. Coordinate schedule of product delivery to designated prepared areas in order to minimize site storage time and potential damage to stored materials.

D. Transport and handle products in accordance with manufacturer's instructions.

E. Transport materials in covered trucks to prevent contamination of product and littering of surrounding areas.

F. Promptly inspect shipments to ensure that products comply with requirements, quantities are correct, and products are undamaged.

G. Provide equipment and personnel to handle products by methods to prevent soiling, disfigurement, or damage, and to minimize handling.

H. Arrange for the return of packing materials, such as wood pallets, where economically feasible.

1.6 STORAGE AND PROTECTION

A. Provide protection of stored materials and products against theft, casualty, or deterioration.

B. Designate receiving/storage areas for incoming products so that they are delivered according to installation schedule and placed convenient to work area in order to minimize waste due to excessive materials handling and misapplication.
   1. Structural Loading Limitations: Handle and store products and materials so as not to exceed static and dynamic load-bearing capacities of project floor and roof areas and other Project structures.

C. Store and protect products in accordance with manufacturers' instructions.

D. Store with seals and labels intact and legible.

E. Arrange storage of materials and products to allow for visual inspection for the purpose of determination of quantities, amounts, and unit counts.

F. Store sensitive products in weathertight, climate-controlled enclosures in an environment favorable to product.

G. For exterior storage of fabricated products, place on sloped supports above ground.

H. Protect products from damage or deterioration due to construction operations, weather, precipitation, humidity, temperature, sunlight and ultraviolet light, dirt, dust, and other contaminants.

I. Comply with manufacturer's warranty conditions.

J. Do not store products directly on the ground.

K. Cover products subject to deterioration with impervious sheet covering. Provide ventilation to prevent condensation and degradation of products.

L. Store loose granular materials on solid flat surfaces in a well-drained area. Prevent mixing with foreign matter.

M. Prevent contact with material that may cause corrosion, discoloration, or staining.

N. Provide equipment and personnel to store products by methods to prevent soiling, disfigurement, or damage.

O. Arrange storage of products to permit access for inspection. Periodically inspect to verify products are undamaged and are maintained in acceptable condition.

1.7 PRODUCT WARRANTIES

A. Warranties specified in individual product specifications shall be in addition to, and run concurrent with, other warranties required by the Contract Documents. Manufacturer's disclaimers and limitations on product warranties do not relieve the Contractor of obligations under requirements of the Contract Documents.
   1. Manufacturer's Warranty: Written warranty furnished by individual manufacturer for a particular product and specifically endorsed by manufacturer to Owner.
   2. Special Warranty: Written warranty required by the Contract Documents to provide specific rights for Owner.

B. Special Warranties: Prepare a written document that contains appropriate terms and identification, ready for execution.
   1. Manufacturer's Standard Form: Modified to include Project specific information and properly executed.
   2. Specified Form: When specified forms are included with, appended to, or reference by the individual Specification Sections, prepare the written document using the indicated/provided form properly completed and executed.

PART 2 PRODUCTS

2.1 PRODUCT SELECTION PROCEDURES

A. When individual Specification Sections indicate a Named Product or a list of Named Products, provide the Named Product or one of the Named Products unless specification section Article indicates other Comparable Products may be provided. Other Comparable Products shall be required to meet the minimum requirements and characteristics of the Named Product(s) along with other listed requirements within the individual specification section.
   1. Where individual specification sections allow Comparable Products and those Comparable Products meet the minimum requirements of the Named Product and other requirements of the Section, the Contractor will not be required to comply with the Substitution Procedures of Section 01 2500 - Substitution Procedures. If the product does not meet of the minimum requirements, it shall be considered a substitution and the Contractor will be required to follow the Substitution Procedures of Section 01 2500 - Substitution Procedures.
   2. Where the phrase "No Substitutions Allowed" or "Provide one of the following" or verbiage of similar intent is indicated, provide the Named Product or one of the Named Products only.

B. Where individual Specification Sections provide performance requirements, specific requirements, specific characteristics, or other requirements without providing manufacturer's names or Named Products, provide products complying with or outperforming the requirements indicated. Products not meeting the requirements listed shall be required to comply with the substitution procedures of Section 01 2500 - Substitution Procedures.

C. Visual Matching Specification: Where Specifications require the phrase "match Architect's sample," provide a product that complies with requirements and matches Architect's sample. Architect's decision will be final on whether a proposed product matches.
   1. If no product available within specified category matches and complies with other specified requirements, comply with requirements in Section 01 2500 - Substitution Procedures for proposal of product.

D. Visual Selection Specification: Where Specifications include the phrase "as selected by Architect from manufacturer's full range" or a similar phrase, select a product that complies with requirements. Architect will select color, gloss, pattern, density, or texture from manufacturer's product line that includes both standard and premium items.

2.2 COMPARABLE PRODUCTS

A. Conditions for Consideration of Comparable Products: Architect will consider Contractor's request for comparable product when the following conditions are satisfied. If the following conditions are not satisfied, Architect may return requests without action, except to record noncompliance with the following 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.
   2. Detailed comparison of significant qualities of proposed product with those of the named basis-of-design product. 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.
   3. Evidence that proposed product provides specified warranty.
   4. List of similar installations for completed projects, with project names and addresses and names and addresses of architects and owners, if requested.
   5. Samples, if requested.

B. Architect's Action on Comparable Products Submittal: If necessary, Architect will request additional information or documentation for evaluation within seven days of receipt of a request for a comparable product. Architect will notify Contractor of approval or rejection of proposed comparable product within 15 days of receipt of request, or seven days of receipt of additional information or documentation, whichever is later.
   1. Architect's Approval of Submittal: Marked with approval notation from Architect's action stamp. See Section 01 3300 - Submittal Procedures.
   2. Use product specified if Architect does not issue a decision on use of a comparable product request within time allocated.

C. Submittal Requirements, Two-Step Process: Approval by Architect of Contractor's request for use of comparable product is not intended to satisfy other submittal requirements. Comply with specified submittal requirements.

2.3 EXISTING PRODUCTS

A. Do not use materials and equipment removed from existing premises unless specifically required or permitted by Contract Documents.

B. Unforeseen historic items encountered remain the property of the Owner; notify Owner promptly upon discovery; protect, remove, handle, and store as directed by Owner.

C. Existing materials and equipment indicated to be removed, but not to be re-used, relocated, reinstalled, delivered to the Owner, or otherwise indicated as to remain the property of the Owner, become the property of the Contractor; remove from site.

2.4 NEW PRODUCTS

A. 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, fasteners, finish, and other items needed for a complete installation and intended use and effect.

2. Standard Products: If available, and unless custom products or nonstandard options are specified, provide standard products of types that have been produced and used successfully in similar situations on other projects.
3. Owner reserves the right to limit selection to products with warranties meeting requirements of the Contract Documents.
4. Where products are accompanied by the term "as selected," Architect will make selection.
5. Descriptive, performance, and reference standard requirements in Specifications establish salient characteristics of products.

B. Use of products having of the following characteristics is not permitted:
1. Made outside the United States, its territories, Canada, or Mexico.
2. Made using or containing CFC's or HCFC's.
3. Made of wood from newly cut old growth timber.
4. Containing lead, cadmium, or asbestos.

C. Provide interchangeable components by the same manufacture for components being replaced.

PART 3 EXECUTION (NOT USED)

END OF SECTION 01 6000

SECTION 01 7000 - EXECUTION AND CLOSEOUT REQUIREMENTS

PART 1 GENERAL

1.1 SECTION INCLUDES

A. Examination, preparation, and general installation procedures.

B. Requirements for alterations work, including requirements for selective demolition, except removal, disposal, and/or remediation of hazardous materials and toxic substances.

C. Pre-installation meetings.

D. Cutting and patching.

E. Cleaning and protection.

F. Starting of systems and equipment.

G. Demonstration and instruction of Owner personnel.

H. Closeout procedures, including Contractor's Correction Punch List, except payment procedures.

1.2 REFERENCE STANDARDS

A. NFPA 241 - Standard for Safeguarding Construction, Alteration, and Demolition Operations.

1.3 ACTION SUBMITTALS

A. Cutting and Patching: Submit written request in advance of cutting or alteration that affects:
1. Structural integrity of element of Project.
2. Integrity of weather exposed or moisture resistant element.
3. Efficiency, maintenance, or safety of operational element.
4. Visual qualities of sight exposed elements.
5. Work of Owner or separate Contractor.
6. Include in request:
    a. Identification of Project.
    b. Location and description of affected work.
    c. Necessity for cutting or alteration.
    d. Description of proposed work and products to be used.
    e. Alternatives to cutting and patching.
    f. Effect on work of Owner or separate Contractor.
    g. Written permission of affected separate Contractor.
    h. Date and time work will be executed.

B. Project Record Documents: Accurately record actual locations of capped and active utilities.

1.4 PROJECT CONDITIONS

A. Use of explosives is not permitted.

B. Ventilate enclosed areas to assist cure of materials, to dissipate humidity, and to prevent accumulation of dust, fumes, vapors, or gases.

C. Dust Control: Execute work by methods to minimize raising dust from construction operations. Provide positive means to prevent air-borne dust from dispersing into atmosphere and over adjacent property.
1. Provide dust-proof enclosures to prevent entry of dust generated outdoors.
2. Provide dust-proof barriers between construction areas and areas continuing to be occupied by Owner.
3. Provide dust control treatment in areas of bare soil that is non-polluting and non-tracking. Re-apply treatment as required to minimize dust to greatest extent possible.

D. Noise Control: Provide methods, means, and facilities to minimize noise produced by construction operations.

1.5 COORDINATION

A. Coordinate scheduling, submittals, and work of the various sections of the Project Manual to ensure efficient and orderly sequence of installation of interdependent construction elements.

B. Notify affected utility companies and comply with their requirements.

C. Verify that utility requirements and characteristics of new operating equipment are compatible with building utilities. Coordinate work of various sections having interdependent responsibilities for installing, connecting to, and placing in service, such equipment.

D. Coordinate space requirements, supports, and installation of mechanical and electrical work that are indicated diagrammatically on drawings. Follow routing indicated for pipes, ducts, and conduit, as closely as practicable; place runs parallel with lines of building. Utilize spaces efficiently to maximize accessibility for other installations, for maintenance, and for repairs.

E. In finished areas except as otherwise indicated, conceal pipes, ducts, and wiring within the construction. Coordinate locations of fixtures and outlets with finish elements.

F. Coordinate completion and clean-up of work of separate sections.

G. After Owner occupancy of premises, coordinate access to site for correction of defective work and work not in accordance with Contract Documents, to minimize disruption of Owner's activities.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION

3.1 EXAMINATION

A. Existing Conditions, Utilities:
1. Existence and location of underground and other utilities indicated within drawings is not guaranteed.

2. Prior to beginning site work, investigate and verify the existence and location of underground utilities (underground or otherwise), mechanical and electrical systems, and other construction affecting the Work.
    a. Verify the location and invert elevations at points of connection of sanitary sewer, and water-service piping; underground electrical services, and other utilities.
    b. Furnish location data work related to Project that must be performed by public utilities serving Project site.
3. Verify that utility services are available, of the correct characteristics, and in the correct locations.

B. Existing Conditions:
1. Prior to proceeding with each component of the Work, examine areas, substrates, surfaces, supporting structure(s), and other conditions that may affect the installation of the next components, products and/or assemblies. Examine with Installer(s) and Applicator(s) present of both installed Work and Work to be installed, for compliance with requirements for installation, including but not limited to, tolerances and surface preparation and adequacy.
2. Examine and verify specific conditions described in individual specification sections.
3. Take field measurements before confirming product orders or beginning fabrication, to minimize waste due to over-ordering or misfabrication
4. Examine rough-in for mechanical, plumbing, and electrical .
5. Record observations, comments, acceptance or non-compliance, and corrective actions to be taken where necessary.
6. Proceed with installation only after unsatisfactory conditions have been corrected.

C. Prior to Cutting: Examine existing conditions prior to commencing work, including elements subject to damage or movement during cutting and patching. After uncovering existing work, assess conditions affecting performance of work. Beginning of cutting or patching means acceptance of existing conditions.

3.2 PREPARATION

A. 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 components ro systems 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.

C. Clean substrate surfaces prior to applying next material or substance.

D. Seal cracks or openings of substrate prior to applying next material or substance.

E. Apply manufacturer required or recommended substrate primer, sealer, or conditioner prior to applying new material or substance in contact or bond.

3.3 GENERAL INSTALLATION REQUIREMENTS

A. In addition to compliance with regulatory requirements, conduct construction operations in compliance with NFPA 241, including applicable recommendations in Appendix A.

B. Locate the Work and components of the Work accurately, in correct alignment and elevation, as indicated.

1. Where space is limited, install components to maximize space available for maintenance and ease of removal for replacement.
2. Conceal pipes, ducts, and wiring in finished areas unless otherwise indicated.
3. Maintain minimum headroom clearance of 96 inches in occupied spaces and 90 inches in unoccupied spaces.

C. Install products as specified in individual sections, in accordance with manufacturer's instructions and recommendations, and so as to avoid waste due to necessity for replacement.

D. Make vertical elements plumb and horizontal elements level, unless otherwise indicated.

E. Install equipment and fittings plumb and level, neatly aligned with adjacent vertical and horizontal lines, unless otherwise indicated.

F. Make consistent texture on surfaces, with seamless transitions, unless otherwise indicated.

G. Make neat transitions between different surfaces, maintaining texture and appearance.

H. Install products at the time and under conditions that will ensure the best possible results. Maintain conditions required for product performance until Substantial Completion.

I. Conduct construction operations so no part of Work is subjected to damaging operations or loading in excess of that expected during normal conditions of occupancy.

J. Sequence the Work and allow adequate clearance to accommodate movement of construction and placement items on site and within the constraints of the new construction.

K. Tools and Equipment: Do not use tools or equipment that produce harmful noise levels.

L. Templates: Obtain and distribute to the parties involved, templates for work specified to be factory prepared and field installed. Check Shop Drawings of other work and Coordination Drawings to confirm that adequate provisions are made for locating and installing products to comply with indicated requirements.

M. 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 align with other portions of the Work. Where size and type of attachment is not indicated, verify size and type required for load conditions.
1. Mounting Heights: Where mounting heights are not indicated, mount components at heights directed by Architect.
2. Allow for building movement, including thermal expansion and contraction.
3. Coordinate installation of anchorages. Furnish setting drawings, templates, and directions for installation anchorages, including sleeves, concrete inserts, anchor bolts, and items with integral anchors, that are to be embedded in concrete and masonry. Deliver items to Project site in time for installation.

N. 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.

3.4 ALTERATIONS

A. Drawings showing existing construction and utilities are based on casual field observation and existing record documents only.
   1. Verify that construction and utility arrangements are as indicated.
   2. Report discrepancies to Architect before disturbing existing installation.
   3. Beginning of alterations work constitutes acceptance of existing conditions.

B. Keep areas in which alterations are being conducted separated from other areas that are still occupied.
   1. Provide, erect, and maintain temporary dustproof partitions of construction specified in Section 01 5000 in locations indicated on drawings.
   2. Provide sound retardant partitions of construction indicated within Contract Documents and in locations indicated within Contract Document.

C. Maintain weatherproof exterior building enclosure except for interruptions required for replacement or modifications; take care to prevent water and humidity damage.
   1. Where openings in exterior enclosure exist, provide construction to make exterior enclosure weatherproof.
   2. Insulate existing ducts or pipes that are exposed to outdoor ambient temperatures by alterations work.

D. Remove existing work as indicated and as required to accomplish new work.
   1. Remove rotted wood, corroded metals, and deteriorated masonry and concrete; replace with new construction specified.
   2. Remove items indicated on drawings.
   3. Relocate items indicated on drawings.
   4. Where new surface finishes are to be applied to existing work, perform removals, patch, and prepare existing surfaces as required to receive new finish; remove existing finish if necessary for successful application of new finish.
   5. Where new surface finishes are not specified or indicated, patch holes and damaged surfaces to match adjacent finished surfaces as closely as possible.

E. Services (Including but not limited to HVAC, Plumbing, Fire Protection, Electrical, and Telecommunications): Remove, relocate, and extend existing systems to accommodate new construction.
   1. Maintain existing active systems that are to remain in operation; maintain access to equipment and operational components; if necessary, modify installation to allow access or provide access panel.
   2. Where existing systems or equipment are not active and Contract Documents require reactivation, put back into operational condition; repair supply, distribution, and equipment as required.
   3. Where existing active systems serve occupied facilities but are to be replaced with new services, maintain existing systems in service until new systems are complete and ready for service.
      a. Disable existing systems only to make switchovers and connections; minimize duration of outages.
      b. Provide temporary connections as required to maintain existing systems in service.
   4. Verify that abandoned services serve only abandoned facilities.
   5. Remove abandoned pipe, ducts, conduits, and equipment , including those above accessible ceilings; remove back to source of supply where possible, otherwise cap stub and tag with identification; patch holes left by removal using materials specified for new construction.

F. Protection:
   1. Protect persons, motor vehicles, surrounding surfaces of building, building site, plants, and surrounding buildings from damage/harm resulting from alteration work.

a. Use only proven protection methods, appropriate to each area and surface being protected.
b. Provide temporary barricades, barriers, and directional signage to exclude the public from areas where alteration work is being performed.
c. Erect temporary barriers to form and maintain emergency egress routes.
d. Erect temporary protective covers over walkways and at points of pedestrian and vehicular entrance and exit that must remain in service during alteration work.
e. Contain dust and debris generated by alteration work, and prevent it from reaching the public or adjacent areas or surfaces.
f. Provide shoring, bracing, and supports as necessary. Do not overload structural or supporting elements.
g. Protect floors and other surfaces along hauling routes from damage, wear, and staining.
h. Provide supplemental sound-control treatment to isolate demolition work from other areas of the building.

G. Protect existing work to remain.
1. Prevent movement of structure; provide shoring and bracing, if necessary.
2. Perform cutting to accomplish removals neatly and as specified for cutting new work.
3. Repair adjacent construction and finishes damaged during removal work.

H. Adapt existing work to fit new work: Make as neat and smooth transition as possible.
1. When existing finished surfaces are cut so that a smooth transition with new work is not possible, terminate existing surface along a straight line at a natural line of division and make recommendation to Architect.
2. Where removal of partitions or walls results in adjacent spaces becoming one, rework floors, walls, and ceilings to a smooth plane without breaks, steps, or bulkheads.
3. Where a change of plane of 1/4 inch or more occurs in existing work, submit recommendation for providing a smooth transition for Architect review and request instructions.

I. Patching: Where the existing surface is not indicated to be refinished, patch to match the surface finish that existed prior to cutting. Where the surface is indicated to be refinished, patch so that the substrate is ready for the new finish.

J. Refinish existing surfaces as indicated.
1. Where rooms or spaces are indicated to be refinished, refinish visible existing surfaces to remain to the specified condition for each material, with a neat transition to adjacent finishes.
2. If mechanical or electrical work is exposed accidentally during the work, re-cover and refinish to match.

K. Clean existing systems and equipment.

L. Remove demolition debris and abandoned items from alterations areas and dispose of off-site; do not burn or bury.

M. Do not begin new construction in alterations areas before demolition is complete.

N. Comply with other applicable requirements of this section.

3.5 CUTTING AND PATCHING

A. Whenever possible, execute the work by methods that avoid cutting and/or patching.

B. Employ skilled workers to perform cutting and patching. Proceed with cutting and patching at the earliest feasible time, and restore surfaces without delay. Restoration of surfaces include, but is not limited to, preparing the surface to receive new Work and restoring the surface to match original condition/match adjacent surfaces.

C. Comply with requirements for and limitations on cutting and patching of construction elements.
   1. Structural Elements: Shore, brace, and support structural elements during cutting and patching. Do not cut and patch structural elements in a manner that could change their load-carrying capacity or increase deflection.
   2. Operational Elements: Do not cut and patch operational 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 decrease operational life or safety.
   4. Visual Elements: Do not cut and patch construction in a manner that results in visual evidence of cutting and patching. Do not cut and patch exposed construction in a manner that would, in Architect's opinion, reduce the buildings' aesthetic qualities. Remove and replace construction that has been cut and patched in a visually unsatisfactory manner.
   5. Temporary Support: Provide temporary support of work to be cut and patched.
      a. Shoring, bracing, and support elements and procedures are the responsibility of the contractor, including but not limited to design, installation, maintenance, safety, removal, and corrective actions to repair attachment/contact points with the Work.

D. Perform minimum amount possible of cutting and patching as necessary to:
   1. Complete the work.
   2. Fit products together to integrate with other work.
   3. Provide openings for penetration of mechanical, electrical, and other services.
   4. Match work that has been cut to adjacent work.
   5. Repair areas adjacent to cuts to required condition.
   6. Repair new work damaged by subsequent work.
   7. Remove samples of installed work for testing when requested.
   8. Remove and replace defective and non-complying work.

E. Execute work by methods that avoid damage to other work and that will provide appropriate surfaces to receive patching and finishing. In existing work, minimize damage and restore to original condition.

F. Employ original installer to perform cutting for weather exposed and moisture resistant elements, and sight exposed surfaces.

G. Existing Warranties: Remove, replace, patch, and repair materials and surfaces cut or damaged during installation or cutting and patching operations, by methods, with materials, and in a manner acceptable to warranting entity to maintain the existing warranty of the products and assemblies effected by the cutting and patching operations.

H. Cutting: Cut in-place construction, for demolition or construction work, by sawing, drilling, breaking, chipping, grinding, or other similar operation, using methods least likely to damage elements retained or adjoining construction.

1. In general, use hand or small power tools designed far sawing and grinding, not hammering and chopping. Cut holes and slots neatly to minimize size required, and with minimum disturbance of adjacent surfaces. Temporarily cover openings when not in use.
2. Finished Surfaces: Cut drill from exposed or finished side into concealed surfaces.
3. Concrete and Masonry: Cut using a cutting machine, such as 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. See applicable other Sections that may contain additional or more stringent requirements.

I. Restore work with new products in accordance with requirements of Contract Documents.

J. Fit work air tight to pipes, sleeves, ducts, conduit, and other penetrations through surfaces.

K. Patching:
1. Patch demolition and 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 perform the Work to comply with installation requirements of other Sections for both the patching materials as well as the materials to be installed onto patching materials.
    a. Inspection: Where feasible, test and inspect patched areas after completion to demonstrate physical integrity of installation and compliance with other Work.
2. Finish patched surfaces to match finish that existed prior to patching. On continuous surfaces, refinish to nearest intersection or natural break. For an assembly, refinish entire unit.
3. Match color, texture, and appearance.
4. Repair patched surfaces that are damaged, lifted, discolored, or showing other imperfections due to patching work. If defects are due to condition of substrate, repair substrate prior to repairing finish.

3.6 PROGRESS CLEANING

A. Maintain areas free of waste materials, debris, and rubbish. Maintain site in a clean and orderly condition.

B. Remove debris and rubbish from pipe chases, plenums, attics, crawl spaces, and other closed or remote spaces, prior to enclosing the space.

C. Broom and vacuum clean interior areas prior to start of surface finishing, and continue cleaning to eliminate dust.

D. Collect and remove waste materials, debris, and trash/rubbish from site periodically and dispose off-site; do not burn or bury.
1. Comply with requirements in NFPA 241 for removal of combustible waste materials and debris.
2. Do not hold waste materials more than seven days during normal weather or three days if temperature is expected to rise above 80 deg F.
3. Containerize hazardous and unsanitary waste materials separately from other waste. Mark containers appropriately and dispose of legally, according to requirements of AHJ.

E. Installed Work:

1. 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 or methods are not recommended, use cleaning materials that are not hazardous to health property and that will not damage exposed surfaces.
2. 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.

3.7 PROTECTION OF INSTALLED WORK

A. See Section 01 7610 for temporary protective covering materials.

B. Limit Exposures: Supervise construction operations to assure that no part of the construction, complete or in progress, is subject to harmful, dangerous, damaging, or otherwise deleterious exposure during the construction period.

C. Protect installed work from damage by construction operations.

D. Provide special protection where specified in individual specification sections.

E. Provide temporary and removable protection for installed products. Control activity in immediate work area to prevent damage.

F. Provide protective coverings at walls, projections, jambs, sills, and soffits of openings.

G. Protect finished floors, stairs, and other surfaces from traffic, dirt, wear, damage, or movement of heavy objects, by protecting with durable sheet materials.

H. Protect work from spilled liquids. If work is exposed to spilled liquids, immediately remove protective coverings, dry out work, and replace protective coverings.

I. Prohibit traffic or storage upon waterproofed or roofed surfaces. If traffic or activity is necessary, obtain recommendations for protection from waterproofing or roofing material manufacturer.

J. Prohibit traffic from landscaped areas.

K. Prohibit hydraulic equipment from accessing areas with finished surfaces or surfaces that are to receive a clear, transparent, or translucent coating/covering. Where hydraulic equipment is needed to access areas with such surfaces, protect surfaces from spilled hydraulic fluid. Surfaces stained by hydraulic fluid will be removed and replaced in their entirety to provide consistent finish.

L. Remove protective coverings when no longer needed; reuse or recycle coverings if possible.

3.8 ADJUSTING

A. Adjust operating products and equipment to ensure smooth and unhindered operation.

3.9 FINAL CLEANING

A. Execute final cleaning prior to Substantial Completion.
   1. Conduct cleaning and waste removal operations to comply with local laws and ordinances and federal and local environmental and antipollution regulations.

B. Employ experienced professional cleaners for final cleaning.

C. Use cleaning materials that are recommended by manufacturer or fabricator of the surface or equipment to be cleaned. Do not use cleaning agents that are potentially hazardous to health or property or that might damage finished surfaces.

D. Clean interior and exterior glass surfaces, including mirrors, exposed to view; remove temporary labels, stains and foreign substances, polish transparent and glossy surfaces.

E. Clean interior and exterior hard surface finishes to a dirt free condition, free of stains, films, and similar foreign substances. Avoid disturbing natural weathering of exterior surfaces where intended to remain. Restore reflective surfaces to their original condition.

F. Remove labels that are not permanent. Do not paint or otherwise cover fire test labels or nameplates on mechanical and electrical equipment.

G. Clean plumbing equipment and fixtures to a sanitary condition with cleaning materials appropriate to the surface and material being cleaned.

H. Clean debris and dust from limited access spaces including but not limited to, plenums, shafts, equipment vaults, manholes, attics, and similar spaces.

I. Clean mechanical equipment and fixtures; wipe surfaces.
1. Clean permanent filters and replace disposable filters of operating equipment.
2. Clean exposed surfaces of diffusers, registers, and grilles.
3. Clean ducts, blowers, coils and similar items.
4. Remove excess lubrication and other foreign substances.

J. Clean electrical equipment and fixtures; wipe surface.
1. Clean light fixtures, lamps, globes, and reflectors to function with full efficiency.

K. Remove waste, surplus materials, trash/rubbish, and construction facilities from the site; dispose of in legal manner; do not burn or bury.

3.10 CLOSEOUT PROCEDURES

A. Make submittals that are required by governing or other authorities.
1. Provide copies to Architect and Owner.

B. Closeout Inspections Prior to Substantial Completion
1. Contractor's Correction Punch List:
    a. Perform a preliminary inspection to determine and record items to be completed or corrected prior to Architect's inspection. Record to include a comprehensive list of items to be completed and/or corrected along with an estimated timeline in which items on the list shall be resolved.
        1) Notify Architect a minimum of 10 days prior to the date the Contractor wishes the Architect's Substantial Completion Inspection be performed and only when work is considered ready for Architect's Substantial Completion Inspection. Along with notification, submit written certification containing Contractor's Correction Punch List, that Contract Documents have been reviewed, work has been inspected, and that work is complete in accordance with Contract Documents and ready for Architect's Substantial Completion Inspection.

a) If required, request Architect's Substantial Completion Inspection prior to resolving items on the Contractor's Correction Punch List. Include with the request an updated Contractor's Correction Punch List indicating resolved items and incomplete items. List incomplete items with value (cost) of incomplete item and explanation of why the work is not complete/resolved. Architect will determine if the Architect's Substantial Completion Inspection will be conducted or delayed pending resolution of additional Contractor's Corrective Punch List items.

b. Organization of Contractor's Correction Punch List:
   1) Include name and identification of each space and area included within the work area or affected by the Work or where Work was performed and the items that are incomplete or require correction within those areas.
   2) Organize list of spaces in sequential order, starting with exterior areas first and proceeding from lowest to highest floor.
   3) Organize items applying to each area by major element, including categories for ceiling, individual walls, floors, equipment, and building system.

2. Architect's Substantial Completion Inspection:
   a. Upon receipt of notification of the completion of the Contractor's Correction Punch List, Architect will either proceed with the inspection or notify the Contractor of unfulfilled requirements.
   b. Upon acceptance of the Contractor's Correction Punch List, the Architect will perform the Architect's Substantial Completion Inspection. Architect will prepare the Certificate of Substantial Completion or will notify the Contractor of items, either on contractor's list or additional items identified by Architect, that must be complete or corrected prior to the issuance of a Certificate of Substantial Completion.
      1) Where items are required to be completed or corrected, the Contractor will notify the Architect that the identified items have been resolved and request a re-inspection.
      2) Results of completed Architect's Substantial Completion Inspection shall be the basis of requirements for Final Completion.

C. Procedures Prior to Substantial Completion:
   1. Complete the following items 10 days prior to the date of the Architect's Substantial Completion Inspection be performed:
      a. Advise Owner in writing of pending insurance changeover requirements.
      b. Make final changeover of permanent locks and deliver keys to Owner. Advise Owner's personnel of changeover in security provisions.
      c. Perform preventative maintenance on equipment used prior to Substantial Completion.
      d. Instruct Owner's personnel in operation, adjustment, and maintenance of products, equipment, and systems. Submit demonstration and training media specified in Section 01 7900 - Demonstration and Training.
      e. Advise Owner of changeover of utilities.
      f. Complete termination and removal of temporary facilities remaining.
      g. Complete final cleaning requirements/procedures.
   2. Submit the following items 10 days prior to the date of the Architect's Substantial Completion Inspection be performed:
      a. Certificate of Release: Obtain and submit releases from authorities having jurisdiction permitting Owner unrestricted use of the Work and access to services and utilities.
      b. Closeout submittals specified in other Divisions including project record documents, operation and maintenance manuals, final completion construction photographic documentation, damage or settlement surveys, property surveys, and similar final record information. See Section 01 7800 - Closeout Submittals for additional information.

c. Maintenance Materials: Provide maintenance material submittals specified in individual Section, including tools, spare parts, extra materials, and similar items, and deliver to location designated by Architect or Owner.
d. Submit testing, adjusting, and balancing records.
e. Submit changeover information related to Owner's occupancy, use, operation, and maintenance.

D. Final Completion Procedures:
1. Procedures Prior to Final Completion:
a. Prior to requesting Final Completion Inspection, complete the following:
1) Submit Final Application for Payment; See Section 01 2000 - Price and Payment Procedures.
2) Submit certified list of incomplete items: Submit a certified copy of Architect's Substantial Completion Inspection list of items to be completed or corrected endorsed and dated by Contractor stating 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.
2. Final Completion Inspection:
a. Submit a written request for Final Completion Inspection, to determine acceptance, a minimum of 10 days prior to the date the Work will be complete and ready for Final Completion Inspection. Upon receipt of request, Architect will either proceed with inspection or notify Contractor of unfulfilled requirements. Architect will prepare a final Certificate of Payment after inspection or will notify Contractor of construction that must be completed or corrected before certificate will be issued.
1) Where items are required to be completed or corrected, notify the Architect that the identified items have been resolved and request a re-inspection.

E. Complete items of work determined by Architect listed in executed Certificate of Substantial Completion.

3.11 MAINTENANCE

A. Provide service and maintenance of components indicated in specification sections.

B. Maintenance Period: As indicated in specification sections or, if not indicated, not less than two years from the Date of Substantial Completion or the length of the specified warranty, whichever is longer.

C. Examine system components at a frequency consistent with reliable operation. Clean, adjust, and lubricate as required.

D. Include systematic examination, adjustment, and lubrication of components. Repair or replace parts whenever required. Use parts produced by the manufacturer of the original component.

E. Do not assign or transfer maintenance service to agent or subcontractor without prior written consent of the Owner.

END OF SECTION 01 7000

SECTION 01 7419 - CONSTRUCTION WASTE MANAGEMENT AND DISPOSAL

PART 1 GENERAL

1.1 WASTE MANAGEMENT REQUIREMENTS

A. Owner requires that this project generate the least amount of trash and waste possible.

B. Employ processes that ensure the generation of as little waste as possible due to error, poor planning, breakage, mishandling, contamination, or other factors.

C. Minimize trash/waste disposal in landfills; reuse, salvage, or recycle as much waste as economically feasible.

D. Contractor Reporting Responsibilities: Submit periodic Waste Disposal Reports; report landfill disposal, recycling, salvage, and reuse regardless of to whom the cost or savings accrues; use the same units of measure on required reports.

E. Methods of trash/waste disposal that are not acceptable are:
1. Burning on the project site.
2. Burying on the project site.
3. Illegal dumping or burying on other property, public or private.
4. Other illegal dumping or burying.
5. Incineration, either on- or off-site.

F. Regulatory Requirements: Contractor is responsible for knowing and complying with regulatory requirements, including but not limited to Federal, state and local requirements, pertaining to legal disposal of construction and demolition waste materials.

1.2 DEFINITIONS

A. Clean: Untreated and unpainted; not contaminated with oils, solvents, caulk, or the like.

B. Construction and Demolition Waste: Solid wastes typically including building materials, packaging, trash, debris, and rubble resulting from construction, remodeling, repair and demolition operations.

C. Disposal: Removal off-site of demolition and construction waste and seubsequent sale, recylcing, reuse, or deposit in landfill or incinerator acceptable ot authorities having jurisdiction.

D. Hazardous: Exhibiting the characteristics of hazardous substances, i.e., ignitibility, corrosivity, toxicity or reactivity.

E. Nonhazardous: Exhibiting none of the characteristics of hazardous substances, i.e., ignitibility, corrosivity, toxicity, or reactivity.

F. Nontoxic: Neither immediately poisonous to humans nor poisonous after a long period of exposure.

G. Recyclable: The ability of a product or material to be recovered at the end of its life cycle and remanufactured into a new product for reuse by others.

H. Recycle: To remove a waste material from the project site to another site for remanufacture into a new product for reuse by others.

I. Recycling: The process of sorting, cleansing, treating and reconstituting solid waste and other discarded materials for the purpose of using the altered form. Recycling does not include burning, incinerating, or thermally destroying waste.

J. Return: To give back reusable items or unused products to vendors for credit.

K. Reuse: To reuse a construction waste material in some manner on the project site.

L. Salvage: To remove a waste material from the project site to another site for resale or reuse by others.

M. Sediment: Soil and other debris that has been eroded and transported by storm or well production run-off water.

N. Source Separation: The act of keeping different types of waste materials separate beginning from the first time they become waste.

O. Toxic: Poisonous to humans either immediately or after a long period of exposure.

P. Trash: Product or material unable to be reused, returned, recycled, or salvaged.

Q. Waste: Extra material or material that has reached the end of its useful life in its intended use. Waste includes salvageable, returnable, recyclable, and reusable material.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION

3.1 WASTE MANAGEMENT IMPLEMENTATION

A. Facilities: Provide specific facilities for separation and storage of materials for recycling, salvage, reuse, return, and trash disposal, for use by contractors and installers.
   1. As a minimum, provide:
      a. Separate area for storage of materials to be reused on-site, such as wood cut-offs for blocking.
      b. Separate dumpsters for each category of recyclable.
      c. Recycling bins at worker lunch area.
   2. Provide containers as required.
   3. Provide temporary enclosures around piles of separated materials to be recycled or salvaged.
   4. Provide materials for barriers and enclosures that are nonhazardous, recyclable, or reusable to the maximum extent possible; reuse project construction waste materials if possible.
   5. Locate enclosures out of the way of construction traffic.
   6. Provide adequate space for pick-up and delivery and convenience to subcontractors.
   7. If an enclosed area is not provided, clearly lay out and label a specific area on-site.
   8. Keep recycling and trash/waste bin areas neat and clean and clearly marked in order to avoid contamination of materials.

B. Hazardous Wastes: Separate, store, and dispose of hazardous wastes according to applicable regulations.

C. Recycling: Separate, store, protect, and handle at the site identified recyclable waste products in order to prevent contamination of materials and to maximize recyclability of identified materials. Arrange for timely pickups from the site or deliveries to recycling facility in order to prevent contamination of recyclable materials.

D. Reuse of Materials On-Site: Set aside, sort, and protect separated products in preparation for reuse.

E. Salvage: Set aside, sort, and protect products to be salvaged for reuse off-site.

END OF SECTION 01 7419

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SECTION 01 7800 - CLOSEOUT SUBMITTALS

PART 1 GENERAL

1.1 SECTION INCLUDES

A. Project record documents.

B. Operation and maintenance data.

C. Warranties and bonds.

1.2 ACTION SUBMITTALS

A. Project Record Documents: Submit documents to Architect prior to Substantial Completion Inspection.
   1. Record Drawings:
      a. Initial Submittal: Submit PDF electronic file of scanned record drawings.
         1) PDF files shall be a single file of Contract drawings. Label Contract Drawings with sheet number and bookmark.
      b. Final Submittal:
         1) Submit PDF electronic files of scanned record drawings incorporating comments and corrections made during Initial Submittal.
            a) PDF files shall be a single file of all drawings. Drawings shall be labeled with sheet number and bookmarked.
         2) Submit one set of printed drawings.
   2. Record Specifications: Submit annotated PDF electronic files and number of paper copies of Project's Specifications, including addenda and Contract modifications.
   3. Record Product Data:
      a. Submit PDF annotated PDF electronic files and directories of each submittal.
      b. Where Record Product Data is required as part of the Operation and Maintenance Manual, submit duplicate marked up Record Product Data as a component of the maintenance manual.

B. Operation and Maintenance Data:
   1. Submit PDF electronic file. Assemble manual into a composite electronically indexed (book marked) file.
      a. Preliminary Submission: Submit preliminary draft of format and outlines of content 30 days prior to commencement of demonstration and training. Architect will review preliminary draft and return copy with comments.
      b. Initial Submission: Submit draft copy of manual(s) 15 days prior to final inspection. Architect will review and return after final inspection, with Architect's comments. Revise content of documents as required for final submission.
      c. Final Submission: Submit manual(s) in final form 15 days after receipt of Architect's comments of Initial Submission.
         1) Submit two sets of Physical Binders to Owner. Include a complete operation and maintenance directory. Enclose title pages and directories in clear plastic sleeves.
         2) Submit PDF electronic file to Owner and Architect.

d. For equipment, or component parts of equipment put into service during construction and operated by Owner, submit completed documents within ten days after acceptance.

C. Warranties and Bonds:
1. For equipment or component parts of equipment put into service during construction with Owner's permission, submit documents within 10 days after acceptance.
2. Make other submittals within 10 days after Date of Substantial Completion, prior to final Application for Payment.
3. For items of Work for which acceptance is delayed beyond Date of Substantial Completion, submit within 10 days after acceptance, listing the date of acceptance as the beginning of the warranty period.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION

3.1 PROJECT RECORD DOCUMENTS

A. Maintain on site one set of the following record documents; record actual revisions to the Work:
1. Drawings.
2. Specifications.
3. Addenda.
4. Change Orders and other modifications to the Contract.
5. Manufacturer's instruction for assembly, installation, and adjusting.

B. Ensure entries are complete and accurate, enabling future reference by Owner.
1. Mark to show the actual installation where Installation varies from that shown originally.
2. Give particular attention to information of concealed elements that would be difficult to identify or measure and record at a later time. verify mark-ups before enclosing concealed installations.
3. Record data as soon as possible after obtaining.

C. Store record documents separate from documents used for construction.

D. Record information concurrent with construction progress.

E. Specifications: Legibly mark and record at each product section description of actual products installed, including the following:
1. Manufacturer's name and product model and number.
2. Product substitutions or alternates utilized.
3. Changes made by Addenda and modifications.

F. Record Drawings and Shop Drawings: Legibly mark each item to record actual construction including:
1. Measured depths of foundations in relation to finish first floor datum.
2. Measured horizontal and vertical locations of underground utilities and appurtenances, referenced to permanent surface improvements.
3. Measured locations of internal utilities and appurtenances concealed in construction, referenced to visible and accessible features of the Work.
a. Revisions to routing of piping and conduits.
b. Duct size and routing.

c. Equipment locations.
d. Revisions to electrical circuitry.
4. Field changes of dimension and detail.
5. Details not on original Contract drawings.
6. Note identifying numbers of Architects Supplemental Instructions (ASI), Change Directives, Change Orders, construction sketches, and other modification documents.

3.2 OPERATION AND MAINTENANCE DATA

A. Source Data: For each product or system, list names, addresses and telephone numbers of Subcontractors and suppliers, including local source of supplies and replacement parts. Cross-reference specification section number and title in Project Manual and drawing or schedule designation or identifier where applicable.

B. Product Data: Mark each sheet to clearly identify specific products and component parts, and data applicable to installation. Delete inapplicable information.

C. Drawings: Supplement product data to illustrate relations of component parts of equipment and systems, to show control and flow diagrams. Do not use Project Record Documents as maintenance drawings.

D. Typed Text: As required to supplement product data. Provide logical sequence of instructions for each procedure, incorporating manufacturer's instructions.

3.3 OPERATION AND MAINTENANCE DATA FOR MATERIALS AND FINISHES

A. For Each Product, Applied Material, and Finish:
1. Product data, with catalog number, size, composition, and color and texture designations.
2. Information for re-ordering custom manufactured products.

B. Instructions for Care and Maintenance: Manufacturer's recommendations for cleaning agents and methods, precautions against detrimental cleaning agents and methods, and recommended schedule for cleaning and maintenance.

C. Moisture protection and weather-exposed products: Include product data listing applicable reference standards, chemical composition, and details of installation. Provide recommendations for inspections, maintenance, and repair.

D. Additional information as specified in individual product specification sections.

E. Where additional instructions are required, beyond the manufacturer's standard printed instructions, have instructions prepared by personnel experienced in the operation and maintenance of the specific products.

3.4 OPERATION AND MAINTENANCE DATA FOR EQUIPMENT AND SYSTEMS

A. For Each Item of Equipment and Each System:
1. Description of unit or system, and component parts.
a. Product name and model number.
b. Manufacturer's name.
c. Equipment identification with serial number of each component.
2. Identify function, normal operating characteristics, and limiting conditions.

3. Include performance curves, with engineering data and tests.
    a. Performance and design criteria if Contractor has delegated design responsibility.
4. Complete nomenclature and model number of replaceable parts.
5. License requirements including inspection and renewal dates.

B. Where additional instructions are required, beyond the manufacturer's standard printed instructions, have instructions prepared by personnel experienced in the operation and maintenance of the specific products.

C. Panelboard Circuit Directories: Provide electrical service characteristics, controls, and communications; typed.

D. Include color coded wiring diagrams as installed.

E. Include piped system diagrams.

F. Operating Procedures: Include start-up, break-in, and routine normal operating instructions and sequences. Include regulation, control, stopping, shut-down, and emergency instructions. Include summer, winter, and special operating instructions.

G. Maintenance Requirements: Include routine procedures and guide for preventative maintenance and trouble shooting; disassembly, repair, and reassembly instructions; and alignment, adjusting, balancing, and checking instructions.
1. Include HVAC outdoor and exhaust air damper calibration strategy.
    a. Include provisions which ensure that full closure of dampers can be achieved.
2. Include Carbon Dioxide Monitoring Protocol.
3. Include Carbon Monoxide Monitoring Protocol.
4. Include Frost Mitigation Strategy for ventilation heat-recovery system.

H. Provide servicing and lubrication schedule, and list of lubricants required.

I. Include manufacturer's printed operation and maintenance instructions.

J. Include sequence of operation by controls manufacturer.

K. Provide original manufacturer's parts list, illustrations, assembly drawings, and diagrams required for maintenance.

L. Provide control diagrams by controls manufacturer as installed.

M. Provide Contractor's coordination drawings, with color coded piping diagrams as installed.

N. Provide charts of valve tag numbers, with location and function of each valve, keyed to flow and control diagrams.

O. Provide list of original manufacturer's spare parts, current prices, and recommended quantities to be maintained in storage.

P. Include test and balancing reports.

Q. Additional Requirements: As specified in individual product specification sections.

3.5 ASSEMBLY OF OPERATION AND MAINTENANCE MANUALS

A. Organize operations and maintenance manuals following the example template provided in Section 01 7801 - Operation and Maintenance Manual Template.

B. Directory:
1. Prepare a single, comprehensive directory of emergency, operation, and maintenance data and materials, listing items and their location to facilitate ready access to desired information. Include a section in the directory for each of the following:
   a. List of Documents.
   b. List of Systems.
   c. List of Equipment.
   d. Table of Contents.
2. List of Systems and Subsystems: List systems alphabetically. Include references to operation and maintenance manuals that contain information about each system.
3. List of Equipment: List of equipment for each system, organized alphabetically by system. For pieces of equipment not part of system, list alphabetically in separate list.
4. Table of Contents: Include a table of contents for each emergency, operation and maintenance manual.

C. Organize operations and maintenance manuals following the example template appended to this document following this Section.

D. Assemble operation and maintenance data into durable manuals for Owner's personnel use, with data arranged in the same sequence as, and identified by, the specification sections.

E. Where systems involve more than one specification section, provide separate tabbed divider for each system.

F. Manuals, Physical
1. Binders: Commercial quality, 8-1/2 by 11 inch three D side ring binders with durable plastic covers; 2 inch maximum ring size. When multiple binders are used, correlate data into related consistent groupings.
2. Cover: Identify each binder with typed or printed title OPERATION AND MAINTENANCE INSTRUCTIONS; identify title of Project; identify subject matter of contents.
3. Project Directory: Title and address of Project; names, addresses, and telephone numbers of Architect, Consultants, Contractor and subcontractors, with names of responsible parties.
4. Tables of Contents: List every item separated by a divider, using the same identification as on the divider tab; where multiple volumes are required, include Tables of Contents in each volume, with the current volume clearly identified.
5. Dividers/Separation Pages: Provide tabbed dividers for each separate product and system; identify the contents on the divider tab; immediately following the divider tab include a description of product and major component parts of equipment.
6. Text: Manufacturer's printed data, or typewritten data on 20 pound paper.
7. Drawings: Provide with reinforced punched binder tab. Bind in with text; fold larger drawings to size of text pages.

G. Operations and Maintenance Manual, Electronic: Combine PDF files of Cover, Project Directory, Table of Contents, and Separation Pages, Text/Copy/Data, and Drawings. Organize pdf in same manner as physical manual and bookmark each item.

1. Scan original physical documents to be included in the electronic manual where electronic versions do not exist. Document data size shall be reduced to smallest file size without data loss or reduction in legibility.

H. Arrangement of Contents: Organize each volume in parts as follows:
1. Project Directory.
2. Table of Contents, of all volumes, and of this volume.
3. Operation and Maintenance Data: Arranged by system, then by product category.
   a. Source data.
   b. Product data, shop drawings, and other submittals.
   c. Operation and maintenance data.
   d. Field quality control data.
   e. Photocopies of warranties and bonds.
4. Design Data: To allow for addition of design data furnished by Architect or others, provide a tab labeled "Design Data" and provide a binder large enough to allow for insertion of at least 20 pages of typed text.

3.6 WARRANTIES AND BONDS

A. Obtain warranties and bonds, executed in duplicate by responsible Subcontractors, suppliers, and manufacturers, within 10 days after completion of the applicable item of work. Except for items put into use with Owner's permission, leave date of beginning of time of warranty until Date of Substantial completion is determined.

B. Verify that documents are in proper form, contain full information, and are notarized.

C. Co-execute submittals when required.

D. Retain warranties and bonds until time specified for submittal.

E. Include originals of each in operation and maintenance manuals, indexed separately on Table of Contents.

F. Warranty Manual, Physical: Bind in commercial quality 8-1/2 by 11 inch three D side ring binders with durable plastic covers.
1. Cover: Identify each binder with typed or printed title WARRANTIES AND BONDS, with title of Project; name, address and telephone number of Contractor and equipment supplier; and name of responsible company principal.
2. Table of Contents: Neatly typed, in the sequence of the Table of Contents of the Project Manual, with each item identified with the number and title of the specification section in which specified, and the name of product or work item.
3. Separate each warranty or bond with index tab sheets keyed to the Table of Contents listing. Provide full information, using separate typed sheets as necessary. List Subcontractor, supplier, and manufacturer, with name, address, and telephone number of responsible principal.

G. Warranty Manual, Electronic: Combine PDF files of Cover, Table of Contents, and Separation Pages, and Warranties and Bonds. Organize pdf in same manner as physical manual and bookmark each warranty and bond.

1. Scan original warranties and bonds to be included in the electronic manual.

END OF SECTION 01 7800

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INSERT OWNER LOGO HERE
IF OWNER DOES NOT HAVE LOGO,
INSERT COMPLETED PROJECT PHOTO OF ENTRY FAÇADE

OPERATION & MAINTENANCE MANUAL VOLUME {#}

{PROJECT NAME}

{PROJECT ADDRESS LINE 1}
{PROJECT ADDRESS LINE 2}

DATE OF SUBSTANTIAL COMPLETION
{January 1, 0000}

Contractor: {Company Name}

{Point of Contract Name}
{Point of Contact Title}
{Address Line 1}
{Address Line 2}
Phone: {Phone Number}
E-mail: {Point of Contact E-mail}

Architect: MW Studios.
Architect of Record: David Woodward
{Point of Contact}
{Point of Contact Title}
8098 Sandpiper Circle, Suite H
Nottingham, Maryland 21236
Phone: 410-344-1460
E-mail: {Point of Contact E-mail}

{Contractors Company Name & Phone Number}

{PROJECT NAME}
OPERATION & MAINTENANCE MANUAL: VOLUME {#}

TABLE OF CONTENTS

Project Directory.....{Page #'s}
{Contractor's Company Name} Warranty.....{Page #'s}
Required Maintenance Schedules.....{Page #'s}
Division 01 – General Requirements.....{Page #'s}
    Owners Additions.....{Page #'s}
    Demonstration and Training Attendance Sign Off.....{Page #'s}
Division 02 – Demolition.....{Page #'s}
    {Items Returned to Owner}.....{Page #'s}
    {Recycled Items}.....{Page #'s}
    {Salvaged Items}.....{Page #'s}
Division 03 – Concrete.....{Page #'s}
    {Insert Items}.....{Page #'s}
Division 04 – Masonry.....{Page #'s}
    {Insert Items}.....{Page #'s}

*****CONTINUE TABLE OF CONTENTS WITH APPLICABLE DIVISIONS AND INCLUSIONS*****

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    Architectural.....{Page #'s}
    Structural.....{Page #'s}
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    Plumbing.....{Page #'s}
    Fire Protection.....{Page #'s}

*****CONTINUE TABLE OF CONTENTS WITH APPLICABLE DISIPLINES*****

Page #

{Contractors Company Name & Phone Number}

{PROJECT NAME}

{Address Line 1}
{Address Line 2}

PROJECT DIRECTORY

OWNER

{Entity Name of Owner}
{Owner Address Line 1}
{Owner Address Line 2}

	Business Phone	Mobile Phone	E-Mail Address
{Point of Contact Name & Title}	{Phone #}	{Phone #}	{E-mail Address}
{Point of Contact Name & Title}	{Phone #}	{Phone #}	{E-mail Address}

GENERAL CONTRACTOR

{Entity Name}
{Owner Address Line 1}
{Owner Address Line 2}

	Business Phone	Mobile Phone	E-Mail Address
{Point of Contact Name & Title}	{Phone #}	{Phone #}	{E-mail Address}
{Point of Contact Name & Title}	{Phone #}	{Phone #}	{E-mail Address}

ARCHITECT

{Entity Name}
{Owner Address Line 1}
{Owner Address Line 2}

	Business Phone	Mobile Phone	E-Mail Address
{Point of Contact Name & Title}	{Phone #}	{Phone #}	{E-mail Address}
{Point of Contact Name & Title}	{Phone #}	{Phone #}	{E-mail Address}

{Contractors Company Name & Phone Number}

{DESIGN TEAM MEMBER AS LISTED ON DRAWING COVER SHEET}

{Entity Name}
{Owner Address Line 1}
{Owner Address Line 2}

	Business Phone	Mobile Phone	E-Mail Address
{Point of Contact Name & Title}	{Phone #}	{Phone #}	{E-mail Address}
{Point of Contact Name & Title}	{Phone #}	{Phone #}	{E-mail Address}

{SUBCONTRACTOR – list each separately}

{Entity Name}
{Owner Address Line 1}
{Owner Address Line 2}

	Business Phone	Mobile Phone	E-Mail Address
{Point of Contact Name & Title}	{Phone #}	{Phone #}	{E-mail Address}
{Point of Contact Name & Title}	{Phone #}	{Phone #}	{E-mail Address}

{CONTRACTORS WARRANTY, ON COMPANY LETTERHEAD, SIGNED BY COMPANY REPRESENTATIVE AUTHORIZED TO SIGN BINDING DOCUMENTS}

{Contractors Company Name & Phone Number}

{PROJECT NAME}

{Address Line 1}
{Address Line 2}

REQUIRED MAINTENANCE SCHEDULES

*****INCLUDE ALL REQUIRED MAINTENANCE FOR EQUIPMENT AND FINISHES*****

{Contractors Company Name & Phone Number}

Division {#}
{Division Title}

*****Division Separator Page (Electronic Manual);
Hyperlink or bookmark this page in the Table of Contents*****

*****Tab Divider (Physical Manual);
Print on Card Stock divider with numbered tab*****

{Contractors Company Name & Phone Number}

Division {#}

{Division Title}

*****LIST CONTENT OF EACH "DIVISION" SECTION ON THIS CONTENT PAGE*****

{Content Name}.....{Page #'s}
{Content Name}.....{Page #'s}

SECTION 01 7900 - DEMONSTRATION AND TRAINING

PART 1 GENERAL

1.1 SUMMARY

A. Demonstration of products and systems where indicated in specific specification sections.

B. Training of Owner personnel in operation and maintenance is required for:
   1. Items specified in individual product Sections.

C. Training of Owner personnel in care, cleaning, maintenance, and repair is required for:
   1. Finishes, including flooring, wall finishes, ceiling finishes.
   2. Fixtures and fittings.
   3. Items specified in individual product Sections.

1.2 ACRONYMS

A. O&M: Operations and Maintenance.

1.3 ACTION SUBMITTALS

A. Training Plan: Owner will designate personnel to be trained; tailor training to needs and skill-level of attendees.
   1. Submit to Architect for transmittal to Owner.
   2. Submit not less than four weeks prior to start of training.
   3. Revise and resubmit until acceptable.
   4. Provide an overall schedule showing training sessions.
   5. Include at least the following for each training session:
      a. Identification, date, time, and duration.
      b. Description of products and/or systems to be covered.
      c. Name of firm and person conducting training; include qualifications.
      d. Intended audience, such as job description.
      e. Objectives of training and suggested methods of ensuring adequate training.
      f. Instruction methods include, but are not limited to, classroom lecture, live demonstrations, and hands-on training.
      g. Media types include, but are not limited to, presentation slides, hard copy hand-outs, and digital files saved on USBs.
      h. Training equipment required, including projector and projection screen.

1.4 INFORMATIONAL SUBMITTALS

A. Training Manuals: Provide training manual for each attendee; allow for minimum of two attendees per training session.
   1. Include applicable portion of O&M manuals.

2. Include copies of hand-outs, slides, overheads, and video presentations that are not included in O&M manuals.
3. Provide one extra copy of each training manual to be included with operation and maintenance data.

B. Training Reports:
1. Identification of each training session, date, time, and duration.
2. Sign-in sheet showing names and job titles of attendees.
3. List of attendee questions and written answers given, including copies of and references to supporting documentation required for clarification; include answers to questions that could not be answered in original training session.

1.5 CLOSEOUT SUBMITTALS

A. Video Recordings: Submit digital video recording of each demonstration and training session for Owner's subsequent use.
1. Format: DVD Disc.
2. Label each disc and container with session identification and date.

1.6 QUALITY ASSURANCE

A. Instructor Qualifications: Familiar with design, operation, maintenance and troubleshooting of the relevant products and systems.
1. Provide as instructors the most qualified trainer of those contractors and/or installers who actually supplied and installed the systems and equipment.
2. Where a single person is not familiar with all aspects, provide specialists with necessary qualifications.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION

3.1 DEMONSTRATION, GENERAL

A. Demonstrations conducted during system start-up do not qualify as demonstrations for the purposes of this section, unless approved in advance by Owner.

B. Demonstration may be combined with Owner personnel training if applicable.

C. Operating Equipment and Systems: Demonstrate operation in all modes, including start-up, shut-down, seasonal changeover, emergency conditions, and troubleshooting, and maintenance procedures, including scheduled and preventive maintenance.
1. Perform demonstrations not less than two weeks prior to Substantial Completion.
2. For equipment or systems requiring seasonal operation, perform demonstration for other season within six months.

D. Non-Operating Products: Demonstrate cleaning, scheduled and preventive maintenance, and repair procedures.
1. Perform demonstrations not less than two weeks prior to Substantial Completion.

3.2 TRAINING, GENERAL

A. Conduct training on-site unless otherwise indicated.

B. Provide training in minimum two hour segments.

C. Training schedule will be subject to availability of Owner's personnel to be trained; re-schedule training sessions as required by Owner; once schedule has been approved by Owner failure to conduct sessions according to schedule will be cause for Owner to charge Contractor for personnel "show-up" time.

D. Review of Facility Policy on Operation and Maintenance Data: During training discuss:
1. The location of the O&M manuals and procedures for use and preservation; backup copies.
2. Typical contents and organization of manuals, including explanatory information, system narratives, and product specific information.
3. Typical uses of the O&M manuals.

E. Product- and System-Specific Training:
1. Review the applicable O&M manuals.
2. For systems, provide an overview of system operation, design parameters and constraints, and operational strategies.
3. Review instructions for proper operation in all modes, including start-up, shut-down, seasonal changeover and emergency procedures, and for maintenance, including preventative maintenance.
4. Provide hands-on training on operational modes possible and preventive maintenance.
5. Emphasize safe and proper operating requirements; discuss relevant health and safety issues and emergency procedures.
6. Discuss common troubleshooting problems and solutions.
7. Discuss peculiarities of equipment installation or operation.
8. Discuss warranties and guarantees, including procedures necessary to avoid voiding coverage.
9. Review recommended tools and spare parts inventory suggestions of manufacturers.
10. Review spare parts and tools required to be furnished by Contractor.
11. Review spare parts suppliers and sources and procurement procedures.

F. Be prepared to answer questions raised by training attendees; if unable to answer during training session, provide written response within three days.

END OF SECTION 01 7900

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SECTION 02 4119 - SELECTIVE DEMOLITION

PART 1 GENERAL

1.1 SECTION INCLUDES

A. Demolition and removal of selected portions of interior of building or structure .

1.2 DEFINITIONS

A. Remove: Detach items from existing construction and legally dispose of off-site unless indicated to be removed and salvaged or removed and reinstalled.

B. Existing to Remain: Existing items of construction that are not to be removed.

1.3 MATERIALS OWNERSHIP

A. Unless otherwise indicated, demolition waste becomes property of Contractor.

1.4 COORDINATION

A. Coordinate with adjacent property owner at locations where demolition work abuts or encroaches onto adjacent property. Inform and receive approval from Owner and adjacent property Owner prior to starting the work.

1.5 PREINSTALLATION MEETINGS

A. Predemolition Conference: Conduct conference at Project site.
1. Inspect and discuss condition of construction to be selectively demolished.
2. Review structural load limitations of existing structure.
3. Review and finalize selective demolition schedule and verify availability of demolition personnel, equipment, and facilities needed to make progress and avoid delays.
4. Review requirements of work performed by other trades that rely on substrates exposed by selective demolition operations.
5. Review areas where existing construction is to remain and requires protection.
6. Review and finalize protection requirements.
7. Review procedures for noise control.
8. Review storage, protection, and accounting for items to be removed for salvage or reinstallation.

1.6 INFORMATIONAL SUBMITTALS

A. Qualification Statements: For refrigerant recovery technician.

B. Survey of Existing Conditions: Submit survey.

C. Proposed Protection Measures: Submit report, including Drawings, that indicates the measures proposed for protecting individuals and property for noise control. Indicate proposed locations and construction of barriers.

D. Schedule of Selective Demolition Activities: Indicate the following:
1. Detailed sequence of selective demolition and removal work, with starting and ending dates for each activity. Ensure Owner's on-site operations are uninterrupted.
2. Temporary interruption of utility services. Indicate how long utility services will be interrupted.
3. Coordination for shutoff, capping, and continuation of utility services.
4. Use of stairs.
5. Coordination of Owner's continuing occupancy of portions of existing building and of Owner's partial occupancy of completed Work.

E. Statement of Refrigerant Recovery: Signed by refrigerant recovery technician responsible for recovering refrigerant, stating that all refrigerant that was present was recovered and that recovery was performed in accordance with EPA regulations. Include name and address of technician and date refrigerant was recovered.

F. Warranties: Documentation indicating that existing warranties are still in effect after completion of selective demolition.

1.7 CLOSEOUT SUBMITTALS

A. Inventory: Submit a list of items that have been removed and salvaged.

1.8 QUALITY ASSURANCE

A. Refrigerant Recovery Technician Qualifications: Type I certified by an EPA-approved certification program.

1.9 FIELD CONDITIONS

A. Owner will not occupy portions of building immediately adjacent to selective demolition area. Conduct selective demolition so Owner's operations will not be disrupted.

B. Notify Architect of discrepancies between existing conditions and Drawings before proceeding with selective demolition.

C. Hazardous Materials:
1. It is not expected that hazardous materials will be encountered in the Work.
a. If materials suspected of containing hazardous materials are encountered, do not disturb; immediately notify Architect and Owner.
b. Furnish labor, materials, services, and equipment necessary for complete removal and disposal of the hazardous materials encountered.

D. On-site sale of removed items or materials is not permitted.

PART 2 PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

A. Regulatory Requirements: Comply with governing EPA notification regulations before beginning selective demolition. Comply with hauling and disposal regulations of authorities having jurisdiction.

B. Standards: Comply with ANSI/ASSP A10.6 and NFPA 241.

PART 3 EXECUTION

3.1 EXAMINATION

A. Verify that utilities have been disconnected and capped before starting selective demolition operations.

B. Review Project Record Documents of existing construction or other existing condition and hazardous material information provided by Owner. Owner does not guarantee that existing conditions are same as those indicated in Project Record Documents.

C. Perform an engineering survey of condition of building to determine whether removing any element might result in structural deficiency or unplanned collapse of any portion of structure or adjacent structures during selective building demolition operations.
   1. Perform surveys as the Work progresses to detect hazards resulting from selective demolition activities.

D. Verify that hazardous materials have been remediated before proceeding with building demolition operations.

E. Survey of Existing Conditions: Record existing conditions by use of preconstruction photographs or video, measured drawings. Comply with Section 01 3000 - Administrative Requirements.
   1. Photograph or video existing conditions of adjoining construction including finish surfaces, that might be misconstrued as damage caused by selective demolition operations or removal of items for salvage or reinstallation.

3.2 PREPARATION

A. Temporary Shoring: Design, provide, and maintain shoring, bracing, and structural supports as required to preserve stability and prevent movement, settlement, or collapse of construction and finishes to remain, and to prevent unexpected or uncontrolled movement or collapse of construction being demolished.
   1. Strengthen or add new supports when required during progress of selective demolition.

B. Temporary Protection: Provide temporary barricades and other protection required to prevent injury to people and damage to adjacent buildings and facilities to remain.
   1. Provide protection to ensure safe passage of people around selective demolition area and to and from occupied portions of building.
   2. Provide temporary weather protection, during interval between selective demolition of existing construction on exterior surfaces and new construction, to prevent water leakage and damage to structure and interior areas.
   3. Protect walls, ceilings, floors, and other existing finish work that are to remain or that are exposed during selective demolition operations.

4. Cover and protect furniture, furnishings, and equipment that have not been removed.
5. Comply with requirements for temporary enclosures, dust control, heating, and cooling specified in Section 01 5000 - Temporary Facilities and Controls.

C. Existing Items to Remain: Protect construction indicated to remain against damage and soiling during selective demolition. When permitted by Architect, items may be removed to a suitable, protected storage location and cleaned and reinstalled in their original locations after selective demolition operations are complete.

D. Refrigerant: Before starting demolition, remove refrigerant from mechanical equipment in accordance with 40 CFR 82 and regulations of authorities having jurisdiction.

3.3 UTILITY SERVICES AND BUILDING SYSTEMS

A. Existing Services/Systems to Remain: Maintain utilities and building systems and equipment to remain and protect against damage during selective demolition operations.
1. Maintain fire-protection facilities in service during selective demolition operations.

B. Existing Services/Systems to Be Removed, Relocated, or Abandoned: Locate, identify, disconnect, and seal or cap off utilities and building systems serving areas to be selectively demolished.
1. Owner will arrange to shut off indicated utilities when requested by Contractor.
2. If disconnection of utilities and building systems will affect adjacent occupied parts of the building, provide temporary services/systems that bypass area of selective demolition and that maintain continuity of services/systems to those parts of the building.
3. Demolish and remove existing building systems, equipment, and components indicated on Drawings to be removed.
    a. Piping to Be Removed: Remove portion of piping indicated to be removed and cap or plug remaining piping with same or compatible piping material.
    b. Ducts to Be Removed: Remove portion of ducts indicated to be removed and plug remaining ducts with same or compatible ductwork material.
    c. Equipment to Be Removed: Disconnect and cap services and remove equipment and components.
4. Abandon existing building systems, equipment, and components indicated on Drawings to be abandoned in place.
    a. Piping to Be Abandoned in Place: Drain piping and cap or plug piping with same or compatible piping material and leave in place.
    b. Ducts to Be Abandoned in Place: Cap or plug ducts with same or compatible ductwork material and leave in place.

3.4 SELECTIVE DEMOLITION, GENERAL

A. General: Demolish and remove existing construction only to extent required by new construction and as indicated. Use methods required to complete the Work within limitations of governing regulations and as follows:
1. Proceed with selective demolition systematically, from higher to lower level. Complete selective demolition operations above each floor or tier before disturbing supporting members on the next lower level.

2. Neatly cut openings and holes plumb, square, and true to dimensions required. Use cutting methods least likely to damage construction to remain or adjoining construction. Use hand tools or small power tools designed for sawing or grinding, not hammering and chopping. Temporarily cover openings to remain.
3. Cut or drill from the exposed or finished side into concealed surfaces to avoid marring existing finished surfaces.
4. Do not use cutting torches until work area is cleared of flammable materials. At concealed spaces, such as duct and pipe interiors, verify condition and contents of hidden space before starting flame-cutting operations. Maintain portable fire-suppression devices during flame-cutting operations.
5. Maintain fire watch during and for at least 1/2 hours after flame-cutting operations.
6. Maintain adequate ventilation when using cutting torches.
7. Remove decayed, vermin-infested, or otherwise dangerous or unsuitable materials and promptly dispose of off-site.
8. Remove structural framing members and lower to ground by method suitable to avoid free fall and to prevent ground impact or dust generation.
9. Locate selective demolition equipment and remove debris and materials so as not to impose excessive loads on supporting walls, floors, or framing.

B. Site Access and Temporary Controls: Conduct selective demolition and debris-removal operations to ensure minimum interference with roads, streets, walks, walkways, and other adjacent occupied and used facilities.
1. Do not close or obstruct streets, walks, walkways, or other adjacent occupied or used facilities without permission from Owner and authorities having jurisdiction. Provide alternate routes around closed or obstructed trafficways if required by authorities having jurisdiction.
2. Use water mist and other suitable methods to limit spread of dust and dirt. Comply with governing environmental-protection regulations. Do not use water when it may damage adjacent construction or create hazardous or objectionable conditions, such as ice, flooding, and pollution.

C. Hazardous Materials:
1. Hazardous Materials: Comply with 29 CFR 1926 and state and local regulations. Notify Architect and Owner of discovery of hazardous materials; hazardous materials include regulated asbestos containing materials, lead, PCBs, and mercury.

3.5 SELECTIVE DEMOLITION PROCEDURES FOR SPECIFIC MATERIALS

A. Concrete:
1. Demolish in small sections. Using power-driven saw, cut concrete to a depth of at least 3/4 inch at junctures with construction to remain. Dislodge concrete from reinforcement at perimeter of areas being demolished, cut reinforcement, and then remove remainder of concrete. Neatly trim openings to dimensions indicated.

B. Masonry: Demolish in small sections. Cut masonry at junctures with construction to remain, using power-driven saw, and then remove masonry between saw cuts.

C. Concrete Slabs-on-Grade: Saw-cut perimeter of area to be demolished, and then break up and remove.

3.6 PATCHING

A. Patch and repair substrates and surfaces to match adjacent construction, unless otherwise noted.

B. Repaired substrates must be ready to recieve construction materials specified.

3.7 DISPOSAL OF DEMOLISHED MATERIALS

A. Remove demolition waste materials from Project site and dispose of them in an EPA-approved construction and demolition waste landfill acceptable to authorities having jurisdiction.
   1. Do not allow demolished materials to accumulate on-site.
   2. Remove and transport debris in a manner that will prevent spillage on adjacent surfaces and areas.
   3. Remove debris from elevated portions of building by chute, hoist, or other device that will convey debris to grade level in a controlled descent.

B. Burning: Do not burn demolished materials.

3.8 CLEANING

A. Clean adjacent structures and improvements of dust, dirt, and debris caused by selective demolition operations. Return adjacent areas to condition existing before selective demolition operations began.

END OF SECTION 02 4119

SECTION 03 0130 - MAINTENANCE OF CAST-IN-PLACE CONCRETE

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

A. Section Includes:

1. Removal of deteriorated concrete and subsequent replacement and patching.
2. Floor joint repair.
3. Epoxy crack injection.
4. Corrosion-inhibiting treatment.
5. Polymer overlays.
6. Polymer sealers.

1.3 ALLOWANCES

A. Allowances for maintenance of cast-in-place concrete are specified in Section 012100 "Allowances."

B. Field quality-control testing is part of testing and inspecting allowance.

1.4 UNIT PRICES

A. Work of this Section is affected by unit prices specified in Section 012200 "Unit Prices."

1. Unit prices apply to authorized work covered by quantity allowances and estimated quantities.
2. Unit prices apply to authorized additions to and deletions from the Work as authorized by Change Orders.

B. General: Unit prices include the cost of preparing existing construction to receive the work indicated and costs of field quality control required for units of work completed.

1.5 PREINSTALLATION MEETINGS

A. Preinstallation Conference: Conduct conference virtually or at Project Site located at 93 Joyce Kilmer Ave, New Brunswick, NJ 08901.

1. Review methods and procedures related to concrete maintenance including, but not limited to, the following:

a. Verify concrete-maintenance specialist's personnel, equipment, and facilities needed to make progress and avoid delays.
b. Materials, material application, sequencing, tolerances, and required clearances.
c. Quality-control program.
d. Coordination with building occupants.

1.6 ACTION SUBMITTALS

A. Product Data: For each type of product.

1. Include construction details, material descriptions, chemical composition, physical properties, test data, and mixing, preparation, and application instructions.

B. Samples: Cured Samples for each exposed product and for each color and texture specified, in manufacturer's standard size appropriate for each type of work.

C. Samples for Initial Selection: Cured Samples for each exposed product and for each color and texture.

1. Include sets of patching-material Samples in the form of briquettes, at least 3 inches long by 1-1/2 inches wide representative of the range of concrete colors on the building. Document each Sample with product, mix, and or other information necessary to replicate it.
2. Include sets of Samples for epoxy crack-injection adhesive and capping adhesive in the form of injection-treated, whole, dense concrete block or brick units representative of the range of required adhesive colors.
3. Include sets of polymer-overlay Samples in the form of treated cementitious tiles at least 4 inches long by 4 inches wide representative of the range of required colors and textures.
4. Include sets of polymer-sealer Samples in the form of treated cementitious tiles at least 4 inches long by 4 inches wide representative of the range of required colors and textures.
5. Have each set of Samples contain a close color range of at least three Samples of different mixes of materials that match the variations in existing, adjacent concrete when cured and dry.

D. Samples for Verification: Cured Samples for each exposed product and for each color and texture specified.

1. Include Samples of each required type, color, and texture of patching material in the form of patches in drilled holes or sawed joints in sample concrete representative of the range of concrete colors on the building.
2. Include Samples of epoxy crack-injection in the form of injection-treated, whole, dense concrete block or brick units representative of the range of required adhesive colors.
3. Include Samples of each required type, color, and texture of polymer-overlay material in the form of cementitious tiles at least 8 inches long by 8 inches wide.
4. Include Samples of each required type, color, and texture of polymer-sealer material in the form of cementitious tiles at least 8 inches long by 8 inches wide.

1.7 INFORMATIONAL SUBMITTALS

A. Qualification Data: For concrete-maintenance specialist and manufacturers.

B. Material Certificates: For each type of portland cement and aggregate supplied for mixing or adding to products at Project site.

C. Product Test Reports: For each manufactured bonding agent, cementitious patching mortar, joint-filler, crack-injection adhesive, polymer overlay, polymer sealer, and composite structural reinforcement, for tests performed by manufacturer and witnessed by a qualified testing agency.

D. Field quality-control reports.

E. Quality-Control Program: Submit before work begins.

1.8 QUALITY ASSURANCE

A. Manufacturer Qualifications: Each manufactured bonding-agent, packaged patching-mortar, crack-injection-adhesive, and corrosion-inhibiting-treatment manufacturer shall employ factory-authorized service representatives who are available for consultation and Project-site inspection and on-site assistance.

B. Concrete-Maintenance Specialist Qualifications: Engage an experienced concrete-maintenance firm that employs installers and supervisors who are trained and approved by manufacturer to apply packaged patching-mortar, crack-injection adhesive, and corrosion-inhibiting treatments to perform work of this Section. Firm shall have completed work similar in material, design, and extent to that indicated for this Project with a record of successful in-service performance. Experience in only installing or patching new concrete is insufficient experience for concrete-maintenance work.

1. Field Supervision: Concrete-maintenance specialist firm shall maintain experienced full-time supervisors on Project site during times that concrete-maintenance work is in progress.

C. Quality-Control Program: Prepare a written plan for concrete maintenance to systematically demonstrate the ability of personnel to properly perform maintenance work, including each phase or process, protection of surrounding materials during operations, and control of debris and runoff during the Work. Describe in detail materials, methods, equipment, and sequence of operations to be used for each phase of the Work.

D. Mockups: Build mockups to demonstrate aesthetic effects and to set quality standards for materials and execution.

1. Concrete Removal and Patching: Remove and repair an area of approximately 100 sq. in. of deteriorated concrete deck.
2. Epoxy Crack Injection: Perform epoxy crack injection in two separate areas, each approximately 48 inches long as indicated on Drawings.
3. Approval of mockups does not constitute approval of deviations from the Contract Documents contained in mockups unless Architect specifically approves such deviations in writing.
4. Subject to compliance with requirements, approved mockups may become part of the completed Work if undisturbed at time of Substantial Completion.

1.9 DELIVERY, STORAGE, AND HANDLING

A. Comply with manufacturer's written instructions for minimum and maximum temperature requirements and other conditions for storage.

B. Store cementitious materials off the ground, under cover, and in a dry location.

C. Store aggregates covered and in a dry location; maintain grading and other required characteristics and prevent contamination.

1.10 FIELD CONDITIONS

A. Environmental Limitations for Epoxies: Do not apply when air and substrate temperatures are outside limits permitted by manufacturer. During hot weather, cool epoxy components before mixing, store mixed products in shade, and cool unused mixed products to retard setting. Do not apply to wet substrates unless approved by manufacturer.

1. Use only Class A epoxies when substrate temperatures are below or are expected to go below 40 deg F within eight hours.
2. Use only Class A or B epoxies when substrate temperatures are below or are expected to go below 60 deg F within eight hours.
3. Use only Class C epoxies when substrate temperatures are above and are expected to stay above 60 deg F for eight hours.

B. Cold-Weather Requirements for Cementitious Materials: Do not apply unless concrete-surface and air temperatures are above 40 deg F and will remain so for at least 48 hours after completion of Work.

C. Cold-Weather Requirements for Cementitious Materials: Comply with the following procedures:

1. When air temperature is below 40 deg F, heat patching-material ingredients and existing concrete to produce temperatures between 40 and 90 deg F.
2. When mean daily air temperature is between 25 and 40 deg F, cover completed Work with weather-resistant insulating blankets for 48 hours after repair or provide enclosure and heat to maintain temperatures above 32 deg F within the enclosure for 48 hours after repair.
3. When mean daily air temperature is below 25 deg F, provide enclosure and heat to maintain temperatures above 32 deg F within the enclosure for 48 hours after repair.

D. Hot-Weather Requirements for Cementitious Materials: Protect repair work when temperature and humidity conditions produce excessive evaporation of water from patching materials. Provide artificial shade and wind breaks, and use cooled materials as required. Do not apply to substrates with temperatures of 90 deg F and above.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

A. Source Limitations: For repair products, obtain each color, grade, finish, type, and variety of product from single source and from single manufacturer with resources to provide products of consistent quality in appearance and physical properties.

2.2 BONDING AGENTS

A. Epoxy-Modified, Cementitious Bonding and Anticorrosion Agent: Manufactured product that consists of water-insensitive epoxy adhesive, portland cement, and water-based solution of corrosion-inhibiting chemicals that forms a protective film on steel reinforcement.

1. Sika Armatec – 110 EpoCem
2. Euclid Duralprep A.C.
3. Mapei Planibond 3C
4. Kaufman SurePoxy HM EPL

B. Mortar Scrub Coat: Mix consisting of 1 part portland cement and 1 part fine aggregate complying with ASTM C 144 except 100 percent passing a No. 16 sieve.

2.3 PATCHING MORTAR

A. Patching Mortar Requirements:

1. Only use patching mortars that are recommended by manufacturer for each applicable horizontal, vertical, or overhead use orientation.
2. Color and Aggregate Texture: Provide patching mortar and aggregates of colors and sizes necessary to produce patching mortar that matches existing, adjacent, exposed concrete. Blend several aggregates if necessary to achieve suitable matches.
3. Coarse Aggregate for Patching Mortar: ASTM C 33/C 33M, washed aggregate, Size No. 8, Class 5S. Add to patching-mortar mix only as permitted by patching-mortar manufacturer.

B. Job-Mixed Patching Mortar: 1 part portland cement and 2-1/2 parts fine aggregate complying with ASTM C 144, except 100 percent passing a No. 16 sieve.

C. Cementitious Patching Mortar Drawing S-200: Packaged, dry mix for repair of concrete.

1. SIKA SikaTop – 123 Plus or Euclid Eucocrete or Mapei Planitop 25
2. Compressive Strength: Not less than 5000 psi at 28 days when tested according to ASTM C 109/C 109M.

2.4 PREPLACED CONCRETE MATERIALS

A. Preplaced Aggregate: Washed aggregate, ASTM C 33/C 33M, Class 5S, with 100 percent passing a 1-1/2-inch sieve, 95 to 100 percent passing a 1-inch sieve, 40 to 80 percent passing a 3/4-inch sieve, zero to 15 percent passing a 1/2-inch sieve, and zero to 2 percent passing a 3/8-inch.

B. Fine Aggregate for Grout: Fine aggregate according to ASTM C 33/C 33M, but with 100 percent passing a No. 8 (2.36-mm) sieve, 95 to 100 percent passing a No. 16 sieve, 55 to 80 percent passing a No. 30 sieve, 30 to 55 percent passing a No. 50 sieve, 10 to 30 percent passing a No. 100 sieve, zero to 10 percent passing a No. 200 sieve, and having a fineness modulus of 1.30 to 2.10.

C. Grout Fluidifier for Grout: ASTM C 937.

D. Pozzolans for Grout: ASTM C 618.

2.5 EPOXY CRACK-INJECTION MATERIALS

A. Epoxy Crack-Injection Adhesive: ASTM C 881/C 881M, bonding system Type IV at structural locations and where indicated, Type I at other locations; free of VOCs.

1. Sika SikaDur 33 or Mapei Planibond Hi-Mod Gel, Kaufman SurePoxy HMLV
2. Capping Adhesive: Product manufactured for use with crack-injection adhesive by same manufacturer.
3. Color: Provide epoxy crack-injection adhesive and capping adhesive as indicated by manufacturer's designations and that blend with existing, adjacent concrete and do not stain concrete surface as selected by Architect from full range of industry colors.

2.6 CORROSION-INHIBITING MATERIALS

A. Corrosion-Inhibiting Treatment: Waterborne solution of alkaline corrosion-inhibiting chemicals for concrete-surface application that penetrates concrete by diffusion and forms a protective film on steel reinforcement. Use product manufactured by same manufacturer of patching repair mortar.

2.7 MISCELLANEOUS MATERIALS

A. Portland Cement: ASTM C 150/C 150M, Type I, II, or III unless otherwise indicated.

B. Water: Potable.

2.8 MIXES

A. General: Mix products, in clean containers, according to manufacturer's written instructions.

1. Do not add water, thinners, or additives unless recommended by manufacturer.
2. When practical, use manufacturer's premeasured packages to ensure that materials are mixed in proper proportions. When premeasured packages are not used, measure ingredients using graduated measuring containers; do not estimate quantities or use shovel or trowel as unit of measure.
3. Do not mix more materials than can be used within time limits recommended by manufacturer. Discard materials that have begun to set.

B. Mortar Scrub Coat: Mix dry ingredients with enough water to provide consistency of thick cream.

C. Dry-Pack Mortar: Mix required type(s) of patching-mortar dry ingredients with just enough liquid to form damp cohesive mixture that can be squeezed by hand into a ball but is not plastic.

D. Grout for Use with Preplaced Aggregate: Proportion according to ASTM C 938. Add grout fluidifier to mixing water followed by portland cement, pozzolan, and fine aggregate.

PART 3 - EXECUTION

3.1 CONCRETE-MAINTENANCE SPECIALIST

A. Concrete-Maintenance Specialist Firms: Subject to compliance with requirements, have concrete maintenance performed by firms with at least five-years of experience in concrete repair and strengthening work.

3.2 CONCRETE MAINTENANCE

A. Have concrete-maintenance work performed only by qualified concrete-maintenance specialist.

B. Comply with manufacturers' written instructions for surface preparation and product application.

3.3 EXAMINATION

A. Notify Architect seven days in advance of dates when areas of deteriorated or delaminated concrete and deteriorated reinforcing bars will be located.

B. Locate areas of deteriorated or delaminated concrete using hammer or chain-drag sounding and mark boundaries. Mark areas for removal by simplifying and squaring off boundaries. At columns and walls make boundaries level and plumb unless otherwise indicated.

C. Pachometer Testing: Locate at least three reinforcing bars using a pachometer, and drill test holes to determine depth of cover. Calibrate pachometer using depth of cover measurements, and verify depth of cover in removal areas using pachometer.

D. Perform surveys as the Work progresses to detect hazards resulting from concrete-maintenance work.

3.4 PREPARATION

A. Ensure that supervisory personnel are on-site and on duty when concrete maintenance work begins and during its progress.

B. Protect persons, motor vehicles, surrounding surfaces of building being repaired, building site, plants, and surrounding buildings from harm resulting from concrete maintenance work.

1. Comply with each product manufacturer's written instructions for protections and precautions. Protect against adverse effects of products and procedures on people and adjacent materials, components, and vegetation.
2. Use only proven protection methods appropriate to each area and surface being protected.
3. Provide temporary barricades, barriers, and directional signage to exclude public from areas where concrete maintenance work is being performed.
4. Erect temporary protective covers over walkways and at points of pedestrian and vehicular entrance and exit that must remain in service during course of concrete maintenance work.
5. Contain dust and debris generated by concrete maintenance work and prevent it from reaching the public or adjacent surfaces.

6. Use water-mist sprinkling and other wet methods to control dust only with adequate, approved procedures and equipment that ensure that such water will not create a hazard or adversely affect other building areas or materials.
7. Protect floors and other surfaces along haul routes from damage, wear, and staining.
8. Provide supplemental sound-control treatment to isolate removal and dismantling work from other areas of the building.
9. Protect adjacent surfaces and equipment by covering them with heavy polyethylene film and waterproof masking tape or a liquid strippable masking agent. If practical, remove items, store, and reinstall after potentially damaging operations are complete.
10. Neutralize and collect alkaline and acid wastes for disposal off Owner's property.
11. Dispose of debris and runoff from operations by legal means and in a manner that prevents soil erosion, undermining of paving and foundations, damage to landscaping, and water penetration into building interiors.

C. Existing Drains: Prior to the start of work in an area, test drainage system to ensure that it is functioning properly. Notify Architect immediately of inadequate drainage or blockage. Do not begin work in an area until the drainage system is in working order.

1. Prevent solids such as aggregate or mortar residue from entering the drainage system. Clean out drains and drain lines that become sluggish or blocked by sand or other materials resulting from concrete maintenance work.
2. Protect drains from pollutants. Block drains or filter out sediments, allowing only clean water to pass.

D. Preparation for Concrete Removal: Examine construction to be repaired to determine best methods to safely and effectively perform concrete maintenance work. Examine adjacent work to determine what protective measures will be necessary. Make explorations, probes, and inquiries as necessary to determine condition of construction to be removed in the course of repair.

1. Verify that affected utilities have been disconnected and capped.
2. Inventory and record the condition of items to be removed for reinstallation or salvage.
3. Provide and maintain shoring, bracing, and temporary structural supports as required to preserve stability and prevent unexpected or uncontrolled movement, settlement, or collapse of construction being demolished and construction and finishes to remain. Strengthen or add new supports when required during progress of removal work.

E. Reinforcing-Bar Preparation: Remove loose and flaking rust from exposed reinforcing bars by high-pressure water cleaning, abrasive blast cleaning, needle scaling or wire brushing until only tightly adhered light rust remains.

1. Where section loss of reinforcing bar is more than 20 percent, cut bars and remove and replace as indicated on Drawings.
2. Remove additional concrete as necessary to provide at least 3/4-inch clearance at existing and replacement bars.
3. Splice replacement bars to existing bars according to ACI 318 by lapping, welding, or using mechanical couplings.

F. Preparation of Floor Joints for Repair: Saw-cut joints full width to edges and depth of spalls, but not less than 1 inch deep. Clean out debris and loose concrete; vacuum or blow clear with compressed air.

G. Surface Preparation for Corrosion-Inhibiting Treatment: Clean concrete to remove dirt, oils, films, and other materials detrimental to treatment application.

1. Use low-pressure water cleaning, detergent scrubbing, or sand blasting.
2. Allow surface to dry before applying corrosion-inhibiting treatment.

H. Surface Preparation for Overlays:

1. Remove delaminated material and deteriorated concrete surface material.
2. Roughen surface of concrete to produce a surface profile matching CSP 7 according to ICRI 310.2.
3. Use sand blasting, shot blasting, scarifying, needle scaling, high-pressure water jetting, scabbling, flame blasting, or milling.
4. Sweep and vacuum roughened surface to remove debris[followed by low-pressure water cleaning].

3.5 CONCRETE REMOVAL

A. Do not overload structural elements with debris.

B. Saw-cut perimeter of areas indicated for removal to a depth of at least 1/2 inch. Make cuts perpendicular to concrete surfaces and no deeper than cover on reinforcement.

C. Remove deteriorated and delaminated concrete by breaking up and dislodging from reinforcement.

D. Remove additional concrete if necessary to provide a depth of removal of at least 1 inch over entire removal area.

E. Where half or more of the perimeter of reinforcing bar is exposed, bond between reinforcing bar and surrounding concrete is broken, or reinforcing bar is corroded, remove concrete from entire perimeter of bar and to provide at least 3/4-inch clearance around bar.

F. Test areas where concrete has been removed by tapping with hammer and remove additional concrete until unsound and disbonded concrete is completely removed.

G. Provide surfaces with a fractured profile of at least 1/8 inch that are approximately perpendicular or parallel to original concrete surfaces. At columns and walls, make top and bottom surfaces level unless otherwise directed.

H. Thoroughly clean removal areas of loose concrete, dust, and debris.

3.6 BONDING AGENT APPLICATION

A. Epoxy-Modified, Cementitious Bonding and Anticorrosion Agent: Apply to reinforcing bars and concrete by stiff brush or hopper spray according to manufacturer's written instructions. Apply to reinforcing bars in two coats, allowing first coat to dry two to three hours before applying second coat. Allow to dry before placing patching mortar or concrete.

B. Mortar Scrub Coat for Job-Mixed Patching Mortar and Concrete: Dampen repair area and surrounding concrete 6 inches beyond repair area. Remove standing water and apply scrub coat with a brush,

scrubbing it into surface and thoroughly coating repair area. If scrub coat dries, recoat before placing patching mortar or concrete.

C. Slurry Coat for Cementitious Patching Mortar: Wet substrate thoroughly and then remove standing water. Scrub a slurry of neat patching mortar mixed with latex bonding agent into substrate, filling pores and voids.

3.7 PATCHING MORTAR APPLICATION

A. Place patching mortar as specified in this article unless otherwise recommended in writing by manufacturer or where dry-pack mortar is indicated.

1. Provide forms where necessary to confine patch to required shape.
2. Wet substrate and forms thoroughly and then remove standing water.

B. Pretreatment: Apply specified bonding agent and slurry coat.

C. General Placement: Place patching mortar by troweling toward edges of patch to force intimate contact with edge surfaces. For large patches, fill edges first and then work toward center, always troweling toward edges of patch. At fully exposed reinforcing bars, force patching mortar to fill space behind bars by compacting with trowel from sides of bars.

D. Vertical Patching: Place material in lifts of not more than 3 inches or less than 1/8 inch. Do not feather edge.

E. Overhead Patching: Place material in lifts of not more than 2 inches or less than 1/8 inch. Do not feather edge.

F. Consolidation: After each lift is placed, consolidate material and screed surface.

G. Multiple Lifts: Where multiple lifts are used, score surface of lifts to provide a rough surface for placing subsequent lifts. Allow each lift to reach final set before placing subsequent lifts.

H. Finishing: Allow surfaces of lifts that are to remain exposed to become firm and then finish to a rough surface with a broom or burlap drag or [surface matching adjacent concrete.

I. Curing: Wet-cure cementitious patching materials, including polymer-modified cementitious patching materials, for not less than seven days by water-fog spray or water-saturated absorptive cover.

3.8 DRY-PACK-MORTAR APPLICATION

A. Use dry-pack mortar for deep cavities and where indicated. Place as specified in this article unless otherwise recommended in writing by manufacturer.

1. Provide forms where necessary to confine patch to required shape.
2. Wet substrate and forms thoroughly and then remove standing water.

B. Pretreatment: Apply specified bonding agent and slurry coat.

C. Place dry-pack mortar into cavity by hand and compact tightly into place. Do not place more material at a time than can be properly compacted. Continue placing and compacting until patch is approximately level with surrounding surface.

D. After cavity is filled and patch is compacted, trowel surface to match profile and finish of surrounding concrete. A thin coat of patching mortar may be troweled into the surface of patch to help obtain required finish.

E. Wet-cure patch for not less than seven days by water-fog spray or water-saturated absorptive cover.

3.9 EPOXY CRACK INJECTION

A. Clean cracks with oil-free compressed air or low-pressure water to remove loose particles.

B. Clean areas to receive capping adhesive of oil, dirt, and other substances that would interfere with bond.

C. Place injection ports as recommended by epoxy manufacturer, spacing no farther apart than thickness of member being injected. Seal injection ports in place with capping adhesive.

D. Seal cracks at exposed surfaces with a ribbon of capping adhesive at least 1/4 inch thick by 1 inch wider than crack.

E. Inject cracks wider than 0.003 inch to a depth of 8 inches.

F. Inject epoxy adhesive, beginning at widest part of crack and working toward narrower parts. Inject adhesive into ports to refusal, capping adjacent ports when they extrude epoxy. Cap injected ports and inject through adjacent ports until crack is filled.

G. After epoxy adhesive has set, remove injection ports and grind surfaces smooth.

3.10 CORROSION-INHIBITING-TREATMENT APPLICATION

A. Apply corrosion-inhibiting treatment to surfaces indicated on Drawings and extent where treatment shall be applied.

B. Apply by brush, roller, or airless spray in two coats at manufacturer's recommended application rate. Remove film of excess treatment by high-pressure washing before patching treated concrete.

3.11 FIELD QUALITY CONTROL

A. Testing Agency: Owner will engage a qualified testing agency to perform tests and inspections.

B. Perform the following tests and inspections:

1. Packaged, Cementitious Patching Mortar: Five (5) randomly selected sets of samples for each type of mortar required, tested according to ASTM C 928/C 928M.
2. Job-Mixed Patching Mortar: Five (5) randomly selected sets of samples for each type of mortar required, tested for compressive strength according to ASTM C 109/C 109M.

3. Epoxy Crack Injection: Core-drilled samples to verify proper installation.

    a. Testing Frequency: Three samples from mockup and one sample for each 100 feet of crack injected.
    b. Where samples are taken, refill holes with epoxy mortar.

C. Product will be considered defective if it does not pass tests and inspections.

D. Prepare test and inspection reports.

E. Manufacturers Field Service: Engage manufacturers' factory-authorized service representatives for consultation and Project-site inspection and to provide on-site assistance when requested by Architect.

1. Have manufacturers' factory-authorized service representatives perform the following number of Project-site inspections to observe progress and quality of the Work, distributed over the period of product installation, regardless of on-site assistance requested by Architect:

    a. Bonding-Agent and Packaged Patching-Mortar Installation: Three inspections.
    b. Crack-Injection-Adhesive Preparation and Installation: Four inspections.
    c. Corrosion-Inhibiting Treatment: Two inspections.

END OF SECTION 03 0130

SECTION 05 1200 - STRUCTURAL STEEL FRAMING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

A. Section Includes:

1. Structural steel.
2. Grout.

B. Related Requirements:

1. Section 055000 "Metal Fabrications" for miscellaneous steel fabrications and other steel items not defined as structural steel.
2. Section 099123 "Interior Painting" and Section 099600 "High-Performance Coatings" for surface-preparation and priming requirements.

1.3 DEFINITIONS

A. Structural Steel: Elements of the structural frame indicated on Drawings and as described in AISC 303, "Code of Standard Practice for Steel Buildings and Bridges."

1.4 COORDINATION

A. Coordinate selection of shop primers with topcoats to be applied over them. Comply with paint and coating manufacturers' written recommendations to ensure that shop primers and topcoats are compatible with one another.

B. Coordinate installation of anchorage items to be embedded in or attached to other construction without delaying the Work. Provide setting diagrams, sheet metal templates, instructions, and directions for installation.

1.5 PREINSTALLATION MEETINGS

A. Preinstallation Conference: Conduct conference either virtually or at Project site located at 93 Joyce Kilmer Avenue, New Brunswick, NJ 08901.

1.6 ACTION SUBMITTALS

A. Product Data: For each type of product.

B. Shop Drawings: Show fabrication of structural-steel components.

1. Include details of cuts, connections, splices, camber, holes, and other pertinent data.
2. Include embedment Drawings.
3. Indicate welds by standard AWS symbols, distinguishing between shop and field welds, and show size, length, and type of each weld. Show backing bars that are to be removed and supplemental fillet welds where backing bars are to remain.
4. Indicate type, size, and length of bolts, distinguishing between shop and field bolts. Identify pretensioned and slip-critical, high-strength bolted connections.

C. Welding Procedure Specifications (WPSs) and Procedure Qualification Records (PQRs): Provide according to AWS D1.1, "Structural Welding Code - Steel," for each welded joint whether prequalified or qualified by testing, including the following:

1. Power source (constant current or constant voltage).
2. Electrode manufacturer and trade name, for welds.

D. Delegated-Design Submittal: For structural-steel connections indicated to comply with design loads, include analysis data signed and sealed by the qualified professional engineer responsible for their preparation.

1.7 INFORMATIONAL SUBMITTALS

A. Qualification Data: For Installer, fabricator, and shop-painting applicators.

B. Welding certificates.

C. Paint Compatibility Certificates: From manufacturers of topcoats applied over shop primers, certifying that shop primers are compatible with topcoats.

D. Mill test reports for structural steel, including chemical and physical properties.

E. Product Test Reports: For the following:

1. Bolts, nuts, and washers including mechanical properties and chemical analysis.
2. Direct-tension indicators.
3. Tension-control, high-strength, bolt-nut-washer assemblies.
4. Shop primers.
5. Nonshrink grout.

F. Survey of existing conditions.

G. Source quality-control reports.

H. Field quality-control and special inspection reports.

1.8 QUALITY ASSURANCE

A. Fabricator Qualifications: A qualified fabricator that participates in the AISC Quality Certification Program and is designated an AISC-Certified Plant, Category STD, or is accredited by the IAS Fabricator Inspection Program for Structural Steel (AC 172).

B. Installer Qualifications: A qualified installer who participates in the AISC Quality Certification Program and is designated an AISC-Certified Erector, Category CSE.

C. Shop-Painting Applicators: Qualified according to AISC's Sophisticated Paint Endorsement P1 or to SSPC-QP 3, "Standard Procedure for Evaluating Qualifications of Shop Painting Applicators."

D. Welding Qualifications: Qualify procedures and personnel according to AWS D1.1, "Structural Welding Code - Steel."

E. Comply with applicable provisions of the following specifications and documents:

1. AISC 303.
2. AISC 341 and AISC 341s1.
3. AISC 360.
4. RCSC's "Specification for Structural Joints Using ASTM A 325 or A 490 Bolts."

1.9 DELIVERY, STORAGE, AND HANDLING

A. Store materials to permit easy access for inspection and identification. Keep steel members off ground and spaced by using pallets, dunnage, or other supports and spacers. Protect steel members and packaged materials from corrosion and deterioration.

1. Do not store materials on structure in a manner that might cause distortion, damage, or overload to members or supporting structures. Repair or replace damaged materials or structures as directed.

B. Store fasteners in a protected place in sealed containers with manufacturer's labels intact.

1. Fasteners may be repackaged provided Owner's testing and inspecting agency observes repackaging and seals containers.
2. Clean and relubricate bolts and nuts that become dry or rusty before use.
3. Comply with manufacturers' written recommendations for cleaning and lubricating ASTM F 1852 fasteners and for retesting fasteners after lubrication.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

A. Connections: Provide details of connections required by the Contract Documents to be selected or completed by structural-steel fabricator, including comprehensive engineering analysis by a qualified professional engineer, to withstand loads indicated and comply with other information and restrictions indicated.

1. Select and complete connections using schematic details indicated and AISC 360.
2. Use Load and Resistance Factor Design or Allowable Strength Design.

2.2 STRUCTURAL-STEEL MATERIALS

A. W-Shapes: ASTM A 992, Grade 50.

B. Channels, Angles,: ASTM A 36, Grade 36 or ASTM A 572, Grade 50

C. Plate and Bar: ASTM A 36, Grade 36 or ASTM A 572, Grade 50

D. Cold-Formed Hollow Structural Sections: ASTM A 500, Grade B, structural tubing.

E. Welding Electrodes: Comply with AWS requirements.

2.3 BOLTS, CONNECTORS, AND ANCHORS

A. High-Strength Bolts, Nuts, and Washers: ASTM A 325, Type 1, heavy-hex steel structural bolts; ASTM A 563, Grade C, heavy-hex carbon-steel nuts; and ASTM F 436, Type 1, hardened carbon-steel washers; all with plain finish.

1. Direct-Tension Indicators: ASTM F 959, Type 325, compressible-washer type with plain finish.

B. High-Strength Bolts, Nuts, and Washers: ASTM A 490, Type 1, heavy-hex steel structural bolts or tension-control, bolt-nut-washer assemblies with splined ends; ASTM A 563, Grade DH, heavy-hex carbon-steel nuts; and ASTM F 436, Type 1, hardened carbon-steel washers with plain finish.

1. Direct-Tension Indicators: ASTM F 959, Type 490, compressible-washer type with plain finish.

C. Zinc-Coated High-Strength Bolts, Nuts, and Washers: ASTM A 325, Type 1, heavy-hex steel structural bolts; ASTM A 563, Grade DH heavy-hex carbon-steel nuts; and ASTM F 436, Type 1, hardened carbon-steel washers.

1. Finish: Hot-dip or mechanically deposited zinc coating.
2. Direct-Tension Indicators: ASTM F 959, Type 325, compressible-washer type with mechanically deposited zinc coating finish.

D. Tension-Control, High-Strength Bolt-Nut-Washer Assemblies: ASTM F 1852, Type 1, round head assemblies consisting of steel structural bolts with splined ends, heavy-hex carbon-steel nuts, and hardened carbon-steel washers.

1. Finish: Plain or Mechanically deposited zinc coating.

E. Threaded Rods: ASTM A 36, Grade 36.

1. Nuts: ASTM A 563 heavy-hex carbon steel.
2. Washers: ASTM F 436, Type 1, hardened.
3. Finish: Hot-dip zinc coating, ASTM A 153, Class C or Mechanically deposited zinc coating, ASTM B 695, Class 50.

2.4 PRIMER

A. Primer: Fabricator's standard lead- and chromate-free, nonasphaltic, rust-inhibiting primer complying with MPI#79 and compatible with topcoat.

B. Galvanizing Repair Paint: MPI#18, MPI#19, or SSPC-Paint 20 conforming to ASTM A 780.

2.5 GROUT

A. Nonmetallic, Shrinkage-Resistant Grout: ASTM C 1107/C 1107M, factory-packaged, nonmetallic aggregate grout, noncorrosive and nonstaining, mixed with water to consistency suitable for application and a 30-minute working time with a minimum 28-day compressive strength of 6,000psi.

2.6 FABRICATION

A. Structural Steel: Fabricate and assemble in shop to greatest extent possible. Fabricate according to AISC 303, "Code of Standard Practice for Steel Buildings and Bridges," and to AISC 360.

1. Camber structural-steel members where indicated.
2. Fabricate beams with rolling camber up.
3. Identify high-strength structural steel according to ASTM A 6/A 6M and maintain markings until structural steel has been erected.
4. Mark and match-mark materials for field assembly.
5. Complete structural-steel assemblies, including welding of units, before starting shop-priming operations.

B. Thermal Cutting: Perform thermal cutting by machine to greatest extent possible.

1. Plane thermally cut edges to be welded to comply with requirements in AWS D1.1/D1.1M.

C. Bolt Holes: Cut, drill, mechanically thermal cut, or punch standard bolt holes perpendicular to metal surfaces.

D. Finishing: Accurately finish ends of columns and other members transmitting bearing loads.

E. Cleaning: Clean and prepare steel surfaces that are to remain unpainted according to SSPC-SP 2, "Hand Tool Cleaning."

F. Holes: Provide holes required for securing other work to structural steel and for other work to pass through steel members.

1. Cut, drill, or punch holes perpendicular to steel surfaces. Do not thermally cut bolt holes or enlarge holes by burning.
2. Baseplate Holes: Cut, drill, mechanically thermal cut, or punch holes perpendicular to steel surfaces.
3. Weld threaded nuts to framing and other specialty items indicated to receive other work.

2.7 SHOP CONNECTIONS

A. High-Strength Bolts: Shop install high-strength bolts according to RCSC's "Specification for Structural Joints Using ASTM A 325 or A 490 Bolts" for type of bolt and type of joint specified.

1. Joint Type: Snug tightened.

B. Weld Connections: Comply with AWS D1.1 for tolerances, appearances, welding procedure specifications, weld quality, and methods used in correcting welding work.

1. Assemble and weld built-up sections by methods that maintain true alignment of axes without exceeding tolerances in AISC 303 for mill material.

2.8 SHOP PRIMING

A. Shop prime steel surfaces except the following:

1. Surfaces embedded in concrete or mortar. Extend priming of partially embedded members to a depth of 2 inches.
2. Surfaces to be field welded.
3. Surfaces of high-strength bolted.
4. Surfaces to receive sprayed fire-resistive materials (applied fireproofing).
5. Galvanized surfaces.
6. Surfaces enclosed in interior construction.

B. Surface Preparation: Clean surfaces to be painted. Remove loose rust and mill scale and spatter, slag, or flux deposits. Prepare surfaces according to the following specifications and standards:

1. SSPC-SP 2, "Hand Tool Cleaning."
2. SSPC-SP 3, "Power Tool Cleaning."
3. SSPC-SP 7/NACE No. 4, "Brush-off Blast Cleaning."
4. SSPC-SP 11, "Power Tool Cleaning to Bare Metal."
5. SSPC-SP 14/NACE No. 8, "Industrial Blast Cleaning."
6. SSPC-SP 6/NACE No. 3, "Commercial Blast Cleaning."
7. SSPC-SP 10/NACE No. 2, "Near-White Blast Cleaning."
8. SSPC-SP 5/NACE No. 1, "White Metal Blast Cleaning."
9. SSPC-SP 8, "Pickling."

C. Priming: Immediately after surface preparation, apply primer according to manufacturer's written instructions and at rate recommended by SSPC to provide a minimum dry film thickness of 1.5 mils. Use priming methods that result in full coverage of joints, corners, edges, and exposed surfaces.

1. Stripe paint corners, crevices, bolts, welds, and sharp edges.
2. Apply two coats of shop paint to surfaces that are inaccessible after assembly or erection. Change color of second coat to distinguish it from first.

D. Painting: Prepare steel and apply a one-coat, nonasphaltic primer complying with SSPC-PS Guide 7.00, "Painting System Guide 7.00: Guide for Selecting One-Coat Shop Painting Systems," to provide a dry film thickness of not less than 1.5 mils.

2.9 GALVANIZING

A. Hot-Dip Galvanized Finish: Apply zinc coating by the hot-dip process to structural steel according to ASTM A 123/A 123M.

1. Fill vent and drain holes that are exposed in the finished Work unless they function as weep holes, by plugging with zinc solder and filing off smooth.
2. Galvanize lintels and shelf angles attached to structural-steel frame and located in exterior walls.

2.10 SOURCE QUALITY CONTROL

A. Testing Agency: Owner will engage a qualified testing agency to perform shop tests and inspections.

1. Provide testing agency with access to places where structural-steel work is being fabricated or produced to perform tests and inspections.

B. Bolted Connections: Inspect and test shop-bolted connections according to RCSC's "Specification for Structural Joints Using ASTM A 325 or A 490 Bolts."

C. Welded Connections: Visually inspect shop-welded connections according to AWS D1.1 and the following inspection procedures, at testing agency's option:

1. Liquid Penetrant Inspection: ASTM E 165.
2. Magnetic Particle Inspection: ASTM E 709; performed on root pass and on finished weld. Cracks or zones of incomplete fusion or penetration are not accepted.
3. Ultrasonic Inspection: ASTM E 164.
4. Radiographic Inspection: ASTM E 94.

D. Prepare test and inspection reports.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Verify, with certified steel erector present, elevations of concrete- and masonry-bearing surfaces and locations of anchor rods, bearing plates, and other embedments for compliance with requirements.

1. Prepare a certified survey of existing conditions. Include bearing surfaces, anchor rods, bearing plates, and other embedments showing dimensions, locations, angles, and elevations.

B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

A. Provide temporary shores, guys, braces, and other supports during erection to keep structural steel secure, plumb, and in alignment against temporary construction loads and loads equal in intensity to

design loads. Remove temporary supports when permanent structural steel, connections, and bracing are in place unless otherwise indicated.

1. Do not remove temporary shoring supporting composite deck construction until cast-in-place concrete has attained its design compressive strength.

3.3 ERECTION

A. Set structural steel accurately in locations and to elevations indicated and according to AISC 303 and AISC 360.

B. Baseplates, Bearing Plates, and Leveling Plates: Clean concrete- and masonry-bearing surfaces of bond-reducing materials, and roughen surfaces prior to setting plates. Clean bottom surface of plates.

1. Set plates for structural members on wedges, shims, or setting nuts as required.
2. Weld plate washers to top of baseplate.
3. Snug-tighten anchor rods after supported members have been positioned and plumbed. Do not remove wedges or shims but, if protruding, cut off flush with edge of plate before packing with grout.
4. Promptly pack grout solidly between bearing surfaces and plates so no voids remain. Neatly finish exposed surfaces; protect grout and allow to cure. Comply with manufacturer's written installation instructions for shrinkage-resistant grouts.

C. Maintain erection tolerances of structural steel within AISC 303, "Code of Standard Practice for Steel Buildings and Bridges."

D. Align and adjust various members that form part of complete frame or structure before permanently fastening. Before assembly, clean bearing surfaces and other surfaces that are in permanent contact with members. Perform necessary adjustments to compensate for discrepancies in elevations and alignment.

1. Level and plumb individual members of structure.
2. Make allowances for difference between temperature at time of erection and mean temperature when structure is completed and in service.

E. Splice members only where indicated.

F. Do not use thermal cutting during erection unless approved by Architect. Finish thermally cut sections within smoothness limits in AWS D1.1.

G. Do not enlarge unfair holes in members by burning or using drift pins. Ream holes that must be enlarged to admit bolts.

H. Shear Connectors: Prepare steel surfaces as recommended by manufacturer of shear connectors. Use automatic end welding of headed-stud shear connectors according to AWS D1.1 and manufacturer's written instructions.

3.4 FIELD CONNECTIONS

A. High-Strength Bolts: Install high-strength bolts according to RCSC's "Specification for Structural Joints Using ASTM A 325 or A 490 Bolts" for type of bolt and type of joint specified.

1. Joint Type: Snug tightened.

B. Weld Connections: Comply with AWS D1.1 for tolerances, appearances, welding procedure specifications, weld quality, and methods used in correcting welding work.

1. Comply with AISC 303 and AISC 360 for bearing, alignment, adequacy of temporary connections, and removal of paint on surfaces adjacent to field welds.
2. Remove backing bars or runoff tabs, where indicated, back gouge, and grind steel smooth.
3. Assemble and weld built-up sections by methods that maintain true alignment of axes without exceeding tolerances in AISC 303, "Code of Standard Practice for Steel Buildings and Bridges," for mill material.

3.5 FIELD QUALITY CONTROL

A. Special Inspections: Owner will engage a qualified special inspector to perform the following special inspections:

1. Verify structural-steel materials and inspect steel frame joint details.
2. Verify weld materials and inspect welds.
3. Verify connection materials and inspect high-strength bolted connections.

B. Testing Agency: Owner will engage a qualified testing agency to perform tests and inspections.

C. Bolted Connections: Inspect and test bolted connections according to RCSC's "Specification for Structural Joints Using ASTM A 325 or A 490 Bolts."

D. Welded Connections: Visually inspect field welds according to AWS D1.1.

1. In addition to visual inspection, test and inspect field welds according to AWS D1.1 and the following inspection procedures, at testing agency's option:

a. Liquid Penetrant Inspection: ASTM E 165.
b. Magnetic Particle Inspection: ASTM E 709; performed on root pass and on finished weld. Cracks or zones of incomplete fusion or penetration are not accepted.
c. Ultrasonic Inspection: ASTM E 164.
d. Radiographic Inspection: ASTM E 94.

3.6 REPAIRS AND PROTECTION

A. Galvanized Surfaces: Clean areas where galvanizing is damaged or missing and repair galvanizing to comply with ASTM A 780/A 780M.

B. Touchup Painting: Immediately after erection, clean exposed areas where primer is damaged or missing and paint with the same material as used for shop painting to comply with SSPC-PA 1 for touching up shop-painted surfaces.

1. Clean and prepare surfaces by SSPC-SP 2 hand-tool cleaning or SSPC-SP 3 power-tool cleaning.

C. Touchup Painting: Cleaning and touchup painting are specified in Section 099113 "Exterior Painting" and Section 099123 "Interior Painting."

D. Touchup Priming: Cleaning and touchup priming are specified in Section 099600 "High-Performance Coatings."

END OF SECTION 051200

SECTION 06 4116 - PLASTIC-LAMINATE-CLAD ARCHITECTURAL CABINETS

PART 1 GENERAL

1.1 SUMMARY

A. Section Includes:
1. Plastic-laminate-clad architectural casework and countertop.
2. Casework hardware and accessories.
3. Shop finishing.

1.2 DEFINITIONS

A. ANSI/AWI 0641 Surface Categories:
1. Exposed Exterior: All exterior surfaces of casework exposed to view, including:
   a. All surfaces visible when doors and drawers are closed, including knee spaces.
   b. Underside of casework bottoms located over 42 inches above the finished floor, including casework bottoms behind light valances and the bottom edge of light valances.
   c. Casework tops located below 80 inches above the finished floor.
   d. Casework tops located 80 inches and over above finish floor and visible from an upper building level or floor.
   e. Front edges of stretchers, ends, divisions, partitions, tops, and bottoms.
   f. Visible sloping casework tops.
2. Exposed Interior: All interior surfaces exposed to view in open casework or behind transparent doors, including:
   a. Shelves, including edgebanding (i.e., front edges).
   b. Divisions and partitions (excluding front edges which are defined as Exterior surfaces).
   c. Interior faces of ends (sides), backs, and bottoms, including pull-out components.
   d. Interior surfaces of casework top members located 36 inches or more above the finished floor.
   e. Interior faces of doors.
   f. Interior face of applied drawer fronts.
3. Semi-Exposed: Interior surfaces only exposed to view when doors or drawers are opened, including:
   a. Tops and bottom of shelves, including front edges and edgebanding.
   b. Divisions and partitions (excluding front edges which are defined as Exterior surfaces).
   c. Interior faces of ends (sides), backs, and bottoms; including pull-out components.
   d. Interior surfaces of casework top members located 36 inches or more above finish floor.
   e. Drawer sides, sub-fronts, backs, and bottoms.
   f. Underside of casework bottoms located between 24 inches and 42 inches above finish floor.
   g. Security panels.
   h. Drawer stretchers.
4. Concealed: Exterior and interior surfaces that are covered or not normally exposed to view, including:
   a. Toe spaces, unless otherwise specified.
   b. Sleepers, stretchers, and solid sub-tops.
   c. Underside of casework bottoms located less than 24 inches above the finished floor.

d. Flat tops of casework located 80 inches or more above the finished floor, except if visible from an upper building level or floor.
e. The three non-visible edges of adjustable shelves.
f. Underside of knee spaces, aprons, and drawer boxes that are less than 36 inches above finish floor.
g. Faces of casework ends of adjoining units that butt together.

1.3 ADMINISTRATIVE REQUIREMENTS

A. Coordination: Coordinate sizes and locations of framing, blocking, furring, installation reinforcements, and other related Work specified in other Sections to support loads imposed by installed and fully-loaded casework.

B. Preinstallation Conference: Conduct conference at Project site.

1.4 ACTION SUBMITTALS

A. Product Data: Manufacturer's specifications and technical data for the following:
1. Core material.
2. High-pressure decorative laminate.
3. Hardware.
4. Shop finishing materials.

B. Shop Drawings: Comply with AWI 100 and as follows:
1. Include dimensioned plans, elevations, sections, and attachment details.
2. Show dimensions of rough-in openings.
3. Show elevations and locations of each assembly.
4. Indicate material thickness.
5. Indicate core materials and edge treatments.
6. Show drawer locations, door locations, door swings, and hinge locations.
7. Show locations and sizes of cutouts and holes for items installed in architectural casework.
8. Show locations and sizes of furring, blocking, nailers, and anchor strips, including concealed blocking and reinforcement specified in other Sections.

C. Samples for Architect's Selection:
1. High-Pressure Decorative Laminate: Manufacturer's standard size, indicating full range of colors and patterns.
2. Edge Banding: 6-inch (152-mm) long strip of each type of edge banding required, indicating full range of colors and patterns.

D. Samples for Architects Final Approval:
1. High-Pressure Decorative Laminate Panels: 8 inches by 8 inches (200 mm by 200 mm), for each type, color, pattern, and finish selected.
2. For panel products, submit Sample with edge banding on one long edge.

1.5 INFORMATIONAL SUBMITTALS

A. Qualification Data: For manufacturer and installer.

1.6 QUALITY ASSURANCE

A. Manufacturer and Installer: Employs skilled workers who custom fabricate products similar to those required for this Project and whose products have a record of successful in-service performance.

1.7 DELIVERY, STORAGE, AND HANDLING

A. Do not deliver casework until overhead Work is completed, and painting and similar finish operations that might damage architectural casework have been completed in installation areas.

B. Store casework on a flat, level clean surface, elevated off the floor and protected from sunlight, excessive heat, cold, and moisture.

C. Store casework in areas where environmental conditions comply with requirements specified in "Field Conditions" Article.

1.8 FIELD CONDITIONS

A. Environmental Controls: Do not deliver or install casework until building is enclosed, wet-work is complete, and HVAC system is operating and maintaining temperature between 60 and 90 degrees F (16 and 32 degrees C) and relative humidity between 30 and 55 percent during the remainder of the construction period.

B. Field Measurements: Where cabinets are indicated to fit to other construction, verify dimensions of other construction by field measurements before fabrication, and indicate measurements on Shop Drawings. Coordinate fabrication schedule with construction progress to avoid delaying the Work.
   1. Locate concealed framing, blocking, and reinforcements that support cabinets by field measurements before being enclosed/concealed by construction, and indicate measurements on Shop Drawings.

PART 2 PRODUCTS

2.1 PLASTIC-LAMINATE-CLAD CASEWORK

A. Performance Requirements:
   1. Structural Performance: ANSI/AWI 0641 Duty Level 3.
   2. Aesthetic Performance: ANSI/AWI 0641 Premium Grade.

B. Provide casework in sizes, profiles, and with interior clearances indicated on Drawings.
   1. Casework Construction Type: Frameless.
   2. Door and Drawer-Front Style: Flush overlay.
   3. Pattern Direction for High-Pressure Decorative Laminate:
      a. Casework Doors: Vertical, with continuous vertical pattern matching.
      b. End Panels: Vertical.
      c. Bottoms: Side to side.
      d. Tops: Side to side.
      e. Knee Space Panels: Vertical.
      f. Aprons: Horizontal.

C. Box Construction:

1. Exposed Exterior Surfaces: High-pressure decorative laminate.
   a. Thickness: Complying with structural performance requirements specified.
   b. Edgebanding: 1/8 inch PVC, color and pattern matching adjacent face surface, square edge.
2. Exposed Interior Surfaces: Same material as exposed exterior surfaces.
   a. Thickness: Complying with structural performance requirements specified.
   b. Edgebanding: High-pressure decorative laminate, square edge.
3. Semi-Exposed Surfaces: High-pressure decorative laminate.
   a. Thickness: Complying with structural performance requirements specified.
   b. Edgebanding: 1/8 inch PVC, color and pattern matching adjacent face surface , square edge.
4. Base Cabinet Stretchers: Complying with structural performance requirements specified.
5. Nailers and Anchor Strips: Complying with structural performance requirements specified.
6. Aprons: Material and thickness to match adjacent exposed exterior casework material.
7. Security Panels: 1/4 inch thick panel product.
   a. Location: Provide above each drawer indicated to have lock.
8. Base Construction: Complying with structural performance requirements specified.
   a. Material: Manufacturer has option of the following, unless otherwise indicated on Drawings:
      1) Manufacturer's standard panel product, not less than 11/16-inch (17.5-mm) thick.
      2) Leg levelers with panel product not less than 11/16-inch (17.5-mm) thick.
   b. Height: 4 inches unless otherwise indicated on Drawings.
   c. Toe Kick Finish: Manufacturer’s standard.

D. Shelf Construction: Material and edge treatment to match semi-exposed surfaces.
1. Thickness: Complying with structural performance requirements specified.

E. Door Construction:
1. Flush Doors: Material and edgebanding to match exposed exterior casework material.
   a. Thickness:
      1) Hinged Doors: Complying with structural performance requirements specified, but not less than 11/16-inch (17.5-mm) thick.
   b. Inside Face of Door: Complying with aesthetic performance requirements specified.

2.2 PLASTIC LAMINATE COUNTERTOPS

A. Laminate Sheet: NEMA LD 3, Grade HGS, 0.048 inch nominal thickness.
1. Surface Burning Characteristics: Flame spread index of 25, maximum; smoke developed index of 450, maximum; when tested in accordance with ASTM E84.
2. NSF approved for food contact.
3. Wear Resistance: In addition to specified grade, comply with NEMA LD 3 High Wear Grade requirements for wear resistance.
4. Surface Color and Pattern: As indicated on drawings.

B. Exposed Edge Treatment: Square, substrate built up to minimum 1-1/4 inch thick; covered with matching laminate.

C. Fabricate in accordance with AWI/AWMAC/WI (AWS), Section 11 - Countertops, Premium Grade.

2.3 MATERIALS

A. High-Pressure Decorative Laminate (HPDL) Panels:
1. High-Pressure Decorative Laminate (HPDL): ISO 4586.
a. Grades:
1) Horizontal Surfaces: HGS, HGL, or HGP.
2) Vertical Surfaces: HGS, VGS, or VGL.
3) Vertical Postformed Surfaces: VGP.
4) Concealed Backs of HPDL Panels: BKL.
b. PL-#, Color and Pattern: As indicated on Material Finish Key.
2. Core: Comply with AWI 300 and structural performance requirements specified.

B. Panel Products:
1. Medium Density Fiberboard (MDF): ANSI A208.2, MR50.
a. Grade: Complying with structural performance requirements specified.
2. Medium Density Overlay (MDO): Softwood plywood, DOC PS 1, with medium-density overlay.
3. Hardwood Plywood: ANSI/HPVA HP-1.

2.4 HARDWARE

A. Acceptable Manufacturers: Provide Basis-of-Design product, if indicated below, or provide comparable product by one of the following:
1. Accuride.
2. Amerock.
3. Blum.
4. CompX Security Products.
5. Doug Mockett & Company.
6. Grass America.
7. GlideRite.
8. Hafele America Co.
9. Hettich America.
10. Knape & Vogt.
11. C.R. Laurence.
12. Richelieu.
13. SOSS Door Hardware.
14. Sugatsune America.

B. Concealed European-Type Hinges: ANSI/BHMA A156.9, B01602, with integral soft-close damper.
1. Opening Degree: Between 95 to 110.
2. Quantity:
a. Provide not less than 2 hinges for each swinging door under 42 inches in height.
b. Provide not less than 3 hinges for each swinging door 42 inches and over.

C. PU-#, Door and Drawer Pulls:
1. Acceptable Manufacturers and Products: Refer to Interior Material Legend.

D. Door Catches: ANSI/BHMA A156.9, B03071, magnetic type.

1. At pairs of locked swinging doors, provide spring-loaded elbow catch with steel strike plate at one leaf.
2. Quantity:
   a. Provide 1 door catch for each swinging door 48 inches and less in height.
   b. Provide 2 door catches for each swinging door over 48 inch inches in height.

E. Door and Drawer Bumpers: ANSI/BHMA A156.16, L03011, self-adhering clear silicone.
1. Quantity:
   a. Swinging Doors: Provide 1 bumper at top and bottom of closing edge of each door.

2.5 ACCESSORIES

A. Furring, Blocking, Nailers, Shims, Anchor Strips: Fire-retardant-treated softwood lumber, kiln-dried.
1. Maximum Moisture Content: 15 percent.

B. Anchors and Fasteners:
1. Nails: Size and type to suit application; plain finish.
2. Bolts, Nuts, Washers, Blind Fasteners, and Screws: Size and type to suit application.
   a. Drywall and bugle head screws are not allowed.
   b. Finish: Nonferrous-metal or hot-dip galvanized anchors and inserts at inside face of exterior walls and at floors.
3. For fasteners through exposed interior surfaces, provide cover caps of color compatible with casework finish.

C. Adhesives: Do not use adhesives that contain urea formaldehyde.

2.6 FABRICATION

A. Shop-fabricate architectural casework, including installation of hardware, doors, and drawers, to maximum extent possible.

B. When necessary to cut and fit at Project site, provide materials with ample allowance for cutting.

C. Provide cutouts of casework to accommodate hardware, appliances, plumbing, mechanical, electrical, communications, audio visual, computer equipment, and similar items.
1. Sand and seal edges of cutouts.

D. Install hardware in accordance with hardware manufacturer’s written instructions using fasteners furnished by hardware manufacturer.

E. Fabrication Tolerances: Comply with ANSI/AWI 0641.

VEPART 3 EXECUTION

3.1 EXAMINATION

A. Verification of Conditions: Examine areas and conditions under which Work is to be performed and identify conditions detrimental to proper and timely completion.

1. Ensure rough-in openings, built-in anchorage, blocking, and reinforcing for proper installation of Work are correctly sized, installed, and located.
2. Verify size and locations of cutouts for appliances, special equipment, sinks, plumbing, and other items to be mounted in or adjacent to casework.
3. Verify casework and materials required for installation have been delivered, handled, and stored in accordance with AWI 200 and requirements specified in PART 1 "Delivery, Storage, and Handling" Article.
4. Verify field conditions comply with AWI 200 and requirements specified in PART 1 "Field Conditions" Article.
5. Do not proceed until unsatisfactory conditions have been corrected.

3.2 PREPARATION

A. Acclimate casework to the environment in which it will be installed for a minimum of 72 hours prior to installation. Comply with AWI 200.

3.3 INSTALLATION, CASEWORK

A. Install casework in accordance with manufacturer’s written instructions and ANSI/AWI 0620, complying with requirements for the aesthetic and structural performance specified.

B. Install casework level, plumb, square, and in true line.
1. Shim as required with concealed wood or plastic shims.

C. Install casework without distortion, ensuring that doors are accurately aligned.
1. Align doors and drawer fronts to achieve straight vertical and horizontal line with consistent width gaps complying with specified tolerances.
2. Center doors and drawers in openings.

D. Anchor casework in accordance with manufacturer’s written instructions. Where casework manufacturer does not have written installation instructions, anchor casework in accordance with recommendations of "AWI Installation Guidelines: Casework Wall Anchorage" and the following:
1. Fasten base and wall cabinets through backs of casework, near top and bottom, at ends, and not more than 16 inches on center. Anchor wall cabinets over 48 inches wide at 12 inches on center.
    a. For casework taller than 60 inches, Provide additional fastener at mid height.
    b. At wood framing, wood blocking, wood nailers, and wood anchor strips, use No. 10 wafer-head screws, sized for 1-1/2-inch (38-mm) penetration into wood.
    c. At metal framing or metal backing, use No. 10 wafer-head sheet metal screws.
2. Secure adjoining casework together using not less than two threaded steel, semi-concealed, joint fasteners, located at front of casework.

E. Install fillers and scribe and cut casework to fit adjacent construction in accordance with ANSI/AWI 0620.

F. Install hardware in accordance with hardware manufacturer's written instructions using fasteners furnished by hardware manufacturer.

G. Installation Tolerances: Comply with ANSI/AWI 0620 for aesthetic performance specified, including the following:
1. Variation in Level: 1/8 inch in 8 feet.
2. Variation in Plumb: 1/8 inch in 8 feet.

3.4 INSTALLATION, COUNTERTOP

A. Install vanities in accordance with manufacturer's instructions and approved shop drawings

B. Securely attach countertops to cabinets using concealed fasteners. Make flat surfaces level; shim where required.

C. Attach plastic laminate countertops using screws with minimum penetration into substrate board of 5/8 inch.

D. Seal joint between back/end splashes and vertical surfaces.

3.5 TOLERANCES, COUNTERTOPS

A. Variation From Horizontal: 1/8 inch in 10 feet, maximum.

B. Offset From Wall, Countertops: 1/8 inch maximum; 1/16 inch minimum.

3.6 ADJUSTING

A. Adjust doors, drawers, hardware, and other moving or operating parts to function smoothly and correctly.

3.7 CLEANING

A. Clean exposed and semi-exposed surfaces, hardware, fittings, and fixtures.

END OF SECTION 06 4116

SECTION 07 9200 - JOINT SEALANTS

PART 1 GENERAL

1.1 SECTION INCLUDES

A. Nonsag gunnable joint sealants.

B. Self-leveling pourable joint sealants.

C. Joint backings and accessories.

1.2 ACTION SUBMITTALS

A. Product Data: Submit manufacturer's technical datasheets for each product to be used; include the following:
1. Physical characteristics, including movement capability, VOC content, hardness, cure time, and color availability.
2. List of backing materials approved for use with the specific product.
3. Backing material recommended by sealant manufacturer.
4. Substrates that product is known to satisfactorily adhere to and with which it is compatible.
5. Substrates the product should not be used on.
6. Substrates for which use of primer is required.
7. Installation instructions, including precautions, limitations, and recommended backing materials and tools.
8. Certification by manufacturer indicating that product complies with specification requirements.

B. Color Cards for Selection: Where sealant color is not specified, submit manufacturer's color cards showing standard colors available for selection.

C. Samples for Verification: Where custom sealant color is specified, obtain directions from Architect and submit at least two physical samples for verification of color of each required sealant.

1.3 QUALITY ASSURANCE

A. Installer Qualifications: Company specializing in performing the work of this section and with at least three years of documented experience.

1.4 DELIVERY, STORAGE, AND HANDLING

A. Store materials in original undamaged packaging, within temperature limits recommended by manufacturer; protect from direct sunlight.

B. Remove and replace sealants that cannot be installed within their stated shelf life.

1.5 FIELD CONDITIONS

A. Do not proceed with installation of joint sealants under the following conditions:
1. When ambient and substrate temperature conditions are outside limits permitted by joint sealant manufacturer.
2. When joint substrates are wet.
3. Where contaminants capable of interfering with adhesion have not been removed from joint substrates.

1.6 WARRANTY

A. Installer's Warranty: Provide installer's standard form in which installer agrees to repair or replace joint sealants that do not comply with performance and other requirements specified in this section within the specified warranty period commencing at date of Substantial Completion.
1. Warranty Period: 2 years.

B. Manufacturer's Warranty: Provide manufacturer's standard material warranty commencing at date of Substantial Completion.

C. Specified warranties exclude deterioration or failure of joint sealants from the following:
1. Movement of the structure resulting in stresses on the sealant exceeding the sealant manufacturer's written specifications for sealant elongation and compression caused by structural settlement or errors attributable to design or construction.
2. Disintegration of joint substrates from natural causes (lightening, hurricane, tornado, fire, etc.) exceeding design specifications.
3. Mechanical damage caused by individuals, tools or other outside agents.
4. Changes in sealant appearance caused by accumulation of dirt or other atmospheric contaminants,

PART 2 PRODUCTS

2.1 MANUFACTURERS

A. Basis-of-Design Products: Provide products indicated or by comparable acceptable manufacturer listed below.

B. Comparable manufacturers:
1. Adfast USA Inc.
2. Adhesives Technology Corporation.
3. Dow.
4. Everkem Diversified Products, Inc.
5. Franklin International, Inc.
6. Henry, a Carlisle Company.
7. Hilti, Inc.
8. Momentive Performance Materials, Inc (formerly GE Silicones).
9. Pecora Corporation.
10. Sika Corporation.
11. Specified Technologies Inc.
12. Tremco Commercial Sealants & Waterproofing.

13. W. R. Meadows, Inc.

2.2 JOINT SEALANTS - GENERAL

A. Colors: As selected by Architect from manufacturer's full range of colors.

2.3 NONSAG JOINT SEALANTS

A. SLNT-04, Mildew-Resistant Silicone Sealant: ASTM C920, Grade NS, Uses M and A; single component, mildew resistant; not expected to withstand continuous water immersion or traffic.
   1. Nonstaining to Porous Stone: Nonstaining to light-colored natural stone when tested in accordance with ASTM C1248.
   2. Basis-of-Design Product:
      a. Pecora Corporation; Pecora 898 NST (Non-Staining Technology).

B. SLNT-08, Acrylic Emulsion Latex: Water-based; ASTM C834, single component, nonstaining, nonbleeding, nonsagging; not intended for exterior use.
   1. Grade: ASTM C834; Grade 32 Degrees F (0 Degrees C).
   2. Basis-of-Design Product:
      a. Pecora Corporation; AC-20 +Silicone.
      b. Tremco Commercial Sealants & Waterproofing; Tremflex 834.

C. SLNT-09, Acrylic Emulsion Latex: Water-based; ASTM C834, single component, nonstaining, nonbleeding, nonsagging; not intended for exterior use. Provide Fire rated comparable product in lieu of smoke rating where required.
   1. Products:
      a. Franklin International, Inc; Titebond Acoustical Smoke & Sound Sealant.
      b. Hilti, Inc; CP 506 Smoke and Acoustical Sealant.
      c. Specified Technologies Inc; Smoke N' Sound Acoustical Sealant.

D. SLNT-10, Butyl Sealant: Solvent-based; ASTM C1311; single component, nonsag; not expected to withstand continuous water immersion or traffic. Single component, maximum joint movement +/- 5 percent.
   1. Service Temperature Range: Minus 13 to 180 degrees F.
   2. Basis-of-Design Products:
      a. C.R. Laurence, Co. Inc.; CRL 777 Butyl Rubber Sealant or CRL 888 Premium Grade Caulking Compound.

2.4 SELF-LEVELING JOINT SEALANTS

A. SLNT-11, Self-Leveling Polyurethane Sealant for Horizontal Expansion Joints: ASTM C920, Grade P, Uses T, M, and O; single or multicomponent; explicitly approved by manufacturer for horizontal expansion joints.
   1. Movement Capability: Plus and minus 25 percent, minimum.
   2. Hardness Range: 30 to 35, Shore A, when tested in accordance with ASTM C661.
   3. Basis-of-Design Product:
      a. Sika Corporation; Sikaflex SL 2.

B. SLNT-13, High Quality Latex-Based Sound Sealant: ASTM C834, Type OP an opaque sealant, and Grade 0, 32 degrees F, meets requirements for low-temperature flexibility.
   1. Basis-of-Design Product:
      a. Everkem Diversified Products, Inc; Sound Seal 90.

2.5 ACCESSORIES

A. Sealant Backing Materials, General: Materials placed in joint before applying sealants; assists sealant performance and service life by developing optimum sealant profile and preventing three-sided adhesion; type and size recommended by sealant manufacturer for compatibility with sealant, substrate, and application.
   1. Sealant Backing Rod:
      a. Cylindrical flexible sealant backings complying with ASTM C1330:
         1) Type C: closed-cell polyethylene backer rod.
         2) Type O: open-cell polyurethane or soft reticulated polyethylene backer rod.
         3) Type B: bi-cellular combination backer rod with open- and closed-cell skin.
      b. Size: 25 to 50 percent larger in diameter than joint width.

B. Backing Tape: Self-adhesive polyethylene tape with surface that sealant will not adhere to and recommended by tape and sealant manufacturers for specific application.

C. Masking Tape: Self-adhesive, nonabsorbent, nonstaining, removable without adhesive residue, and compatible with surfaces adjacent to joints and sealants.

D. Joint Cleaner: Noncorrosive and nonstaining type, type recommended by sealant manufacturer; compatible with joint forming materials.

E. Primers: Type recommended by sealant manufacturer to suit application; nonstaining.

PART 3 EXECUTION

3.1 EXAMINATION

A. Verify that joints are ready to receive work.

B. Verify that backing materials are compatible with sealants.

C. Verify that backer rods are of the correct size.

3.2 PREPARATION

A. Remove loose materials and foreign matter that could impair adhesion of sealant.

B. Clean joints, and prime as necessary, in accordance with manufacturer's instructions.

C. Perform preparation in accordance with manufacturer's instructions and ASTM C1193.

D. Mask elements and surfaces adjacent to joints from damage and disfigurement due to sealant work; be aware that sealant drips and smears may not be completely removable.

E. Concrete Floor Joints That Will Be Exposed in Completed Work: Test joint filler in an inconspicuous area to verify that it does not stain or discolor slab.

3.3 INSTALLATION

A. Install this work in accordance with sealant manufacturer's requirements for preparation of surfaces and material installation instructions.

B. Provide joint sealant installations complying with ASTM C1193.

C. Install acoustical sealant application work in accordance with ASTM C919.

D. Measure joint dimensions and size joint backers to achieve width-to-depth ratio, neck dimension, and surface bond area as recommended by manufacturer, except where specific dimensions are indicated.

E. Install bond breaker backing tape where backer rod cannot be used.

F. Install sealant free of air pockets, foreign embedded matter, ridges, and sags, and without getting sealant on adjacent surfaces.

G. Do not install sealant when ambient temperature is outside manufacturer's recommended temperature range, or will be outside that range during the entire curing period, unless manufacturer's approval is obtained and instructions are followed.

H. Nonsag Sealants: Tool surface concave, unless otherwise indicated; remove masking tape immediately after tooling sealant surface.

I. Concrete Floor Joint Filler: After full cure, shave joint filler flush with top of concrete slab.

3.4 JOINT SEALANT APPLICATIONS

A. Interior Joints:
1. Do not seal through-penetrations in sound-rated assemblies that are also fire-rated assemblies.
2. Seal the following joints:
    a. Joints between door frames and window frames and adjacent construction.
    b. Joints between tops of non-load bearing unit masonry and concrete walls and partitions.
    c. Tile control and expansion joints
    d. Vertical control joints on exposed surfaces of interior unit masonry and concrete walls and partitions.
    e. In sound-rated wall and ceiling assemblies, gaps at electrical outlets, wiring devices, and piping penetrations.
    f. In sound-rated wall and ceiling assemblies, seal joints between wall assemblies and ceiling assemblies; between wall assemblies and other construction; between ceiling assemblies and other construction.

B. Do Not Seal:
1. Intentional weep holes in masonry.
2. Joints indicated to be covered with manufactured expansion joint cover assemblies or other sealing devices.
3. Joints where sealant is specified to be furnished and installed by manufacturer of product to be sealed.

4. Joints where sealant installation is specified in other sections.
5. Joints between suspended ceilings and walls.

3.5 JOINT SEALANT SCHEDULE

A. SLNT-01: Not Used.

B. SLNT-02: Not Used.

C. SLNT-03A and SLNT-03B: Not Used.

D. SLNT-04: Interior joints between plumbing fixtures and walls.

E. SLNT-05: Not Used.

F. SLNT-06: Not Used.

G. SLNT-07: Not Used.

H. SLNT-08: Interior vertical and horizontal miscellaneous caulking and sealing, requiring paint cover.

I. SLNT-09: Interior acoustic and smoke sealant, unexposed.

J. SLNT-10: Sealant joints at thresholds.

K. SLNT-11: Interior joints in horizontal and vertical substrates.
1. Interior exposed joints in slabs.
2. Interior exposed perimeter joints at walls and other vertical substrates.
3. Joints in floor tilework.

L. SLNT-12: Not Used.

M. SLNT-13: Interior acoustic-rated partitions, exposed to view.

END OF SECTION 07 9200

SECTION 09 2216 - NON-STRUCTURAL METAL FRAMING

PART 1 GENERAL

1.1 SUMMARY

A. Section Includes:
1. Nonstructural steel framing.
2. Grid suspension systems.

1.2 ACTION SUBMITTALS

A. Product Data: For each type of product.

B. Shop Drawings:
1. Indicate prefabricated work, component details, stud layout, framed openings, anchorage to structure, acoustic details, type and location of fasteners, accessories, and items of other related work.
2. Describe method for securing studs to tracks, splicing, and for blocking and reinforcement of framing connections.

C. Delegated Design Submittals: for non-structural metal framing.
1. Delegated Design to include, but not limited to, the following:
   a. Soffits.
   b. Bulkheads.
   c. Partitions.
   d. Furring.
   e. Ceiling, and miscellaneous framing and blocking.
   f. metal framing thickness.
2. Non-structural metal framing design shall first increase metal stud thickness, second decrease metal stud spacing to 12-inches on center, and third increase stud width where adjusting stud thickness and spacing are insufficient to comply with requirements.

1.3 INFORMATIONAL SUBMITTALS

A. Product Certificates: For code-compliance certification of studs and track.

B. Evaluation Reports: Submit evaluation reports certified under an independent third-party inspection program administered by an agency accredited by IAS to ICC-ES AC98 accreditation criteria for inspection agencies.

C. Manufacturer's Certification: Submit manufacturer's certification of product compliance with codes and standards along with product literature and data sheets for specified products.

1.4 QUALITY ASSURANCE

A. Code-Compliance Certification of Studs and Track: Provide documentation that framing members are certified in accordance with product-certification program of the Steel Framing Industry Association (SFIA) or similar organization providing a verifiable code-compliance program.

B. Contractor to provide effective, full-time quality control over fabrication and erection complying with pertinent codes and regulations of government agencies having jurisdiction. Conduct preinstallation meeting to verify Project requirements, substrate conditions, and manufacturer's written installation instructions.

1.5 DELIVERY, STORAGE, AND HANDLING

A. Deliver materials in manufacturer's original, unopened, undamaged containers with identification labels intact.

B. Protect materials from corrosion, deformation, and other damage during delivery, storage, and handling in accordance with AISI S202.

PART 2 PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

A. STC-Rated Assemblies: Where indicated on Drawings, provide assemblies incorporating nonstructural steel framing identical to those of assemblies tested in accordance with ASTM E90 and classified in accordance with ASTM E413 by an independent testing agency.

B. Horizontal Deflection: For non-composite wall assemblies, limited to 1/240 of the wall height based on the following horizontal loading:
1. Horizontal Loading: 5 lbf/sq. ft. (240 Pa).

C. Design framing systems in accordance with AISI S220, unless otherwise indicated.

2.2 MANUFACTURER

A. Provide Basis-of-Design Product or comparable product by a current member of the SFIA.

2.3 NONSTRUCTURAL STEEL FRAMING

A. Framing Members, General: Comply with requirements in AISI S220 for conditions indicated on Drawings.
1. Steel Sheet Components: Comply with AISI S220 requirements for metal unless otherwise indicated.
2. Protective Coating: ASTM A653/A653M , G60 (Z180). Galvannealed products are unacceptable.
    a. Equivalent Corrosion-Resistant Coating: Evaluation report acceptable to authorities having jurisdiction demonstrates corrosion resistance equivalent to specified protective coating.

B. Studs and Track: Conventional members, roll-formed into standard shapes without surface deformations to stiffen framing members.
1. Basis-of-Design Product: Subject to compliance with requirements, provide ClarkDietrich; ProSTUD Drywall Framing System.

2. Minimum Base-Steel Thickness: 0.0329-inch or As required by performance requirements for horizontal deflection.
3. Flange Width: 1-1/4 inches.
4. Web Depth: As indicated on Drawings.

C. Steel Framing Stud and Track Wall System: Self-locking steel studs, and telescoping stud extensions and tracks.
1. Basis-of-Design Product: Subject to compliance with requirements, provide ClarkDietrich; TRAKLOC Drywall Framing System.
2. Minimum Base-Steel Thickness: 0.0329 inch.
3. Web Depth: 2-1/2 inches.

D. Moisture Barrier Bottom Track: Shouldered bottom track with edges that raise gypsum board above the floor surface to prevent moisture wicking.
1. Basis-of-Design Product: Subject to compliance with requirements, provide ClarkDietrich; Bottom of Wall RipTRAK.
2. Minimum Base-Steel Thickness: 0.0329 inch.
3. Web Depth: Matching steel studs.
4. Fire-Resistance-Rated Assemblies: Comply with requirements of assembly indicated on Drawings.

E. Slip-Type Head Joints: Where indicated on Drawings, provide one of the following:
1. Clip System: Clips designed for use in head-of-wall deflection conditions that provide a positive attachment of studs to track while allowing 1-1/2-inch (38-mm) minimum vertical movement.
   a. Basis-of-Design Product: Subject to compliance with requirements, provide ClarkDietrich; Fast Top Clip (FTC3).
2. Single Long-Leg Track: Top track with solid, 2-inch- (51-mm-) deep flanges in base-steel thickness not less than that of studs, installed with studs friction fit into track and with continuous bridging and spacer bar located within 12 inches (305 mm) of the top of studs to provide lateral bracing.
   a. Basis-of-Design Product: Subject to compliance with requirements, provide ClarkDietrich; Deep Leg Deflection Track and Spazzer 9200 Bridging and Spacer Bar.
3. Head-of-Wall Sound Isolation Clip System: Fabricated from fire-resistant, ABS polymer; eliminates metal-to-metal contact at head-of-wall connection while accommodating vertical and lateral movement. Tested system consists of horizontal and vertical proprietary stud members.
   a. Basis-of-Design Product: Subject to compliance with requirements, provide ClarkDietrich; ProSTUD Motion Frame Connector.

F. Hole Reinforcing Plate: Restores structural integrity to cold-formed steel framing members with field openings.
1. Basis-of-Design: Product: Subject to compliance with requirements, provide ClarkDietrich; MEP Gusset Plate MEP3.

G. Backing Plate: Proprietary fire-retardant-treated wood blocking and bracing in width indicated.
1. Basis-of-Design Product: Subject to compliance with requirements, provide ClarkDietrich; Danback Fire-Retardant Treated Wood Backing Plate D16F.

H. Flat Strap: Steel sheet for blocking and bracing in length and width indicated on Drawings.
1. Basis-of-Design Product: Subject to compliance with requirements, provide ClarkDietrich; Flat Strap.
2. Minimum Base-Steel Thickness: 0.0296 inch.

I. Channel Bridging and Bracing: Pre-notched steel, 7/8 by 7/8 by 50 inches (22.2 by 22.2 by 1270 mm) with 0.0329-inch- (0.84-mm-) minimum base-steel thickness.
   1. Basis-of-Design Product: Subject to compliance with requirements, provide ClarkDietrich; Spazzer 9200 (SPZD.

J. U-Channel Bridging: Steel, 0.0538-inch- (1.37-mm-) minimum base-steel thickness, with minimum 1/2-inch- (13-mm-) wide flanges.
   1. Basis-of-Design Product: Subject to compliance with requirements, provide ClarkDietrich; Cold-Formed U-Channel and Channel Clip (CC33) Bridging Clip.
   2. U-Channel Web Depth: As indicated on Drawings.

K. Rigid Furring Channels:
   1. Basis-of-Design Product: Subject to compliance with requirements, provide ClarkDietrich; Furring Channel.
   2. Minimum Base-Steel Thickness: 0.0296 inch.
   3. Web Depth: As indicated on Drawings.

L. Resilient Furring Channels: 1/2-inch- (13-mm-) deep, steel sheet members designed to reduce sound transmission.
   1. Basis-of-Design Product: Subject to compliance with requirements, provide ClarkDietrich; RC Deluxe.
   2. Configuration: Asymmetrical.

M. Sound Isolation Clips: Use with 7/8-inch- (22-mm-), 18-mil (0.457-mm), 25-gauge, drywall furring channels for acoustical separation and fire-rated in compliance with UL 263.
   1. Basis-of-Design Product: Subject to compliance with requirements, provide ClarkDietrich; Sound Clip (CDSC).

N. Carrying Channels: 0.053-inch (1.34-mm) base-steel thickness, with minimum 1/2-inch- (13-mm-) wide flanges.
   1. Depth: As indicated on Drawings.
   2. Furring Brackets: Adjustable, corrugated-edge-type steel sheet with minimum base-steel thickness of 0.0296 inch.

O. Headers and Jambs: Manufacturer's proprietary shape used to form header beams and jambs, columns or posts, of web depths indicated, unpunched, with stiffened flanges and as follows:
   1. Basis-of-Design Product: Subject to compliance with requirements, provide ClarkDietrich; Heavy-Duty Stud (HDS) Framing System.
   2. Minimum Base-Steel Thickness: 0.0329 inch.
   3. Web Depth: 3-5/8 inches.
   4. Flange Width: 3 inches.

P. Framed Openings: Galvanized-steel, one-piece header and jamb studs in lieu of built-up members.
   1. Basis-of-Design Product: Subject to compliance with requirements, provide ClarkDietrich; RedHeader Lite and RHLC Header Bracket..
   2. Minimum Base-Steel Thickness: 0.0329 inch.
   3. Web Depth: 2-1/2 inches.
   4. Flange Width: 2-1/2 inches.
   5. Header Support: Size and minimum base-steel thickness as required by design.

2.4 SUSPENSION SYSTEMS

A. Carrying Channels (Main Runners): Cold-formed, commercial-steel sheet with a base-steel thickness of 0.0538 inch and minimum 1/2-inch- (13-mm-) wide flanges.
   1. Depth: As indicated on Drawings.

B. Furring Channels (Furring Members):
   1. Cold-Formed Channels: 0.0538-inch (1.367-mm) base-steel thickness, with minimum 1/2-inch- (13-mm-) wide flanges, 3/4 inch deep.
   2. Steel Studs and Tracks: AISI S220.
      a. Basis-of-Design Product: Subject to compliance with requirements, provide ClarkDietrich; ProSTUD Drywall Framing System.
      b. Minimum Base-Steel Thickness: 0.0329 inch.
      c. Flange Size: 1-1/4 inches.
      d. Web Depth: As indicated on Drawings.
   3. Hat-Shaped, Rigid Furring Channels: Comply with AISI S220.
      a. Minimum Base-Steel Thickness: 0.0296 inch.
      b. Depth: As indicated on Drawings.
   4. Resilient Furring Channels: 1/2-inch- (13-mm-) deep members designed to reduce sound transmission.
      a. Basis-of-Design Product: Subject to compliance with requirements, provide ClarkDietrich; RC Deluxe (RCSD) Resilient Channel or comparable product by a current member of the SFIA.
      b. Configuration: Asymmetrical.

2.5 GRID SUSPENSION SYSTEMS, CLG-#

A. Grid Suspension Systems for Gypsum Board Ceilings: ASTM C645, direct-hung system composed of main beams and cross-furring members that interlock.
   1. Provide Basis-of-Design Products indicated on Ceiling Types Schedule or provide products by one of the following:
      a. Armstrong World Industries, Inc.
      b. CertainTeed; SAINT-GOBAIN.
      c. Rockfon; ROCKWOOL International.
      d. USG Corporation.

2.6 AUXILIARY MATERIALS

A. General: Provide auxiliary materials that comply with referenced installation standards.
   1. Fasteners for Steel Framing: Of type, material, size, corrosion resistance, holding power, and other properties required to fasten steel members to substrates.

B. Tie Wire: ASTM A641/A641M, Class 1 zinc coating, soft temper.
   1. Suspended Ceiling Systems:
      a. Splicing Carrying Channels (Main Runners) and Furring Members: Use double loops of minimum 0.0625-inch- (1.59-mm-) diameter wire.
      b. Tying Carrying Channels (Main Runners) to Cross Furring: Use minimum 0.0625-inch- (1.59-mm-) diameter wire, or double strand of 0.0475-inch- (1.21-mm-) diameter wire.

C. Power-Actuated Anchors: Fastener systems with an evaluation report, acceptable to authorities having jurisdiction, based on ICC-ES AC70.

D. Wire Hangers: ASTM A641/A641M, Class 1 zinc coating, soft temper, 0.162 inch in diameter.

E. Flat Hangers: ASTM A653/A653M G40 (Z120) hot-dip galvanized steel sheet, in size indicated on Drawings.

PART 3 EXECUTION

3.1 EXAMINATION

A. Examine areas, substrates, and conditions, with Installer present, for compliance with requirements and other conditions affecting performance of the Work.

B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

A. Suspended Assemblies: Coordinate installation of suspension systems with installation of overhead structure to ensure that inserts and other provisions for anchorages to building structure have been installed to receive hangers at spacing required to support the Work and that hangers will develop their full strength.

3.3 INSTALLATION, GENERAL

A. Installation Standard: ASTM C754.
   1. Gypsum Board Assemblies: Also comply with requirements in ASTM C840 that apply to framing installation.

B. Install framing and accessories plumb, square, and true to line, with connections securely fastened.

C. Install supplementary framing, and blocking to support fixtures, equipment services, heavy trim, grab bars, toilet accessories, furnishings, or similar construction.

D. Install bracing at terminations in assemblies.

E. Do not bridge building control and expansion joints with framing members. Frame both sides of joints independently.

3.4 INSTALLATION OF NONSTRUCTURAL STEEL FRAMING

A. Install framing system components at spacings indicated on Drawings, but not greater than spacings required by referenced installation standards for assembly types.
   1. Single-Layer Application: As required by horizontal deflection performance requirements unless otherwise indicated on Drawings.
   2. Multilayer Application: As required by horizontal deflection performance requirements unless otherwise indicated on Drawings.
   3. Tile Backing Panels: As required by horizontal deflection performance requirements unless otherwise indicated on Drawings.

B. Where studs are installed directly against exterior masonry walls or dissimilar metals at exterior walls, install isolation strip between studs and exterior wall.

C. Install studs so flanges within framing system point in same direction.

D. Studs for Head-of-Wall Sound Isolation Clip System: Install in accordance with manufacturer's written instructions.

E. Install track at floors and overhead supports. Extend framing full height to structural supports or substrates above suspended ceilings except where partitions are indicated on Drawings to terminate at suspended ceilings. Continue framing around ducts that penetrate partitions above ceiling.
   1. Slip-Type Head Joints: Where framing extends to overhead structural supports, install to produce joints at tops of framing systems that prevent axial loading of finished assemblies.
   2. Door Openings: Screw vertical studs at jambs to jamb anchor clips on door frames; install track section (for cripple studs) at head and secure to jamb studs.
      a. Install two studs at each jamb unless otherwise indicated on Drawings.
      b. Install cripple studs at head adjacent to each jamb stud, with a minimum 1/2-inch (13-mm) clearance from jamb stud to allow for installation of control joint in finished assembly.
      c. Extend jamb studs through suspended ceilings and attach to underside of overhead structure unless otherwise indicated on Drawings.
   3. Other Framed Openings: Frame openings other than door openings the same as required for door openings unless otherwise indicated on Drawings. Install framing below sills of openings to match framing required above door heads.
   4. Hole Reinforcing Plate: Install in accordance with manufacturer's written instructions.
   5. STC-Rated Partitions: Install framing to comply with STC-rated assembly indicated on Drawings.

F. Wall-Furring Bracket Systems: Install brackets with serrated edges facing upward spaced at minimum 48 inches (1219 mm) o.c. vertically with 6 inches (152 mm) maximum from floor and ceiling, and minimum 36 inches (914 mm) o.c. horizontally with 4 inches (102 mm) maximum from abutting construction, unless otherwise indicated on Drawings.

3.5 INSTALLATION OF SUSPENSION SYSTEMS

A. Install suspension system components in accordance with spacings indicated, but not greater than spacings required by referenced installation standards for assembly types.
   1. Hangers: 48 inches o.c.
   2. Carrying Channels (Main Runners): 48 inches o.c.
   3. Furring Channels (Furring Members): 16 inches o.c.

B. Suspended Assemblies: Isolate suspension assemblies from building structure where they abut or are penetrated by building structure to prevent transfer of loading imposed by structural movement.

C. Suspend hangers from building structure as follows:
   1. Hangers: Install hangers plumb and free from contact with insulation or other objects within ceiling plenum that are not part of supporting structural or suspension system spaced as indicated on Drawings.
      a. Splay hangers only where required to miss obstructions and offset resulting horizontal forces by bracing, countersplaying, or other equally effective means.

b. Where width of ducts and other construction within ceiling plenum produces hanger spacings that interfere with locations of hangers required to support standard suspension system members, install supplemental suspension members and hangers in the form of trapezes or equivalent devices.
   1) Size supplemental suspension members and hangers to support ceiling loads within performance limits established by referenced installation standards.
c. Wire Hangers: Secure by looping and wire tying, either directly to structures or to inserts, eye screws, or other devices and fasteners that are secure and appropriate for substrate, and in a manner that will not cause hangers to deteriorate or otherwise fail.
d. Flat Hangers: Secure to structure, including intermediate framing members, by attaching to inserts, eye screws, or other devices and fasteners that are secure and appropriate for structure and hanger, and in a manner that will not cause hangers to deteriorate or otherwise fail.
e. Do not connect or suspend framing from ducts, pipes, or conduit.

2. Carrying Channels (Main Runners): U-channels spaced as indicated on Drawings.
3. Furring Channels (Furring Members): As indicated on Drawings .
   a. Spacing: As indicated on Drawings.
   b. Fire-Resistance-Rated Assemblies: Wire tie furring channels to supports.

3.6 INSTALLATION OF GRID SUSPENSION SYSTEMS

A. Grid Suspension Systems: Install in accordance with manufacturer's written instructions. Attach perimeter wall track or angle where grid suspension systems meet vertical surfaces. Mechanically join main beam and cross-furring members to each other and butt-cut to fit into wall track.

B. Installation Tolerances for Grid Suspension Systems: Install suspension systems that are level to within 1/8 inch in 12 feet measured lengthwise on each member that will receive finishes and transversely between parallel members that will receive finishes.

3.7 FIELD QUALITY CONTROL

A. Installation Tolerances for Nonstructural Steel Framing:
   1. Framing Members: Install each framing member so fastening surfaces vary not more than 1/8 inch from the plane formed by faces of adjacent framing.
   2. Suspended Assemblies: Install suspension systems that are level to within 1/8 inch in 12 feet measured lengthwise on each member that will receive finishes and transversely between parallel members that will receive finishes.

END OF SECTION 09 2216

SECTION 09 2900 - GYPSUM BOARD

PART 1 GENERAL

1.1 SUMMARY

A. Section Includes:
1. Interior gypsum board.
2. Tile backing panels.

1.2 ACTION SUBMITTALS

A. Product Data: For the specified products.

B. Shop Drawings: Show locations and installation of control and expansion joints, including plans, elevations, sections, details of components, and attachments to other work.

1.3 DELIVERY, STORAGE AND HANDLING

A. Store materials inside under cover and keep them dry and protected against weather, condensation, direct sunlight, construction traffic, and other potential causes of damage. Stack panels flat and supported on risers on a flat platform to prevent sagging.

1.4 FIELD CONDITIONS

A. Environmental Limitations: Comply with ASTM C840 requirements or gypsum board manufacturer's written instructions, whichever are more stringent.

B. Do not install paper-faced gypsum panels until installation areas are enclosed and conditioned.

C. Do not install panels that are wet, moisture damaged, and mold damaged.
1. Indications that panels are wet or moisture damaged include, but are not limited to, discoloration, sagging, or irregular shape.
2. Indications that panels are mold damaged include, but are not limited to, fuzzy or splotchy surface contamination and discoloration.

PART 2 PRODUCTS

2.1 SOURCE LIMITATIONS

A. Obtain each type of gypsum panel and joint finishing material from single source with resources to provide products of consistent quality in appearance and physical properties.

2.2 PERFORMANCE REQUIREMENTS

A. STC-Rated Assemblies: For STC-rated assemblies, provide materials and construction identical to those tested in assembly indicated in accordance with ASTM E90 and classified in accordance with ASTM E413 by an independent testing agency.

2.3 GYPSUM BOARD, GENERAL

A. Size: Provide maximum lengths and widths available that will minimize joints in each area and that correspond with support system indicated.

B. Acceptable Manufacturers:
1. American Gypsum.
2. Armstrong Ceiling & Wall Solutions.
3. Certainteed; SAINT-GOBAIN.
4. Continental Building Products Inc.
5. Georgia-Pacific Gypsum LLC.
6. Gold Bond Building Products, LLC provided by National Gypsum Company.
7. PABCO Gypsum.
8. USG Corporation.

2.4 INTERIOR GYPSUM BOARD

A. Gypsum Board, Type X: ASTM C1396/C1396M.
1. Thickness: 5/8 inch.
2. Long Edges: Tapered.

B. Gypsum Ceiling Board: ASTM C1396/C1396M.
1. Thickness: 1/2 inch.
2. Long Edges: Tapered.

C. Impact-Resistant Gypsum Board: ASTM C1396/C1396M gypsum board, tested in accordance with ASTM C1629/C1629M.
1. Core: 5/8 inch , Type X.
2. Surface Abrasion: ASTM C1629/C1629M, meets or exceeds Level 3 requirements.
3. Indentation: ASTM C1629/C1629M, meets or exceeds Level 1 requirements.
4. Soft-Body Impact: ASTM C1629/C1629M, meets or exceeds Level 2 requirements.
5. Hard-Body Impact: ASTM C1629/C1629M, meets or exceeds Level 1 requirements in accordance with test in Annex A1.
6. Long Edges: Tapered.
7. Mold Resistance: ASTM D3273, score of 10 as rated in accordance with ASTM D3274.

2.5 SPECIALTY GYPSUM BOARD

A. Glass-Mat Interior Gypsum Board: ASTM C1658/C1658M. With fiberglass mat laminated to both sides. Specifically designed for interior use.
1. Core: 5/8 inch , Type X.
2. Long Edges: Tapered.

3. Mold Resistance: ASTM D3273, score of 10 as rated in accordance with ASTM D3274.

2.6 TILE BACKING PANELS

A. Glass-Mat, Water-Resistant Backing Board: ASTM C1178/C1178M, with manufacturer's standard edges.
   1. Core: 5/8 inch , Type X.
   2. Mold Resistance: ASTM D3273, score of 10 as rated in accordance with ASTM D3274.

B. Cementitious Backer Units: ANSI A118.9 and ASTM C1288 or ASTM C1325, with manufacturer's standard edges.
   1. Thickness: 5/8 inch.
   2. Mold Resistance: ASTM D3273, score of 10 as rated in accordance with ASTM D3274.

C. Water-Resistant Gypsum Backing Board: ASTM C1396/C1396M, with manufacturer's standard edges.
   1. Core: 5/8 inch , Type X.

2.7 TRIM ACCESSORIES

A. Interior Trim: ASTM C1047.
   1. Material: Galvanized or aluminum-coated steel sheet, rolled zinc, plastic, or paper-faced galvanized-steel sheet.
   2. Shapes:
      a. Cornerbead.
      b. LC-Bead: J-shaped; exposed long flange receives joint compound.
      c. L-Bead: L-shaped; exposed long flange receives joint compound.
      d. U-Bead: J-shaped; exposed short flange does not receive joint compound.
      e. Expansion (control) joint.

2.8 JOINT TREATMENT MATERIALS

A. General: Comply with ASTM C475/C475M.

B. Joint Tape:
   1. Interior Gypsum Board: Paper.
   2. Tile Backing Panels: As recommended by panel manufacturer.

C. Joint Compound for Interior Gypsum Board: For each coat, use formulation that is compatible with other compounds applied on previous or for successive coats.
   1. Prefilling: At open joints and damaged surface areas, use setting-type taping compound.
   2. Embedding and First Coat: For embedding tape and first coat on joints, fasteners, and trim flanges, use drying-type, all-purpose compound.
      a. Use setting-type compound for installing paper-faced metal trim accessories.
   3. Fill Coat: For second coat, use drying-type, all-purpose compound.
   4. Finish Coat: For third coat, use setting-type, sandable topping compound.

D. Joint Compound for Tile Backing Panels:
   1. Glass-Mat, Water-Resistant Backing Panel: As recommended by backing panel manufacturer.
   2. Cementitious Backer Units: As recommended by backer unit manufacturer.

3. Water-Resistant Gypsum Backing Board: Use setting-type taping compound and setting-type, sandable topping compound.

2.9 AUXILIARY MATERIALS

A. Provide auxiliary materials that comply with referenced installation standards and manufacturer's written instructions.

B. Steel Drill Screws: ASTM C1002 unless otherwise indicated.
1. Use screws complying with ASTM C954 for fastening panels to steel members from 0.033 to 0.122 inch thick.
2. For fastening cementitious backer units, use screws of type and size recommended by panel manufacturer.

C. Sound-Attenuation Blankets: ASTM C665, Type I (blankets without membrane facing) produced by combining thermosetting resins with mineral fibers manufactured from glass, slag wool, or rock wool.
1. Fire-Resistance-Rated Assemblies: Comply with mineral-fiber requirements of assembly.
2. Products:
a. Thermafiber, Inc; SAFB FF.
b. ROCKWOOL; AFB evo™.
c. Johns Manville; MinWool Sound Attenuation Fire Batts.

D. Acoustical Sealant: As specified in Section 07 9200 - Joint Sealants.

PART 3 EXECUTION

3.1 EXAMINATION

A. Examine areas and substrates including welded hollow-metal frames and support framing, with Installer present, for compliance with requirements and other conditions affecting performance of the Work.

B. Examine panels before installation. Reject panels that are wet, moisture damaged, and mold damaged.

C. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 INSTALLATION AND FINISHING OF PANELS, GENERAL

A. Comply with ASTM C840.

B. Install ceiling panels across framing to minimize the number of abutting end joints and to avoid abutting end joints in central area of each ceiling. Stagger abutting end joints of adjacent panels not less than one framing member.

C. Install panels with face side out. Butt panels together for a light contact at edges and ends with not more than 1/16 inch of open space between panels. Do not force into place.

D. Locate edge and end joints over supports, except in ceiling applications where intermediate supports or gypsum board back-blocking is provided behind end joints. Do not place tapered edges against cut edges or ends. Stagger vertical joints on opposite sides of partitions. Do not make joints other than control joints at corners of framed openings.

E. Form control and expansion joints with space between edges of adjoining gypsum panels.

F. Cover both faces of support framing with gypsum panels in concealed spaces (above ceilings, etc.), except in chases braced internally.
   1. Unless concealed application is indicated or required for sound, fire, air, or smoke ratings, coverage may be accomplished with scraps of not less than 8 sq. ft. in area.
   2. Fit gypsum panels around ducts, pipes, and conduits.
   3. Where partitions intersect structural members projecting below underside of floor/roof slabs and decks, cut gypsum panels to fit profile formed by structural members; allow 1/4 to 3/8 inch wide joints to install sealant.

G. Isolate perimeter of gypsum board applied to non-load-bearing partitions at structural abutments. Provide 1/4 to 1/2 inch wide spaces at these locations and trim edges with edge trim where edges of panels are exposed. Seal joints between edges and abutting structural surfaces with acoustical sealant.

H. Attachment to Steel Framing: Attach panels so leading edge or end of each panel is attached to open (unsupported) edges of stud flanges first.

I. STC-Rated Assemblies: Seal construction at perimeters, behind control joints, and at openings and penetrations with a continuous bead of acoustical sealant. Install acoustical sealant at both faces of partitions at perimeters and through penetrations. Comply with ASTM C919 and with manufacturer's written instructions for locating edge trim and closing off sound-flanking paths around or through assemblies, including sealing partitions above acoustical ceilings.

J. Install sound attenuation blankets before installing gypsum panels unless blankets are readily installed after panels have been installed on one side.

3.3 INSTALLATION OF INTERIOR GYPSUM BOARD

A. Install interior gypsum board in the following locations:
   1. Type X: Vertical surfaces unless otherwise indicated.
   2. Ceiling Type: Ceiling surfaces.
   3. Impact-Resistant Type: As indicated on Drawings.
   4. Glass-Mat Interior Type: At the following locations:
      a. At equipment rooms, custodial closets, restrooms surfaces not receiving tile, kitchens, and wet areas. Provide at areas within 8 feet of water source.

B. Single-Layer Application:
   1. On ceilings, apply gypsum panels before wall/partition board application to greatest extent possible and at right angles to framing unless otherwise indicated.
   2. On partitions/walls, apply gypsum panels vertically (parallel to framing) unless otherwise indicated or required by fire-resistance-rated assembly, and minimize end joints.
      a. Stagger abutting end joints not less than one framing member in alternate courses of panels.
      b. At stairwells and other high walls, install panels horizontally unless otherwise indicated or required by fire-resistance-rated assembly.
   3. Fastening Methods: Apply gypsum panels to supports with steel drill screws.

C. Multilayer Application:

1. On ceilings, apply gypsum board indicated for base layers before applying base layers on walls/partitions; apply face layers in same sequence. Apply base layers at right angles to framing members and offset face-layer joints one framing member, 16 inches minimum, from parallel base-layer joints, unless otherwise indicated or required by fire-resistance-rated assembly.
2. On partitions/walls, apply gypsum board indicated for base layers and face layers vertically (parallel to framing) with joints of base layers located over stud or furring member and face-layer joints offset at least one stud or furring member with base-layer joints unless otherwise indicated or required by fire-resistance-rated assembly. Stagger joints on opposite sides of partitions.
3. Fastening Methods: Fasten base layers and face layers separately to supports with screws.

3.4 INSTALLATION OF TILE BACKING PANELS

A. Refer to Section 09 3000 - Tiling for tiling requirements and tile installation schedules.

B. Glass-Mat, Water-Resistant Backing Panels: Comply with manufacturer's written installation instructions and install at showers, tubs, "wet" walls to receive tiles or not receiving tiles, and where indicated on Drawings. Install with 1/4 inch gap where panels abut other construction or penetrations.

C. Cementitious Backer Units: ANSI A108.11, at showers, tubs, and where indicated on Drawings and shower floors and locations indicated to receive heavy tiles.

D. Water-Resistant Backing Board: Install where indicated with 1/4 inch gap where panels abut other construction or penetrations at kitchen backsplash and dry tiled locations, and including above showers.

E. Where tile backing panels abut other types of panels in same plane, shim surfaces to produce a uniform plane across panel surfaces.

3.5 INSTALLATION OF TRIM ACCESSORIES

A. General: For trim with back flanges intended for fasteners, attach to framing with same fasteners used for panels. Otherwise, attach trim according to manufacturer's written instructions.

B. Control Joints: Install control joints in accordance with ASTM C840 and in specific locations approved by Architect for visual effect.

C. Interior Trim: Install in the following locations:
1. Cornerbead: Use at outside corners unless otherwise indicated.
2. LC-Bead: Use at exposed panel edges.
3. L-Bead: Use where indicated on Drawings.
4. U-Bead: Use at exposed panel edges.

3.6 FINISHING OF GYPSUM BOARD

A. General: Treat gypsum board joints, interior angles, edge trim, control joints, penetrations, fastener heads, surface defects, and elsewhere as required to prepare gypsum board surfaces for decoration. Promptly remove residual joint compound from adjacent surfaces.

B. Prefill open joints and damaged surface areas.

C. Apply joint tape over gypsum board joints, except for trim products specifically indicated as not intended to receive tape.

D. Gypsum Board Finish Levels: Finish panels to levels indicated below and in accordance with ASTM C840:
   1. Level 1: Ceiling plenum areas, concealed areas, and where indicated.
   2. Level 2: Panels that are substrate for tile.
   3. Level 3: Surfaces at back-of-house locations, including electrical, mechanical, and storage rooms
   4. Level 4: At panel surfaces that will be exposed to view unless otherwise indicated.
      a. Primer and its application to surfaces are specified in Section 09 9123 - Interior Painting.

E. Glass-Mat Faced Panels: Finish according to manufacturer's written instructions.

F. Cementitious Backer Units: Finish according to manufacturer's written instructions.

3.7 PROTECTION

A. Protect adjacent surfaces from drywall compound and promptly remove from floors and other non-drywall surfaces. Repair surfaces stained, marred, or otherwise damaged during drywall application.

B. Protect installed products from damage from weather, condensation, direct sunlight, construction, and other causes during remainder of the construction period.

C. Remove and replace panels that are wet, moisture damaged, and mold damaged.
   1. Indications that panels are wet or moisture damaged include, but are not limited to, discoloration, sagging, or irregular shape.
   2. Indications that panels are mold damaged include, but are not limited to, fuzzy or splotchy surface contamination and discoloration.

END OF SECTION 09 2900

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SECTION 09 3000 - TILING

PART 1 GENERAL

1.1 SECTION INCLUDES

A. Tile for floor applications.

B. Tile for wall applications.

C. Stone thresholds.

D. Non-ceramic trim.

1.2 DEFINITIONS

A. General: Definitions in ANSI A108 series of tile installation standards and in ANSI A137.1 apply to Work of this Section unless otherwise specified.

B. Face Size: Actual tile size, excluding spacer lugs.

C. Large Format Tile: Tile with at least one edge 15 inches or longer.

D. Module Size: Actual tile size plus joint width indicated.

1.3 ADMINISTRATIVE REQUIREMENTS

A. Preinstallation Meeting: Convene a preinstallation meeting one week before starting work of this section; require attendance by affected installers.
1. Review requirements in ANSI A108.01 for substrates and for preparation by other trades.

1.4 ACTION SUBMITTALS

A. Product Data: Provide manufacturers' data sheets on tile, mortar, grout, and accessories. Include instructions for using grouts and adhesives.

B. Shop Drawings: Indicate tile layout, patterns, color arrangement, perimeter conditions, junctions with dissimilar materials, control and expansion joints, thresholds, and setting details.

C. Samples: Mount tile and apply grout on two plywood panels, minimum 18 by 18 inches in size illustrating pattern, color variations, and grout joint size variations.

1.5 INFORMATIONAL SUBMITTALS

A. Certificate: Certify products of this section meet or exceed specified requirements.

B. Master Grade Certificate: Submit for each type of tile, signed by the tile manufacturer and tile installer.

C. Installer's qualification statement.

1.6 CLOSEOUT SUBMITTALS

A. Maintenance Data: Include recommended cleaning methods, cleaning materials, and stain removal methods.

1.7 MAINTENANCE MATERIALS SUBMITTAL

A. Maintenance Materials: Furnish the following for Owner's use in maintenance of project.
1. Extra Tile: 10 sq ft of each size, color, and surface finish combination.
2. Grout: Furnish quantity of grout equal to 3 percent of amount installed for each type, composition, and color indicated.6

1.8 QUALITY ASSURANCE

A. Installer Qualifications:
1. Company specializing in performing tile installation, with minimum of five years of documented experience.
2. Installer Certification:
a. Ceramic Tile Education Foundation (CTEF): Certified Tile Installer (CTI).
b. Advanced Certifications for Tile Installers (ACT): Certification in installation of membranes, mortar bed (mud) floors, mortar (mud) walls, shower receptors, large format tile, gauged porcelain tile/panels/slabs, and grouts.

1.9 MOCK-UPS

A. Build mockups to verify selections made under Sample submittals, to demonstrate aesthetic effects, and to set quality standards for materials and execution.

B. Build mockup of each type of wall and floor tile installation.

C. Locate where directed by Architect.

D. Mock-up may remain as part of work.

1.10 DELIVERY, STORAGE, AND HANDLING

A. Deliver and store packaged materials in original containers with seals unbroken and labels intact until time of use. Comply with requirements in ANSI A137.1 for labeling tile packages.

B. Store tile and cementitious materials on elevated platforms, under cover, and in a dry location.

C. Store aggregates where grading and other required characteristics can be maintained and contamination can be avoided.

D. Store liquid materials in unopened containers and protected from freezing.

E. Protect adhesives from freezing or overheating in accordance with manufacturer's instructions.

1.11 FIELD CONDITIONS

A. Do not install solvent-based products in an unventilated environment.

B. Maintain ambient and substrate temperature above 50 degrees F and below 100 degrees F during installation and curing of setting materials.

1.12 WARRANTY

A. System Warranty: Manufacturer's non-prorated comprehensive warranty that agrees to repair and replace defective installation areas, material, and labor that fail under normal usage within specified warranty period.
   1. Warranty Period: Lifetime from date of Product Purchase.

PART 2 PRODUCTS

2.1 SOURCE LIMITATIONS

A. Tiling System: Obtain system products from single manufacturer and each aggregate from single source or producer.
   1. Obtain setting and grouting materials, except for unmodified portland cement and aggregate, from single manufacturer.
   2. Obtain underlayment from manufacturer of setting and grouting materials.
   3. Obtain waterproof membrane, crack isolation, and other required membranes from manufacturer of setting and grouting materials.
   4. Obtain joint sealants from manufacturer of setting and grouting materials.

B. Accessory Products: Obtain each of the following products specified in this Section from a single manufacturer:
   1. Stone thresholds.

2.2 MANUFACTURERS

A. Provide Basis-of-Design Products listed on Material Finish Key and specified within this specification or comparable products by the following:
   1. CT-#, Tile:
      a. Architessa.
      b. Dal-Tile Corporation.
      c. Mosaic Tile.
      d. Conestogo.
      e. Studio Collection.
      f. Umore.
   2. Setting Materials:
      a. ARDEX Engineered Cements.
      b. Custom Building Products.
      c. TEC Specialty Products LLC.
      d. LATICRETE International, Inc.
      e. Mapei Corporation.

3. Grout:
    a. ARDEX Engineered Cements.
    b. Custom Building Products.
    c. TEC Specialty Products LLC.
    d. LATICRETE International, Inc.
    e. Mapei Corporation.

2.3 PERFORMANCE REQUIREMENTS

A. ANSI Ceramic Tile Standard: Provide tile that complies with ANSI A137.1 for types, compositions, and other characteristics indicated.
1. Provide tile complying with Standard Grade requirements, unless otherwise indicated.

B. Floor Tile: Provide tile for flooring applications with minimum wet Dynamic Coefficient of Friction (DCOF) of 0.42 when tested in accordance with ANSI A326.3.

C. Moisture Absorption:
1. Ceramic Mosaic Tile and Porcelain Tile: 0 to 0.5 percent as tested in accordance with ASTM C373.
2. Glazed Wall Tile: 7.0 to 20.0 percent as tested in accordance with ASTM C373.
3. Pressed Floor Tile: Moisture Absorption: 0.5 to 3.0 percent as tested in accordance with ASTM C373.

D. ANSI Standards for Tile Installation Materials: Provide materials complying with ANSI A108.02, ANSI standards referenced in other Part 2 articles, ANSI standards referenced by TCNA installation methods specified in tile installation schedules, and other requirements specified.

E. Factory Blending: For tile exhibiting color variations within ranges, blend tile in factory and package so tile units taken from one package show same range in colors as those taken from other packages and match approved Samples.

F. Mounting: For factory-mounted tile, provide back- or edge-mounted tile assemblies as standard with manufacturer unless otherwise indicated.
1. Where tile is indicated for installation in wet areas, do not use back- or edge-mounted tile assemblies unless tile manufacturer specifies in writing that this type of mounting is suitable for installation indicated and has a record of successful in-service performance.

G. Factory-Applied Temporary Protective Coating: Where indicated under tile type, protect exposed surfaces of tile against adherence of mortar and grout by precoating with continuous film of petroleum paraffin wax, applied hot. Do not coat unexposed tile surfaces.

2.4 TRIM AND ACCESSORIES

A. Non-Ceramic Trim: Brushed stainless steel, style and dimensions to suit application, set with tile mortar or adhesive.
1. Applications:
    a. Open edges of wall and floor tile.
    b. Inside and outside wall corners.
    c. Transition between floor finishes of different heights.
    d. Thresholds at door openings.
    e. Floor and wall expansion and control joints.

f. Floor-to-wall joints, including coved shaped profile.
g. Borders and other trim as indicated on drawings.

2. Basis-of-Design Manufacturer: Schluter Systems or comparable products by one of the following manufacturers:
   a. Blanke Corporation.
   b. Futura Transitions.
   c. LATICRETE International, Inc.
   d. Profilitec.

2.5 THRESHOLDS

A. General: Fabricate to sizes and profiles indicated or required to provide transition between adjacent floor finishes.
   1. Bevel edges at 1:2 slope, with lower edge of bevel aligned with or up to 1/16 inch above adjacent floor surface. Finish bevel to match top surface of threshold. Limit height of threshold to 1/2 inch or less above adjacent floor surface.

B. Thresholds: 2 inches wide by full width of wall or frame opening; beveled edge on one edge, refer to Threshold details; without holes, cracks, or open seams.
   1. Material: Marble, honed finish.
   2. Color and Pattern: Uniform, fine- to medium-grained white stone with gray veining.
   3. Applications:
      a. At doorways where tile terminates.
      b. At open edges of floor tile where adjacent finish is a different height.

2.6 SETTING MATERIALS

A. Provide setting and grout materials from same manufacturer.

B. Latex-Portland Cement Mortar Bond Coat: ANSI A118.4.
   1. For wall applications, provide mortar that complies with requirements for nonsagging mortar in addition to other requirements in ANSI A118.4.
   2. Applications: Large Format Tile at floors.
      a. Basis-of-Design Products:
         1) Custom Building Products; ProLite Premium Rapid Setting Large Format Tile Mortar, with Multi-Surface Bonding Primer.
   3. Application: Use Mosaic and Glass Tiles in dry and wet locations, including showers, floor and wall.
      a. Basis-of-Design Product:
         1) Mapei Corporation; Adesilex P10 Mosaic & Glass Tile.

C. Improved Latex-Portland Cement Mortar Bond Coat (thin-set): ANSI A118.15.
   1. For wall applications, provide mortar that complies with requirements for nonsagging mortar in addition to other requirements in ANSI A118.15.
   2. Applications: Use at large format tile floors, exterior or interior locations.
      a. Products:
         1) Mapei Corporation; Kerabond T/Keralastic System.
   3. Application: Use for wall and floor applications of large and heavy tile.
      a. Product:

1) Mapei Corporation; Ultralite S1 Quick.

D. Mortar Bed Materials: Pre-packaged mix of Portland cement, sand, and water.
1. Products:
a. Mapei Corporation; Modified Mortar Bed.

2.7 GROUTS

A. Epoxy Grout: ANSI A118.3 chemical resistant and water-cleanable epoxy grout.
1. Applications: Refer to Installation Schedule for locations.
2. Color: As selected by Architect from manufacturer's full line.
3. Products:
a. Mapei Corporation; Kerapoxy CQ or Kerapoxy. Select to suit tile joints.

2.8 MAINTENANCE MATERIALS

A. Tile Sealant: See Section 07 9200.

2.9 ACCESSORY MATERIALS

A. Waterproofing Membrane at Floors: Specifically designed for bonding to cementitious substrate under thick mortar bed or thin-set tile; complying with ANSI A118.10.
1. Crack Resistance: No failure at 1/16-inch gap, minimum; comply with ANSI A118.12.
2. Bonded Sheet Membrane Type: Contractor to select one of the following:
a. Material: Polyethylene sheet membrane with nonwoven fabric laminated to both sides, 20 to 30 mils thick, nominal.
b. Material: Polyethylene vinyl acetate (PEVA) core with nonwoven polypropylene laminated to both sides, 8 mils thick.
c. Products:
1) LATICRETE International, Inc; LATICRETE HYDRO BAN Sheet Membrane.
2) Mapei Corporation; Mapeguard WP 200 Membrane.
3) Schluter-Systems; KERDI.

B. Waterproofing Membrane at Showers and Tiled Tubs: Specifically designed for bonding to cementitious substrate under thick mortar bed or thin-set tile; complying with ANSI A118.10.
1. Mortar Bonded Sheet Type:
a. Products:
1) LATICRETE International, Inc; LATICRETE HYDRO BAN Sheet Membrane.

C. Reinforcing Mesh: 2 by 2 inch size weave of 16/16 wire size; welded fabric, galvanized.

D. Mesh Tape: 2 inch wide self-adhesive fiberglass mesh tape.

PART 3 EXECUTION

3.1 EXAMINATION

A. Verify subfloor surfaces are smooth and flat within tolerances specified for that type of work and are ready to receive tile.

B. Verify wall surfaces are smooth and flat within tolerances specified for that type of work, are dust-free, and are ready to receive tile.

C. Verify that subfloor surfaces are dust free and free of substances that could impair bonding of setting materials to subfloor surfaces.

D. Cementitious Subfloor Surfaces: Verify that substrates are ready for tiling installation by testing for moisture and alkalinity (pH).
   1. Test as Follows:
      a. Alkalinity (pH): ASTM F710.
      b. Internal Relative Humidity: ASTM F2170.
      c. Moisture Vapor Emission: ASTM F1869.
   2. Obtain instructions if test results are not within limits recommended by tiling material manufacturer and setting material manufacturer.

E. Verify that required floor-mounted utilities are in correct location.

3.2 PREPARATION

A. Vacuum clean surfaces and damp clean.

B. Fill cracks, holes, and depressions in concrete substrates for tile floors installed with thinset mortar with trowelable leveling and patching compound specifically recommended by tile-setting material manufacturer.

C. Prepare substrate surfaces for adhesive installation in accordance with adhesive manufacturer's instructions.

D. Where indicated, prepare substrates to receive waterproof membrane by applying a reinforced mortar bed that complies with ANSI A108.1 and is sloped 1/4 inch per foot toward drains.

E. Blending: For tile exhibiting color variations, verify that tile has been factory blended and packaged so tile units taken from one package show same range of colors as those taken from other packages and match approved Samples. If not factory blended, either return to manufacturer or blend tiles at Project site before installing.

F. Substrate Flatness:
   1. For tile shorter than 15 inches, confirm that structure or substrate is limited to variation of 1/4 inch in 10 ft. from the required plane, and no more than 1/16 inch in 12 inches when measured from tile surface high points.
   2. For large format tile, tile with at least one edge 15 inches or longer, confirm that structure or substrate is limited to 1/8 inch in 10 ft. from the required plane, and no more than 1/16 inch in 24 inches when measured from tile surface high points.

3.3 INSTALLATION - GENERAL

A. Install waterproof membrane to comply with ANSI A108.13 and manufacturer's written instructions to produce waterproof membrane of uniform thickness that is bonded securely to substrate.
   1. Allow waterproof membrane to cure and verify by testing that it is watertight before installing tile or setting materials over it.

B. Install crack isolation membrane to comply with ANSI A108.17 and manufacturer's written instructions to produce membrane of uniform thickness that is bonded securely to substrate.
   1. Allow crack isolation membrane to cure before installing tile or setting materials over it.

C. Mix mortars and grouts and mortar and grout manufacturers' written instructions.
   1. Add materials, water, and additives in accurate proportions.
   2. Obtain and use type of mixing equipment, mixer speeds, mixing containers, mixing time, and other procedures to produce mortars and grouts of uniform quality with optimum performance characteristics for installations indicated.

D. Install tile and thresholds and grout in accordance with applicable requirements of ANSI A108/A118/A136, manufacturer's instructions, and TCNA (HB) installation methods.
   1. For the following installations, follow procedures in ANSI A108 series of tile installation standards for providing 95 percent mortar coverage:
      a. Tile floors in wet areas.
      b. Tile floors consisting of tiles 8 by 8 inches or larger.
      c. Tile floors consisting of rib-backed tiles.
   2. Extend tile work into recesses and under or behind equipment and fixtures to form complete covering without interruptions unless otherwise indicated. Terminate work neatly at obstructions, edges, and corners without disrupting pattern or joint alignments.
   3. Accurately form intersections and returns. Perform cutting and drilling of tile without marring visible surfaces. Carefully grind cut edges of tile abutting trim, finish, or built-in items for straight aligned joints. Fit tile closely to electrical outlets, piping, fixtures, and other penetrations so plates, collars, or covers overlap tile.
   4. Provide manufacturer's standard trim shapes where necessary to eliminate exposed tile edges.
   5. Where accent tile differs in thickness from field tile, vary setting-bed thickness so that tiles are flush.
   6. Jointing Pattern: Lay tile in grid pattern unless otherwise indicated. Lay out tile work and center tile fields in both directions in each space or on each wall area. Lay out tile work to minimize use of pieces that are less than half of a tile. Provide uniform joint widths unless otherwise indicated.
      a. For tile mounted in sheets, make joints between tile sheets same width as joints within tile sheets, so joints between sheets are not apparent in finished Work.
      b. Where adjoining tiles on floor, base, walls, or trim are specified or indicated to be same size, align joints.
      c. Where tiles are specified or indicated to be whole integer multiples of adjoining tiles on floor, base, walls, or trim, align joints unless otherwise indicated.

E. Cut and fit tile to penetrations through tile, leaving sealant joint space. Form corners and bases neatly.

F. Make grout joints without voids, cracks, excess mortar or excess grout, or too little grout.

G. Movement Joints: Provide movement joints and other sealant-filled joints, including control, contraction, and isolation joints, where indicated on Drawings. Form joints during installation of setting materials, mortar beds, and tile. Keep joints free of dirt, debris, and setting materials prior to filling with sealants. Do not saw-cut joints after installing tiles.
   1. Where joints occur in concrete substrates, locate joints in tile surfaces directly above them.

H. Form internal angles square and external angles square.

I. Install non-ceramic trim in accordance with manufacturer's instructions.

J. Thresholds: Install stone and solid surface thresholds in same type of setting bed as adjacent floor unless otherwise indicated.
   1. At locations where mortar bed (thickset) would otherwise be exposed above adjacent floor finishes, set thresholds in improved modified dry-set mortar (thinset).
   2. Do not extend cleavage membrane, waterproof membrane, or crack isolation membrane under thresholds set in improved modified dry-set mortar. Fill joints between such thresholds and adjoining tile set on cleavage membrane, waterproof membrane, or crack isolation membrane with elastomeric sealant.

K. Metal Flooring Transitions: Install where exposed edge of tile flooring meets carpet, wood, or other flooring that finishes flush with or below top of tile and no threshold is indicated.

L. Metal Wall Trim: Install at locations indicated on Drawings.

M. Sound tile after setting. Replace hollow sounding units.

N. Prior to grouting, allow installation to completely cure; minimum of 48 hours.

O. At changes in plane and tile-to-tile control joints, use tile sealant instead of grout, with either bond breaker tape or backer rod as appropriate to prevent three-sided bonding.

3.4 TILE BACKING BOARD

A. Refer to Section 09 29 00 - Gypsum Board for tile backer types and installation requirements.

3.5 INSTALLATION SCHEDULE, FLOORS

A. Concrete Subfloors:
   1. TCNA F114: ANSI A108.1A Cement mortar bed (thickset) with cleavage membrane and reinforcing.
      a. Application: Public Toilets.
      b. Tiles: for tiles over 15-inches on long edge.
      c. Bond Coat for Cured-Bed Method: Latex-Portland Cement Mortar Bond Coat.
      d. Grout: Epoxy grout.
      e. Joint Width: as recommended by tile manufacturer.
   2. TCNA F121: Cement mortar bed (thickset) with waterproof membrane and reinforcing.
      a. Application: Toilet/Shower Room.
      b. Tiles: for tiles over 15-inches on long edge.
      c. Bond Coat for Cured-Bed Method: Latex-Portland Cement Mortar Bond Coat.
      d. Grout: Epoxy grout.
      e. Joint Width: as recommended by tile manufacturer.

B. Cleavage Membrane: Lap and seal watertight, edges and ends.

C. Waterproofing Membrane: Install as recommended by manufacturer and as specified in the section in which the product is specified.

D. Mortar Bed Thickness: 5/8 inchor as indicated as minimum thickness in TCNA manual.

E. Install tile-to-tile floor movement joints in accordance with TCNA (HB) Method EJ171F.

3.6 INSTALLATION, SHOWERS

A. Shower Wall and Flooring Installations, Wood or Metal Studs or Furring:
1. TCNA B420, mortar bed floor with thinset coated glass-mat water-resistant gypsum with waterproof membrane.
    a. Thinset Mortar: Improved modified dry-set mortar.
    b. Bond Coat for Cured-Bed Method: Latex-Portland Cement Mortar Bond Coat with reinforcing.
    c. Grout: Water-cleanable epoxy grout.
    d. Fiber mesh tape.
    e. Waterproof Membrane: As recommended by setting material manufacturer.
    f. Joint Width: as recommended by tile manufacturer.
    g. Movement Joints: Types located on Drawings.

B. Shower Wall and Flooring Installations with No Shower Head, Wood or Metal Studs or Furring:
1. TCNA B415, mortar bed floor, and W244, thin-set over cementitious backer unit walls with waterproof membrane.
    a. Thinset Mortar: Improved modified dry-set mortar.
    b. Bond Coat for Cured-Bed Method: Latex-Portland Cement Mortar Bond Coat with reinforcing.
    c. Grout: Water-cleanable epoxy grout.
    d. Fiber mesh tape.
    e. Waterproof Membrane: As recommended by setting material manufacturer.
    f. Joint Width: as recommended by tile manufacturer.
    g. Movement Joints: Types located on Drawings.

3.7 INSTALLATION SCHEDULE, WALLS

A. Wood or Metal Studs or Furring:
1. TCNA W243: Thin-set mortar on gypsum board.
    a. Application: at Dry Areas only, including backsplashes in kitchens and accent wall in restrooms without plumbing.
    b. Thinset Mortar: Improved modified dry-set mortar.
    c. Grout: Water-cleanable epoxy grout.
    d. Waterproof Membrane: As recommended by setting material manufacturer.
    e. Joint Width: as recommended by tile manufacturer.
    f. Movement Joints: Types located on Drawings.
2. TCNA W244C: Cementitious backer board over waterproof membrane.
    a. Application: toilet rooms.
    b. Thinset Mortar: Improved modified dry-set mortar.
    c. Grout: Water-cleanable epoxy grout.

d. Waterproof Membrane: As recommended by setting material manufacturer.
e. Joint Width: as recommended by tile manufacturer.
f. Movement Joints: Types located on Drawings.

3.8 FIELD QUALITY CONTROL

A. Water Test:
1. Test of waterproofing membrane in showers and similar areas to be performed by Installation Contractor before setting tile.
   a. Perform test after 24 hours of waterproof membrane installation.
   b. Insert test plug in drain or waste line.
   c. Fill shower base with water, high enough that the membrane-to-drain connection and floor-to-wall transition can be evaluated, and mark wall.
   d. Check for leaks after 24 hours.
2. Test to be witnessed by Architect and authorities having jurisdiction.
3. Nonconforming Work:
   a. Waterproof membrane will be considered defective if water level has dropped.
   b. Remove and replace defective components and retest.

3.9 CLEANING

A. Remove and replace tile that is damaged or that does not match adjoining tile. Provide new matching units, installed as specified and in a manner to eliminate evidence of replacement.

B. Cleaning: On completion of placement and grouting, clean all ceramic tile surfaces so they are free of foreign matter.
1. Remove grout residue from tile as soon as possible.
2. Clean grout smears and haze from tile in accordance with tile and grout manufacturer's written instructions. Use only cleaners recommended by tile and grout manufacturers and only after determining that cleaners are safe to use by testing on samples of tile and other surfaces to be cleaned. Protect metal surfaces and plumbing fixtures from effects of cleaning. Flush surfaces with clean water before and after cleaning.

3.10 PROTECTION

A. Do not permit traffic over finished floor surface for 7 days after grout installation.

B. Protect installed tile work with kraft paper or other heavy covering during construction period to prevent staining, damage, and wear. If recommended by tile manufacturer, apply coat of neutral protective cleaner to completed tile walls and floors.

C. Before final inspection, remove protective coverings and rinse neutral protective cleaner from tile surfaces.

END OF SECTION 09 3000

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SECTION 09 9123 - INTERIOR PAINTING

PART 1 GENERAL

1.1 SECTION INCLUDES

A. Surface preparation.

B. Field application of paints.

C. Scope: Finish interior surfaces exposed to view, unless fully factory-finished and unless otherwise indicated.

D. Do Not Paint or Finish the Following Items:
1. Items factory-finished unless otherwise indicated; materials and products having factory-applied primers are not considered factory finished.
2. Items indicated to receive other finishes.
3. Items indicated to remain unfinished.
4. Fire rating labels, equipment serial number and capacity labels, bar code labels, and operating parts of equipment.
5. Stainless steel, anodized aluminum, bronze, terne-coated stainless steel, and lead items.
6. Marble, granite, slate, and other natural stones.
7. Floors, unless specifically indicated.
8. Ceramic and other tiles.
9. Glass.
10. Concealed pipes, ducts, and conduits.

1.2 ACTION SUBMITTALS

A. Product Data: Provide complete list of products to be used, with the following information for each:
1. Manufacturer's name, product name and/or catalog number, and general product category (e.g., "alkyd enamel").
2. MPI product number (e.g., MPI #47).
3. Cross-reference to specified paint system products to be used in project; include description of each system.
4. Manufacturer's Instructions: Indicate special surface preparation procedures and substrate conditions requiring special attention.

B. Samples: Submit 1 paper "draw down" samples, 8-1/2 by 11 inches in size, illustrating range of colors available for each finishing product specified.
1. Where sheen is specified, submit samples in only that sheen.
2. Paint color submittals will not be considered until color submittals for major materials not to be painted, such as masonry, have been approved.

1.3 INFORMATIONAL SUBMITTALS

A. Certification: By manufacturer that paints and finishes comply with VOC limits specified.

B. Qualifications: for applicator.

1.4 CLOSEOUT SUBMITTALS

A. Maintenance Data: Submit data including finish schedule showing where each product/color/finish was used, product technical data sheets, material safety data sheets (MSDS), care and cleaning instructions, touch-up procedures, repair of painted and finished surfaces, and color samples of each color and finish used.

1.5 MAINTENANCE MATERIALS SUBMITTALS

A. Extra Paint and Finish Materials: 1 gal of each color; from the same product run, store where directed.

B. Label each container with color in addition to the manufacturer's label.

1.6 QUALITY ASSURANCE

A. Applicator Qualifications: Company specializing in performing the type of work specified with minimum 3 years experience and approved by manufacturer.

1.7 DELIVERY, STORAGE, AND HANDLING

A. Deliver products to site in sealed and labeled containers; inspect to verify acceptability.

B. Container Label: Include manufacturer's name, type of paint, brand name, lot number, brand code, coverage, surface preparation, drying time, cleanup requirements, color designation, and instructions for mixing and reducing.

C. Paint Materials: Store at minimum ambient temperature of 45 degrees F and a maximum of 90 degrees F, in ventilated area, and as required by manufacturer's instructions.

1.8 FIELD CONDITIONS

A. Do not apply materials when surface and ambient temperatures are outside the temperature ranges required by the paint product manufacturer.

B. Follow manufacturer's recommended procedures for producing best results, including testing of substrates, moisture in substrates, and humidity and temperature limitations.

C. Do not apply materials when relative humidity exceeds 85 percent, at temperatures less than 5 degrees F above the dew point, or to damp or wet surfaces.

D. Minimum Application Temperatures for Paints: 50 degrees F for interiors unless required otherwise by manufacturer's instructions.

E. Provide lighting level of 80 fc measured mid-height at substrate surface.

PART 2 PRODUCTS

2.1 MANUFACTURERS

A. Provide paints and finishes from the same manufacturer to the greatest extent possible.
   1. If a single manufacturer cannot provide specified products; minor exceptions will be permitted provided approval by Architect is obtained using the specified procedures for substitutions.
   2. Substitution of MPI-approved products by a different manufacturer is preferred over substitution of unapproved products by the same manufacturer.

B. Paints:
   1. Base Manufacturer: Sherwin Williams Company.
   2. BEHR Paint Company.
   3. Dunn-Edwards Corporation.
   4. Pittsburgh Paints.

C. Primer Sealers: Same manufacturer as top coats.

2.2 PAINTS AND FINISHES - GENERAL

A. Paints and Finishes: Ready-mixed, unless intended to be a field-catalyzed paint.
   1. Where MPI paint numbers are specified, provide products listed in Master Painters Institute Approved Product List, current edition available at www.paintinfo.com, for specified MPI categories, except as otherwise indicated.
   2. Provide paints and finishes of a soft paste consistency, capable of being readily and uniformly dispersed to a homogeneous coating, with good flow and brushing properties, and capable of drying or curing free of streaks or sags.
   3. Provide materials that are compatible with one another and the substrates indicated under conditions of service and application, as demonstrated by manufacturer based on testing and field experience.
   4. Supply each paint material in quantity required to complete entire project's work from a single production run.
   5. Do not reduce, thin, or dilute paint or finishes or add materials unless such procedure is specifically described in manufacturer's product instructions.

B. Flammability: Comply with applicable code for surface burning characteristics.

C. Colors: As indicated on Material Finish Key.
   1. Top Coat Sheen: Unless noted otherwise on Interior Finish Legend, apply paint systems with following top coat sheen:
      a. Flat: MPI gloss level 1; at overhead and ceiling surfaces.
      b. Velvet: MPI gloss level 2; not used.
      c. Eggshell: MPI gloss level 3; not used.
      d. Satin: MPI gloss level 4; not used.
      e. Semi-Gloss: MPI gloss level 5; not used.
      f. Gloss: MPI gloss level 6; not used.

2.3 PAINT SYSTEMS

A. Interior Surfaces to be Painted, Unless Otherwise Indicated: Including gypsum board.

1. Two top coats and one coat primer or one coat block filler.
2. Top Coat(s): High Performance Architectural Interior Latex.
    a. Products:
        1) Sherwin-Williams ProMar 200 HP Series (gypsum surfaces).
3. Primer: As recommended by top coat manufacturer for specific substrate.

2.4 ACCESSORY MATERIALS

A. Accessory Materials: Provide primers, sealers, cleaning agents, cleaning cloths, sanding materials, and clean-up materials as required for final completion of painted surfaces.

B. Patching Material: Latex filler.

C. Fastener Head Cover Material: Latex filler.

PART 3 EXECUTION

3.1 EXAMINATION

A. Do not begin application of paints and finishes until substrates have been adequately prepared.

B. Verify that surfaces are ready to receive work as instructed by the product manufacturer.

C. Examine surfaces scheduled to be finished prior to commencement of work. Report any condition that may potentially affect proper application.

D. Test shop-applied primer for compatibility with subsequent cover materials.

E. Measure moisture content of surfaces using an electronic moisture meter. Do not apply finishes unless moisture content of surfaces is below the following maximums:
    1. Gypsum Wallboard: 12 percent.

3.2 PREPARATION

A. Clean surfaces thoroughly and correct defects prior to application.

B. Prepare surfaces using the methods recommended by the manufacturer for achieving the best result for the substrate under the project conditions.

C. Remove or mask surface appurtenances, including electrical plates, hardware, light fixture trim, escutcheons, and fittings, prior to preparing surfaces or finishing.

D. Seal surfaces that might cause bleed through or staining of topcoat.

E. Remove mildew from impervious surfaces by scrubbing with solution of tetra-sodium phosphate and bleach. Rinse with clean water and allow surface to dry.

F. Gypsum Board: Fill minor defects with filler compound. Spot prime defects after repair.

3.3 APPLICATION

A. Apply products in accordance with manufacturer's written instructions and recommendations in "MPI Architectural Painting Specification Manual".

B. Where adjacent sealant is to be painted, do not apply finish coats until sealant is applied.

C. Do not apply finishes to surfaces that are not dry. Allow applied coats to dry before next coat is applied.

D. Apply each coat to uniform appearance in thicknesses specified by manufacturer.

E. Vacuum clean surfaces of loose particles. Use tack cloth to remove dust and particles just prior to applying next coat.

F. Reinstall electrical cover plates, hardware, light fixture trim, escutcheons, and fittings removed prior to finishing.

3.4 CLEANING

A. At end of each workday, remove rubbish, empty cans, rags, and other discarded materials from Project site.
1. Do not clean equipment with free-draining water and prevent solvents, thinners, cleaners, and other contaminants from entering into waterways, sanitary and storm drain systems, and ground.
2. Dispose of contaminants in accordance with requirements of authorities having jurisdiction.
3. Allow empty paint cans to dry before disposal.
4. Collect waste paint by type and deliver to recycling or collection facility.

B. After completing paint application, clean spattered surfaces. Remove spattered paints by washing, scraping, or other methods. Do not scratch or damage adjacent finished surfaces.

C. Protect work of other trades against damage from paint application. Correct damage to work of other trades by cleaning, repairing, replacing, and refinishing, as approved by Architect, and leave in an undamaged condition.

D. At completion of construction activities of other trades, touch up and restore damaged or defaced painted surfaces.

3.5 PROTECTION

A. Protect finishes until completion of project.

B. Touch-up damaged finishes after Substantial Completion.

END OF SECTION 09 9123

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SECTION 10 2113.19 - PLASTIC TOILET COMPARTMENTS

PART 1 GENERAL

1.1 SECTION INCLUDES

A. Solid plastic toilet compartments.

1.2 ADMINISTRATIVE REQUIREMENTS

A. Coordination: Coordinate work with placement of support framing and anchors in walls and ceilings.

1.3 ACTION SUBMITTALS

A. Product Data: Provide data on panel construction, hardware, and accessories.

B. Shop Drawings: Indicate partition plan, elevation views, dimensions, details of wall and floor supports, and door swings.
1. Show locations of cutouts for compartment-mounted toilet accessories.
2. Show locations of centerlines of toilet fixtures.
3. Show locations of floor drains.
4. Show overhead support or bracing locations.

C. Samples for Verification: For the following products, in manufacturer's standard sizes unless otherwise indicated:
1. Each type of material, color, and finish required for toilet compartments, prepared on 6 inch square Samples of same thickness and material indicated for Work.
2. Each type of hardware and accessory.

D. Product Schedule: For toilet compartments, prepared by or under the supervision of supplier, detailing location and selected colors for toilet compartment material.

E. Delegated Design Submittals: For grab bars mounted on toilet compartment panels, including analysis data signed and sealed by the qualified professional engineer responsible for their preparation.
1. Include structural design calculations indicating compliance with specified structural-performance requirements.

1.4 INFORMATIONAL SUBMITTALS

A. Qualifications: for installer, manufacturer, and designer.

B. Executed warranty.

1.5 CLOSEOUT SUBMITTALS

A. Maintenance Data: For toilet compartments to include in maintenance manuals.

1.6 MAINTENANCE MATERIAL SUBMITTALS

A. Furnish extra materials that match products installed and that are packaged with protective covering for storage and identified with labels describing contents.
   1. Door Hinges: Four hinge(s) with associated fasteners.
   2. Latch and Keeper: Four latch(es) and keeper(s) with associated fasteners.
   3. Door Bumper: Four door bumper(s) with associated fasteners.
   4. Door Pull: Four door pull(s) with associated fasteners.
   5. Fasteners: Ten fasteners of each size and type.

1.7 QUALITY ASSURANCE

A. Designer Qualifications: Perform design under direct supervision of professional engineer experienced in design of this type of work and licensed in the State in which the Project is located.

B. Installer Qualifications: minimum 2 years experience installing similar products.

C. Manufacturer Qualifications: Company specializing in manufacturing products specified in this section, with minimum 3 years of documented experience.

1.8 DELIVERY, STORAGE, AND HANDLING

A. Deliver, store, and handle materials and products in accordance with manufacturer's instructions and recommendations and industry standards.

B. Do not deliver materials or begin installation until building is enclosed, with complete protection from outside weather, and building temperature maintained at minimum of 60 degrees F.

C. Store products indoors in manufacturer's or fabricator's original containers and packaging, with labels clearly identifying product name and manufacturer. Protect products from damage.

D. Lay cartons flat; support to ensure flatness and prevent damage to prefinished surfaces.

E. Do not store where ambient temperature exceeds 120 degrees F.

1.9 FIELD CONDITIONS

A. Ambient Conditions: Maintain environmental conditions, such as temperature, humidity, and ventilation, within limits recommended by manufacturer for optimum results. Do not install products under environmental conditions outside manufacturer's absolute limits.

1.10 WARRANTY

A. Manufacturer Warranty: Provide 10-year manufacturer warranty for material against breakage, corrosion, and delamination. Complete forms in Owner's name and register with manufacturer.

PART 2 PRODUCTS

2.1 MANUFACTURERS

A. Basis-of-Design Product: provide products on Material Finish Key or comparable product submitted for Architect's review from one of the listed manufacturers.

B. Solid Plastic Toilet Compartments:
1. ASI Accurate Partitions.
2. Hadrian.
3. Metpar Corporation.
4. Partition Systems International of South Carolina.

2.2 DESIGN CRITERIA

A. Accessibility: Comply with ICC A117.1 and ADA Standards.

B. Fire Performance: Pass when tested in accordance with NFPA 286.

C. Surface Burning Characteristics: Flame spread index of 26 to 75 and smoke developed index of 450 or less, when tested in accordance with ASTM E84.

2.3 SOLID PLASTIC TOILET COMPARTMENTS

A. General Description: Factory-fabricated doors, pilasters, and divider panels made of solid, molded, high-density polyethylene (HDPE); floor-mounted, headrail-braced.

B. Urinal-Screen Style: Wall hung.

C. Shower Compartment: floor mounted, headrail-braced.

D. Color: as selected on Material Finish Key.

E. Door, Panel, and Pilaster Construction: Solid, high-density polyethylene (HDPE) material, not less than 1 inch thick, seamless, with eased edges, and with homogenous color throughout thickness of material. Provide with no-sightline system consisting of door and pilaster lapped edges on strike side of door and door and pilaster lapped edges on hinge side of door (unless continuous hinge is used).
1. Heat-Sink Strip: Manufacturer's continuous, extruded-aluminum or stainless steel strip fastened to exposed bottom edges of solid-plastic components to hinder malicious combustion.

F. Doors:
1. Thickness: 1 inch.
2. Width: 24 inches.
3. Width for Handicapped Use: 36 inches, outswinging.
4. Height: 55 inches.

G. Panels:
1. Thickness: 1 inch.
2. Height: 55 inches.
3. Depth: As indicated on drawings.

H. Pilasters:
1. Thickness: 1 inch.
2. Width: As required to fit space; minimum 3 inches.

I. Urinal Screens: Without doors; to match compartments; mounted to wall with two panel brackets.
1. Height: 42 inches.
2. Depths: 18 inches.

J. Shower Panels and Pilasters:
1. Panel Height: 76 inches.
2. Pilaster Screen Height: 82 inches.
3. Depth: as indicated on drawings.

2.4 FABRICATION

A. Fabricate toilet compartment components to sizes indicated in shop drawings.

B. Coordinate requirements and provide cutouts for through-partition toilet accessories.

C. Provide shoes and caps at pilasters and posts to conceal anchorage, supports, and leveling mechanisms.

D. Provide manufacturer's standard corrosion-resistant supports, leveling mechanisms, anchors, and anchoring assemblies for pilasters and posts.

E. Floor-Anchored, Overhead-Braced Units: Provide supports, leveling mechanisms, and anchors at pilasters to suit floor conditions.

2.5 MATERIALS

A. High-Density Polyethylene (HDPE):
1. Composition: Formed from waterproof, nonabsorbent, HDPE resins.
2. Properties: Mark-resistant, self-lubricating surface.
3. Material Fire Ratings: ICC (IBC), Class B.

B. Stainless Steel Sheet, Plate, and Bar: ASTM A240/A240M or ASTM A666/A666M, Type 304, stretcher-leveled standard of flatness.

C. Stainless Steel Castings: ASTM A743/A743M.

2.6 ACCESSORIES

A. Pilaster Shoes: Stainless steel, satin finish, 3 inches high; concealing floor fastenings.
1. Provide adjustment for floor variations with screw jack through steel saddles integral with pilaster.

B. Headrails: Extruded aluminum, anti-grip profile.
1. Size: Manufacturer's standard size.

C. Wall and Pilaster Brackets: Stainless steel; continuous type.

D. Attachments, Screws, and Bolts: Stainless steel, tamper-proof type.
1. Bracket Attachment to Panels and Pilasters: Through-bolts and nuts; tamper proof.

E. Hinges: Stainless steel, manufacturer's standard finish.
   1. Continuous-type hinge, self-closing.

F. Door Hardware: Standard type; Stainless steel, manufacturer's standard finish.
   1. Door Latch: Slide type with exterior emergency access feature.
   2. Door Strike and Keeper with Rubber Bumper: Mount on pilaster in alignment with door latch.
   3. Provide door pull for outswinging doors.

G. Coat Hook: One per compartment, mounted on door.

H. Toilet Accessories: See Section 10 2800.

I. Shower Curtains (WxH): 42 x 72 inches, white non PVC, hung with aluminum curtain hooks with self-lubricating Delrin slides.

PART 3 EXECUTION

3.1 EXAMINATION

A. Verify dimensions, tolerances, and interfaces with other work.

B. Verify actual locations of toilet fixtures, walls, columns, ceilings, and other construction contiguous with toilet compartments by field measurements before fabrication.

C. Verify spacing of and between plumbing fixtures.

D. Verify location of built-in framing, anchorage, and bracing.

E. Verify substrate and site conditions for product installation are installed in accordance with manufacturer's written instructions.

F. Notify Architect in writing of conditions detrimental to completion of work. Do not proceed with installation until detrimental conditions are corrected.

3.2 INSTALLATION

A. Install partitions secure, rigid, plumb, and level in accordance with manufacturer's written instructions.

B. Maintain 3/8-to-1/2-inch space between wall and panels and between wall and end pilasters.

C. Attach panel brackets securely to walls using anchor devices.

D. Attach panels and pilasters to brackets. Locate headrail joints at pilaster center lines.

E. Overhead-Braced Units: Secure pilasters to floor and level, plumb, and tighten. Set pilasters with anchors penetrating not less than 1-3/4 inch into structural floor unless otherwise indicated in manufacturer's written instructions. Secure continuous head rail to each pilaster with no fewer than two fasteners. Hang doors to align tops of doors with tops of panels, and adjust so tops of doors are parallel with overhead brace when doors are in closed position.

F. Urinal Screens: Attach with anchoring devices to suit supporting structure. Set units level and plumb, rigid, and secured to resist lateral impact.

G. Replace damaged or scratched materials with new materials. Do not touch up scratches or damaged finish in field.

3.3 TOLERANCES

A. Maximum Variation from True Position: 1/4 inch.

B. Maximum Variation from Plumb: 1/8 inch.

3.4 ADJUSTING

A. Adjust and align hardware to uniform clearance at vertical edge of doors, not exceeding 3/16 inch.

B. Adjust hinges to position doors in partially open position when unlatched. Return outswinging doors to closed position.

C. Adjust adjacent components for consistency of line or plane.

END OF SECTION 10 2113.19

SECTION 10 2800 - TOILET, BATH, AND LAUNDRY ACCESSORIES

PART 1 GENERAL

1.1 SECTION INCLUDES

A. Commercial toilet accessories.

B. Commercial shower and bath accessories.

1.2 ADMINISTRATIVE REQUIREMENTS

A. Coordinate the work with the placement of internal wall reinforcement to receive anchor attachments.

1.3 ACTION SUBMITTALS

A. Product Data: Submit data on accessories describing size, finish, details of function, and attachment methods.

B. Product Schedule: Indicating types, quantities, sizes, and installation locations by room of each accessory required.
   1. Identify locations using room designations indicated.
   2. Identify accessories using designations indicated.

PART 2 PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

A. Structural Performance: Design accessories and fasteners to comply with the following requirements:
   1. Grab Bars: Installed units are able to resist 250 lbf concentrated load applied in any direction and at any point.
   2. Shower Seats: Installed units are able to resist 250 lbf concentrated load applied in any direction and at any point.

2.2 MANUFACTURERS

A. Provide Basis-of-Design Products listed in Toilet Room Accessories Schedule or comparable products from the following submitted for Architect's review:
   1. American Specialties, Inc.
   2. Bradley Corporation.
   3. Bobrick.
   4. Georgia-Pacific Professional.
   5. Kimberly-Clark Corporation.

B. Provide products of each category type by single manufacturer.

2.3 MATERIALS

A. Accessories - General: Shop assembled, free of dents and scratches and packaged complete with anchors and fittings, steel anchor plates, adapters, and anchor components for installation.
1. Grind welded joints smooth.
2. Fabricate units made of metal sheet of seamless sheets with flat surfaces.

B. Keys: Provide 6 keys for each accessory to Owner; master key lockable accessories.

2.4 TOILET ACCESSORIES

A. TA11, Mirrors:
1. Frameless stainless steel mirror shall be 18-8, type-304, 20-gauge stainless steel polished to a No. 8 mirror finish.
2. Mirror shall have 1/4" return concealing 1/4" tempered masonite backing. Four corner countersunk holes provide flush fit of mounting screws with mirror surface.

B. Paper Towel Dispenser:
1. TA12, Manual, roll paper type.
a. Material: Thermoplastic polymer.
b. Paper Discharge: Pull-towel mechanism.
c. Capacity: 8-inch diameter roll.
d. Mounting: Surface mounted.
e. Refill Indicator: Transparent viewing slot.

C. Toilet Paper Dispener:
1. TA16, Toilet Paper Dispenser: Single jumbo roll, surface mounted, for cored type rolls.
a. Mounting: Surface.
b. Material: Stainless Steel, type 304.
c. Finish: Satin.
d. Construction: all-welded.

2.5 COMMERCIAL SHOWER AND BATH ACCESSORIES

A. TA12, Robe Hook: Heavy-duty stainless steel, double-prong, rectangular-shaped bracket and backplate for concealed attachment, satin finish.

PART 3 EXECUTION

3.1 EXAMINATION

A. Verify existing conditions before starting work.

B. Verify exact location of accessories for installation.

C. See Section 09 2216 - Non-Structural Metal Framing for installation of blocking, reinforcing plates, and concealed anchors in walls.

3.2 PREPARATION

A. Deliver inserts and rough-in frames to site for timely installation.

B. Provide templates and rough-in measurements as required.

3.3 INSTALLATION

A. Install accessories in accordance with manufacturers' instructions in locations indicated on drawings.

B. Install plumb and level, securely and rigidly anchored to substrate.

C. Mounting Heights: As required by accessibility regulations, unless otherwise indicated.

3.4 PROTECTION

A. Protect installed accessories from damage due to subsequent construction operations.

END OF SECTION 10 2800

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