REPAIR PEDESTRIAN BRIDGE: HUMAN ECOLOGY BUILDING

SUCF#171015

Project Manual & Specifications

September 18, 2026

Owner

Cornell University
Ithaca, New York 14853

Architect

T.Y. Lin International Engineering & Architecture, P.C.
32 Old Ship, 10th Floor
New York, New York 10005

Instructions to Bidders

Bid Form

General Conditions and Exhibits

New York State Department of Labor – Prevailing Wage Rates

DIVISION 1 - GENERAL REQUIREMENTS

Section 01 11 00	Summary of the Work
Section 01 14 00	Work Restrictions
Section 01 21 00	Allowances
Section 01 23 00	Alternates
Section 01 25 00	Substitutions and Product Options
Section 01 31 19	Project Meetings
Section 01 31 50	Electronic Project Management
Section 01 32 16	Construction Schedules
Section 01 32 33	Photographic Documentation
Section 01 33 00	Submittal Procedures
Section 01 35 29	General Health & Safety
Section 01 35 43	General Environmental Requirements
Section 01 35 44	Spill Control
Section 01 41 00	Regulatory Requirements
Section 01 42 00	References
Section 01 45 00	Quality Control
Section 01 45 33	Code Required Special Inspections and Procedures
Section 01 50 00	Temporary Facilities and Controls
Section 01 51 00	Temporary Utilities
Section 01 66 00	Storage and Protection
Section 01 73 29	Cutting, Patching and Repairing
Section 01 77 00	Project Close Out
Section 01 78 23	Operating and Maintenance Data
Section 01 78 36	Warranties and Bonds
Section 01 78 39	Record Documents

TECHNICAL SPECIFICATIONS

DIVISION 02 – SITEWORK
Section 02 41 19 SELECTIVE DEMOLITION

DIVISION 03 – CONCRETE
Section 03 30 00 CAST-IN-PLACE CONCRETE

DIVISION 07 – THERMAL AND MOISTURE PROTECTION
Section 07 18 00 TRAFFIC COATINGS (ALTERNATE NO. 1)
Section 07 71 23 MANUFACTURED STAINLESS STEEL GUTTERS
Section 07 84 13 PENETRATION FIRESTOPPING
Section 07 92 00 JOINT SEALANTS

DIVISION 09 – FINISHES
Section 09 91 13 EXTERIOR PAINTING

DIVISION 22 – PLUMBING
Section 22 05 33 HEAT TRACING FOR PLUMBING PIPING
Section 22 05 53 IDENTIFICATION FOR PLUMBING PIPING AND EQUIPMENT
Section 22 07 19 PLUMBING PIPING INSULATION
Section 22 14 00 FACILITY STORM DRAINAGE

DIVISION 26 – ELECTRICAL
Section 26 05 01 HEAT TRACING FOR GUTTERS & DOWNSPOUTS
Section 26 05 19 LOW-VOLTAGE ELECTRICAL POWER CONDUCTORS AND CABLES
Section 26 05 26 GROUNDING AND BONDING FOR ELECTRICAL SYSTEMS
Section 26 05 29 HANGERS AND SUPPORTS FOR ELECTRICAL SYSTEMS
Section 26 05 33 RACEWAYS AND BOXES FOR ELECTRICAL SYSTEMS
Section 26 05 44 SLEEVES AND SLEEVE SEALS FOR ELECTRICAL RACEWAYS AND CABLING
Section 26 27 26 WIRING DEVICES
Section 26 28 16 ENCLOSED SWITCHES AND CIRCUIT BREAKERS

DRAWING LIST

S-000 STRUCTURAL COVER SHEET
S-001 STRUCTURAL GENERAL NOTES
S-100 BRIDGE PLANS – DEMO & REPAIR
S-200 BRIDGE SECTIONS – DEMO & REPAIR 1
S-201 BRIDGE SECTIONS – DEMO & REPAIR 2
E-101 HUMAN ECOLOGY BUILDING – ELECTRICAL
P-001 PLUMBING LEGEND, NOTES, AND PLAN

END OF DOCUMENT

INSTRUCTIONS TO BIDDERS

Project:	Repair Pedestrian Bridge – Human Ecology Building
Owner:	The State University of New York, by Cornell University for and on behalf of the College of Human Ecology Ithaca, New York 14853
Architect:	TY Lin International Engineering & Architecture, P.C. 32 Old Slip, 10th Floor New York, New York 10005

1. PROPOSAL FORMS

a. Proposals shall be made only on the forms provided and all blank and underlined spaces in the forms shall be fully filled in, in ink or typed; amount shall be fully stated both in writing and in figures. Proposals shall be signed by Principals or Officers duly authorized to execute such documents on behalf of their respective firms or organizations, and the Certificate included in the Bid Form shall be completed accordingly. Bidder's legal name must be fully stated. Completed form shall be without interlineations, alterations, or erasures unless initialed and dated by the signer.

2. RECAPITULATION OR PROPOSAL

a. Proposals shall not contain any recapitulation of the work to be done. No oral, telegraphic or telephonic proposals or modifications will be considered.

3. METHOD OF SUBMISSION

a. Proposals shall be prepared and enclosed in a sealed envelope. **The Contractor shall submit one original signed Bid Form.** Envelope shall be addressed to:

Brenda Frank, Manager
Facilities Contracts
121 Humphreys Service Building
Cornell University
Ithaca, New York 14853

Proposal for: Repair Pedestrian Bridge – Human Ecology Building

Submitted by: _____
(Bidder)

b. Proposals shall be delivered to the Owner at the address listed above not later than **2:00PM** on **December 10, 2026**.

4. BID OPENING

a. Proposals will be opened and read aloud publicly by the Owner in Room 133, Humphreys Service Building, Cornell University Campus, Ithaca, New York and via Zoom at https://cornell.zoom.us/j/97418719800?pwd=rRReLWFIbJqEOwOEQEvSsdbpSIhROt.1&from=addon, at the hour and date listed in 3b. The Owner reserves the right to postpone the date and time of opening of proposals at any time prior to the date and time announced in this Instruction to Bidders or amendments thereto.

5. BIDDING DOCUMENTS

a. The Bidding Documents will consist of the following:

(1) Instructions to Bidders.

(2) Bid Form.

(3) General Conditions of the Contract and Division 1 - "General Requirements".

(4) Drawings and Specifications.

(5) Addenda and/or bulletins issued prior to date of opening of Proposals.

6. DRAWINGS AND SPECIFICATIONS FURNISHED

a. Contract Documents may be obtained from Facilities Contracts website (https://fcs.cornell.edu/projects-out-to-bid). For assistance call 607-255-5343.

b. Sets will be available at $49.00 per set without refund. No partial sets will be issued. The Contract Documents remain the property of the Owner. Fees are waived for certified Minority and Women Owned and Service Disabled Veteran Owned Businesses. Certification status will be verified in the New York State Contract System.

7. START OF WORK

a. Work shall begin upon Owner’s written authorization to proceed and shall be completed within one hundred eighty (180) calendar days from the contract approval date provided in the authorization to proceed.

b. The construction schedule is critical. The Contract shall include for adequate manpower and equipment in his Bid to ensure that no slippage of the schedule will occur.

8. BONDS

a. Performance and Payment Bonds. The successful Bidder shall furnish the Owner with "Performance" and “Labor and Material Payment Bonds", each in the amount of 100% of the Contract Price. The cost of such bonds shall be included in the Bidders Proposal. Each of these Bonds are to be in a form with such sureties as the Owner may approve.

b. Bid Security. Each Bidder will be required to furnish a Bid Security in the amount of 10% of the Bid Amount. Bid Securities may be in the form of a Bid Bond or Certified Check. Such Bid Security shall guarantee that the Bidder will execute the Contract if it is awarded to him in conformity with his Proposal. Such Proposal Guarantee Bond shall include a statement that the Insurer shall, at the option of the Bidder, be willing to provide to the Bidder the Contract Bonds as described in 8a above.

9. AWARD OF CONTRACT

a. It is the intent of the Owner to enter into a Contract with one General Contractor for the entire project. All labor and services and materials and supplies, etc. are to be furnished in accordance with the Contract.

b. Award of the Contract shall be made to the bidder submitting the lowest responsive and responsible bid who, in the opinion of the Owner, is qualified to perform the work. The Owner shall determine the lowest bid by adding to or deducting from the Base Bid of the bidders additive or deductive alternates, if any, the Owner elects to accept after the opening of the Bids. Alternates will be accepted in the order they are set forth in the Bid Form. The unit prices set forth in the Bid for additions to or deductions from the work shall not be considered in determining the lowest bid.

c. The Owner reserves the right to reject any or all Proposals, and to waive any informalities in Bidding.

d. All Proposals shall remain in force and effect for a period of not less than ninety (90) calendar days following the bid opening date.

e. Contract award shall be subject to approval of Cornell University's Contractors Qualification Statement.

10. EXAMINATION OF SITE AND CONTRACT DOCUMENTS

a. Each Bidder shall visit the Site of the proposed work, fully acquaint and familiarize himself with the conditions as they exist and the character of the operations to be carried on under the proposed Contract, and make such investigation as he may see fit so that he shall fully understand the facilities, physical conditions and restrictions attending the work under the Contract.

b. Each Bidder shall also thoroughly examine and become familiar with the Drawings, Specifications and associated Bid Documents.

c. By submitting a Proposal, the Bidder covenants and affirms that he has carefully examined the Drawings, Specifications, associated Bid Documents, the Addenda and Bulletins, if any, and the Site, that he relies on no representation by the Owner, and that from his own investigation he has satisfied himself as to the nature and location of the work, the general and local conditions, and all matters which may in any way affect the work or its performance, and that as a result of such examination and investigation, he fully understands the conditions of bidding and that he will not make any claim for, and waives any right to damage because of misinterpretation or misunderstanding of the Bid Documents and the conditions of bidding.

11. DISCREPANCIES

a. Should a Bidder find discrepancies in or omissions from the Drawings, Specifications and associated Bid Documents, or should he be in doubt as to their meaning, he shall at once notify the Architect, who will send written instructions to all bidders. Neither the Owner nor the Architect will be responsible for oral instructions. Every request for such interpretation should be in writing, addressed to the Architect. Inquiries received seven (7) or more days prior to date fixed for opening of Bids will be given consideration.

12. PRE-BID CONFERENCE

a. A pre-bid conference has been scheduled for 1:00PM, November 19, 2026, in Room 133 of Humphreys Service Building or via Zoom at:

https://cornell.zoom.us/j/91535829205?pwd=bVCLBxhgjsyYo9R6h8bGxuBYE6tyET.1&from=addon

A pre-bid walkthrough will follow and will meet at Human Ecology Building, Pedestrian Bridge at Terrace Level, 37 Forest Home Drive, Ithaca, New York 14853.

The Pre-Bid Conference is designed to assist Bidders in understanding the Contract Documents, the opportunity to pose clarifying questions or make inquiries regarding Contract Documents. Results will be published in an Addendum.

b. NOTE: All Contractors/Subcontractors attending the walkthrough are REQUIRED to sign a Release if using Cornell equipment. You are also required to have appropriate PPE including, but not limited to, all current OSHA regulations and at a minimum the use of eye protection foot protection, hand protection, head protection, hearing protection and fall protection. Additionally, the Borrower shall provide their own five-point safety harness where required.

13. ASSUMPTION OF RISK

Consultants/Subconsultants are expected to bring to jobsite all applicable personal safety devices required or needed to view the Scope of Work. Use of Cornell equipment or tools, with or without permission, involves inherent risk of injury to User(s). Any use of Cornell equipment is conditioned upon the assumption of all risks attendant to the use of any tools or equipment – including personal injury, death or permanent disability – arising from the Use of Cornell equipment or tools. These risks also include but are not limited to: accidents, collisions, falling, as well as unforeseen risks resulting in injuries to User and/or bystanders. Participation in a walk-through or similar activity constitutes acceptance of risk assumption.

14. TRADE SUBCONTRACTORS, MATERIAL SUPPLIERS

a. Each portion of the work shall be performed by an organization equipped and experienced to do work in that particular field, and no portion of the work shall be reserved by the Bidder to himself unless he is so equipped and experienced. Subcontracts shall be awarded only to parties satisfactory to the Owner and the Architect. Each subcontractor and materials supplier shall be approved individually.

b. In the spaces provided in the Bid Form, the Bidder will list all portions of the work they propose to perform directly with their own forces.

c. A list of names from which the Bidder proposes to select subcontractors, materials suppliers, and/or manufacturers for the principal trades or subdivisions of the work should be entered for each Section, Subdivision, or Supplier listed in the Bid Form.

d. In the Bid Form, there has been listed the principal trades or subdivisions of the work for which such a listing is required, together with the provisions which govern the listing, selection, and approval of principal subcontractors.

15. ALTERNATE PROPOSALS

a. Certain Alternate Proposals may be requested. They will be listed in the Bid Form and all Bidders are required to bid on all Alternates without exception, in the spaces provided.

b. Alternate Proposals shall include all overhead, profit, and other expenses in connection therewith.

c. Alternate Proposals, if accepted, will be accepted in the order in which they are set forth in the Bid Form.

16. UNIT PRICES

a. Certain Unit Prices may be requested. They will be listed in the Bid Form and all Bidders are required to bid on all Unit Prices without exception, in the spaces provided.

b. Unit Prices shall include all overhead, profit, and other expenses in connection therewith.

17. SCHEDULE OF VALUES

a. A partial "Schedule of Values" for certain trades and/or subdivisions of the work is required as part of the Bidder's Proposal in the Bid Form.

b. The successful Bidder shall submit a complete "Schedule of Values" showing the amounts allocated to the various trades, suppliers, subcontractors, installers and General Contractor's work, aggregating the total sum of the Contract. If requested by the Owner or Architect, the complete "Schedule of Values" shall be submitted prior to award of Contract.

18. ADDENDA AND BULLETINS

a. Addenda and/or bulletins issued during the bidding period shall be acknowledged in the space provided in the Bid Form.

19. SUBSTITUTIONS

a. Proposals shall conform to the requirements of the Bid Documents.

b. The Bidder may offer substitutions for any item of material or equipment, element of work, or method of construction set forth in the Bid Documents, with the exception of Form of Contract, General Conditions and General Requirements - Division 1, by listing the proposed substitutions and the amounts to be deducted from the Base Bid corresponding to each such proposed substitution in the spaces provided in the Bid Form. However, the Bidder is cautioned to make his base proposal on the materials and items specified by name or other particular reference.

20. SUB-SURFACE CONDITIONS

a. Boring information, water levels, indications of sub-surface conditions and similar information given on the Drawings or in the Specifications are furnished only for the convenience of the Bidders. The Owner, Architect and Consulting Engineer make no representation regarding the character and extent of the soil data or other sub-surface conditions to be encountered during the work and no guarantee as to the accuracy or validity of interpretation of such data or conditions is made or intended.

b. Each Bidder shall, by careful examination, inform himself as to the nature and location of the work, the conformation of the ground, subsoil and ground water conditions, the character, quality and quantity of the materials to be encountered, the character of equipment and facilities needed preliminary to and during the prosecution of the work, the general and local conditions and all other matters which can in any way affect the work under this Contract. The Bidder may, at his option, conduct tests at his expense, including borings, by prior notification to the Owner. Each Bidder shall make his own deductions of sub-surface conditions which may affect methods or cost of construction of the work hereunder and he agrees that, if awarded the construction contract, he will make no claim for damages or other compensation, except such as are provided for in the Contract Documents, should he encounter conditions during the progress of the work different from those as calculated and/or anticipated by him.

21. SALES AND USE TAX EXEMPTION

a. The Owner a non-profit educational institution, is exempt from payment of certain Sales and Use Taxes.

22. FEDERAL EXCISE TAX

a. The Owner a non-profit educational institution, is exempt from payment of certain Federal Excise Taxes.

23. TAX EXEMPT STATUS

a. Bidders shall inform all prospective subcontractors and suppliers from whom they expect to obtain proposals or quotations of the tax-exempt status of the Owner as set forth above and request that they reflect anticipated tax credits in their proposals or quotations.

24. EXEMPTION CERTIFICATES

a. At the Contractor's request, following the award of a Contract, Contractor exempt purchase certificates will be furnished by the Owner to the Contractor with respect to such tax-exempt articles or transactions as may be applicable under the Contract.

25. REQUIRED SUBMISSIONS

a. Provide with Bid Proposal:

(1) Acknowledgement of Addenda and/or Bulletins issued prior to bid opening
(2) Certificate as to Corporate Bidder
(3) List of Proposed Subcontractors
(4) Schedule of Values
(5) Alternate Proposals and Unit Prices
(6) Completion of Milestone Schedule
(7) Bid Security

b. **Within three (3) business days after bid opening (see attached forms)**:

1. MWBE and SDVOB Utilization Plan Form
2. EEO Policy Statement
3. Six-Month Workforce Projection
4. NYSDOL Contractor Certificate of Registration
5. Vendor Responsibility Questionnaire
6. Procurement Lobbying Act SFL J&K Forms
7. Omnibus Procurement Act Forms I and II (if bid is over One Million Dollars)
8. Offeror's Certification Regarding Sexual Harassment Prevention Policies Pursuant to the State Finance Law §139-I
9. NY Human Rights Law Executive Order 177 Certification
10. EO 16 Certification

c. Execution of Contract:

1. Insurance Certificate
2. Performance Bond
3. Labor and Material Payment Bond
4. NYSDOL Contractor Certificate of Registration for Subcontractors
5. Schedule of Work
6. Federal Tax Identification Number

END OF SECTION

REPAIR PEDESTRIAN BRIDGE: HUMAN ECOLOGY BUILDING

Cornell University, Ithaca, New York

BID FORM

Submitted by: _____ Date _____

To: Brenda Frank, Manager
Facilities Contracts
121 Humphreys Service Building
Cornell University
Ithaca, New York 14853

Gentlemen:

The undersigned, _____
(Name of Bidder)

a _____
(Type of Firm, State of Incorporation, if applicable)

of _____
(Address)

having carefully examined the Instructions to Bidders, the "Conditions of the Contract" (General, Division 1 - "General Requirements"), and the Drawings, Specifications and associated Bid Documents dated September 18, 2026, as prepared by T.Y. Lin International Engineering & Architecture, P.C., 32 Old Slip, 10th Floor, New York, New York 10005, as well as the premises and conditions affecting the work, proposes to furnish all material, equipment, labor, plant, machinery, tools, supplies, services, applicable taxes and specified insurance necessary to perform the entire work, as set forth in, and in accordance with the said documents for the following considerations:

1. BASE BID

   a. All work complete, for the sum of

   _____ ($ _____)
   for MATERIALS, SUPPLIES, LABOR, and
   SERVICES AND ALL OTHER COSTS.

2. ALTERNATE PROPOSAL

a. The undersigned, if awarded the Contract, proposes to perform work in addition to or in place of the scope of the work shown and specified herein as associated with the Base Bid in accordance with the following Alternate Proposals, which amounts are to be added or deducted to the amount of the Base Bid as indicated for the Alternates specified in Division 1 of the Specifications.

b. If the Bidder desires to indicate that the acceptance of any Alternate or Alternates will result neither in an addition to nor a deduction from the value of the work, he shall enter the phrase "No Change" in response to such Alternate or Alternates.

c. It is understood that the Owner will accept or reject Alternate Proposals in conjunction with the award of a construction contract and that Alternates will be accepted in the order provided below.

Alternate No.	Description	ADD	DEDUCT
ONE	Waterproof Bridge Deck Topside	$_____	$_____

3. MINORITY AND WOMEN'S BUSINESS ENTERPRISES (M/WBEs)

a. The undersigned shall, if awarded the Contract, endeavor to include both Minority and Women Owned Business Enterprises participation and to demonstrate a "good faith effort" with respect to these requirements. Goals shall be as follows:

- A goal of 8.79% for Minority-Owned Business Enterprise (MBE) participation shall be applied as follows: a maximum of one-third (1/3) of the goal may be applied to purchases of materials, supplies, and equipment from MBEs.

- A goal of 9.87% for Women-Owned Business Enterprise (WBE) participation shall be applied as follows: a maximum of one-third (1/3) of the goal may be applied to purchases of materials, supplies, and equipment from WBEs.

- A goal of 6.00% for Service Disabled Veteran Owned Businesses ("SDVOB") participation shall be applied as follows: a maximum of one-third (1/3) of the goal may be applied to purchases of materials, supplies, and equipment from SDVOBs.

4. START OF WORK AND TIME FOR COMPLETION

a. Work at the site shall not start prior to receipt of the Owner's written Notice to Proceed and be completed within one hundred eighty (180) calendar days from that date.

b. The construction schedule is critical. The Contract shall include for adequate manpower and equipment in his Bid to ensure that no slippage of the schedule will occur.

5. LIST OF PROPOSED PRINCIPAL SUBCONTRACTORS

a. The undersigned agrees, if awarded the Contract, to employ subcontractors from the following list for the Sections or Subdivisions of work stated below subject to the following provisions:

(1) Prior to the award of the Contract, the Owner and Architect reserve the right to review the list of "Proposed Principal Subcontractors", and to delete from it the name or names of any to whom they may have a reasonable objection. The Contractor may make the final selection of principal subcontractors at his option from the resulting list after the award of the Contract.

b. Bidder shall list the names of at least one subcontractor for each Section or Subdivision of the work listed below and shall limit the listing for each such Section or Subdivision to **three** (3) names.

c. If Bidder does not propose to employ a Subcontractor for any Section or Subdivision of the work listed below, he shall enter the name of his firm for each such Section or Subdivision.

d. All Subcontractors must provide a NYSDOL Contractor Certificate of Registration.

CONCRETE

_____ _____

_____ _____

PAINTING

_____ _____

_____ _____

THERMAL & MOISTURE PROTECTION

_____ _____

_____ _____

PLUMBING

_____ _____

_____ _____

ELECTRICAL

_____ _____

_____ _____

_____

_____ _____

_____ _____

_____

_____ _____

_____ _____

_____

_____ _____

_____ _____

_____

_____ _____

_____ _____

6. PRINCIPAL SUBDIVISIONS OR ELEMENTS OF THE WORK TO BE PERFORMED BY GENERAL CONTRACTOR'S FORCES

a. If awarded a Contract, we will perform the following portions of the Work with forces directly employed by the undersigned:

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

b. If awarded a Contract, the Contractor's main **Project Manager** will be:

_____

(include resume with bid)

The Owner reserves the right to reject the names of any to whom they have a reasonable objection.

c. If awarded a Contract, the Contractor's main **Superintendent** will be:

_____

(include resume with bid)

The Owner reserves the right to reject the names of any to whom they have a reasonable objection.

7. TIME PROGRESS SCHEDULE

a. The undersigned agrees, if awarded the Contract, to furnish a "Time Progress Schedule" showing the starting and completion dates for all principal trades and subdivisions of the Work, together with such additional information related thereto as may reasonably be required.

8. BONDS

a. Performance and Payment Bonds. The undersigned agrees, if awarded the Contract to execute and deliver to the Owner "Performance" and "Labor and Material Payment Bonds" in such form as acceptable to the Owner and in an amount equal to 100% of the Contract Sum. Such bonds will be furnished by

_____

(Name of Surety)

b. Bonding Rate for Change Orders. _____%

c. Bid Bond. A Bid Bond in the amount of $_____ (10% of Bid Amount) is attached to this Bid.

9. SCHEDULE OF VALUES

a. The undersigned agrees, prior to the award of a construction contract and upon the request of the Architect or Owner, to submit a complete, itemized and detailed "Schedule of Values" including Alternates elected, if any, showing the amount allocated to the various trades and subdivisions of the work, aggregating the total Contract Sum.

b. To facilitate the evaluation of Bids, the undersigned has included in each part of his Bid the following values for the trades and/or subdivisions of the work as listed below. Values for work included under Alternate Proposals are excluded. Values relative to General Contractor's costs for General Conditions are excluded.

Spec Section	Trades and/or Subdivision	Value Included in Base Bid
Division 01	General Requirements	
Division 02	Sitework	
Division 03	Concrete	
Division 07	Thermal and Moisture Protection	
Division 09	Finishes	
Division 22	Plumbing	
Division 26	Electrical	
	Field Order Allowance No. 1	$12,000.00

Total Bid $_____

10. SUBSTITUTIONS

a. The Base Bid is predicated on compliance with the Drawings and Specifications without substitutions.

b. The Bidder may offer substitutions for any item noted in the Specifications, with the exception of Form of Contract, General Conditions and General Requirements - Division 1, by listing in the space below the proposed substitution, together with the amount to be deducted from the Base Bid if the substitution is accepted.

c. The Owner reserves the right to accept or reject any proposed substitution.

d. The Bidder may offer a substitution for General Conditions, Article 2.05, Superintendence by Contractor, by listing in the space below the proposed percentage of supervision to be provided onsite, together with the amount to be deducted from the Base Bid if the substitution is accepted.

Percentage of Supervision _____ %

Deduction from Base Bid $(_____)

e. The sum stated includes any modifications of work or additional work that may be required by reason of acceptance of substitution. Substitute materials must be approved and accepted by the Owner in writing before same may be used in lieu of those named in the Specifications.

Item and Description of Substitution	Specification Reference Section & Page No.	Deduction from Base Bid Labor	Material

11. ACCEPTANCE

a. The undersigned agrees that this Proposal shall remain in force and effect for a period of not less than ninety (90) calendar days following the Proposal opening or such other time as may be agreed to by the Owner and Contractor.

b. If written notice of acceptance of this Proposal is mailed, telegraphed or delivered to the undersigned within sixty (60) calendar days after the date of opening of Bids, or any time thereafter before this Proposal is withdrawn, the undersigned will within ten (10) calendar days after the date of such mailing, telegraphing or delivery of such notice, execute an Agreement between Contractor and Owner, amended and/or supplemented, if required, in accordance with the Proposal as accepted.

c. The undersigned further agrees, if requested by the Owner, to furnish Performance and Payment Bonds pursuant to Article 7 herein within ten (10) calendar days of issuance of such notice.

d. It is understood and agreed that award of the Contract shall be made to the bidder submitting the lowest responsive and responsible bid who, in the opinion of the Owner, is qualified to perform the work. The Owner shall determine the lowest bid by adding to or deducting from the Base Bid of the bidders additive or deductive alternates, if any, the Owner elects to accept after the opening of the Bids. Alternates will be accepted in the order they are set forth in the Bid Form. The unit prices set forth in the Bid for additions to or deductions from the work shall not be considered in determining the lowest bid.

e. It is understood and agreed that the Owner reserves the right to reject any or all proposals, to waive any informalities in bidding, and to hold all proposals for the above noted period of time.

f. The undersigned, if awarded a contract, agrees to complete and return a Vendor Responsibility form with their executed Agreement.

12. ADDENDUM RECEIPT

a. Receipt of the following addenda to the Terms and Conditions, Drawings or Specifications is acknowledged:

Addendum No.	_____	Dated:	_____
Addendum No.	_____	Dated:	_____
Addendum No.	_____	Dated:	_____
Addendum No.	_____	Dated:	_____
Addendum No.	_____	Dated:	_____

13. The undersigned agrees, if they are the low bidder, to furnish withing three (3) business days the following:

1	MWBE and SDVOB Utilization Plan Form
2	EEO Policy Statement
3	Six-Month Workforce Projection
4	NYSDOL Contractor Certificate of Registration
5	Vendor Responsibility Questionnaire
6	Procurement Lobbying Act SFL J&K Forms
7	Omnibus Procurement Act Forms I and II (if bid is over One Million Dollars)
8	Offerer's Certification Regarding Sexual Harassment Prevention Policies Pursuant to the State Finance Law §139-I
9	NY Human Rights Law Executive Order 177 Certification
10	New York State Finance Law 139-L Certification
11	EO 16 Certification

_____
(Bidder)

By: _____

Title: _____

Business Address: _____

Dated: _____

CERTIFICATE OF NON-COLLUSION

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

a. The prices in this bid have been arrived at independently without collusion, consultation, communication, or agreement, for the purpose of restricting competition, as to any matter relating to such prices with any other bidder or with any competitor.

b. Unless required by law, the prices which have been quoted in this bid have not been knowingly disclosed by the bidder and will not knowingly be disclosed by the bidder prior to opening, directly or indirectly, to any other bidder or with any competitor.

c. No attempt has been made or will be made by the bidder to induce any other persons, partnership, or corporation to submit or not submit a bid for the purpose of restricting competition.

_____
(Bidder)

By: _____

Title: _____

Dated: _____

CERTIFICATE AS TO CORPORATE BIDDER

I, _____, certify that I am the _____ of the Corporation named as Bidder within this Bid Form for General Contractors; that _____, who signed said Bid Form on behalf of the bidder was then _____ of said Corporation; that I know his signature; that his signature thereto is genuine and that said Bid Form and attachments thereto were duly signed, sealed and executed for and in behalf of said Corporation by authority of its governing body.

_____
(Secretary-Clerk)

(CORPORATE SEAL)

Dated: _____

G E N E R A L C O N D I T I O N S

FOR

REPAIR PEDESTRIAN BRIDGE:
HUMAN ECOLOGY BUILDING

CORNELL UNIVERSITY
ITHACA, NEW YORK

GENERAL CONDITIONS

TABLE OF CONTENTS

Page

ARTICLE 1 -- INTERPRETATION OF CONTRACT DOCUMENTS 1
Section 1.01 - Owner 1
Section 1.02 - Meaning and Intent of Specifications, Plans and Drawings 1
Section 1.03 - Order of Precedence 1
ARTICLE 2 -- CONTRACTOR 2
Section 2.01 - Contractor's Obligations 2
Section 2.02 - Contractor's Title to Materials 2
Section 2.03 - "Or Equal" Clause 3
Section 2.04 - Quality, Quantity and Labeling 3
Section 2.05 - Superintendence by Contractor 3
Section 2.06 - Subsurface or Site Conditions 4
Section 2.07 - Representations of Contractor 4
Section 2.08 - Verifying Dimensions and Site Conditions 4
Section 2.09 - Copies of Contract Documents for Contractors 5
Section 2.10 - Meetings 5
Section 2.11 - Related Work 5
Section 2.12 - Surveys and Layout 5
Section 2.13 - Errors, Omissions or Discrepancies 5
Section 2.14 - Project Labor Rates 5
Section 2.15 – Daily Reports 6
ARTICLE 3 -- INSPECTION AND ACCEPTANCE 6
Section 3.01 - Access to the Work 6
Section 3.02 - Notice for Testing 6
Section 3.03 - Inspection of Work 6
Section 3.04 - Inspection and Testing 7
Section 3.05 - Defective or Damaged Work 7
Section 3.06 - Acceptance 7
ARTICLE 4 -- CHANGES IN WORK 7
Section 4.01 - Changes 7
Section 4.02 – Claims for Extra Work 10
Section 4.03 - Form of Change Orders 11
ARTICLE 5 -- TIME OF COMPLETION 11
Section 5.01 - Time of Completion 11
ARTICLE 6 -- TERMINATION 12
Section 6.01 - Termination for Cause 12
Section 6.02 - Termination for Convenience of Owner 12

Section 6.03 – Termination under New York State Finance Law §139-k 13
Section 6.04 - Owner's Right to do Work 13
ARTICLE 7 -- DISPUTES 13
Section 7.01 - Disputes Procedure 13
ARTICLE 8 -- SUBCONTRACTS 14
Section 8.01 - Subcontracting 14
ARTICLE 9 -- COORDINATION AND COOPERATION 14
Section 9.01 - Cooperation with Other Contractors 14
ARTICLE 10 -- PROTECTION OF RIGHTS, PERSONS AND PROPERTY 15
Section 10.01 - Accidents and Accident Prevention 15
Section 10.02 - Adjoining Property 16
Section 10.03 - Emergencies 17
Section 10.04 - Bonds 17
Section 10.05 - Risks Assumed by the Contractor 17
Section 10.06 - Contractor's Compensation and Liability Insurance 18
Section 10.07 - Liability Insurance of the Owner 22
Section 10.08 - Owner's and Contractor's Responsibilities for Fire and Extended Coverage Insurance Hazards 23
Section 10.09 - Effect of Procurement of Insurance 23
Section 10.10 - No Third Party Rights 24
Section 10.11 – Assumption of Risk 24
Section 10.12 - Health And Safety Plan Requisites for Construction Activity Applicable To High Impact Respiratory Pathogen Pandemics And Contagions 24
ARTICLE 11 -- USE OR OCCUPANCY PRIOR TO ACCEPTANCE BY OWNER 24
Section 11.01 – Substantial Completion 24
Section 11.02 - Occupancy Prior to Acceptance 24
ARTICLE 12 -- PAYMENT 25
Section 12.01 - Provision for Payment 25
Section 12.02 – Stored Materials & Equipment 26
Section 12.03 – Retention 27
Section 12.04 - Withholding Payments 28
Section 12.05 – Documents and Conditions Precedent to Final Payment 28
Section 12.06 - Final Payment and Release 29
ARTICLE 13 -- TAX EXEMPTION 29
Section 13.01 - Tax Exemption 29
ARTICLE 14 -- GUARANTEE 30
Section 14.01 - Guarantee 30
ARTICLE 15 -- STANDARD PROVISIONS 30
Section 15.01 - Provisions Required by Law Deemed Inserted 30
Section 15.02 – Vendor Responsibility Form 30

Section 15.03 - Laws Governing the Contract 30
Section 15.04 - Assignments 30
Section 15.05 - No Third Party Rights 31
Section 15.06 - Waiver of Rights of Owner 31
Section 15.07 - Limitation on Actions 31
Section 15.08 - Owner's Representative 31
Section 15.09 - Cost Escalation / De-escalation 31
ARTICLE 16 – MINORITY AND WOMEN BUSINESS ENTERPRISES AND SERVICE DISABLED VETERAN OWNED BUSINESSES 32
Section 16.01 – Definitions 32
Section 16.02 – Participation by Minority and Women Business Enterprises and Service Disabled Veteran Owned Businesses. 33
Section 16.03 MWBE and SDVOB Utilization Plan 33
Section 16.04 Reports and Records 34
ARTICLE 17 -- ACCOUNTINGS, INSPECTION AND AUDIT 34
ARTICLE 18 – CONTRACTOR PERFORMANCE EVALUATION 34
ARTICLE 19 -- ROYALTIES AND PATENTS 35
ARTICLE 20 -- CONFIDENTIALITY AND USE OF OWNER'S NAME 35
Section 20.01 - Release of Information 35
Section 20.02 - Confidential Information 35
Section 20.03 - Use of Owner's Name 35
ARTICLE 21 -- CORNELL UNIVERSITY STANDARDS OF ETHICAL CONDUCT 36
Section 21.01 Private Job Site 36

EXHIBITS

A		Change Order Documentation Instructions
		Construction Contract Change Order Request
		Construction Contract Change Order Summary
B		Final Release
C		Guarantee
D	Form I	MWBE/SDVOB Utilization Plan
	Form II	Summary of Bid Activity with MBE, WBE and SDVOB Subcontractors and Vendors
	Form III	Workforce Report
E		Labor Rate Breakdown
F		Stored Materials Invoicing Documentation
G		Contractor Performance Evaluation
H		Schedule A – Provisions Required to be Inserted by Law
I		Vendor Responsibility Questionnaire

ARTICLE 1 -- INTERPRETATION OF CONTRACT DOCUMENTS

Section 1.01 - Owner

A. The Owner is Cornell University as identified in the Agreement and referred to throughout the Contract Documents as the "Owner" or "Cornell University".

B. Ownership of Documents: All drawings, specifications, computations, sketches, test data, survey results, photographs, renderings and other material relating to the Work, whether furnished to or prepared by the Contractor, are the property of Cornell University. The Contractor shall use such materials or information therefrom only in connection with the Work of this Contract. When requested, the Contractor shall deliver such materials to Cornell University.

C. The Owner shall give all orders and directions contemplated under the Contract relative to the execution of the Work. The Owner shall determine the amount, quality, acceptability, and fitness of the Work and shall decide all questions which may arise in relation to said Work. The Owner's estimates and decisions shall be final except as otherwise expressly provided.

D. Any differences or conflicts concerning performance which may arise between the Contractor and other Contractors performing Work for the Owner shall be adjusted and determined by the Owner.

E. The table of contents, titles, captions, headings, running headlines, and marginal notes contained herein and in said documents is intended to facilitate reference to various provisions of the Contract Documents and in no way affect the interpretation of the provisions to which they refer.

Section 1.02 - Meaning and Intent of Specifications, Plans and Drawings

The meaning and intent of all specifications, plans and drawings shall be determined in a manner approved by the Owner.

Section 1.03 - Order of Precedence

A. Should a conflict occur in or between or among any parts of the Contract Documents that are entitled to equal preference, the more expensive way of doing the Work, the better quality or greater quantity of material shall govern, unless the Owner otherwise so directs in writing.

B. Drawings and specifications are reciprocal. 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 in both.

C. Requirements of reference standards form a part of these specifications to the extent indicated by the reference thereto. When provisions of reference standards conflict with provisions in these specifications, the specifications shall govern.

ARTICLE 2 -- CONTRACTOR

Section 2.01 - Contractor's Obligations

A. The Contractor shall, in good workmanlike manner, perform all the Work required by the Contract within the time specified in the Contract. The Contractor shall comply with all terms of the Contract, and shall do, carry on, and complete the entire Work to the satisfaction of the Owner.

1. All labor for this project shall be paid in accordance with the New York State Department of Labor Prevailing Rate Case No. 2026031085 dated November 5, 2026. The Contractor must provide a copy of the wage schedule to each subcontractor.

2. The Contractor shall post the appropriate prevailing wage schedules in a conspicuous place at the construction site.

3. The Contractor is required to submit a certified copy of its payrolls with each application for payment but not later than 30 days after issuance of its first payroll. Payrolls shall be attached to the designed secured data field in the electronic project management system Payment Application. The certified payroll records must show the employees name, address, and last 4 digits of their SS# as well as hours and days worked by each worker. Certified payroll must also show the occupation at which they worked, the hourly wage paid, and the supplements paid or provided.

B. The Contractor shall furnish, erect, maintain, and remove such construction plant and such temporary Work as may be required.

C. The Contractor shall provide and pay for all labor, material, tools, equipment, machinery, as well as utility connections, transportation, and all other facilities and services necessary for the proper execution and completion of the Work, except as otherwise specified elsewhere in the Contract Documents.

D. Whenever a provision of the Specifications conflicts with agreements or regulations in force among members of trade associations, unions, or councils which regulate or distinguish what work shall or shall not be included in the work of a particular trade, the Contractor shall make all necessary arrangements to reconcile such conflict without delay, damage, or cost to the Owner and without recourse to the Architect or the Owner. In case progress of the Work is affected by undue delay in furnishing or installing items of material or equipment required under the Contract because of a conflict involving such agreement or regulations, the Owner or the Architect may require that other material or equipment of equal kind and quality be provided at no additional cost to the Owner.

Section 2.02 - Contractor's Title to Materials

A. The Contractor warrants that the Contractor has full, good and clear title to all materials and supplies used by the Contractor in the Work, free from all liens, claims or encumbrances.

B. All materials, equipment and articles which become the property of the Owner shall be new unless specifically stated otherwise.

Section 2.03 - "Or Equal" Clause

A. Whenever a material, article or piece of equipment or method is identified on the plans or in the specifications by reference to manufacturers' or vendors' names, trade name, catalogue number, or make, no others may be substituted. Any and all other "Or Equal" considerations will be handled under this Section in accordance with General Requirements, Section 01 25 00.

B. Where the Architect approves a product proposed by the Contractor and said proposed product requires a revision or redesign of any part of the Work covered by this Contract, or the Work covered by other contracts, all said revision or redesign, and all new drawings and details required therefor shall be provided by the Contractor and shall be approved by the Architect. All time spent by the Architect or its agents to evaluate the proposed substitution and or necessary engineering cost to accommodate the requested change shall be reimbursed to the Owner by the Contractor via the Change Order procedure.

Section 2.04 - Quality, Quantity and Labeling

A. The Contractor shall furnish materials and equipment of the quality and quantity specified in the Contract. Unless otherwise provided, all materials and articles incorporated into the work shall be new and of the most suitable grade of their respective kinds for the purpose. When required by the Contract Documents or when directed by the Owner, the Contractor shall supply the Owner's Representative, for their acceptance, full information concerning any material which the Contractor contemplates incorporating into the work. Materials and articles installed or used without such acceptance shall be at the risk of subsequent rejection.

B. When materials are specified to conform to any standard, the Owner may require that the materials delivered to the Site shall bear manufacturer's labels stating that the materials meet said standards.

C. The above requirements shall not restrict or affect the Owner's right to test materials as provided in the Contract.

D. Whenever several alternative materials or items are specified by name or other particular reference for one use, the Owner's Representative may require the Contractor to submit in writing a list of the particular materials or items the Contractor intends to use before the Contract is executed.

Section 2.05 - Superintendence by Contractor

A. The Contractor shall employ a full-time effective, responsive and competent construction superintendent and necessary staff; the construction superintendent shall devote full time to the Work and shall have full authority to act for the Contractor at all times. The Contractor shall provide the Owner with the names and authority of such personnel in writing.

B. If at any time the superintendent is not satisfactory to the Owner, the Contractor shall, if requested by the Owner, replace said superintendent with another superintendent satisfactory to the Owner. There shall be no change in superintendent without the Owner's approval.

C. The Contractor shall remove from the Work any employee of the Contractor or of any Subcontractor when so directed by the Owner.

Section 2.06 - Subsurface or Site Conditions

A. The Contractor acknowledges that it has assumed the risk and that the contract consideration includes such provision as the Contractor deems proper for all subsurface conditions as the Contractor could reasonably anticipate encountering from the provisions of the Contract Documents, borings, rock cores, topographical maps and such other information as the Owner made available to the Contractor or from their own inspection and examination of the site prior to the Owner's receipt of bids.

B. In the event that the Contractor encounters subsurface physical conditions at the site differing substantially from those shown on or described or indicated in the Contract Documents and which could not have been reasonably anticipated from the aforesaid information made available by the Owner or from the Contractor's aforesaid inspection and examination of the site, the Contractor shall give immediate notice to the Owner of such conditions before they are disturbed. Such notice shall include probable cost and/or any impact to the schedule. The Owner will thereupon promptly investigate the conditions and if Owner finds that they do substantially differ from that which should have been reasonably anticipated by the Contractor, the Owner shall make such changes in the drawings and specifications as may be necessary and a change order shall be issued.

Section 2.07 - Representations of Contractor

The Contractor represents and warrants:

A. That the Contractor is financially solvent and is experienced in and competent to perform the Work;

B. That the Contractor is familiar with all Federal, State, or other laws, ordinances, orders, building codes, rules and regulations, which may in any way affect the Work;

C. That any temporary and permanent Work required by the Contract can be safely and satisfactorily constructed.

D. That the Contractor has carefully examined the Contract and the Site of the Work and that, from the Contractor's own investigations is satisfied as to the nature and location of the Work, the character, quality and quantity of surface and 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 or items which may affect the Work. The Contractor has correlated those observations with the requirements of the Contract Documents and has made all other investigations essential to a full understanding of the Work and the difficulties which may be encountered in performing the Work.

Section 2.08 - Verifying Dimensions and Site Conditions

A. The Contractor shall take all measurements at the Site and shall verify all dimensions and site conditions at the Site before proceeding with the Work. If said dimensions or conditions are found to be in conflict with the Contract, the Contractor immediately shall refer said conflict to the Owner.

B. During the progress of Work, the Contractor shall verify all field measurements prior to fabrication of building components and equipment, and proceed with the fabrication to meet field conditions.

C. The Contractor shall consult all Contract Documents to determine exact location of all Work and verify spatial relationships of all Work. Any question concerning said location or spatial relationships shall be submitted in a manner approved by the Owner.

D. Specific locations for equipment, pipelines, ductwork and other such items of Work, where not dimensioned on plans, shall be determined in consultation with the Owner and other affected Contractors and Subcontractors.

E. The Contractor shall be responsible for the proper fitting of the Work in place.

F. Should failure of the Contractor to perform services under this section result in additional costs to the Owner, the Contractor shall be responsible for such additional costs.

Section 2.09 - Copies of Contract Documents for Contractors

A. The Owner shall furnish to the Contractor, without charge, up to five (5) sets of Contracts Documents.

B. Any sets in excess of the number mentioned above may be furnished to the Contractor at the cost of reproduction and mailing.

C. All drawings, specifications, and copies thereof furnished by the Owner are the property of the Owner. They are not to be used on other work, and with the exception of the signed Contract Set, are to be returned to the Owner on request at the completion of the work.

Section 2.10 - Meetings

The Contractor and all subcontractors as requested shall attend all meetings as directed by the Owner or the Owner's Representative.

Section 2.11 - Related Work

The Contractor shall examine the Contract for related work to ascertain the relationship of said work to the Work under the Contract.

Section 2.12 - Surveys and Layout

Unless otherwise expressly provided in the Contract, the Owner shall furnish the Contractor all surveys of the property necessary for the Work, but the Contractor shall lay out the Work.

Section 2.13 - Errors, Omissions or Discrepancies

The Contractor shall examine the Contract thoroughly before commencing the Work and report in writing any errors or discrepancies to the Owner or the Owner's Representative.

Section 2.14 - Project Labor Rates

A. The Contractor shall submit to the Owner, for review and approval, within thirty (30) days after Contract is awarded all trade labor rates inclusive of fringe benefits, taxes, insurance for the duration of the individual craft agreement in accordance with Exhibit E. Revised rates shall be provided within thirty (30) days of signing any new agreements with the individual crafts during this project.

B. The Contractor shall submit to the Owner within three days of their Bid their NYSDOL Contractor Certificate of Registration for their firm and all Subcontractors. Contractor is responsible for verifying that all of their Subcontractors are registered. Registration information is located at https://dol.ny.gov/contractor-and-subcontractor-landing.

C. The current Prevailing Wage Rate schedule is contained in the Contract Documents. All updates, corrections and future copies of the annual determination are available at the Department of Labor website (www.labor.state.ny.us).

Section 2.15 – Daily Reports

The Contractor's Construction Superintendent shall submit a Daily Report to the Cornell University Project Manager or the Resident Field Engineer at the job site. Such reports shall, at a minimum, contain the following information:

Name of Project
Project Number
Date of Report
Weather Conditions
Equipment on the site
Contractors on site including name and number of employees on site for each contractor
Work/area and activity for each contractor
Overtime worked and planned work progress
Environmental problems and corrections
Other information, such as special events, occurrences, materials delivered, accidents or injuries, recommendations, suggestions, visitors, inspections, equipment start-up and check out, occupancy, etc.

ARTICLE 3 -- INSPECTION AND ACCEPTANCE

Section 3.01 - Access to the Work

The Owner and Architect, or their duly authorized representatives, assistants, or inspectors shall at all times and for any purpose have access to the work and the premises used by the Contractor, and the Contractor shall provide safe and proper facilities therefor. In addition, the Contractor shall, whenever so requested, give the Owner and Architect or their duly authorized representatives access to the proper invoices, bills of lading, specifications, etc., which may be required in determining the adequacy and/or quantity of materials used in completion of the work.

Section 3.02 - Notice for Testing

If the Contract Documents, laws, ordinances, rules, regulations, or orders of any public authority having jurisdiction require any work to be inspected, tested, accepted, or approved, the Contractor shall give the Owner timely notice of its readiness and of the date arranged so the Owner may observe such inspection, testing, or approval. The Contractor shall bear all costs of such inspection, tests, and approvals unless otherwise provided.

Section 3.03 - Inspection of Work

A. The Contractor will cooperate in all ways to facilitate the inspection and examination of the work. The inspections and examinations will be carried out in such a manner that the work will not be delayed.

B. All Work, all materials whether or not incorporated in the Work, all processes of manufacturer, and all methods of construction shall be, at all times and places, subject to the inspection of the Owner and the Owner shall be the final judge of the quality and suitability of the Work. Any Work not approved by the Owner shall immediately be reconstructed, made good, replaced or corrected by the Contractor including all Work of other Contractors destroyed or damaged by said removal or replacement.

C. Required certificates of inspection, testing, acceptance, or approval shall be secured by the Contractor and promptly delivered to the Owner.

Section 3.04 - Inspection and Testing

All materials and equipment used in the Work shall be subject to inspection and testing in accordance with accepted standards to establish conformance with specifications and suitability for uses intended, unless otherwise specified in the Contract. If any Work shall be covered or concealed without the approval or consent of the Owner, said Work shall, if required by the Owner, be uncovered for examination. If any test results are below specified minimums, the Owner may order additional testing. The cost of said additional testing, any additional professional services required, and any other expenses incurred by the Owner as a result of said additional testing shall be paid by the Contractor. Reexamination of any part of the Work may be ordered by the Owner, and if so ordered the Work must be uncovered by the Contractor. If said Work is found to be in accordance with the Contract, the Owner shall pay the cost of reexamination and replacement. If said Work is found not to be in accordance with the Contract, the Contractor shall pay the cost of reexamination and replacement.

Section 3.05 - Defective or Damaged Work

If, in the opinion of the Owner, it is undesirable to replace any defective or damaged materials or to reconstruct or correct any portion of the Work injured or not performed in accordance with the Contract, the compensation to be paid to the Contractor shall be reduced by an amount which, in the judgment of the Owner, shall be deemed to be equitable.

Section 3.06 - Acceptance

No previous inspection shall relieve the Contractor of the obligation to perform the Work in accordance with the Contract. No payment, either partial or full, by the Owner to the Contractor shall excuse any failure by the Contractor to comply fully with the Contract Documents. The Contractor shall remedy all defects, paying the cost of any damage to other Work resulting therefrom.

ARTICLE 4 -- CHANGES IN WORK

Section 4.01 - Changes

A. The Owner, without invalidating the Contract, may order changes within the general scope of the Contract and the Contractor shall promptly comply with such change orders.

B. A change order is a written direction to the Contractor signed by the Owner, issued after execution of the Contract, authorizing a change in the Work, extra work, or an adjustment in the Contract price or time of performance.

C. No claims for changes, extra work or additional time to complete the Contract or an adjustment in the Contract price shall be allowed unless such change is ordered in writing by the Owner.

D. The Owner shall determine the amount by which the Contract consideration is to be increased or decreased by a change order by one (1) or more of the following methods:

1. By agreement with the Contractor.

2. By applying the applicable price or prices previously bid and approved.

   (i) To the extent that Unit Prices are applicable, as determined by the Owner, work shall be priced and paid for or credited in accordance with such Unit Prices; except that a Unit Price shall not apply to any portion of work which is either reduced or increased by more than 25%. Said Unit Prices shall be valid for the duration of the project as applicable, unless stipulated elsewhere in the Contract Documents.

   (ii) For Unit Price items, additions and deletion of like items shall be algebraically summed and then multiplied by the applicable Unit Prices. For Direct Labor and Material items, all additions and deletions shall be algebraically summed for each subcontractor and then multiplied by the applicable markup.

   (iii) Unit Prices are for work complete, measured in place and cover profit and all other costs and expenses. Unit Prices include, without limit, all conditions of the contract and all general requirements such as layout, reproduction of Drawings and Specifications, testing and inspection, shop drawing and sample coordination, supervision (field and home office), small tools and expendable items, insurance, taxes, temporary facilities and services, including access and safety, "as-built" drawings, and general and administrative overhead and profit.

3. By estimating the fair and reasonable cost of:

   (i) Labor, including all wages, required wage supplements and insurance required by law paid to employees below the rank of superintendent directly employed at the Site.

   (ii) Materials

   (iii) Equipment, excluding hand tools, which in the judgment of the Owner, would have been or will be employed exclusively and directly on the Work. When submitting change orders, equipment which is common to the project scope at hand is expected to be previously paid for as overhead / general conditions to the project. Special rental equipment or tools not common to the project that are required to perform the change order will be accepted as additional costs.

4. By determining the actual cost of the extra work in the same manner as in Subsection 3 except the actual costs of the Contractor shall be used in lieu of estimated costs.

E. Mark-up Percentages

1. Work performed by the Contractor: Where the Work is performed directly by the Contractor by adding to the total of such estimated costs a sum equal to fifteen percent (15%) thereof.

2. Work performed by a Subcontractor: Where the change order work is performed by a Subcontractor under contract with the Contractor, by adding a sum equal to fifteen (15%) of said costs for the benefit of said Subcontractor, and by adding for the benefit of the Contractor an additional sum equal to ten percent (10%) of said costs.

3. Work performed by a Sub-Subcontractor: Where work is performed by a Sub-Subcontractor, by adding the sum equal to fifteen percent (15%) of said costs for the benefit of said Sub-Subcontractor, by adding for the benefit of the Subcontractor an additional sum equal to five percent (5%) of said cost and by adding for the benefit of the Contractor an additional sum equal to five percent (5%) of said cost. The maximum aggregate of all mark-up percentages may not exceed twenty five percent (25%).

4. No Markup on Bonds and Insurance Costs: Change Order cost adjustments due to increases or decreases in bond or insurance costs (if applicable) shall not be subject to any Markup Percentage.

5. Overtime Pay: No mark-up shall be paid on the premium portion of overtime pay.

6. Direct and Indirect Costs Covered by Markup Percentages: As a further clarification, the agreed upon Markup Percentage is intended to cover the Contractor's profit and all indirect costs and expenses associated with the change order work. Items intended to be covered by the Markup Percentage include, without limit: home office expenses, branch office and field office overhead expense of any kind; project management; superintendents, general foremen; estimating, engineering; coordinating; expediting; purchasing; detailing; legal, accounting, data processing or other administrative expenses; reproduction of drawings and specifications; shop drawings and sample coordination; “as-built” drawings; permits; auto insurance and umbrella insurance; pick-up truck costs; parking permits; cellular phones; testing and inspection; temporary facilities; access and safety provisions; and warranty expense costs. The cost for the use of small tools and/or tools already in use on site are also to be considered covered by the Markup Percentage. Small tools shall be defined as tools and equipment (power or non-power) with an individual purchase cost of less than $750

7. Deduct Change Orders and Net Deduct Changes: The application of the markup percentage will apply to both additive and deductive change orders. In the case of a deductive change order, the credit will be computed by applying the percentage so that a deductive change order would be computed in the same manner as an additive change order. In those instances where a change involves both additive and deductive work, the additions and deductions will be netted and the markup percentage adjustments will be applied to the net amount

F. Regardless of the method used by the Owner in determining the value of a change order, the Contractor, within thirty (30) calendar days after a request for the estimate of value shall submit to the Owner a detailed breakdown of the Contractor's estimate, including all subcontractors details, of the value of the Change Order Work, in the format detailed in Exhibit A. Each submission shall include an electronic .pdf format of all documentation.

G. Unless otherwise specifically provided for in a change order, the compensation specified therein includes a full payment for both the Work covered by the order and for any damage or expense incurred by the Contractor by any delays, including any delays to other Work to be done under the Contract resulting from said change order. The Contractor waives all rights to any other compensation for said damage or expense.

H. The Contractor shall furnish satisfactory bills, payrolls and vouchers covering all items of cost and when requested by the Owner shall give the Owner access to accounts and records relating thereto.

Section 4.02 – Claims for Extra Work

If the Contractor claims (i) that any work it has been ordered to do is extra work or (ii) that it has performed or is going to perform extra work or (iii) that any action or omission of the Owner or the Architect is contrary to the terms and provisions of the Contract, the Contractor shall:

A. Promptly comply with such order;

B. Notwithstanding the provisions of this Agreement, Article 4 of these General Condition and any other provisions of the Contract documents to the contrary, file with the Owner, within fourteen (14) calendar days after being ordered to perform the work claimed by it to be extra work or within fourteen (14) calendar days after commencing performance of the extra work, whichever date shall be the earlier, or within fourteen (14) calendar days after the said action or omission on the part of the Owner or the Architect occurred, a written notice of the basis of its claim and request a determination thereof;

C. Notwithstanding the provisions of this Agreement and any other provisions of the Contract documents to the contrary, file with the Owner, within thirty (30) calendar days after said alleged extra work was required to be performed or said alleged extra work was commenced, whichever date shall be the earlier, or said alleged action or omission by the Owner or the Architect occurred, a verified detailed statement, with documentary evidence, of the items and basis of its claim;

D. Produce for the Owner’s examination, upon notice from the Owner, all its books of account, bills, invoices, payrolls, subcontracts, time books, progress records, daily reports, bank deposit books, bank statements, checkbooks and cancelled checks, showing all of its actions and transactions in connection with or relating to or arising by reason of its claim, and submit persons in its employment and in its subcontractors' employment for examination under oath by any person designated by the Owner to investigate any claims made against the Owner under the Contract, such examination to be made at the offices of the Contractor; and

E. Proceed diligently, pending and subsequent to the determination of the Owner with respect to any such disputed matter, with the performance of the Contract and in accordance with all instructions of the Owner and the Architect.

F. The Contractor's failure to comply with any or all parts of Section 4.02 shall be deemed to be: (i) a conclusive and binding determination on its part that said order, work, action or omission does not involve extra work and is not contrary to the terms and provisions of the Contract; and (ii) a waiver by the Contractor of all claims for additional compensation or damages as a result of said order, work, action or omission. The provisions of Section 4.02 is to promptly afford the Owner opportunity to cancel or revise any order, change its plans, mitigate or remedy the effects or circumstances giving rise to a claim or take such other action as may seem desirable and to verify any claimed expenses or circumstances as they occur. Compliance with such provisions is essential whether or not the Owner is aware of the circumstances of any order or other circumstances which might constitute a basis for a claim and whether or not the Owner has indicated it will consider a claim in connection therewith.

G. No person has power to waive or modify any of the foregoing provisions and, in any action against the Owner to recover any sum in excess of the sum certified by the Owner to be due under or by reason of the Contract, the Contractor must allege in its complaint and prove compliance with the provisions of this Section.

Section 4.03 - Form of Change Orders

All change orders shall be processed, executed and approved via the Owner's electronic project management system Change Order Process. No payment for change order Work shall be due the Contractor unless a change order has been issued and approved as noted above.

ARTICLE 5 -- TIME OF COMPLETION

Section 5.01 - Time of Completion

A. The Work shall be commenced at the time stated in the written order of the Owner and shall be completed no later than the date of completion specified in the Contract. All required overtime to maintain progress schedule is included in the Base Bid.

B. The date of beginning and the time for completion of the Work, as specified in the Contract, are essential conditions of the Contract.

C. The Work shall be prosecuted diligently at such rate of progress as shall insure full completion within the time specified. It is expressly understood and agreed, that the time for the completion of the Work described herein is a reasonable time, taking into consideration the average climatic range and usual business and labor conditions prevailing in the locality of the Site.

D. Time is of the essence on each and every portion of the Work. In any instance in which additional time is allowed for the completion of any Work, the new time of completion established by said extension shall be of the essence. If in the Architect’s or Owner's judgment, it becomes necessary at any time during construction to accelerate and/or complete certain areas of the project, the Contractor shall concentrate efforts and manpower on designated areas.

E. Where Work occurs within occupied areas, perform same only on approved schedule, so as not to interfere with normal operation of occupied areas.

F. The Contractor shall not be charged with damages or any excess cost if the Owner determines that the Contractor is without fault and the Contractor's reasons for the time extension are acceptable to the Owner. The Contractor shall not be charged with damages or any excess cost for delay in completion of the work if the Owner determines that the delay is due to:

1. any preference, priority or allocation order duly issued by the Government of the United States or the State of New York;

2. unforeseeable cause beyond the control and without the fault or negligence of the Contractor, and approved by the Owner, including, but not limited to, acts of God or of public enemy, acts of the Owner, fires, epidemics, quarantine, restrictions, strikes, freight embargoes and unusually severe weather.

G. The time for completion can only be extended by change order and may be extended for:

1. all of the Work, or

2. only that portion of the Work altered by the change order.

H. Any claim for extension of time shall be made in writing to the Owner not more than ten (10) days after the commencement of the delay; otherwise it shall be waived.

ARTICLE 6 -- TERMINATION

Section 6.01 - Termination for Cause

In the event that any provision of this Contract is violated by the Contractor or by any Subcontractor of the Contractor, the Owner may serve written notice upon the Contractor, and upon the Contractor's surety, if any, of the Owner's intention to terminate the Contract. The notice shall briefly state the reasons for the termination and shall specify a termination date. If arrangements satisfactory to the Owner are not made to remove and remedy the violation, the Contract shall terminate upon the date specified by the Owner in the notice. In the event of termination, the Owner may take over and complete the Work at the expense of the Contractor. The Contractor and Contractor's surety shall be liable to the Owner for all costs thereby incurred by the Owner. In the event of such termination the Owner may take possession of and may utilize such materials, appliances, and plant as may be located on the Site and which may be necessary or useful in completing the Work.

Section 6.02 - Termination for Convenience of Owner

The Owner, at any time, may terminate the Contract in whole or in part. Any said termination shall be effected by delivering to the Contractor a notice of termination specifying the extent to which performance of Work under the Contract is terminated and the date upon which said termination becomes effective. Upon receipt of the notice of termination, the Contractor shall act promptly to minimize the expenses resulting from said termination. The Owner shall pay the Contractor for costs actually incurred by the Contractor up to the effective date of said termination, but in no event shall the Contractor be entitled to compensation in excess of the total consideration of the Contract. In the event of said termination the Owner may take over the Work and prosecute same to completion.

Section 6.03 – Termination under New York State Finance Law §139-k

The Owner reserves the right to terminate this contract in the event it is found that the certification filed by the Contractor in accordance with New York State Finance Law §139-k was intentionally false or intentionally incomplete. Upon such finding, the Owner may exercise its termination right by providing written notification to the Contractor in accordance with the written notification terms of this contract.

Section 6.04 - Owner's Right to do Work

The Owner may, after notice to the Contractor, without terminating the Contract and without prejudice to any other right or remedy the Owner may have, perform or have performed by others all of the Work or any part thereof and may deduct the cost thereof from any monies due or to become due the Contractor.

ARTICLE 7 -- DISPUTES

Section 7.01 - Disputes Procedure

A. If the Contractor claims that any Work which the Contractor has been ordered to perform will be Work which should have been authorized or directed by change order, or that any action or omission of the Owner is contrary to the terms of the Contract, the Contractor shall:

1. File a notice with the Owner which sets forth the basis of the Contractor's claim and requests a resolution of the dispute. Such notice shall be filed within fifteen (15) working days after being ordered to perform the disputed work or within fifteen (15) working days after commencing performance of the disputed work, whichever is earlier, or within fifteen (15) working days after the act or omission of the Owner which the Contractor claims is contrary to the terms of the Contract.

2. Proceed diligently with the performance of the work in accordance with the instructions of the Owner pending the resolution of the dispute by the Owner.

3. Promptly comply with the order of the Owner regarding the disputed matter.

4. Any such decision, or any other decision of the Owner in respect to a dispute, shall be final unless the Contractor, within ten (10) working days after such decision, shall deliver to the Owner a verified written statement which sets forth the Contractor's contention that the decision is contrary to a provision of the contract. Pending the decision of the Owner, the Contractor shall proceed in accordance with the original decision. The Owner shall determine the validity of the Contractor's claim and such determination shall be final. The Contractor may file a notice with the Owner reserving its rights in connection with the dispute but shall comply with the Owner's decision and complete the work as directed.

B. No claim for additional costs regarding changed or extra work shall be allowed unless the work was done pursuant to a written order of the Owner.

C. The value of claims for extra work, if allowed, shall be determined by the methods described in the Contract. Refer to Article 4 of these General Conditions.

D. The Contractor's failure to comply with any or all parts of Article 7 shall be deemed to be:

1. a conclusive and binding determination on the part of the Contractor that the order, work, action or omission is not contrary to the terms and provisions of the Contract;

2. a waiver by the Contractor of all claims for additional compensation, time extension, or damages as a result of said order, work, action or omission.

ARTICLE 8 -- SUBCONTRACTS

Section 8.01 - Subcontracting

A. The Contractor may utilize the services of Subcontractors.

B. The Contractor shall submit to the Owner, in writing, the name of each proposed Subcontractor and Sub-Subcontractor, as required by the Contract. The Contractor shall not award any Work to any Subcontractor or Sub-Subcontractor without the prior written approval of the Owner.

C. The Contractor shall be fully responsible for the Work, acts and omissions of Subcontractors, and of persons either directly or indirectly employed by Subcontractors.

D. The Contractor shall cause appropriate provisions to be inserted in all subcontracts relative to the Work to bind Subcontractors to the Contractor by the terms of the Contract insofar as applicable to the Work of Subcontractors, indemnification and to give the Contractor the same power to terminate any subcontract that the Owner may exercise over the Contractor.

E. The Contractor's use of Subcontractors shall not diminish the Contractor's obligation to complete the Work in accordance with the Contract. The Contractor shall control and coordinate the Work of Subcontractors.

F. Nothing contained in the Contract shall create any contractual relationship between Subcontractors and the Owner.

ARTICLE 9 -- COORDINATION AND COOPERATION

Section 9.01 - Cooperation with Other Contractors

A. Normally, the Work will be performed by a single Contractor. However, the Owner reserves the right to perform work related to the Work with its own forces or award separate contracts. In that event, the Contractor shall coordinate its operations with the Owner's forces or separate Contractors.

B. The Owner cannot guarantee the responsibility, efficiency, unimpeded operations or performance of any contractor. The Contractor acknowledges these conditions and shall bear the risk of all delays including, but not limited to, delays caused by the presence or operations of other contractors.

C. The Contractor shall keep informed of the progress and workmanship of other contractors and shall notify the Owner immediately of lack of progress or defective workmanship on the part of other contractors where said delay or defective workmanship may interfere with the Contractor's operations.

D. Failure of a Contractor to keep so informed and failure to give notice of lack of progress or defective workmanship by others shall be construed as acceptance by the Contractor of said progress and workmanship as being satisfactory for proper coordination with the Work.

E. If the Contractor notifies the Owner, in writing, that another contractor on the Site is failing to coordinate the work of said contractor with the Work, the Owner shall investigate the charge. If the Owner finds it to be true, the Owner shall promptly issue such directions to the other contractor with respect thereto as the situation may require. The Owner shall not be liable for any damages suffered by the Contractor by reason of the other contractor's failure to promptly comply with the directions so issued by the Owner, or by reason of another contractor's default in performance.

F. If the Owner shall determine that the Contractor is failing to coordinate the Work with the work of other contractors as the Owner has directed:

1. the Owner shall have the right to withhold any payments due under the Contract until the Owner's directions are complied with by the Contractor; and

2. the Contractor shall indemnify and hold the Owner harmless from any and all claims or judgments for damages and from any costs or damages to which the Owner may be subjected or which the Owner may suffer or incur by reason of the Contractor's failure promptly to comply with the Owner's directions.

G. Should the Contractor sustain any damage through any act or omission of any other contractor having a contract with the Owner or through any act or omission of any Subcontractor of said other contractor, the Contractor shall have no claim against the Owner for said damage.

H. Should any other contractor having a Contract with the Owner sustain damage through any act or omission of the Contractor or its Subcontractor, the Contractor shall reimburse said other contractor for all said damages and shall indemnify and hold the Owner harmless from all said claims.

ARTICLE 10 -- PROTECTION OF RIGHTS, PERSONS AND PROPERTY

Section 10.01 - Accidents and Accident Prevention

A. The Contractor shall at all times take reasonable precautions for the safety of persons engaged in the performance of the work. The Contractor shall comply fully with all applicable provisions of federal, state, and local law. The Contractor alone shall be responsible for the safety, efficiency and adequacy of the Contractor's Work, plant, appliances and methods, and for any damage which may result from the failure or the improper construction, maintenance, or operation of said Work, plant, appliances and methods.

B. The Contractor shall maintain an accurate record of all cases of death, occupational disease, and injury requiring medical attention or causing loss of time from work, arising out of or in the course of employment on Work under the Contract, and shall immediately notify the Owner in writing of any injury which results in hospitalization or death, or significant near miss incidents that had the potential to result in serious injury or death. The Contractor shall upload all completed Contractor and Subcontractor incident investigation forms and reports within five (5) working days of the incident. The report shall include the extent of damage or injury, the persons involved and their employers, the number of days persons are hospitalized, and any other pertinent information required by Cornell University. Such reporting shall be submitted on the electronic project management system Accident Form.

C. The Contractor shall provide to the Project Manager, Material Safety Data Sheets (OSHA Form 20 or the equivalent) for all chemicals to be used on site. All chemicals requiring any precautionary measures (eg. special storage or disposal requirements, personal protective equipment, or additional ventilation), shall be brought to the attention of Cornell University for review and approval, prior to their use on site.

1. All chemicals brought on site by the Contractor shall be clearly labeled. The label shall state the identity of the chemical, any associated hazards, and the Contractor's name.

2. All Contractor employees who are using chemicals shall be made aware of the hazards associated with their use. Safe chemical handling procedures in accordance with OSHA or other governmental agencies, and manufacturer's recommendations shall be used at all times.

3. The Contractor shall dispose of all chemicals in accordance with EPA and Cornell University requirements, regardless of the size of the container or the quantity of waste, and must receive prior approval of Cornell University.

4. A Contractor's Waste Material Disposal Plan form is required (with or without waste) to be submitted with submission of the first payment. The form can be found at: https://ehs.cornell.edu/sites/default/files/FRM-CWMDP-Contractor-Waste-Material-Disposal-Plan-IPDF.pdf

D. The Contractor shall be responsible for the initiation, maintenance and supervision of safety precautions and programs in connection with the Work.

E. The Contractor shall, at all times, guard the Owner's property from injury or loss in connection with the Work. The Contractor shall, at all times, guard and protect the Contractor's Work. The Contractor shall replace or make good any said loss or injury unless said loss or injury is caused directly by the Owner.

F. The Contractor shall have full responsibility to install, protect and maintain all materials and supplies in proper condition and forthwith repair, replace and make good any damage thereto until Final Acceptance.

Section 10.02 - Adjoining Property

A. The Contractor shall be required to protect all the adjoining property and to repair or replace any such properties damaged or destroyed by the Contractor, its employees or subcontractors thereof, by reason of, or as a result of activities under, for or related to the Contract.

Section 10.03 - Emergencies

A. In case of an emergency which threatens loss or injury to persons or property, the Contractor will be allowed to act, without previous instructions from the Owner, in a diligent manner, to the extent required to avoid or limit such loss or injury, and the Contractor shall notify the Owner immediately thereafter of the action taken.

Section 10.04 - Bonds

A. Before commencing the performance of any work covered by the Contract, the Contractor shall furnish to the Owner any required Bonds. The failure of the Contractor to supply the required Bonds within ten (10) days after the Contract signing shall constitute a default.

Section 10.05 - Risks Assumed by the Contractor

A. Indemnification. The Contractor shall defend, indemnify and hold harmless the Owner and its trustees, officers, agents and employees from and against all claims, damages, losses, fines, and expenses, including reasonable attorneys' fees, arising out of or resulting from the performance of the work including, but not limited to, bodily or personal injury, sickness, disease, death, or injury or damage to tangible property, to the extent they arise out of or result from:

1. any negligent act or omission, or intentional or willful misconduct, violation of law, or breach of this Contract by the Contractor, or any of its subcontractors, anyone directly or indirectly employed by any of them, or anyone for whose acts any of them may be liable, or

2. any injury to an employee of the Contractor, its subcontractors, anyone directly or indirectly employed by them. The indemnification obligation under this section shall not be limited by the amount or type of damages, compensation or benefits payable by or for the Contractor under workers' compensation, disability benefit or other employee benefit laws.

B. In the event that Contractor is requested but refuses to honor its indemnification obligations hereunder, then the Contractor shall, in addition to all other obligations, pay the cost, including reasonable attorneys' fees, of bringing an action to enforce such indemnification obligations.

C. Neither the Owner's final acceptance of the work to be performed hereunder nor the making of any payment shall release the Contractor from its obligations under this Section. The enumeration elsewhere in the Contract of particular risks assumed by the Contractor or of particular claims for which the Contractor is responsible shall not be deemed to limit the effect of the provisions of this Section or to imply that the Contractor assumes or is only responsible for risk or claims of the type enumerated.

Section 10.06 - Contractor's Compensation and Liability Insurance

A. The Contractor shall procure and maintain, at its own cost and expense, until final acceptance by the Owner of all the work covered by this Contract, the following kinds of insurance:

1. Worker's Compensation Insurance. A policy complying with the requirements of the laws of the State of New York, including Coverage B - Employer's Liability with limits as follows: (1) Bodily injury by accident - $1,000,000 each accident; (2) Bodily injury by disease - $1,000,000 each employee; and (3) Bodily injury by disease - $1,000,000 policy limit. This policy shall provide a Waiver of Subrogation in favor of the Owner.

2. Contractor's Comprehensive General Liability Insurance. A standard commercial general liability insurance policy, with contractual, completed operations, explosion, collapse and underground property damage coverage's issued to and covering the liability of the Contractor for all work and operations under this Contract and all obligations assumed by the Contractor under this Contract. The Contractor shall provide Broad Form Commercial General Liability Insurance, and the Owner shall be an additional insured in the policy utilizing additional insured endorsements CG 20 10 10 01 and CG 20 37 10 01 or their equivalents and provide a Waiver of Subrogation in favor of Owner. The completed operations coverage's shall be maintained for not less than two years after acceptance of the work or until the end of the applicable Statute of Repose, whichever is greater. The limits of the Commercial General Liability policy shall be as follows:

$ 1,000,000	Each Occurrence
$ 1,000,000	Personal and Advertising Injury per Occurrence
$ 2,000,000	General Aggregate
$ 2,000,000	Completed Operations

a) No exclusionary language or limitations relating to soils or earth movement.

b) No exclusions for Bodily Injury and Property Damage, Labor Law (240) products liability/completed operations coverage (including any product manufactured or assembled), premises operations, blanket contractual liability (for this agreement), broad form property damage, personal and advertising injury, independent contractor's liability, mobile equipment, elevators, damage from explosion, collapse and underground hazards ("XCU") cross-liability, cross suits or severability of interest clauses are acceptable.

3. Automobile Liability Insurance. A policy covering the use in connection with the work covered by the Contract Documents of all owned, non-owned and hired vehicles bearing, or, under the circumstance under which they are being used, required by the Motor Vehicle Laws of the State of New York to bear license plates. This policy shall name Owner as an Additional Insured and provide a Waiver of Subrogation in favor of Owner. The coverage under such policy shall be not less than a combined single limit for Bodily Injury and Property Damage of:

COMBINED SINGLE LIMIT	
$ 1,000,000	Each Accident

4. Umbrella Liability Insurance. Umbrella and/or Excess Liability policy(ies) will be provided on a following form basis subject to limits not less than $5,000,000 per occurrence and follow-form of the primary General Liability, Automobile Liability, and Employers Liability policies. These policies shall contain an endorsement stating that any entity qualifying as an additional insured on the insurance stated in the Schedule of Underlying Insurance shall be an Additional Insured on the Umbrella/Excess liability policy and that they apply immediately upon exhaustion of the insurance stated in the Schedule of Underlying Insurance as respects to the coverage afforded to any Additional Insured. No trailing retentions on Umbrella or Excess Liability policy(ies) shall be allowed without Owner prior written consent. When approved in advance by Owner, the policies provided in this section may have policy limits lower than indicated above if the excess liability insurance policy limits provided by Contractor, when combined with the corresponding underlying policy limits, total at least the sum of all required minimum policy limits required by this section.

$ 5,000,000	Each Occurrence/Aggregate

5. Professional Liability Insurance. I Contractor shall purchase and maintain Contractor's Professional Liability Insurance if Contractor or any of its Subcontractors or agents will provide any design, engineering or other professional services under the Subcontract Documents, covering Subcontractor and Sub-subcontractors, and their respective professionals, for liability for negligent acts, errors, or omissions, arising out of the performance of the Contractor's Work. The Retroactive date must be prior to start of the Work required under this Agreement. Coverage must be maintained for a minimum period of 2 years or until the applicable Statute of Repose, whichever is greater. The policy shall contain a blanket endorsement for contractual liability and afford coverage on a claim made basis:

$ 2,000,000	Each Occurrence Aggregate

6. Contractors Pollution Liability Insurance: Contractor shall purchase and maintain Pollution Liability Insurance as will protect the Owner and Contractor from claims of Bodily Injury, Property Damage and cleanup, which may arise out of or result from Contractor's operations under the Contract and for which the Contractor may be legally liable. Pollution liability coverage shall extent to microbial matter including mold, mold remediation and diminution in value. The insurance shall be maintained from inception of the Work through the earlier of Substantial Completion or Final Payment. This insurance shall include coverage and limits as follows.

$ 2,000,000	Each Occurrence/Aggregate

7. Unmanned Aerial Vehicle (UAV): If Contractor or any of its Subcontractors or agents will operate an Unmanned Aerial Vehicle ("UAV"), a policy of UAV insurance shall be provided on a standard form providing coverage for bodily injury (including death) and property damage on an "occurrence" basis with a combined single limit per occurrence of $2,000,000. This coverage may also be provided by endorsement to the Commercial General Liability policy.

Contractor is responsible to follow the Cornell University UAV Policy, located at: https://www.risk.cornell.edu/events-and-staffing-main-page/use-of-drones/

PDF of Insurance requirements per the above Cornell University Policy: https://bpb-us-e1.wpmucdn.com/blogs.cornell.edu/dist/8/4200/files/2016/09/UAV-Guidelines-28wl46t.pdf

8. Contractor's Equipment. Contractor shall purchase and maintain coverage for its property and equipment to be used in the prosecution of the Contract Work. Such coverage shall be on a Replacement Cost basis. A Waiver of Subrogation in favor of Owner for any loss to Contractor's tools, equipment, machinery, and appliances shall be provided prior to the commencement of the Contract Work.

B. In addition to maintaining all of the above insurances, the Contractor shall indemnify and hold harmless the Owner and its agents and employees from and against liability, including additional premium due because of the Contractor's failure to maintain coverage limits as required under this section.

C. Insurance similar to that required of the Contractor shall be provided by or on behalf of all subcontractors to cover their own operations performed under this Contract. The Contractor shall be held responsible for any modifications in these insurance requirements as they apply to subcontractors.

1. Subcontractors' Insurance: Before permitting any of its Subcontractors to perform any Work, Contractor shall require and verify that all subcontractors maintain insurance meeting all the requirements stated herein, and Contractor shall ensure that Owner is an additional insured on insurance required from subcontractors. Such Additional Insured endorsement shall be attached to the certificate of insurance in order to be valid and on a form at least as broad as ISO Additional Insured Endorsement CG2010 1093 with CG2037 1001 or an endorsement providing equivalent or broader coverage. The policy shall not contain any exclusions for New York Labor Law§§ 200, 240, 240(1), 241, 241(6) and any related sections, and their insurance certificate or accompanying letter from Authorized Representative must specifically state the same. If any sub contractor's coverage does not comply with the foregoing provisions, Contractor shall defend and indemnify the Owner from any damage, loss, cost, or expense, including attorneys' fees, incurred by Owner as a result of subcontractor's failure to maintain required coverage.

2. Subcontractor insurance shall be in such amounts and against such risks as is consistent with Contractor's customary practices for such types of subcontracts for projects of similar type and capacity to the Project, PROVIDED that such insurance shall at least be in such amounts and against such risks as is customarily carried by persons engaged in similar businesses in the same geographic area.

3. Applicable subcontractor minimum insurance limits shall be:

For Subcontracts 1,000,000 or less:

- Workman's compensation as per Section 10.06.A.1
- Comprehensive General Liability as per Section 10.06.A.2 with the following limits:

  BODILY INJURY AND PROPERTY
  DAMAGE LIABILITY (BROAD FORM)
  $ 1,000,000 Each Occurrence
  $ 2,000,000 Aggregate

- Automobile Liability Insurance as per Section 10.06.A3
- Professional Liability Insurance – if applicable to the Subcontractor's Scope of Work – as per Section 10.06.A.5 with the following limits:

  Minimum Limits Required: $2,000,000 per claim and $2,000,000 aggregate

- Umbrella/Excess Liability as per Section 10.06A.4 with the following limits:

  Not less than $5,000,000 per occurrence

- Pollution Liability Insurance as per section 10.06.A.6 with the following limits:

  Not less than $2,000,000 aggregate

For Subcontracts $1,000,000 or more:

- Workman's compensation as per Section 10.06.A.1
- Comprehensive General Liability as per Section 10.06.A.2 with the following limits:

  BODILY INJURY AND PROPERTY
  DAMAGE LIABILITY (BROAD FORM)
  $ 1,000,000 Each Occurrence
  $ 2,000,000 Aggregate

- Automobile Liability Insurance as per Section 10.06.A3
- Professional Liability Insurance – if applicable to the Subcontractor's Scope of Work – as per Section 10.06.A.5 with the following limits:

  Minimum Limits Required: $2,000,000 per claim and $2,000,000 aggregate

- Umbrella/Excess Liability as per Section 10.06A.4 with the following limits:

  Not less than $5,000,000 per occurrence

- Pollution Liability Insurance as per section 10.06.A.6 with the following limits:

  Not less than $5,000,000 aggregate

D. Before commencing the performance of any work covered by the Contract, the Contractor shall furnish to the Owner a current certificate or certificates, in duplicate, of the insurance required under the foregoing provisions including copies of subcontractor's certificates. Such certificates shall be on a form prescribed by the Owner, shall list the various coverage's and shall contain, in addition to any provisions hereinbefore required, a provision that the policy shall not be changed or cancelled and that it will be automatically renewed upon expiration and continued in force until final acceptance by the Owner of all the work covered by the Contract, unless the Owner is given thirty (30) days written notice to the contrary. Upon renewal of each of the Contractor's insurance coverage's, the Owner shall be provided with a new certificate of insurance showing such renewal. Certificates and written notices shall be directed to the Office of Facilities Contracts. The Contractor shall furnish the Owner with a certified copy of each policy including any and all exclusions to such policy.

E. If at any time any of the above required insurance policies should be cancelled, terminated or modified so that insurance is not in effect as above required, then, if the Owner shall so direct, the Contractor shall suspend performance of the work covered in the Contract. If the said work is so suspended, no extension of time shall be due on account thereof. The Owner may, at its option, obtain insurance affording coverage equal to that above required, at the Contractor's expense.

Section 10.07 - Liability Insurance of the Owner

A. The Owner, at its own cost and expense, shall procure and maintain such liability insurance as will, in its opinion, protect the Owner from its contingent liability to others for damages because of bodily injury, including death, and property damage which may arise from operations under this Contract.

Section 10.08 - Owner's and Contractor's Responsibilities for Fire and Extended Coverage Insurance Hazards

A. The Contractor shall purchase and maintain in force a builders risk insurance policy on the entire work. Such insurance shall be written on a completed value form and in an amount equal to the initial contract sum and modified by any subsequent modifications to the contract sum. The insurance shall name Cornell University and the State of New York, all subcontractors and sub- subcontractors. The insurance policy shall contain a provision that the insurance will not be cancelled or allowed to expire until the Contractor has given at least thirty (30) days prior written notice to Cornell University. The insurance shall cover the entire work at the site, including reasonable compensation for Architect's services and expenses made necessary by an insured loss. Insured property shall include portions of the work located away from the site and in transit to the site. The policy shall cover the cost of removing debris and demolition as may be legally necessary. The policy shall cover any boiler or machinery loss which may be suffered during installation and until final acceptance. The insurance required shall be written to cover "all risk" of physical loss including a loss due to collapse. Any deductible shall be the responsibility of the Contractor but in no case shall the deductible be more than $10,000 unless Cornell University has agreed to a higher deductible. The Contractor shall provide to Cornell University a certificate of insurance and a summary of coverage's including all endorsements and exclusions prior to commencement of the work. Once the policy is received, the Contractor shall provide a copy of such policy to Cornell University. There shall be a mutual waiver of recovery between Cornell University, the Contractor and all other parties to the extent such losses are covered by the builders risk policy. If Cornell University wishes to occupy the building prior to final acceptance and if the policy contains a provision which limits coverage for such partial occupancy, the parties agree work together to obtain consent of the insurance company for such partial occupancy or use under mutually acceptable terms.

B. Losses, if any, under such insurance shall be payable to the Owner.

C. The Contractor shall be responsible for any and all loss of materials connected with the construction due to unexplainable disappearance, theft or misappropriation of any kind or nature.

D. The foregoing provisions shall not operate to relieve the Contractor and subcontractors of responsibility for any loss or damage to their own or rented property or property of their employees, of whatever kind or nature, or on account of labor performed under the Contract incidental to the repair, replacement, salvage, or restoration of such items, including but not limited to tools, equipment, forms, scaffolding, and temporary structures, including their contents, regardless of ownership of such contents, except for such contents as are to be included in and remain a part of the permanent construction. The Owner shall in no event be liable for any loss or damage to any of the aforementioned items, or any other property of the Contractor, subcontractors and the Architect, or employees, agents, or servants of same, which is not to be included in and remain a part of the permanent construction. The Contractor and subcontractors severally waive any rights of recovery they may have against the Owner and the Architect for damage or destruction of their own or rented property, or property of their employees of whatever kind or nature.

Section 10.09 - Effect of Procurement of Insurance

A. Neither the procurement nor the maintenance of any type of insurance by the Owner or the Contractor shall in any way be construed or be deemed to limit, discharge, waive or release the Contractor from any of the obligations and risks imposed upon the Contractor by the Contract or to be a limitation on the nature or extent of such obligations and risks.

Section 10.10 - No Third Party Rights

A. Nothing in the Contract shall create or give to third parties; any claim or right of action against the Contractor, the Architect, and the Owner beyond such as may legally exist irrespective of the Contract.

Section 10.11 – Assumption of Risk

Vendors/Consultants/Contractors/Subcontractors are required to bring to jobsite all tools, equipment, and applicable personal safety devices required or needed to perform and complete the relevant scope of Work. Use of Cornell equipment or tools, with or without permission, involves inherent risk of injury to User(s). Any use of Cornell equipment is conditioned upon the assumption of all risks attendant to the use of any tools or equipment – including personal injury, death or permanent disability – arising from the Use of Cornell equipment or tools. These risks also include but are not limited to: accidents, collisions, falling, as well as unforeseen risks resulting in injuries to User and/or bystanders. Participation in a walk-through or similar activity constitutes acceptance of risk assumption.

Section 10.12 - Health And Safety Plan Requisites for Construction Activity Applicable To High Impact Respiratory Pathogen Pandemics And Contagions

Contractor agrees it shall follow all applicable safety requirements to a prospective health and safety event, emergency, epidemic or pandemic. Contractor is required to protect the health and safety of employees as required by applicable law, rule, regulation, and/or protocols based upon then current information, requirements, recommendations, and guidelines from civil authorities including, but not limited to, federal or New York State Executive Orders, CDC, OSHA and New York State Department of Health surrounding health and safety measures designed to eliminate or reduce the transmission of the high impact respiratory pathogen pandemics (HIRPP), or other emergent public health and safety events, epidemics, pandemics and conditions.

ARTICLE 11 -- USE OR OCCUPANCY PRIOR TO ACCEPTANCE BY OWNER

Section 11.01 – Substantial Completion

A. The term "substantial completion" means the completion of the Work to the extent that Cornell University may have uninterrupted occupancy or use of the facility or specified portion thereof for the purpose for which intended. The Contractor shall obtain all certificates of occupancy required prior to occupancy, and any electrical, mechanical and plumbing certificates, or other certificates or required approvals and acceptances by City, County, and State governments or other authority having jurisdiction.

Section 11.02 - Occupancy Prior to Acceptance

A. If, before Final Acceptance, the Owner desires Beneficial Occupancy of the Work, or any part thereof, which is completed or partly completed, or to place or install therein equipment and furnishings, the Owner shall have the right to do so, and the Contractor shall in no way interfere with or object to said Beneficial Occupancy by the Owner.

B. Said Beneficial Occupancy (1) shall not constitute acceptance of space, systems, materials or elements of the Work, nor shall said Beneficial Occupancy affect the start of any guarantee period, and (2) shall not affect the obligations of the Contractor for Work which is not in accordance with the requirements of the Contract or other obligations of the Contractor under the Contract.

C. The Contractor shall continue the performance of the Work in a manner which shall not unreasonably interfere with said use, occupancy and operation by the Owner.

ARTICLE 12 -- PAYMENT

Section 12.01 - Provision for Payment

A. The Owner agrees to pay the Contract Price to the Contractor for the performance of this Contract and the fulfillment of all the Contractor's obligations. The Contract Price means all costs reimbursable under the Contract Documents.

B. The final certificate of the Architect shall certify that the Contract has been completed within the stipulated time, and shall not be issued until all drawings and specifications have been returned to the Owner. The issuance of said certificates, however, or any payments made thereon shall not lessen the total responsibility of the Contractor to complete the work to the satisfaction of the Owner in accordance with the Contract.

C. Payments on the Contract Price shall be made each month as the work progresses in accord with the following procedure:

1. The Contractor's schedule of values, including quantities, aggregating the total Contract Price, divided so as to facilitate payments to subcontractors as specified herein, shall be the basis for monthly progress payments. This schedule, as shown in the electronic project management system Schedule of Values Process, when approved by the Owner shall be used as a basis for progress payments. In applying for payments, the Contractor shall submit a statement based upon this approved schedule.

2. (a) On a date agreed upon by the Owner, Architect, and Contractor, a meeting shall be held by the Owner to review the work completed and materials on hand. This meeting shall review each item to be submitted by the Contractor in the requisition for payment.

(b) On the first day of each month, or as soon thereafter as practicable, the Contractor shall submit via the electronic project management system Payment Application Process, a statement and all applicable documentation setting forth in detail the cost of the work done and materials delivered to the job site up to and including the last day of the previous month and shall make application for payment of ninety five percent (95%) of the amount of said statement, less the aggregate of all previous payments made by the Owner against the Contract Price.

(c) Each statement and application shall be accompanied by an affidavit, executed by the Contractor, certifying that the statement is true and correct, and that all bills for labor, and materials incorporated in or delivered to the job, due and payable at the time of the preceding progress payment, have been paid. The Contractor shall attach a single .pdf file of certified payrolls for all employees on the project as indicated in the electronic project management system Payment Application Process. Before final payment is made, the Contractor shall submit evidence that all payrolls, material bills and other indebtedness incurred in connection with the Contract have been paid, including final waivers of any liens.

3. Each such application for payment shall be subject to the review and approval of the Architect. If the Architect finds that the affidavit and application for payment are acceptable and that all the above requirements in connection therewith have been complied with, the Architect shall, within seven (7) calendar days after receiving such application for payment, certify to the Owner that the payment applied for is due and payable to the Contractor.

4. The issuance of a Certificate for Payment constitutes a representation by the Architect to the Owner, based on the date of the Application for Payment, that the work has progressed to the point indicated, that, to the best of their knowledge, information, and belief, the quality of the work is in accordance with the Contract Documents and that the Contractor is entitled to payment in the amount certified.

The Owner shall make payment in the manner provided in the Agreement within thirty (30) calendar days of receipt of the approved Certificate in the Electronic project management system.

Approval of the Payment Application by the Architect shall not be deemed to represent that the Architect has made exhaustive or continuous on-site inspections to check the quality or quantity of the work or that the Architect has reviewed the construction means, methods, techniques, sequences, or proceedings or that the Architect has made any examination to ascertain how or for what purpose the Contractor has used the monies previously paid on account of the Contract Sum.

Section 12.02 – Stored Materials & Equipment

A. The Contractor may submit, no more than thirty (30) calendar days after contract approval and prior to the first application for payment, a written request to Cornell University for permission to invoice for critical materials and equipment ready, but not yet incorporated into the work. For the purpose of this paragraph, "critical materials and equipment" eligible for payment are defined as those items affecting project schedule or budget as determined by Cornell University's evaluation of the project schedule. This includes finished goods normally shipped to the job site in a condition ready for incorporation into the work that require significant time for delivery. Raw materials or work-in-process at a manufacturer's plant location shall not be eligible for such consideration unless the Contractor can demonstrate that Cornell University can save money by purchasing material in bulk quantities at the beginning of the project.

B. Cornell University will be under no obligation to accept such requests.

C. Payment authorized by Cornell University for such "long-lead" critical materials and equipment not yet incorporated in the work will be made provided the Contractor submits Exhibit F and complies with the following:

1. Items shall be listed in the “Total Materials Presently Stored” column on the Application for Payment.

2. Transfer of Title shall be executed and included in the Application for Payment.

3. The method used to store off-site items shall be described in the Contractor's request to invoice for such materials and equipment. Cornell University shall give prior approval of the location of off-site storage. Items requiring special environmental conditions to protect their integrity (temperature, humidity, etc.) shall be continuously stored in such an environment.

4. Items in storage shall be identified as property of Cornell University, and a description of the identification method used shall be submitted in the Application for Payment. Contractor shall maintain all necessary insurance on items in storage.

5. A written and photographic inventory of items and method used to verify such inventory, including Contractor's certification that all quantities have been received in good condition at the job site or other location acceptable to Cornell University shall be submitted with the Application for Payment.

6. A copy of the vendor's invoice is included with the Contractor's invoice. Packing lists will not be accepted.

D. Cornell University retains the right to verify storage by physical inspection prior to payment approval and at any time thereafter. Such payment shall not relieve the Contractor of the responsibility for protecting, safeguarding, and properly installing the equipment or materials. The Warranty and Guarantee period shall not commence until installation and final acceptance of the completed work by Cornell University. The Contractor shall bear the cost of transporting materials stored off-site to the site

E. Each subsequent invoice will restate the prior months' materials and equipment not incorporated in the Work and current month additions and deletions for materials and equipment incorporated into the Work.

F. Upon the making of partial payment by Cornell University, all work, materials, and equipment covered thereby shall become the sole property of Cornell University. Partial payments, however, shall not constitute acceptance of the Contractor's work by Cornell University, nor be construed as a waiver of any right or claim by Cornell University.

Section 12.03 – Retention

A. Retention in the amount of five percent (5%) of the value of the work done and materials furnished and installed under this Agreement shall be retained by the Owner as part security for the faithful performance of the Contractor’s work within the time specified, and shall be paid as indicated in Section 12.06.

B. Cornell University in its sole discretion may, upon the Contractor's application thereof, release retention applicable to a subcontractor, provided that there are no outstanding claims associated with the subcontractor's work and the subcontractor and Contractor submit an acceptable partial or final release when submitting the payment application process. A Consent of Surety to the reduction must be attached as well.

Section 12.04 - Withholding Payments

A. The Owner may, on account of subsequently discovered evidence, withhold or nullify the whole or a part of any Certificate to such extent as may be necessary to protect the Owner from loss on account of:

1. Defective work not remedied.

2. To assure payment of just claims of any persons supplying labor or materials for the work and to discharge any lien filed against the Owner's property.

3. A reasonable doubt that the Contract can be completed for the balance of the Contract Price then unpaid.

4. Damage to another Contractor.

5. Unsatisfactory prosecution of the work by the Contractor.

6. Failure to provide and maintain an acceptable Critical Path Method Network Schedule.

Section 12.05 – Documents and Conditions Precedent to Final Payment

A. As-Built Documentation

1. Prior to acceptance by the Owner of all work covered by the Contract, the Contractor shall furnish to the Owner through the Architect one (1) set of current reproducible full-size Contract Drawings on which the Contractor has recorded in a neat and workmanlike manner all instances where actual field construction differs from work as indicated on the Contract Drawings.

B. Final Documentation:

1. Prior to final payment, and before the issuance of a final certificate for payment in accordance with the provisions of these General Conditions, file the following documents with the Owner.

a. Warranties, Bonds, Service & Maintenance Contracts and any other extended guarantees stated in the technical sections of the Specifications.

b. Release or Waiver of Lien for the Contractor and Sub-Contractors in accordance with Exhibit B, attached hereto.

c. Project Record Documents as defined in General Requirements Section 01 78 39.

d. Notification that Final Punch List work has been completed.

e. Manufacturers Instruction and Maintenance Manuals as defined in General Requirements Section 01 78 23.

f. Fixed Equipment Inventory as defined in General Requirements Section 01 78 22.

2. The Contractor shall also provide a CD containing scanned .pdf format and/or Word Documents of all documentation.

Section 12.06 - Final Payment and Release

A. When the Contractor determines that the work or a designated portion thereof is substantially complete, the Contractor shall prepare for submission to the Owner a list of items to be completed or corrected. This list, prepared by the Contractor, shall constitute a complete detailed list of defects and deficiencies which, when remedied, will complete all Contract requirements. The submittal shall be accompanied by a statement to that effect.

B. 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. When the Architect, on the basis of an inspection, determines that the work is substantially complete, the Architect will then prepare a Certificate of Substantial Completion.

C. Upon receipt of written notice that the work is ready for final inspection and acceptance, the Architect will promptly make such inspection and, when the Architect finds the work acceptable under the provisions of the Contract Documents, and the Contract fully performed, and if bonds have been required, the written Consent of the Surety to the payment of the balance due, and a satisfactory Release of Lien, attached hereto as Exhibit "B" and made a part of the Contract Documents, has been submitted by the Contractor, each subcontractor and sub-subcontractor, the Contractor will promptly issue a final Certificate for Payment, stating that to the best of their knowledge, information, and belief, and on the basis of their observations and inspections the work has been completed in accordance with the terms and conditions of the Contract Documents, and that the entire balance is due and payable.

D. All prior certificates upon which progress payments may have been made, being estimates, shall be subject to correction to the final certificate.

E. The acceptance by the Contractor of the final payment aforesaid shall constitute a general release of the Owner and its agents or representatives from all claims and liability to the Contractor.

ARTICLE 13 -- TAX EXEMPTION

Section 13.01 - Tax Exemption

A. The Owner is exempt from payment of Federal, State and local taxes, including sales and compensating use taxes on all materials and supplies incorporated into the completed Work. These taxes are not to be included in bids. This exemption does not apply to tools, machinery, equipment or other property leased by or to the Contractor or a Subcontractor, or to supplies and materials which, even though they are consumed, are not incorporated into the completed Work, and the Contractor and Subcontractors shall be responsible for and pay any and all applicable taxes, including sales and compensating use taxes, on said leased tools, machinery, equipment or other property and upon all said unincorporated supplies and materials.

B. The Contractor and Subcontractor shall obtain any and all necessary certificates or other documentation from the appropriate governmental agency or agencies, and use said certificates or other documentation as required by law, rule or regulation.

ARTICLE 14 -- GUARANTEE

Section 14.01 - Guarantee

A. The Contractor, at the convenience of the Owner, shall remove, replace and/or repair at their own costs and expense any defects in workmanship, materials, ratings, capacities or characteristics occurring in or to the work covered by Contract for the period of one (1) year or within such longer period as may otherwise be provided in the Contract, the period of such guarantee to commence with the Owner's final acceptance of all work covered under the Contract, and the Contractor, upon demand, shall pay for all damage to all other work resulting from such defects and all expenses necessary to remove, replace and/or repair such work which may be damaged in removing, replacing or repairing the said defects. Acceptance means final acceptance of the entire work, early partial occupancy notwithstanding

B. In some instances the nature of the work may require the Owner to accept various components, equipment, spaces or phase of the project. In such cases the Contractor shall submit a separate guarantee for the Owner's acceptance on the form attached hereto as Exhibit "C". Upon completion of the project, the Contractor shall submit to the Owner a guarantee for the project on the form attached hereto as Exhibit "C".

ARTICLE 15 -- STANDARD PROVISIONS

Section 15.01 - Provisions Required by Law Deemed Inserted

Each and every provision of law or clause required by law to be inserted in the Contract, including, but not limited to, the provisions set forth in Schedule “A”, attached hereto as Exhibit H and made a part hereof, shall be deemed to be inserted herein and, in the event any such provision is not inserted or is not correctly inserted, then upon the application of either party, this Contract shall forthwith be physically amended to make such insertion or correction.

Section 15.02 – Vendor Responsibility Form

The State of New York requires each Contracting Agency conduct a review of prospective contractors (“vendors”) to provide reasonable assurances that the vendor is responsible. Acting as agent for the State University of New York, Cornell University is required to collect this information. This questionnaire, attached hereto as Exhibit I, is designed to provide information to assess a vendor’s authorization to do business in New York State, as well as business integrity, financial and organizational capacity, and performance history. The Contractor shall complete and return this form with their executed Agreement.

Section 15.03 - Laws Governing the Contract

The Contractor shall not assign the Contract in whole or in part without prior written consent of the Owner.

Section 15.04 - Assignments

The Contractor shall not assign the Contract in whole or in part without prior written consent of the Owner.

Section 15.05 - No Third Party Rights

Nothing in the Contract shall create or shall give to third parties any claim or right of action against the Owner, beyond such rights as may legally exist irrespective of the Contract.

Section 15.06 - Waiver of Rights of Owner

A. None of the provisions of the Contract will be considered waived by the Owner except when such waiver is given in writing.

Section 15.07 - Limitation on Actions

No action or proceeding shall be filed or shall be maintained by the Contractor against the Owner unless said action shall be commenced within six (6) months after receipt by the Owner of the Contractor's final requisition or, if the Contract is terminated by the Owner, unless said action is commenced within six (6) months after the date of said termination.

Section 15.08 - Owner's Representative

The Owner shall designate a representative authorized to act in its behalf with respect to the Project. The Owner or its representative shall examine documents and shall render approvals and decisions pertaining thereto promptly, to avoid unreasonable delay in the progress of the Contractor's work. Only directives from Cornell University's designated representative (Michael R. Kuo) shall be recognized by the Contractor.

Section 15.09 - Cost Escalation / De-escalation

A. The Contract Pricing for all materials, supplies and services will remain firm for the duration of the Contract. Only properly documented and timely advanced notice requests for an actual cost increase in excess of 10% for the subject materials due to a tariff tax imposed that result in significant and actual cost impacts after the date of Bid Proposal will be entertained.

B. A proper request for a cost escalation will:

1. only be considered for advanced, timely noticed, and properly documented materials escalation due to tariffs or natural disasters through no fault of the Contractor; and

2. must be submitted within thirty (30) days of actual tariff related cost escalation exceeding a total cost increase of 10% or more of the commodity's documented bid pricing; and

3. must be approved by the Owner and allowed only on a shared impact at actual pass-through cost basis, absent any mark-ups.

C. Approval of a cost escalation request will be at the sole discretion of the Owner on a shared cost basis. Retroactive cost increase adjustments will not be considered, nor will increases unrelated to tariff taxes. Adjustments to pricing shall be the result of increases at the manufacturer's level pricing incurred after the Contract commencement date that:

1. will not yield a higher profit margin than that reflected in the costs awarded in the original proposal; and

2. clearly identifies the items impacted by the increase; and

3. is accompanied by sufficient documentation, acceptable to the Owner, and subject to audit requirements below.

D. Contractor will be required to provide sufficient documentation to justify the requested cost escalations(s), and Owner will determine the acceptability of documentation and sources. Documentation will include a cost proposal in sufficient detail for the Owner to perform a cost/price analysis upon which the original proposal was made. An evaluation and/or audit will be performed on the cost proposal, as well as other submitted documentation in order to determine if the requested cost increase is a fair and reasonable reflection of the actual material cost increase(s).

E. In addition to the General Conditions Article 17 surrounding Accounting, Inspection and Audit requirements, the Contractor agrees to maintain and retain books and records showing all relevant and original costs included in Contractor bids surrounding the materials and pricing in the asserted cost escalation, as well records satisfactorily demonstrating the actual cost(s) incurred for the subject materials that are asserted to be the result of tariff impacts. Each Sub-Contractor shall be similarly obligated to maintain, for inspection and audit by the Owner, books and records respecting the relevant materials and their original pricing, as well as the subsequent actual cost(s). If requested by the Owner, the Contractor shall furnish copies of any and all relevant documents, subcontracts, purchase orders and/or requisitions of any nature associated with the project and the impacts due to tariffs. The absence of sufficient documentation shall be grounds to deny any claimed escalation in pricing due to tariffs.

F. If the Owner does not find the documentation sufficient to support a cost escalation request on a pass-through basis the Owner reserves the option to counter-offer. When agreed upon by both Parties, the contract cost changes shall be binding on the Contractor. This escalation/de-escalation provision shall apply equally to cost decreases as well as increases. Cost decreases may be considered and implemented at any time during the term of the Contract.

G. All cost escalations/de-escalations shall be processed via a Change Order to the Contract.

ARTICLE 16 – MINORITY AND WOMEN BUSINESS ENTERPRISES AND SERVICE DISABLED VETERAN OWNED BUSINESSES

Section 16.01 – Definitions

The terms "Minority-owned business enterprise" ("MBE") or “Women-owned business enterprise” (“WBE”) or “minority group member” shall have the same meaning as under Section 310 of the New York State Executive Law, as the same may be from time to time amended.

The Term “Service Disabled Veteran Owned Business” (“SDVOB”) shall have the same meaning as under NYS Executive Law Article 17-B and 9 NYCRR Part 252.

Section 16.02 – Participation by Minority and Women Business Enterprises and Service Disabled Veteran Owned Businesses.

A. The Contractor shall, in addition to any other nondiscrimination provision of the Contract and at no additional cost to Owner, fully comply and cooperate with the Owner in the implementation of MBE, WBE and SDVOB goals. These requirements include equal employment opportunities for minority group members and women ("EEO") and contracting opportunities for certified MWBEs and SDVOBs. The Contractor's demonstration of "good faith efforts" shall be a part of these requirements. These provisions shall be deemed supplementary to, and not in lieu of, the nondiscrimination provisions required by New York State or other applicable federal, state or local laws.

B. The Contractor shall include the provisions of this Article in each and every Agreement and/or Contract in such a manner that the provisions of this Article will be binding upon each subcontractor and supplier as to work in connection with and related to this Agreement.

C. For purposes of this procurement, the Owner has established goals as outlined in the Bid Form for Minority-Owned Business Enterprises ("MBE") and Women-Owned Business Enterprises ("WBE") participation.

1. The goal for Minority-Owned Business Enterprise participation shall be applied as follows: a maximum of one third (1/3) of the goal may be applied to purchases of materials, supplies, and equipment from MBEs.

2. The goal for Women-Owned Business Enterprise participation shall be applied as follows: a maximum of one third (1/3) of the goal may be applied to purchases of materials, supplies, and equipment from WBEs.

3. The goal for Service Disabled Veteran Owned Businesses ("SDVOB") participation shall be applied as follows: a maximum of one-third (1/3) of the goal may be applied to purchases of materials, supplies, and equipment from SDVOBs.

D. For purposes of providing meaningful participation by MWBEs and SDVOBs on the Contract and achieving the Contract Goals established in paragraph C above, the Contractor should reference the Directory of New York State Certified MWBEs and SDVOBs found at the following internet address: http://www.esd.ny.gov/mwbe.html and https://ogs.ny.gov/Core/docs/CertifiedNYS_SDVOB.pdf

E. Where MWBE and SDVOB goals have been established herein, the Contractor must document "good faith efforts" to provide meaningful participation by MWBEs and SDVOBs as sub-contractors or suppliers in the performance of the Contract.

F. Where it appears that a Contractor is unable to comply with the MWBE or SDVOB participation requirements, Contractor may submit in writing for the Owner's consideration, the reasons for Contractor's inability to meet any or all of the participation requirements together with an explanation of the efforts taken by the Contractor to obtain the stated MWBE and SDVOB participation.

Section 16.03 MWBE and SDVOB Utilization Plan

A. The Contractor shall submit a MBE/WBE/SDVOB Utilization Plan for the Owner's review prior within fifteen (15) calendar days after receipt of a Letter of Intent or Notice to Proceed.

B. The Contractor shall use such Owner approved MBE/WBE/SDVOB Utilization Plan for the performance of MWBEs and SDVOBs on the Contract pursuant to the prescribed MWBE goals established in Article 16 hereof. The Contractor shall designate a Compliance Officer in their organization who shall be responsible for implementing the MBE/WBE/SDVOB Utilization Plan of the Contractor and its subcontractors. Said Compliance Officer shall make such periodic, but not less than monthly, reports on the Plans' progress and on the number of women and minority workers employed. These reports shall be submitted to the Owner Representative on the Workforce Report attached hereto as Exhibit "D".

Section 16.04 Reports and Records

A. The following forms, attached hereto as Exhibit "D" and made a part of the Contract Documents, are to be used in submitting MBE/WBE/SDVOB Utilization Plans. Electronic versions are available in the Electronic project management system Resources Project or at https://fcs.cornell.edu/project-contractors-and-consultants.

1. MWBE/SDVOB Utilization Plan
2. Workforce Report

B. The Contractor shall provide a single monthly report inclusive of all subcontractor information for the project labor and such report must document the progress made towards achievement of the MWBE and SDVOB goals of the Contract. Such forms shall be uploaded monthly to the electronic project management system.

C. The Contractor shall permit access to its books, records and accounts by the Owner for purposes of investigation to ascertain compliance with the provisions of this Article. The Contractor shall include this provision in every subcontract so that such provision will be binding upon each subcontractor.

ARTICLE 17 -- ACCOUNTINGS, INSPECTION AND AUDIT

The Contractor agrees to keep books and records showing the actual costs incurred for the Work. Such books and records (including, without limitation, any electronic data processing files used by the Contractor in analyzing and recording the Work) shall be open for inspection and audit by the Owner and its authorized representatives at reasonable hours at the Contractor's local office or at the Owner's office, if necessary, and shall be retained by the Contractor for a period of seven years after the Work has been completed, except that if any litigation, claim or audit is started before the expiration date of the seven year period, the records shall be retained until all litigation, claims or audit findings involving the records have been resolved.. Each Sub-Contractor shall be similarly obligated to maintain, for inspection and audit by the Owner, books and records respecting the Work. If requested by the Owner, the Contractor shall furnish copies of any and all subcontracts, purchase orders and/or requisitions of any nature associated with the project.

ARTICLE 18 – CONTRACTOR PERFORMANCE EVALUATION

At project completion the Owner shall schedule a meeting to review with the Contractor their performance for the project unless performance warrants additional reviews. The Owner may schedule a meeting at fifty percent (50% completion) based on project complexity and/or duration. The Owner shall present its review based on the attached “Contractor Performance Evaluation”, Exhibit G. The Contractor shall be given the opportunity to provide input as to the findings of the evaluation after completion by the Owner.

ARTICLE 19 -- ROYALTIES AND PATENTS

The Contractor shall pay all royalties and license fees and shall defend all suits or claims for infringement of any patents, and shall save Cornell University harmless from loss on account thereof; except that Cornell University shall be responsible for all such loss when a particular process or product is specified by Cornell University unless the Contractor shall have reason to believe that the particular process or product infringes a patent, in which event it shall be responsible for loss on account thereof unless it promptly provides such information to Cornell University.

ARTICLE 20 -- CONFIDENTIALITY AND USE OF OWNER'S NAME

Section 20.01 - Release of Information

The Contractor shall not divulge information concerning the Work (including news releases, social media, internal house organizations, applications for permits, etc.) to anyone without Cornell University's prior written approval, except to subcontractors and suppliers to the extent that they need such information to perform their work. The Contractor shall require a similar agreement from each such subcontractor and supplier, requiring their compliance with the foregoing. Cornell University reserves the right to release all information, as well as to time its release and specify its form and content. The Contractor may obtain Cornell University's approval to release information by submitting such request to the Cornell University Project Manager.

Section 20.02 - Confidential Information

The term "Confidential Information" means all unpublished information obtained or received from Cornell University during the term of this Contract which relates to Cornell University's research, development, manufacturing and business affairs. The Contractor shall not disclose confidential information to any person, except to its employees and subcontractors to the extent that they require it in the performance of their Work, during the term of this Contract and until authorized by Cornell University in writing. The Contractor and its subcontractors shall hold all confidential information in trust and confidence for Cornell University, and shall use confidential information only for the purpose of this Contract. The Contractor and its subcontractors shall require all of their employees to whom confidential information is revealed to comply with these provisions. The Contractor shall have an agreement with each subcontractor, requiring their compliance with the foregoing. If it becomes necessary for the Contractor to defend in case of litigation related to its services rendered, permission shall be sought from Cornell University, who shall not unreasonably withhold such permission, before any disclosures are made. This Section does not apply to information which (1) is or becomes known in public domain or (2) is learned by the Contractor from third parties.

Section 20.03 - Use of Owner's Name

The Contractor shall not use, in its external, advertising, marketing program, social media, or other promotional efforts, any date, pictures, or other representation of the Owner except on the specific written authorization in advance of the Owner's Representative.

ARTICLE 21 -- CORNELL UNIVERSITY STANDARDS OF ETHICAL CONDUCT

Cornell University expects all executive officers, trustees, faculty, staff, student employees, and others, when acting on behalf of the university, to maintain the highest standard of ethical conduct as per Cornell University's Policy 4.6 - Standards of Ethical Conduct, a copy of which is available at https://fcs.cornell.edu/project-contractors-and-consultants This includes treating equally all persons and firms currently doing business with or seeking to do business with or for Cornell University, whether as contractors, subcontractors, or suppliers. Such persons and firms are respectfully reminded that Cornell University employees and their families may not personally benefit from Cornell University's business relationships by the acceptance of gifts or gratuities, defined as a gift in excess of $75.00 given to a Cornell employee for personal use. Items not considered gifts/gratuities include occasional business meals, items of an advertising nature, and items that are generally distributed to all potential customers. In addition, it is expected that the Contractor's officers and employees shall conduct all business related to this Contract within the highest ethical standards, observing applicable policies, practices, regulations, law, and professional standards. All parties are expected to report violations of this policy to appropriate university personnel. You may file a report to on the web https://secure.ethicspoint.com/domain/en/report_custom.asp?clientid=6357 or contact Cornell University through EthicsPoint by dialing toll-free 1-866-293-3077.

Section 21.01 Private Job Site

Cornell University, its campuses and construction job sites, are private property, owned and operated by a private university. Cornell requires its Contractors, their employees and subcontractors, to conduct job sites under their project control in a professional manner free of discrimination, harassment, and intimidation.

As a private university, Cornell University job sites are neither a public nor quasi-public forums. The Contractor, subcontractors, and their respective employees and visitors to the job sites have no expectation to rights of free expression while working on a Cornell job site, surrounding campus property, or its buildings and grounds. This practice is a content neutral, non-discriminatory, and represents time, place, and manner restrictions of a private employer. A Cornell construction job site is not an appropriate venue for the exercise of personal speech or expression, political or apolitical, offensive or inoffensive, or whether made on an individual’s own time. Actions involving flags, posters, shirts, emblems, symbols, protests, messaging and the like are not permitted on the job site and the Contractor controlling the job site shall ensure its subcontractors, all workers, suppliers and visitors to the job site comply with the foregoing. Violations may result in removal from the job site for those responsible.

CORNELL UNIVERSITY

Construction Contract Change Order Forms
Instructions to Change Order Documentation

Cornell University has several standard forms related to Changes in the Work. These forms have been prepared to comply with contract requirements related to Changes in the Work. The standard Construction Contract Change Order Request and Change Order Summary Forms shall be used to facilitate preparation of change order requests in conformity with construction contract requirements.

These forms shall be used by the Contractor and by all Subcontractors in preparing their respective cost estimates for services associated with the Changed Work for the Owner's consideration and shall include all associated back-up documentation supporting the request.

Direct Cost of the Work:

1. Direct Labor – Include the "wages paid" hourly direct labor and/or foreman necessary to perform the required change. "Wages paid" is the burdened labor rate documented in accordance with Section 2.14 – Project Labor Rates of the General Conditions. "Assigned Personnel or Work Crews" should be stated by trade or type of work performed not by name of person or company title. For example carpenter, mason, backhoe operator, etc. Supervisory personnel in district or home office shall not be included. Supervisory personnel on the job-site, but with broad supervisory responsibility and paid as salaried personnel, shall not be included as Direct Labor

2. Direct Material – Include the acquisition cost of all materials directly required to perform the required change. Examples of "Unit of Measure" include square feet, cubic yards, linear feet, days, gallons, etc.

3. Equipment – Include the rental cost of equipment items necessary to perform the change. For company-owned equipment items, include documentation of internal rental rates. Charges for small tools, and craft specific tools are not allowed.

Bond Premiums

The Contractor's actual documented bond premium rate as stated on their Bid Form at time of bid shall be added to all direct and indirect costs of the proposed change.

Overhead & Profit

The Contractor's overhead & profit rate shall be added to all direct and indirect costs of the proposed change in accordance with the Contract.

EXHIBIT "A"

CONSTRUCTION CONTRACT CHANGE ORDER REQUEST

DATE: _____ **COR #** _____

PROJECT TITLE: **CONTRACT NO.** _____

❑ Name of Contractor/Subcontractor performing Work: _____

DESCRIPTION OF WORK: _____

_____

_____

A. DIRECT COST OF WORK:

1	**LABOR** (Attach Supporting Documentation) **ASSIGNED PERSONNEL OR WORK CREW**	**HOURLY WAGE RATE PAID**	**HOURS WORKED**	**TOTAL COST**
	_____			$0
	_____			$0
	_____			$0
	_____			$0
			LABOR TOTAL	$0

2	**MATERIAL** (Attach Supporting Documentation) **MATERIAL REQUIRED FOR CHANGE**	**UNIT PRICE**	**UNIT OF MEASURE**	**REQUIRED UNITS**	**TOTAL COST**
	_____				$0
	_____				$0
	_____				$0
	_____				$0
				MATERIAL TOTAL	$0

3	**EQUIPMENT** (Attach Supporting Documentation) **EQUIPMENT REQUIRED FOR CHANGE**	**UNIT PRICE**	**UNIT OF MEASURE**	**REQUIRED UNITS**	**TOTAL COST**
	_____				$0
	_____				$0
	_____				$0
	_____				$0
	_____				$0
				EQUIPMENT TOTAL	$0

4	**DIRECT COST (SUM 1, 2, 3)**	$0
5	**OH&P Rate** _____	$0

6	**SUBCONTRACTOR** (Attach Supporting Documentation) **SUB-SUBCONTRACTOR REQD FOR CHANGE**	**SUB-SUB COST OF WORK**	**SUB-SUB MARK UP %**	**TOTAL COST**
	_____			$0
	_____			$0
	_____			$0
			SUB-SUBCONTRACTOR TOTAL	$0

7	**OVERHEAD AND PROFIT** **OH&P Rate** _____	$0
	TOTAL COST PLUS OH&P (SUM 4, 5, 6, 7)	$0
8	**BOND PREMIUM (If applicable)** **Bond Premium Rate** _____	$0
	TOTAL COR COST	$0
	TOTAL CONTRACT DAYS ADDED/DELETED FROM PROJECT SCHEDULE	0

EXHIBIT "A"

CONSTRUCTION CONTRACT CHANGE ORDER SUMMARY

DATE: _____

PCO # _____

PROJECT TITLE: _____ **CONTRACT NO.** _____

CONTRACTOR: _____

DETAILED DESCRIPTION OF WORK: _____

1 **DIRECT COST OF WORK:**

NAME OF CONTRACTOR/SUBCONTRACTORS PERFORMING WORK	**TOTAL COST**

TOTAL COST OF PROPOSED CHANGE ORDER ITEM $0

TOTAL CONTRACT DAYS ADDED/DELETED FROM PROJECT SCHEDULE

THIS PAGE INTENTIONALLY LEFT BLANK

EXHIBIT "B"

FINAL RELEASE
FINAL WAIVER OF CLAIMS AND LIENS AND RELEASE OF RIGHTS

Date	_____	Contract Date	_____
Project	_____	Contract Price	_____
Address	_____	Net Extras and Deductions	_____
City	_____	Adjusted Contract Price	_____
County	_____	Amount Previously Paid	_____
State	_____	Balance Due - Final Payment	_____

The undersigned hereby acknowledges that the above Balance Due when paid represents payment in full for all labor, materials, etc., furnished by the below named Contractor or Supplier in connection with its work on the above Project in accordance with the Contract.

In consideration of the amounts and sums previously received, and the payment of $_____ being the full and Final Payment amount due, the below named Contractor or Supplier does hereby waive and release the Owner from any and all claims and liens and rights of liens upon the premises described above, and upon improvements now or hereafter thereon, and upon the monies or other considerations due or to become due from the Owner or from any other person, firm or corporation, said claims, liens and rights of liens being on account of labor, services, materials, fixtures or apparatus heretofore furnished by the below named Contractor or Supplier to the Project. The premises as to which said claims and liens are hereby released are identified as follows:_____ _____.

The undersigned further represents and warrants that he/she is duly authorized and empowered to sign and execute this waiver on his/her own behalf and on behalf of the company or business for which he/she is signing; that it has properly performed all work and furnished all materials of the specified quality per plans and specifications and in a good and workmanlike manner, fully and completely; that it has paid for all the labor, materials, equipment and services that it has used or supplied, that it has no other outstanding and unpaid applications, invoices, retentions, holdbacks, expenses employed in the prosecution of work, chargebacks or unbilled work or materials against the Owner as of the date of the aforementioned last and final payment application; and that any materials which have been supplied or incorporated into the above premises were either taken from its fully-paid or open stock or were fully paid for and supplied on the last and final payment application or invoice.

The undersigned further agrees to defend, indemnify and hold harmless the Owner for any losses or expenses (including without limitation reasonable attorneys' fees) should any such claim, lien or right of lien be asserted by the below named Contractor or Supplier or by any of its or their laborers, material persons or subcontractors.

I

n addition, for and in consideration of the amounts and sums received, the below named Contractor or Supplier hereby waives, releases and relinquishes any and all claims, rights or causes of action in equity or law whatsoever arising out of through or under the above mentioned Contract and the performance of work pursuant thereto.

The below named Contractor or Supplier further guarantees that all portions of the work furnished and installed are in accordance with the Contract and that the terms of the Contract with respect to this guarantee will remain in effect for the period specified in said Contract.

_____
Corporation or Business Name

Sworn to before me this

_____ Day of _____ 20__ By: _____

_____ Title: _____

THIS PAGE INTENTIONALLY LEFT BLANK

EXHIBIT "C"

GUARANTEE

Date: _____

In accordance with plans and specifications and the terms and conditions of our contract with Cornell University dated _____, we hereby guarantee the _____ as found in the specifications for _____, Ithaca, New York to be free
(Project Title)
from defects in materials and workmanship for the period of _____ year(s) from _____, the date of acceptance by the Owner.
(Date)

_____
(COMPANY)

By: _____

Title: _____

THIS PAGE INTENTIONALLY LEFT BLANK

MWBE/SDVOB Utilization Plan

Project No. _____ Bid Date: Click here to enter a date. Agreement/Contract Value: _____

Contractor: _____ Primary Contact: _____

Address: _____ City: _____ State: _____ Zip Code: _____

Phone Number: _____ Fax Number: _____ E-Mail: _____

GOALS: **MBE** 8.79% **WBE** 9.87% **SDVOB** 6.00% **Campus:** _____

SUBCONTRACTOR	FEDERAL ID #	DOLLAR VALUE OF CONTRACT OR PURCHASE ORDER	DESCRIPTION OF WORK OR SUPPLIES	SUBCONTRACTOR/SUPPLIER SCHEDULE	
				START DATE	COMPLETION DATE
Company Name: _____ **Street Address:** _____ **Contact Name:** _____ **E-Mail Address:** _____ **Check One:** MBE ☐ WBE ☐ SDVOB ☐				Click here to enter a date.	Click here to enter a date.
Company Name: _____ **Street Address:** _____ **Contact Name:** _____ **E-Mail Address:** _____ **Check One:** MBE ☐ WBE ☐ SDVOB ☐				Click here to enter a date.	Click here to enter a date.
Company Name: _____ **Street Address:** _____ **Contact Name:** _____ **E-Mail Address:** _____ **Check One:** MBE ☐ WBE ☐ SDVOB ☐				Click here to enter a date.	Click here to enter a date.
Company Name: _____ **Street Address:** _____ **Contact Name:** _____ **E-Mail Address:** _____ **Check One:** MBE ☐ WBE ☐ SDVOB ☐				Click here to enter a date.	Click here to enter a date.

In accordance with the SUNY Contract Documents and Executive Law Article 15-A, my firm seriously expects to use the NYS certified MBE/WBE certified firms listed above. The Contractor shall immediately notify and request approval prior to any changes to this plan from the University-wide MWBE Program Office.

NAME: _____ TITLE: _____ COMPANY OFFICER'S SIGNATURE _____ DATE: Click here to enter a date.

APPROVED:☐ DEFICIENT:☐ MWBE PROGRAM COORDINATOR: _____ DATE:_____

MWBE/SDVOB Utilization Plan

PART III – Quarterly Utilization Report *(Subcontractors & Sub-subcontractors fill this out and submit to General Contractor to compile into a single form.)* Double click on table to edit.

Month/Year:

General Contractor, Subcontractor, Sub-Subcontractor, or Vendor	Trade	Dollar Value of SubContract or Purchase Order	MBE/WBE SDVOB, or N/A	% of Total Contract
TOTALS		0		0

EXHIBIT "D" - FORM II

SUMMARY OF BID ACTIVITY WITH MBE, WBE AND SDVOB SUBCONTRACTORS AND VENDORS

Please print or type <u>all</u> information, except where a signature is required.

PROJECT: _____

Name of Prime Contract Bidder:

_____

Address (Street, City, State and Zip Code):

_____

Contact Person (Name, Title and Telephone Number):

_____

MBE, WBE and SDVOB Subcontractor/Vendor (Indicate which)	Trade	Item/ Date	Bid Submitted: Amount	Bid Submitted: Date	Award Status Amount	Date of Elimination

EXPLANATION OF ELIMINATION: Include meetings held for negotiation, etc.
(Use additional sheet if necessary)

OFFICER OF FIRM:

Name and Title: _____ Date: _____

Signature: _____

EXHIBIT "D" - FORM III

CORNELL UNIVERSITY

Please print or type all information.

PROJECT

PRIME CONTRACTOR

WORKFORCE REPORT

For the period of _____ (Month/Year)

Prime Contractor, Subcontractor and Sub-Subcontractor's Name	Craft and/or Trade	Total of All Employee Hours By Trade	Non-Hispanic / Caucasian		Black		Hispanic		Asian / Pacific Islander		American Indian / Alaskan Native		Minority Employee Hours as a Percentage of Total Employee Hours	Total Number of Employees		Total Number of Minority Employees	
			Hours Male	Hours Female	Hours Male	Hours Female	Hours Male	Hours Female	Hours Male	Hours Female	Hours Male	Hours Female		Male	Female	Male	Female
													#DIV/0!				
													#DIV/0!				
													#DIV/0!				
													#DIV/0!				
													#DIV/0!				
													#DIV/0!				
													#DIV/0!				
													#DIV/0!				
													#DIV/0!				
													#DIV/0!				
													#DIV/0!				
													#DIV/0!				
													#DIV/0!				
													#DIV/0!				
													#DIV/0!				
													#DIV/0!				
													#DIV/0!				
													#DIV/0!				
MONTHLY PROJECT TOTALS		0	0	0	0	0	0	0	0	0	0	0	#DIV/0!	0	0	0	0

NOTE: The Prime Contractor shall provide a single monthly report inclusive of all subcontractor information for the project.

EXHIBIT “"E"

LABOR RATE BREAKDOWN

PROJECT TITLE: _____ **CONTRACT NO.** _____

CONTRACTOR: _____ **TRADE:** _____

EFFECTIVE DATE: _____
EXPIRATION DATE: _____

Base Hourly Rate: $ _____

Payroll Taxes and Insurance	**% per Hour**
F.I.C.A.	
Federal Unemployment *(Base on 1500 hours of work)*	
State Unemployment *(Base on 1500 hours of work)*	
* Worker's Compensation	
* Bodity Injury & Property Damage	
Disability	
TOTAL	%

Payroll Taxes and Insurance Rates: Base Rate (x) Total % = $ _____

* Rates are net Contractor cost after premium discounts and experience modifications have been applied against manual rate.

Supplemental Benefits	**$ per Hour**
Vacation	
Health & Welfare	
Pension	
Annuity	
Education / Training	
Industry	

Total Hourly Fringe Benefits $ _____

Hourly Labor Rate: Base Rate, Taxes/Insurance and Fringe Benefits $ _____

Adjustment for a composite rate which includes apprentices: $ _____

CONTRACTOR'S CERTIFICATION

I certify that the labor rates, insurance enumerations, labor fringe enumerations and expenses are correct and in accordance with actual and true cost incurred.

Signature of Authorized Representative:

_____

Print Name: _____

Print Title: _____

THIS PAGE INTENTIONALLY LEFT BLANK

EXHIBIT "F"

STORED MATERIALS INVOICING DOCUMENTATION

PROJECT TITLE:

_____

CONTRACT NO.

CONTRACTOR: _____ **SUBCONTRACTOR:** _____ _____

REASON FOR REQUEST: _____

_____

_____

APPLICATION FOR PAYMENT NO. _____ **DATE:** _____

_____

1 **Material Identification**

Description:

_____

_____ Quantity:

_____ _____

_____ _____

_____ _____

_____ _____

Provide Specific Location of Materials Stored: _____ _____

_____

_____

_____

_____

2 **Material Value**

☐ Attach an Invoice or Quantified Statement of Value. $ _____

3 **Certificate of Insurance**

☐ Attach a Certificate of Insurance for the above specified materials. Certificate shall name "Cornell University" as a loss payee with respect to the specified materials.

4 **Transfer of Title**

The Contractor hereby agrees to transfer complete ownership of all listed materials to Cornell University at the time payment is made to Contractor for the above referenced Application for Payment. The Contractor remains responsible for all contractual requirements for the above listed materials including complete installation and providing of all warranties.

Signed:

_____

Date:

_____

THIS PAGE INTENTIONALLY LEFT BLANK

EXHIBIT "G"

Cornell University

Contractor Performance Evaluation

Project Information

Project Name:_____ Date Of Evaluation_____

Project Number_____ Evaluators;

Project Team_____

Campus_____

Project Start Date_____ Substantial Completion_____

Contractor_____ Prequalification Status_____

Original Contract Amount_____ Total Change Order Amount_____

Contractor Project Manager_____ Initial Evaluation_____

Contractor Superintendent_____ Final Evaluation_____

Type Of Contract

Prime Contractor___ Subcontractor___ Construction Manager___

Project Comments/Description

Performance Evaluation

Please give one rating for each category. Add comments as required to justify your rating.

Fails to Achieve Expectation	Needs Improvement	Fully Achieve Expectation	Freq Exceeds Expectation	Cons Exceed Expectation
1	2	3	4	5

1 Quality of Workmanship

Rate this contractor's performance in regards to quality of work

- **a.** Compliance with project drawings and specifications
- **b.** Workmanship quality and accuracy
- **c.** Tools- quality and sufficient quantity
- **d.** Equipment - sufficient quantity and operating condition
- **e.** Quality of jobsite craft personnel

Comments:

2 Scheduling/Productivity

Rate this contractor's performance with regard to producing and meeting contract schedules and milestones

- **a.** Project schedule quality and completeness
- **b.** Controlling of project schedule
- **c.** Manpower allocation for maintaining schedule
- **d.** Material deliveries to support project schedule
- **e.** Ability to meet substantial completion date and project milestones
- **f.** Productivity of work force
- **g**. Ability to deal with added work and unforeseen issues.

Comments:

3 Subcontractor Management

Rate this contractor's ability, effort and success in managing and coordinating subcontractors ***(if no subcontractors rate overall management performance)***

Comments:

3A Major subcontractor performance(score not added in final Contractor Evaluation

For contractor information only

- **a.** Plumbing Contractor overall Performance

Comments:

- **b.** HVAC Contractor overall Performance

Comments:

- **c.** Electrical Contractor overall Performance

Comments:

Fails to Achieve Expectation	Needs Improvement	Fully Achieve Expectation	Freq Exceeds Expectation	Cons Exceed Expectation
1	2	3	4	5

4 **MBE/WBE Participation**

Rate this contractor's MBE/WBE solicitation effort and participation for this project for, Project Team, Subcontractors, Material Vendors

Comments:

5 **Safety**

Rate this contractor's performance in regards to project safety

- **a.** Timely submission of site specific safety program
- **b.** Knowledge of OSHA standards
- **c.** Implementation of safety rules and regulations
- **d.** Promotion and creation of safety awareness
- **e.** Daily overall housekeeping
- **f.** Safety record
- **g.** Response to safety concerns
- **h.** Awareness of public safety

Comments:

6 **Contract Administration**

Rate this contractor's performance in regards to contract administration as per criteria below

- **a.** Timely submission of complet and correct documentation required for insurance and bond
- **b.** Change order processing
- **c.** Timely submission of RFI's, Shop Drawings, and change orders
- **d.** Subcontractor payments made promptly
- **e.** Timely submission of complete and correct payment applications
- **f.** Quality of paperwork

Comments:

7 **Working Relationships**

Rate this contractor's working relationships with other parties (Cornell, Design Team, subcontractors,ect.)

Comments:

Fails to Achieve Expectation	Needs Improvement	Fully Achieve Expectation	Freq Exceeds Expectation	Cons Exceed Expectation
1	2	3	4	5

8 **Supervisory Personnel Rating**

Rate the overall performance of this contractor's on site supervisory personnel and project management staff

Comments:

9 **Contract Close-Out**

Rate this contractor's overall ability to efficiently close out the project

a. Timely completion of all punchlist items
b. Timely resolution of all outstanding change orders
c. Timely submission of all close out documents(O&M's, As-Builts, warranties, final releases and consent of surety)
d. Quality of close out documentation and timely completion of any outstanding audit questions

Comments:

Summary Sheet

Project:_____
Contractor:_____

	Performance Categories	Rating Per Category	Weight %	Scoring
1	Quality of Workmanship	0	15.00%	0
2	Scheduling	0	10.00%	0
3	Subcontractor Management	0	10.00%	0
4	MBE/WBE Participation	0	10.00%	0
5	Safety	0	10.00%	0
6	Contract Administration	0	10.00%	0
7	Working Relationships	0	10.00%	0
8	On Site Supervisory Personnel Rating	0	18.00%	0
9	Contract Close Out	0	7.00%	0

Over All Rating 0

Rating Reference	
Fails to achieve expectation	1
Needs improvement	2
Fully achieves expectation	3
Frequently exceeds expectation	4
Consistently exceeds expectatio	5

OWNER COMMENTS:

OWNER COMMENTS on 3A Ratings:

CONTRACTOR COMMENTS:
(To be completed by Contractor prior to Owner/Contractor discussion meeting)

THIS PAGE INTENTIONALLY LEFT BLANK

Standard Contract Clauses
State University of New York

SCHEDULE A

June 21, 2023

The parties to the attached contract, license, lease, amendment or other agreement of any kind (hereinafter, "contract") agree to be bound by the following clauses which are hereby made a part of the contract (the word "Contractor" herein refers to any party other than the State or State University of New York, whether a Contractor, licensor, licensee, lessor, lessee or any other party; the State University of New York shall hereinafter be referred to as "SUNY"):

1. **EXECUTORY CLAUSE.** In accordance with Section 41 of the State Finance Law, the State shall have no liability under this contract to the Contractor or to anyone else beyond funds appropriated and available for this contract.

2. **PROHIBITION AGAINST ASSIGNMENT**. In accordance with Section 138 of the State Finance Law, this contract may not be assigned by the Contractor or its right, title or interest therein assigned, transferred, conveyed, sublet or otherwise disposed of without the State's previous written consent, and attempts to do so are null and void. Notwithstanding the foregoing, such prior written consent of an assignment of a contract let pursuant to Article XI of the State Finance Law may be waived at the discretion of SUNY and with the concurrence of the State Comptroller where the original contract was subject to the State Comptroller's approval, where the assignment is due to a reorganization, merger or consolidation of the Contractor's business entity or enterprise. SUNY retains its right to approve an assignment and to require that any Contractor demonstrate its responsibility to do business with SUNY. The Contractor may, however, assign its right to receive payments without SUNY's prior written consent unless this contract concerns Certificates of Participation pursuant to Article 5-A of the State Finance Law.

3. **COMPTROLLER'S APPROVAL.** (a) In accordance with Section 112 of the State Finance Law, the State Comptroller's approval is required for the following contracts: (i) goods, services, construction, and construction-related services for State University hospital or healthcare facilities which exceed $150,000; (ii) purchases utilizing an Office of General Services (OGS) centralized contract which exceed $200,000 (iii) goods, services, construction, and construction-related services not described in (i) or (ii) and which exceed $75,000;

(b) If this contract exceeds the threshold amounts listed above in Paragraph 3(a), or, if this is an amendment for any amount to a contract which, as so amended, exceeds said threshold amounts, or if, by this contract, the State agrees to give something other than money when the value or reasonably estimated value of such consideration exceeds $25,000, it shall not be valid, effective or binding upon the State, and the State shall bear no liability, until it has been approved by the State Comptroller and filed in his or her office.

4. **WORKERS' COMPENSATION BENEFITS.** In accordance with Section 142 of the State Finance Law, this contract shall be void and of no force and effect unless the Contractor shall provide and maintain coverage during the life of this contract for the benefit of such employees as are required to be covered by the provisions of the Workers' Compensation Law.

5. **NON-DISCRIMINATION REQUIREMENTS.** To the extent required by Article 15 of the Executive Law (also known as the Human Rights Law) and all other State and Federal statutory and constitutional non-discrimination provisions, the Contractor will not discriminate against any employee or applicant for employment, nor subject any individual to harassment, because of age, race, creed, color, national origin, citizenship or immigration status, sexual orientation, gender identity or expression, military status, sex, disability, predisposing genetic characteristics, familial status, marital status, or domestic violence victim status or because the individual has opposed any practices forbidden under the Human Rights Law or has filed a complaint, testified, or assisted in any proceeding under the Human Rights Law. Furthermore, in accordance with Section 220-e of the Labor Law, if this is a contract for the construction, alteration or repair of any public building or public work or for the manufacture, sale or distribution of materials, equipment or supplies, and to the extent that this contract shall be performed within the State of New York, Contractor agrees that neither it nor its subcontractors shall, by reason of race, creed, color, disability, sex, or national origin: (a) discriminate in hiring against any New York State citizen who is qualified and available to perform the work; or (b) discriminate against or intimidate any employee hired for the performance of work under this contract. If this is a building service contract as defined in Section 230 of the Labor Law, then, in accordance with Section 239 thereof, Contractor agrees that neither it nor its subcontractors shall by reason of race, creed, color, national origin, age, sex or disability: (a) discriminate in hiring against any New York State citizen who is qualified and available to perform the work; or (b) discriminate against or intimidate any employee hired for the performance of work under this contract. Contractor is subject to fines of $50.00 per person per day for any violation of Section 220-e or Section 239 as well as possible termination of this contract and forfeiture of all moneys due hereunder for a second or subsequent violation

6. **WAGE AND HOURS PROVISIONS.** If this is a public work contract covered by Article 8 of the Labor Law or a building service contract covered by Article 9 thereof, neither Contractor's employees nor the employees of its subcontractors may be required or permitted to work more than the number of hours or days stated in said statutes, except as otherwise provided in the Labor Law and as set forth in prevailing wage and supplement schedules issued by the State Labor Department. Furthermore, Contractor and its subcontractors must pay at least the prevailing wage rate and pay or provide the prevailing supplements, including the premium rates for overtime pay, as determined by the State Labor Department in accordance with the Labor Law. Additionally, effective April 28, 2008, if this is a public work contract covered by Article 8 of the Labor Law, the Contractor understands and agrees that the filing of payrolls in a manner consistent with Subdivision 3-a of Section 220 of the Labor Law shall be a condition precedent to payment by the State of any State-approved sums due and owing for work done upon the project.

7. **NON-COLLUSIVE BIDDING CERTIFICATION.** In accordance with Section 139-d of the State Finance Law, if this contract was awarded based upon the submission of competitive bids, Contractor affirms, under penalty of perjury, that its bid was arrived at independently and without collusion aimed at restricting competition. Contractor further affirms that, at the time Contractor submitted its bid, an authorized and responsible person executed and delivered to SUNY a non-collusive bidding certification on Contractor's behalf.

8. **INTERNATIONAL BOYCOTT PROHIBITION.** In accordance with Section 220-f of the Labor Law and Section 139-h of the State Finance Law, if this contract exceeds $5,000, the Contractor agrees, as a material condition of the contract, that neither the Contractor nor any substantially owned or affiliated person, firm, partnership or corporation has participated, is participating, or shall participate in an international boycott in violation of the federal Export Administration Act of 1979 (50 USC App. Sections 2401 *et seq*.) or regulations thereunder. If such Contractor, or any of the aforesaid affiliates of Contractor, is convicted or is otherwise found to have violated said laws or regulations upon the final determination of the United States Commerce Department or any other appropriate agency of the United States subsequent to the contract's execution, such contract, amendment or modification thereto shall be rendered forfeit and void. The Contractor shall so notify the State Comptroller within five (5) business days of such conviction, determination or disposition of appeal (2 NYCRR § 105.4).

9. **SET-OFF RIGHTS.** The State shall have all of its common law, equitable and statutory rights of set-off. These rights shall include, but not be limited to, the State 's option to withhold for the purposes of set-off any moneys due to the Contractor under this contract up to any amounts due and owing to the State with regard to this contract, any other contract with any State department or agency, including any contract for a term commencing prior to the term of this contract, plus any amounts due and owing to the State for any other reason including, without limitation, tax delinquencies, fee delinquencies or monetary penalties relative thereto. The State shall exercise its set-off rights in accordance with normal State practices including, in cases of set-off pursuant to an audit, the finalization of such audit by SUNY, its representatives, or the State Comptroller.

10. **RECORDS.** The Contractor shall establish and maintain complete and accurate books, records, documents, accounts and other evidence directly pertinent to performance under this contract (hereinafter, collectively, "the Records"). The Records must be kept for the balance of the calendar year in which they were made and for six (6) additional years thereafter. The State Comptroller, the Attorney General and any other person or entity authorized to conduct an examination, as well as SUNY and any other agencies involved in this contract, shall have access to the Records during normal business hours at an office of the Contractor within the State of New York or, if no such office is available, at a mutually agreeable and reasonable venue within the State, for the term specified above for the purposes of inspection, auditing and copying. SUNY shall take reasonable steps to protect from public disclosure any of the Records which are exempt from disclosure under Section 87 of the Public Officers Law (the "Statute") provided that: (i) the Contractor shall timely inform an appropriate SUNY official, in writing, that said Records should not be disclosed; and (ii) said Records shall be sufficiently identified; and (iii) designation of said Records as exempt under the Statute is reasonable. Nothing contained herein shall diminish, or in any way adversely affect, SUNY's or the State's right to discovery in any pending or future litigation.

11. **IDENTIFYING INFORMATION AND PRIVACY NOTIFICATION.**

(a) Identification Number(s). Every invoice or New York State Claim for Payment submitted to SUNY by a payee, for payment for the sale of goods or services or for transactions (e.g., leases, easements, licenses, etc.) related to real or personal property must include the payee's identification number. The number is any or all of the following: (i) the payee's Federal employer identification number, (ii) the payee's Federal social security number, and/or (iii) the payee's Vendor Identification Number assigned by the Statewide Financial System. Failure to include such number or numbers may delay payment. Where the payee does not have such number or numbers, the payee, on its invoice or Claim for Payment, must give the reason or reasons why the payee does not have such number or numbers.

(b) Privacy Notification. (1) The authority to request the above personal information from a seller of goods or services or a lessor of real or personal property, and the authority to maintain such information, is found in Section 5 of the State Tax Law. Disclosure of this information by the seller or lessor to SUNY or the State is mandatory. The principal purpose for which the information is collected is to enable the State to identify individuals, businesses and others who have been delinquent in filing tax returns or may have understated their tax liabilities and to generally identify persons affected by the taxes administered by the Commissioner of Taxation and Finance. The information will be used for tax administration purposes and for any other purpose authorized by law. (2) The personal information is requested by the purchasing unit of SUNY contracting to purchase the goods or services or lease the real or personal property covered by this contract or lease. The information is maintained in the Statewide Financial System by the Vendor Management Unit within the Bureau of State Expenditures, Office of the State Comptroller, 110 State Street, Albany, New York 12236.

12. **EQUAL EMPLOYMENT OPPORTUNITIES FOR MINORITIES AND WOMEN.**
In accordance with Section 312 of the Executive Law and 5 NYCRR Part 143, if this contract is: (i) a written agreement or purchase order instrument, providing for a total expenditure in excess of $25,000.00, whereby a contracting agency is committed to expend or does expend funds in return for labor, services, supplies, equipment, materials or any combination of the foregoing, to be performed for, or rendered or furnished to the contracting agency; or (ii) a written agreement in excess of $100,000.00 whereby a contracting agency is committed to expend or does expend funds for the acquisition, construction, demolition, replacement, major repair or renovation of real property and improvements thereon; or (iii) a written agreement in excess of $100,000.00 whereby the owner of a State assisted housing project is committed to expend or does expend funds for the acquisition, construction, demolition, replacement, major repair or renovation of real property and improvements thereon for such project, then the following shall apply and by signing this agreement the Contractor certifies and affirms that it is Contractor's equal employment opportunity policy that:

(a) The Contractor will not discriminate against employees or applicants for employment because of race, creed, color, national origin, sex, age, disability or marital status, shall make and document its conscientious and active efforts to employ and utilize minority group members and women its workforce on State contracts and will undertake or continue existing programs of affirmative action to ensure that minority group members and women are afforded equal employment opportunities without discrimination. Affirmative action shall mean recruitment, employment, job assignment, promotion, upgrading, demotion, transfer, layoff, or termination and rates of pay or other forms of compensation;

(b) at SUNY's request, Contractor shall request each employment agency, labor union, or authorized representative of workers with which it has a collective bargaining or other agreement or understanding, to furnish a written statement that such employment agency, labor union or representative will not discriminate on the basis of race, creed, color, national origin, sex, age, disability or marital status and that such union or representative will affirmatively cooperate in the implementation of the Contractor's obligations herein; and

(c) the Contractor shall state, in all solicitations or advertisements for employees, that, in the performance of the State contract, all qualified applicants will be afforded equal employment opportunities without discrimination because of race, creed, color, national origin, sex, age, disability or marital status.

Contractor will include the provisions of "a," "b," and "c" above, in every subcontract over $25,000.00 for the construction, demolition, replacement, major repair, renovation, planning or design of real property and improvements thereon (the "Work") except where the Work is for the beneficial use of the Contractor. Section 312 does not apply to: (i) work, goods or services unrelated to this contract; or (ii) employment outside New York State. The State shall consider compliance by a contractor or sub-contractor with the requirements of any federal law concerning equal employment opportunity which effectuates the purpose of this clause. SUNY shall determine whether the imposition of the requirements of the provisions hereof duplicate or conflict with any such federal law and if such duplication or conflict exists, SUNY shall waive the applicability of Section 312 to the extent of such duplication or conflict. Contractor will comply with all duly promulgated and lawful rules and regulations of the Department of Economic Development's Division of Minority and Women's Business Development pertaining hereto.

13. **CONFLICTING TERMS.** In the event of a conflict between the terms of the contract (including any and all attachments thereto and amendments thereof) and the terms of this Schedule A, the terms of this Schedulet A shall control.

14. **GOVERNING LAW.** This contract shall be governed by the laws of the State of New York except where the Federal supremacy clause requires otherwise.

15. **LATE PAYMENT.** Timeliness of payment and any interest to be paid to Contractor for late payment shall be governed by Article 11-A of the State Finance Law to the extent required by law.

16. **NO ARBITRATION.** Disputes involving this contract, including the breach or alleged breach thereof, may not be submitted to binding arbitration (except where statutorily authorized) but must, instead, be heard in a court of competent jurisdiction of the State of New York.

17. **SERVICE OF PROCESS.** In addition to the methods of service allowed by the State Civil Practice Law & Rules ("CPLR"), Contractor hereby consents to service of process upon it by registered or certified mail, return receipt requested. Service hereunder shall be complete upon Contractor's actual receipt of process or upon the State's receipt of the return thereof by the United States Postal Service as refused or undeliverable. Contractor must promptly notify the State, in writing, of each and every change of address to which service of process can be made. Service by the State to the last known address shall be sufficient. Contractor will have thirty (30) calendar days after service hereunder is complete in which to respond.

18. **PROHIBITION ON PURCHASE OF TROPICAL HARDWOODS.** The Contractor certifies and warrants that all wood products to be used under this contract award will be in accordance with, but not limited to, the specifications and provisions of State Finance Law §165 (Use of Tropical Hardwoods), which prohibits purchase and use of tropical hardwoods, unless specifically exempted, by the State or any governmental agency or political subdivision or public benefit corporation. Qualification for an exemption under this law will be the responsibility of the contractor to establish to meet with the approval of the State.

In addition, when any portion of this contract involving the use of woods, whether supply or installation, is to be performed by any subcontractor, the prime Contractor will indicate and certify in the submitted bid proposal that the subcontractor has been informed and is in compliance with specifications and provisions regarding use of tropical hardwoods as detailed in Section 165 of the State Finance Law. Any such use must meet with the approval of the State, otherwise, the bid may not be considered responsive. Under bidder certifications, proof of qualification for exemption will be the responsibility of the Contractor to meet with the approval of the State.

19. **MACBRIDE FAIR EMPLOYMENT PRINCIPLES.** In accordance with the MacBride Fair Employment Principles (Chapter 807 of the Laws of 1992) , the Contractor hereby stipulates that the Contractor either (a) has no business operations in Northern Ireland, or (b) shall take lawful steps in good faith to conduct any business operations in Northern Ireland in accordance with the MacBride Fair Employment Principles (as described in Section 165of the New York State Finance Law), and shall permit independent monitoring of compliance with such principles.

20. **OMNIBUS PROCUREMENT ACT OF 1992.**
It is the policy of New York State to maximize opportunities for the participation of New York State business enterprises, including minority and women-owned business enterprises as bidders, subcontractors and suppliers on its procurement contracts.

Information on the availability of New York State subcontractors and suppliers is available from:

NYS Department of Economic Development
Division for Small Business and Technology Development
625 Broadway
Albany, NY 12245
Telephone: 518-292-5100

A directory of certified minority and women-owned business enterprises is available from:

NYS Department of Economic Development
Division of Minority and Women's Business Development
633 Third Avenue 33rd Floor
New York, NY 10017
646-846-7364
email: mwbebusinessdev@esd.ny.gov
https://ny.newnycontracts.com/FrontEnd/searchcertifieddirectory.asp

The Omnibus Procurement Act of 1992 (Chapter 844 of the Laws of 1992, codified in State Finance Law § 139-i and Public Authorities Law § 2879(3)(n)–(p)) requires that by signing this bid proposal or contract, as applicable, Contractors certify that whenever the total bid amount is greater than $1 million:

(a) The Contractor has made reasonable efforts to encourage the participation of New York State Business Enterprises as suppliers and subcontractors, including certified minority and women-owned business enterprises, on this project, and has retained the documentation of these efforts to be provided upon request to SUNY;

(b) The Contractor has complied with the Federal Equal Employment Opportunity Act of 1972 (P.L. 92-261), as amended;

(c) The Contractor agrees to make reasonable efforts to provide notification to New York State residents of employment opportunities on this project through listing any such positions with the Job Service Division of the New York State Department of Labor, or providing such notification in such manner as is consistent with existing collective bargaining contracts or agreements. The Contractor agrees to document these efforts and to provide said documentation to the State upon request; and

(d) The Contractor acknowledges notice that the State may seek to obtain offset credits from foreign countries as a result of this contract and agrees to cooperate with the State in these efforts.

21. **RECIPROCITY AND SANCTIONS PROVISIONS.** Bidders are hereby notified that if their principal place of business is located in a country, nation, province, state or political subdivision that penalizes New York State vendors, and if the goods or services they offer will be substantially produced or performed outside New York State, the Omnibus Procurement Act of 1994 and 2000 amendments (Chapter 684 and Chapter 383, respectively, codified in State Finance Law § 165(6) and Public Authorities Law § 2879(5)) require that they be denied contracts which they would otherwise obtain.
NOTE: As of May 2023, the list of discriminatory jurisdictions subject to this provision includes the states of South Carolina, Alaska, West Virginia, Wyoming, Louisiana and Hawaii.

22. **COMPLIANCE WITH BREACH NOTIFICATION AND DATA SECURITY LAWS.** Contractor shall comply with the provisions of the New York State Information Security Breach and Notification Act (General Business Law § 899-aa, § 899-bb, and State Technology Law § 208).

23. **COMPLIANCE WITH CONSULTANT DISCLOSURE LAW.** If this is a contract for consulting services, defined for purposes of this requirement to include analysis, evaluation, research, training, data processing, computer programming, engineering, environmental health and mental health services, accounting, auditing, paralegal, legal or similar services, then in accordance with Section 163(4)(g) of the State Finance Law (as amended by Chapter 10 of the Laws of 2006), the Contractor shall timely, accurately and properly comply with the requirement to submit an annual employment report for the contract to SUNY, the Department of Civil Service and the State Comptroller.

24. **PURCHASES OF APPAREL AND SPORTS EQUIPMENT**. In accordance with State Finance Law Section 165(7), SUNY may determine that a bidder on a contract for the purchase of apparel or sports equipment is not a responsible bidder as defined in State Finance Law Section 163 based on (a) the labor standards applicable to the manufacture of the apparel or sports equipment, including employee compensation, working conditions, employee rights to form unions and the use of child labor; or (b) bidder's failure to provide information sufficient for SUNY to determine the labor conditions applicable to the manufacture of the apparel or sports equipment.

25. **PROCUREMENT LOBBYING**. To the extent this contract is a "procurement contract" as defined by State Finance Law §§ 139-j and 139-k, by signing this contract the Contractor certifies and affirms that all disclosures made in accordance with State Finance Law §§ 139-j and 139-k are complete, true and accurate. In the event such certification is found to be intentionally false or intentionally incomplete, the State may terminate the contract by providing written notification to the Contractor in accordance with the terms of the contract.

26. **CERTIFICATION OF REGISTRATION TO COLLECT SALES AND COMPENSATING USE TAX BY CERTAIN STATE CONTRACTORS, AFFILIATES AND SUBCONTRACTORS**. To the extent this contract is a contract as defined by Tax Law § 5-a, if the Contractor fails to make the certification required by Tax Law § 5-a or if during the term of the contract, the Department of Taxation and Finance or SUNY discovers that the certification, made under penalty of perjury, is false, then such failure to file or false certification shall be a material breach of this contract and this contract may be terminated, by providing written notification to the Contractor in accordance with the terms of the contract, if SUNY determines that such action is in the best interests of the State.

27. **IRAN DIVESTMENT ACT**. By entering into this contract, Contractor certifies in accordance with State Finance Law §165-a that it is not on the "Entities Determined to be Non-Responsive Bidders/Offerers pursuant to the New York State Iran Divestment Act of 2012" ("Prohibited Entities List") posted at: https://ogs.ny.gov/iran-divestment-act-2012.

Contractor further certifies that it will not utilize on this contract any subcontractor that is identified on the Prohibited Entities List. Contractor agrees that should it seek to renew or extend this contract, it must provide the same certification at the time the contract is renewed or extended. Contractor also agrees that any proposed Assignee of this contract will be required to certify that it is not on the Prohibited Entities List before the contract assignment will be approved by the State.

During the term of the contract, should SUNY receive information that a person (as defined in State Finance Law §165-a) is in violation of the above-referenced certifications, SUNY will review such information and offer the person an opportunity to respond. If the person fails to demonstrate that it has ceased its engagement in the investment activity which is in violation of the Act within 90 days after the determination of such violation, then SUNY shall take such action as may be appropriate and provided for by law, rule, or contract, including, but not limited to, imposing sanctions, seeking compliance, recovering damages, or declaring the Contractor in default.

SUNY reserves the right to reject any bid, request for assignment, renewal or extension for an entity that appears on the Prohibited Entities List prior to the award, assignment, renewal or extension of a contract, and to pursue a responsibility review with respect to any entity that is awarded a contract and appears on the Prohibited Entities list after contract award.

28**. ADMISSIBILITY OF REPRODUCTION OF CONTRACT**. Notwithstanding the best evidence rule or any other legal principle or rule of evidence to the contrary, the Contractor acknowledges and agrees that it waives any and all objections to the admissibility into evidence at any court proceeding or to the use at any examination before trial of an electronic reproduction of this contract, in the form approved by the State Comptroller, if such approval was required, regardless of whether the original of said contract is in existence.

THE FOLLOWING PROVISIONS SHALL APPLY ONLY TO THOSE CONTRACTS TO WHICH A HOSPITAL OR OTHER HEALTH SERVICE FACILITY IS A PARTY

29. Notwithstanding any other provision in this contract, the hospital or other health service facility remains responsible for insuring that any service provided pursuant to this contract complies with all pertinent provisions of Federal, state and local statutes, rules and regulations. In the foregoing sentence, the word "service" shall be construed to refer to the health care service rendered by the hospital or other health service facility.

30. (a) In accordance with the 1980 Omnibus Reconciliation Act (Public Law 96-499), Contractor hereby agrees that until the expiration of four years after the furnishing of services under this agreement, Contractor shall make available upon written request to the Secretary of Health and Human Services, or upon request, to the Comptroller General of the United States or any of their duly authorized representatives, copies of this contract, books, documents and records of the Contractor that are necessary to certify the nature and extent of the costs hereunder.

(b) If Contractor carries out any of the duties of the contract hereunder, through a subcontract having a value or cost of $10,000 or more over a twelve-month period, such subcontract shall contain a clause to the effect that, until the expiration of four years after the furnishing of such services pursuant to such subcontract, the subcontractor shall make available upon written request to the Secretary of Health and Human Services or upon request to the Comptroller General of the United States, or any of their duly authorized representatives, copies of the subcontract and books, documents and records of the subcontractor that are necessary to verify the nature and extent of the costs of such subcontract.

(c) The provisions of this section shall apply only to such contracts as are within the definition established by the Health Care Financing Administration, as may be amended or modified from time to time.

31. Hospital Retained Authority: Hospital Retained Authority: The Hospital retains direct, independent authority over the appointment and/or dismissal, in its sole discretion, of the facility's management level employees (including but not limited to, the Facility/Service Administrator/Director, the Medical Director, the Director of Nursing, the Chief Executive Officer, the Chief Financial Officer and the Chief Operating Officer) and all licensed or certified health care staff. The Hospital retains the right to adopt and approve, at its sole discretion, the facility's operating and capital budgets. The Hospital retains independent control over and physical possession of the facility's books and records. The Hospital retains independent control over and physical possession of the facility's operating policies and procedures. The Hospital retains full authority and responsibility for, and control over, the operations and management of the facility. The Hospital retains the right and authority to independently adopt, approve and enforce, in its sole discretion, policies affecting the facility's delivery of health care services. The Hospital retains the right to independently adopt, approve and enforce, at its sole discretion, the disposition of assets and authority to incur debts. The Hospital retains the right to approve, at its sole discretion, contracts for administrative services, management and/or clinical services. The Hospital retains the right to approve, at its sole discretion, any facility debt. The Hospital retains the right to approve, at its sole discretion, settlements of administrative proceeding or litigation to which the facility is a party. No powers specifically reserved to the Hospital may be delegated to, or shared by, the Contractor or any other person. In addition, if there is any disagreement between the parties to this Agreement regarding control between the Hospital and the Contractor, the terms of this Section shall control.

THIS PAGE INTENTIONALLY LEFT BLANK

New York State Vendor Responsibility

Cornell University recommends that vendors file the required Vendor Responsibility Questionnaire online via the New York State VendRep System. To enroll in and use the New York State VendRep System, see the VendRep System Instructions available at

http://www.osc.state.ny.us/vendrep/vendor_index.htm

or go directly to the VendRep System online at https://portal.osc.state.ny.us.

Vendors must provide their New York State Vendor Identification Number when enrolling. To request assignment of a Vendor ID or for VendRep System assistance, contact the Office of the State Comptroller's Help Desk at 866-370-4672 or 518-408-4672 or by email at

ciohelpdesk@osc.state.ny.us.

When enrolled in the VendRep System, your company will be able to:

- Find out if your new contract or change order is being reviewed by OSC and if it has been approved (or non-approved) – you can know the very next business day.
- Complete your CCA-2 online once for multiple State agencies to view. If your company bids on multiple State contracts, or submits bids to multiple State agencies, you won't need to submit multiple questionnaires.
- Revise as needed by updating only relevant responses, easily view the entire questionnaire and re-certify with just a few simple keystrokes.
- Attach documents in response to most questions.

Vendors opting to complete and submit a paper questionnaire can obtain the appropriate questionnaire from the VendRep website

www.osc.state.ny.us/vendrep

or may contact the Facilities Contracts Office (607-255-3982) or the Office of the State Comptroller's Help Desk for a copy of the paper form.

THIS PAGE INTENTIONALLY LEFT BLANK

NEW YORK STATE DEPARTMENT OF LABOR
PREVAILING WAGE RATES

FOR

REPAIR PEDESTRIAN BRIDGE:
HUMAN ECOLOGY BUILDING

CORNELL UNIVERSITY
ITHACA, NEW YORK

Kathy Hochul, Governor

Roberta Reardon, Commissioner

Cornell University

Breanna Brann, Contracts Specialist
121 Humphreys Service Building
Ithaca NY 14853

Schedule Year	2026 through 2027
Date Requested	11/05/2026
PRC#	2026031085

Location	Human Ecology Building
Project ID#	eB #12217
Project Type	Repair Pedestrian Bridge: Human Ecology Building

PREVAILING WAGE SCHEDULE FOR ARTICLE 8 PUBLIC WORK PROJECT

Attached is the current schedule(s) of the prevailing wage rates and prevailing hourly supplements for the project referenced above. A unique Prevailing Rate Case Number (PRC#) has been assigned to the schedule(s) for your project.

The schedule is effective from July 2026 through June 2027. All updates, corrections, posted on the 1st business day of each month, and future copies of the annual determination are available on the Department's website www.labor.ny.gov. Updated PDF copies of your schedule can be accessed by entering your assigned PRC# at the proper location on the website.

It is the responsibility of the contracting agency or its agent to annex and make part, the attached schedule, to the specifications for this project, when it is advertised for bids and /or to forward said schedules to the successful bidder(s), immediately upon receipt, in order to insure the proper payment of wages.

Please refer to the "General Provisions of Laws Covering Workers on Public Work Contracts" provided with this schedule, for the specific details relating to other responsibilities of the Department of Jurisdiction.

Upon completion or cancellation of this project, enter the required information and mail **OR** fax this form to the office shown at the bottom of this notice, **OR** fill out the electronic version via the NYSDOL website.

NOTICE OF COMPLETION / CANCELLATION OF PROJECT

Date Completed: _____ Date Cancelled: _____

Name & Title of Representative: _____

Phone: (518) 457-5589 Fax: (518) 485-1870
W. Averell Harriman State Office Campus, Bldg. 12, Room 130, Albany, NY 12240

Kathy Hochul, Governor

Roberta Reardon, Commissioner

Cornell University

Breanna Brann, Contracts Specialist
121 Humphreys Service Building
Ithaca NY 14853

Schedule Year 2026 through 2027
Date Requested 11/05/2026
PRC# 2026031085

Location Human Ecology Building
Project ID# eB #12217
Project Type Repair Pedestrian Bridge: Human Ecology Building

Notice of Contract Award

New York State Labor Law, Article 8, Section 220.3a requires that certain information regarding the awarding of public work contracts, be furnished to the Commissioner of Labor. One "Notice of Contract Award" (PW 16, which may be photocopied), **MUST** be completed for **EACH** prime contractor on the above referenced project.

Upon notifying the successful bidder(s) of this contract, enter the required information and mail **OR** fax this form to the office shown at the bottom of this notice, **OR** fill out the electronic version via the NYSDOL website.

Contractor Information
All information must be supplied

Federal Employer Identification Number: _____

Name: _____

Address: _____

_____

City: _____ State: _____ Zip: _____

Amount of Contract: $_____

Approximate Starting Date: ____/____/____

Approximate Completion Date: ____/____/____

Contract Type:
[ ] (01) General Construction
[ ] (02) Heating/Ventilation
[ ] (03) Electrical
[ ] (04) Plumbing
[ ] (05) Other : _____

Phone: (518) 457-5589 Fax: (518) 485-1870
W. Averell Harriman State Office Campus, Bldg. 12, Room 130, Albany, NY 12226

General Provisions of Laws Covering Workers on Article 8 Public Work Contracts

Introduction

The Labor Law requires public work contractors and subcontractors to pay laborers, workers, or mechanics employed in the performance of a public work contract not less than the prevailing rate of wage and supplements (fringe benefits) in the locality where the work is performed.

Contractor Registry

Effective December 30, 2024 all contractors and subcontractors submitting bids or performing construction work on public work projects, or private projects covered by Article 8 of the Labor Law, are required to register with the New York State Department of Labor (NYSDOL) under Labor Law Section 220-i. To register, contractors and subcontractors must submit an application through NYSDOL's Contractor Registry portal which is available through the agency's Management System for Protecting Worker Rights (MPWR) https://mpwr-public.labor.ny.gov/en/login.

For additional information, please visit online.

Responsibilities of the Department of Jurisdiction

A Department of Jurisdiction (Contracting Agency) includes a state department, agency, board or commission: a county, city, town or village; a school district, board of education or board of cooperative educational services; a sewer, water, fire, improvement and other district corporation; a public benefit corporation; and a public authority awarding a public work contract.

The Department of Jurisdiction (Contracting Agency) awarding a public work contract MUST obtain a Prevailing Rate Schedule listing the hourly rates of wages and supplements due the workers to be employed on a public work project. This schedule may be obtained by completing a "Request for Wage and Supplement Information" form (PW 39).The Prevailing Rate Schedule MUST be included in the specifications for the contract to be awarded and is deemed part of the public work contract.

Upon the awarding of the contract, the law requires that the Department of Jurisdiction (Contracting Agency) furnish the following information to the Bureau: the name and address of the contractor, the date the contract was let and the approximate dollar value of the contract. To facilitate compliance with this provision of the Labor Law, a copy of the Department's "Notice of Contract Award" form (PW 16) is provided with the original Prevailing Rate Schedule.

The Department of Jurisdiction (Contracting Agency) is required to notify the Bureau of the completion or cancellation of any public work project. The Department's PW 200 form is provided for that purpose.

Both the PW 16 and PW 200 forms are available for completion online.

Hours

No laborer, worker, or mechanic in the employ of a contractor or subcontractor engaged in the performance of any public work project shall be permitted to work more than eight hours in any day or more than five days in any week, except in cases of extraordinary emergency. The contractor and the Department of Jurisdiction (Contracting Agency) may apply to the Bureau of Public Work for a dispensation permitting workers to work additional hours or days per week on a particular public work project.

Wages and Supplements

The wages and supplements to be paid and/or provided to laborers, workers, and mechanics employed on a public work project shall be not less than those listed in the current Prevailing Rate Schedule for the locality where the work is performed. If a prime contractor on a public work project has not been provided with a Prevailing Rate Schedule, the contractor must notify the Department of Jurisdiction (Contracting Agency) who in turn must request an original Prevailing Rate Schedule form the Bureau of Public Work. Requests may be submitted by: mail to NYSDOL, Bureau of Public Work, State Office Bldg. Campus, Bldg. 12, Rm. 130, Albany, NY 12226; Fax to Bureau of Public Work (518) 485-1870; or electronically at the NYSDOL website dol.ny.gov .

Upon receiving the original schedule, the Department of Jurisdiction (Contracting Agency) is REQUIRED to provide complete copies to all prime contractors who in turn MUST, by law, provide copies of all applicable county schedules to each subcontractor and obtain from each subcontractor, an affidavit certifying such schedules were received. If the original schedule expired, the contractor may obtain a copy of the new annual determination from the NYSDOL website dol.ny.gov .

The Commissioner of Labor makes an annual determination of the prevailing rates. This determination is in effect from July 1st through June 30th of the following year. The annual determination is available on the NYSDOL website dol.ny.gov.

Payrolls and Payroll Records

Every contractor and subcontractor MUST keep original payrolls or transcripts subscribed and affirmed as true under penalty of perjury. At a minimum, payrolls must show the following information for each person employed on a public work project: Name, Address, Last 4 Digits of Social Security Number, Classification(s) in which the worker was employed, Hourly wage rate(s) paid, Supplements paid or provided, and Daily and weekly number of hours worked in each classification.

The filing of payrolls to the Department of Jurisdiction is a condition of payment.Every contractor and subcontractor shall submit to the Department of Jurisdiction (Contracting Agency), within thirty (30) days after issuance of its first payroll and every thirty (30) days thereafter, a transcript of the original payrolls, subscribed and affirmed as true under penalty of perjury. The Department of Jurisdiction (Contracting Agency) shall collect, review for facial validity, and maintain such payrolls.

In addition, the Commissioner of Labor may require contractors to furnish, with ten (10) days of a request, payroll records sworn to as their validity and accuracy for public work and private work. Payroll records include, but are not limited to time cards, work description sheets, proof that supplements were provided, cancelled payroll checks and payrolls. Failure to provide the requested information within the allotted ten (10) days will result in the withholding of up to 25% of the contract, not to exceed $100,000.00. If the contractor or subcontractor does not maintain a place of business in New York State and the amount of the contract exceeds $25,000.00, payroll records and certifications must be kept on the project worksite.

The prime contractor is responsible for any underpayments of prevailing wages or supplements by any subcontractor.

All contractors or their subcontractors shall provide to their subcontractors a copy of the Prevailing Rate Schedule specified in the public work contract as well as any subsequently issued schedules. A failure to provide these schedules by a contractor or subcontractor is a violation of Article 8, Section 220-a of the Labor Law.

All subcontractors engaged by a public work project contractor or its subcontractor, upon receipt of the original schedule and any subsequently issued schedules, shall provide to such contractor a verified statement attesting that the subcontractor has received the Prevailing Rate Schedule and will pay or provide the applicable rates of wages and supplements specified therein. (See NYS Labor Laws, Article 8 . Section 220-a).

Determination of Prevailing Wage and Supplement Rate Updates Applicable to All Counties

The wages and supplements contained in the annual determination become effective July 1st whether or not the new determination has been received by a given contractor. Care should be taken to review the rates for obvious errors. Any corrections should be brought to the Department's attention immediately. It is the responsibility of the public work contractor to use the proper rates. If there is a question on the proper classification to be used, please call the district office located nearest the project. Any errors in the annual determination will be corrected and posted to the NYSDOL website on the first business day of each month. Contractors are responsible for paying these updated rates as well, retroactive to July 1st.

When you review the schedule for a particular occupation, your attention should be directed to the dates above the column of rates. These are the dates for which a given set of rates is effective. To the extent possible, the Department posts rates in its possession that cover periods of time beyond the July 1st to June 30th time frame covered by a particular annual determination. Rates that extend beyond that instant time period are informational ONLY and may be updated in future annual determinations that actually cover the then appropriate July 1st to June 30th time period.

Withholding of Payments

When a complaint is filed with the Commissioner of Labor alleging the failure of a contractor or subcontractor to pay or provide the prevailing wages or supplements, or when the Commissioner of Labor believes that unpaid wages or supplements may be due, payments on the public work contract shall be withheld from the prime contractor in a sufficient amount to satisfy the alleged unpaid wages and supplements, including interest and civil penalty, pending a final determination.

When the Bureau of Public Work finds that a contractor or subcontractor on a public work project failed to pay or provide the requisite prevailing wages or supplements, the Bureau is authorized by Sections 220-b and 235.2 of the Labor Law to so notify the financial officer of the Department of Jurisdiction (Contracting Agency) that awarded the public work contract. Such officer MUST then withhold or cause to be withheld from any payment due the prime contractor on account of such contract the amount indicated by the Bureau as sufficient to satisfy the unpaid wages and supplements, including interest and any civil penalty that may be assessed by the Commissioner of Labor. The withholding continues until there is a final determination of the underpayment by the Commissioner of Labor or by the court in the event a legal proceeding is instituted for review of the determination of the Commissioner of Labor.

The Department of Jurisdiction (Contracting Agency) shall comply with this order of the Commissioner of Labor or of the court with respect to the release of the funds so withheld.

Summary of Notice Posting Requirements

The current Prevailing Rate Schedule must be posted in a prominent and accessible place on the site of the public work project. The prevailing wage schedule must be encased in, or constructed of, materials capable of withstanding adverse weather conditions and be titled "PREVAILING RATE OF WAGES" in letters no smaller than two (2) inches by two (2) inches.

The "Public Work Project" notice must be posted at the beginning of the performance of every public work contract, on each job site.

Every employer providing workers. compensation insurance and disability benefits must post notices of such coverage in the format prescribed by the Workers. Compensation Board in a conspicuous place on the jobsite.

Every employer subject to the NYS Human Rights Law must conspicuously post at its offices, places of employment, or employment training centers, notices furnished by the State Division of Human Rights.

Employers liable for contributions under the Unemployment Insurance Law must conspicuously post on the jobsite notices furnished by the NYS Department of Labor.

Apprentices

Employees cannot be paid apprentice rates unless they are individually registered in a program registered with the NYS Commissioner of Labor. The allowable ratio of apprentices to journeyworkers in any craft classification can be no greater than the statewide building trade ratios promulgated by the Department of Labor and included with the Prevailing Rate Schedule. An employee listed on a payroll as an apprentice who is not registered as above or is performing work outside the classification of work for which the apprentice is indentured, must be paid the prevailing journeyworker's wage rate for the classification of work the employee is actually performing.

NYSDOL Labor Law, Article 8, Section 220-3, require that only apprentices individually registered with the NYS Department of Labor may be paid apprenticeship rates on a public work project. No other Federal or State Agency of office registers apprentices in New York State.

Persons wishing to verify the apprentice registration of any person must do so in writing by mail, to the NYSDOL Office of Employability Development / Apprenticeship Training, State Office Bldg. Campus, Bldg. 12, Albany, NY 12226 or by Fax to NYSDOL Apprenticeship Training (518) 457-7154. All requests for verification must include the name and social security number of the person for whom the information is requested.

The only conclusive proof of individual apprentice registration is written verification from the NYSDOL Apprenticeship Training Albany Central office. Neither Federal nor State Apprenticeship Training offices outside of Albany can provide conclusive registration information.

It should be noted that the existence of a registered apprenticeship program is not conclusive proof that any person is registered in that program. Furthermore, the existence or possession of wallet cards, identification cards, or copies of state forms is not conclusive proof of the registration of any person as an apprentice.

Interest and Penalties

In the event that an underpayment of wages and/or supplements is found:

- Interest shall be assessed at the rate then in effect as prescribed by the Superintendent of Banks pursuant to section 14-a of the Banking Law, per annum from the date of underpayment to the date restitution is made.
- A Civil Penalty may also be assessed, not to exceed 25% of the total of wages, supplements, and interest due.

Debarment

Any contractor or subcontractor and/or its successor shall be ineligible to submit a bid on or be awarded any public work contract or subcontract with any state, municipal corporation or public body for a period of five (5) years when:

- Two (2) willful determinations have been rendered against that contractor or subcontractor and/or its successor within any consecutive six (6) year period.
- There is any willful determination that involves the falsification of payroll records or the kickback of wages or supplements.

Criminal Sanctions

Willful violations of the Prevailing Wage Law (Article 8 of the Labor Law) may be a felony punishable by fine or imprisonment of up to 15 years, or both.

Discrimination

No employee or applicant for employment may be discriminated against on account of age, race, creed, color, national origin, sex, disability or marital status.

No contractor, subcontractor nor any person acting on its behalf, shall by reason of race, creed, color, disability, sex or national origin discriminate against any citizen of the State of New York who is qualified and available to perform the work to which the employment relates (NYS Labor Law, Article 8, Section 220-e(a)).

No contractor, subcontractor, nor any person acting on its behalf, shall in any manner, discriminate against or intimidate any employee on account of race, creed, color, disability, sex, or national origin (NYS Labor Law, Article 8, Section 220-e(b)).

The Human Rights Law also prohibits discrimination in employment because of age, marital status, or religion.

There may be deducted from the amount payable to the contractor under the contract a penalty of $50.00 for each calendar day during which such person was discriminated against or intimidated in violation of the provision of the contract (NYS Labor Law, Article 8, Section 220-e(c)).

The contract may be cancelled or terminated by the State or municipality. All monies due or to become due thereunder may be forfeited for a second or any subsequent violation of the terms or conditions of the anti-discrimination sections of the contract (NYS Labor Law, Article 8, Section 220-e(d)).

Every employer subject to the New York State Human Rights Law must conspicuously post at its offices, places of employment, or employment training centers notices furnished by the State Division of Human Rights.

Workers' Compensation

In accordance with Section 142 of the State Finance Law, the contractor shall maintain coverage during the life of the contract for the benefit of such employees as required by the provisions of the New York State Workers' Compensation Law.

A contractor who is awarded a public work contract must provide proof of workers' compensation coverage prior to being allowed to begin work.

The insurance policy must be issued by a company authorized to provide workers' compensation coverage in New York State. Proof of coverage must be on form C-105.2 (Certificate of Workers' Compensation Insurance) and must name this agency as a certificate holder.

If New York State coverage is added to an existing out-of-state policy, it can only be added to a policy from a company authorized to write workers' compensation coverage in this state. The coverage must be listed under item 3A of the information page.

The contractor must maintain proof that subcontractors doing work covered under this contract secured and maintained a workers' compensation policy for all employees working in New York State.

Every employer providing worker's compensation insurance and disability benefits must post notices of such coverage in the format prescribed by the Workers' Compensation Board in a conspicuous place on the jobsite.

Unemployment Insurance

Employers liable for contributions under the Unemployment Insurance Law must conspicuously post on the jobsite notices furnished by the New York State Department of Labor.

Social Security Numbers on Certified Payrolls:

The Department of Labor is cognizant of the concerns of the potential for misuse or inadvertent disclosure of social security numbers. Identity theft is a growing problem and we are sympathetic to contractors' concern regarding inclusion of this information on payrolls if another identifier will suffice.

For these reasons, the substitution of the use of the last four digits of the social security number on certified payrolls submitted to contracting agencies on public work projects is now acceptable to the Department of Labor. This change does not affect the Department's ability to request and receive the entire social security number from employers during its public work/ prevailing wage investigations.

Construction Industry Fair Play Act: Required Posting for Labor Law Article 25-B § 861-d

Construction industry employers must post the "Construction Industry Fair Play Act" notice in a prominent and accessible place on the job site. Failure to post the notice can result in penalties of up to $1,500 for a first offense and up to $5,000 for a second offense. The posting is included as part of this wage schedule. Additional copies may be obtained from the NYS DOL website, https://dol.ny.gov/public-work-and-prevailing-wage
If you have any questions concerning the Fair Play Act, please call the State Labor Department toll-free at 1-866-435-1499 or email us at: dol.misclassified@labor.ny.gov .

Worker Notification: (Labor Law §220, paragraph a of subdivision 3-a)

Effective June 23, 2020

This provision is an addition to the existing wage rate law, Labor Law §220, paragraph a of subdivision 3-a. It requires contractors and subcontractors to provide written notice to all laborers, workers or mechanics of the *prevailing wage and supplement rate* for their particular job classification *on each pay stub**. It also requires contractors and subcontractors to *post a notice* at the beginning of the performance of every public work contract *on each job site* that includes the telephone number and address for the Department of Labor and a statement informing laborers, workers or mechanics of their right to contact the Department of Labor if he/she is not receiving the proper prevailing rate of wages and/or supplements for his/her job classification. The required notification will be provided with each wage schedule, may be downloaded from our website *www.labor.ny.gov* or be made available upon request by contacting the Bureau of Public Work at 518-457-5589. *In the event the required information will not fit on the pay stub, an accompanying sheet or attachment of the information will suffice.

(12.20)

To all State Departments, Agency Heads and Public Benefit Corporations
IMPORTANT NOTICE REGARDING PUBLIC WORK ENFORCEMENT FUND

Budget Policy & Reporting Manual

B-610

Public Work Enforcement Fund

effective date December 7, 2005

---

1. Purpose and Scope:

This Item describes the Public Work Enforcement Fund (the Fund, PWEF) and its relevance to State agencies and public benefit corporations engaged in construction or reconstruction contracts, maintenance and repair, and announces the recently-enacted increase to the percentage of the dollar value of such contracts that must be deposited into the Fund. This item also describes the roles of the following entities with respect to the Fund:

- New York State Department of Labor (DOL),
- The Office of the State of Comptroller (OSC), and
- State agencies and public benefit corporations.

2. Background and Statutory References:

DOL uses the Fund to enforce the State's Labor Law as it relates to contracts for construction or reconstruction, maintenance and repair, as defined in subdivision two of Section 220 of the Labor Law. State agencies and public benefit corporations participating in such contracts are required to make payments to the Fund.

Chapter 511 of the Laws of 1995 (as amended by Chapter 513 of the Laws of 1997, Chapter 655 of the Laws of 1999, Chapter 376 of the Laws of 2003 and Chapter 407 of the Laws of 2005) established the Fund.

3. Procedures and Agency Responsibilities:

The Fund is supported by transfers and deposits based on the value of contracts for construction and reconstruction, maintenance and repair, as defined in subdivision two of Section 220 of the Labor Law, into which all State agencies and public benefit corporations enter.

Chapter 407 of the Laws of 2005 increased the amount required to be provided to this fund to .10 of one-percent of the total cost of each such contract, to be calculated at the time agencies or public benefit corporations enter into a new contract or if a contract is amended. The provisions of this bill became effective August 2, 2005.

To all State Departments, Agency Heads and Public Benefit Corporations
IMPORTANT NOTICE REGARDING PUBLIC WORK ENFORCEMENT FUND

OSC will report to DOL on all construction-related ("D") contracts approved during the month, including contract amendments, and then DOL will bill agencies the appropriate assessment monthly. An agency may then make a determination if any of the billed contracts are exempt and so note on the bill submitted back to DOL. For any instance where an agency is unsure if a contract is or is not exempt, they can call the Bureau of Public Work at the number noted below for a determination. Payment by check or journal voucher is due to DOL within thirty days from the date of the billing. DOL will verify the amounts and forward them to OSC for processing.

For those contracts which are not approved or administered by the Comptroller, monthly reports and payments for deposit into the Public Work Enforcement Fund must be provided to the Administrative Finance Bureau at the DOL within 30 days of the end of each month or on a payment schedule mutually agreed upon with DOL.

Reports should contain the following information:

- Name and billing address of State agency or public benefit corporation;
- State agency or public benefit corporation contact and phone number;
- Name and address of contractor receiving the award;
- Contract number and effective dates;
- Contract amount and PWEF assessment charge (if contract amount has been amended, reflect increase or decrease to original contract and the adjustment in the PWEF charge); and
- Brief description of the work to be performed under each contract.

Checks and Journal Vouchers, payable to the "New York State Department of Labor" should be sent to:

Department of Labor
Administrative Finance Bureau-PWEF Unit
Building 12, Room 464
State Office Campus
Albany, NY 12226

Any questions regarding billing should be directed to NYSDOL's Administrative Finance Bureau-PWEF Unit at (518) 457-3624 and any questions regarding Public Work Contracts should be directed to the Bureau of Public Work at (518) 457-5589.

NEW YORK STATE OF OPPORTUNITY. Department of Labor

Required Notice under Article 25-B of the Labor Law

Attention All Employees, Contractors and Subcontractors: You are Covered by the Construction Industry Fair Play Act

The law says that you are an employee unless:

- You are free from direction and control in performing your job, **and**
- You perform work that is not part of the usual work done by the business that hired you, **and**
- You have an independently established business.

Your employer cannot consider you to be an independent contractor unless all three of these facts apply to your work.

It is against the law for an employer to misclassify employees as independent contractors or pay employees off the books.

Employee Rights: If you are an employee, you are entitled to state and federal worker protections. These include:

- Unemployment Insurance benefits, if you are unemployed through no fault of your own, able to work, and otherwise qualified,
- Workers' compensation benefits for on-the-job injuries,
- Payment for wages earned, minimum wage, and overtime (under certain conditions),
- Prevailing wages on public work projects,
- The provisions of the National Labor Relations Act, and
- A safe work environment.

It is a violation of this law for employers to retaliate against anyone who asserts their rights under the law. Retaliation subjects an employer to civil penalties, a private lawsuit or both.

Independent Contractors: If you are an independent contractor**, you must pay all taxes and Unemployment Insurance contributions required by New York State and Federal Law.**

Penalties for paying workers off the books or improperly treating employees as independent contractors:

• **Civil Penalty**	First offense: Up to $2,500 per employee Subsequent offense(s): Up to $5,000 per employee
• **Criminal Penalty**	First offense: Misdemeanor - up to 30 days in jail, up to a $25,000 fine and debarment from performing public work for up to one year. Subsequent offense(s): Misdemeanor - up to 60 days in jail or up to a $50,000 fine and debarment from performing public work for up to 5 years.

If you have questions about your employment status or believe that your employer may have violated your rights and you want to file a complaint, call the Department of Labor at (866) 435-1499 or send an email to dol.misclassified@labor.ny.gov. All complaints of fraud and violations are taken seriously. You can remain anonymous.

Employer Name:

WE ARE YOUR DOL

NEW YORK STATE Department of Labor

New York State Department of Labor
Bureau of Public Work

Attention Employees

THIS IS A:

PUBLIC WORK PROJECT

If you are employed on this project as a **worker, laborer, or mechanic** you are entitled to receive the **prevailing wage and supplements rate** for the classification at which you are working.

Your pay stub and wage notice received upon hire must clearly state your wage rate and supplement rate.

Chapter 629 of the Labor Laws of 2007:

These wages are set by law and must be posted at the work site. They can also be found at: https://dol.ny.gov/bureau-public-work

If you feel that you have not received proper wages or benefits, please call our nearest office.*

Albany	(518) 457-2744	Patchogue	(631) 687-4882
Binghamton	(607) 721-8005	Rochester	(585) 258-4505
Buffalo	(716) 847-7159	Syracuse	(315) 428-4056
Garden City	(516) 228-3915	Utica	(315) 793-2314
New York City	(212) 932-2419	White Plains	(914) 997-9507
Newburgh	(845) 568-5287		

* For New York City government agency construction projects, please contact the Office of the NYC Comptroller at (212) 669-4443, or www.comptroller.nyc.gov – click on Bureau of Labor Law.

Contractor Name: _____

Project Location: _____

Requirements for OSHA 10 Compliance

Article 8 §220-h requires that when the advertised specifications, for every contract for public work, is $250,000.00 or more the contract must contain a provision requiring that every worker employed in the performance of a public work contract shall be certified as having completed an OSHA 10 safety training course. The clear intent of this provision is to require that all employees of public work contractors, required to be paid prevailing rates, receive such training "prior to the performing any work on the project."

The Bureau will enforce the statute as follows:

All contractors and sub contractors must attach a copy of proof of completion of the OSHA 10 course to the first certified payroll submitted to the contracting agency and on each succeeding payroll where any new or additional employee is first listed.

Proof of completion may include but is not limited to:

- Copies of bona fide course completion card (*Note: Completion cards do not have an expiration date.)*
- Training roster, attendance record of other documentation from the certified trainer pending the issuance of the card.
- Other valid proof

**A certification by the employer attesting that all employees have completed such a course is not sufficient proof that the course has been completed.

Any questions regarding this statute may be directed to the New York State Department of Labor, Bureau of Public Work at 518-457-5589.

WICKS

Public work projects are subject to the Wicks Law requiring separate specifications and bidding for the plumbing, heating and electrical work, when the total project's threshold is $3 million in Bronx, Kings, New York, Queens and, Richmond counties; $1.5 million in Nassau, Suffolk and Westchester counties; and $500,000 in all other counties.

For projects below the monetary threshold, bidders must submit a sealed list naming each subcontractor for the plumbing, HVAC and electrical and the amount to be paid to each. The list may not be changed unless the public owner finds a legitimate construction need, including a change in specifications or costs or the use of a Project Labor Agreement (PLA), and must be open to public inspection.

Allows the state and local agencies and authorities to waive the Wicks Law and use a PLA if it will provide the best work at the lowest possible price. If a PLA is used, all contractors shall participate in apprentice training programs in the trades of work it employs that have been approved by the Department of Labor (DOL) for not less than three years. They shall also have at least one graduate in the last three years and use affirmative efforts to retain minority apprentices. PLA's would be exempt from Wicks, but deemed to be public work subject to prevailing wage enforcement.

The Commissioner of Labor shall have the power to enforce separate specification requirement s on projects, and may issue stop-bid orders against public owners for non-compliance.

Other new monetary thresholds, and similar sealed bidding for non-Wicks projects, would apply to certain public authorities including municipal housing authorities, NYC Construction Fund, Yonkers Educational Construction Fund, NYC Municipal Water Finance Authority, Buffalo Municipal Water Finance Authority, Westchester County Health Care Association, Nassau County Health Care Corp., Clifton-Fine Health Care Corp., Erie County Medical Center Corp., NYC Solid Waste Management Facilities, and the Dormitory Authority.

Contractors must pay subcontractors within a 7 days period.

(07.19)

Introduction to the Prevailing Rate Schedule

Information About Prevailing Rate Schedule

This information is provided to assist you in the interpretation of particular requirements for each classification of worker contained in the attached Schedule of Prevailing Rates.

Classification

It is the duty of the Commissioner of Labor to make the proper classification of workers taking into account whether the work is heavy and highway, building, sewer and water, tunnel work, or residential, and to make a determination of wages and supplements to be paid or provided. It is the responsibility of the public work contractor to use the proper rate. If there is a question on the proper classification to be used, please call the district office located nearest the project. District office locations and phone numbers are listed below.
Prevailing Wage Schedules are issued separately for "General Construction Projects" and "Residential Construction Projects" on a county-by-county basis.

General Construction Rates apply to projects such as: Buildings, Heavy & Highway, and Tunnel and Water & Sewer rates.
Residential Construction Rates generally apply to construction, reconstruction, repair, alteration, or demolition of one family, two family, row housing, or rental type units intended for residential use.
Some rates listed in the Residential Construction Rate Schedule have a very limited applicability listed along with the rate. Rates for occupations or locations not shown on the residential schedule must be obtained from the General Construction Rate Schedule. Please contact the local Bureau of Public Work office before using Residential Rate Schedules, to ensure that the project meets the required criteria.

Contractor Registry (LL 220-I)

Labor Law Section 220-i requires that contractors obtain a Contractor Registry certificate of registration prior to bidding on or commencing work on a public or private project subject to prevailing wage requirements. Subcontractors also are prohibited from commencing work on covered employment unless they have received a Contractor Registry certificate. Contractors are required to submit their Certificate of Registration with their bid materials. A public database is available online to confirm registration at data.ny.gov to confirm registration validity. For additional information on how to register and the requirements, visit https://dol.ny.gov/public-work-contractor-and-subcontractorregistry-
landing.

Payrolls and Payroll Records

Every contractor and subcontractor MUST keep original payrolls or transcripts subscribed and affirmed as true under penalty of perjury. Additionally, as per Article 6 of the Labor Law, contractors and subcontractors are required to establish, maintain, and preserve for not less that six (6) years, contemporaneous, true, and accurate payroll records.

At a minimum, payrolls must show the following information for each person employed on a public work project: Name; Address, Last 4 Digits of Social Security number, Classification(s) in which the worker was employed, Hourly wage rate(s) paid, Supplements paid or provided, and Daily and weekly number of hours worked in each classification.

Electronic Certified Payroll (LL 220-J)
Effective December 31, 2025, all contractors and subcontractors who perform public work, or covered private work subject to the prevailing wage, will be required to submit certified payrolls electronically to the Bureau of Public Work and Prevailing Wage Enforcement. Additional information about the electronic certified payroll submission system will be made available on the Department's Website at https://dol.ny.gov/Electronic-Payroll

Paid Holidays

Paid Holidays are days for which an eligible employee receives a regular day's pay, but is not required to perform work. If an employee works on a day listed as a paid holiday, this remuneration is in addition to payment of the required prevailing rate for the work actually performed.

Overtime

At a minimum, all work performed on a public work project in excess of eight hours in any one day or more than five days in any workweek is overtime. The specific overtime requirements for each trade or occupation on a public work project may differ. Specific overtime requirements for each trade or occupation are contained in the prevailing rate schedules.

Overtime holiday pay is the premium pay that is required for work performed on specified holidays. It is only required where the employee actually performs work on such holidays.

The applicable holidays are listed under HOLIDAYS: OVERTIME. The required rate of pay for these covered holidays can be found in the OVERTIME PAY section listings for each classification.

Supplemental Benefits

Particular attention should be given to the supplemental benefit requirements. Although in most cases the payment or provision of supplements is straight time for all hours worked, some classifications require the payment or provision of supplements, or a portion of the supplements, to be paid or provided at a premium rate for premium hours worked. Supplements may also be required to be paid or provided on paid holidays, regardless of whether the day is worked. The Overtime Codes and Notes listed on the particular wage classification will indicate these conditions as required.

Effective Dates

When you review the schedule for a particular occupation, your attention should be directed to the dates above the column of rates. These are the dates for which a given set of rates is effective. The rate listed is valid until the next effective rate change or until the new annual determination which takes effect on July 1 of each year. Please Note: Updates to the Wage Schedule shall be made on a quarterly basis.

All contractors and subcontractors are required to pay the current prevailing rates of wages and supplements. If you have any questions please contact the Bureau of Public Work or visit the New York State Department of Labor website (www.labor.ny.gov) for current wage rate information.

Shift Work

If the timeline of the contract requires shift work be performed to meet deadlines, the BPWE will enforce the shift work rate as the required rate on the project whether or not shift work is specifically addressed in the contract.

Paid Prenatal Leave

Every employer shall be required to provide to its employees twenty hours of paid prenatal personal leave during any fifty-two week calendar period. Paid prenatal personal leave shall mean leave taken for the health care services received by an employee during their pregnancy or related to such pregnancy, including physical examinations, medical procedures, monitoring and testing, and discussions with a healthcare provider related to the pregnancy. Paid prenatal personal leave may be taken in hourly increments. Benefits for paid prenatal personal leave shall be paid in hourly installments. Employees shall receive compensation at the employee's regular rate of pay, or the applicable minimum wage established by the labor law, whichever is greater, for the use of Paid Prenatal leave.

Apprentice Training Ratios

The following are the allowable ratios of registered Apprentices to Journey-workers.

For example, the ratio 1:1,1:3 indicates the allowable initial ratio is one Apprentice to one Journeyworker. The Journeyworker must be in place on the project before an Apprentice is allowed. Then three additional Journeyworkers are needed before a second Apprentice is allowed. The last ratio repeats indefinitely. Therefore, three more Journeyworkers must be present before a third Apprentice can be hired, and so on.

Please call Apprentice Training Central Office at (518) 457-6820 if you have any questions.

Title (Trade)	Ratio
Boilermaker (Construction)	1:1,1:4
Boilermaker (Shop)	1:1,1:3
Carpenter (Bldg.,H&H, Pile Driver/Dockbuilder)	1:1,1:4
Carpenter (Residential)	1:1,1:3
Electrical (Outside) Lineman	1:1,1:2
Electrician (Inside)	1:1,1:3
Elevator/Escalator Construction & Modernizer	1:1,1:2
Glazier	1:1,1:3
Insulation & Asbestos Worker	1:1,1:3
Iron Worker	1:1,1:4
Laborer	1:1,1:3
Mason	1:1,1:4
Millwright	1:1,1:4
Op Engineer	1:1,1:5
Painter	1:1,1:3
Plumber & Steamfitter	1:1,1:3
Roofer	1:1,1:2
Sheet Metal Worker	1:1,1:3
Sprinkler Fitter	1:1,1:2

If you have any questions concerning the attached schedule or would like additional information, please contact the nearest BUREAU of PUBLIC WORK District Office or write to:

New York State Department of Labor
Bureau of Public Work
State Office Campus, Bldg. 12
Albany, NY 12226

District Office Locations:	Telephone #	FAX #
Bureau of Public Work - Albany	518-457-2744	518-485-0240
Bureau of Public Work - Binghamton	607-721-8005	607-721-8004
Bureau of Public Work - Buffalo	716-847-7159	716-847-7650
Bureau of Public Work - Garden City	516-228-3915	516-794-3518
Bureau of Public Work - Newburgh	845-568-5287	845-568-5332
Bureau of Public Work - New York City	212-932-2419	212-775-3579
Bureau of Public Work - Patchogue	631-687-4882	631-687-4902
Bureau of Public Work - Rochester	585-258-4505	585-258-4708
Bureau of Public Work - Syracuse	315-428-4056	315-428-4671
Bureau of Public Work - Utica	315-793-2314	315-793-2514
Bureau of Public Work - White Plains	914-997-9507	914-997-9523
Bureau of Public Work - Central Office	518-457-5589	518-485-1870

Tompkins County General Construction

Boilermaker — 11/01/2026

JOB DESCRIPTION Boilermaker **DISTRICT** 7

ENTIRE COUNTIES
Cayuga, Clinton, Cortland, Franklin, Jefferson, Lewis, Madison, Oneida, Onondaga, Oswego, Seneca, St. Lawrence, Tompkins

WAGES

Per hour:	07/01/2026	01/01/2027 Additional
Boilermaker	$ 42.50	$ 2.50*

* To be allocated at a later date.

SUPPLEMENTAL BENEFITS
Per hour:

Journeyworker	$ 27.10* + 1.49

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

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

HOLIDAY
Paid: See (1) on HOLIDAY PAGE
Overtime: See (5, 6, 15, 25) on HOLIDAY PAGE
NOTE: When a holiday falls on Sunday, the day observed by the State or Nation shall be observed. When a holiday falls on Saturday, Friday will be observed as the holiday.

REGISTERED APPRENTICES
WAGES per hour: Six (6) month terms at the following percentage of Journeyworker's wage.

1st	2nd	3rd	4th	5th	6th	7th	8th
65%	65%	70%	75%	80%	85%	90%	95%

SUPPLEMENTAL BENEFITS per hour:

$ 20.09* + 1.49	$ 20.09* + 1.49	$ 21.09* + 1.49	$ 22.08* + 1.49	$ 23.07* + 1.49	$ 24.09* + 1.49	$ 25.11* + 1.49	$ 26.10* + 1.49

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

7-175

Broadband — 11/01/2026

JOB DESCRIPTION Broadband **DISTRICT** 4

ENTIRE COUNTIES
Albany, Allegany, Broome, Cattaraugus, Cayuga, Chautauqua, Chemung, Chenango, Clinton, Columbia, Cortland, Delaware, Dutchess, Erie, Essex, Franklin, Fulton, Genesee, Greene, Hamilton, Herkimer, Jefferson, Lewis, Livingston, Madison, Monroe, Montgomery, Niagara, Oneida, Onondaga, Ontario, Orleans, Oswego, Otsego, Rensselaer, Saratoga, Schenectady, Schoharie, Schuyler, Seneca, St. Lawrence, Steuben, Sullivan, Tioga, Tompkins, Ulster, Warren, Washington, Wayne, Wyoming, Yates

PARTIAL COUNTIES
Orange: Only in the Village of Greenwood Lake, Village of Highland Falls, Town of Tuxedo, and Town of Patterson

WAGES
NOTE: Applies to all public work and covered private projects, including those receiving ConnectAll funding subject to New York State Labor Law §224-E, solicited on or after July 1,2025. For all other projects solicited prior to July 1,2025 please see LINEMAN ELECTRICIAN(1)-TELEDATA

Per Hour:	07/01/2026	08/04/2026
Field Tech Install/Repair*	$ 52.85	$ 54.44

For outside work (excluding installation on building construction/alteration/renovation projects), stopping at first point of attachment (demarcation), installing/maintaining/repairing broadband internet service.

"Broadband", "Broadband Service", or "Broadband Internet" means mass-market retail service by wire or radio that provides the capability to transmit data to and receive data from all or substantially all internet endpoints, including any capabilities that are incidental to and enable the operation of the communications service, but excluding dial-up internet access service.

*NOTE: EXCLUDES work within ten(10) feet of High Voltage (600 Volts and over) transmission lines. Please see LINEMAN rates.
*NOTE: Does not include the operation of equipment. Please see applicable OPERATING ENGINEER rates.
*NOTE: Does not include Groundmen/Flagger/Flagmen. Please see LABORER/LABORER-HEAVY/HIGHWAY rates.

SUPPLEMENTAL BENEFITS
Per Hour:

$ 23.24

OVERTIME PAY
See (B, K, *R) on OVERTIME PAGE
* Two and one half times the hourly rate after the 8th hour

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

4-CWA-Dist2

Carpenter - Building — 11/01/2026

JOB DESCRIPTION Carpenter - Building **DISTRICT** 2

ENTIRE COUNTIES
Chemung, Cortland, Schuyler, Steuben, Tompkins

PARTIAL COUNTIES
Allegany: Only the Township of Alfred.

WAGES

Per hour:	07/01/2026	07/01/2027 Additional	07/01/2028 Additional
Carpenter	$ 35.09	$ 4.00*	$3.00*
Floor Coverer	35.09	4.00*	3.00*
Carpet Layer	35.09	4.00*	3.00*
Dry-Wall	35.09	4.00*	3.00*
Diver-Wet Day	61.25	4.00*	3.00*
Diver -Dry Day	36.09	4.00*	3.00*
Diver Tender	36.09	4.00*	3.00*

*To be allocated at a later date

NOTE ADDITIONAL AMOUNTS PAID FOR THE FOLLOWING WORK LISTED BELOW (per hour worked):
- Pile Drivers/Dock Builders shall receive $0.25 per hour over the journeyworker's rate of pay when performing piledriving/dock building work.
- Certified welders shall receive $3.00 per hour over the journeyworker's rate of pay when the employee is required to be certified and performs DOT or ABS specified welding work.
- When an employee performs work within a contaminated area on a State and/or Federally designated hazardous waste site, and where relevant State and/or Federal regulations require employees to be furnished and use or wear required forms of personal protection, then the employee shall receive thier regular hourly rate plus $1.50 per hour.
- Depth pay for Divers based upon deepest depth on the day of the dive (per diem payment):
  0' to 80' no additional fee
  81'to 100' additional $.50 per foot
  101'to 150' additional $0.75 per foot
  151'and deeper additional $1.25 per foot
- Penetration pay for Divers based upon deepest penetration on the day of the dive (per diem payment):
  0' to 50' no additional fee
  51' to 100' additional $.75 per foot
  101' and deeper additional $1.00 per foot
- Diver rates applies to all hours worked on dive day.

SHIFT WORK
On Agency/Owner mandated shift work, the following rates will be applicable:
1st Shift - Regular Rate
2nd Shift - Premium of 10% of base wage per hour
3rd Shift - Premium of 15% of base wage per hour
Shift work shall be defined as implementing at least two (2) shifts in a twenty-four (24) consecutive hour period. Shift work must be for a minimum of three (3) consecutive days.

SUPPLEMENTAL BENEFITS
Per hour:

	07/01/2026
Journeyworker	$ 23.89

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

HOLIDAY
Paid: See (1) on HOLIDAY PAGE
Overtime: See (5, 6) on HOLIDAY PAGE
Note: Any holiday which occurs on Sunday shall be observed the following Monday. If Christmas falls on a Saturday, it shall be observed on the prior Friday.

REGISTERED APPRENTICES
Wages per hour (1300 hour terms at the following percentage of Journeyworker's base wage):

1st	2nd	3rd	4th
65%	70%	75%	80%

Supplemental Benefits per hour:

$ 13.05	$ 13.05	$ 15.65	$ 15.65

NOTE ADDITIONAL AMOUNTS PAID TO APPRENTICES FOR THE FOLLOWING WORK LISTED BELOW (per hour worked):
- Pile Driving/Dock Builder apprentices shall receive an additional $0.25 per hour worked when performing piledriving/dock building work.
- Certified Welders shall receive $3.00 per hour over the apprentices rate of pay when the apprentice is required to be certified and performs DOT, AWS or ABS specified welding work.
- When an apprentice performs work within a contaminated area on a State and/or Federally designated hazardous waste site, and where relevant State and/or Federal regulations require the apprentice to be furnished and use or wear required forms of personal protection, then the apprentice shall receive their regular hourly rate plus $1.50 per hour.

2-277B-CS

Carpenter - Building / Heavy&Highway — 11/01/2026

JOB DESCRIPTION Carpenter - Building / Heavy&Highway **DISTRICT** 2

ENTIRE COUNTIES
Albany, Allegany, Broome, Cattaraugus, Cayuga, Chautauqua, Chemung, Chenango, Clinton, Columbia, Cortland, Delaware, Erie, Essex, Franklin, Fulton, Genesee, Greene, Hamilton, Herkimer, Jefferson, Lewis, Livingston, Madison, Monroe, Montgomery, Niagara, Oneida, Onondaga, Ontario, Orleans, Oswego, Otsego, Rensselaer, Saratoga, Schenectady, Schoharie, Schuyler, Seneca, St. Lawrence, Steuben, Sullivan, Tioga, Tompkins, Ulster, Warren, Washington, Wayne, Wyoming, Yates

PARTIAL COUNTIES
Orange: The area lying on Northern side of Orange County demarcated by a line drawn from the Bear Mountain Bridge continuing west to the Bear Mountain Circle, continue North on 9W to the town of Cornwall where County Road 107 (also known as Quaker Rd) crosses under 9W, then east on County Road 107 to Route 32, then north on Route 32 to Orrs Mills Rd, then west on Orrs Mills Rd to Route 94, continue west and south on Route 94 to the Town of Chester, to the intersection of Kings Highway, continue south on Kings Highway to Bellvale Rd, west on Bellvale Rd to Bellvale Lakes Rd, then south on Bellvale Lakes Rd to Kain Rd, southeast on Kain Rd to Route 17A, then north and southeast along Route 17A to Route 210, then follow Route 210 to NJ Border.

WAGES

Wages per hour:	07/01/2026	07/01/2027 Additional
Carpenter - ONLY for Artificial Turf/Synthetic Sport Surface	$ 39.69	$ 2.25*

*To be allocated at a later date.

Note - Does not include the operation of equipment. Please see Operating Engineers rates.

SUPPLEMENTAL BENEFITS
Per hour worked:

Journeyworker	$ 27.84

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

HOLIDAY
Paid: See (5) on HOLIDAY PAGE
Overtime: See (5, 6, 16) on HOLIDAY PAGE
Notes:
When a holiday falls upon a Saturday, it shall be observed on the preceding Friday. Whan a holiday falls upon a Sunday, it shall be observed on the following Monday.
An employee taking an unexcused day off the regularly scheduled day before or after a paid Holiday shall not receive Holiday pay.

REGISTERED APPRENTICES

Wages per hour (1300 hour terms at the following percentage of Journeyworker's wage):

1st	2nd	3rd	4th
65%	70%	75%	80%

Supplemental Benefits per hour worked:

$ 19.08	$ 19.69	$ 21.86	$ 22.47

2-42AtSS

Carpenter - Heavy&Highway 11/01/2026

JOB DESCRIPTION Carpenter - Heavy&Highway **DISTRICT** 2

ENTIRE COUNTIES
Broome, Cayuga, Chemung, Cortland, Delaware, Jefferson, Lewis, Onondaga, Oswego, Schuyler, Seneca, St. Lawrence, Steuben, Tioga, Tompkins, Yates

WAGES

Per hour	07/01/2026	07/01/2027 Additional
Carpenter	$ 41.02	$ 4.42*
Piledriver	41.02	4.42*
Dockbuilder	41.02	4.42*
Diver-Wet Day	66.02	4.42*
Diver-Dry Day	42.02	4.42*
Diver-Tender	42.02	4.42*

*To be allocated at a later date.

NOTE ADDITIONAL AMOUNTS PAID FOR THE FOLLOWING WORK LISTED BELOW (per hour worked):
- State or Federal designated hazardous site, requiring protective gear shall be an additional $2.50 per hour.
- Certified welders when required to perform welding work will receive an additional $5.00 per hour.

ADDITIONAL NOTES PERTAINING TO DIVERS/TENDERS:
- Divers and Tenders shall receive one and one half (1 1/2) times their regular diver and tender rate of pay for Effluent and Slurry diving.
- Divers and tenders being paid at the specified rate for Effluent and Slurry diving shall have all overtime rates based on the specified rate plus the appropriate overtime rates (one and one half or two times the specified rate for Slurry and Effluent divers and tenders).
- The pilot of an ADS or submersible will receive one and one-half (1 1/2) times the Diver-Wet Day Rate for time submerged.
- All crew members aboard a submersible shall receive the Diver-Wet Day rate.
- Depth pay for Divers based upon deepest depth on the day of the dive (per diem payment):
  - 0' to 50' no additional fee
  - 51' to 100' additional $0.50 per foot
  - 101' to 150' additional $0.75 per foot
  - 151' to 200' additional $1.25 per foot
  - 201' and deeper additional $1.50 per foot
- Penetration pay for Divers based upon deepest penetration on the day of the dive (per diem payment):
  - 0' to 50' no additional fee
  - 51' to 100' additional $0.75 per foot
  - 101' to 200' additional $1.00 per foot
  - Over 201' additional $1.25 per foot
- Diver rates applies to all hours worked on dive day.

SHIFT WORK
When project owner mandates a single irregular work shift, the Journeyworkers and Apprentices will receive an additional $4.00 per hour. A single irregular work shift can start any time from 5:00 p.m. to 1:00 a.m.

SUPPLEMENTAL BENEFITS
Per hour:

Journeyworker	$ 27.81

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

HOLIDAY
Paid: See (5, 6) on HOLIDAY PAGE
Overtime: See (5, 6) on HOLIDAY PAGE
- In the event a Holiday falls on a Saturday, the Friday before will be observed as a Holiday. If a Holiday falls on a Sunday, then Monday will be observed as a Holiday.
- The employee must work their scheduled workday before and their scheduled workday after the holiday to receive holiday pay.

REGISTERED APPRENTICES
CARPENTER/PILEDRIVER/DOCKBUILDER APPRENTICES
Wages per hour (1300 hour terms at the following percentage of journeyworker's base wage):

1st	2nd	3rd	4th

65%	70%	75%	80%
Supplemental Benefits per hour:			
$ 19.05	$ 19.66	$ 21.78	$ 22.39

NOTE ADDITIONAL AMOUNTS PAID PER HOUR WORKED TO APPRENTICES FOR SPECIFIC TYPES OF WORK PERFORMED:
- State or Federal designated hazardous site, requiring protective gear shall be an additional $2.50 per hour.
- Certified welders when required to perform welding work will receive an additional $5.00 per hour.

2-277HH-Bro

Electrician 11/01/2026

JOB DESCRIPTION Electrician **DISTRICT** 6

ENTIRE COUNTIES
Cortland, Herkimer, Madison, Oneida, Oswego

PARTIAL COUNTIES
Cayuga: Townships of Ira, Locke, Sempronius, Sterling, Summerhill and Victory.
Chenango: Only the Townships of Columbus, New Berlin and Sherburne.
Onondaga: Entire County except Townships of Elbridge and Skaneateles.
Otsego: Only the Townships of Plainfield, Richfield, Springfield, Cherry Valley, Roseboom, Middlefield, Otsego, Exeter, Edmeston, Burlington, Pittsfield and New Lisbon.
Tompkins: Only the Township of Groton.
Wayne: Only the Townships of Huron, Wolcott, Rose and Butler.

WAGES

Per hour:	07/01/2026
Electrician	$ 54.00
Teledata	54.00
Cable Splicer	59.40

NOTE: Additional amounts, subject to overtime premiums, due for the following work (applicable to all employees):
- Additional $ 2.50 per hour for work performed over 35 feet above the ground, floor, or roof levels or where work is required in tunnels, shafts, or under compressed air 35 feet below the ground level.
- Additional $ 3.00 per hour for working over 50 feet above or below ground, floor, or roof level. This includes work on ladders, "toothpicks", scaffolds, boatswain chairs, towers, smokestacks or other open structures. Also applies to working from mechanical lifts when used above 60 feet.

Occupied Conditions: When necessary to perform alteration and/or renovation work and owner mandates (due to occupied conditions) prevent the work from being performed during "normal" working hours (defined as between 6:00 AM and 4:30 PM Monday through Friday), alternate hours may be worked, provided: 1) The hours are established for a minimum of five (5) days duration or the length of the job, whichever is shorter; and 2) An entire work scope within a job-site area is performed utilizing the varied hours. If these conditions are satisfied, all hours worked Monday through Friday of a shift that starts before or ends after the "normal" hours, shall be paid at the appropriate rate plus fifteen percent (15%). However, the following restrictions apply:

1) "Alternate" hours shall consist of a minimum of eight (8) consecutive hours per day.
2) Hours worked in excess of eight (8) hours per day, Monday through Friday, shall be paid at a rate of one and one-half times the applicable rate (dayshift + 15%).
3) Hours worked on Saturday shall be paid at time and one-half the applicable rate.
4) Hours worked on Sundays and Holidays shall be paid at double the straight time rate.
5) Work of a new construction nature may not be worked under these conditions.

SHIFT WORK
The following rates will apply on all contracting agency mandated multiple shifts of eight (8) hours for at least five (5) days duration which may have been worked. When two (2) shifts or three (3) shifts are worked:

1ST SHIFT	8:00 AM - 4:30 PM:	Regular wage rate
2ND SHIFT	4:30 PM - 1:00 AM:	Regular wage rate plus 15%
3RD SHIFT	12:30 AM - 9:00 AM:	Regular wage rate plus 25%

SUPPLEMENTAL BENEFITS

Per hour:	
Journeyworker	$ 35.58 plus 3% of hourly wage paid*

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

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

*NOTE: On Saturday the first 8 hours worked shall be paid at a rate of one and one-half times the applicable rate. All additional hours are payable at double the straight time rate.
WAGE CAP - Double the straight time hourly base wage shall be the maximum hourly wage compensation for any hour worked. Contractor is still responsible to pay the hourly benefit amount for each hour worked.

HOLIDAY
Paid: See (1) on HOLIDAY PAGE
Overtime: See (5, 6, 15, 26) on HOLIDAY PAGE
NOTE: If any of the above holidays fall on Saturday, Friday shall be observed as the holiday. If any of the above holidays fall on Sunday, Monday shall be observed as the holiday.

REGISTERED APPRENTICES
WAGES per hour: Hourly terms at the following wage.

1st period (0-1000 hrs)	$ 21.60
2nd period (1001-2000)	24.30
3rd period (2001-3500)	27.00
4th period (3501-5000)	32.40
5th period (5001-6500)	37.80
6th Period (6501-8000)	43.20

SUPPLEMENTAL BENEFITS per hour:

1st period	$ 15.50*
2nd period	15.50*
3rd period	31.58*
4th period	32.38*
5th period	33.18*
6th period	33.98*

*NOTE: Plus 3% of hourly wage paid, straight time rate or premium time rate.

6-43

Electrician — 11/01/2026

JOB DESCRIPTION Electrician **DISTRICT** 6

ENTIRE COUNTIES

PARTIAL COUNTIES
Cayuga: Only the Township of Genoa.
Schuyler: Only the Townships of Cayuta, Catharine, and Hector.
Seneca: Only the Townships of Lodi and Covert.
Tioga: Only the Townships of Spencer and Candor.
Tompkins: Entire county except the Township of Groton.

WAGES

Per hour:	07/01/2026	06/01/2027 Additional
Electrician	$ 47.00	$ 4.50*

* To be allocated at a later date.

NOTE: Additional amounts, subject to overtime premiums, due for the following work (applicable to all employees):
-Additional $ 1.00 per hour for work from trusses, scaffolds, frames, spider baskets, ladders, etc. 40 feet or more from ground floor, or in underground mines or tunnels. Work done from personal lift equipment that complies with OSHA requirements are excluded.
-Additional $ 2.00 per hour when required to work under compressed air, on radio towers, on asbestos abatement projects which require the use of a respirator, work of a hazardous nature, work where gas masks are required or work requiring use of protective arc flash suits.

SHIFT WORK
The following rates will apply when shift work is mandated either in the job specification or by the contracting agency.

1ST SHIFT	8:00 AM to 4:30 PM	Regular wage rate
2ND SHIFT	4:30 PM to 1:00 AM	Regular wage rate plus 17.3%
3RD SHIFT	12:30 AM to 9:00 AM	Regular wage rate plus 31.4%

SUPPLEMENTAL BENEFITS
Per hour:

Journeyworker	$ 32.23 plus 3% of hourly wage paid*

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

OVERTIME PAY
See (B, *E, Q) on OVERTIME PAGE
*NOTE: On Saturday the first 8 hours worked shall be paid at a rate of one and one-half times the applicable rate. All additional hours are payable at double the straight time rate.
WAGE CAP - Double the straight time hourly base wage shall be the maximum hourly wage compensation for any hour worked. Contractor is still responsible to pay the hourly benefit amount for each hour worked.

HOLIDAY
Paid: See (1) on HOLIDAY PAGE
Overtime: See (5, 6) on HOLIDAY PAGE
NOTE: When a holiday falls on a Saturday, the day preceding shall be celebrated as such, and when falling on a Sunday, Monday will be celebrated as the holiday.

REGISTERED APPRENTICES
WAGES per hour: One year terms at the following percentage of Journeyworker's wage.

1st year	50%
2nd year	55%
3rd year	65%
4th year	75%
5th year	85%

SUPPLEMENTAL BENEFITS per hour:

1st year	$ 14.93*
2nd year	14.93*
3rd year	25.63*
4th year	27.27*
5th year	27.92*

*NOTE: Plus 3% of hourly wage paid, straight time rate or premium time rate.

6-241

Elevator Constructor — 11/01/2026

JOB DESCRIPTION Elevator Constructor **DISTRICT** 6

ENTIRE COUNTIES
Broome, Cayuga, Chenango, Cortland, Franklin, Jefferson, Lewis, Onondaga, Oswego, St. Lawrence, Tioga, Tompkins

PARTIAL COUNTIES
Delaware: Only the towns of: Tompkins, Walton, Masonville, Sidney, Franklin and Deposit.
Madison: Only the towns of: Cazenovia, DeRuyter, Eaton, Fenner, Georgetown, Lebanon, Lenox, Nelson and Sullivan.
Oneida: Only the towns of: Camden, Florence and Vienna.

WAGES

Per hour:	07/01/2026	01/01/2027
Mechanic	$ 60.99	$ 63.706
Mechanic Helper	42.69	44.594

SUPPLEMENTAL BENEFITS

Per hour:		
Journeyworker	$ 38.985*	39.535*

*NOTE: Add 6% of regular hourly rate for all hours worked. Add 8% of regular hourly rate if more than 5 years of service.

OVERTIME PAY
See (D, O) on OVERTIME PAGE

HOLIDAY
Paid: See (5, 6, 15, 16) on HOLIDAY PAGE
Overtime: See (5, 6, 15, 16) on HOLIDAY PAGE
NOTE: When a holiday falls on a Saturday, it shall be observed on Friday. When a holiday falls on Sunday, it shall be observed on Monday.

REGISTERED APPRENTICES
WAGES per hour: 1 year terms at the following percentage of the Elevator Constructor Mechanic wage.

0-6 months	6-12 months	2nd year	3rd year	4th year
50%	55%	65%	70%	80%

SUPPLEMENTAL BENEFITS per hour:

0-6 months: 6% of the regular hourly apprentice rate paid, no additional supplemental benefits.

All other terms: Same as Journeyworker

6-62.1

Glazier — 11/01/2026

JOB DESCRIPTION Glazier **DISTRICT** 5

ENTIRE COUNTIES
Broome, Chemung, Chenango, Delaware, Otsego, Schuyler, Steuben, Tioga, Tompkins

WAGES

Per hour:	07/01/2026
Glazier	$ 33.00

SUPPLEMENTAL BENEFITS

Per hour:	
Journeyworker	$ 34.15

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

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

REGISTERED APPRENTICES
1000 hour terms

Appr. 1st term	$ 21.00
Appr. 2nd term	22.00
Appr. 3rd term	23.00
Appr. 4th term	24.00
Appr. 5th term	25.00
Appr. 6th term	26.00
Appr. 7th term	27.00
Appr. 8th term	28.00

Supplemental Benefits per hour:

Appr. 1st term	$ 13.27
Appr. 2nd term	13.27
Appr. 3rd term	19.27
Appr. 4th term	19.27
Appr. 5th term	20.27
Appr. 6th term	20.27
Appr. 7th term	21.27
Appr. 8th term	21.27

5-677z3

Insulator - Heat & Frost — 11/01/2026

JOB DESCRIPTION Insulator - Heat & Frost **DISTRICT** 7

ENTIRE COUNTIES
Broome, Cayuga, Chemung, Chenango, Cortland, Herkimer, Jefferson, Lewis, Madison, Oneida, Onondaga, Oswego, Otsego, Schuyler, Seneca, St. Lawrence, Tioga, Tompkins

WAGES

Per hour:	07/01/2026	05/01/2027 Additional	05/01/2028 Additional	05/01/2029 Additional
ON MECHANICAL SYSTEMS ONLY:				
Asbestos Worker	$ 45.75	$ 4.50*	$ 4.75*	$ 6.25*
Insulation Installer	45.75	4.50*	4.75*	6.25*
Firestopping Worker	45.75	4.50*	4.75*	6.25*

* To be allocated at a later date.

SHIFT WORK
The following rates will apply on all contracting agency-mandated shifts worked:

1st Shift	$ 45.75
2nd Shift	52.61
3rd Shift	54.90

SUPPLEMENTAL BENEFITS
Per hour:

Journeyworker	$ 28.59

OVERTIME PAY
See (*B1, **K, P) on OVERTIME PAGE
*NOTE: First 10 hours on Saturday.
**NOTE: Holidays that fall on Sunday are subject to double time.

HOLIDAY

Paid:	See (1) on HOLIDAY PAGE
Overtime:	See (2*,4,6,28) on HOLIDAY PAGE
	*Triple time for Labor Day if worked.

REGISTERED APPRENTICES
WAGES per hour: One (1) year terms at the following percentage of Journeyworker's wage.

1st	2nd	3rd	4th
60%	70%	80%	90%

SUPPLEMENTAL BENEFITS per hour:

$ 24.24	$ 24.24	$ 28.59	$ 28.59

7-30-Syracuse

Ironworker — 11/01/2026

JOB DESCRIPTION Ironworker **DISTRICT** 6

ENTIRE COUNTIES
Broome, Cayuga, Cortland, Onondaga, Oswego, Seneca, Tioga, Tompkins

PARTIAL COUNTIES
Chenango: Only the townships of Afton, Bainbridge, Coventry, German, Greene, Guilford, Lincklaen, McDonough, Norwich, Otselic, Oxford, Pharsalia, Pitcher, Preston and Smithville.
Jefferson: Only the townships of Adams, Alexandria, Brownville, Cape Vincent, Clayton, Ellisburg, Henderson, Hounsfield, LeRay, Lorraine, Lyme, Orleans, Pamelia, Rodman, Rutland, Theresa, Watertown and Worth.
Madison: Only the townships of Cazenovia, DeRuyter, Fenner, Georgetown, Lenox, Lincoln, Nelson, Smithfield and Sullivan.
Schuyler: Only the townships of Cayuta, Catharine, Hector and Montour.
Wayne: Only the townships of Butler, Galen, Huron, Rose, Savannah and Wolcott.

WAGES
Structural, Reinforcing, Re-bar, Machinery Mover & Rigger, Ornamental & Curtain Wall, Window Wall, Pre-Glazed Metal Framed Windows Attached to Steel or Masonry Including Caulking, Fence Erector (Chain Link/Security), Sheeter/Bridge Rail, Pre-Cast Erector, Stone Derrickman, Pre-Engineered Building Erector, Welder

Per hour:	07/01/2026
Ironworker	$ 38.50

SHIFT WORK
Multiple shifts mandated by the project owner. All shifts will be eight (8) hours.

1st Shift	Regular wage rate
2nd Shift	Regular wage rate plus 10% - Starting times between 2 PM and 7 PM
3rd Shift	Regular wage rate plus 15% - Starting times between 7 PM and 12 AM

NOTE: When a single irregular shift is worked, with start times based on second or third shifts, add 10% to the 1st shift wage rate posted above.

SUPPLEMENTAL BENEFITS
Per hour:

Journeyworker	$ 33.30

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

HOLIDAY

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

NOTE: Any holiday which occurs on Saturday shall be observed on the preceding Friday. Any holiday which occurs on Sunday shall be observed the following Monday.

REGISTERED APPRENTICES
WAGES per hour: One year terms at the following rates.

1st	2nd	3rd	4th
$ 21.50	$ 23.50	$ 25.50	$ 27.50

SUPPLEMENTAL BENEFITS per hour:

1st year	$ 13.28
2nd year	21.82
3rd year	23.04
4th year	24.26

6-60

Laborer - Building — 11/01/2026

JOB DESCRIPTION Laborer - Building **DISTRICT** 2

ENTIRE COUNTIES
Broome, Chemung, Cortland, Schuyler, Steuben, Tioga, Tompkins

PARTIAL COUNTIES
Chenango: Entire County except the Townships of Sherburne, Columbus and New Berlin.
Delaware: Only the Townships of Sidney, Masonville, Walton, Tompkins, Deposit, Hancock, and Colchester.

WAGES
Per hour:

GROUP #1: Basic Laborer - excavation, concrete vibrator, power-driven buggie, demolition (including acetylene torch work) that is customarily done by a laborer

GROUP #2: Air Tool Operators, Mason Tenders

GROUP #3: Blaster, Rock Drill (compressor driven)

GROUP #4: Asbestos, Hazardous, Toxic Waste, Lead and Mold Remediation

	07/01/2026
GROUP #1	$ 31.25
GROUP #2	32.25
GROUP #3	33.25
GROUP #4	33.25

IMPORTANT NOTES:
- Laborer tasks on Renewable Energy and Green Energy construction work shall be paid at the appropriate Heavy & Highway rates.
- Wage and supplement rates for the operation of forklift and skid steer may be found under the classification "Operating Engineer".

SUPPLEMENTAL BENEFITS
Per hour:

Journeyworker	$ 20.20

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

HOLIDAY
Paid: See (1) on HOLIDAY PAGE
Overtime: See (5, 6) on HOLIDAY PAGE
When a holiday falls on Sunday, it shall be observed on the following Monday.

REGISTERED APPRENTICES
WAGES: 1000 hour terms at the following percentage of Journeyworker's wage.

1st	2nd	3rd	4th
70%	80%	85%	90%

SUPPLEMENTAL BENEFITS per hour:

1st term	$ 15.85
2nd term	17.10
3rd term	17.98
4th term	18.85

2-785b

Laborer - Heavy&Highway 11/01/2026

JOB DESCRIPTION Laborer - Heavy&Highway **DISTRICT** 2

ENTIRE COUNTIES
Broome, Chemung, Cortland, Schuyler, Steuben, Tioga, Tompkins

PARTIAL COUNTIES
Chenango: Entire County except the Townships of Sherburne, Columbus, and New Berlin.
Delaware: Only the Townships of Sidney, Masonville, Walton, Tompkins, Deposit, Hancock and Colchester.

WAGES
Per hour:

GROUP A: Drill Helper, Flagman, Outboard and Hand Boats.

GROUP B: Basic Rate, Bull Float (where used for strike off only), Chain Saw, Concrete Aggregate Bin, Concrete Bootmen, Gin Buggy, Hand or Machine Vibrator, Jack Hammer, Mason Tender, Mortar Mixer, Pavement Breaker, Handlers of Steel Mesh, Small Generators for Laborers Tools, Installation of Bridge Drainage Pipe, Pipe Layers, Vibrator Type Rollers, Tamper, Drill Doctor, Water Pump Operators (1-1/2" & Single Diaphragm), Nozzle (Asphalt, Gunite, Seeding, and Sand Blasting), Laborers on Chain Link Fence Erection, Rock Splitter and Power Unit, Pusher Type Concrete Saw and all other Gas, Electric, and Air Tool Operators, Wrecking Laborer.

GROUP C: Drilling equipment - only where a separate air compressor unit supplies power, Acetylene Torch Operators, Asphalt Raker, Powder Man, Tail or Screw Operator on Asphalt Paver.

GROUP D: Blasters, Form Setters (slab steel forms on highways, roads, streets & airport runways), Stone or Granite Curb Setters.

GROUP E: Hazardous Waste defined as when an employee performs hazardous waste removal, lead abatement and removal, asbestos abatement and removal work on State and/or Federally designated waste site and were relevant State and/or Federal regulations require employees to use or wear required forms of personal protection.

	07/01/2026	07/01/2027 Additional
GROUP A	$ 39.80	$ 4.20*
GROUP B	40.00	4.20*
GROUP C	40.20	4.20*
GROUP D	40.40	4.20*
GROUP E	45.00	4.20*

*To be allocated at a later date.

IMPORTANT NOTES:
- Laborer tasks on Renewable Energy and Green Energy construction work shall be paid at the appropriate Heavy & Highway rates.
- Wage and supplement rates for the operation of forklift and skid steer may be found under the classification "Operating Engineer".

SHIFT WORK
A single irregular work shift starting any time between 5:00 PM and 1:00 AM on governmental mandated night work shall be paid an additional $5.00 per hour.

SUPPLEMENTAL BENEFITS
Per hour:

Journeyworker	$ 28.01

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

HOLIDAY
Paid: See (5, 6) on HOLIDAY PAGE
Overtime: See (5, 6) on HOLIDAY PAGE
- If Holiday falls on Sunday, it will be celebrated on Monday. If the Holiday falls on Saturday, it will be celebrated on Saturday.
- An Employee must work the scheduled working day before and the scheduled working day after a holiday to receive holiday pay.

REGISTERED APPRENTICES
WAGES: 1000 hour terms at the following percentage of Journeyworker's GROUP B wage:

1st	2nd	3rd	4th
70%	80%	90%	95%

SUPPLEMENTAL BENEFITS per hour:
All terms $ 28.01

2-785h

Laborer - Tunnel 11/01/2026

JOB DESCRIPTION Laborer - Tunnel **DISTRICT** 2

ENTIRE COUNTIES
Broome, Chemung, Cortland, Schuyler, Steuben, Tioga, Tompkins

PARTIAL COUNTIES
Chenango: Entire County except the Townships of Sherburne, Columbus, and New Berlin.
Delaware: Only the Townships of Sidney, Masonville, Walton, Tompkins, Deposit, Hancock and Colchester.

WAGES
Per hour:

GROUP A: Change House Man

GROUP B: Miners and all Machine Men, Safety Miner, All Shaft work, Caisson work, Drilling, Blow Pipe, all Air Tools, Tugger, Scaling, Nipper, Guniting pot to nozzle, Bit Grinder, Signal Man (top and bottom), Concrete Man, Shield Driven Tunnels, mixed face and soft ground, liner plate tunnels in free air.

GROUP C: Blaster

GROUP D: Hazardous waste removal work on a State and/or Federally designated waste site where relevant State and/or Federal regulations require employees to use or wear required forms of personal protection.

	07/01/2026	07/01/2027 Additional
Group A	$ 42.98	$ 4.20*
Group B	43.18	4.20*
Group C	47.98	4.20*
Group D	47.98	4.20*

*To be allocated at a later date

IMPORTANT NOTES:
- When an employee is required by the employer and/or by the material data safety sheets of a product, during its application, to wear a half or full face replaceable cartridge respirator for more then (2) hours, then in such case said employee(s) will be paid the Group D rate for the shift.

SHIFT WORK
A single irregular work shift starting any time between 5:00 PM and 1:00 AM on governmental mandated night work shall be paid an additional $5.00 per hour.

SUPPLEMENTAL BENEFITS
Per hour:

Journeyworker $ 28.01

OVERTIME PAY
See (B, E, Q) on OVERTIME PAGE
- If Holiday falls on Sunday, it will be celebrated on Monday. If the Holiday falls on Saturday, it will be celebrated on Friday.

HOLIDAY
Paid: See (5, 6) on HOLIDAY PAGE
Overtime: See (5, 6) on HOLIDAY PAGE
If the holiday falls on Saturday, it will be celebrated on Friday. If the holiday falls on Sunday, it will be celebrated on Monday

REGISTERED APPRENTICES
WAGES: 1000 hour terms at the following percentage of Group B wage

1st	2nd	3rd	4th
70%	80%	90%	95%

SUPPLEMENTAL BENEFITS per hour:

All Terms $ 28.01

2-785T

Lineman Electrician — 11/01/2026

JOB DESCRIPTION Lineman Electrician **DISTRICT** 6

ENTIRE COUNTIES
Albany, Allegany, Broome, Cattaraugus, Cayuga, Chautauqua, Chemung, Chenango, Clinton, Columbia, Cortland, Delaware, Dutchess, Erie, Essex, Franklin, Fulton, Genesee, Greene, Hamilton, Herkimer, Jefferson, Lewis, Livingston, Madison, Monroe, Montgomery, Niagara, Oneida, Onondaga, Ontario, Orange, Orleans, Oswego, Otsego, Putnam, Rensselaer, Rockland, Saratoga, Schenectady, Schoharie, Schuyler, Seneca, St. Lawrence, Steuben, Sullivan, Tioga, Tompkins, Ulster, Warren, Washington, Wayne, Wyoming, Yates

WAGES
A Lineman/Technician shall perform all overhead aerial work. A Lineman/Technician on the ground will install all electrical panels, connect all grounds, install and connect all electrical conductors, assembly of all electrical materials, conduit, pipe, or raceway; placing of fish wire; pulling of cables, wires or fiber optic cable through such raceways; splicing of conductors; dismantling of such structures, lines or equipment.

Crane Operators: Operation of any type of crane on line projects.
Crawler Backhoe: Operation of tracked excavator/crawler backhoe with 1/2 yard bucket or larger on line projects.
Digging Machine Operator: All other digging equipment and augering on line projects.

A Groundman/Truck Driver shall: Build and set concrete forms, handle steel mesh, set footer cages, transport concrete in a wheelbarrow, hand or machine concrete vibrator, finish concrete footers, mix mortar, grout pole bases, cover and maintain footers while curing in cold weather, operate jack hammer, operate hand pavement breaker, tamper, concrete and other motorized saws, as a drill helper, operate and maintain generators, water pumps, chainsaws, sand blasting, operate mulching and seeding machine, air tools, electric tools, gas tools, load and unload materials, hand shovel and/or broom, prepare and pour mastic and other fillers, assist digger operator/equipment operator in ground excavation and restoration, landscape work and painting. Only when assisting a lineman technician, a groundman/truck driver may assist in installing conduit, pipe, cables and equipment.

NOTE: Includes Teledata Work within ten (10) feet of High Voltage Transmission Lines. Also includes digging of holes for poles, anchors, footer, and foundations for electrical equipment.

-----Below rates applicable on all overhead and underground distribution and maintenance work, and all overhead and underground transmission line work and the installation of fiber optic cable where no other construction trades are or have been involved. Includes access matting for line work.

Per hour:	07/01/2026	05/03/2027	05/01/2028
Group A:			
Lineman, Technician	$ 64.37	$ 66.84	$ 69.47
Crane, Crawler Backhoe	64.37	66.84	69.47
Welder, Cable Splicer	64.37	66.84	69.47
Group B:			
Digging Mach. Operator	$ 57.93	$ 60.16	$ 62.52
Group C:			
Tractor Trailer Driver	$ 54.71	$ 56.81	$ 59.05
Groundman, Truck Driver	51.50	53.47	55.58
Equipment Mechanic	51.50	53.47	55.58
Group D:			
Flagger	$ 35.40	$ 36.76	$ 38.21

Additional 3% per hour above regular rate for entire crew when a helicopter is used. This will increase to 5% on May 03, 2027.

-----Below rates applicable on all electrical sub-stations, switching structures, fiber optic cable and all other work not defined as "Utility outside electrical work." Includes access matting for line work.

Group A:			
Lineman, Technician	$ 64.37	$ 66.84	$ 69.47
Crane, Crawler Backhoe	64.37	66.84	69.47
Cable Splicer	70.81	73.52	76.42
Certified Welder, Pipe Type Cable	$ 67.59	$ 70.18	$ 72.94
Group B:			
Digging Mach. Operator	$ 57.93	$ 60.16	$ 62.52
Group C:			
Tractor Trailer Driver	$ 54.71	$ 56.81	$ 59.05

Groundman, Truck Driver	51.50	53.47	55.58
Equipment Mechanic	51.50	53.47	55.58
Group D:			
Flagger	$ 35.40	$ 36.76	$ 38.12

Additional 3% per hour above regular rate for entire crew when a helicopter is used. This will increase to 5% on May 03, 2027.

-----Below rates applicable on all railroad catenary installation and maintenance, third rail installation, bonding of rails and pipe type cable and installation of fiber optic cable. Includes access matting for line work.

Group A:			
Lineman, Tech, Welder	$ 65.81	$ 68.34	$ 71.03
Crane, Crawler Backhoe	65.81	68.34	71.03
Cable Splicer	72.39	75.17	78.13
Certified Welder,			
Pipe Type Cable	69.10	71.76	74.58
Group B:			
Digging Mach. Operator	$ 59.23	$ 61.51	$ 63.93
Group C:			
Tractor Trailer Driver	$ 55.94	$ 58.09	$ 60.38
Groundman, Truck Driver	52.65	54.67	56.82
Equipment Mechanic	52.65	54.67	56.82
Group D:			
Flagger	$ 36.20	$ 37.59	$ 39.07

Additional 3% per hour above regular rate for entire crew when a helicopter is used. This will increase to 5% on May 03, 2027.

-----Below rates applicable on all overhead and underground transmission line work & fiber optic cable where other construction trades are or have been involved. This applies to transmission line work only, not other construction. Includes access matting for line work.

Group A:			
Lineman, Tech, Welder	$ 67.10	$ 69.68	$ 72.43
Crane, Crawler Backhoe	67.10	69.68	72.43
Group B:			
Digging Mach. Operator	$ 60.39	$ 62.71	$ 65.19
Group C:			
Tractor Trailer Driver	$ 57.04	$ 59.23	$ 61.57
Groundman, Truck Driver	53.68	55.74	57.94
Equipment Mechanic	53.68	55.74	57.94
Group D:			
Flagger	$ 36.91	$ 38.32	$ 39.84

Additional 3% per hour above regular rate for entire crew when a helicopter is used. This will increase to 5% on May 03, 2027.

SHIFT WORK

The following rates will apply on all contracting agency mandated multiple shifts of at least five (5) days duration worked between the hours listed below:

1ST SHIFT	8:00 AM to 4:30 PM REGULAR RATE
2ND SHIFT	4:30 PM to 1:00 AM REGULAR RATE PLUS 17.3 %
3RD SHIFT	12:30 AM to 9:00 AM REGULAR RATE PLUS 31.4 %

SUPPLEMENTAL BENEFITS

Per hour:

	07/01/2026	05/03/2027	05/01/2028
Group A	$ 32.91*	$ 34.41*	$ 35.91*
Group B	$ 28.91*	$ 30.41*	$ 31.91*
Group C	$ 28.51*	$ 29.71*	$ 30.91*
Group D	$ 28.41*	$ 29.54*	$ 30.67*

*NOTE: Plus 7% of the hourly wage paid. The 7% is based on the straight time rate or the premium time rate.

OVERTIME PAY
See (B, E, Q, X) on OVERTIME PAGE. NOTE: Double time for all emergency work designated by the Contracting Agency.
WAGE CAP - Double the straight time hourly base wage shall be the maximum hourly wage compensation for any hour worked. Contractor is still responsible to pay the hourly benefit amount for each hour worked.

HOLIDAY

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

NOTE: All paid holidays falling on Saturday shall be observed on the preceding Friday. All paid holidays falling on Sunday shall be observed on the following Monday. Supplements for holidays paid at straight time.

REGISTERED APPRENTICES
WAGES per hour: 1000 hour terms at the following percentage of the applicable Journeyworker's Lineman wage.

1st	2nd	3rd	4th	5th	6th	7th
60%	65%	70%	75%	80%	85%	90%

SUPPLEMENTAL BENEFITS per hour:

	07/01/2026	05/03/2027	05/01/2028
All terms:	$ 28.41*	$ 29.54*	$ 30.67*

*NOTE: Plus 7% of the hourly wage paid. The 7% is based on the straight time rate or the premium time rate.

6-1249a

Lineman Electrician - Teledata — 11/01/2026

JOB DESCRIPTION Lineman Electrician - Teledata **DISTRICT** 6

ENTIRE COUNTIES
Albany, Allegany, Broome, Cattaraugus, Cayuga, Chautauqua, Chemung, Chenango, Clinton, Columbia, Cortland, Delaware, Dutchess, Erie, Essex, Franklin, Fulton, Genesee, Greene, Hamilton, Herkimer, Jefferson, Lewis, Livingston, Madison, Monroe, Montgomery, Niagara, Oneida, Onondaga, Ontario, Orange, Orleans, Oswego, Otsego, Putnam, Rensselaer, Rockland, Saratoga, Schenectady, Schoharie, Schuyler, Seneca, St. Lawrence, Steuben, Sullivan, Tioga, Tompkins, Ulster, Warren, Washington, Wayne, Westchester, Wyoming, Yates

WAGES
NOTE: Applies to all public work and covered private projects, including those receiving ConnectAll funding subject to LL 224-E,solicited prior to July 1, 2025. For all projects, excluding dial-up internet access service, solicited on or after July 1, 2025, please see BROADBAND

Per hour:	07/01/2026	01/04/2027	01/03/2028	01/01/2029
Cable Splicer	$ 42.03	$ 43.30	$ 44.59	$ 45.93
Installer, Repairman	39.89	41.09	42.32	43.59
Teledata Lineman	39.89	41.09	42.32	43.59
Tech., Equip. Operator	39.89	41.09	42.32	43.59
Groundman/Flagger	21.14	21.78	22.43	23.10

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

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

SHIFT WORK
The following rates apply when the contracting agency mandates multiple shifts of at least five (5) days duration are worked. When two (2) or three (3) shifts are worked the following rates apply:

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

SUPPLEMENTAL BENEFITS
Per hour:

Journeyworker	$ 6.18 plus 4%*	$ 6.43 plus 5%*	$ 6.43 plus 6%*	$ 6.68 plus 7%*

*NOTE: The percentage (%) listed above is based on the hourly wage paid, straight time rate or premium time rate.

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

WAGE CAP - Double the straight time hourly base wage shall be the maximum hourly wage compensation for any hour worked. Contractor is still responsible to pay the hourly benefit amount for each hour worked.

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

6-1249LT - Teledata

Lineman Electrician - Traffic Signal, Lighting 11/01/2026

JOB DESCRIPTION Lineman Electrician - Traffic Signal, Lighting **DISTRICT** 6

ENTIRE COUNTIES
Albany, Allegany, Broome, Cattaraugus, Cayuga, Chautauqua, Chemung, Chenango, Clinton, Cortland, Delaware, Erie, Essex, Franklin, Fulton, Genesee, Greene, Hamilton, Herkimer, Jefferson, Lewis, Livingston, Madison, Monroe, Montgomery, Niagara, Oneida, Onondaga, Ontario, Orleans, Oswego, Otsego, Rensselaer, Saratoga, Schenectady, Schoharie, Schuyler, Seneca, St. Lawrence, Steuben, Sullivan, Tioga, Tompkins, Warren, Washington, Wayne, Wyoming, Yates

WAGES
Lineman/Technician shall perform all overhead aerial work. A Lineman/Technician on the ground will install all electrical panels, connect all grounds, install and connect all electrical conductors which includes, but is not limited to road loop wires; conduit and plastic or other type pipes that carry conductors, flex cables and connectors, and to oversee the encasement or burial of such conduits or pipes.

Crane Operators: Operation of any type of crane on Traffic Signal/Lighting projects.
Crawler Backhoe: Operation of tracked excavator/crawler backhoe with 1/2 yard bucket or larger on Traffic Signal/Lighting projects.
Digging Machine Operator: All other digging equipment and augering on Traffic Signal/Lighting projects.

A Groundman/Truck Driver shall: Build and set concrete forms, handle steel mesh, set footer cages, transport concrete in a wheelbarrow, hand or machine concrete vibrator, finish concrete footers, mix mortar, grout pole bases, cover and maintain footers while curing in cold weather, operate jack hammer, operate hand pavement breaker, tamper, concrete and other motorized saws, as a drill helper, operate and maintain generators, water pumps, chainsaws, sand blasting, operate mulching and seeding machine, air tools, electric tools, gas tools, load and unload materials, hand shovel and/or broom, prepare and pour mastic and other fillers, assist digger operator/equipment operator in ground excavation and restoration, landscape work and painting. Only when assisting a lineman technician, a groundman/truck driver may assist in installing conduit, pipe, cables and equipment.

A flagger's duties shall consist of traffic control only.

Per hour:	07/01/2026	05/03/2027	05/01/2028
Group A:			
Lineman, Technician	$ 55.31	$ 57.40	$ 59.64
Crane, Crawler Backhoe	55.31	57.40	59.64
Certified Welder	58.08	60.27	62.62
Group B:			
Digging Machine	$ 49.78	$ 51.66	$ 53.68
Group C:			
Tractor Trailer Driver	$ 47.01	$ 48.79	$ 50.69
Groundman, Truck Driver	44.25	45.92	47.71
Equipment Mechanic	44.25	45.92	47.71
Group D:			
Flagger	$ 33.19	$ 34.44	$ 35.78

Above rates are applicable for installation, testing, operation, maintenance and repair on all Traffic Control (Signal) and Illumination (Lighting) projects, Traffic Monitoring Systems, and Road Weather Information Systems. Includes digging of holes for poles, anchors, footer foundations for electrical equipment; assembly of all electrical materials or raceway; placing of fish wire; pulling of cables, wires or fiber optic cable through such raceways; splicing of conductors; dismantling of such structures, lines or equipment.

SHIFT WORK
The following rates will apply on all contracting agency mandated multiple shifts of at least five (5) days duration worked between the hours listed below:

1ST SHIFT	8:00 AM TO 4:30 PM	REGULAR RATE
2ND SHIFT	4:30 PM TO 1:00 AM	REGULAR RATE PLUS 17.3%
3RD SHIFT	12:30 AM TO 9:00 AM	REGULAR RATE PLUS 31.4%

SUPPLEMENTAL BENEFITS
Per hour:

	07/01/2026	05/03/2027	05/01/2028

Group A	$ 32.91*	$ 34.41*	$ 35.91*
Group B	$ 28.91*	$ 30.41*	$ 31.91*
Group C	$ 28.51*	$ 29.71*	$ 30.91*
Group D	$ 28.41*	$ 29.54*	$ 30.67*

*NOTE: Plus 7% of the hourly wage paid. The 7% is based on the straight time rate or the premium time rate.

OVERTIME PAY
See (B, E, Q, X) on OVERTIME PAGE.
NOTE: Double time for all emergency work designated by the Contracting Agency.
WAGE CAP - Double the straight time hourly base wage shall be the maximum hourly wage compensation for any hour worked. Contractor is still responsible to pay the hourly benefit amount for each hour worked.

HOLIDAY
Paid: See (5, 6, 8, 15, 25) on HOLIDAY PAGE
Overtime: See (5, 6, 8, 15, 25) on HOLIDAY PAGE
NOTE: All paid holidays falling on Saturday shall be observed on the preceding Friday. All paid holidays falling on Sunday shall be observed on the following Monday. Supplements for holidays paid at straight time.

REGISTERED APPRENTICES
WAGES per hour: 1000 hour terms at the following percentage of the applicable Journeyworker's Lineman wage.

1st	2nd	3rd	4th	5th	6th	7th
60%	65%	70%	75%	80%	85%	90%

SUPPLEMENTAL BENEFITS per hour:

	07/01/2026	05/03/2027	05/01/2028
All terms:	$ 28.41*	$ 29.54*	$ 30.67*

*NOTE: Plus 7% of the hourly wage paid. The 7% is based on the straight time rate or the premium time rate.

6-1249a-LT

Lineman Electrician - Tree Trimmer — 11/01/2026

JOB DESCRIPTION Lineman Electrician - Tree Trimmer **DISTRICT** 6

ENTIRE COUNTIES
Albany, Allegany, Broome, Cattaraugus, Cayuga, Chautauqua, Chemung, Chenango, Clinton, Columbia, Cortland, Delaware, Dutchess, Erie, Essex, Franklin, Fulton, Genesee, Greene, Hamilton, Herkimer, Jefferson, Lewis, Livingston, Madison, Monroe, Montgomery, Niagara, Oneida, Onondaga, Ontario, Orange, Orleans, Oswego, Otsego, Putnam, Rensselaer, Rockland, Saratoga, Schenectady, Schoharie, Schuyler, Seneca, St. Lawrence, Steuben, Sullivan, Tioga, Tompkins, Ulster, Warren, Washington, Wayne, Wyoming, Yates

WAGES
Applies to line clearance, tree work and right-of-way preparation on all new or existing energized overhead or underground electrical, telephone and CATV lines. This also includes stump removal near underground energized electrical lines including telephone and CATV lines.

Per hour:	07/01/2026	01/01/2027	01/03/2027
Tree Trimmer	$ 34.67	$ 34.67	$ 36.23
Equipment Operator	30.67	30.67	32.05
Equipment Mechanic	30.67	30.67	32.05
Truck Driver	24.93	24.93	26.05
Groundman	20.53	20.53	21.45
Flagger	16.20	16.20*	16.93

* This rate may be subject to a minimum wage increase 01/01/2027.

SUPPLEMENTAL BENEFITS
Per hour:

Journeyworker	$ 11.23*	$ 11.48*	$ 11.48*

*NOTE: Plus 4.5% of the hourly wage paid. The 4.5% is based on the straight time rate or the premium time rate.

OVERTIME PAY
See (B, E, Q, X) on OVERTIME PAGE
WAGE CAP - Double the straight time hourly base wage shall be the maximum hourly wage compensation for any hour worked. Contractor is still responsible to pay the hourly benefit amount for each hour worked.

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

Overtime: See (5, 6, 8, 15, 16, 25) on HOLIDAY PAGE
NOTE: All paid holidays falling on a Saturday shall be observed on the preceding Friday. All paid holidays falling on a Sunday shall be observed on the following Monday.

6-1249TT

Mason - Building 11/01/2026

JOB DESCRIPTION Mason - Building **DISTRICT** 5

ENTIRE COUNTIES
Cortland, Tompkins

WAGES

Per hour:	07/01/2026
Building:	
Brick/Block layer, Cement Mason Plasterer/EFIS, Stone Mason, Tuck Pointer	$ 35.68

SUPPLEMENTAL BENEFITS
Per hour:

Journeyworker	$ 32.69

OVERTIME PAY
See (B,E,E2*,Q) on OVERTIME PAGE
*Note - Or other conditions beyond the employer's control such as fire or natural disaster.

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

REGISTERED APPRENTICES
Wages per hour:

One year terms at the following wage:

1st	2nd	3rd	4th
$ 22.62	$ 27.98	$ 29.29	$ 32.11

Supplemental Benefits per hour:

1st	2nd	3rd	4th
$ 25.95	$ 27.18	$ 30.27	$ 31.86

5-3B Ith - Z2

Mason - Heavy&Highway 11/01/2026

JOB DESCRIPTION Mason - Heavy&Highway **DISTRICT** 5

ENTIRE COUNTIES
Allegany, Broome, Chautauqua, Chemung, Chenango, Cortland, Delaware, Genesee, Livingston, Monroe, Ontario, Orleans, Otsego, Schuyler, Seneca, Steuben, Tioga, Tompkins, Wayne, Wyoming, Yates

PARTIAL COUNTIES
Cattaraugus: Enitre county except in the Township of Perrysburg and the Village of Gowanda only the Bricklayer classification applies.
Erie: Only the Bricklayer classification applies.
Niagara: Only the Bricklayer classification applies.

WAGES

Per hour:	07/01/2026
Heavy & Highway:	
Cement Mason	$ 41.38
Bricklayer	41.38

SUPPLEMENTAL BENEFITS
Per hour:

Journeyworker	$ 27.03

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

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

REGISTERED APPRENTICES
Wages per hour:

1500 hour terms at the following percentage of Journeyworker's wage:

1st	2nd	3rd	4th
50%	60%	70%	80%

Supplemental benefits per hour:

1st term	$ 15.78
2nd term	$ 25.07
3rd term	$ 25.56
4th term	$ 26.05

5-3h

Mason - Tile Finisher — 11/01/2026

JOB DESCRIPTION Mason - Tile Finisher **DISTRICT** 5

ENTIRE COUNTIES
Broome, Chemung, Chenango, Cortland, Delaware, Otsego, Schuyler, Steuben, Tioga, Tompkins

PARTIAL COUNTIES
Allegany: Towns of Alfred, Almond, Andover and Burns in Allegany County

WAGES

Wages Per hour:	07/01/2026
Building:	
Marble, Slate, Terrazzo and Tile Finisher	$ 35.00

SUPPLEMENTAL BENEFITS
Per hour:

Journeyworker	$ 24.47

OVERTIME PAY
See (B,E,E2*,Q) on OVERTIME PAGE
*Note - Or other conditions beyond the employer's control such as fire or natural disaster.

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

REGISTERED APPRENTICES
Wages per hour:

One year terms at the following wage:

1st	2nd	3rd
$ 21.00	$ 24.50	$ 28.00

Supplemental benefits per hour:

1st	2nd	3rd
$ 15.69	$ 16.39	$ 21.13

5-3TF - Z4

Mason - Tile Setter — 11/01/2026

JOB DESCRIPTION Mason - Tile Setter **DISTRICT** 5

ENTIRE COUNTIES
Broome, Chemung, Chenango, Cortland, Delaware, Otsego, Schuyler, Steuben, Tioga, Tompkins

PARTIAL COUNTIES
Allegany: Towns of Alfred, Almond, Andover and Burns.

WAGES

Wages Per Hour:	07/01/2026

Building:	
Marble, Slate, Terrazzo and Tile Setter	$ 36.69

SUPPLEMENTAL BENEFITS
Per hour:

Journeyworker	$ 28.56

OVERTIME PAY
See (B,E,E2*,Q) on OVERTIME PAGE
*Note - Or other conditions beyond the employer's control such as fire or natural disaster.

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

REGISTERED APPRENTICES
Wages per hour:

One year terms at the following wage:

1st	2nd	3rd	4th
$ 22.01	$ 25.68	$ 29.35	$ 33.02

Supplemental benefits per hour:

1st	2nd	3rd	4th
$ 16.49	$ 17.31	$ 26.90	$ 27.73

5-3TS - Z4

Millwright — 11/01/2026

JOB DESCRIPTION Millwright **DISTRICT** 6

ENTIRE COUNTIES
Albany, Allegany, Broome, Cattaraugus, Cayuga, Chautauqua, Chemung, Chenango, Clinton, Columbia, Cortland, Delaware, Erie, Essex, Franklin, Fulton, Genesee, Greene, Hamilton, Herkimer, Jefferson, Lewis, Livingston, Madison, Monroe, Montgomery, Niagara, Oneida, Onondaga, Ontario, Orleans, Oswego, Otsego, Rensselaer, Saratoga, Schenectady, Schoharie, Schuyler, Seneca, St. Lawrence, Steuben, Sullivan, Tioga, Tompkins, Ulster, Warren, Washington, Wayne, Wyoming, Yates

WAGES
THE FOLLOWING RATE APPLIES TO ANY GAS/STEAM TURBINE AND OR RELATED COMPONENT WORK, INCLUDING NEW INSTALLATIONS OR MAINTENANCE AND ANY/ALL WORK PERFORMED WITHIN THE PROPERTY LIMITS OF A NUCLEAR FACILITY.

Per hour:	07/01/2026	07/01/2027 Additional	07/01/2028 Additional
Millwright - Power Generation	$ 50.00	$ 3.00*	$ 3.00*

* To be allocated at a later date.

NOTE: ADDITIONAL PREMIUMS PAID FOR THE FOLLOWING WORK LISTED BELOW (amount subject to any overtime premiums):
- Certified Welders shall receive an additional $ 1.75 per hour provided they are directed to weld.
- If a work site has been declared a hazardous site by the Owner and the use of protective gear (including, as a minimum, air purifying canister-type chemical respirators) is required, then that employee shall receive an additional $ 1.50 per hour.
- An employee performing the work of a machinist shall receive an additional $ 2.00 per hour. For the purposes of this premium to apply, a "machinist" is a person who uses a lathe, Bridgeport, milling machine or similar type of tool to make or modify parts.
- When performing work underground at 500 feet and below, the employee shall receive an additional $ 1.00 per hour.

SUPPLEMENTAL BENEFITS
Per hour paid:

Journeyworker	$ 28.45*

*NOTE: Subject to OT premium

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

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

NOTE: Any holiday that falls on Sunday shall be observed the following Monday. Any holiday that falls on Saturday shall be observed the preceding Friday.

REGISTERED APPRENTICES
WAGES per hour: One year terms at the following percentage of Journeyworker's wage:

Appr. 1st year	65%*
Appr. 2nd year	75%*
Appr. 3rd year	80%*
Appr. 4th year	90%*

*NOTE: Additional premium for the following work listed below:

Certified Welder	$ 1.75
Hazardous Waste Work	1.50
Machinist	2.00
Underground (500' and below)	1.00

SUPPLEMENTAL BENEFITS per hour:

Appr. 1st year	$ 11.96
Appr. 2nd year	23.50
Appr. 3rd year	25.15
Appr. 4th year	26.80

6-1163Power

Millwright — 11/01/2026

JOB DESCRIPTION Millwright **DISTRICT** 6

ENTIRE COUNTIES
Chemung, Cortland, Livingston, Monroe, Ontario, Orleans, Schuyler, Steuben, Tompkins, Wayne, Wyoming

WAGES

Per hour:	07/01/2026	07/01/2027 Additional	07/01/2028 Additional
Building	$ 40.39	$ 3.00*	$ 3.00*
Heavy & Highway	43.89		

* To be allocated at a later date.

NOTE: ADDITIONAL PREMIUMS PAID FOR THE FOLLOWING WORK LISTED BELOW (amount subject to any overtime premiums):
- Certified Welders shall receive an additional $ 1.75 per hour provided they are directed to weld.
- On Building projects, If a work site has been declared a hazardous site by the Owner and the use of protective gear (including, as a minimum, air purifying canister-type chemical respirators) is required, then that employee shall receive an additional $ 1.50 per hour.
- H/H work performed on hazardous waste sites where employees are required to wear protective gear shall receive an additional $ 2.00 per hour over the Millwright H/H rate for all hours worked on the day protective gear was worn.
- An employee performing the work of a machinist shall receive an additional $ 2.00 per hour. For the purposes of this premium to apply, a "machinist" is a person who uses a lathe, Bridgeport, milling machine or similar type of tool to make or modify parts.
- When performing work underground at 500 feet and below, the employee shall receive an additional $ 1.00 per hour.

SUPPLEMENTAL BENEFITS
Per hour:

Journeyworker	$ 27.79

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

HOLIDAY
Paid: See (1) on HOLIDAY PAGE
Overtime: See (5, 6) on HOLIDAY PAGE
NOTE: Any holiday that falls on Sunday shall be observed the following Monday. Any holiday that falls on Saturday shall be observed the preceding Friday.

REGISTERED APPRENTICES
WAGES per hour: One year terms at the following percentage of Journeyworker's wage:

Appr. 1st year	65%*
Appr. 2nd year	75%*
Appr. 3rd year	80%*

Appr. 4th year	90%*

*NOTE: Additional premium for the following work listed below:

Certified Welder	$ 1.75
Hazardous Waste (Bldg)	1.50
Hazardous Waste (H/H)	2.00
Machinist	2.00
Underground (500' and below)	1.00

SUPPLEMENTAL BENEFITS per hour:

Appr. 1st year	$ 11.96
Appr. 2nd year	23.04
Appr. 3rd year	24.62
Appr. 4th year	26.21

6-1163

Operating Engineer - Building — 11/01/2026

JOB DESCRIPTION Operating Engineer - Building **DISTRICT** 6

ENTIRE COUNTIES
Cayuga, Cortland, Jefferson, Lewis, Madison, Oneida, Onondaga, Oswego, Seneca, St. Lawrence, Tompkins

WAGES
NOTE:
---If a prime contract is let for site work only, meaning no buildings are involved in their site contract, the Heavy/Highway rates would be applicable. When a prime contract is let for site work and building excavation is part of that contract, the Building rates would be applicable for the Operators classification.
---In the event that equipment listed below is operated by robotic control, the classification covering the operation will be the same as if manually operated.
---If a second employee is required by the employer for operation of any covered machine, they shall be an Engineer Class C.

CLASS A1**: All Cranes (A1 Includes Boom Trucks over 5 tons, Cableway, Cherry Picker, Derrick, Dragline, Dredge, Overhead Crane, Pile Driver, Tower Crane***, Truck Crane, Whirlies).

CLASS A: Air Plako, Asphalt & Blacktop Roller, Automated Concrete Spreader (CMI or equivalent), Automated Fine Grade Machine (CMI), Backhoe, Barrel Shredder, Belt Placer, Blacktop Spreader (such as Barber-Greene & Blaw Knox), Blacktop Plant (automated), Blast or Rotary Drill (Truck or Cat mounted), Boom Trucks (5 ton and under), Burning Plant Operator, Caisson Auger, Central Mix Plant (automated), Concrete Pump, Crusher (Rock), De-watering Press, Diesel Power Unit, Dirt Filter Press with Operation Equipment, Dredge, Dual Drum Paver, Elevating Grader (self-propelled or towed), Elevator Hoist - Two Cage, Excavator - all purpose hydraulically operated, Forklift (Loed/Lull and other rough terrain type), Front End Loader (4 c.y. and over), Gradall, Grader (Power), Head Tower (Saurman or equal), Hoist (2 or 3 Drum), Hydroblaster (Laser Pump), Light Plants - Compressors and Generators, Locomotive, Maintenance Engineer, Maintenance Welder, Mine Hoist, Mucking Machine or Mole, Quarry Master or Equivalent, Refrigeration Equipment (for soil stabilization), Scraper, Sea Mule, Shovel, Side Boom, Slip Form Paver, Straddle Buggy (Ross Carrier, Lumber Carrier), Tractor Drawn Belt Type Loader (Euclid Loader), Trenching Machine (digging capacity of over 4ft. depth), Truck or Trailer Mounted Log Chipper (self-feeder), Tug Operator (Manned, rented equipment excluded), Tunnel Shovel, Vibro or Sonic Hammer Controls (when not mounted in proximity to Rig Operator), Work Boat Operator including LCM's.

CLASS B: "A" Frame Truck, Back Dumps, Blacktop Plant (non-automatic), Boring Machine, Bulldozer, Cage-Hoist, Central Mix Plant (non-automated), Compressor, Pump, Generator or Welding machine (when used in battery of not more than five (5)), Concrete Paver (single drum over 16'), Core boring machine, Drill Rigs - tractor mounted, Elevator - as material hoist, Farm Tractor (with or without accessories), Forklift (over 10 ton with or without attachments), Front End Loader (under 4 c.y.), Grout Pump, Gunite Machine, High Pressure Boiler (15 lbs. & over), Hoist (one drum), Hydraulic Breaking Hammer (Drop Hammer), Kolman Plant Loader (screening gravel), Maintenance Grease Man, Mixer for stabilized base - self-propelled (Seaman Mixer), Monorail Machine, Parapet Concrete or Pavement Grinder, Parts Man, Post Driver (truck or tractor mounted), Post Hole Digger (truck or tractor mounted), Power Sweeper (Wayne or similar), Pump-Crete or Squeeze-Crete, Road Widener (front end of Grader or self-propelled), Roller, Self-contained hydraulic bench drill, Shell Winder (motorized), Skid steer (Bobcat type loader), Snorkel (overhead arms), Snowblower control man, Tractor (with or without accessories), Trenching Machine (digging capacity of 4 ft. or less), Tugger Hoist, Vacuum Machine (self-propelled or mounted), Vibro Tamp, Well Drill / Well Point System (Submersible pumps when used in lieu of Well Point System), Winch (Motor driven), Winch Cat, Winch Truck.

CLASS C: Compressor (up to 500 cfm), Concrete Paver or Mixer (under 16'), Concrete Pavement Spreaders & Finishers (not automated), Conveyor (over 12 ft), Electric Submersible Pump (4" and over), Fine Grade Machine (not automated), Fireman, Forklift ("with or without" attachments, 10 ton and under), Form Tamper, Generator (2,500 watts and over), Hydraulic Pump, Mechanical Heaters (More than two (2) Mechanical Heaters or any Mechanical Heater or Heaters whose combined output exceeds 640,000 BTU per hour (manufacturer's rating) plus one self-contained heating unit - i.e. Sundog or Air Heat type - New Holland Hay Dryer type excluded), Mulching Machine, Oiler, Power Driven Welding Machine (300 amp and over, other than all electric. One Welding Machine under 300 amp will not require an engineer unless in a battery), Power Heaterman (hay dryer), Pumps (water and trash), Revinius Widener (road widener), Single Light Plant, Steam Cleaner or Jenny.

Per hour:	07/01/2026	07/01/2027 Additional	07/01/2028 Additional	07/01/2029 Additional
Building				
Class A1**	$ 55.71	$ 4.75*	$ 4.25*	$ 4.68*
Class A	51.21	3.75*	3.75*	4.18*
Class B	49.09	3.75*	3.75*	4.18*
Class C	44.87	3.75*	3.75*	4.18*

* To be allocated at a later date.

Additional $ 2.50 per hour if work requires Personal Protective Equipment for hazardous waste site activities with a level C or over rating.

(**) TONNAGE PREMIUMS:
All cranes up to 64 ton capacity - A1 rate
All cranes 65 ton to 110 ton capacity - A1 rate plus $ 1.50
All cranes 111 ton to 199 ton capacity - A1 rate plus $ 2.00
All cranes 200 ton to 399 ton capacity - A1 rate plus $ 3.00
All cranes 400 ton to 599 ton capacity - A1 rate plus $ 4.00
All cranes 600 ton to 799 ton capacity - A1 rate plus $ 5.00
All cranes 800 ton to 999 ton capacity - A1 rate plus $ 6.00
All cranes 1000 ton capacity and over - A1 rate plus $ 7.00

(***) Tower Cranes - A1 rate plus $ 2.50 (no tonnage premiums apply)

- Cranes in Luffer Configuration - A1 rate plus $ 5.00
- Cranes with external ballast (Tray or Wagon) - A1 rate plus $ 5.00
- NOTE: These premiums are in addition to the tonnage premiums if over 400 tons.

SUPPLEMENTAL BENEFITS
Per hour:

Journeyworker $ 33.03

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

HOLIDAY
Paid: See (5, 6) on HOLIDAY PAGE
Overtime: See (5, 6) on HOLIDAY PAGE
NOTE: If the holiday falls on Sunday, it will be celebrated on Monday.

REGISTERED APPRENTICES
WAGES per hour: Hourly terms at the following percentage of Journeyworker's CLASS A wage:

1st: 60%
2nd: 65%
3rd: 70%
4th: 80%

Additional $ 2.50 per hour if work requires Personal Protective Equipment for hazardous waste site activities with a level C or over rating.

SUPPLEMENTAL BENEFITS per hour:

All terms: $ 32.95

6-158-545b.s

Operating Engineer - Heavy&Highway 11/01/2026

JOB DESCRIPTION Operating Engineer - Heavy&Highway **DISTRICT** 6

ENTIRE COUNTIES
Cayuga, Cortland, Jefferson, Lewis, Madison, Oneida, Onondaga, Oswego, Seneca, St. Lawrence, Tompkins

WAGES

NOTE:
---In the event that equipment listed below is operated by robotic control, the classification covering the operation will be the same as if manually operated.
---If a second employee is required by the employer for operation of any covered machine, they shall be an Engineer Class C.

CLASS A1**: All Cranes that require a NYS Crane License (Boom Truck, Cableway, Cherry Picker, Derrick, Dragline, Overhead Crane (Gantry or Straddle Type), Pile Driver, Tower Cranes (including self-erecting)***, Truck Crane).

CLASS A: Asphalt Curb Machine (self-propelled, slipform); Asphalt Paver; Automated Concrete Spreader (CMI type); Automatic Fine Grader; Backhoe (except tractor mounted, rubber tired); Backhoe Excavator, Full Swing (CAT 212 or similar type); Back Filling Machine; Belt Placer (CMI type); Blacktop Plant (automated); Blacktop Roller; Bull Dozer being operated with active GPS; Caisson Auger; Central Mix Concrete Plant (automated); Concrete Curb Machine (self-propelled, slipform); Concrete Pump; Cranes - listed in A1 that do not require a NYS Crane License; Directional Boring/Drilling Machine; Dredge; Dual Drum Paver; Excavator (all purpose-hydraulic, Gradall or similar); Front End Loader (4 cu. yd. & over); Head Tower (Sauerman or equal); Hoist (two or three drum); Holland Loader; Jetting Plow; Maintenance Engineer; Mine Hoist; Mucking Machine or Mole; Pavement Breaker (SP Wirtgen; PB-4 and similar type); Profiler/Milling Machine (over 105 h.p.); Power Grader; Quad 9; Quarry Master (or equivalent); Rotating Telehandler; Scraper (including challenger type); Shovel; Side Boom; Slip Form Paver; Tractor Drawn Belt-Type Loader; Truck or Trailer Mounted Log Chipper (self-feeder); Tug Operator (manned rented equipment excluded); Tunnel Shovel.

CLASS B: Backhoe (tractor mounted, rubber tired); Bituminous Recycler Machine; Bituminous Spreader and Mixer; Blacktop Plant (non-automated); Blast or Rotary Drill (truck or tractor mounted); Boring Machine; Bridge Deck Finishing Machine; Brokk; Cage Hoist; Central Mix Plant (non-automated) and All Concrete Batching Plants; Concrete Paver (over 16'); Crawler Drill (self-contained); Crusher; Diesel Power Unit; Drill Rigs (truck or tractor mounted); Front End Loader (under 4 cu. yd.); Greaseman - Lubrication Engineer; HiPressure Boiler (15 lbs & over); Hoist (one drum); Hydro-Axe; Kolman Plant Loader & similar type loaders (if employer requires another man to clean the screen or to maintain the equipment, they shall be an Oiler); Locomotive; Material Handling Knuckle Boom; Mini Excavators (under 18,000 lbs.); Mixer (for stabilized base, self-propelled); Monorail Machine; Profiler/Milling Machine (105 h.p. and under); Plant Engineer; Prentice Loader; Pug Mill; Pump Crete; Ready Mix Concrete Plant; Refrigeration Equipment (for soil stabilization); Road Widener; Roller (all above subgrade, See Class A for Blacktop Roller); Sea Mule; Self-contained ride-on Rock Drill (excluding Air-Track type drill); Skidder; Tractor with Dozer and/or Pusher; Trencher; Tugger Hoist; Vacuum Machine (mounted or towed); Vermeer Saws (ride-on, any size or type); Welder; Winch and Winch Cat; Work Boat Operator including L.C.M.'s.
NOTE: Effective 07/01/27 Prentice Loader will move to CLASS A.

CLASS C: "A" Frame Winch Hoist (On Truck); Aggregate Plant; Articulated Heavy Hauler; Asphalt or Concrete Grooving Machine (ride-on); Ballast Regulator (ride-on); Bituminous Heater (self-propelled); Boat (powered); Boiler (used in conjunction with production); Cement & Bin Operator; Compressors****; Concrete Pavement Spreader and Finisher; Concrete Paver or Mixer (16' & under); Concrete Saw (self-propelled); Conveyor; Deck Hand; Directional Boring/Drilling Machine Locator; Drill (Core); Drill (Well); Dust Collectors****; Electric Pump When Used in Conjunction with Well Point System; Farm Tractor with accessories; Fine Grade Machine; Fireman; Forklift; Form Tamper; Generators****; Grout Pump; Gunite Machine; Hammers (hydraulic self-propelled); Heaters****; Hydra-Spiker (ride-on); Hydraulic Pump (jacking system); Hydro-Blaster (water); Light Plants****; Mulching Machine; Oiler; Parapet Concrete or Pavement Grinder; Post Hole Digger (excluding hand-held); Post Driver; Power Broom (towed); Power Heaterman; Power Sweeper; Pumps****; Revinius Widener; Roller (subgrade & fill); Scarifier (ride-on); Shell Winder; Skid Steer Loader (Bobcat or similar) including all attachments; Span Saw (ride-on); Steam Cleaner; Tamper (ride-on); Tie Extractor (ride-on); Tie Handlers (ride-on); Tie Inserters (ride-on); Tie Spacers (ride-on); Tire Repair; Track Liner (ride-on); Tractor; Tractor (with towed accessories); Vacuum Machine (self-propelled); Vibratory Compactor; Vibro Tamp; Welding Machines****; Well Point.

****CLASS C NOTE: Considered Hands-Off (unmanned). Includes only operation and maintenance of the equipment.

Per hour:	07/01/2026	07/01/2027 Additional	07/01/2028 Additional	07/01/2029 Additional
CLASS A1**	$ 62.11	$ 4.29*	$ 4.42*	$ 4.56*
CLASS A	58.36	3.54*	3.67*	3.81*
CLASS B	57.48	3.54*	3.67*	3.81*
CLASS C	54.20	3.54*	3.67*	3.81*

* To be allocated at a later date.

(**) TONNAGE PREMIUMS:
All cranes up to 64 ton capacity - A1 rate
All cranes 65 ton to 110 ton capacity - A1 rate plus $ 1.50
All cranes 111 ton to 199 ton capacity- A1 rate plus $ 2.00
All cranes 200 ton to 399 ton capacity - A1 rate plus $ 3.00
All cranes 400 ton to 599 ton capacity - A1 rate plus $ 4.00
All cranes 600 ton to 799 ton capacity - A1 rate plus $ 5.00
All cranes 800 ton to 999 ton capacity - A1 rate plus $ 6.00
All cranes 1000 ton capacity and over - A1 rate plus $ 7.00

(***) Tower Cranes - A1 rate plus $ 3.00 (no tonnage premiums apply)

- Cranes in Luffer Configuration - A1 rate plus $ 5.00
- Cranes with external ballast (Tray or Wagon) - A1 rate plus $ 5.00

Additional $ 2.50 per hour for hazardous waste removal work on a State and/or Federally designated waste site which requires employees to wear Level C or above forms of personal protection.

SHIFT WORK
SINGLE IRREGULAR WORK SHIFT: Additional $ 2.50 per hour for all employees who work a single irregular work shift starting from 5:00 PM to 1:00 AM that is mandated by the Contracting Agency.

SUPPLEMENTAL BENEFITS
Per hour:

Journeyworker $ 34.45

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

HOLIDAY
Paid: See (5, 6) on HOLIDAY PAGE
Overtime: See (5, 6) on HOLIDAY PAGE
NOTE: If a holiday falls on Sunday, it will be celebrated on Monday. If an employee works on this Monday, they shall be compensated at double time plus the holiday pay (triple time).

REGISTERED APPRENTICES
WAGES per hour: Hourly terms at the following percentage of Journeyworker's CLASS B wage.

1st term (0-1000 hrs):	60%
2nd term (1001-2000 hrs):	70%
3rd term (2001-3000 hrs):	80%
4th term (3001-4100 hrs):	90%

An additional $ 2.50 per hour is required when an apprentice performs hazardous waste removal work on a State and/or Federally designated waste site which requires employees to wear Level C or above forms of personal protection.

SUPPLEMENTAL BENEFITS per hour: Same as Journeyworker.

6-158-545h

Operating Engineer - Survey Crew — 11/01/2026

JOB DESCRIPTION Operating Engineer - Survey Crew **DISTRICT** 12

ENTIRE COUNTIES
Albany, Allegany, Broome, Cattaraugus, Cayuga, Chautauqua, Chemung, Chenango, Clinton, Columbia, Cortland, Erie, Essex, Franklin, Fulton, Genesee, Greene, Hamilton, Herkimer, Jefferson, Lewis, Livingston, Madison, Monroe, Montgomery, Niagara, Oneida, Onondaga, Ontario, Orleans, Oswego, Otsego, Rensselaer, Saratoga, Schenectady, Schoharie, Schuyler, Seneca, St. Lawrence, Steuben, Tioga, Tompkins, Warren, Washington, Wayne, Wyoming, Yates

PARTIAL COUNTIES
Dutchess: The northern portion of the county from the northern boundary line of the City of Poughkeepsie, north.

WAGES
These rates apply to Building, Tunnel, and Heavy Highway.

Per hour:
SURVEY CLASSIFICATIONS:
Party Chief - One who directs a survey party and/or works independently.
Surveyor - One who operates the surveying instruments for measurements.
Survey Assistant - One who assists the Party Chief or Surveyor.

	07/01/2026	07/01/2027 Additional	07/01/2028 Additional
Party Chief	$ 56.64	$ 5.50*	$ 5.50*
Surveyor	52.74	$ 4.50*	$ 4.50*
Surveyor Assistant	36.00	$ 3.50*	$ 3.50*

Additional $3.00/hr. for Tunnel Work.
Additional $2.50/hr. for EPA or DEC certified toxic or hazardous waste work.

*To be allocated at a later date.

SUPPLEMENTAL BENEFITS
Per hour worked:

Party Chief	$ 32.45
Surveyor	$ 32.45
Survey Assistant	$ 20.60

OVERTIME PAY
See (B, Q) on OVERTIME PAGE

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

REGISTERED APPRENTICES
WAGES: 1000 hour terms based on percentage of Surveyor wage:

07/01/2026

0-1000	1001-2000	2001-3000
60%	70%	80%

SUPPLEMENTAL BENEFIT per hour worked:
All Terms: $ 22.65

12-158-545 D.H.H.

Operating Engineer - Survey Crew - Consulting Engineer — 11/01/2026

JOB DESCRIPTION Operating Engineer - Survey Crew - Consulting Engineer **DISTRICT** 12

ENTIRE COUNTIES
Albany, Allegany, Broome, Cattaraugus, Cayuga, Chautauqua, Chemung, Chenango, Clinton, Columbia, Cortland, Erie, Essex, Franklin, Fulton, Genesee, Greene, Hamilton, Herkimer, Jefferson, Lewis, Livingston, Madison, Monroe, Montgomery, Niagara, Oneida, Onondaga, Ontario, Orleans, Oswego, Otsego, Rensselaer, Saratoga, Schenectady, Schoharie, Schuyler, Seneca, St. Lawrence, Steuben, Tioga, Tompkins, Warren, Washington, Wayne, Wyoming, Yates

PARTIAL COUNTIES
Dutchess: The northern portion of the county from the northern boundary line of the City of Poughkeepsie, north.

WAGES
These rates apply to feasibility and preliminary design surveying, line and grade surveying for inspection or supervision of construction when performed under a Consulting Engineer Agreement.

Per hour:
SURVEY CLASSIFICATIONS:
Party Chief - One who directs a survey party and/or works independently
Surveyor - One who operates the surveying instruments for measurements
Survey Assistant - One who assists the Party Chief or Surveyor.

	07/01/2026	07/01/2027 Additional	07/01/2028 Additional
Party Chief	$ 56.64	$ 5.50*	$ 5.50*
Surveyor	52.74	$ 4.50*	$ 4.50*
Survey Assistant	36.00	$ 3.50*	$ 3.50*

Additional $3.00/hr. for Tunnel Work.
Additional $2.50/hr. for EPA or DEC certified toxic or hazardous waste work.

*To be allocated at a later date.

SUPPLEMENTAL BENEFITS
Per hour worked:

Party Chief	$ 32.45
Surveyor	$ 32.45
Survey Assistant	$ 20.60

OVERTIME PAY
See (B, Q) on OVERTIME PAGE

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

REGISTERED APPRENTICES
WAGES: 1000 hour terms based on percentage of Surveyor wage:

07/01/2026		
0-1000	1001-2000	2001-3000
60%	70%	80%

SUPPLEMENTAL BENEFIT per hour worked:
All Terms: $22.65

12-158-545 DCE

Operating Engineer - Tunnel — 11/01/2026

JOB DESCRIPTION Operating Engineer - Tunnel **DISTRICT** 7

ENTIRE COUNTIES
Albany, Allegany, Broome, Cayuga, Chemung, Chenango, Clinton, Columbia, Cortland, Essex, Franklin, Fulton, Greene, Hamilton, Herkimer, Jefferson, Lewis, Livingston, Madison, Monroe, Montgomery, Oneida, Onondaga, Ontario, Oswego, Otsego, Rensselaer, Saratoga, Schenectady, Schoharie, Schuyler, Seneca, St. Lawrence, Steuben, Tioga, Tompkins, Warren, Washington, Wayne, Yates

PARTIAL COUNTIES
Dutchess: Northern part of Dutchess, to the northern boundary line of the City of Poughkeepsie, then due east to Route 115 to Bedell Road, then east along Bedell Road to VanWagner Road, then north along VanWagner Road to Bower Road, then east along Bower Road to Rte. 44 east to Rte. 343, then along Rte. 343 east to the northern boundary of the Town of Dover Plains and east along the northern boundary of the Town of Dover Plains, to the borderline of the State of Connecticut.
Genesee: Only that portion of the county that lies east of a line drawn down the center of Route 98 and the entirety of the City of Batavia.

WAGES
CLASS A: Automatic Concrete Spreader (CMI Type); Automatic Fine Grader; Backhoe (except tractor mounted, rubber tired); Belt Placer (CMI Type); Blacktop Plant (automated); Cableway; Caisson Auger; Central Mix Concrete Plant (automated); Concrete Curb Machine (self-propelled slipform); Concrete Pump (8" or over); Dredge; Dual Drum Paver; Excavator; Front End Loader (4 cu. yd & over); Gradall; Head Tower (Sauerman or Equal); Hoist (shaft); Hoist (two or three Drum); Log Chipper/Loader (self-feeder); Maintenance Engineer (shaft and tunnel); any Mechanical Shaft Drill; Mine Hoist; Mining Machine(Mole and similar types); Mucking Machine or Mole; Overhead Crane (Gantry or Straddle Type); Pile Driver; Power Grader; Remote Controlled Mole or Tunnel Machine; Scraper; Shovel; Side Boom; Slip Form Paver (If a second man is needed, they shall be an Oiler); Tripper/Maintenance Engineer (shaft & tunnel); Tractor Drawn Belt-Type Loader; Tug Operator (manned rented equipment excluded); Tunnel Shovel.

CLASS B: Automated Central Mix Concrete Plant; Backhoe (track mounted, rubber tired); Backhoe (topside); Bituminous Spreader and Mixer, Blacktop Plant (non-automated); Blast or Rotary Drill (truck or tractor mounted); Boring Machine; Cage Hoist; Central Mix Plant(non-automated); all Concrete Batching Plants; Compressors (4 or less exceeding 2,000 c.f.m. combined capacity); Concrete Pump; Crusher; Diesel Power Unit; Drill Rigs (tractor mounted); Front End Loader (under 4 cu. yd.); Grayco Epoxy Machine; Hoist (One Drum); Hoist (2 or 3 drum topside); Knuckle Boom material handler; Kolman Plant Loader & similar type Loaders (if employer requires another person to clean the screen or to maintain the equipment, they shall be an Oiler); L.C.M. Work Boat Operator; Locomotive; Maintenance Engineer (topside); Maintenance Grease Man; Mixer (for stabilized base-self-propelled); Monorail Machine; Plant Engineer; Personnel Hoist; Pump Crete; Ready Mix Concrete Plant; Refrigeration Equipment (for soil stabilization); Road Widener; Roller (all above sub-grade); Sea Mule; Shotcrete Machine; Shovel (topside); Tractor with Dozer and/or Pusher; Trencher; Tugger Hoist; Tunnel Locomotive; Vacuum Machine (mounted or towed); Welder; Winch; Winch Cat.

CLASS C: A Frame Truck; All Terrain Telescoping Material Handler; Ballast Regulator (ride-on); Compressors (4 not to exceed 2,000 c.f.m. combined capacity; or 3 or less with more than 1200 c.f.m. but not to exceed 2,000 c.f.m.); Compressors (any size, but subject to other provisions for compressors); Dust Collectors; Generators; Pumps; Welding Machines; Light Plants (4 or any type combination); Concrete Pavement Spreaders and Finishers; Conveyor; Drill (core); Drill (well); Electric Pump used in conjunction with Well Point System; Farm Tractor with Accessories; Fine Grade Machine; Fork Lift; Grout Pump (over 5 cu. ft.); Gunite Machine; Hammers (hydraulic-self-propelled); Hydra-Spiker (ride-on); Hydra-Blaster (water); Hydro-Blaster; Motorized Form Carrier; Post Hole Digger and Post Driver; Power Sweeper; Roller grade & fill); Scarifier (ride-on); Span-Saw (ride-on); Submersible Electric Pump (when used in lieu of well points); Tamper (ride-on); Tie-Extractor (ride-on), Tie Handler (ride-on), Tie Inserter (ride-on), Tie Spacer (ride-on); Track Liner (ride-on); Tractor with towed accessories; Vibratory Compactor; Vibro Tamp, Well Point.

CLASS D: Aggregate Plant; Cement & Bin Operator; Compressors (3 or less not to exceed 1,200 c.f.m. combined capacity); Compressors (any size, but subject to other provisions for compressors); Dust Collectors; Generators; Pumps; Welding Machines; Light Plants (3 or less or any type or combination); Concrete Saw (self-propelled); Form Tamper; Greaseman; Hydraulic Pump (jacking system); Junior Engineer; Light Plants; Mulching Machine; Oiler; Parapet Concrete or Pavement Grinder; Power Broom (towed); Power Heaterman (when used for production); Revinius Widener; Shell Winder; Steam Cleaner; Tractor.

Per hour:	07/01/2026	07/01/2027 Additional	07/01/2028 Additional	07/01/2029 Additional
CLASS A	$ 60.95	$ 3.54*	$ 3.67*	$ 3.81*
CLASS B	59.73	3.54*	3.67*	3.81*
CLASS C	56.94	3.54*	3.67*	3.81*
CLASS D	53.93	3.54*	3.67*	3.81*

* To be allocated at a later date.

Additional $5.00 per hour for Hazardous Waste Work on a state or federally designated hazardous waste site where the Operating Engineer is in direct contact with hazardous material and when personal protective equipment is required for respiratory, skin and eye protection.

CRANES:
Crane 1: All Tower cranes, including self-erecting.
Crane 2: All Lattice Boom Cranes and all other cranes with a manufacturer's rating of fifty (50) ton and over.
Crane 3: All hydraulic cranes and derricks with a manufacturer's rating of forty nine (49) ton and below, including boom trucks.

Crane 1	$ 64.95
Crane 2	63.95
Crane 3	62.95

SUPPLEMENTAL BENEFITS
Per hour:

$ 26.05
+ 10.85*

* This portion of the benefits subject to SAME PREMIUM as shown for overtime wages.

OVERTIME PAY
See (B, B2, E, Q, X) on OVERTIME PAGE

HOLIDAY
Paid: See (5, 6) on HOLIDAY PAGE
Overtime: See (5, 6) on HOLIDAY PAGE
NOTE: If a holiday falls on Sunday, it shall be observed on Monday.

REGISTERED APPRENTICES
WAGES per hour: Hourly terms at the following percentage of Journeyworker's CLASS B wage.

1st term: (0-1000 hrs)	60%
2nd term: (1001-2000 hrs)	65%
3rd term: (2001-3000 hrs)	70%
4th term: (3001-4100 hrs)	75%

Additional $5.00 per hour for Hazardous Waste Work on a state or federally designated hazardous waste site where the Operating Engineer is in direct contact with hazardous material and when personal protective equipment is required for respiratory, skin and eye protection.

SUPPLEMENTAL BENEFITS per hour: Same as Journeyworker.

7-158-832TL.

Painter — 11/01/2026

JOB DESCRIPTION Painter **DISTRICT** 2

ENTIRE COUNTIES
Cortland, Tompkins

WAGES
Per hour:

	07/01/2026
Painter	$ 29.12
Taper, Paperhangers, and Vinyl hangers	30.58

ADDITIONAL AMOUNTS FOR SPECIFIC TYPES OF JOBSITE CONDITIONS (amount subject to any overtime premiums):
- Additional $ 1.10 per hour for Brush and Roll Epoxy (Solvent Base Only)
- Additional $ 0.60 per hour for Swing Scaffold, Boatswain chair, Spray helper, Steam cleaning acid and high pressure water, Power grinders with respirator
- Additional $ 0.60 per hour for Structural steel (buildings) defined as new or old construction where ceilings, walls or the steel itself is to be painted from open trusses which require climbing or crawling without the support of solid scaffolding or scaffolding starting at the floor or ground level.
- Additional $ 1.00 per hour for Spray Painting
- Additional $ 1.50 per hour for Spray Epoxy (Solvent Based)
- Additional $ 0.90 per hour for Sandblasting

NOTE - SEE BRIDGE PAINTER RATES FOR BRIDGES & TANKS

SUPPLEMENTAL BENEFITS
Per hour:

Journeyworker $ 25.91

OVERTIME PAY
See (B, E2, F, R) on OVERTIME PAGE

HOLIDAY
Paid: See (1) on HOLIDAY PAGE
Overtime: See (5, 6) on HOLIDAY PAGE
A Holiday that falls on a Sunday will be celebrated on Monday, a holiday that falls on a Saturday will be celebrated on Friday.

REGISTERED APPRENTICES
WAGES:

Painter: 750 hour terms at the Painter Apprentice wage rate:

1st	2nd	3rd	4th	5th	6th	7th	8th
$ 18.00	$ 19.00	$ 20.00	$ 21.00	$ 22.00	$ 23.00	$ 24.00	$ 25.00

Taper: 750 hour terms at the following Journeyworker Taper Apprentice wage rate:

1st	2nd	3rd	4th	5th	6th
$ 20.00	$ 21.00	$ 22.00	$ 23.00	$ 24.00	$ 25.00

ADDITIONAL AMOUNTS FOR SPECIFIC TYPES OF JOBSITE CONDITIONS (amount subject to any overtime premiums):
- Additional $ 1.10 per hour for Brush and Roll Epoxy (Solvent Base Only)
- Additional $ 0.60 per hour for Swing Scaffold, Boatswain chair, Spray helper, Steam cleaning acid and high pressure water, Power grinders with respirator
- Additional $ 0.60 per hour for Structural steel (buildings) defined as new or old construction where ceilings, walls or the steel itself is to be painted from open trusses which require climbing or crawling without the support of solid scaffolding or scaffolding starting at the floor or ground level.
- Additional $ 1.00 per hour for Spray Painting
- Additional $ 1.00 per hour for Steeple Jack (Over 100 feet)
- Additional $ 1.50 per hour for Spray Epoxy (Solvent Based)
- Additional $ 0.90 per hour for Sandblasting

SUPPLEMENTAL BENEFITS per hour:
Painter/Decorator:

1st	2nd	3rd	4th	5th	6th	7th	8th
$ 6.00	$ 7.00	$ 8.00	$ 9.10	$ 11.00	$ 11.00	$ 13.00	$ 14.00

Taper/Drywall Finisher:

1st	2nd	3rd	4th	5th	6th
$ 6.00	$ 7.00	$ 8.00	$ 10.00	$ 13.00	$ 14.00

2-178 I

Painter 11/01/2026

JOB DESCRIPTION Painter **DISTRICT** 3

ENTIRE COUNTIES
Allegany, Broome, Cattaraugus, Cayuga, Chautauqua, Chemung, Chenango, Cortland, Delaware, Erie, Genesee, Herkimer, Jefferson, Lewis, Livingston, Madison, Monroe, Niagara, Oneida, Onondaga, Ontario, Orleans, Oswego, Otsego, Schuyler, Seneca, St. Lawrence, Steuben, Tioga, Tompkins, Wayne, Wyoming, Yates

WAGES
Per hour: 07/01/2026

Bridge	$ 47.39
Tunnel	47.39
Tank*	45.39

For Bridge Painting Contracts, ALL WORKERS on and off the bridge (including Flagmen) are to be paid Painter's Rate; the contract must be ONLY for Bridge Painting.

*Tank rate applies to indoor and outdoor tanks, tank towers, standpipes, digesters, waste water treatment tanks, chlorinator tanks, etc. Covers all types of tanks including but not limited to steel tanks, concrete tanks, fiberglass tanks, etc.

SHIFT WORK
Note an additional $1.50 per hour is required when the contracting agency or project specification requires any shift to start prior to 6:00am or after 12:00 noon.

SUPPLEMENTAL BENEFITS
Per hour:
$ 32.81

OVERTIME PAY

Exterior work only See (B, E2, E4, F, R) on OVERTIME PAGE.
All other work See (B, F, R) on OVERTIME PAGE.

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

REGISTERED APPRENTICES
Wages per hour:

750 hour terms at the following wage:

1st	2nd	3rd	4th	5th	6th
$ 24.00	$ 26.00	$ 28.00	$ 30.00	$ 34.00	$ 38.00

Supplemental benefits per hour:

1st	2nd	3rd	4th	5th	6th
$ 6.60	$ 6.95	$ 7.30	$ 7.65	$ 8.00	$ 8.35

3-4-Bridge, Tunnel, Tank

Painter - Metal Polisher — 11/01/2026

JOB DESCRIPTION Painter - Metal Polisher **DISTRICT** 8

ENTIRE COUNTIES
Albany, Allegany, Bronx, Broome, Cattaraugus, Cayuga, Chautauqua, Chemung, Chenango, Clinton, Columbia, Cortland, Delaware, Dutchess, Erie, Essex, Franklin, Fulton, Genesee, Greene, Hamilton, Herkimer, Jefferson, Kings, Lewis, Livingston, Madison, Monroe, Montgomery, Nassau, New York, Niagara, Oneida, Onondaga, Ontario, Orange, Orleans, Oswego, Otsego, Putnam, Queens, Rensselaer, Richmond, Rockland, Saratoga, Schenectady, Schoharie, Schuyler, Seneca, St. Lawrence, Steuben, Suffolk, Sullivan, Tioga, Tompkins, Ulster, Warren, Washington, Wayne, Westchester, Wyoming, Yates

WAGES

	07/01/2026
Metal Polisher	$ 41.33
Metal Polisher*	42.43
Metal Polisher**	45.33

*Note: Applies on New Construction & complete renovation
** Note: Applies when working on scaffolds over 34 feet.

SUPPLEMENTAL BENEFITS
Per Hour:

Journeyworker:
All classifications $ 13.99

OVERTIME PAY
See (B, E, P, T) on OVERTIME PAGE

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

REGISTERED APPRENTICES
Wages per hour:
One (1) year term at the following wage rates:

	07/01/2026
1st year	$ 20.67
2nd year	22.73
3rd year	24.80
1st year*	$ 21.06
2nd year*	23.17
3rd year*	25.34
1st year**	$ 23.17
2nd year**	25.23
3rd year**	27.30

*Note: Applies on New Construction & complete renovation
** Note: Applies when working on scaffolds over 34 feet.

Supplemental benefits:
Per hour:

1st year	$ 9.19
2nd year	9.19
3rd year	9.19

8-8A/28A-MP

Plumber — 11/01/2026

JOB DESCRIPTION Plumber **DISTRICT** 6

ENTIRE COUNTIES
Chemung, Cortland, Onondaga, Schuyler, Tompkins

PARTIAL COUNTIES
Madison: Only the Townships of Sullivan, Cazenovia and DeRuyter.
Seneca: Only the Townships of Covert and Lodi.
Steuben: Only the Townships of Addison, Bath, Bradford, Campbell, Caton, Corning, Erwin, Hornby, Lindley, Pulteney, Rathbone, Thurston, Tuscarora, Urbana and Wayne.
Tioga: Only the Townships of Barton, Berkshire, Candor, Nichols, Richford, Spencer and Tioga.

WAGES
Per hour: 07/01/2026

Plumber, Steamfitter, Pipefitter, Welder, HVAC, Refrigeration.	$ 52.16

SHIFT WORK
SINGLE IRREGULAR WORK SHIFT: Additional 15% premium added to the wage rate above for a single irregular work shift starting between 4:30 PM and 7:00 AM.

SUPPLEMENTAL BENEFITS
Per hour:

Journeyworker	$ 28.75*

*NOTE: $ 15.27 of the supplemental benefits are paid at the same premium as shown for overtime work performed at semi-conductor manufacturer and/or fabrication plants.

OVERTIME PAY
Time and one half for the 9th & 10th hours Monday through Friday and first 10 hours on Saturday. All other overtime hours are double time.

HOLIDAY
Paid: See (1) on HOLIDAY PAGE
Overtime: See (5, 6) on HOLIDAY PAGE
NOTE: If a holiday falls on Saturday, the holiday will be observed on the preceding Friday. If a holiday falls on Sunday, it will be observed on the following Monday.

REGISTERED APPRENTICES
WAGES per hour: One year terms at the following percentage of the Journeyworker's wage:

1st	2nd	3rd	4th	5th
55%	60%	70%	75%	85%

SUPPLEMENTAL BENEFITS per hour*:

1st	$ 16.20
2nd	25.03
3rd	25.72
4th	26.34
5th	27.41

*NOTE: Below is the portion of supplemental benefits paid at overtime premiums for work performed at semi-conductor manufacturer and/or fabrication plants:

1st	n/a
2nd	$ 8.58
3rd	8.77
4th	9.14
5th	9.71

6-81-SF

Roofer 11/01/2026

JOB DESCRIPTION Roofer **DISTRICT** 2

ENTIRE COUNTIES
Broome, Chemung, Chenango, Delaware, Otsego, Schoharie, Schuyler, Steuben, Tioga, Tompkins

WAGES

Per hour:	07/01/2026	06/01/2027 Additional	06/01/2028 Additional
Roofer, Waterproofer	$ 31.79 + 1.06*	$ 3.50**	$ 4.00**

*This amount is paid for all hours worked, whether regular or premium hours.
**To be allocated at a later date.

NOTE ADDITIONAL PREMIUMS PAID FOR THE FOLLOWING WORK LISTED BELOW (amount not subject to overtime premiums):
- On days where more than one shift is worked on the job, the hours worked after 4:30 PM and before 6:00 AM will be paid an additional $1.90 per hour premium. This premium is not for use in emergency repair situations.
- Premium of $1.25 per hour will be paid for the application, rip-off, torching, or handling of pitch products. The premium will be paid for pitch that is showing, covered or buried on the roof.
- Premium of $1.25 per hour will be paid for asbestos abatement requiring a half face respirator.

SUPPLEMENTAL BENEFITS
Per hour:

Journeyworker	$ 24.99

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

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

REGISTERED APPRENTICES
Wages:
Indentured prior to 06/01/2026:

Hours per term	
0-667 Hrs.	$ 22.25 + 0.74*
668-1334 Hrs.	23.84 + 0.79*
1335-2001 Hrs.	25.43 + 0.85*
2002-2668 Hrs.	27.02 + 0.90*
2669-3335 Hrs.	28.61 + 0.95*
3336-4000 Hrs.	30.20 + 1.01*

Indentured on or after 06/01/2026:

Hours per term	
0-600 Hrs.	$ 25.43 + 0.85*
601-1200 Hrs.	26.23 + 0.87*
1201-1800 Hrs.	27.02 + 0.90*
1801-2400 Hrs.	27.82 + 0.93*
2401-3000 Hrs.	28.61 + 0.95*
3001-3600 Hrs.	29.41 + 0.98*
3601-4200 Hrs.	30.20 + 1.01*
4201-4800 Hrs.	31.00 + 1.03*

*This amount is paid for all hours worked, whether regular or premium hours.

NOTE ADDITIONAL PREMIUMS PAID FOR THE FOLLOWING WORK LISTED BELOW (amount not subject to overtime premiums):
- On days where more than one shift is worked on the job, the hours worked after 4:30 PM and before 6:30 AM will be paid an additional $1.90 per hour premium. This premium is not for use in emergency repair situations.
- Premium of $1.25 per hour will be paid for the application, rip-off, torching, or handling of pitch products. The premium will be paid for pitch that is showing, covered or buried on the roof.
- Premium of $1.25 per hour will be paid for asbestos abatement requiring a half face respirator.

Supplemental Benefits:
Indentured prior to 06/01/2026:

Hours per term	
0-667 Hrs.	$ 20.93
668-1334 Hrs.	21.60
1335-2001 Hrs.	22.29

2002-2668 Hrs.	22.96
2669-3335 Hrs.	23.63
3336-4000 Hrs.	24.32

Indentured on or after 06/01/2026:

Hours per term	
0-600 Hrs.	$ 11.45
601-1200 Hrs.	11.45
1201-1800 Hrs.	19.50
1801-2400 Hrs.	23.30
2401-3000 Hrs.	23.63
3001-3600 Hrs.	23.97
3601-4200 Hrs.	24.32
4201-4800 Hrs.	24.65

2-203elmi

Sheetmetal Worker — 11/01/2026

JOB DESCRIPTION Sheetmetal Worker **DISTRICT** 2

ENTIRE COUNTIES
Allegany, Broome, Chemung, Delaware, Otsego, Schuyler, Steuben, Tioga, Tompkins

WAGES
Per hour:

	07/01/2026	05/01/2027 Additional
Sheetmetal Worker	$ 40.82 + 1.02*	$ 4.00**

NOTE: Ten cents ($0.10) per hour additional premium to be paid when working polyresin fiberglass.
*Amount is paid for every hour worked (amount not subject to overtime premium)
**To be allocated at a later date

SUPPLEMENTAL BENEFITS
Per hour:

Journeyworker:	$ 25.33

OVERTIME PAY
See (*B1, Q) on OVERTIME PAGE
*On Saturday, time and one half of the hourly rate for the first ten (10) hours, then two (2) times the hourly wage rate for all hours after ten (10) hours worked.

HOLIDAY

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

Note: Holidays are observed on the Holiday, not on the day that it is locally observed.

REGISTERED APPRENTICES
WAGES per hour:
Indentured after 05/01/2025 (1-year Terms):

	1st	2nd	3rd	4th	5th
07/01/2026	$ 24.49 +0.61*	$ 26.53 +0.66*	$ 28.57 +0.71*	$ 32.66 +0.82*	$ 34.70 +0.87*

Indentured prior to 05/01/2025 (Half Year Terms):

	1st	2nd	3rd	4th	5th	6th	7th	8th
07/01/2026	$ 24.49 +0.61*	$ 24.49 +0.61*	$ 26.53 +0.66*	$ 28.57 +0.71*	$ 30.62 +0.77*	$ 32.66 +0.82*	$ 34.70 +0.87*	$ 36.74 +0.92*

*Amount is paid for every hour worked (amount not subject to overtime premium)

SUPPLEMENTAL BENEFITS per hour:
Indentured after 05/01/2025:

	1st	2nd	3rd	4th	5th
07/01/2026	$ 2.28	$ 21.05	$ 21.13	$ 21.30	$ 25.08

Indentured prior to 05/01/2025:

	1st	2nd	3rd	4th	5th	6th	7th	8th
07/01/2026	$ 2.28	$ 2.28	$ 21.05	$ 21.13	$ 21.22	$ 21.30	$ 21.38	$ 21.46

Sprinkler Fitter — 11/01/2026

JOB DESCRIPTION Sprinkler Fitter **DISTRICT** 1

ENTIRE COUNTIES
Allegany, Broome, Cattaraugus, Cayuga, Chautauqua, Chemung, Chenango, Clinton, Columbia, Cortland, Delaware, Erie, Essex, Franklin, Fulton, Genesee, Greene, Hamilton, Herkimer, Jefferson, Lewis, Livingston, Madison, Monroe, Montgomery, Niagara, Oneida, Onondaga, Ontario, Orleans, Oswego, Otsego, Schoharie, Schuyler, Seneca, St. Lawrence, Steuben, Tioga, Tompkins, Washington, Wayne, Wyoming, Yates

WAGES
Per hour

	07/01/2026	01/01/2027	04/01/2027	01/01/2028
Sprinkler Fitter	$ 47.91	$ 47.91	$ 50.76	$ 50.76

SUPPLEMENTAL BENEFITS
Per hour

Journeyworker	$ 30.71	$ 31.71	$ 31.71	$ 32.71

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

HOLIDAY
Paid: See (1) on HOLIDAY PAGE
Overtime: See (5, 6) on HOLIDAY PAGE
Note: When a holiday falls on Sunday, the following Monday shall be considered a holiday and all work performed on either day shall be at the double time rate. When a holiday falls on Saturday, the preceding Friday shall be considered a holiday and all work performed on either day shall be at the double time rate.

REGISTERED APPRENTICES
One Half Year terms at the following wage per hour:

	07/01/2026	01/01/2027	04/01/2027	01/01/2028
1st Term	$ 24.50	$ 24.50	$ 25.73	$ 25.73
2nd Term	27.35	27.35	28.72	28.72
3rd Term	29.63	29.63	31.11	31.11
4th Term	31.91	31.91	33.50	33.50
5th Term	33.62	33.62	35.30	35.30
6th Term	36.47	36.47	38.29	38.29
7th Term	38.75	38.75	40.68	40.68
8th Term	41.03	41.03	43.08	43.08
9th Term	43.30	43.30	45.47	45.47
10th Term	45.58	45.58	47.86	47.86
Supplemental Benefits per hour:				
1st & 2nd Term	$ 10.23	$ 11.23	$ 11.23	$ 12.23
3rd & 4th Term	22.79	23.79	23.79	24.79
All Other Terms	23.04	24.04	24.04	25.04

1-669

Teamster - Building — 11/01/2026

JOB DESCRIPTION Teamster - Building **DISTRICT** 6

ENTIRE COUNTIES
Broome, Cayuga, Cortland, Delaware, Onondaga, Seneca, Tompkins, Yates

PARTIAL COUNTIES
Allegany: Only the Townships of Alfred, Almond, Burns.
Chenango: Only the Townships of Afton, Bainbridge, Coventry, Greene, Guilford, Oxford and Smithville.
Madison: Only the Townships of Cazenovia, DeRuyter, Fenner, Georgetown, Lenox, Nelson and Sullivan.
Oswego: All Townships except Boylston, Redfield and Sandy Creek.
Otsego: Only the Townships of Butternuts, Laurens, Maryland, Millford, Morris, Oneonta, Otego, Unadilla, and Worchester.
Steuben: Only the Townships of Canisteo, Cohoctan, Dansville, Fremont, Greenwood, Hornell, Hartsville, Jasper, Prattsburg, Troupsburg, and West Union.
Tioga: Only the Townships of Berkshire, Candor, Newark Valley, Nichols, Owego, Richford, and Tioga. All territory east of Nichols/Smithboro to Broome County, within the State of New York.

WAGES
GROUP A: Straight Trucks.
GROUP B: Tractor Trailer, Farm Tractor, Fuel Truck.
GROUP C: Euclid.
GROUP D: On site Mechanic.

Per hour:	07/01/2026	07/01/2027	07/01/2028
Building: (under $ 5 million*)			
GROUP A, B, C, D	$ 38.65	$ 42.31	$ 47.91
Building: (over $ 5 million*)			
GROUP A, B	$ 39.70	$ 43.36	$ 48.96
GROUP C	40.05	43.71	49.31
GROUP D	39.85	43.51	49.11

* Total project cost including General Construction, Plumbing, HVAC and Electrical

NOTE: All work performed at nuclear power plants, and fuel trucks that require a hazardous materials license, shall receive a $ 5.00 per hour premium above the applicable wage rate.

SUPPLEMENTAL BENEFITS
Per hour:

(under $ 5 million*)	$ 33.16	$ 35.51	$35.92
(over $ 5 million*)	33.96	36.31	36.73

* Total project cost including General Construction, Plumbing, HVAC and Electrical

OVERTIME PAY
(D, O) on OVERTIME PAGE

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

6-317

Teamster - Heavy&Highway — 11/01/2026

JOB DESCRIPTION Teamster - Heavy&Highway **DISTRICT** 6

ENTIRE COUNTIES
Cayuga, Cortland, Seneca, Tompkins, Yates

PARTIAL COUNTIES
Allegany: Only the Townships of Almond, Alfred, Burns.
Steuben: Only the Townships of Canisteo, Cohocton, Dansville, Freemont, Greenwood, Hartsville, Hornell, Jasper, Prattsburg, Troupsburg, and West Union.

WAGES
GROUP 1: Warehousemen*, Yardmen*, Truck Helpers, Pickups, Panel Trucks, Flatboy Material Trucks (straight jobs), Single Axle Dump Trucks, Dumpsters, Material Checkers & Receivers*, Greasers, Truck Tiremen, Mechanic Helpers and Parts Chasers, Tandems & Batch Trucks, Mechanics, Semi-Trailers, Low-boy Trucks, Asphalt Distributor Trucks and Agitator, Mixer Trucks and Dumpcrete type vehicles, Truck Mechanic, Fuel Trucks.

*NOTE: Applies when a temporary warehouse structure is built/utilized specifically for a public work project.

GROUP 2: Specialized Earth Moving Equipment-Euclid type, or similar off-highway equipment, where not self-loading, Straddle (Ross) Carrier, and self-contained concrete mobile truck, Off-highway Tandem Back-Dump, Twin Engine Equipment and Double-Hitched Equipment where not self-loading.

GROUP 3: Fuel trucks that require a HazMat license endorsement.

Per hour:	07/01/2026	07/01/2027
GROUP 1	$ 40.62	$ 44.28
GROUP 2	40.82	44.48
GROUP 3	45.62	49.28

SHIFT WORK
A single irregular work shift can start any time between 5:00 PM and 1:00 AM. All employees who work a single irregular shift on governmental mandated night work shall be paid an additional $ 5.00 per hour.

SUPPLEMENTAL BENEFITS
Per hour:

Journeyworker	$ 29.94	$ 30.78

OVERTIME PAY
See (*B, B3, J, X) on OVERTIME PAGE
*Time and one half also applicable after the 5th day worked.

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

6-317(Syr)

Welder 11/01/2026

JOB DESCRIPTION Welder **DISTRICT** 1

ENTIRE COUNTIES
Albany, Allegany, Bronx, Broome, Cattaraugus, Cayuga, Chautauqua, Chemung, Chenango, Clinton, Columbia, Cortland, Delaware, Dutchess, Erie, Essex, Franklin, Fulton, Genesee, Greene, Hamilton, Herkimer, Jefferson, Kings, Lewis, Livingston, Madison, Monroe, Montgomery, Nassau, New York, Niagara, Oneida, Onondaga, Ontario, Orange, Orleans, Oswego, Otsego, Putnam, Queens, Rensselaer, Richmond, Rockland, Saratoga, Schenectady, Schoharie, Schuyler, Seneca, St. Lawrence, Steuben, Suffolk, Sullivan, Tioga, Tompkins, Ulster, Warren, Washington, Wayne, Westchester, Wyoming, Yates

WAGES
Per hour 07/01/2026

Welder: To be paid the same rate of the mechanic performing the work.*

*EXCEPTION: If a specific welder certification is required, then the 'Certified Welder' rate in that trade tag will be paid.

OVERTIME PAY

HOLIDAY

1-As Per Trade

Overtime Codes

Following is an explanation of the code(s) listed in the OVERTIME section of each classification contained in the attached schedule. Additional requirements may also be listed in the HOLIDAY section.

NOTE: Supplemental Benefits are 'Per hour worked' (for each hour worked) unless otherwise noted

(AA)	Time and one half of the hourly rate after 7 and one half hours per day
(A)	Time and one half of the hourly rate after 7 hours per day
(B)	Time and one half of the hourly rate after 8 hours per day
(B1)	Time and one half of the hourly rate for the 9th & 10th hours week days and the 1st 8 hours on Saturday. Double the hourly rate for all additional hours
(B2)	Time and one half of the hourly rate after 40 hours per week
(B3)	Time and one half of the hourly rate after 40 straight hours per week
(C)	Double the hourly rate after 7 hours per day
(C1)	Double the hourly rate after 7 and one half hours per day
(D)	Double the hourly rate after 8 hours per day
(D1)	Double the hourly rate after 9 hours per day
(E)	Time and one half of the hourly rate on Saturday
(E1)	Time and one half 1st 4 hours on Saturday; Double the hourly rate all additional Saturday hours
(E2)	Saturday may be used as a make-up day at straight time when a day is lost during that week due to inclement weather
(E3)	Between November 1st and March 3rd Saturday may be used as a make-up day at straight time when a day is lost during that week due to inclement weather, provided a given employee has worked between 16 and 32 hours that week
(E4)	Sunday may be used as a make-up day at straight time when a day is lost during that week due to inclement weather
(E5)	Double time after 8 hours on Saturdays
(F)	Time and one half of the hourly rate on Saturday and Sunday
(G)	Time and one half of the hourly rate on Saturday and Holidays
(H)	Time and one half of the hourly rate on Saturday, Sunday, and Holidays
(I)	Time and one half of the hourly rate on Sunday
(J)	Time and one half of the hourly rate on Sunday and Holidays
(K)	Time and one half of the hourly rate on Holidays
(L)	Double the hourly rate on Saturday
(M)	Double the hourly rate on Saturday and Sunday
(N)	Double the hourly rate on Saturday and Holidays
(O)	Double the hourly rate on Saturday, Sunday, and Holidays
(P)	Double the hourly rate on Sunday
(Q)	Double the hourly rate on Sunday and Holidays
(R)	Double the hourly rate on Holidays

(S) Two and one half times the hourly rate for Holidays

(S1) Two and one half times the hourly rate the first 8 hours on Sunday or Holidays One and one half times the hourly rate all additional hours.

(T) Triple the hourly rate for Holidays

(U) Four times the hourly rate for Holidays

(V) Including benefits at SAME PREMIUM as shown for overtime

(W) Time and one half for benefits on all overtime hours.

(X) Benefits payable on Paid Holiday at straight time. If worked, additional benefit amount will be required for worked hours. (Refer to other codes listed.)

Holiday Codes

PAID Holidays:

Paid Holidays are days for which an eligible employee receives a regular day's pay, but is not required to perform work. If an employee works on a day listed as a paid holiday, this remuneration is in addition to payment of the required prevailing rate for the work actually performed.

OVERTIME Holiday Pay:

Overtime holiday pay is the premium pay that is required for work performed on specified holidays. It is only required where the employee actually performs work on such holidays. The applicable holidays are listed under HOLIDAYS: OVERTIME. The required rate of pay for these covered holidays can be found in the OVERTIME PAY section listings for each classification.

Following is an explanation of the code(s) listed in the HOLIDAY section of each classification contained in the attached schedule. The Holidays as listed below are to be paid at the wage rates at which the employee is normally classified.

(1)	None
(2)	Labor Day
(3)	Memorial Day and Labor Day
(4)	Memorial Day and July 4th
(5)	Memorial Day, July 4th, and Labor Day
(6)	New Year's, Thanksgiving, and Christmas
(7)	Lincoln's Birthday, Washington's Birthday, and Veterans Day
(8)	Good Friday
(9)	Lincoln's Birthday
(10)	Washington's Birthday
(11)	Columbus Day
(12)	Election Day
(13)	Presidential Election Day
(14)	1/2 Day on Presidential Election Day
(15)	Veterans Day
(16)	Day after Thanksgiving
(17)	July 4th
(18)	1/2 Day before Christmas
(19)	1/2 Day before New Years
(20)	Thanksgiving
(21)	New Year's Day
(22)	Christmas
(23)	Day before Christmas
(24)	Day before New Year's
(25)	Presidents' Day
(26)	Martin Luther King, Jr. Day
(27)	Memorial Day
(28)	Easter Sunday

(29) Juneteenth

New York State Department of Labor - Bureau of Public Work
State Office Building Campus
Building 12 - Room 130
Albany, New York 12226

REQUEST FOR WAGE AND SUPPLEMENT INFORMATION

As Required by Articles 8 and 9 of the NYS Labor Law

Fax (518) 485-1870 or mail this form for new schedules or for determination for additional occupations.

This Form Must Be Typed

Submitted By: (Check Only One) ☐ Contracting Agency ☐ Architect or Engineering Firm ☐ Public Work District Office Date:

A. Public Work Contract to be let by: (Enter Data Pertaining to Contracting/Public Agency)

1. Name and complete address ☐ (Check if new or change)

Telephone Fax

E-Mail:

2. NY State Units (see Item 5).

- ☐ 01 DOT
- ☐ 02 OGS
- ☐ 03 Dormitory Authority
- ☐ 04 State University Construction Fund
- ☐ 05 Mental Hygiene Facilities Corp.
- ☐ 06 OTHER N.Y. STATE UNIT
- ☐ 07 City
- ☐ 08 Local School District
- ☐ 09 Special Local District, i.e., Fire, Sewer, Water District
- ☐ 1O Village
- ☐ 11 Town
- ☐ 12 County
- ☐ 13 Other Non-N.Y. State (Describe)

3. SEND REPLY TO ☐ (check if new or change)
Name and complete address:

Telephone Fax

E-Mail:

4. SERVICE REQUIRED. Check appropriate box and provide project information.

☐ New Schedule of Wages and Supplements.

APPROXIMATE BID DATE :

☐ Additional Occupation and/or Redetermination

PRC NUMBER ISSUED PREVIOUSLY FOR THIS PROJECT :

OFFICE USE ONLY

B. PROJECT PARTICULARS

5. Project Title

Description of Work

Contract Identification Number

Note: For NYS units, the OSC Contract No.

6. Location of Project:
Location on Site

Route No/Street Address

Village or City

Town

County

7. Nature of Project - Check One:

- ☐ 1. New Building
- ☐ 2. Addition to Existing Structure
- ☐ 3. Heavy and Highway Construction (New and Repair)
- ☐ 4. New Sewer or Waterline
- ☐ 5. Other New Construction (Explain)
- ☐ 6. Other Reconstruction, Maintenance, Repair or Alteration
- ☐ 7. Demolition
- ☐ 8. Building Service Contract

8. OCCUPATION FOR PROJECT :

- ☐ Construction (Building, Heavy Highway/Sewer/Water)
- ☐ Tunnel
- ☐ Residential
- ☐ Landscape Maintenance
- ☐ Elevator maintenance
- ☐ Exterminators, Fumigators
- ☐ Fire Safety Director, NYC Only
- ☐ Fuel Delivery
- ☐ Guards, Watchmen
- ☐ Janitors, Porters, Cleaners, Elevator Operators
- ☐ Moving furniture and equipment
- ☐ Trash and refuse removal
- ☐ Window cleaners
- ☐ Other (Describe)

9. Does this project comply with the Wicks Law involving separate bidding? YES ☐ NO ☐

10. Name and Title of Requester

Signature

SEE PAGE TWO FOR LAWS RELATING TO PUBLIC WORK CONTRACTS

NEW YORK STATE DEPARTMENT OF LABOR
Bureau of Public Work - Debarment List

LIST OF EMPLOYERS INELIGIBLE TO BID ON OR BE AWARDED ANY PUBLIC WORK CONTRACT

Under Article 8 and Article 9 of the NYS Labor Law, a contractor, sub-contractor and/or its successor shall be debarred and ineligible to submit a bid on or be awarded any public work or public building service contract/sub-contract with the state, any municipal corporation or public body for a period of five (5) years from the date of debarment when:

- Two (2) final determinations have been rendered within any consecutive six-year (6) period determining that such contractor, sub-contractor and/or its successor has WILLFULLY failed to pay the prevailing wage and/or supplements;
- One (1) final determination involves falsification of payroll records or the kickback of wages and/or supplements.

The agency issuing the determination and providing the information, is denoted under the heading 'Fiscal Officer'. DOL = New York State Department of Labor; NYC = New York City Comptroller's Office; AG = New York State Attorney General's Office; DA = County District Attorney's Office.

Debarment Database: To search for contractors, sub-contractors and/or their successors debarred from bidding or being awarded any public work contract or subcontract under NYS Labor Law Articles 8 and 9, or under NYS Workers' Compensation Law Section 141-b, access the database at this link: https://apps.labor.ny.gov/EDList/searchPage.do

For inquiries please call 518-457-5589.

NYSDOL Bureau of Public Work Debarment List 11/02/2026

Article 8

AGENCY	Fiscal Officer	FEIN	EMPLOYER NAME	EMPLOYER DBA NAME	ADDRESS	DEBARMENT START DATE	DEBARMENT END DATE
DOL	DOL	*****5784	A.J.M. TRUCKING, INC.		PO BOX 2064 MONROE NY 10950	02/12/2024	02/12/2029
DOL	DOL		ADRIEL ISUFI		151 TYSENS LANE STATEN ISLAND NY 10306	10/27/2026	10/27/2031
DOL	DOL		AKHLAQ OULAKH		4307 28TH AVE ASTORIA NY 11103	10/11/2024	10/11/2029
DOL	DOL		ALEXANDER DELISA		411 THEODORE FREMND SUITE 206RYE NY 10580	09/03/2025	09/03/2030
DOL	NYC		ALL COUNTY SEWER & DRAIN, INC.		7 GREENFIELD DR WARWICK NY 10990	03/25/2022	03/25/2027
DOL	DOL	*****4904	ALMI REMODELING AND CONSTRUCTION CORP.		151 TYSENS LANE STATEN ISLAND NY 10306	10/27/2026	10/27/2031
DOL	DOL	*****8387	AMERICAN PAVING & MASONRY, CORP.		8 FOREST AVE GLEN COVE NY 11542	05/24/2024	05/24/2029
DOL	DOL	*****8654	AMERICAN PAVING, INC.		8 FORREST AVE. GLEN COVE NY 11542	05/24/2024	05/24/2029
DOL	NYC	*****8017	AMIN ELECTRICAL CORP.		97-23 218TH STREET QUEENS VILLAGE NY 11429	12/04/2025	12/04/2030
DOL	DOL		ANGELO STANCO		8 FOREST AVE. GLEN COVE NY 11542	05/24/2024	05/24/2029
DOL	DOL		ANGELO TONDO		449 WEST MOMBSHA ROAD MONROE NY 10950	06/06/2022	06/06/2027
DOL	DOL	*****4231	ANKER'S ELECTRIC SERVICE, INC.		10 SOUTH 5TH ST LOCUST VALLEY NY 11560	09/26/2022	09/26/2027
DOL	DOL		ANTHONY CASALE		20 HEATHER RIDGE ROAD TROY NY 12180	05/20/2025	05/20/2030
DOL	DOL		ANTHONY MONGELLI		PO BOX 2064 MONROE NY 10950	02/12/2024	02/12/2029
DOL	DOL	*****8421	B & B DRYWALL, INC		206 WARREN AVE APT 1WHITE PLAINS NY 10603	12/14/2021	12/14/2026
DOL	DOL	*****3932	B ROC CONSTRUCTION INC		7307 WOODSIDE ROAD VICTOR NY 14564	05/06/2025	05/06/2030
DOL	DA	*****2404	BJA RENOVATION, CORP		33 DOLLARD DR NORTH BABYLON NY 11703	03/19/2025	03/19/2030
DOL	DOL	*****5078	BLACK RIVER TREE REMOVAL, LLC		29807 ANDREWS ROAD BLACK RIVER NY 13032	10/17/2023	10/17/2028
DOL	DOL		C.M.C CONTRACTORS, INC.		500 WEST PUTNAM AVE SUITE 400GREENWICH CT 06830	09/03/2025	09/03/2030
DOL	DOL		CARLOS F. ESCOBAR		411 THEODORE FREMD AVE SUITE 206RYE NY 10580	09/03/2025	09/03/2030
DOL	DOL		CARLOS FIGUEROA		411 THEODORE FREMND AVE SUITE 206RYE NY 10580	09/03/2025	09/03/2030
DOL	DOL	*****4155	CASA BUILDERS, INC.	FRIEDLANDER CONSTRUCTION	64 N PUTT CONNERS ROAD NEW PALTZ NY 12561	05/10/2023	05/10/2028
DOL	DOL		CESAREO TULA		120 SEARS AVE ELMSFORD NY 10523	09/26/2025	09/26/2030
DOL	DOL	*****2292	CHAMPION MAINTENANCE CONTRACTORS, INC.		211 SOUTH RIDGE STREET RYE BROOK NY 10573	09/03/2025	09/03/2030
DOL	NYC	*****2117	CHARAN ELECTRICAL ENTERPRISES		9-11 40TH AVENUE LONG ISLAND CITY NY 11101	09/26/2023	09/26/2028
DOL	DOL		CHARLES CASALE		551 MAIN AVENUE WYNANTSKILL NY 12198	05/20/2025	05/20/2030
DOL	DOL		CHARLES CASALE		551 MAIN AVENUE WYNANTSKILL NY 12198	05/20/2025	05/20/2030
DOL	DOL		CHRISTOPHER PEROSI		5507 NESCONSET HIGHWAY MT. SINAI NY 11766	07/17/2025	07/17/2030
DOL	DOL	*****2281	CORRAO TRUCKING, INC.		PO BOX 393 NANUET NY 10954	09/17/2024	09/17/2029
DOL	DOL		CRAIG JOHANSEN		10 SOUTH 5TH ST LOCUST VALLEY NY 11560	09/26/2022	09/26/2027
DOL	DOL		DANIEL DELISA		211 SOUTH RIDGE STREET RYE BROOK NY 10573	09/03/2025	09/03/2030
DOL	DOL		DANIEL LOHAN		6836 N. LEXINGTON LANE NILES IL 60714	05/28/2026	05/28/2031
DOL	DOL		DANIEL ROBERT MCNALLY		7 GREENFIELD DRIVE WARWICK NY 10990	03/25/2022	03/25/2027
DOL	DOL		DARWIN PEGUESE		6400 BALTIMORE NATIONAL SUITE 602CANTONSVILLE NY 21228	10/24/2024	10/24/2029
DOL	DOL		DAVID FRIEDLANDER		64 NORTH PUTT CORNERS RD	05/10/2023	05/10/2028

NYSDOL Bureau of Public Work Debarment List 11/02/2026

Article 8

DOL	DOL		DENISE NAGLE		36 OAKWOOD TRAIL S AL MONROE NY 10950	10/29/2025	10/29/2030
DOL	DOL		DINA TAYLOR		64 N PUTT CONNERS RD NEW PALTZ NY 12561	05/10/2023	05/10/2028
DOL	DOL	*****2337	EGL DRAINAGE SOLUTION & REPAIRS LLC		5507 NESCONSET HIGHWAY MT. SINAI NY 11766	07/17/2025	07/17/2030
DOL	DOL	*****0780	EMES HEATING & PLUMBING CONTR		5 EMES LANE MONSEY NY 10952	01/20/2002	01/20/3002
DOL	DOL		EMIL KISZKO		84 DIAMOND ST BROOKLYN NY 11222	07/18/2024	07/18/2029
DOL	DOL	*****3298	EMJACK CONSTRUCTION CORP.		84 DIAMOND ST BROOKLYN NY 11222	07/18/2024	07/18/2029
DOL	DOL	*****3298	EMJACK CONSTRUCTION LLC		4192 SIR ANDREW CIRCLE DOYLESTOWN PA 18902	07/18/2024	07/18/2029
DOL	NYC		ENRICO MANETTA		101 MALBA DR. WHITESTONE NY 11357	04/01/2026	04/01/2031
DOL	DOL		EUGENIUSZ "GINO" KUCHAR		195 KINGSLAND AVE BROOKLYN NY 11222	12/22/2023	12/22/2028
DOL	DOL	*****2998	G.E.M. AMERICAN CONSTRUCTION CORP.		195 KINGSLAND AVE BROOKLYN NY 11222	12/22/2023	12/22/2028
DOL	DA		GEORGE LUCEY		150 KINGS STREET BROOKLYN NY 11231	01/19/1998	01/19/2998
DOL	NYC		GHANSHYAM AMIN		97-23 218TH STREET QUEENS VILLAGE NY 11429	12/04/2025	12/04/2030
DOL	DA		GIOVANNA TRAVALJA		3735 9TH ST LONG ISLAND CITY NY 11101	01/05/2023	01/05/2028
DOL	DA		GIOVANNI NAPOLITANO		2501 BAYVIEW AVENUE WANTAGH NY 11793	02/21/2024	02/21/2029
DOL	DA	*****0213	GORILLA CONTRACTING GROUP, LLC		505 MANHATTAN AVE WEST BABYLON NY 11704	10/05/2023	10/05/2028
DOL	DA	*****4760	GTX CONSTRUCTION ASSOCIATES, CORP		2501 BAYVIEW AVE WANTAGH NY 11793	02/21/2024	02/21/2029
DOL	DOL		HENRY WICKE A/K/A HENRY WICKE, JR.		36 OAKWOOD TRAIL S AL MONROE NY 10950	10/29/2025	10/29/2030
DOL	DOL		HERBERT CLEMEN		42 FOWLER AVENUE CORTLAND MANOR NY 10567	01/24/2023	01/24/2028
DOL	DOL		HERBERT CLEMEN		42 FOWLER AVENUE CORTLAND MANOR NY 10567	10/25/2022	10/25/2027
DOL	DOL	*****6961	HUNTER ELEVATOR COMPANY, INC.		36 OAKWOOD TRAIL S AL MONROE NY 10950	10/29/2025	10/29/2030
DOL	DOL	*****2397	ISLAND BREEZE MARINE, INC.		6400 BALTIMORE NATIONAL CANTONSVILLE MD 21228	10/24/2024	10/24/2029
DOL	DOL	*****5010	J. LINDSLEY ENTERPRISE, LLC		1002 STATE ROUTE 176 FULTON NY 13069	07/30/2025	07/30/2030
DOL	DOL	*****0241	J. LINDSLEY ROOFING, LLC		211 NORTH 2ND STREET FULTON NY 13069	07/30/2025	07/30/2030
DOL	DOL		J.M.J CONSTRUCTION		151 OSTRANDER AVENUE SYRACUSE NY 13205	11/21/2022	11/21/2027
DOL	DOL		J.R. NELSON CONSTRUCTION		531 THIRD STREET ALBANY NY 12206	11/07/2023	11/07/2028
DOL	DOL		J.R. NELSON CONSTRUCTION		531 THIRD STREET ALBANY NY 12206	12/22/2022	12/22/2027
DOL	DOL		J.R. NELSON CONSTRUCTION		531 THIRD STREET ALBANY NY 12206	10/25/2022	10/25/2027
DOL	DOL		J.R. NELSON, LLC		531 THIRD STREET ALBANY NY 12206	12/22/2022	12/22/2027
DOL	DOL		J.R. NELSON, LLC		531 THIRD STREET ALBANY NY 12206	11/07/2023	11/07/2028
DOL	DOL		J.R. NELSON, LLC		531 THIRD STREET ALBANY NY 12206	10/25/2022	10/25/2027
DOL	DOL		J.R.N COMPANIES, LLC		531 THIRD STREET ALBANY NY 12206	12/12/2022	12/12/2027
DOL	DOL		J.R.N COMPANIES, LLC		531 THIRD STREET ALBANY NY 12206	11/07/2023	11/07/2028
DOL	DOL		J.R.N COMPANIES, LLC		531 THIRD STREET ALBANY NY 12206	10/25/2022	10/25/2027
DOL	DOL	*****1147	J.R.N. CONSTRUCTION, LLC		531 THIRD ST ALBANY NY 12206	11/07/2023	11/07/2028
DOL	DOL	*****1147	J.R.N. CONSTRUCTION, LLC		531 THIRD ST ALBANY NY 12206	12/22/2022	12/22/2027
DOL	DOL	*****1147	J.R.N. CONSTRUCTION, LLC		531 THIRD ST ALBANY NY 12206	10/25/2022	10/25/2027
DOL	DOL		JAMES LINDSLEY		211 NORTH 2ND STREET	07/30/2025	07/30/2030

NYSDOL Bureau of Public Work Debarment List 11/02/2026

Article 8

DOL	DOL		JASON P. RACE		3469 STATE RT. 69 PERISH NY 13131	02/09/2022	02/09/2027
DOL	DOL		JASON P. RACE		3469 STATE RT. 69 PERISH NY 13131	11/15/2022	11/15/2027
DOL	DOL		JASON P. RACE		3469 STATE RT. 69 PERISH NY 13131	03/01/2022	03/01/2027
DOL	DOL	*****2435	JEFFEL D. JOHNSON	JMJ7 AND SON	5553 CAIRNSTRAIL CLAY NY 13041	11/21/2022	11/21/2027
DOL	DOL		JEFFEL JOHNSON ELITE CARPENTER REMODEL AND CONSTRUCTION		C2 EVERGREEN CIRCLE LIVERPOOL NY 13090	11/21/2022	11/21/2027
DOL	DOL	*****2435	JEFFREY M. JOHNSON	JMJ7 AND SON	5553 CAIRNS TRAIL CLAY NY 13041	11/21/2022	11/21/2027
DOL	DOL		JENNIFER LINDSLEY		211 NORTH 2ND STREET FULTON NY 13069	07/30/2025	07/30/2030
DOL	DOL		JERRY DASTON		36 OAKWOOD TRAIL S AL MONROE NY 10950	10/29/2025	10/29/2030
DOL	DOL		JMJ7 & SON CONSTRUCTION, LLC		5553 CAIRNS TRAIL LIVERPOOL NY 13041	11/21/2022	11/21/2027
DOL	DOL		JMJ7 AND SONS CONTRACTORS		5553 CAIRNS TRAIL CLAY NY 13041	11/21/2022	11/21/2027
DOL	DOL		JMJ7 CONTRACTORS		7014 13TH AVENUE BROOKLYN NY 11228	11/21/2022	11/21/2027
DOL	DOL		JMJ7 CONTRACTORS AND SONS		5553 CAIRNS TRAIL CLAY NY 13041	11/21/2022	11/21/2027
DOL	DOL		JMJ7 CONTRACTORS, LLC		5553 CAIRNS TRAIL CLAY NY 13041	11/21/2022	11/21/2027
DOL	DOL		JOHN NAGLE A/K/A JOHN NAGLE, JR.		36 OAKWOOD TRAIL S AL MONROE NY 10950	10/29/2025	10/29/2030
DOL	DOL		JONATHAN DELISA		411 THEODORE FREMND AVE SUITE 206RYE NY 10580	09/03/2025	09/03/2030
DOL	DOL		JORGE FIGUEROA		411 THEODORE FRMND AVE SUITE 206RYE NY 10580	09/03/2025	09/03/2030
DOL	DA		JOSEPH DEMASCO		33 DOLLARD DRIVE NORTH BABYLON NY 11703	01/30/2026	01/30/2031
DOL	DA		JOSEPH DEMASCO		33 DOLLARD DRIVE NORTH BABYLON NY 11703	03/19/2025	03/19/2030
DOL	DOL		JOSEPH HALL		937 US ROUTE 11 CENTRAL SQUARE NY 13036	10/21/2024	10/21/2029
DOL	DOL	*****2271	JOSEPH HALL COMPANIES LLC		937 US ROUTE 11 CENTRAL SQUARE NY 13036	10/21/2024	10/21/2029
DOL	DOL		JOSEPH K. SALERNO		1010 TILDEN AVE UTICA NY 13501	07/24/2023	07/24/2028
DOL	DOL		JOSEPH K. SALERNO II		1010 TILDEN AVE UTICA NY 13501	07/24/2023	07/24/2028
DOL	DOL	*****5116	JP RACE PAINTING, INC. T/A RACE PAINTING		3469 STATE RT. 69 PERISH NY 13131	02/09/2022	02/09/2027
DOL	DOL	*****5116	JP RACE PAINTING, INC. T/A RACE PAINTING		3469 STATE RT. 69 PERISH NY 13131	11/15/2022	11/15/2027
DOL	DOL	*****5116	JP RACE PAINTING, INC. T/A RACE PAINTING		3469 STATE RT. 69 PERISH NY 13131	03/01/2022	03/01/2027
DOL	DOL	*****5116	JP RACE PAINTING, INC. T/A RACE PAINTING		3469 STATE RT. 69 PERISH NY 13131	03/01/2022	03/01/2027
DOL	DOL		JRN CONSTRUCTION CO, LLC		1024 BROADWAY ALBANY NY 12204	11/07/2023	11/07/2028
DOL	DOL	*****1147	JRN CONSTRUCTION, LLC		531 THIRD STREET ALBANY NY 12206	10/25/2022	10/25/2027
DOL	DOL	*****1147	JRN CONSTRUCTION, LLC		531 THIRD STREET ALBANY NY 12206	12/22/2022	12/22/2027
DOL	DOL	*****1147	JRN CONSTRUCTION, LLC		531 THIRD STREET ALBANY NY 12206	11/07/2023	11/07/2028
DOL	DOL		JRN PAVING, LLC		531 THIRD STREET ALBANY NY 12206	10/25/2022	10/25/2027
DOL	DOL		JRN PAVING, LLC		531 THIRD STREET ALBANY NY 12206	12/22/2022	12/22/2027
DOL	DOL		JRN PAVING, LLC		531 THIRD STREET ALBANY NY 12206	11/07/2023	11/07/2028
DOL	DOL		JULIUS AND GITA BEHREND		5 EMES LANE MONSEY NY 10952	11/20/2002	11/20/3002
DOL	DOL		KEAN INDUSTRIES, LLC		2345 RT. 52 SUITE 2NHOPEWELL JUNCTION NY 12533	12/18/2023	12/18/2028
DOL	DOL		KEVIN FUNEZ URBINA A/K/A KEVIN FUNEZ		1009 LYNDALE AVE TRENTON NJ 08629	12/16/2024	12/16/2029

NYSDOL Bureau of Public Work Debarment List 11/02/2026

Article 8

DOL	DOL	*****8760	KJ&J CONSTRUCTION, LLC		1009 LYNDALE AVE TRENTON NJ 08629	12/16/2024	12/16/2029
DOL	DOL		KMA GROUP II, INC.		29-10 38TH AVENUE LONG ISLAND CITY NY 11101	10/11/2023	10/11/2028
DOL	DOL	*****1833	KMA GROUP INC.		29-10 38TH AVENUE LONG ISLAND CITY NY 11101	10/11/2023	10/11/2028
DOL	DOL		KMA INSULATION, INC.		29-10 38TH AVENUE LONG ISLAND CITY NY 11101	10/11/2023	10/11/2028
DOL	DOL		KRIN HEINEMANN		2345 ROUTE 52, SUITE 2N HOPEWELL JUNCTION NY 12533	12/18/2023	12/18/2028
DOL	NYC		KULWANT S. DEOL		9-11 40TH AVENUE LONG ISLAND CITY NY 11101	09/26/2023	09/26/2028
DOL	DA	*****8816	LAKE CONSTRUCTION AND DEVELOPMENT CORPORATION		150 KINGS STREET BROOKLYN NY 11231	08/19/1998	08/19/2998
DOL	DOL		LEROY E. NELSON JR		531 THIRD ST ALBANY NY 12206	10/25/2022	10/25/2027
DOL	DOL		LEROY E. NELSON JR		531 THIRD ST ALBANY NY 12206	12/22/2022	12/22/2027
DOL	DOL		LEROY E. NELSON JR		531 THIRD ST ALBANY NY 12206	11/07/2023	11/07/2028
DOL	DOL	*****3716	LIGHTNIN ELECTRIC INC.		3418 NORTHERN BLVD SUITE 5-27LONG ISLAND CITY NY 11101	12/13/2024	12/13/2029
DOL	AG	*****3291	LINTECH ELECTRIC, INC.		3006 TILDEN AVE BROOKLYN NY 11226	02/16/2022	02/16/2027
DOL	DOL		LIZETTE PONCE		411 THEODORE FREMND AVE SUITE 206RYE NY 10580	09/03/2025	09/03/2030
DOL	NYC	*****7516	MANCO ENTERPRISES OF NY, INC.		44-17 54TH DR. MASPETH NY 11378	04/01/2026	04/01/2031
DOL	NYC	*****1783	MANETTA ENTERPISES, INC. D/B/A MANETTA INDUSTRIES		44-17 54TH DR. MASPETH NY 11378	04/01/2026	04/01/2031
DOL	DA		MANUEL P TOBIO		150 KINGS STREET BROOKLYN NY 14444	08/19/1998	08/19/2998
DOL	DA		MANUEL TOBIO		150 KINGS STREET BROOKLYN NY 11231	08/19/1998	08/19/2998
DOL	DOL	*****1320	MJC MASON CONTRACTING, INC.		42 FOWLER AVENUE CORTLAND MANOR NY 10567	10/25/2022	10/25/2027
DOL	DOL	*****1320	MJC MASON CONTRACTING, INC.		42 FOWLER AVENUE CORTLAND MANOR NY 10567	01/24/2023	01/24/2028
DOL	DOL		MOHAMMAD MIAN		8269 21ST ST BELLEROSE NY 11426	12/22/2022	12/22/2027
DOL	NYC		NASEER CHAUDHRY		2349 BRAGG STREET BROOKLYN NY 11229	04/22/2025	04/22/2030
DOL	DOL	*****7790	NATIONAL BUILDING & RESTORATION CORP		1010 TILDEN AVE UTICA NY 13501	07/24/2023	07/24/2028
DOL	DOL	*****1797	NATIONAL CONSTRUCTION SERVICES, INC		1010 TILDEN AVE UTICA NY 13501	07/24/2023	07/24/2028
DOL	NYC		NAVIT SINGH		402 JERICHO TURNPIKE NEW HYDE PARK NY 11040	08/10/2022	08/10/2027
DOL	DOL		NELCO CONTRACTING, LLC		1024 BROADWAY ALBANY NY 12204	11/07/2023	11/07/2028
DOL	DA		NICHOLAS BARNETT		33 DOLLARD DR BABYLON NY 11703	03/04/2025	03/04/2030
DOL	DOL		NICHOLAS RAO		411 THEODORE FREMND AVE SUITE 206RYE NY 10580	09/03/2025	09/03/2030
DOL	DA		NICHOLAS T. ANALITIS		505 MANHATTAN AVE WEST BABYLON NY 11704	10/05/2023	10/05/2028
DOL	DOL		NICHOLE E. FRASER A/K/A NICHOLE RACE		3469 STATE RT. 69 PERISH NY 13131	03/01/2022	03/01/2027
DOL	DOL		NICHOLE E. FRASER A/K/A NICHOLE RACE		3469 STATE RT. 69 PERISH NY 13131	11/15/2022	11/15/2027
DOL	DOL		NICHOLE E. FRASER A/K/A NICHOLE RACE		3469 STATE RT. 69 PERISH NY 13131	02/09/2022	02/09/2027
DOL	DOL		NIKOLA NTONI		3418 NORTHERN BLVD SUITE 5-27LONG ISLAND CITY NY 11101	12/13/2024	12/13/2029
DOL	NYC	*****6971	NN CONSTRUCTION, INC.		2349 BRAGG STREET BROOKLYN NY 11229	04/22/2025	04/22/2030
DOL	NYC	*****5643	NYC LINE CONTRACTORS, INC.		402 JERICHO TURNPIKE NEW HYDE PARK NY 11040	08/10/2022	08/10/2027
DOL	DOL		PATRICK PENNACCHIO		2345 RT. 52 SUITE 2NHOPEWELL	12/18/2023	12/18/2028

NYSDOL Bureau of Public Work Debarment List 11/02/2026

Article 8

DOL	DOL		PATRICK PENNACCHIO		2345 RT. 52 SUITE 2NHOPEWELL JUNCTION NY 12533	12/18/2023	12/18/2028
DOL	DOL	*****4168	PHANTOM CONSTRUCTION CORP.		95-27 116TH STREET QUEENS NY 11419	07/12/2024	07/12/2029
DOL	DOL	*****4168	PHANTOM CONSTRUCTION CORP.		95-27 116TH STREET QUEENS NY 11419	05/28/2024	05/28/2029
DOL	DOL	*****2041	QUALITY STEEL ERECTORS INC.		6836 N. LEXINGTON LANE NILES IL 60714	05/28/2026	05/28/2031
DOL	DOL	*****4772	R.W. LOBDELL CONSTRUCTION LLC		635 WEST DRYDEN ROAD FREEVILLE NY 13068	01/31/2025	01/31/2030
DOL	DOL	*****2633	RAW POWER ELECTRIC CORP.		3 PARK CIRCLE MIDDLETOWN NY 10940	07/11/2022	07/11/2027
DOL	DOL		ROBBYE BISSESAR		89-51 SPRINGFIELD BLVD QUEENS VILLAGE NY 11427	01/11/2003	01/11/3003
DOL	DOL		ROMEO WARREN		161 ROBYN RD MONROE NY 10950	07/11/2022	07/11/2027
DOL	DOL		ROSA GARCIA		411 THEODORE FRMND AVE SUITE 206RYE NY 10580	09/03/2025	09/03/2030
DOL	DOL	*****7172	RZ & AL INC.		198 RIDGE AVENUE VALLEY STREAM NY 11581	06/06/2022	06/06/2027
DOL	DA	*****0476	SAMCO ELECTRIC CORP.		3735 9TH ST LONG ISLAND CITY NY 11101	01/05/2023	01/05/2028
DOL	DA		SILVANO TRAVALJA		3735 9TH ST LONG ISLAND CITY NY 11101	01/05/2023	01/05/2028
DOL	NYC	*****3661	SPANIER BUILDING MAINTENANCE CORP		200 OAK DRIVE SYOSSET NY 11791	03/14/2022	03/14/2027
DOL	DOL	*****3496	STAR INTERNATIONAL INC		89-51 SPRINGFIELD BLVD QUEENS VILLAGE NY 11427	08/11/2003	08/11/3003
DOL	DOL		STEVEN DELISA		411 THEODORE FREMND AVE SUITE 206RYE NY 10580	09/03/2025	09/03/2030
DOL	DOL	*****9150	SURGE INC.		8269 21ST STREET BELLEROSE NY 11426	12/22/2022	12/22/2027
DOL	DOL		SYED MUHAMMAD S. JAFRI A/K/A SHARRUKH JAFRI		4307 28TH AVE ASTORIA NY 11103	10/11/2024	10/11/2029
DOL	DOL		SYED RAZA		198 RIDGE AVENUE NY 11581	06/06/2022	06/06/2027
DOL	DOL		TARLOK SINGH		95-27 116TH STREET QUEENS NY 11419	05/28/2024	05/28/2029
DOL	DOL		TARLOK SINGH		95-27 116TH STREET QUEENS NY 11419	07/12/2024	07/12/2029
DOL	DOL	*****4855	TECH INDUSTRIES LLC		20 HEATHER RIDGE ROAD TROY NY 12180	05/20/2025	05/20/2030
DOL	DOL	*****2426	THE MATRUKH GROUP, INC.		4307 28TH AVE PO BOX 9082ASTORIA NY 11103	10/11/2024	10/11/2029
DOL	DOL		THOMAS LOBDELL		635 WEST DRYDEN ROAD FREEVILLE NY 13068	01/31/2025	01/31/2030
DOL	DOL		TIMOTHY PERCY		29807 ANDREWS ROAD BLACK RIVER NY 13612	10/17/2023	10/17/2028
DOL	DA	*****1050	TRI STATE CONSTRUCTION OF NY CORP.		50-39 175TH PLACE FRESH MEADOWS NY 11365	03/28/2022	03/28/2027
DOL	DOL	*****8485	TULA PLUMBING AND HEATING LLC		120 SEARS AVE ELMSFORD NY 10523	09/26/2025	09/26/2030
DOL	DOL	*****8210	UPSTATE CONCRETE & MASONRY CONTRACTING CO INC		449 WEST MOMBSHA ROAD MONROE NY 10950	06/06/2022	06/06/2027
DOL	DOL		VINCENT CORRAO		PO BOX 393 NANUET NY 10954	09/17/2024	09/17/2029
DOL	DOL		WILLIAM A BELL		7307 WOODSIDE ROAD VICTOR NY 14564	05/06/2025	05/06/2030
DOL	DOL	*****8266	WILLIAM CHRIS MCCLENDON	MCCLENDON ASPHALT PAVING	1646 FALLS STREET NIAGARA FALLS NY 14303	05/01/2023	05/01/2028
DOL	DOL		WILLIAM CHRIS MCCLENDON		1646 FALLS STREET NIAGARA FALLS NY 14303	05/01/2023	05/01/2028
DOL	DOL		WILLIAM SCRIVENS		4192 SIR ANDREW CIRCLE DOYELSTOWN PA 18902	07/18/2024	07/18/2029
DOL	DOL	*****9494	WND CONSTRUCTION LLC		411 THEODORE FREMD AVENUE SUITE 206RYE NY 10580	09/03/2025	09/03/2030
DOL	DOL		XENOFON EFTHIMIADIS		29-10 38TH AVENUE LONG ISLAND CITY NY 11101	10/11/2023	10/11/2028

GENERAL REQUIREMENTS

FOR

REPAIR PEDESTRIAN BRIDGE:
HUMAN ECOLOGY BUILDING

CORNELL UNIVERSITY
ITHACA, NEW YORK

SEPTEMBER 18, 2026

SECTION 01 11 00 SUMMARY OF WORK....1
1.0 GENERAL....1
1.1 DESCRIPTION....1
1.2 WORK UNDER OTHER CONTRACTS....2
2.0 PRODUCTS – NOT USED....2
3.0 EXECUTION – NOT USED....2
SECTION 01 14 00 WORK RESTRICTIONS....1
1.0 GENERAL....1
1.1 RELATED DOCUMENTS....1
1.2 CONTRACTOR USE OF PREMISES....1
1.3 UNIVERSITY CLOSURES....2
1.4 WATER USE RESTRICTION....2
1.5 PARKING....2
1.6 CHANGEOVERS AND CONTINUITY OF SERVICES....3
1.7 OBSTACLES, INTERFERENCE AND COORDINATION....4
1.8 EQUIPMENT ARRANGEMENTS....4
1.9 EXISTING EQUIPMENT, MATERIALS, FIXTURES, ETC.....5
1.10 EXAMINATION OF PREMISES, DRAWINGS, ETC.....5
1.11 STAND DOWN DATES....6
1.12 WORKING HOURS....7
2.0 PRODUCTS – NOT USED....7
3.0 EXECUTION – NOT USED....7
SECTION 01 21 00 ALLOWANCES....1
1.0 GENERAL....1
1.1 RELATED DOCUMENTS....1
1.2 SUMMARY....1
1.3 SELECTION AND PURCHASE....1
1.4 SUBMITTALS....2
1.5 COORDINATION....2
1.6 LUMP SUM AND UNIT PRICE ALLOWANCES....2
1.7 ADJUSTMENT OF ALLOWANCES....3
2.0 PRODUCTS – NOT USED....3
3.0 EXECUTION....3
3.1 EXAMINATION....3
3.2 PREPARATION....3
3.3 SCHEDULE OF ALLOWANCES....4

SECTION 01 23 00 ALTERNATES 1
1.0 GENERAL 1
1.1 RELATED DOCUMENTS 1
1.2 DESCRIPTION OF REQUIREMENTS 1
2.0 PRODUCTS – NOT USED 1
3.0 EXECUTION 1
3.1 SCHEDULE OF ALTERNATES 1
SECTION 01 25 00 SUBSTITUTIONS AND PRODUCT OPTIONS 1
1.0 GENERAL 1
1.1 DESCRIPTION 1
1.2 DEFINITIONS 1
1.3 ACTION SUBMITTALS 2
1.4 PRODUCTS LIST 2
1.5 QUALITY ASSURANCE 2
1.6 PROCEDURES 2
1.7 EQUIVALENTS – APPROVED EQUAL 3
1.8 CONTRACTOR'S OPTIONS 4
1.9 SUBSTITUTIONS 6
1.10 COMPARABLE PRODUCTS 7
1.11 CONTRACTOR'S REPRESENTATION 8
1.12 ARCHITECT'S DUTIES 8
2.0 PRODUCTS – NOT USED 8
3.0 EXECUTION – NOT USED 8
SECTION 01 31 19 PROJECT MEETINGS 1
1.0 GENERAL 1
1.1 DESCRIPTION 1
1.2 PRE-CONSTRUCTION MEETING 1
1.3 PROGRESS MEETINGS 3
1.4 PRE-INSTALLATION MEETING(S) 4
2.0 PRODUCTS – NOT USED 4
3.0 EXECUTION – NOT USED 4

SECTION 01 31 50 ELECTRONIC PROJECT MANAGEMENT 1

1.0 GENERAL 1

1.1 SUMMARY 1
1.2 RELATED SECTIONS 1
1.3 DEFINITIONS 1
1.4 PROCEDURES 1
1.5 PROCESS OVERVIEW 2
1.6 ADDITIONAL INFORMATION 3

2.0 PRODUCTS – NOT USED 4

3.0 EXECUTION – NOT USED 4

SECTION 01 32 16 CONSTRUCTION SCHEDULE 1

1.0 GENERAL 1

1.1 SUMMARY 1
1.2 FORM OF SCHEDULES 1
1.3 CONTENT OF SCHEDULES 1
1.4 PROGRESS REVISIONS 2
1.5 SUBMISSIONS 3

2.0 PRODUCTS - NOT USED 3

3.0 EXECUTION 3

3.1 DISTRIBUTION 3

SECTION 01 32 33 PHOTOGRAPHIC DOCUMENTATION 1

1.0 GENERAL 1

1.1 DESCRIPTION 1
1.2 SUBMITTALS 1

2.0 PRODUCTS – NOT USED 1

3.0 EXECUTION 1

3.1 EXISTING CONDITION PHOTOGRAPHS 1
3.2 PROGRESS PHOTOGRAPHS 1
3.3 FINAL COMPLETION PHOTOGRAPHS 1

SECTION 01 33 00 SUBMITTAL PROCEDURES 1

1.0 GENERAL 1

1.1 DESCRIPTION 1
1.2 SUBMITTAL REGISTRY AND SCHEDULE 1
1.3 SHOP DRAWINGS 3
1.4 PRODUCT DATA 3
1.5 SAMPLES AND MOCK-UPS 4
1.6 QUALITY ASSURANCE AND QUALITY CONTROL SUBMITTALS 5
1.7 CONTRACTOR RESPONSIBILITIES 5
1.8 SUBMITTAL PROCEDURES 6
1.9 RECORD SUBMITTALS 8
1.10 RESUBMISSION REQUIREMENTS 8
1.11 ARCHITECT'S DUTIES 8
1.12 DISTRIBUTION 9

2.0 PRODUCTS – NOT USED 10

3.0 EXECUTION – NOT USED 10

SECTION 01 35 29 GENERAL HEALTH & SAFETY 1

1.0 GENERAL 1

1.1 DESCRIPTION 1
1.2 CONTRACTOR'S PROJECT SITE SPECIFIC PLAN 1
1.3 AERIAL WORK PLATFORMS 2
1.4 ASBESTOS 3
1.5 SITE VISITS 3
1.6 CONFINED SPACE 3

2.0 PRODUCTS – NOT USED 3

3.0 EXECUTION – NOT USED 3

SECTION 01 35 43 GENERAL ENVIRONMENTAL REQUIREMENTS 1
1.0 GENERAL 1
1.1 DESCRIPTION 1
1.2 RELATED SECTIONS 1
1.3 SUBMITTALS 1
1.4 JOB SITE ADMINISTRATION 1
1.5 CLEARING, SITE PREPARATION AND SITE USE 2
1.6 SPOIL AND BORROW 2
1.7 NOISE AND VIBRATION 2
1.8 DUST CONTROL 3
1.9 PROTECTION OF THE ENVIRONMENT 3
1.10 HAZARDOUS OR TOXIC MATERIALS 4
1.11 DISPOSAL OF WASTE MATERIAL AND TITLE 4
2.0 PRODUCTS – NOT USED 5
3.0 EXECUTION – NOT USED 5
SECTION 01 35 44 SPILL CONTROL 1
1.0 GENERAL 1
1.1 SPILL PREVENTION 1
1.2 SPILL CONTROL PROCEDURES 1
1.3 SPILL REPORTING AND DOCUMENTATION 4
2.0 PRODUCTS – NOT USED 5
3.0 EXECUTION – NOT USED 5
SECTION 01 41 00 REGULATORY REQUIREMENTS 1
1.0 GENERAL 1
1.1 PERMITS AND LICENSES 1
1.2 INSPECTIONS 1
1.3 COMPLIANCE 1
1.4 OWNER'S REQUIREMENTS 1
2.0 PRODUCTS – NOT USED 2
3.0 EXECUTION – NOT USED 2

SECTION 01 42 00 REFERENCES....1
1.0 GENERAL....1
1.1 INTENT OF CONTRACT DOCUMENTS....1
1.2 RELATED DOCUMENTS....2
1.3 DEFINITIONS....2
1.4 INDUSTRY STANDARDS....4
1.5 ABBREVIATIONS AND ACRONYMS....5
2.0 PRODUCTS - NOT USED....17
3.0 EXECUTION - NOT USED....17
SECTION 01 45 00 QUALITY CONTROL....1
1.0 GENERAL....1
1.1 DESCRIPTION....1
1.2 CONTROL OF ON-SITE CONSTRUCTION....1
1.3 TESTING....2
1.4 OWNER'S REPRESENTATIVE....3
2.0 PRODUCTS – NOT USED....3
3.0 EXECUTION – NOT USED....3
SECTION 01 45 33 CODE REQUIRED SPECIAL INSPECTIONS AND PROCEDURES....1
1.0 GENERAL....1
1.1 REQUIREMENTS....1
1.2 DEFINITIONS....1
1.3 QUALIFICATIONS....2
1.4 SUBMITTALS....2
1.5 PAYMENT....2
1.6 OWNER RESPONSIBILITIES....2
1.7 CONTRACTOR RESPONSIBILITIES....2
1.8 LIMITS ON AUTHORITY....3
2.0 INSPECTIONS AND TESTING....3
3.0 DOCUMENTATION....3
3.1 RECORDS AND REPORTS....3
3.2 COMMUNICATION....4
3.3 DISTRIBUTION OF REPORTS....5
3.4 FINAL REPORT OF SPECIAL INSPECTIONS....5

SECTION 01 50 00 TEMPORARY FACILITIES AND CONTROLS 1

1.0 GENERAL 1

1.1 DESCRIPTION 1
1.2 REQUIREMENTS OF REGULATORY AGENCIES 1

2.0 PRODUCTS 1

2.1 MATERIALS, GENERAL 1
2.2 TEMPORARY FIRST AID FACILITIES 1
2.3 TEMPORARY FIRE PROTECTION 1
2.4 CONSTRUCTION AIDS 3
2.5 SUPPORTS 4
2.6 TEMPORARY ENCLOSURES 4
2.7 TEMPORARY WATER CONTROL 5
2.8 PERSONNEL, PUBLIC AND EMPLOYEE PROTECTION 5
2.9 ACCESS ROADS AND PARKING AREAS 5
2.10 PROJECT IDENTIFICATION AND SIGNS 5
2.11 SECURITY 6
2.12 FIELD OFFICES 6

3.0 EXECUTION 6

3.1 PREPARATION 6
3.2 GENERAL 6
3.3 REMOVAL 7

SECTION 01 51 00 TEMPORARY UTILITIES 1

1.0 GENERAL 1

1.1 DESCRIPTION 1
1.2 REQUIREMENTS OF REGULATORY AGENCIES 1

2.0 PRODUCTS 1

2.1 MATERIALS, GENERAL 1
2.2 TEMPORARY ELECTRICITY, LIGHTING AND WATER 1
2.3 TEMPORARY USE OF ELEVATOR 2
2.4 TEMPORARY CONTRACTOR TELEPHONE SERVICE 3
2.5 TEMPORARY SANITARY FACILITIES 3

3.0 EXECUTION 3

3.1 REMOVAL 3

SECTION 01 66 00 STORAGE AND PROTECTION 1

1.0 GENERAL 1

1.1 DESCRIPTION 1
1.2 TRANSPORTATION AND HANDLING 1
1.3 ON-SITE STORAGE 1
1.4 CAMPUS SITE / BOOKBANK DRIVE STORAGE 2
1.5 PROTECTION 3
1.6 PROTECTION AFTER INSTALLATION 4

2.0 PRODUCTS – NOT USED 4

3.0 EXECUTION – NOT USED 4

SECTION 01 73 29 CUTTING, PATCHING AND REPAIRING 1

1.0 GENERAL 1

1.1 DESCRIPTION 1
1.2 SUBMITTALS 2
1.3 QUALITY ASSURANCE 2
1.4 WARRANTIES 4

2.0 PRODUCTS 4

2.1 MATERIALS 4

3.0 EXECUTION 4

3.1 INSPECTION 4
3.2 PREPARATION 5
3.3 PERFORMANCE 5
3.4 CLEANING 7

SECTION 01 77 00 PROJECT CLOSEOUT 1

1.0 GENERAL 1

1.1 INSPECTIONS 1
1.2 SUBMITTALS 2
1.3 FINAL CLEAN UP 3
1.4 MAINTENANCE STOCK 4

2.0 PRODUCTS – NOT USED 4

3.0 EXECUTION – NOT USED 4

SECTION 01 78 23 OPERATING AND MAINTENANCE DATA....1
1.0 GENERAL....1
1.1 DESCRIPTION....1
1.2 FORM OF SUBMITTALS....1
1.3 CONTENT OF MANUAL....2
1.4 MANUAL FOR MATERIALS AND FINISHES....3
1.5 MANUAL FOR EQUIPMENT AND SYSTEMS....4
1.6 SUBMITTAL REQUIREMENTS....6
1.7 INSTRUCTIONS OF OWNER'S PERSONNEL....6
1.8 OPERATING INSTRUCTIONS....7
2.0 PRODUCTS – NOT USED....7
3.0 EXECUTION – NOT USED....7
SECTION 01 78 36 WARRANTIES AND BONDS....1
1.0 GENERAL....1
1.1 DESCRIPTION....1
1.2 SUMMARY....1
1.3 DEFINITIONS....1
1.4 QUALITY ASSURANCE....2
1.5 WARRANTY REQUIREMENTS....2
1.6 SUBMITTAL REQUIREMENTS....3
1.7 SUBMITTALS REQUIRED....3
2.0 PRODUCTS – NOT USED....3
3.0 EXECUTION....4
3.1 FORM OF SUBMITTALS....4
3.2 TIME OF SUBMITTALS....4
SECTION 01 78 39 RECORD DOCUMENTS....1
1.0 GENERAL....1
1.1 DESCRIPTION....1
1.2 MAINTENANCE OF DOCUMENTS AND SAMPLES....1
1.3 RECORDING....1
1.4 SUBMITTAL....3
2.0 PRODUCTS – NOT USED....3
3.0 EXECUTION – NOT USED....3

SECTION 01 11 00 SUMMARY OF WORK

1.0 GENERAL

1.1 DESCRIPTION

A. Work to be Done

This project will address inadequate drainage and provide repairs for the Human Ecology Building Pedestrian Bridge. Work includes but is not limited to:

1. Demolition and replacement of concrete topping slab.
2. Implementation of dedicated drainage system for bridge.
3. Steel surface repair and painting.

B. The Scope of the Work

1. The scope of the Work in all SECTIONS of this Specification shall consist of the furnishing of all labor, materials, equipment and appliances and the performance of the Work required by the Contract Documents and/or by the conditions at the site, joining all parts of this Work with itself and the Work of others to form a complete, functioning entity.

2. Items not specifically mentioned in the Specifications or shown on the drawings, but which are inherently necessary to make a complete working installation, shall be included.

3. It is the intent and purpose of the Contract Documents to cover and include under each item all materials, machinery, apparatus, and labor necessary to properly install materials and equipment, adjust and put into perfect operation the respective portions of the installation specified and to so interconnect the various items or sections of the Work as to form a complete and operating whole. Any equipment, apparatus, machinery, material and small items not mentioned in detail, and labor not hereinafter specifically mentioned, which may be found necessary to complete or perfect any portion of the installation in a substantial manner, and in compliance with the requirements stated, implied, or intended in the Contract Documents, shall be furnished without extra cost to the Owner. The Contractor shall provide the greatest quantity, highest quality, highest degree of safety, and most stringent material, equipment or work. Should the Drawings or the Specifications disagree in themselves or with each other, the Contractor shall provide the better quality or greater quantity of work and/or materials unless otherwise directed by written addendum to the Contract.

1.2 WORK UNDER OTHER CONTRACTS

A. The Contractor shall cooperate with other contracts performing related work, including providing labor, materials and other costs necessary to satisfactorily coordinate the Contract Work with work performed under other contracts.

2.0 PRODUCTS – NOT USED

3.0 EXECUTION – NOT USED

*****END OF SECTION 01 11 00*****

SECTION 01 14 00 WORK RESTRICTIONS

1.0 GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General Conditions and Division 1 Specification Sections, apply to this Section.

1.2 CONTRACTOR USE OF PREMISES

A. All traffic and pedestrian control measures shall be compliant with the **National Manual on Uniform Traffic Control Devices for Streets and Highways** (MUTCD) and **17 NYCRR Chapter V** (New York Supplement), (https://www.dot.ny.gov/mutcd) and all other local laws and regulations.

B. The Contractor shall carry on the Work in the manner which will cause the least interruption to pedestrian and vehicular traffic and permit access of emergency vehicles at all times.

C. The Work shall be scheduled and performed in such a manner that at least one lane of traffic will be maintained on all public streets. Two flag persons, equipped with adequate means of communication, must be provided for any activity blocking a traffic lane. One lane of traffic must be maintained at all times. Where traffic must cross open trenches, the Contractor shall provide suitable bridges and railings; including pedestrian bridges.

D. The Contractor shall maintain 20’ minimum fire lane access to all facilities in the area, unless pre-approved by the University Fire Marshall office and local fire official.

E. The Contractor shall post and maintain flag persons and suitable signs indicating that construction operations are under way and other warning signs as may be required.

F. The Contractor shall safeguard the use by the public and Owner of all adjacent highways, roadways and footpaths, outside the Contract Limit Lines (work area), and shall conform to all laws and regulations concerning the use thereof, especially limitations on traffic and the movement of heavy equipment. Access to the site for delivery of construction materials and/or equipment shall be made only at the locations shown in the Contract Documents or approved by the Owner’s Representative.

G. The Contractor shall make every effort to keep dirt and debris from making its way to roadways. The Contractor shall immediately remove dirt and debris which may collect on permanent roadways due to the Work.

H. The Contractor shall limit the extent of its activities to that area of the site defined on the Contract Drawings as being within the Contract Limit Lines.

I. For that portion of the Work required under this Contract which must be performed in other than the defined areas both on-site and off, including operations involving delivery and removal of materials, the Contractor shall schedule and coordinate its activities through the Owner's Representative, to meet the approval of the Owner and minimize disruption of the normal scheduled activities of the occupants of adjacent spaces.

J. It is the Owner's expectation that the Contractor will take protective measures to minimize damage caused by construction activities including, but not limited to, the use of personnel lifts, material handling equipment, on-site material storage, etc. All portions of the site, including the staging area and those areas affected by the Work, shall be returned to their original condition after completion of Work. Such repair work shall include lawn restoration and reseeding, if required, and shall be included in the Contractor's Guarantee of Work.

K. Routes to and from the location of the Work shall be as indicated in the Contract or as directed by the Owner's Representative. Temporary roadways shall be closed only with prior approval of the Owner's Representative.

L. Parking may be made available for staging at Bookbank Drive or other pre-determined area for the duration of the project. The Contractor will be responsible for fencing, securing and maintaining the designated area. All vehicles at Bookbank Drive, or other predetermined areas, must be registered with Transportation Services.

1.3 UNIVERSITY CLOSURES

A. In the event of University closure, the Contractor should use their judgement, follow their internal guidance on continuity of operations, and the direction of law enforcement, as to whether or not they will maintain operations on construction sites on campus. They should make this decision with the awareness that Cornell response to any project needs (shutdowns, emergencies) will not possible and the maintenance of roads and walks will not be to normal operating standards.

B. With your safety as a top priority, the Cornell University Police allows you the ability to take advantage of our Emergency Mass Notification System that enables your cellphone to become a personal safety device for you. Contractor's wishing to participate may text the following: CornellAlert to **67283** and you will be set up to receive alert messages. Be advised that you may stop receiving messages at any time by sending "stop" to CornellAlert. There will also be a system generated "stop" every year on August 1st at which point you will need to send the text CornellAlert to re-enlist.

1.4 WATER USE RESTRICTION

A. The Contractor shall adhere to any University issued Water Use Restrictions in place at the time of construction.

1.5 PARKING

A. The Contractor shall make all arrangements, and bear the cost, for transportation of all trade persons from the designated parking area to the construction site as necessary.

B. It should be noted that there is a fee for all parking on the Cornell University campus. The Contractor is responsible for the payment for all parking costs imposed by the Owner. The Contractor should contact the Project Manager (Michael R. Kuo) for additional information. The Contractor will be required to complete a "New Construction Employee Form" for each permit requested. This form may be found at https://fcs.cornell.edu/forms-templates.

C. Contractor shall cooperate with Transportation Services and/or other authorities having jurisdiction, as follows:

1. Ensure parking by all employees of the Contractor, Subcontractors, material suppliers, and others connected with this project only within construction fence or the designated parking area.

2. Prohibit employees from parking in any other areas, roads, streets, grounds, etc.

3. Discharge any employee refusing to comply with these requirements.

4. Ensure proper transportation of personnel between the designated parking area and the construction site.

D. The Contractor shall remove from the parking area and staging area all temporary trailers, rubbish, unused materials, and other materials belonging to the Contractor or used under the Contractor's direction during construction or impairing the use or appearance of the property and shall restore such areas affected by the Work to their original condition, and, in the event of its failure to do so, the same shall be removed by the Owner at the expense of the Contractor, and the Contractor shall be liable therefore.

1.6 CHANGEOVERS AND CONTINUITY OF SERVICES

A. Make all changeovers, tie-ins and removals, etc., of any part of the Work that would affect the continuity of operation of the adjacent services at approved times that will not interfere with the Owner's operations. Secure approval of Owner before proceeding.

B. Make all necessary temporary connections required to permit operation of the building services and/or equipment. Remove the connections after need has ceased.

C. The Contractor may be permitted to make changeovers during normal working hours at the Owner's discretion. Should the Contractor perform this Work outside of normal working hours, no extra payment will be made for resulting overtime expenses.

D. When connecting new facilities do not shut off any existing Mechanical/Electrical facilities or services without prior written approval of Owner's Representative.

E. The Contractor shall not, except in an emergency condition, shutdown any utility without the express permission of the Owner's Representative. Major shutdowns of utilities, affecting life safety or outside contract limit lines, will be performed by Cornell University to enable Contractor to perform required Work. Major shutdowns shall be defined as those affecting life safety or which are outside the project site limits.

F. Maintain domestic water and firewater in service at all times. No service may be out for more than twenty-four (24) hours. Maintain firewater flow capability (hose, if necessary) to all buildings and coordinate with Cornell Utilities, Cornell Environment, Health and Safety (EHS), and Authority Having Jurisdiction (AHJ).

G. All shutdowns to be scheduled a minimum of seven (7) calendar days in advance and requests shall be submitted via ePM system to the Owner's Representative.

H. IN THE EVENT OF AN EMERGENCY WHERE THE OWNER'S REPRESENTATIVE IS NOT AVAILABLE, THE CONTRACTOR SHALL DIAL 911 IMMEDIATELY.

1.7 OBSTACLES, INTERFERENCE AND COORDINATION

A. General

1. Plans show general design arrangement. Install Work substantially as indicated and verify exact location and elevations; DO NOT SCALE PLANS.

2. Due to small scale of Drawings, it is not possible to indicate all offsets, fittings, changes in elevations, interferences, etc. Make necessary changes in the Work, equipment locations, etc., after notification to the Owner's Representative and Architect. Obtain approval from same, as part of Contract, to accommodate work to obstacles and interferences encountered.

3. Obtain written approval for all major changes before installing. If requested, submit drawings, detailing all such deviations or changes.

4. Exposed to view mechanical units, ductwork, conduit, pipes or other building equipment are essential parts of the artistic effect of the building design and shall be installed in locations as shown on the drawings. Conformance to given dimensions and alignments with the structural system, walls, openings, indicated centerlines are a requirement of the Contract and the Contractor shall familiarize himself with the critical nature of proper placement of these items. The Contractor shall notify the Architect of conflicts which would cause such equipment to be installed in locations other than as indicated on the Drawings. The Contractor shall not proceed with the installation of exposed to view mechanical units, ductwork, conduit, pipes, etc. until all conflicts have been identified by the Contractor and resolutions to conflicts approved by the Architect.

B. Interference

1. Install Work so that all items are operable and serviceable and avoid interfering with removal of rails, filters, belt guards and/or operation of doors, etc. Provide easy and safe access to valves, controllers, motor starters and other equipment requiring frequent attention.

1.8 EQUIPMENT ARRANGEMENTS

A. Since all equipment of equal capacity is not necessarily of same arrangement, size of construction, these Plans are prepared on basis of one manufacturer as "basis-of-design equipment", even though other manufacturers' names are mentioned.

B. If Contractor elects to use specified equipment other than "design equipment" which differs in arrangement, size, etc., the Contractor does so subject to following conditions:

1. Submit detailed drawings indicating proposed installations of equipment and showing maintenance and service space required.

2. If revised arrangement meets approval, make all required changes in the work of all trades, including but not limited to louvers, panels, structural supports, pads, etc. at no increase in Contract. Provide larger motors and any additional control devices, valves, fittings and other miscellaneous equipment required for proper operation of revised layout, and assumes responsibility for proper location of roughing in and connections by other trades.

3. If revised arrangement does not meet approval because of increase in pressure loss, possibility of increase in noise, lack of space or headroom, insufficient clearance for removal of parts, or for any other reason, provide equipment which conforms to Contract Drawings and Specifications.

1.9 EXISTING EQUIPMENT, MATERIALS, FIXTURES, ETC.

A. Where existing equipment, piping, fittings, etc. are to be removed, Contractor shall submit complete list to Owner. All items that Owner wishes to retain shall be carefully removed and salvaged and delivered to building storage where directed by Owner. Items that Owner does not wish to retain shall be removed from the site and legally disposed.

1.10 EXAMINATION OF PREMISES, DRAWINGS, ETC.

A. Before Submitting Proposal

1. Examine all Drawings and Specifications relating to work of all trades to determine scope and relation to other work.

2. Examine all existing conditions affecting compliance with Plans and Specifications, by visiting site and/or building.

3. Ascertain access to site, available storage and delivery facilities.

B. Before Commencing Work on Any Phase or in any Area

1. Verify all governing dimensions at site and/or building.

2. Inspect all adjacent work.

C. Tender of Proposal Confirms Agreement

1. All items and conditions referred to herein and/or indicated on accompanying Drawings.

2. No consideration, additional monies or time extensions will be granted for alleged misunderstanding.

D. Existing or Archived Drawings

1. Existing or Archived drawings of impacted buildings are appended in electronic format only for reference and informational purposes. These historic drawings are not to be considered contract drawings and are provided "FOR INFORMATION ONLY". The Owner makes no representation as to the accuracy of the drawings as representing current conditions.

1.11 STAND DOWN DATES

A. Strict and effective enforcement by Contractor's management and supervision of the following dates and hours is required.

1. **Stand-Down Dates** (No construction work and no deliveries on site):

a. Commencement Weekend
- Friday, May 28, 2027
- Saturday, May 29, 2027
- Sunday, May 30, 2027

b. Reunion Weekend
- Thursday, June 10, 2027
- Friday, June 11, 2027
- Saturday, June 12, 2027
- Sunday, June 13, 2027

c. Commencement Weekend
- Friday, May 26, 2028
- Saturday, May 27, 2028
- Sunday, May 28, 2028

d. Reunion Weekend
- Thursday, June 8, 2028
- Friday, June 9, 2028
- Saturday, June 10, 2028
- Sunday, June 11, 2028

2. **Courses Study Time & Final Exams:** While future dates are unknown at this point, the Contractor shall assume these general timeframes for the duration of the project.
- Study Time: May 12, 2027 to May 14, 2027
- Final Exams: May 15, 2027 to May 22, 2027

* Contractor shall assume that the "Study Time and Final Exam" periods are accurate for the University, but that the Owner has specific exam times falling within these periods. Contractor should assume 80 hours wherein a no noise restriction applies to be used at the discretion of the Owner, but falling within the "Study Time and Final Exam" Periods noted above. Specifically, this means that absolutely no construction noise may be transmitted by virtue of this project to the lecture halls, tutorial rooms, classrooms, library, etc. during the to-be-determined 80 hour period. The Owner will provide information relative to the specific times and locations no less than two weeks in advance of scheduled exams at the Contractor's request. The 80 hours are to be included with no right to claim for additional cost or time or delays to construction schedule.

1.12 WORKING HOURS

A. Normal work hours are 7AM-dusk Monday-Saturday except during above noted restrictions. This means that Contractor shall not permit any noise generating activities that could disturb campus occupants or residents to take place outside of these hours. Should any conditions necessitate work to extend beyond these hours – Contractor may submit a detailed request with reasonable advance notice to Cornell. Cornell (at its sole discretion) may issue a written relaxation of the above but Contractor is advised never to assume that it will be granted.

B. During Construction periods, no work shall take place prior to 9AM in a Residence Hall, Fraternity, Co-Op, Sorority, or any type of Housing Unit. Residence Halls require 72 hours notification to the Student & Academic Services representative prior to entering a Residence Hall or Student Room. This does not apply to Fraternity, Co-Op or Sorority House which require 24 hours notification to the Facilities Manager.

C. Contractor shall be responsible to complete and submit a Dispensation of Hours to the Department of Labor for overtime or extended hours desired to be worked on the project as needed.

2.0 PRODUCTS – NOT USED

3.0 EXECUTION – NOT USED

*****END OF SECTION 01 14 00*****

SECTION 01 21 00 ALLOWANCES

1.0 GENERAL

1.1 RELATED DOCUMENTS

A. This Section describes Allowances to be carried in the Base Bid by the Contractor.

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

C. The Specification Section containing the pertinent requirements of materials and methods to achieve the Work described herein. Selected materials and equipment are specified in the Contract Documents by allowances.

1.2 SUMMARY

A. Definition: An allowance is an amount determined by the Owner or calculated by the Contractor based on given quantities and stated on the Bid Proposal Submission Form.

B. Certain items are specified in the Contract Documents by allowances. Allowances have been established in lieu of additional requirements and to defer selection of actual materials and equipment to a later date when direction will be provided to the Contractor. Items covered by these allowances shall be supplied for such amounts and by such persons as the Owner may direct. All uses of the allowances will require the prior written approval of the Owner via a Field Change Authorization.

C. Types of Allowances may include:

1. Lump Sum Allowance

2. Unit Price Allowance

1.3 SELECTION AND PURCHASE

A. At the earliest practical date after award of the Contract, advise the Architect of the date when final selection and purchase of each product or system described by an allowance must be completed to avoid delaying the Work. The Contractor shall provide the Owner fourteen (14) calendar days minimum notification of date.

B. At the Owner's request, the Contractor shall obtain proposals for each allowance for use in making final selections. The Contractor shall include recommendations that are relevant to performing the Work.

C. The Contractor shall purchase products and systems selected by the Architect and Owner from the designated supplier.

1.4 SUBMITTALS

A. Submit proposals for purchase of products or systems included in allowances, in the form specified for Change Orders.

B. Submit invoices or delivery slips to show actual quantities of materials delivered to the site for use in fulfillment of each allowance.

C. Submit time sheets and other documentation to show labor hours and cost for installation of allowance items that include installation as part of the allowance.

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

1.5 COORDINATION

A. Coordinate related work and modify or adjust adjacent work as necessary to ensure that Work affected by each accepted allowance is complete and fully integrated into the Project.

B. The Contractor shall include the dollar value of each scheduled allowance number as a separate line item in the Schedule of Values and identify each allowance with Section number 01 21 00.

C. The Owner shall provide the Contractor with a Field Change Authorization prior to proceeding with the Work of an allowance.

1.6 LUMP SUM AND UNIT PRICE ALLOWANCES

A. Allowances shall include cost to the Contractor of specific products and materials ordered by the Owner or selected by the Architect under allowance and shall include applicable taxes, freight, and delivery to the Project site.

B. Included as part of each allowance are miscellaneous devices, accessory objects or similar items incidental to or required for a complete installation whether or not mentioned as part of the allowance.

C. Unless otherwise indicated, Contractor's cost for receiving and handling at Project site, labor, installation, overhead and profit, and similar costs related to products and materials ordered by the Owner or selected by the Architect under allowance shall be included as part of the Contract Sum and not part of the allowance.

D. Unused Materials: Return unused materials purchased under an allowance to the manufacturer or supplier for credit to the Owner, after installation has been completed and accepted.

1. If requested by the Owner, retain and prepare unused materials for storage by the Owner. Deliver unused material to Owner's storage space as directed.

1.7 ADJUSTMENT OF ALLOWANCES

A. Allowance Adjustment: To adjust allowance amounts and scope of work, prepare a Change Order proposal based on the difference between purchase amount and the allowance, multiplied by final measurement of work-in-place where applicable. If applicable, include reasonable allowances for cutting losses, tolerances, mixing wastes, normal product imperfections, and similar margins.

1. Include installation costs in purchase amount only where indicated as part of the allowance.

2. Prepare explanation and documentation to substantiate distribution of overhead costs and other margins claimed.

3. Submit substantiation of a change in scope of work, if any, claimed in Change Order related to unit-cost allowance.

4. Owner reserves the right to establish the quantity of work-in-place by independent quantity survey, measure, or count.

B. Submit claims for increased costs because of a change in scope or nature of the allowance described in the Contract Documents, whether for the purchase order amount or Contractor's handling, labor, installation, or overhead and profit. Submit claims in accordance with General Conditions, Article 4, Section 4.02 - Claims for Extra Work – Changes in Work within twenty-one (21) days of receipt of Field Change Authorization authorizing Work to proceed. The Owner will reject claims submitted later than twenty-one (21) days after such authorization.

1. Do not include Contractor's or Subcontractor's indirect expenses in the Change Order cost amount unless it is clearly shown that the nature or extent of Work has changed from what could have been foreseen from information in the Contract Documents.

2. No change to Contractor's indirect expenses is permitted for selection of higher or lower priced materials or systems of the same scope and nature as originally indicated.

2.0 PRODUCTS – NOT USED

3.0 EXECUTION

3.1 EXAMINATION

A. Examine products covered by an allowance promptly on delivery for damage or defects. Return damaged or defective products to manufacturer for replacement.

3.2 PREPARATION

A. Coordinate materials and their installation for each allowance with related materials and installations to ensure that each allowance item is completely integrated and interfaced with related work.

3.3 SCHEDULE OF ALLOWANCES

A. Allowance No. 1 Field Order Allowance

Lump Sum Allowance: Include the sum of **$12,000.00** for Field Order Allowance.

Allowance amount shall cover the cost of additional labor, materials, and time for contingent activities within the scope of work as directed by the University in writing in a Field Order. The Field Order will include a description of the work and the method for determining the value of the work. The value of the work directed under this allowance will be determined by one or more of the provisions of Article 4 in the General Conditions. If the net cost of all Field Orders issued are more or less than the specified amount of the allowance, the Contract amount will be adjusted by Change Order. Overhead and profit is included in this amount.

*****END OF SECTION 01 21 00*****

SECTION 01 23 00 ALTERNATES

1.0 GENERAL

1.1 RELATED DOCUMENTS

A. This Section describes the changes to be made under each Alternative.

B. The Specification Section containing the pertinent requirements of materials and methods to achieve the Work described herein.

1.2 DESCRIPTION OF REQUIREMENTS

A. Definition: An alternate is an amount proposed by Bidders and stated on the Bid Proposal Submission Form and in the electronic Bid Module for certain items that may be added to or deducted from the Base Bid amount if the Owner decides to accept a corresponding change in either the amount of construction to be completed, or in the product, materials, equipment, systems or installation methods described in the Contract Documents. Alternates shall include all overhead, profit and other expenses, including bond costs, in connection therewith.

B. Coordination: Coordinate related Work and modify or adjust adjacent Work as necessary to ensure that Work affected by each accepted alternate is complete and fully integrated into the Project.

C. Notification: Immediately following Contract award, prepare and distribute to each party involved, notification of the status of each alternate. Indicate whether alternates have been accepted, rejected or deferred for consideration at a later date. Include a complete description of negotiated modifications to alternates.

D. Schedule: A "Schedule of Alternates" is included at the end of this Section. Include as part of each alternate, miscellaneous devices, accessory objects or similar items incidental to or required for a complete installation whether or not mentioned as part of the alternate.

2.0 PRODUCTS – NOT USED

3.0 EXECUTION

3.1 SCHEDULE OF ALTERNATES

A. ALTERNATE NO. 1

Provide an amount to waterproof bridge deck, topside (Approx. 850 sf): Provide traffic coating of the bridge deck as indicated on Drawing S-100 and as specified in Section 071800 “Traffic Coatings – Alternate No. 1.”

*****END OF SECTION 01 23 00*****

SECTION 01 25 00 SUBSTITUTIONS AND PRODUCT OPTIONS

1.0 GENERAL

1.1 DESCRIPTION

A. The Contractor shall furnish and install the products specified, under the options and conditions for substitutions stated in this Section.

1.2 DEFINITIONS

A. Substitutions: Changes in products, materials, equipment, and methods of construction from those required by the Contract Documents and proposed by Contractor.

1. Substitutions for Cause: Changes proposed by Contractor that are required due to changed Project conditions that are beyond the Contractor's control, such as unavailability of product, or regulatory changes.

a. Products that are not available from Contractor's preferred suppliers does not constitute unavailability of product.

2. Substitutions for Convenience: Changes proposed by Contractor or Owner that are not required in order to meet other Project requirements but may offer advantage to Contractor or Owner.

B. Products: Items obtained for incorporating into the Work, whether purchased for Project or taken from previously purchased stock. The term "product" includes the terms "material," "equipment," "system," and terms of similar intent.

1. Named Products: Items identified by manufacturer's product name, including make or model number or other designation shown or listed in manufacturer's published product literature that is current as of date of the Contract Documents.

2. New Products: Items that have not previously been incorporated into another project or facility. Items salvaged from other projects are not considered new products. Items that are manufactured or fabricated to include recycled content materials are considered new products, unless indicated otherwise.

3. Comparable Product: Product that is demonstrated and approved through submittal process to have the indicated qualities related to type, function, dimension, in-service performance, physical properties, appearance, and other characteristics that equal or exceed those of specified product.

C. Basis-of-Design Product Specification: A specification in which a specific manufacturer's product is named and accompanied by the words "basis-of-design product," including make or model number or other designation, to establish the significant qualities related to type, function, dimension, in-service performance, physical properties, appearance, and other characteristics for purposes of evaluating comparable products of additional manufacturers named in the specification.

1.3 ACTION SUBMITTALS

A. Substitution Requests: Identify product or fabrication or installation method to be replaced. Include Specification Section number and title and Drawing numbers and titles.

1. In addition to submission of Substitution Request Form, substitutions shall be listed on the Bid Proposal Submission Form with description, specification references, and corresponding change in base bid

1.4 PRODUCTS LIST

A. Within thirty (30) days after the award of Contract, submit to the Architect a complete list of products which are proposed for installation.

B. Tabulate the products by listing under each specification section title and number.

C. For products specified only by reference standards, list for each such product:

1. Name and address of the manufacturer.

2. Trade name.

3. Model or catalog designation.

4. Manufacturer's data:

a. Reference standards.

b. Performance test data.

1.5 QUALITY ASSURANCE

A. Compatibility of Substitutions: Investigate and document compatibility of proposed substitution with related products and materials. Engage a qualified testing agency to perform compatibility tests recommended by manufacturers.

B. Compatibility of Options: If Contractor is given option of selecting between two or more products for use on Project, select product compatible with products previously selected, even if previously selected products were also options.

1. Contractor is responsible for providing products and construction methods compatible with other products and construction methods.

2. If a dispute or compatibility issue arises over concurrently selectable but incompatible products, Architect will determine which products shall be used.

1.6 PROCEDURES

A. Coordination: Modify or adjust affected Work as necessary to integrate Work of accepted substitutions and approved comparable products.

1.7 EQUIVALENTS – APPROVED EQUAL

A. Equivalents or Approvals - General

1. The words “similar and equal to”, or “or equal”, “equivalent” and such other words of similar content and meaning shall for the purposes of this Contract be deemed to mean similar or equivalent to one of the named products. For the purposes of Paragraph A and B of this Section 1.4 and for the purposes of Bidding Documents, the word “products” shall be deemed to include the words “articles”, “materials”, “items”, “equipment” and “methods”. Whenever in the Contract documents one or more products are specified, the words “similar and equal to” shall be deemed inserted.

2. Whenever any product is specified in the Contract documents by a reference to the name, trade name, make or catalog number of any manufacturer or supplier, the intent is not to limit competition, but to establish a standard of quality which the Architect has determined is necessary for the Project. The Contractor may at its option use any product other than that specified in the Contract Documents provided the same is approved by the Architect in accordance with the procedures set forth in Paragraph B of this Section 1.4. In all cases the Architect shall be the sole judge as to whether a proposed product is to be approved and the Contractor shall have the burden of proving, at its own cost and expense, to the satisfaction of the Architect, that the proposed product is similar and equal to the named product. In making such determination the Architect may establish such objective and appearance criteria as it may deem proper that the proposed product must meet in order for it to be approved.

3. Nothing in the Contract Documents shall be construed as representing, expressly or implied, that the named product is available or that there is or there is not a product similar and equal to any of the named products and the Contractor shall have and make no claim by reason of the availability or lack of availability of the named product or of a product similar and equal to any named product.

4. The Contractor shall have and make no claim for an extension of time or for damages by reason of the time taken by the Architect or by reason of the failure of the Architect to approve a product proposed by the Contractor.

5. Request for approval of proposed equivalents will be received by the Architect only from the Contractor.

B. Equivalents or Approvals After Bidding

1. Request for approval of proposed equivalents will be considered by the Architect after bidding only in the following cases: (a) the named product cannot be obtained by the Contractor because of strikes, lockouts, bankruptcies or discontinuance of manufacturer and the Contractor makes a written request to the Architect for consideration of the proposed equivalent within ten (10) calendar days of the date it ascertains it cannot obtain the named product; or (b) the proposed equivalent is superior, in the opinion of the Architect, to the named product; or (c) the proposed equivalent, in the opinion of the Architect, is equal to the named product and its use is to the advantage of the Owner, e.g., the Owner receives an equitable credit, acceptable to it, as a result of the estimated cost savings to the Contractor from the use of the proposed equivalent or the Owner determines that the Contractor has not failed to act diligently in placing the necessary purchase orders and a savings in the time required for the completion of the construction of the Project should result from the use of the proposed equivalent; or (d) the proposed equivalent, in the opinion of the Architect, is equal to the named product and less than ninety (90) calendar days have elapsed since the Notice of Award of the Contract.

2. Where the Architect pursuant to the provisions of this Section 1.4 approves a product proposed by the Contractor and such proposed product requires a revision or redesign of any part of the Work covered by this Contract, all such revision and redesign and all new Drawings and details required therefore shall be subject to approval of the Architect and shall be provided by the Contractor at its own cost and expense.

3. Where the Architect pursuant to the provisions of this Section approves a product proposed by the Contractor and such proposed product requires a different quantity and/or arrangement of ductwork, piping, wiring, conduit or any other part of the Work from that specified, detailed or indicated in the Contract Documents, the contractor shall provide the same at its own cost and expense.

1.8 CONTRACTOR'S OPTIONS

A. For products specified only by reference standard, select any product meeting that standard, by any manufacturer.

B. For products specified by naming several products or manufacturers, select any one of products and manufacturers named.

1. Products:

a. Restricted List (Products): Where Specifications include paragraphs or subparagraphs titled “Products” or that include the phrase “provide one of the following”, and include a list of names of both manufacturers and products, provide one of the products listed that complies with requirements. Comparable products for Contractor's convenience will not be considered.

- Substitutions may be considered, unless otherwise indicated.

b. Non-restricted List (Available Products): Where Specifications include paragraphs or subparagraphs titled “Available Products” or that include the phrase “include, but are not limited to, the following”, and include a list of names of both available manufacturers and products, provide one of the products listed, or an unnamed product, that complies with requirements. Comply with requirements in "Comparable Products" Article for consideration of an unnamed product.

2. Manufacturers:

   a. Restricted List (Manufacturers): Where Specifications include paragraphs or subparagraphs titled “Manufacturers” or that include the phrase “provide products by one of the following”, and include a list of manufacturers' names, provide a product by one of the manufacturers listed that complies with requirements. Comparable products for Contractor's convenience will not be considered.

      - Substitutions may be considered, unless otherwise indicated.

   b. Non-restricted List (Available Manufacturers): Where Specifications include paragraphs or subparagraphs titled “Available Manufacturers” or that include the phrase “include, but are not limited to, the following”, and include a list of available manufacturers, provide a product by one of the manufacturers listed, or a product by an unnamed manufacturer, that complies with requirements. Comply with requirements in "Comparable Products" Article for consideration of an unnamed manufacturer's product.

3. Basis-of-Design Product: Where Specifications name a product, or refer to a product indicated on Drawings, and include a list of manufacturers, provide the specified or indicated product or a comparable product by one of the other named manufacturers. Drawings and Specifications indicate sizes, profiles, dimensions, and other characteristics that are based on the product named. Contractors shall be responsible for accommodating differences in dimensions, connection locations, and other information in order to effect a complete functioning system should a component other than basis of design be submitted.

   a. Restricted List (List of Manufacturers): Where Specifications include paragraphs or subparagraphs titled “Basis-of-Design Product”, and include a list of other manufacturers' names, provide the specified or indicated product or a comparable product by one of the other named manufacturers that complies with requirements.

      - Comply with requirements in "Comparable Products" Article for consideration of an unnamed product by one of the other named manufacturers.

      - Substitutions may be considered, unless otherwise indicated.

   b. Non-restricted List (No List of Manufacturers): Where Specifications include paragraphs or subparagraphs titled “Basis-of-Design Product”, and do not include a list of other manufacturers’ names, provide the specified or indicated product or a comparable product by another manufacturer that complies with requirements. Comply with requirements in "Comparable Products" Article for consideration of an unnamed manufacturer's product.

C. For products specified by naming one or more products or manufacturers and stating "or equal", the Contractor shall submit a request as for substitutions, for any product or manufacturer not specifically named. Such substitution shall have been listed on Bid Proposal Submission Form as required in Instructions to Bidders. If not so listed, no substitution will be allowed.

D. For products specified by naming only one product and manufacturer, no option and no substitution will be considered unless listed on the Bid Proposal Submission Form as provided in the Instructions to Bidders. Base Bid must include the specified product or manufacturer. Substitutions will be at the sole discretion of the Owner.

1.9 SUBSTITUTIONS

A. Substitutions for Cause: Submit requests for substitution immediately on discovery of need for change, but not later than 21 days prior to time required for preparation and review of related submittals.

B. Substitutions for Convenience: Submit requests for substitution within thirty (30) days of contract award.

C. Submit a separate request for each substitution. Support each request with:

1. Completed "Request for Substitution" form in the ePM system. A request for substitution of a product, material, or process for that specified in the Contract Documents must be formally submitted as such accompanied by evidence that the proposed substitution ~~(~~1~~)~~ is equal in quality and serviceability to the specified item; ~~(~~2~~)~~ will not entail changes in detail and construction of other work; ~~(~~3~~)~~ will be acceptable to the Architect and Owner's Design Consultant's in achieving design and artistic intent; and ~~(~~4~~)~~ will not result in a cost and/or schedule disadvantage.

2. Complete data substantiating compliance of the proposed substitution with requirements stated in Contract Documents:

   a. Product identification, including manufacturer's name and address.

   b. Manufacturer's literature; identify:

      - Product description.

      - Reference standards.

      - Performance and test data.

   c. Samples, as applicable.

   d. Name and address of similar projects on which product has been used, and the date of each installation.

3. An itemized comparison of the proposed substitution with the product specified listing any variations.

4. Data relating to any changes in the construction schedule.

5. The effect of the substitution on each separate contract of the Project.

6. List any changes required in other work or projects.

7. Designate any required license fees or royalties.

8. Designate availability of maintenance services, and source of replacement materials.

D. Substitutions shall not result in additions to the Contract Sum.

E. Substitutions will not be considered as having been accepted when:

1. They are indicated or implied on shop drawings or product data submittals without a formal request from the Contractor.

2. They are requested by a Subcontractor or supplier.

3. The acceptance will require substantial revision of Contract Documents.

F. Substitute products shall not be ordered or installed without written acceptance of the Owner.

G. The Owner and the Architect shall be the sole judges of the acceptability of a proposed substitution.

1.10 COMPARABLE PRODUCTS

A. Conditions for Consideration: Contractor's request for approval of comparable product will be considered when the following conditions are satisfied. If the following conditions are not satisfied, Architect may reject or return requests without action, except to record noncompliance with these requirements. Where products or manufacturers are specified by name, submit the following, in addition to other required submittals, to obtain approval of an unnamed product or manufacturer:

1. Evidence that the proposed product does not require revisions to the Contract Documents that it is consistent with the Contract Documents and will produce the indicated results, and that it is compatible with other portions of the Work.

2. Detailed comparison of significant qualities of proposed product with those named in the Specifications. Significant qualities include attributes such as performance, weight, size, durability, visual effect, sustainable design characteristics, warranties, and specific features and requirements indicated. Indicate deviations, if any, from the product specified.

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.

1.11 CONTRACTOR'S REPRESENTATION

A. In making a formal request for a substitution the Contractor represents that:

1. By submitting Shop Drawings, Product Data, Samples and similar submittals, the Contractor thereby represents that he has determined and verified all dimensions, quantities, field dimensions, relations to existing work, coordination with work to be installed later, coordination with information on previous Shop Drawings, Product Data, or Samples and compliance with all the requirements of the Contract Documents. The accuracy of all such information is the responsibility of the Contractor.

2. The Contractor has personally investigated the proposed product and has determined that it is equal to or superior in all respects to that specified.

3. The Contractor will provide the same warranties or bonds for the substitution as for the product specified.

4. The Contractor will coordinate the installation of an accepted substitution into the Work, and will make such changes as may be required for the Work to be complete in all respects.

5. The Contractor waives all claims for additional costs related to the substitution which may subsequently become apparent.

1.12 ARCHITECT'S DUTIES

A. Review Contractor's requests for substitutions with reasonable promptness.

B. Transmit evaluations and recommendations to the Owner, so that the Owner can notify the Contractor of the decision for acceptance or rejection of the request for substitution.

2.0 PRODUCTS – NOT USED

3.0 EXECUTION – NOT USED

*****END OF SECTION 01 25 00*****

SECTION 01 31 19 PROJECT MEETINGS

1.0 GENERAL

1.1 DESCRIPTION

A. The Owner will schedule and administer pre-construction meeting, periodic progress meetings, and specially called meetings throughout the progress of the Work.

1. Prepare agenda for meetings.
2. Distribute notice of each meeting no less than four calendar days in advance
3. Make physical arrangements for meetings.
4. Preside at meetings.
5. Record the minutes; include all significant proceedings and decisions.
6. Upload copies of minutes after each meeting to all participants in the meeting.

B. Representatives of Contractor, Subcontractors and suppliers attending the meetings shall be qualified and authorized to act on behalf of the entity each represents.

1.2 PRE-CONSTRUCTION MEETING

A. Schedule at least fifteen (15) days after date of Notice to Proceed.

B. Location: A central site, convenient for all parties.

C. Attendance:

1. Owner's Representative(s)
2. Contractor(s)
3. Architect and its professional consultants
4. Major Subcontractors
5. Major suppliers
6. Safety Representatives for the Owner and Contractor

D. Minimum Agenda:

1. Distribution and discussion of:
   a. List of major Subcontractors and suppliers
   b. Projected Construction Schedules

2. Critical work sequencing
    a. Identification of major shutdowns and approximate schedule
3. Major equipment deliveries and priorities
4. Project Coordination
    a. Designation of responsible personnel
5. Procedures and processing of:
    a. Field decisions
    b. Proposal requests
    c. Submittals
    d. Change Orders
    e. Applications for Payment
    f. Requests for Information
    g. Daily Reports
6. Adequacy of distribution of Contract Documents
7. Procedures for maintaining Record Documents
8. Use of premises:
    a. Office, work and storage areas
    b. Owner's requirements
    c. Job site personnel conduct
    d. Building access and security
9. Temporary facilities, controls and construction aids
10. Temporary utilities
11. Safety and first-aid procedures
    a. Contractor’s Project Site Specific Plan
    b. Plan as applicable to high impact respiratory pathogen pandemics and contagions (HIRPP)
12. Security procedures
13. Housekeeping procedures

1.3 PROGRESS MEETINGS

A. Schedule regular periodic meetings on the site, not less than once every two weeks throughout the Construction period.

B. Attendance:

1. Architect
2. Architect's professional consultants when, in the opinion of the Owner, needed
3. General Contractor, including Site Superintendent
4. Owner's Representatives
5. Subcontractors as appropriate to the agenda
6. Suppliers as appropriate to the agenda
7. Safety Representative

C. Minimum Agenda:

1. Review, approval of minutes of previous meeting
2. Review percentage of work to be in place by next meeting by individual trades
3. Review of work progress since previous meeting
4. Field observations, problems, and conflicts
5. Problems which impede Construction Schedule
6. Review of off-site fabrication, delivery schedules
7. Corrective measures and procedures to regain projected schedule
8. Revisions to Construction Schedule
9. Planned progress and schedule, during succeeding work period
10. Coordination of schedules
11. Review submittal schedules; expedite as required
12. Maintenance of quality standards
13. Review status of all issued proposal requests and change orders
14. Review proposed changes for:
    a. Effect on Construction Schedule and on completion date
    b. Effect on other contracts of the Project
15. Other business

D. All decisions, instructions, and interpretations given by the Architect/Engineer or its representative at these meetings shall be binding and conclusive on the Contractor.

1.4 PRE-INSTALLATION MEETING(S)

A. The Contractor to hold pre-installation meetings where required by individual specification sections or others at the discretion of the Owner. Minimum attendees would be Architect and/or their specific sub-consultant, Owner, Contractor, Subcontractor, key Suppliers, testing & inspection firm, Facilities Engineering subject matter expert, etc. Minimum agenda would include review of key submittals, RFI's, safety, logistics, material procurement, quality control, etc. Contractor to assemble and distribute the Agenda minimum 48 hours prior to meeting as well as distribute meeting minutes a minimum of seven (7) calendar days after the meeting.

B. Submit a list of pre-installation meetings with preliminary dates within fifteen (15) days of issuance of the Notice to Proceed.

2.0 PRODUCTS – NOT USED

3.0 EXECUTION – NOT USED

******END OF SECTION 01 31 19*****

SECTION 01 31 50 ELECTRONIC PROJECT MANAGEMENT

1.0 GENERAL

1.1 SUMMARY

A. Owner Provided System: The Contractor will utilize the Owner's electronic Project Management (ePM) system on this project.

1. The Owner shall manage the day to day use of the Owner provided ePM system and organize the training, support and maintenance of the ePM Website System for the entire project team for the period of its use on the Project.

B. There are no fees to utilize this system.

1.2 RELATED SECTIONS

A. General Conditions Article 9 – Coordination and Cooperation.

B. Section 01 33 00 – Submittal Procedures

1.3 DEFINITIONS

A. ePM: defined as an internet-based information and project communication system that allows the entire project team to collaborate in a centralized and secured repository. All project-specific correspondence, workflow processes, and documentation will be stored and routed within the ePM system.

1.4 PROCEDURES

A. Users will be provided a username and password. The Contractor shall log into the ePM system to enter the Project Documentation listed in section 2.0. All correspondence should be communicated through the e-PM system.

B. Training

1. The Owner will hold training sessions to familiarize team members with the system, and all Contractor staff are expected to attend one of these sessions or otherwise receive proper training on the system's use. All cost for personnel time and travel to attend the training as needed shall be included in the Contractor's proposal

C. The Contractor shall provide on-site personnel with personal computer(s) and personal computer equipment that will allow the Contractor's personnel to access and use the ePM Website System in a timely and efficient manner. At a minimum the Contractor is to provide the following equipment and software:

1. Web Browser: with high-speed connection, up/downloading capability

2. Device that is able to scan documents and take photographs

3. Portable Document Format (PDF) Reader/writer software

D. Contractor shall log on to the ePM Website System on a daily basis, and as necessary to be kept fully appraised of the project developments, correspondence, assigned tasks and other matters that occur on the site. These may include but are not limited to RFI's, action items, meeting minutes, discussion threads, schedule updates, submittals, submittal log, punch list items, daily reports, site photos and/or videos and pre-construction surveys.

1.5 PROCESS OVERVIEW

A. The Contractor is required to timely and accurately post, review, respond, and collaborate with other team members using the following features and/or workflow processes within the ePM system.

B. Project Team Directory – Contractor shall provide an updated directory of contact information for all companies, Subcontractors and project team members who are engaged on this project.

C. Request for Information (RFI): All project RFI's will be submitted using the ePM Website System. The submission of a Request for Information (RFI) is the Contractor's exclusive means of requesting information from the Owner and/or Architect. Attachments to RFI's (which may include sketches, photographs, documentation, and the like, will be uploaded to the ePM Website System and attached to the RFI electronically.

D. Meeting Minutes: Contractor and/or Owner shall enter meeting agendas, records and minutes in the ePM system for all applicable meetings as designated by the Owner.

E. General Communications, memorandums and Letters (Project Correspondence): Shall be created in or posted to the ePM Website System in PDF format electronically linked to action items. These action items shall include names of party (ies) required to respond, time frame within which action is to be taken and any solutions the Contractor recommends.

F. Drawings and Specifications: The Contract Documents will be posted to the ePM Website System as directed by the Owner. The Owner shall retain the right to assign download rights to active CAD or model files. CAD or model files, in any format, posted to the ePM Website System are for viewing and printing only and cannot be edited.

G. Submittals: All submittals shall be fully electronic. Reference Section 01 33 00.

H. Submittal Schedule and Log: Contractor shall post and/or update on a daily basis.

I. Field Reporting: The Contractor shall post and/or update on a daily basis all reports required by other specification sections. These reports include, but are not limited to, daily construction reports, material location reports, unusual event reports, safety and accident reports.

J. Project Photographs: Contractor shall upload project photographs to the ePM system, field by date and type including but not limited to:

1. General Progress Photographs
2. RFI Issues
3. Non-Conforming Work
4. Special Events
5. As required by individual Specification Sections

K. Project Schedule: The contractor shall post, distribute, review, and/or respond to the project schedule, monthly updates, and any other schedule submittals onto the ePM in both native and PDF formats.

L. Permits & Approvals: Contractor shall upload and maintain current copies of all permits and agency approvals that relate to the project.

M. Issue Tracking: Contractor to log and respond to issues that are related and affect other stakeholders within the project team.

N. Quality Assurance: The Owner and/or Architect will issue reports on conforming items in the ePM system. The Contractor is required to review and respond with corrective actions in the system.

O. Change Management – Cost Events and Change Orders will be managed by the e-PM system and the Contractor shall be responsible for reporting potential changes and logging Requests for Change Orders in the system. The Contractor shall also upload and manage all documentation supporting Requested Change Orders.

P. Pay Applications Requests (Invoices) – The Contractor shall create and submit invoices for review by the Owner. Once the invoices are agreed to by the Owner then the invoices should be submitted electronically per the instructions for the ePM system.

Q. Budget and Cost Management – Contractor to provide estimates and Work Breakdown Structure (WBS) to provide Owner with accurate budget/cost analysis.

1.6 ADDITIONAL INFORMATION

A. The Owner may change the standards for distribution and process prescribed above as required to suit the project.

B. The Owner shall retain ownership of all data entered into either system and shall administrate and distribute all information contained therein.

C. The Contractor shall make certain that all Subcontractors performing significant Work on the Project shall actively participate in the ePM system. Requirements for participation in the ePM system shall be made part of each bid document and final contract.

2.0 PRODUCTS – NOT USED

3.0 EXECUTION – NOT USED

******END OF SECTION 01 31 50*****

SECTION 01 32 16 CONSTRUCTION SCHEDULE

1.0 GENERAL

1.1 SUMMARY

A. The Contractor shall, within fourteen (14) calendar days of Notice to Proceed, prepare and submit to the Owner estimated construction progress schedules for the entire Work, with sub-schedules of related activities which are essential to the progress of the Work.

B. Meetings will be held with the Architect, Owner and Contractor at the start of the project to agree mutually on a progress schedule which must be diligently followed.

C. Submit revised progress schedules periodically and when requested to do so by Owner.

D. Submit to Owner and Architect a cash flow projection in accordance with Schedule of Values.

E. Submit electronic versions of all schedules, including updates, as well as all back-up to the submitted schedules.

1.2 FORM OF SCHEDULES

A. Prepare Network Analysis system, or prepare schedules in the form of a horizontal bar chart.

1. Provide separate horizontal bar for each trade or operation.

2. Horizontal time scale: Identify the first day of work of each week.

3. Scale and spacing: To allow space for notations and future revisions.

B. Format of listings: The chronological order of the start of each item of work.

C. Identification of listings: By specification section numbers.

1.3 CONTENT OF SCHEDULES

A. Construction Progress Schedule:

1. Show the complete sequence of construction by activity.

2. Show the dates for the beginning, and completion of, each major element of construction. Specifically list:

a. Site logistics, overhead protection

b. Demolition

c. Steel restoration

d. Concrete

e. Subcontractor work

f. Pre-Installation meetings

3. Show projected percentages of completion for each item, as of the first day of each month.

4. Show estimated dates for the beginning and completion of work which must be completed by or coordinated with the Owner such as hazardous materials abatement, moving, training and other such items as they are identified.

B. Submittals Schedule for Shop Drawings, Product Data and Samples: Confer with the Architect and agree on all elements of the Submittals Schedule. The schedule will be based on the understanding that minimum turn-around time in the Architect's office is ten (10) working days. Some submittals or groups of submittals may take longer to review. Submittals which do not conform to the agreed schedule may be subject to delays in processing. Show:

1. The dates for Contractor's submittals.

2. The dates reviewed submittals will be required from the Architect.

3. Confirmed lead time for manufacturing, production, fabrication and shipment to the project site of all materials which have an impact on the critical path of the Project's construction schedule.

1.4 PROGRESS REVISIONS

A. Indicate progress of each activity to date of submission.

B. Show changes occurring since previous submission of schedule:

1. Major changes in scope

2. Activities modified since previous submission

3. Revised projections of progress and completion

4. Other identifiable changes

C. Provide a narrative report as needed to define:

1. Problem areas, anticipated delays, and the impact on the schedule.

2. Corrective action recommended, and its effect.

3. The effect of changes on schedules of other prime contractors.

1.5 SUBMISSIONS

A. Submit initial Construction Progress Schedules within fourteen (14) calendar days after award of Contract.

1. Owner will review schedules and return review copy within ten (10) calendar days after receipt.

2. If required, resubmit within seven (7) calendar days after return of review copy.

B. Submit progress revision schedules to accompany each application for payment.

C. Submit Submittals Schedule within thirty (30) calendar days after date of commencement of work.

2.0 PRODUCTS - NOT USED

3.0 EXECUTION

3.1 DISTRIBUTION

A. Upload copies of the reviewed schedules to the ePM system and distribute to other applicable project participants.

B. Instruct recipients to report to the Contractor, in writing, any problems anticipated by the projections of the schedule.

*****END OF SECTION 01 32 16*****

SECTION 01 32 33 PHOTOGRAPHIC DOCUMENTATION

1.0 GENERAL

1.1 DESCRIPTION

A. The Contractor shall provide existing condition photographs taken before commencement of Work, progress photographs taken periodically during progress of the Work, and final photographs upon completion and full occupancy of the building.

1.2 SUBMITTALS

A. Progress Submittals

1. Key Plan: Submit key plan of Project area and building with notation of vantage points marked for location and direction of each photograph.

2. Upload digital photograph electronic files, organizationally filed by week, to the ePM system within five (5) days of taking photographs.

3. Each photograph shall be identified with project title, date, and a description of the view.

2.0 PRODUCTS – NOT USED

3.0 EXECUTION

3.1 EXISTING CONDITION PHOTOGRAPHS

A. Before commencement of selective demolition, take photographs of Project area and surrounding areas, including existing items to remain during construction.

3.2 PROGRESS PHOTOGRAPHS

A. Photographs shall be taken weekly in a manner which completely documents the Work.

B. The photographs shall be submitted to the Owner at the end of the first week for review.

C. Provide photographs of any wall, ceiling or floor assembly containing MEP, A/V or any infrastructure that will thereafter become concealed-prior to closure. Note location on Key Plan.

3.3 FINAL COMPLETION PHOTOGRAPHS

A. Photographs shall be taken in a manner which completely documents the completed Work, for submission as project record documents.

*****END OF SECTION 01 32 33*****

SECTION 01 33 00 SUBMITTAL PROCEDURES

1.0 GENERAL

1.1 DESCRIPTION

A. Section includes administrative and procedural requirements for submittals, including the following:

1. Shop Drawings
2. LEED Submittals
3. Product Data
4. Samples and Mock-ups
5. Quality Assurance and Quality Control Submittals
6. Coordination Drawings
7. Certification of Asbestos free products
8. Post-Construction or Post-Renovation Asbestos survey, reference Section 01 35 29.
9. Owner audio/visual
10. Owner furnishings and fixed equipment

B. Designate in the construction schedule, and/or in a separate Submittals Schedule, the dates for submission and the dates reviewed Shop Drawings, Product Data and Samples will be needed.

C. With the exception of physical samples and color charts, or as otherwise approved by the Owner, all submittals shall be electronic images in PDF format created electronically (saved with commenting allowed) which shall be submitted for review and approval via the ePM web site. PDFs shall be created directly from the native file format electronically. Scanning of paper to PDF shall be used minimally. Any non-electronic submittals shall be approved on a case by case basis and logged into the electronic management system as directed by a Cornell representative.

1.2 SUBMITTAL REGISTRY AND SCHEDULE

A. The Architect shall provide a draft submittal registry in the template needed to import into the ePM system. It will be part of the contract documents and turned over to the Contractor in native format for their use. The Contractor shall be responsible for review and completion of the registry including addition of dates identified below and other information as deemed necessary by the Owner.

B. The submittal registry and schedule shall list all submittals required by the specifications, listed in order by the specification section in which they are required. Coordinate the Submittal Schedule with the Contractor's Critical Path Method Construction Schedule and other related documents.

C. The Submittal Registry shall include the following information:

1. Title (*by Architect for Contractor review*)

2. Related specification section and paragraph numbers (*by Architect for Contractor review*)

3. Subsection (*by Architect for Contractor review*)

4. Category of Submittal (Certification, Mock-Up, Operations/Maintenance Manual, Product Data, Sample, Shop Drawing, Test Report, As Built, etc.) (*by Architect for Contractor review*)

5. Submittal Description including description of the part of the Work covered by the submittal (*by Architect for Contractor review*)

6. Name of Subcontractor, if applicable (*Contractor provided, optional*)

7. Date due from Subcontractor (*Contractor provided, optional*)

8. Date due to be submitted for review (*Contractor provided, **required***)

9. Date due for submittal review to be completed (*Contractor provided, **required***)

10. Date for transmittal to Subcontractor (*Contractor provided, optional*)

11. Date for material or product delivery to project (*Contractor provided, **required***)

12. Priority. Low, normal or high (*Contractor provided, **required***)

D. Schedule a resubmittal for each major submittal. Except where specified otherwise in the contract documents, provide review times for submittals in accordance with Submittal Procedures and Architect's Duties below.

E. Distribution: Initially submit the Submittal Schedule to the Owner for review via the ePM system. A submittal schedule compliant with the requirements of this section showing all submittals for the preliminary schedule submission duration shall be submitted with the Contractor's preliminary schedule submittal described in Section 01 32 16. The schedule shall also enumerate all submittals to be processed after the initial preliminary schedule submission duration period, although the date for these submittals does not have to be indicated. A final baseline submittal schedule showing all submittals for the entire project shall be included in the baseline schedule submittal described in section 01 32 16.

F. Updating: The Submittal Schedule shall be kept up-to-date by the Contractor until all submittals are approved. Failure to provide the requested information, or delay in submitting required submittals may result in the payment request being returned to the Contractor until the required schedule or submittals are received.

1.3 SHOP DRAWINGS

A. Drawings shall be newly prepared information drawn accurately to scale by skilled draftsperson and presented in a clear and thorough manner.

1. Highlight, encircle, or otherwise indicate deviations from Contract Documents.

2. Do not reproduce Contract Documents or copy standard information as basis of Shop Drawings.

3. Standard information prepared without specific reference to Project is not Shop Drawing.

B. Shop Drawings include fabrication and installation Drawings, setting diagrams, schedules, patterns, templates and similar Drawings. Include the following information:

1. Dimensions.

2. Identification of products and materials included by sheet and detail number.

3. Compliance with specified standards.

4. Notation of coordination requirements.

5. Notation of dimensions established by field measurements.

6. Submittal:

a. For electronic transmittal, submittals shall be distributed electronically via the ePM system and will be reviewed and returned electronically marked with action taken.

b. Maintain returned document as a “Record Document”.

1.4 PRODUCT DATA

A. Product Data includes brochures, diagrams, standard schedules, performance charts, and instructions that illustrate physical size, appearance and other characteristics of materials and equipment. All submittals shall identify all products as asbestos free, see Section 01 35 29.

B. Collect Product Data into a single submittal for each element of construction or system.

1. Clearly mark each copy to show applicable choices and options. Failure to do so will result in rejection of the submission.

2. Show performance characteristics and capacities.

3. Show dimensions and clearances required.

4. Show wiring or piping diagrams and controls.

5. Where Product Data includes information on products that are not required, eliminate or mark through information that does not apply.

6. Supplement standard information to provide information specifically applicable to the Work.

7. Preliminary Submittal: Submit single copy of Product Data where selection of options by Architect is required.

8. Submittals:

   a. For electronic transmittal, submittals shall be distributed electronically via the ePM system and will be reviewed and returned electronically marked with action taken.

1.5 SAMPLES AND MOCK-UPS

A. Samples include partial sections of manufactured or fabricated components, cuts or containers of materials, color range sets, and swatches showing color, texture, and pattern.

B. Office samples shall be of sufficient size and quantity to clearly illustrate:

1. Functional characteristics of the product, with integrally related parts and attachment devices.

2. Full range of color, texture and pattern.

C. Field samples and mock-ups:

1. Contractor shall erect, at the Project site, at a location acceptable to the Architect.

2. Size or area: that specified in the respective specification section.

3. Fabricate each sample and mock-up complete and finished.

4. Remove mock-ups and turn over to the Owner when directed by the Architect/Owner.

5. Perform necessary work to bring any area disturbed by mock-ups to the areas original condition.

D. Submit fully fabricated Samples cured and finished as specified and physically identical with material or product proposed.

1. Mount or display Samples in manner to facilitate review of qualities indicated.

2. Identify Samples with generic description, product name, and name of manufacturer.

3. Submit Samples for review and verification of size, kind, color, pattern, and texture.

4. Where variation in color, pattern, texture, or similar characteristics is inherent in material or product represented, submit at least three (3) multiple units that show approximate limits of variations.

5. Preliminary Submittals: Submit one (1) full set of choices where Samples are submitted for Architect's selection of color, pattern, texture, or similar characteristics from a range of standard choices.

6. Submittals:

    a. Submit electronic transmittal, photograph sample and its label and attached to the submittal item electronically via the ePM system. For physical samples, submit four (4) sets for Architect's review. Architect will return at least one (1) set marked with action taken. Maintain sets of Samples, as returned, at Project Site, for quality comparisons throughout course of construction.

1.6 QUALITY ASSURANCE AND QUALITY CONTROL SUBMITTALS

A. Quality assurance and quality control submittals include design data, test reports, certifications, manufacturer's instructions, and manufacturer's field reports.

B. Professional design services or certifications: Where Contract Documents require professional design services or certifications by a design professional, Contractor shall cause such services or certifications to be provided by a qualified design professional, whose registration seal shall appear on drawings, calculations, specifications, certifications, Shop Drawings, and other submittals prepared by such professional. Architect shall be entitled to rely upon adequacy, accuracy, and completeness of services, certifications, or approvals performed by such design professionals.

C. Inspection and Test Reports: Requirements for submittal of inspection and test reports from independent testing agencies as specified in the Contract Documents.

D. Manufacturer's instruction: Preprinted instructions concerning proper application or installation of system or product.

E. Manufacturer's field reports: Reports documenting testing and verification by manufacturer's field representative to verify compliance with manufacturer's standards or instructions.

F. Submittals:

1. For electronic transmittal, submittals shall be distributed electronically via the ePM system and will be reviewed and returned electronically marked with action taken.

1.7 CONTRACTOR RESPONSIBILITIES

A. Review submittals for compliance with Contract Documents and approve submittals prior to transmitting to the Architect.

B. Specifically record deviations from Contract Document requirements, including minor variations and limitation. Comply with requirements of Section 01 25 00 Substitutions and Product Options.

C. Contractor's approval of submittals shall indicate that the Contractor has determined and verified materials, field measurements and field construction criteria, and has checked and coordinated information within each submittal with requirement of the Work and Contact Documents. Field conflicts which arise from the contractor's failure to fully review and approve submittals before ordering equipment, will result in the contractor being burdened with all costs to remediate the situation.

D. Contractor shall be responsible for:

1. Compliance with the Contract Documents

2. Confirming and correlating quantities and dimensions

3. Selecting fabrication processes and techniques of construction.

4. Coordination of the work represented by each submittal with other trades.

5. Performing the Work in a safe and satisfactory manner.

6. Compliance with the approved Construction Schedule.

7. All other provisions of the agreements.

E. It is understood that the Architect's notation on the submittals is not to be construed as an authorization for additional work or additional cost.

F. If any notations represent a change to the Contract Sum, submit a cost proposal for the change in accordance with procedures specified before proceeding with the Work.

G. It is understood that the Architect's notation on the submittal is not to be construed as approval of colors. Make all color-related submittals at one time.

H. Notify the Architect by letter of any notations made by the Architect which the Contractor finds unacceptable. Resolve such issues prior to proceeding with the Work.

I. Begin no fabrication of work until all specified submittal procedures have been fulfilled.

J. Do not submit shop drawings, product data or samples representing work for which such submittals are not specified. The Architect shall not be responsible for consequences of inadvertent review of unspecified submittals.

K. The review of shop drawings shall not relieve the Contractor of the responsibility for proper construction and the furnishing of materials and labor required even though the same may not be indicated on the review shop drawings.

L. Survey and report to designated Owner Representatives that only asbestos free material is used in the execution of Work. Reference Sections 01 35 29.

1.8 SUBMITTAL PROCEDURES

A. Coordination

1. Coordinate submittals with performance of construction activities in accordance with the Submittal Schedule approved by the Architect and Owner.

2. Coordinate each submittal with fabrication, purchasing, testing, delivery, other submittals and related activities that require sequential activity.

3. Prepare and transmit each submittal in accordance with the Submittals Schedule, agreed to by all entities involved.

4. Prepare, review, approve and transmit each submittal sufficiently in advance of performance of related construction activities to avoid delay.

5. Architect's Review: Allow ten (10) working days for Architect's initial processing of each submittal requiring the Architect's review and response, except for longer periods required as noted below, and where processing must be delayed for coordination with subsequent submittals. The Architect will advise the Contractor promptly when it is determined that a submittal being processed must be delayed for coordination. Allow ten (10) working days for Architect's reprocessing of each submittal. Notify the Architect when processing time for a submittal is critical to the progress of the Work, and the work would be expedited if its processing time could be shortened.

6. Allow time for delivery in addition to review.

7. Allow time for reprocessing each submittal.

8. No extension of Contract Time will be authorized because of failure to prepare submittals sufficiently in advance of Work to permit processing.

9. Submittals made which do not conform to the schedule are subject to delays in processing by the Architect.

10. Refer to Section 01 32 16 Construction Schedules for requirements of the Submittals Schedule.

11. Failure of the Contractor to obtain approval of Shop Drawings shall render all work thereafter performed to be at Contractor's sole risk, cost and expense.

B. Submittal Preparation

1. Place permanent label or title block on each submittal for identification.

2. Indicate name of entity that prepared each submittal on label or title block.

3. Provide space on label or beside title block on Shop Drawings to record Contractor's stamp, initialed or signed, certifying to review of submittal, action taken, verification of products, field measurements and field construction criteria, and coordination of the information within the submittal with requirements of the Work and of Contract Documents.

4. Complete all fields on submittal item details in ePM system including meaningful description.

5. Include the following information on submittal documentation:

   a. Drawing, detail or specification references, including section number, as appropriate to clearly identify intended use of product.

   b. Field dimensions, clearly identified as such.

   c. Relation to adjacent or critical features of the work or materials.

   d. Applicable standards, such as ASTM or Federal Specification numbers.

e. Provide a blank space for the Architect's stamps

f. On transmittal, record relevant information including deviations from Contract Document requirements, including minor variations and limitations.

6. Identification of revisions on re-submittals, other than those noted by the Architect on previous submittals.

7. Shop drawings with the comment "by others" are not acceptable. All such work must specifically identify the related responsible Subcontractor.

C. Submittal Transmittal:

1. Transmit submittals via the ePM system to Architect unless otherwise noted or directed.

2. Prepare and generate transmittal in ePM system for submission of samples. Package sample and other each submittal appropriately for transmittal and handling.

1.9 RECORD SUBMITTALS

A. Provide a record copy of the submittal (electronic format) for the O&M Manual.

1.10 RESUBMISSION REQUIREMENTS

A. Make any corrections or changes noted on previous submittals.

B. Shop Drawings and Product Data:

1. Revise initial drawings or data, and resubmit as specified for the initial submittal.

2. Indicate any changes which have been made other than those noted by the Architect.

C. Samples: Submit new samples as required for initial submittal.

1.11 ARCHITECT'S DUTIES

A. Review submittals with reasonable promptness as identified in 1.9, paragraph 5 of this Section.

B. Notations on the Submittal Review Stamp or ePM file mean the following:

1. "Approved (APP)" indicates that no deviations from the design concept have been found and Work may proceed.

2. "Approved as Noted (AAN)" indicates that deviations from the design concept which have been found are noted, and the Contractor may proceed accordingly.

3. "Revise and Resubmit (RAR)" indicates that Work covered by submittal, including purchasing, fabrication, delivery, or other activity may not proceed. Revise or prepare new submittal according to Architect's notations; resubmit without delay. Repeat if necessary to obtain different action mark.

4. "Rejected (REJ)" indicates that Work covered by submittal, including purchasing, fabrication, delivery, or other activity may not proceed. Revise or prepare new submittal according to Architect's notations; resubmit without delay. Repeat if necessary to obtain different action mark.

5. "On Hold (ONH)" is used in a very limited capacity and means that the Contractor should not take action until the reason for hold has been cleared and may be required to revise and resubmit.

6. "Not Reviewed (NRV)" is used for submittals that were submitted in error, duplicate, or other reason that does not require review by the Architect but need to be closed by the Contractor upon return to them.

7. "For Record Only (FRO)": Submittals for information or record purposes, including Quality Assurance and Quality Control Submittals, and Material Safety Data Sheets (MSDS), will not require responsive action by the Architect.

    a. Architect will forward informational submittals without action.

    b. Architect will reject and return informational submittals not in compliance with Contract Documents.

C. Incomplete Submittals: Architect will return incomplete submittals without action.

D. Unsolicited Submittals: Architect will return unsolicited submittals to sender without action.

E. Return submittals to Contractor for distribution, or for resubmission.

1.12 DISTRIBUTION

A. Distribute reviewed Shop Drawings and copies of Product Data when possible via the ePM system to:

1. Job site file

2. Record Documents file

3. Subcontractors

4. Installers

5. Suppliers

6. Manufacturers

7. Fabricators

8. Architect

9. Owner

B. Do not permit use of unmarked copies or rejected copies of submittals in connection with construction at Project Site or elsewhere where Work is in progress.

2.0 PRODUCTS – NOT USED

3.0 EXECUTION – NOT USED

*****END OF SECTION 01 33 00*****

SECTION 01 35 29 GENERAL HEALTH & SAFETY

1.0 GENERAL

1.1 DESCRIPTION

A. This Section provides requirements for general health and safety during the project. The requirements of this Section shall apply to both Contractor and all tiers of Subcontractors involved in the project.

1. General Emergency Information – It is recommended that both Contractor and all sub-tiers:

   a. Sign up for Cornell Emergency Alerts. The instructions can be found at (use the visitors section): https://emergency.cornell.edu/alert/

   b. Signup for Tompkins County Emergency alerts at: https://www2.tompkinscountyny.gov/doer/swift911alerts

   c. Cornell EHS has brief guidance on some emergency scenarios at: https://emergency.cornell.edu/eag/

B. In addition to the requirements of this Section, all laws and regulations by applicable local, state, and federal agencies shall apply to the Work of this contract. In some cases, the requirements of these Specifications may by intention exceed such legal requirements, but in no case shall this Specification be interpreted or understood to reduce or eliminate such requirements.

1.2 CONTRACTOR'S PROJECT SITE SPECIFIC PLAN

A. Contractors are required to submit a Project Site Specific Plan (PSSP) for review by Cornell University representatives before commencement of work on the site. The PSSP should address site specific information, controls and or requirements as it relates to the entire scope of work for the Project. All contractors shall use the Project Site Specific Plan Template below to develop their Project's PSSP. The template may be downloaded at:

https://ehs.cornell.edu/campus-health-safety/occupational-safety/contractor-safety

1. Within the PSSP template are example(s) to use as reference. The provided examples demonstrate Cornell University's expectations for providing detailed site-specific information, controls and requirements.

2. Project Site Specific Plan's that inadequately address site specific operations will be returned with comments for resubmission. Failure to submit a PSSP may result in delay of project and/or denial of the payment.

3. All projects must have the PSSP submitted via ePM for review and comment.

B. PSSP submittal should be submitted a minimum of ten (10) days prior to the commencement of work on site. The Contractor may opt to submit their PSSP in phases. The Contractor must submit a phase submission plan using the PSSP Submission table included in the PSSP template for approval by Owner's Representative with initial submission. Submit remaining phases no later than ten (10) days prior to the start of a new, predetermined project phase or milestone.

1. Projects having less than a ten (10) day turn-around shall coordinate their submittal with the Owner's Representative, who should coordinate with Occupational Health, Safety and Injury Prevention (OHSIP), the University Fire Marshall's Office (UFMO), applicable Authority Having Jurisdiction (AHJ) and Contract College's Codes Enforcement Official, if applicable.

C. The Contractor is responsible for its employees and its Subcontractors. Subcontractors are required to submit their PSSP to the General Contractor. The General Contractor is responsible to ensure all Subcontractor(s) PSSP's are adequate per their scope of work.

D. The General Contractor is required to ensure their project's PSSP is accurately maintained throughout the duration of the contract. Resubmission is required for any new scope elements not previously addressed by the Contractor's original PSSP.

E. Definitions:

1. Project Site Specific Plan (PSSP): A structured document that details the scope of the Contract Work and related site-specific controls, requirements and information for University and Contractor personnel. This document is not intended to be all inclusive of all applicable local, state and federal laws and regulations for which the General Contractor and its Subcontractor(s) are expected to comply.

2. Authority Having Jurisdiction (AHJ):

- The organization, office or individual responsible for approving equipment, an installation or a procedure (NYS Fire Code).

- The local government, county government or state agency responsible for the administration and enforcement of an applicable regulation or law (NYS Building Code-§202.2).

3. Occupational Health, Safety and Injury Prevention (OHSIP): A division of Cornell University's Environment, Health and Safety Department. The OHSIP division can be contacted at (607)-255-8200 or by email at askEHS@cornell.edu

4. SME: The University's subject matter expert.

1.3 AERIAL WORK PLATFORMS

A. The preferred method for Aerial Work Platforms (AWPs) boom storage is fully retracted and fully lowered to the ground.

B. In some circumstances booms may need to be stored in the air because of vandalism concerns, minimal size of storage location, etc.

1. If this is case, the area under the elevated boom must be blocked or arranged such that prevents people from walking, standing, working or parking vehicles underneath.

2. When booms are stored in the air consult the extended weather forecast. Booms should not be stored in the air during predicted high winds, or severe storms. AWPs become unstable at winds or gusts greater than 25 mph and must be fully lowered to prevent a tip-over.

1.4 ASBESTOS

A. All building materials and products provided for use in construction at Cornell University are to be free of asbestos. Materials must be surveyed by a certified environmental consultant and analyzed by an accredited laboratory either prior to installation or post installation. The results of the survey are to be reported to Cornell University Facilities Management Asbestos Coordinator. The Contractor must attach applicable Safety Data Sheets / Material Safety Data Sheets for each product documenting a 100% asbestos free status. The University may provide random testing of products for asbestos content. Any Contractor installed building materials or products found to contain asbestos shall be classified as defective work. Defective work shall be corrected by the Contractor as specified in the General Conditions.

B. Attached for the Contractor's information are asbestos reports which represent samples taken within the building.

C. Based on the above, disposal of asbestos containing material is not anticipated.

1.5 SITE VISITS

A. The undertaking of periodic Site Visits by Architects, Engineers or the Owner shall not be construed as supervision of actual construction, or make them responsible for the safety of any persons; or make them responsible for means, methods, techniques, sequences or procedures of construction selected by the Contractor or its Subcontractors; or make them responsible for safety programs and precautions incident to the Work, or for the safe access, visit, use, work, travel or occupancy of any person.

1.6 CONFINED SPACE

A. The Contractor shall be responsible for the identification of confined space in accordance with OSHA requirements. It is the Contractor's responsibility to engage the Project Manager who will collaborate with Environment, Health and Safety regarding questions or concerns on the confined space.

2.0 PRODUCTS – NOT USED

3.0 EXECUTION – NOT USED

*****END OF SECTION 01 35 29*****

ASBESTOS, LEAD PAINT, AND PCB CAULK SURVEY REPORT

Cornell University – Human Ecology Pedestrian Bridge
37 Forest Home Drive
Ithaca, Tompkins County, New York 14853

Prepared For:

TYLin Group
255 East Avenue
Rochester, New York 14604

Prepared By:

Lu Engineers
280 East Broad Street, Suite 170
Rochester, New York 14604

Lu Engineers
ENVIRONMENTAL • TRANSPORTATION • CIVIL

June 2025

Project No. 50118-01

ASBESTOS, LEAD PAINT, AND PCB CAULK SURVEY REPORT

Cornell University – Human Ecology Pedestrian Bridge
37 Forest Home Drive
Ithaca, Tompkins County, New York 14853

TABLE OF CONTENTS

Page

1.0 Executive Summary 1

2.0 Introduction 1
2.1 Records Review 1

3.0 Inspection Procedures 2
3.1 Asbestos 2
3.2 Lead Paint 3
3.3 PCB Caulk 3

4.0 Analytical Results 3
4.1 Asbestos Results 3
4.2 Lead Paint Results 5
4.3 PCB Caulk Results 5

5.0 Asbestos Materials and Approximate Quantities 6
5.1 Known Asbestos Containing Materials 6
5.2 Inaccessible/Assumed Asbestos Containing Materials 6

6.0 Limitations of the Investigation 6

7.0 Recommendations 6

Certification 7

FIGURES

Figure 1 Site Location Map
Figure 2 Bulk Sample Location Plan

ATTACHMENTS

ATTACHMENT A Licenses and Certifications
ATTACHMENT B Asbestos Survey Fact Sheet
ATTACHMENT C Laboratory Analysis Reports and Chain of Custody Forms

1.0 EXECUTIVE SUMMARY

Lu Engineers was retained by TYLin Group to provide an asbestos, lead paint, and PCB Caulk survey of the pedestrian bridge located at 37 Forest Home Drive, in Ithaca, New York. This survey was performed in anticipation of upcoming renovations to the bridge.

The asbestos, lead paint, and PCB caulk survey was conducted on May 19 and June 16, 2025. The intent of this survey was to determine the presence and quantity of asbestos containing materials (ACMs), lead-based paint, and PCB containing caulk. The asbestos survey was conducted in accordance with New York State Department of Labor (NYSDOL) Industrial Code Rule (ICR) 56 by certified inspectors from Lu Engineers. A copy of Lu Engineers' license and inspectors' certifications can be found in Attachment A.

Cornell University – Human Ecology Pedestrian Bridge

Confirmed Asbestos-Containing Materials (ACMs)

Based on the laboratory results of bulk samples collected, there were no materials determined to contain asbestos.

Inaccessible/Assumed ACMs

No inaccessible/assumed ACMs were identified.

2.0 INTRODUCTION

Lu Engineers was retained by TYLin Group to provide an asbestos, lead paint, and PCB caulk survey of the structure identified as the Cornell University – Human Ecology Pedestrian Bridge in the City of Ithaca, Tompkins County, New York. This survey was performed in anticipation of upcoming rehabilitation of the bridge. The site is indicated on the attached Figure 1 – Site Location Map.

The asbestos, lead paint, and PCB caulk survey was conducted on May 19 and June 16, 2025. The intent of this survey was to determine the presence and quantity of asbestos containing materials. The asbestos survey was conducted in accordance with New York State Department of Labor (NYSDOL) Industrial Code Rule (ICR) 56 by certified inspectors from Lu Engineers. A copy of Lu Engineers' license and inspectors' certifications can be found in Attachment A.

2.1 Records Review

Record drawings of the structure, provided by TYLin Group, were available for review prior to conducting the asbestos survey. The record drawings did not identify any additional suspect asbestos containing materials beyond those observed during the site inspection.

3.0 INSPECTION PROCEDURES

3.1 Asbestos

One of the purposes of the visual inspection was to identify homogeneous areas of suspect asbestos containing materials that exist throughout the area of inspection, as defined in the scope of work. The Asbestos Hazard Emergency Response Act (AHERA) regulations define a homogeneous area as, "… an area of surfacing material, thermal insulation material, or miscellaneous material that is uniform in color and texture." Furthermore, homogeneous areas should consist of the same age and application.

The inspectors identified homogeneous materials that were present on the structure. The suspect asbestos materials were given a homogeneous identification number based on color and texture of the material. A list of homogeneous material numbers of the materials encountered is included with the Asbestos Result Table in Section 4.

The suspect asbestos containing materials were extracted using various hand tools, containerized, and labeled with unique sample identification numbers. Samples were submitted to the laboratory using standard chain of custody protocols.

Paradigm Environmental Services was the New York State Department of Health (NYSDOH) Environmental Laboratory Approval Program (ELAP) approved laboratory used for analysis. A copy of Paradigm's credentials is located in Attachment A.

Friable samples were analyzed using NYS ELAP Method 198.1, Polarized Light Microscopy (PLM). Non-friable organically bound (NOB) samples were analyzed using NYS ELAP Method 198.6 (PLM) and, if found to be negative, NYS ELAP Method 198.4, Transmission Electron Microscopy (TEM). All samples, except structural steel and masonry coatings, were analyzed via stop positive protocols meaning that once a positive sample of a series was found, the other samples were not analyzed.

Twenty-one (21) bulk samples were collected from the building as part of this project.

The investigation was limited to areas of the bridge that could be accessed from the bridge itself or reached from the ground and/or by use of a ladder from below. The approximate location of bulk samples is indicated on Figure 2, Bulk Sample Location Plan.

The laboratory analytical reports, including chain of custody forms, are included in Attachment C.

3.2 Lead Paint

Lu Engineers conducted a lead-based paint inspection for this project on June 16, 2025.

A total of one (1) bulk paint sample was collected from painted steel. The sample location is indicated on the Sample Location Plan (Figure 2). The sample number indicated on the plans corresponds to the sample numbers on the laboratory analytical report and the chain of custody which are included in Attachment C.

The samples were submitted to Paradigm Environmental Services, Inc., an ELAP-certified laboratory. A copy of Paradigm's laboratory credentials is included in Attachment A. Results of Lu Engineer's visual assessment are included in Section 3.2.

3.3 PCB Caulk

Three (3) suspect PCB caulks were sampled during Lu Engineers' site investigation. The sample locations are indicated on the Sample Location Plan (Figure 2). The sample number indicated on the plans corresponds to the sample numbers on the laboratory analytical report and the chain of custody which are included in Attachment C.

The samples were submitted to Paradigm Environmental Services, Inc, an NYSDOH certified laboratory. Bulk PCB samples were analyzed using EPA Method 8082. Paradigm's laboratory credentials are included in Attachment A.

4.0 ANALYTICAL RESULTS

4.1 Asbestos Results

As defined by the New York State Department of Labor (NYSDOL) 12 NYCRR 56, a sample is considered to be asbestos containing if it contains greater than 1% asbestos by weight based on laboratory analysis. The Occupational Safety and Health Administration (OSHA) 29 CFR 1926.1101 requires specific work practices and prohibitions if asbestos in any quantity, i.e., trace <1%, is present in potentially impacted materials.

A list of Homogeneous Areas (HA) identified for the structure surveyed is included below. The **bold** and ***italicized*** HA description indicates that the material is positive, based on the sample results.

Asbestos Analytical Results				
Sample Number	**Location**	**Description**	**Condition**	**Asbestos Content**
1-A	Southwest Corner of Bridge on Wood Rail	Tan Wood Sealer	Poor	NAD
1-B	Northeast Corner of Bridge on Wood Rail	Tan Wood Sealer	Poor	NAD
2-A	Southeast Corner of Bridge on Screen Support	Grey Paint	Fair	NAD
2-B	South Side of Bride on Vertical Support	Grey Paint	Fair	NAD
3-A	Southwest Corner of Bridge on Screen	Red Stone	Good	NAD
3-B	Southeast Corner of Bridge on Screen	Red Stone	Good	NAD
4-A	Southeast Corner of Bridge in Sidewalk Joint	Light Grey Caulk	Good	NAD
4-B	Northeast Corner of Bridge in Sidewalk Joint	Light Grey Caulk	Good	NAD
5-A	Southeast Corner of Bridge in Sidewalk Joint	Dark Grey Caulk	Good	NAD
5-B	Southeast Corner of Bridge in Sidewalk Joint	Dark Grey Caulk	Good	NAD
6-A	Northeast Corner of Bridge in Stone Veneer	Grey Grout	Good	NAD
6-B	Northeast Corner of Bridge in Stone Veneer	Grey Grout	Good	NAD
7-A	Northeast Corner of Bridge on Stainless Steel Base	Grey Sealer	Good	NAD
7-B	Northeast Corner of Bridge on Stainless Steel Base	Grey Sealer	Good	NAD
8-A	Northeast Coner of Bridge in Horizontal Joint between Sidewalk and Stone	Grey Joint Caulk	Good	NAD
8-B	Northeast Coner of Bridge in Horizontal Joint between Sidewalk and Stone	Grey Joint Caulk	Good	NAD
9-A	Northeast Corner of Bridge in Stone Veneer	Grey Grout Patch	Good	NAD

Asbestos Analytical Results				
Sample Number	**Location**	**Description**	**Condition**	**Asbestos Content**
9-B	Northeast Corner of Bridge in Stone Veneer	Grey Grout Patch	Good	NAD
10-A	Underside of Bridge, Lower Level Retaining Wall	Grey Parging	Good	NAD
10-B	Underside of Bridge, Lower Level Retaining Wall	Grey Parging	Good	NAD
10-C	Underside of Bridge, Lower Level Retaining Wall	Grey Parging	Good	NAD

NAD – No Asbestos Detected

4.2 Lead Paint Results

According to the United States Environmental Protection Agency (EPA), paint is considered lead-based if the concentration is equal to or greater than 0.5% by weight.

According to the Occupational Safety and Health Administration (OSHA), lead means metallic lead, all inorganic lead compounds, and organic soaps with any concentrations of lead. Therefore, all samples collected are considered lead containing per OSHA standards.

Lu Engineers collected one (1) bulk lead paint sample from structural steel. The samples were submitted to Paradigm Environmental Services, Inc., an ELAP-certified laboratory. A list of the areas sampled for this survey is included below. The **bold** and ***italicized*** description indicates that the material is positive for lead per EPA standards, based on the sample results.

Sample No.	Description	Lead Conc. (% by Wt.)
LP-1	Grey Paint	<0.00476

4.3 PCB Caulk Results

EPA defines PCB bulk waste, “as waste derived from manufactured products containing PCBs in a non-liquid state, at any concentration where the concentration at the time of designation for disposal was > 50 ppm PCBs”. Solid wastes containing 50 ppm by weight or greater are listed hazardous wastes in New York State (6 NYCRR Part 371.4(C)).

The following table summarizes the PCB sampling results. A ***bold and italicized*** sample number indicates that the building material has a PCB concentration that is equal to or greater than 50 ppm based on analytical results. PCB content is the sum of the nine (9) Aroclors as shown on the Analytical Report in Attachment C.

Sample No.	Description	PCB Content (ppm)	Asbestos Containing
PCB-4	Light Grey Caulk	33.3	No
PCB-5	Dark Grey Caulk	35.19	No
PCB-8	Dark Grey Caulk	29.61	No

5.0 ASBESTOS MATERIALS AND APPROXIMATE QUANTITIES

5.1 Known Asbestos Containing Materials

There were no asbestos containing materials identified as part of this survey.

5.2 Inaccessible/Assumed Asbestos Containing Materials

No inaccessible/assumed ACMs were identified.

6.0 LIMITATIONS OF THE INVESTIGATION

This report has been prepared for the exclusive use of the client. This report relies on information supplied by the owner, employees, tenants, and other sources of information. Lu Engineers has prepared this report in accordance with generally accepted practices within the industry.

This report identifies and assesses the location, quantity, and condition of materials that were accessible and visible at the time of sampling. The condition of the suspect materials is based on the actual inspection date. The quantities indicated in the report are based on the visual inspection and are only estimates of the material present.

This survey is not intended to be an abatement design. Per NYCRR 56, an abatement design must be completed by a certified Project Designer.

No investigation was conducted by Lu Engineers to determine the presence of underground utilities on or in the immediate vicinity of the site. Utility record drawings were not requested from the utility owner.

7.0 RECOMMENDATIONS

Asbestos containing materials, lead paint, and PCB caulks have not been identified as part of this assessment as shown in Section 4.0.

In accordance with 12 NYCRR 56, no renovation or demolition work shall be commenced by any owner or agent prior to completion of asbestos abatement performed by a licensed asbestos abatement contractor. NYSDOL regulations require that the asbestos containing material that will be disturbed by the renovation or demolition be removed prior to any disturbance of the material.

If suspect asbestos containing materials not identified in this asbestos survey report are discovered during the demolition and/or renovation process; it is required that the presence, location, and quantity of newly discovered material, be conveyed within twenty-four (24) hours of discovery to the building owner or their representative. All activities must cease in the area where the presumed asbestos containing material or suspect miscellaneous ACM is found, until a licensed asbestos contractor appropriately assesses and manages the discovered materials.

Certification

Lu Engineers certifies the accuracy of this report, to the best of our knowledge, based on the information collected as described in this report.

Figures

Lu Engineers
ENVIRONMENTAL • TRANSPORTATION • CIVIL

ASBESTOS, LEAD PAINT, AND PCB CAULK SURVEY

CORNELL UNIVERSITY – HUMAN ECOLOGY PEDESTRIAN BRIDGE
37 FOREST HOME DRIVE
ITHACA, TOMPKINS COUNTY, NEW YORK 14853







NEW YORK
QUADRANGLE LOCATION

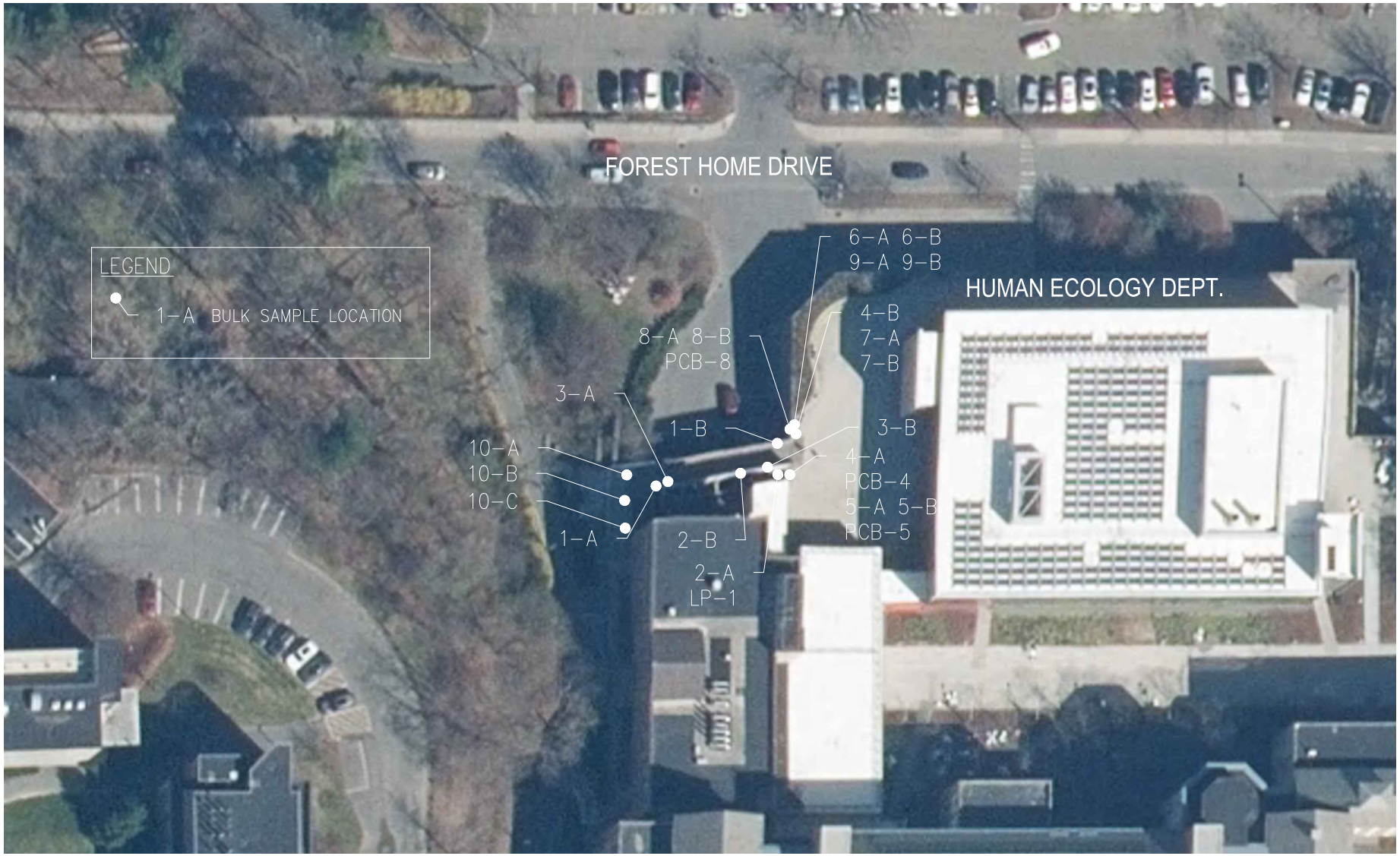
Lu Engineers
ENVIRONMENTAL • TRANSPORTATION • CIVIL

FIGURE 1. SITE LOCATION MAP

CORNELL UNIVERSITY
HUMAN ECOLOGY BUILDING – PEDESTRIAN BRIDGE
CITY OF ITHACA | TOMPKINS COUNTY | NEW YORK

DATE:	JUNE 2025
SCALE:	1" = 2,000'
PROJECT NO:	50118-01

MAP SOURCE: NYS DOT RASTER QUADRANGLE;
ITHACA EAST AND ITHACA WEST, TOMPKINS COUNTY
DOT EDITION DATE: 1996 / USGS CONTOUR DATE:1969



Lu Engineers
ENVIRONMENTAL • TRANSPORTATION • CIVIL

N

FIGURE 2
BULK SAMPLE LOCATION PLAN

CORNELL UNIVERSITY HUMAN ECOLOGY BUILDING
PEDESTRIAN BRIDGE
CITY OF ITHACA | TOMPKINS COUNTY | NEW YORK

DATE:	JUNE 2025
SCALE:	N.T.S.
DRAWN BY:	EMC
CHECKED BY:	MCS
LU PROJECT NUMBER:	50118-01

ATTACHMENT A

License and Certifications

Lu Engineers
ENVIRONMENTAL • TRANSPORTATION • CIVIL

ASBESTOS, LEAD PAINT, AND PCB CAULK SURVEY

CORNELL UNIVERSITY – HUMAN ECOLOGY PEDESTRIAN BRIDGE
37 FOREST HOME DRIVE
ITHACA, TOMPKINS COUNTY, NEW YORK 14853

WE ARE YOUR DOL

NEW YORK STATE | Department of Labor

DIVISION OF SAFETY & HEALTH LICENSE AND CERTIFICATE UNIT, STATE OFFICE CAMPUS, BLDG. 12, ALBANY, NY 12226

ASBESTOS HANDLING LICENSE

Joseph C. Lu Engineering, P.C.
280 E. Broad Street, Suite 170, Rochester, NY, 14604

License Number: 29286
License Class: RESTRICTED
Date of Issue: 05/01/2024
Expiration Date: 05/31/2025
Duly Authorized Representative: Mitchell Smith

This license has been issued in accordance with applicable provisions of Article 30 of the Labor Law of New York State and of the New York State Codes, Rules and Regulations (12 NYCRR Part 56). It is subject to suspension or revocation for a (1) serious violation of state, federal or local laws with regard to the conduct of an asbestos project, or (2) demonstrated lack of responsibility in the conduct of any job involving asbestos or asbestos material.

This license is valid only for the contractor named above and this license or a photocopy must be prominently displayed at the asbestos project worksite. This license verifies that all persons employed by the licensee on an asbestos project in New York State have been issued an Asbestos Certificate, appropriate for the type of work they perform, by the New York State Department of Labor.

Amy Phillips, Director
For the Commissioner of Labor

WE ARE YOUR DOL

NEW YORK STATE | Department of Labor

DIVISION OF SAFETY & HEALTH LICENSE AND CERTIFICATE UNIT, STATE OFFICE CAMPUS, BLDG. 12, ALBANY, NY 12226

ASBESTOS HANDLING LICENSE

Joseph C. Lu Engineering, P.C.
280 E. Broad Street, Suite 170, Rochester, NY, 14604

License Number: 29286
License Class: RESTRICTED
Date of Issue: 05/21/2025
Expiration Date: 05/31/2026
Duly Authorized Representative: Mitchell Smith

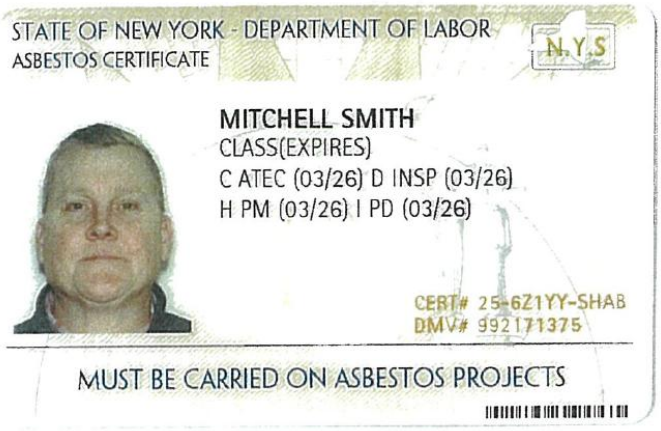
This license has been issued in accordance with applicable provisions of Article 30 of the Labor Law of New York State and of the New York State Codes, Rules and Regulations (12 NYCRR Part 56). It is subject to suspension or revocation for a (1) serious violation of state, federal or local laws with regard to the conduct of an asbestos project, or (2) demonstrated lack of responsibility in the conduct of any job involving asbestos or asbestos material.

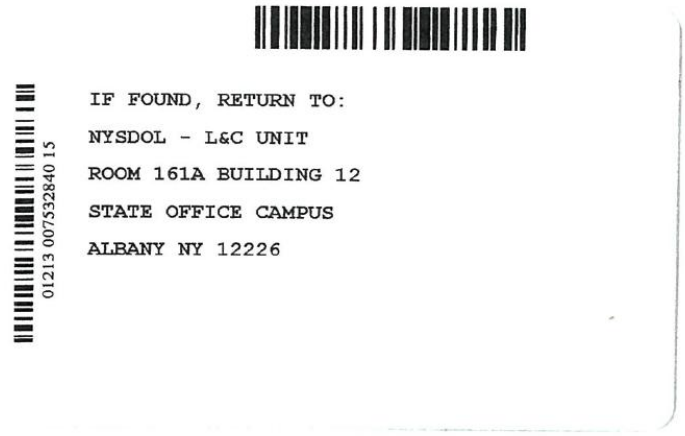
This license is valid only for the contractor named above and this license or a photocopy must be prominently displayed at the asbestos project worksite. This license verifies that all persons employed by the licensee on an asbestos project in New York State have been issued an Asbestos Certificate, appropriate for the type of work they perform, by the New York State Department of Labor.

Amy Phillips, Director
For the Commissioner of Labor

Lu Engineers
ENVIRONMENTAL • TRANSPORTATION • CIVIL

280 East Broad Street, Suite 170
Rochester, New York 14604

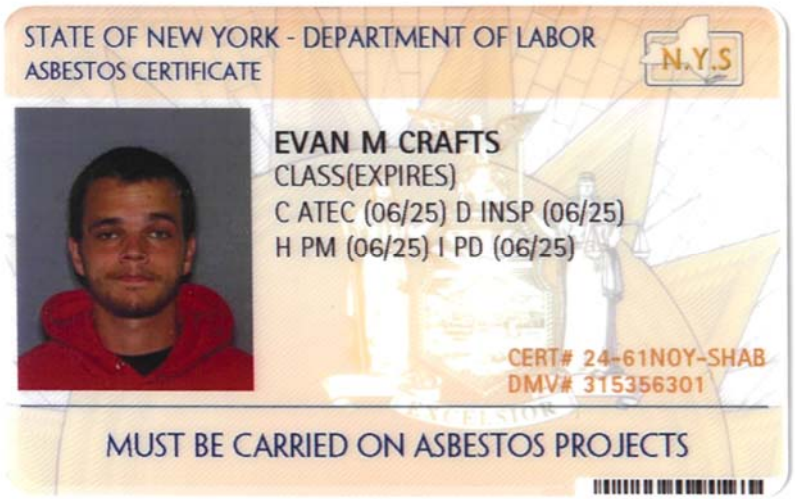


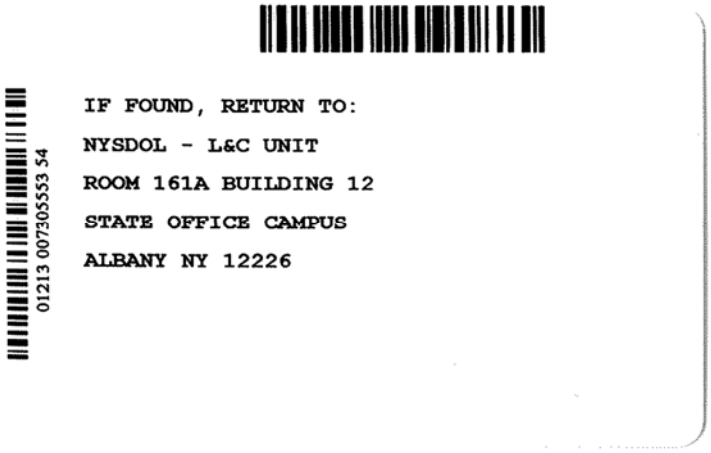


Mitchell C. Smith
I – Project Designer
D - Inspector
C - Air Technician
H- Project Monitor

Lu Engineers
ENVIRONMENTAL • TRANSPORTATION • CIVIL

280 E. Broad Street, Suite 170
Rochester, New York 14604





EVAN CRAFTS
C – Air Sampling Technician
D – Inspector
H – Project Monitor
I – Project Designer

STATE OF NEW YORK - DEPARTMENT OF LABOR
ASBESTOS CERTIFICATE

N.Y.S



EDWIN GONZALEZ
CLASS(EXPIRES)
C ATEC (08/25) H PM (08/25)
D INSP (08/25)

CERT# 24-61D4S-SHAB
DMV# 468755772

MUST BE CARRIED ON ASBESTOS PROJECTS

01213 007307734 94

IF FOUND, RETURN TO:
NYSDOL - L&C UNIT
ROOM 161A BUILDING 12
STATE OFFICE CAMPUS
ALBANY NY 12226

NEW YORK STATE DEPARTMENT OF HEALTH
WADSWORTH CENTER

Expires 12:01 AM April 01, 2026
Issued April 01, 2025

CERTIFICATE OF APPROVAL FOR LABORATORY SERVICE

Issued in accordance with and pursuant to section 502 Public Health Law of New York State

MR. STEVE DEVITO
PARADIGM ENVIRONMENTAL SERVICES INC
179 LAKE AVENUE
ROCHESTER, NY 14608

NY Lab Id No: 10958

is hereby APPROVED as an Environmental Laboratory for the category
ENVIRONMENTAL ANALYSES SOLID AND HAZARDOUS WASTE
All approved subcategories and/or analytes are listed below:

Miscellaneous

Asbestos in Friable Material	Item 198.1 of Manual
	EPA 600/M4/82/020
Asbestos in Non-Friable Material-PLM	Item 198.6 of Manual (NOB by PLM)
Asbestos in Non-Friable Material-TEM	Item 198.4 of Manual
Lead in Dust Wipes	EPA 6010C
Lead in Paint	EPA 6010C

Sample Preparation Methods

	EPA 3050B

Serial No.: 70337

Property of the New York State Department of Health. Certificates are valid only at the address shown and must be conspicuously posted by the laboratory. Continued accreditation depends on the laboratory's successful ongoing participation in the Program. Consumers may verify a laboratory's accreditation status online at https://apps.health.ny.gov/pubdoh/applinks/wc/elappublicweb/, by phone (518) 485-5570 or by email to elap@health.ny.gov.

NEW YORK STATE DEPARTMENT OF HEALTH
WADSWORTH CENTER

Expires 12:01 AM April 01, 2026
Issued April 01, 2025

CERTIFICATE OF APPROVAL FOR LABORATORY SERVICE

Issued in accordance with and pursuant to section 502 Public Health Law of New York State

MR. STEVE DEVITO
PARADIGM ENVIRONMENTAL SERVICES INC
179 LAKE AVENUE
ROCHESTER, NY 14608

NY Lab Id No: 10958

is hereby APPROVED as an Environmental Laboratory for the category
ENVIRONMENTAL ANALYSES AIR AND EMISSIONS
All approved subcategories and/or analytes are listed below:

Metals I	
Lead, Total	NIOSH 7303
Miscellaneous	
Asbestos	40 CFR 763 APX A No. III
	NIOSH 7402
Fibers	NIOSH 7400 A RULES
Polychlorinated Biphenyls	
PCBs and Aroclors	NIOSH 5503

Serial No.: 70339

Property of the New York State Department of Health. Certificates are valid only at the address shown and must be conspicuously posted by the laboratory. Continued accreditation depends on the laboratory's successful ongoing participation in the Program. Consumers may verify a laboratory's accreditation status online at https://apps.health.ny.gov/pubdoh/applinks/wc/elappublicweb/, by phone (518) 485-5570 or by email to elap@health.ny.gov.

ATTACHMENT B

Asbestos Survey Fact Sheet

Lu Engineers
ENVIRONMENTAL • TRANSPORTATION • CIVIL

ASBESTOS, LEAD PAINT, AND PCB CAULK SURVEY

CORNELL UNIVERSITY – HUMAN ECOLOGY PEDESTRIAN BRIDGE
37 FOREST HOME DRIVE
ITHACA, TOMPKINS COUNTY, NEW YORK 14853

Asbestos Survey Fact Sheet

Name and Address of Building/Structure:
Cornell University – Human Ecology Pedestrian Bridge
37 Forest Home Drive
City of Ithaca, Tompkins County, New York 14853

Name and Address of Building/Structure Owner:
Cornell University
410 Thurston Avenue
City of Ithaca, Tompkins County, New York 14853

Name and Address of Owner's Agent:
Lu Engineers
280 East Broad Street, Suite 170
Rochester, New York 14604

Name of the Firm & Persons Conducting the Survey:
Lu Engineers
Mitch Smith
Evan Crafts

Date Survey Was Conducted:
May 19, 2025
June 16, 2025

List of Homogeneous Areas
(Items in Bold Confirmed ACM)

Tan Wood Sealer
Grey Paint
Red Stone
Light Grey Caulk
Dark Grey Caulk
Grey Grout
Grey Sealer
Grey Joint Caulk
Grey Grout
Grey Parging

ATTACHMENT C

Analytical Reports and Chain of Custody Forms

Lu Engineers
ENVIRONMENTAL • TRANSPORTATION • CIVIL

ASBESTOS, LEAD PAINT, AND PCB CAULK SURVEY

CORNELL UNIVERSITY – HUMAN ECOLOGY PEDESTRIAN BRIDGE
37 FOREST HOME DRIVE
ITHACA, TOMPKINS COUNTY, NEW YORK 14853

PARADIGM
ENVIRONMENTAL SERVICES

179 Lake Avenue, Rochester, NY 14608 Office: (585) 647-2530

PLM & TEM BULK ASBESTOS ANALYSIS REPORT
via NYSDOH ELAP Method 198.1,198.4 and 198.6

Client: Lu Engineers
Location: Cornell Human Ecology Pedestrian Bridge
Forest Home Drive, Cornell University, Ithaca, New York
Sample Date: 5/19/2025

Job No: 4411-25

Client ID	Lab ID	Sampling Location	Description	PLM Asbestos Fibers Type & Percentage	PLM Total Asbestos	NOB	TEM Asbestos Fibers Type & Percentage	TEM Total Asbestos	PLM Non-Asbestos Fibers Type & Percentage	Non-Fibrous Matrix Material %
1-A	41395	Southwest Corner of Bridge on Wood Rail	Brown Wood Sealer	Inconclusive No Asbestos Detected	0%	√	None Detected	<1.0%	None Detected	100%
1-B	41396	Northeast Corner of Bridge on Wood Rail	Brown Wood Sealer	Inconclusive No Asbestos Detected	0%	√	None Detected	<1.0%	None Detected	100%
2-A	41397	Southeast Screen Support	Gray Paint	Inconclusive No Asbestos Detected	0%	√	None Detected	<1.0%	None Detected	100%
2-B	41398	South Side Vertical Support	Gray Paint	Inconclusive No Asbestos Detected	0%	√	None Detected	<1.0%	None Detected	100%
3-A	41399	Southwest Corner Screen	Red Stone	None Detected	0%		Not Required	N/A	None Detected	100%
3-B	41400	Southeast Corner Screen	Red Stone	None Detected	0%		Not Required	N/A	None Detected	100%
4-A	41401	Southeast Corner Sidewalk Joint	Light Gray Caulk	Inconclusive No Asbestos Detected	0%	√	None Detected	<1.0%	None Detected	100%
4-B	41402	Northeast Corner Sidewalk Joint	Light Gray Caulk	Inconclusive No Asbestos Detected	0%	√	None Detected	<1.0%	None Detected	100%
5-A	41403	Southeast Corner Sidewalk Joint	Dark Gray Caulk	Inconclusive No Asbestos Detected	0%	√	None Detected	<1.0%	None Detected	100%
5-B	41404	Southeast Corner Sidewalk Joint	Dark Gray Caulk	Inconclusive No Asbestos Detected	0%	√	None Detected	<1.0%	None Detected	100%

KEY TO NOB COLUMN SYMBOLS
No Symbol in the NOB column denotes sample analyzed by ELAP Method 198.1 (PLM).
√ NOB (non-friable organically bound) denotes material analyzed by ELAP Method 198.6 (PLM) and 198.4 (TEM) as noted.
V̄ denotes material analyzed by ELAP Method 198.6 (PLM) per NYSDOH. This Method does not remove vermiculite and may underestimate the level of asbestos present in a sample containing greater than 10% vermiculite.
 # denotes material analyzed by ELAP Method 198.6 (PLM) and 198.4 (TEM) as noted.
X denotes sample prepped only by ELAP Method 198.6.
**** Polarized-light microscopy is not consistently reliable in detecting asbestos in floor coverings and similar non-friable organically bound materials. Quantitative transmission electron microscopy is currently the only method that can be used to determine if this material can be considered or treated as non-asbestos containing.**

PLM Bulk Asbestos Analysis by New York State Department of Health, ELAP Method 198.1 ,198.4 and 198.6 ("Polarized Light Microscopy and Transmission Electron Microscopy Methods for Identifying and Quantitating Asbestos in Bulk Samples and in Non-Friable Organically Bound Bulk Samples.")or EPA 600/M4-82-020 per 40 CFR 763 (NVLAP Lab Code 200530-0).

NVLAP TESTING
Lab Code 200530-0 for PLM Analysis

ELAP ID: 10958

Microscope: Olympus BH-2 #211874
PLM Analyst: F. Weinman
Date of Analysis: 5/27/2025

Microscope: JEOL-100CX-II #EM-156094-87
TEM Analyst: F. Weinman
Date of Analysis: 5/30/2025

Laboratory Results Approved By:
Asbestos Technical Director or Designee
Fernanda Weinman

Paradigm Environmental Services, Inc. is not responsible for the data supplied by an independent inspector. National Institute of Standards and Technology Accreditation requirements mandate that this report must not be reproduced except in full without the approval of the laboratory. This PLM report relates ONLY to the items tested. This report must not be used to claim product endorsement by NVLAP or any agency of the U.S. Government. Quality control data (including 95% confidence limits and/or laboratory and analysts' precision) is available upon request. All samples that were analyzed were received in acceptable condition.

PARADIGM
ENVIRONMENTAL SERVICES

179 Lake Avenue, Rochester, NY 14608 Office: (585) 647-2530

PLM & TEM BULK ASBESTOS ANALYSIS REPORT
via NYSDOH ELAP Method 198.1,198.4 and 198.6

Client: Lu Engineers
Location: Cornell Human Ecology Pedestrian Bridge
Forest Home Drive, Cornell University, Ithaca, New York
Sample Date: 5/19/2025

Job No: 4411-25

Client ID	Lab ID	Sampling Location	Description	PLM Asbestos Fibers Type & Percentage	PLM Total Asbestos	NOB	TEM Asbestos Fibers Type & Percentage	TEM Total Asbestos	PLM Non-Asbestos Fibers Type & Percentage	Non-Fibrous Matrix Material %
6-A	41405	Northeast Stone Veneer	Gray Grout	None Detected	0%		Not Required	N/A	None Detected	100%
6-B	41406	Northeast Stone Veneer	Gray Grout	None Detected	0%		Not Required	N/A	None Detected	100%
7-A	41407	Northeast Stainless Railing Base	Gray Sealer	Inconclusive No Asbestos Detected	0%	√	None Detected	<1.0%	None Detected	100%
7-B	41408	Northeast Stainless Railing Base	Gray Sealer	Inconclusive No Asbestos Detected	0%	√	None Detected	<1.0%	None Detected	100%
8-A	41409	Northeast Bridge Sidewalk/Stone Horizontal Joint	Gray Joint Caulk	Inconclusive No Asbestos Detected	0%	√	None Detected	<1.0%	None Detected	100%
8-B	41410	Northeast Bridge Sidewalk/Stone Horizontal Joint	Gray Joint Caulk	Inconclusive No Asbestos Detected	0%	√	None Detected	<1.0%	None Detected	100%
9-A	41411	Northeast Stone Veneer Patch	Gray Grout	None Detected	0%		Not Required	N/A	None Detected	100%
9-B	41412	Northeast Stone Veneer Patch	Gray Grout	None Detected	0%		Not Required	N/A	None Detected	100%
10-A	41413	Lower Level Retaining Wall	Gray Parging	None Detected	0%		Not Required	N/A	None Detected	100%
10-B	41414	Lower Level Retaining Wall	Gray Parging	None Detected	0%		Not Required	N/A	None Detected	100%

KEY TO NOB COLUMN SYMBOLS
No Symbol in the NOB column denotes sample analyzed by ELAP Method 198.1 (PLM).
√ NOB (non-friable organically bound) denotes material analyzed by ELAP Method 198.6 (PLM) and 198.4 (TEM) as noted.
V̈ denotes material analyzed by ELAP Method 198.6 (PLM) per NYSDOH. This Method does not remove vermiculite and may underestimate the level of asbestos present in a sample containing greater than 10% vermiculite.
 # denotes material analyzed by ELAP Method 198.6 (PLM) and 198.4 (TEM) as noted.
X denotes sample prepped only by ELAP Method 198.6.
**** Polarized-light microscopy is not consistently reliable in detecting asbestos in floor coverings and similar non-friable organically bound materials. Quantitative transmission electron microscopy is currently the only method that can be used to determine if this material can be considered or treated as non-asbestos containing.**

PLM Bulk Asbestos Analysis by New York State Department of Health, ELAP Method 198.1 ,198.4 and 198.6 ("Polarized Light Microscopy and Transmission Electron Microscopy Methods for Identifying and Quantitating Asbestos in Bulk Samples and in Non-Friable Organically Bound Bulk Samples.")or EPA 600/M4-82-020 per 40 CFR 763 (NVLAP Lab Code 200530-0).

NVLAP TESTING
Lab Code 200530-0 for PLM Analysis

ELAP ID: 10958

Microscope: Olympus BH-2 #211874
PLM Analyst: F. Weinman
Date of Analysis: 5/27/2025

Microscope: JEOL-100CX-II #EM-156094-87
TEM Analyst: F. Weinman
Date of Analysis: 5/30/2025

Laboratory Results Approved By:
Asbestos Technical Director or Designee
Fernanda Weinman

Paradigm Environmental Services, Inc. is not responsible for the data supplied by an independent inspector. National Institute of Standards and Technology Accreditation requirements mandate that this report must not be reproduced except in full without the approval of the laboratory. This PLM report relates ONLY to the items tested. This report must not be used to claim product endorsement by NVLAP or any agency of the U.S. Government. Quality control data (including 95% confidence limits and/or laboratory and analysts' precision) is available upon request. All samples that were analyzed were received in acceptable condition.

PARADIGM
ENVIRONMENTAL SERVICES

179 Lake Avenue, Rochester, NY 14608 Office: (585) 647-2530

PLM & TEM BULK ASBESTOS ANALYSIS REPORT
via NYSDOH ELAP Method 198.1,198.4 and 198.6

Client: Lu Engineers **Job No:** 4411-25

Location: Cornell Human Ecology Pedestrian Bridge
Forest Home Drive, Cornell University, Ithaca, New York

Sample Date: 5/19/2025

Client ID	Lab ID	Sampling Location	Description	PLM Asbestos Fibers Type & Percentage	PLM Total Asbestos	NOB	TEM Asbestos Fibers Type & Percentage	TEM Total Asbestos	PLM Non-Asbestos Fibers Type & Percentage	Non-Fibrous Matrix Material %
10-C	41415	Lower Level Retaining Wall	Gray Parging	None Detected	0%		Not Required	N/A	None Detected	100%

KEY TO NOB COLUMN SYMBOLS
No Symbol in the NOB column denotes sample analyzed by ELAP Method 198.1 (PLM).
√ NOB (non-friable organically bound) denotes material analyzed by ELAP Method 198.6 (PLM) and 198.4 (TEM) as noted.
Ṽ denotes material analyzed by ELAP Method 198.6 (PLM) per NYSDOH. This Method does not remove vermiculite and may underestimate the level of asbestos present in a sample containing greater than 10% vermiculite.
 # denotes material analyzed by ELAP Method 198.6 (PLM) and 198.4 (TEM) as noted.
X denotes sample prepped only by ELAP Method 198.6.
**** Polarized-light microscopy is not consistently reliable in detecting asbestos in floor coverings and similar non-friable organically bound materials. Quantitative transmission electron microscopy is currently the only method that can be used to determine if this material can be considered or treated as non-asbestos containing.**

PLM Bulk Asbestos Analysis by New York State Department of Health, ELAP Method 198.1 ,198.4 and 198.6 ("Polarized Light Microscopy and Transmission Electron Microscopy Methods for Identifying and Quantitating Asbestos in Bulk Samples and in Non-Friable Organically Bound Bulk Samples.")or EPA 600/M4-82-020 per 40 CFR 763 (NVLAP Lab Code 200530-0).

NVLAP TESTING
Lab Code 200530-0 for PLM Analysis

ELAP ID: 10958

Microscope: Olympus BH-2 #211874
PLM Analyst: T. Bush
Date of Analysis: 5/23/2025

Microscope: JEOL-100CX-II #EM-156094-87
TEM Analyst: N/A
Date of Analysis: N/A

Laboratory Results Approved By: Fernanda Weinman
Asbestos Technical Director or Designee

Paradigm Environmental Services, Inc. is not responsible for the data supplied by an independent inspector. National Institute of Standards and Technology Accreditation requirements mandate that this report must not be reproduced except in full without the approval of the laboratory. This PLM report relates ONLY to the items tested. This report must not be used to claim product endorsement by NVLAP or any agency of the U.S. Government. Quality control data (including 95% confidence limits and/or laboratory and analysts' precision) is available upon request. All samples that were analyzed were received in acceptable condition.

Bulk Sample Chain of Custody

4/11-25 1 of 3

Lu Engineers
ENVIRONMENTAL • TRANSPORTATION • CIVIL

Project Name: Cornell Human Ecology Ped. Bridge	**Lu Project #~~50622~~** 50118.01 4 of 6 Cs
Site Address: Forest Home Drive, Cornell Univ., Ithaca, NY	**Laboratory Name:** Paradigm Environmental Services
Results to: **Lu Engineers** **280 East Broad Street, Suite 170** **Rochester, NY 14604** Email: msmith@luengineers.com, ecrafts@luengineers.com,	**Sample Type** ☒ NYS ELAP PLM/TEM ☐ PLM Only ☐ TEM Only
Laboratory Address: 179 Lake Avenue Rochester, New York	
Turn Around Time 5-30 ☐ Immediate ☐ 12 HR ☐ 24 HR ☐ 48 HR ☐ 72 HR ☑ 5 Day	Comments: **POSITIVE STOP**

	FIELD ID	SAMPLE LOCATION	MATERIAL	NOTES
41395	1-A	Southwest corner of bridge on Wood Rail	Wood Sealer	
396	1-B	Northeast corner of bridge on Wood Rail	Wood Sealer	
397	2-A	Southeast screen support	Grey Paint	
398	2-B	South side vertical support	Grey Paint	
399	3-A	Southwest corner screen	Red Stone	
400	3-B	Southeast corner screen	Red Stone	
401	4-A	Southeast corner sidewalk joint	Light Grey Caulk	
402	4-B	Northeast corner sidewalk joint	Light Grey Caulk	
403	5-A	Southeast corner sidewalk joint	Dark Grey Caulk	
404	5-B	Southeast corner sidewalk joint	Dark Grey Caulk	

Date Sampled: 5.19.Toz

Inspector: EC/MC

Relinquished By _____ Date/Time 4/22/25 12:00

Received By Lauryn Burgess Date/Time 5-22-25 12:27

Bulk Sample Chain of Custody

4411-25 2of3

Lu Engineers
ENVIRONMENTAL • TRANSPORTATION • CIVIL

Project Name: Cornell Human Ecology Ped. Bridge	**Lu Project #~~50622~~** 50118.01 5of6 ≈
Site Address: Forest Home Drive, Cornell Univ., Ithaca, NY	**Laboratory Name:** Paradigm Environmental Services
Results to: **Lu Engineers** **280 East Broad Street, Suite 170** **Rochester, NY 14604**	**Sample Type** ☒ NYS ELAP PLM/TEM ☐ PLM Only ☐ TEM Only
Email: msmith@luengineers.com, ecrafts@luengineers.com	**Laboratory Address:** 179 Lake Avenue Rochester, New York
Turn Around Time 5-30 ☐ Immediate ☐ 12 HR ☐ 24 HR ☐ 48 HR ☐ 72 HR ☑ 5 Day	Comments: **POSITIVE STOP**

	FIELD ID	SAMPLE LOCATION	MATERIAL	NOTES
41405	6-A	Northeast Stone Veneer	Grout	
406	6-B	Northeast Stone Veneer	Grout	
407	7-A	Northeast stainless railing base	Grey Sealer	
408	7-B	Northeast stainless railing base	Grey Sealer	
409	8-A	Northeast Bridge sidewalk/stone	Grey Joint Caulk	Horizontal Joint
410	8-B	Northeast Bridge sidewalk/stone	Grey Joint Caulk	Horizontal Joint
411	9-A	Northeast Stone Veneer	Grey Grout	Patch
412	9-B	Northeast Stone Veneer	Grey Grout	Patch
413	10-A	Lower level retaining wall	Grey Parging	
414	10-B	Lower level retaining wall	Grey Parging	

Date Sampled: 5.19.2025

Inspector: EC / MK

Relinquished By _____ Date/Time 5/22/25 12:00

Received By Cameryn Burgess Date/Time 5-22-25 12:27

Bulk Sample Chain of Custody

4/11-25 3 of 3

Lu Engineers
ENVIRONMENTAL • TRANSPORTATION • CIVIL

Project Name: Cornell Human Ecology Ped. Bridge	**Lu Project #~~50622~~** 50118-01 6 of 6
Site Address: Forest Home Drive, Cornell Univ., Ithaca, NY	**Laboratory Name:** Paradigm Environmental Services
Results to: **Lu Engineers** **280 East Broad Street, Suite 170** **Rochester, NY 14604** Email: msmith@luengineers.com, ecrafts@luengineers.com	**Sample Type** ☒ NYS ELAP PLM/TEM ☐ PLM Only ☐ TEM Only
	Laboratory Address: 179 Lake Avenue Rochester, New York
	Turn Around Time 5-30 ☐ Immediate ☐ 12 HR ☐ 24 HR ☐ 48 HR ☐ 72 HR ☑ 5 Day
	Comments: **POSITIVE STOP**

FIELD ID	SAMPLE LOCATION	MATERIAL	NOTES
4/14/15 10-C	Lower level retaining wall	Grey Parging	

Date Sampled: 5.19.Tote

Inspector: EC/MK

Relinquished By _____ Date/Time 5/22/25 12:00

Received By Carolyn Burgess Date/Time 5.22.25 12:27

PARADIGM
ENVIRONMENTAL SERVICES, INC

Analytical Report For

Lu Engineers, Inc.

For Lab Project ID

252695

Referencing

50118-01 Cornell Pedestrian Bridge

Prepared

Tuesday, June 24, 2025

Any noncompliant QC parameters or other notes impacting data interpretation are flagged or documented on the final report or are noted below.

Emily Farmer

Certifies that this report has been approved by the Technical Director or Designee

179 Lake Avenue • Rochester, NY 14608 • (585) 647-2530 • Fax (585) 647-3311 • ELAP ID# 10958

This report is part of a multipage document and should only be evaluated in its entirety. The Chain of Custody provides additional sample information, including compliance with the sample condition requirements upon receipt.

PARADIGM
ENVIRONMENTAL SERVICES, INC

Lab Project ID: 252695

Client: Lu Engineers, Inc.

Project Reference: 50118-01 Cornell Pedestrian Bridge

Sample Identifier:	LP-1		
Lab Sample ID:	252695-01	**Date Sampled:** 6/16/2025	12:50
Matrix:	Paint	**Date Received** 6/17/2025	

Lead

Analyte	Result	Units	Qualifier	Date Analyzed
Lead	< 0.00476	%		6/19/2025 09:34

Method Reference(s): EPA 6010C
EPA 3050B
Preparation Date: 6/18/2025
Data File: 250619A

PARADIGM
ENVIRONMENTAL SERVICES, INC

Lab Project ID: 252695

Client: Lu Engineers, Inc.

Project Reference: 50118-01 Cornell Pedestrian Bridge

Sample Identifier: PCB-4 Light Grey
Lab Sample ID: 252695-02 **Date Sampled:** 6/16/2025 12:45
Matrix: Caulk **Date Received** 6/17/2025

PCBs

Analyte	Result	Units	Qualifier	Date Analyzed
PCB-1016	< 3.70	mg/Kg		6/19/2025 18:29
PCB-1221	< 3.70	mg/Kg		6/19/2025 18:29
PCB-1232	< 3.70	mg/Kg		6/19/2025 18:29
PCB-1242	< 3.70	mg/Kg		6/19/2025 18:29
PCB-1248	< 3.70	mg/Kg		6/19/2025 18:29
PCB-1254	< 3.70	mg/Kg		6/19/2025 18:29
PCB-1260	< 3.70	mg/Kg		6/19/2025 18:29
PCB-1262	< 3.70	mg/Kg		6/19/2025 18:29
PCB-1268	< 3.70	mg/Kg		6/19/2025 18:29

Surrogate	Percent Recovery	Limits	Outliers	Date Analyzed
Tetrachloro-m-xylene	**89.7**	10 - 110		6/19/2025 18:29

Method Reference(s): EPA 8082A
EPA 3546
Preparation Date: 6/19/2025

PARADIGM
ENVIRONMENTAL SERVICES, INC

Lab Project ID: 252695

Client: Lu Engineers, Inc.

Project Reference: 50118-01 Cornell Pedestrian Bridge

Sample Identifier:	PCB-5 Dark Grey		
Lab Sample ID:	252695-03	**Date Sampled:** 6/16/2025	12:50
Matrix:	Caulk	**Date Received** 6/17/2025	

PCBs

Analyte	Result	Units	Qualifier	Date Analyzed
PCB-1016	< 3.91	mg/Kg		6/19/2025 18:43
PCB-1221	< 3.91	mg/Kg		6/19/2025 18:43
PCB-1232	< 3.91	mg/Kg		6/19/2025 18:43
PCB-1242	< 3.91	mg/Kg		6/19/2025 18:43
PCB-1248	< 3.91	mg/Kg		6/19/2025 18:43
PCB-1254	< 3.91	mg/Kg		6/19/2025 18:43
PCB-1260	< 3.91	mg/Kg		6/19/2025 18:43
PCB-1262	< 3.91	mg/Kg		6/19/2025 18:43
PCB-1268	< 3.91	mg/Kg		6/19/2025 18:43

Surrogate	Percent Recovery	Limits	Outliers	Date Analyzed
Tetrachloro-m-xylene	**87.7**	10 - 110		6/19/2025 18:43

Method Reference(s): EPA 8082A
EPA 3546

Preparation Date: 6/19/2025

PARADIGM
ENVIRONMENTAL SERVICES, INC

Lab Project ID: 252695

Client: Lu Engineers, Inc.

Project Reference: 50118-01 Cornell Pedestrian Bridge

Sample Identifier: PCB-8 Dark Grey
Lab Sample ID: 252695-04 **Date Sampled:** 6/16/2025 13:00
Matrix: Caulk **Date Received** 6/17/2025

PCBs

Analyte	Result	Units	Qualifier	Date Analyzed
PCB-1016	< 3.29	mg/Kg		6/19/2025 18:57
PCB-1221	< 3.29	mg/Kg		6/19/2025 18:57
PCB-1232	< 3.29	mg/Kg		6/19/2025 18:57
PCB-1242	< 3.29	mg/Kg		6/19/2025 18:57
PCB-1248	< 3.29	mg/Kg		6/19/2025 18:57
PCB-1254	< 3.29	mg/Kg		6/19/2025 18:57
PCB-1260	< 3.29	mg/Kg		6/19/2025 18:57
PCB-1262	< 3.29	mg/Kg		6/19/2025 18:57
PCB-1268	< 3.29	mg/Kg		6/19/2025 18:57

Surrogate	Percent Recovery	Limits	Outliers	Date Analyzed
Tetrachloro-m-xylene	**85.0**	10 - 110		6/19/2025 18:57

Method Reference(s): EPA 8082A
EPA 3546
Preparation Date: 6/19/2025

PARADIGM
ENVIRONMENTAL SERVICES, INC

Analytical Report Appendix

The reported results relate only to the samples as they have been received by the laboratory.

Each page of this document is part of a multipage report. This document may not be reproduced except in its entirety, without the prior consent of Paradigm Environmental Services, Inc.

All soil/sludge samples have been reported on a dry weight basis, unless qualified "reported as received". Other solids are reported as received.

Low level Volatiles blank reports for soil/solid matrix are based on a nominal 5 gram weight. Sample results and reporting limits are based on actual weight, which may be more or less than 5 grams.

The Chain of Custody provides additional information, including compliance with sample condition requirements upon receipt. Sample condition requirements are defined under the 2003 NELAC Standard, sections 5.5.8.3.1 and 5.5.8.3.2.

NYSDOH ELAP does not certify for all parameters. Paradigm Environmental Services or the indicated subcontracted laboratory does hold certification for all analytes where certification is offered by ELAP unless otherwise specified. Aliquots separated for certain tests, such as TCLP, are indicated on the Chain of Custody and final reports with an "A" suffix.

Data qualifiers are used, when necessary, to provide additional information about the data. This information may be communicated as a flag or as text at the bottom of the report. Please refer to the following list of analyte-specific, frequently used data flags and their meaning:

"<" = Analyzed for but not detected at or above the quantitation limit.
"E" = Result has been estimated, calibration limit exceeded.
"H" = Denotes a parameter analyzed outside of holding time.
"Z" = See case narrative.
"D" = Sample, Laboratory Control Sample, or Matrix Spike Duplicate results above Relative Percent Difference limit.
"M" = Matrix spike recoveries outside QC limits. Matrix bias indicated.
"B" = Method blank contained trace levels of analyte. Refer to included method blank report.
"J" = Result estimated between the quantitation limit and half the quantitation limit.
"L" = Laboratory Control Sample recovery outside accepted QC limits.
"P" = Concentration differs by more than 40% between the primary and secondary analytical columns.
"NC" = Not calculable. Applicable to RPD if sample or duplicate result is non-detect or estimated (see primary report for data flags). Applicable to MS if sample is greater or equal to ten times the spike added. Applicable to sample surrogates or MS if sample dilution is 10x or higher.
"" = Indicates any recoveries outside associated acceptance windows. Surrogate outliers in samples are presumed matrix effects. LCS demonstrates method compliance unless otherwise noted.*
"(1)" = Indicates data from primary column used for QC calculation.
"A" = denotes a parameter for which ELAP does not offer approval as part of their laboratory certification program.
"F" = denotes a parameter for which Paradigm does not carry certification, the results for which should therefore only be used where ELAP certification is not required, such as personal exposure assessment.

GENERAL TERMS AND CONDITIONS
LABORATORY SERVICES

These Terms and Conditions embody the whole agreement of the parties in the absence of a signed and executed contract between the Laboratory (LAB) and Client. They shall supersede all previous communications, representations, or agreements, either verbal or written, between the parties. The LAB specifically rejects all additional, inconsistent, or conflicting terms, whether printed or otherwise set forth in any purchase order or other communication from the Client to the LAB. The invalidity or unenforceability in whole or in part of any provision, tern or condition hereof shall not affect in any way the validity or enforceability of the remainder of the Terms and Conditions. No waiver by LAB of any provision, term, or condition hereof or of any breach by or obligation of the Client hereunder shall constitute a waiver of such provision, term, or condition on any other occasion or a waiver of any other breach by or obligation of the Client. This agreement shall be administered and interpreted under the laws of the state which services are procured.

Warranty. Recognizing that the nature of many samples is unknown and that some may contain potentially hazardous components, LAB warrants only that it will perform testing services, obtain findings, and prepare reports in accordance with generally accepted analytical laboratory principles and practices at the time of performance of services. LAB makes no other warranty, express or implied.

Scope and Compensation. LAB agrees to perform the services described in the chain of custody to which these terms and conditions are attached. Unless the parties agree in writing to the contrary, the duties of LAB shall not be construed to exceed the services specifically described. LAB wi use LAB default method for all tests unless specified otherwise on the Work Order.
Payment terms are net 30 days from the date of invoice. All overdue payments are subject to an interest charge of one and one-half percent (1-1/2%) per month or a portion thereof. Client shall also be responsible for costs of collection, including payment of reasonable attorney fees if such expense is incurred. The prices, unless stated, do not include any sale, use or other taxes. Such taxes will be added to invoice prices when required.

Prices. Compensation for services performed will be based on the current Lab Analytical Fee Schedule or on quotations agreed to in writing by the parties. Turnaround time based charges are determined from the time of resolution of all work order questions. Testimony, court appearances or data compilation for legal action will be charged separately. Evaluation and reporting of initial screening runs may incur additional fees.

Limitations of Liability. In the event of any error, omission, or other professional negligence, the sole and exclusive responsibility of LAB shall be to re-perform the deficient work at its own expense and LAB shall have no other liability whatsoever. All claims shall be deemed waived unless made in writing and received by LAB within ninety (90) days following completion of services.
LAB shall have no liability, obligation, or responsibility of any kind for losses, costs, expenses, or other damages (including but not limited to any special, direct, incidental or consequential damages) with respect to LAB's services or results.
All results provided by LAB are strictly for the use of its clients and LAB is in no way responsible for the use of such results by clients or third parties. All reports should be considered in their entirety, and LAB is not responsible for the separation, detachment, or other use of any portion of these reports. Client may not assign the lab report without the written consent of the LAB.
Client covenants and agrees, at its/his/her sole expense, to indemnify, protect, defend, and save harmless the LAB from and against any and all damages, losses, liabilities, obligations, penalties, claims, litigation, demands, defenses, judgments, suits, actions, proceedings, costs, disbursements and/or expenses (including, without limitation attorneys' and experts' fees and disbursements) of any kind whatsoever which may at any time be imposed upon, incurred by or asserted or awarded against client relating to, resulting from or arising out of (a) the breach of this agreement by this client, (b) the negligence of the client in handling, delivering or disclosing any hazardous substance, (c) the violation of the Client of any applicable law, (d) non-compliance by the Client with any environmental permit or (e) a material misrepresentation in disclosing the materials to be tested.

Hazard Disclosure. Client represents and warrants that any sample delivered to LAB will be preceded or accompanied by complete written disclosure of the presence of any hazardous substances known or suspected by Client. Client further warrants that any sample containing any hazardous substance that is to be delivered to LAB will be packaged, labeled, transported, and delivered properly and in accordance with applicable laws.

Sample Handling. Prior to LAB's acceptance of any sample (or after any revocation of acceptance), the entire risk of loss or of damage to such sample remains with Client. Samples are accepted when receipt is acknowledged on chain of custody documentation. In no event will LAB have any responsibility for the action or inaction of any carrier shipping or delivering any sample to or from LAB premises.
Client authorizes LAB to proceed with the analysis of samples as received by the laboratory, recognizing that any samples not in compliance with all current DOH-ELAP-NELAP requirements for containers, preservation or holding time will be noted as such on th final report.
Disposal of hazardous waste samples is the responsibility of the Client. If the Client does not wish such samples returned, LAB may add storage and disposal fees to the final invoice. Maximum storage time for samples is 30 days after completion of analysis unless modified by applicable state or federal laws. Client will be required to give the LAB written instructions concerning disposal of these samples.
LAB reserves the absolute right, exercisable at any time, to refuse to receive delivery of, refuse to accept, or revoke acceptance of any sample, which, in the sole judgment of LAB (a) is of unsuitable volume, (b) may be or become unsuitable for or may pose a risk in handling, transport, or processing for any health, safety, environmental or other reason whether or not due to the presence in the sample of any hazardous substance, and whether or not such presence has been disclosed to LAB by Client or (c) if the condition or sample date make the sample unsuitable for analysis.

Legal Responsibility. LAB is solely responsible for performance of this contract, and no affiliated company, director, officer, employee, or agent shall have any legal responsibility hereunder, whether in contract or tort including negligence.

Assignment. LAB may assign its performance obligations under this contract to other parties, as it deems necessary. LAB shall disclose to Client any assignee (subcontractor) by ELAP ID # on the submitted final report.

Force Majeure. LAB shall have no responsibility or liability to the Client for any failure or delay in performance by LAB, which results in whole or in part from any cause or circumstance beyond the reasonable control of LAB. Such causes and circumstances shall include, but not limited to, acts of God, acts or orders of any government authority, strikes or other labor disputes, natural disasters, accidents, wars, civil disturbances, difficulties or delays in transportation, mail or delivery services, inability to obtain sufficient services or supplies from LAB's usual suppliers, or any other cause beyond LAB's reasonable control.

Law. This contract shall be continued under the laws of the State of New York without regard to its conflicts of laws provision.

179 Lake Avenue, Rochester, NY 14608 Office (585) 647-2530 Fax (585) 647-3311

1 of 2

CHAIN OF CUSTODY

REPORT TO:			INVOICE TO:		
COMPANY:	LU ENGINEERS		COMPANY:	Same	
ADDRESS:	280 East Broad Street, Suite 170		ADDRESS:		
CITY:	ROCHESTER	STATE: NY ZIP: 14604	CITY:	STATE:	ZIP:
PHONE:	385-7417	FAX: 546-1634	PHONE:	FAX:	
ATTN:	Mitch Smith		ATTN:		
COMMENTS:	msmith@luengineers.com, ecrafts@luengineers.com				

LAB PROJECT #: 252695 CLIENT PROJECT #: 50118-01

TURNAROUND TIME: (WORKING DAYS) STD OTHER

☐ 1 ☐ 2 ☐ 3 ☒ 5 ☐

Quotation #

PROJECT NAME/SITE NAME: CORNELL PEDESTRIAN BRIDGE

REQUESTED ANALYSIS

	DATE	TIME	COMPOSITE	GRAB	SAMPLE LOCATION/FIELD ID	MATRIX	NUMBER CONTAINERS	Total Lead	PCB's								REMARKS	PARADIGM LAB SAMPLE NUMBER	
1	6/16/25	1250		X	LP-1	PAINT	1	X										0	1
2	6/16/25	1245		X	PCB-4	CAULK	1		X								LIGHT GREY	0	2
3	6/16/25	1250		X	PCB-5	"	1		X								DARK GREY	0	3
4	6/16/25	13**		X	PCB-8	"	1		X								DARK GREY	0	4
5																			
6																			
7																			
8																			
9																			
10																			

LAB USE ONLY BELOW THIS LINE

Sample Condition: Per NELAC/ELAP 210/241/242/243/244

Receipt Parameter	NELAC Compliance	
Container Type:	Y ☐	N ☐
Comments:		
Preservation:	Y ☐	N ☐
Comments:		
Holding Time:	Y ☐	N ☐
Comments:		
Temperature:	Y ☐	N ☐
Comments: 23°C @ 6/17/25 15:11 @ 6/17/25		

EVAN CRAFTS — Sampled By — 6/16/25 13** — Date/Time

Relinquished By — 6/17/25 — Date/Time

Received By — 6/17/25 1504 — Date/Time

Received @ Lab By — 6/17/25 15:09 — Date/Time

Total Cost:

P.I.F.

PARADIGM
ENVIRONMENTAL SERVICES

Chain of Custody Supplement

Client: Lu Engineers **Completed by:** Glenn Pezzulo

Lab Project ID: 252695 **Date:** 6/17/25

Sample Condition Requirements

Per NELAC/ELAP 210/241/242/243/244

Condition	*NELAC compliance with the sample condition requirements upon receipt* Yes	No	N/A
Container Type	X		
Comments			
Transferred to method-compliant container			X
Headspace (<1 mL)			X
Comments			
Preservation			X
Comments			
Chlorine Absent (<0.10 ppm per test strip)			X
Comments			
Holding Time	X		
Comments			
Temperature		X PCB	X Lead
Comments	23°C		
Compliant Sample Quantity/Type	X		
Comments			

SECTION 01 35 43 GENERAL ENVIRONMENTAL REQUIREMENTS

1.0 GENERAL

1.1 DESCRIPTION

A. This Section and the listed Related Sections provides minimum requirements for the protection of the environment during the project. The requirements of this Section shall apply to both Contractor and all tiers of Subcontractors involved in the project.

B. In addition to the requirements of this Section and the listed Related Sections, all laws and regulations by applicable local, state, and federal agencies shall apply to the Work of this Contract. In some cases the requirements of these Specifications may by intention exceed such legal requirements, but in no case shall this Specification be interpreted or understood to reduce or eliminate such requirements.

C. Prior to bidding, review the entire Bidding Documents and report in writing to the Owner's Representative any error, inconsistency, or omission that may have environmental impacts.

1.2 RELATED SECTIONS

A. Section 01 35 44 – Spill Control

B. Section 01 57 13 – Soil Erosion and Sediment Control

1.3 SUBMITTALS

A. Submit the following in accordance with Section 01 33 00 – Submittals:

1. Analytical laboratory sample results and material Certifications for all imported soil and granular materials ("borrow").

2. Contractor's Waste Material Disposal Plan.

3. Weight tickets from the Borrow Material Supplier.

4. Proposed methods for dewatering and construction water management.

5. Analytical laboratory sample results for all waste materials.

6. Copies of manifests for all waste materials disposed of off-site.

1.4 JOB SITE ADMINISTRATION

A. In accordance with Article 2 of the General Conditions, provide a competent supervisory representative with full authority to act for the Contractor at the site.

B. If at any time operations under the representative's supervision do not comply with this Section, or the representative is otherwise unsatisfactory to the Owner, replace, if requested by the Owner, said representative with another representative satisfactory to the Owner. There shall be no change in superintendent without the Owner's approval.

C. Remove from the Work any employee of the Contractor or any Subcontractor when so directed by the Owner. The Owner may request the removal of any employee who does not comply with these specifications.

1.5 CLEARING, SITE PREPARATION AND SITE USE

A. In accordance with Section 01 14 00, only that portion of the working area that is absolutely necessary and essential for the Work shall be cleared for construction. All clearing should be approved and performed to provide minimum practical exposure of soils.

B. The Contractor shall make every effort to avoid the destruction of plants, trees, shrubs and lawns outside the area of construction so as not to unduly disturb the ecological or environmental quality of the area.

C. Topsoil excavated as part of the Project, which can be reused as part of the Project, shall be stockpiled for future use and temporarily stabilized to prevent erosion.

1.6 SPOIL AND BORROW

A. Spoil

1. Dispose of excavated material which, in the opinion of the Owner's Representative, is unfit to be used as backfill or embankment or which is in excess of the amount required under the Contract.

2. All spoil areas shall be graded and seeded to match the surrounding area.

3. Spoil areas shall be covered and protected from erosion into adjacent storm sewers, drainage ways, land areas, or water bodies.

B. Borrow Material

1. Borrow material shall be provided from a clean source. Submittals of proposed borrow material shall be reviewed by the Owner prior to delivery on-site. Submittals shall include the quantity of materials, source location and certification by the material supplier that it is free of chemicals or other foreign matter.

1.7 NOISE AND VIBRATION

A. Limit and control the nature and extent of activities at all times to minimize the effects of noise and vibrations. Take adequate measures for keeping noise levels, as produced by construction related equipment, to safe and tolerable limits as set forth by the Occupational Safety and Health Administration (OSHA), the New York State Industrial Code Guidelines and Ordinances and all City, Town and Local ordinances. Equip all construction equipment presenting a potential noise nuisance with noise-muffling devices adequate to meet these requirements

1.8 DUST CONTROL

A. Take adequate measures for controlling dust produced by drilling, excavation, backfilling, loading, saw cutting or other means. The use of calcium chloride or petroleum-based materials for dust control is prohibited. Dust control measures are required throughout the duration of construction.

B. If, in the opinion of the Owner's Representative, the Contractor is not adequately controlling dust, the Owner will first notify the Contractor. If the Contractor does not take adequate actions necessary, the Owner may, at the Contractor's expense, employ alternative means to control dust.

C. Erect, maintain, and remove when appropriate barriers or other devices, including mechanical ventilation systems, as required by the conditions of the Work for the protection of users of the project area, the protection of the work being done, or the containment of dust and debris. All such barriers or devices shall be provided in conformance with all applicable codes, laws, and regulations including OSHA.

1.9 PROTECTION OF THE ENVIRONMENT

A. Construction procedures observed by the Contractor, its Subcontractors and other employees shall include protection of the environment, in accordance with all pertinent Cornell standards, policies, local laws, executive orders, ordinances, and federal and state regulations. Construction procedures that are prohibited in the undertaking of work associated with this Contract include, but are not limited to:

1. Dumping of spoil material or any liquid or solid pollutant into any storm or sanitary sewer, drainage way, stream sewer, any wetlands (as defined by federal and state regulations), any surface waters, or at unspecified locations.

2. Indiscriminate, arbitrary, or capricious operation of equipment in any stream corridors, any wetlands, or any surface waters.

3. Pumping of any silt-laden water from trenches or other excavations into any storm sewers, sanitary sewers, drainage ways, wetlands, or surface waters.

4. Damaging vegetation beyond the extent necessary for construction of the facilities.

5. Disposal of trees, brush, and other debris in any location on University property, unless such areas are specifically identified on the drawing or in the specifications or specifically approved by the Owner's site representative.

6. Permanent or unspecified alteration of the flow line of a stream.

7. Burning trash, project debris, or waste materials.

B. Take all necessary precautions to prevent silt or waste of any kind from entering any drainage or waterways or downstream properties as a result of the Work.

C. Runoff of potable water used for concrete curing or concrete truck or chute cleaning operations shall not be allowed to reach the storm water system or open water due to the levels of residual chlorine (New York State water quality standards, 6 NYCRR Part 703.5) and other potential contaminants. If necessary, obtain permission from the local sewer authority and collect and pump the runoff to the sanitary sewer.

D. Limit the nature and extent of any activities that could result in the release or discharge of pollutants. Report any such release or discharge immediately to the Owner's Representative and clean up spills immediately, as detailed in Section 01 35 44 – Spill Control Procedures.

1.10 HAZARDOUS OR TOXIC MATERIALS

A. Inform officers, employees, agents, contractors, subcontractors at every tier, and any other party which may come into contact with any hazardous or toxic materials as a result of its performance hereunder of the nature of such materials, and any health and safety or environmental risks associated therewith.

B. Do not use hazardous or toxic materials in a manner that will violate Cornell University Policies or any state, federal, or municipal environmental health and safety regulations. In situations where the risks are unclear consult with Environment, Health and Safety (EHS) for guidance.

C. Provide complete care and treatment for any injury sustained by any parties coming into contact with any hazardous or toxic materials as a result of Contractor's performance or failure to perform hereunder.

D. At the completion of project Contractor shall remove all unused chemical products and hazardous materials from campus. Transportation of these materials shall be in accordance with all federal, state, and local regulations. Request and receive written approval from EHS prior to disposal of any on-site disposal.

1.11 DISPOSAL OF WASTE MATERIAL AND TITLE

A. Prior to start of work and first payment, Contractor shall prepare and submit "Contractor Waste Material Disposal Plan" to the Owner's Representative. The plan shall identify the waste transportation and treatment, storage or disposal (TSD) companies which will manage all waste material and any site(s) for disposal of the waste material. Contractor must use this form to document waste disposal methods and locations.

B. The "Contractor Waste Material Disposal Plan" form, together with definitions associated with the form waste descriptions. Forms may be downloaded at:

https://ehs.cornell.edu/environmental-compliance/solid-waste/construction-demolition-waste

https://ehs.cornell.edu/sites/default/files/FRM-CWMDP-Contractor-Waste-Material-Disposal-Plan-IPDF.pdf

C. Contractor shall be responsible for the proper cleanup, containment, storage and disposal of any hazardous material/chemical spill occurring during its work. For Cornell University owned hazardous waste EHS will oversee, approve or effect the proper disposal. Title, risk of loss, and all other incidents of ownership to the Waste Material, shall vest in Contractor at the time Contractor or any transporter acting on its behalf takes physical possession of Waste Material. Complete and maintain full records of the chain of custody and control, including certificates of disposal or destruction, of all Waste Materials loaded, transported and/or disposed of. Deliver all such records to the Owner in accordance with applicable laws and regulations and any instructions from the Owner in a timely manner and in any event prior to final payment(s) under this Contract.

2.0 PRODUCTS – NOT USED

3.0 EXECUTION – NOT USED

*****END OF SECTION 01 35 43*****

SECTION 01 35 44 SPILL CONTROL

1.0 GENERAL

1.1 SPILL PREVENTION

A. In order to minimize the potential for discharge to the environment of oil, petroleum, or hazardous substances on site, the following requirements shall apply to all projects:

1. All oil, petroleum, or hazardous materials stored or relocated temporarily on site during the construction process shall be stored in such a manner as to provide protection from vehicular damage and to provide containment of leaks or spills. Horizontal diked oil storage tanks, temporary berms or barriers, or similar methods of providing secondary/spill containment shall be employed as appropriate at each site.

2. Any on-site filling or dispensing activities shall occur within an area in which a temporary berm, boom, or similar containment barrier has been placed to prevent the inadvertent discharge to the environment of harmful quantities of any products.

3. All oil, petroleum, or hazardous materials stored on site shall be located in such a manner as to minimize the potential of damage from construction operations or vehicles, away from drainage ways and environmentally sensitive areas, and in accordance with all fire and life safety codes and standards.

B. Remove immediately from the site any storage, dispensing, or operating equipment that is leaking oil or hazardous substances or is in anyway unsuitable for the safe storage of such materials.

1.2 SPILL CONTROL PROCEDURES

All Contractor personnel working at the project site shall be knowledgeable of the potential health and safety concerns associated with petroleum and other hazardous substances that could potentially be released at the project site. Following are a list of activities that should be conducted by the Contractor in the event of an oil/petroleum spill or the release of any other hazardous substance. In the event of a large quantity spill that would require cleanup procedures that are beyond the means of the Contractor, an emergency spill cleanup contractor shall be hired by the Contractor. In the event the Contractor has the personnel necessary to clean up the spill, the following procedures shall be followed:

A. Personnel discovering/responding to a spill shall:

1. Identify and locate the source of the spill. If unsafe conditions exist, leave the area, inform nearby personnel, notify the site supervisor, and initiate spill reporting (Section 1. 3).

2. Limit the discharge of product, if safely possible, by: (1) diverting discharge to a containment area; (2) creating temporary dikes with soils or other available materials; and (3) utilizing sorbent materials. If secondary containment is present, verify that valves and drains are closed prior to diverting the product to this area.

3. The individual discovering a spill shall initiate containment procedures to prevent material from reaching a potential migratory route, through implementation of the following actions, or any other methods necessary. Methods employed shall not compromise worker safety.

    a. Stop the spill at once (if possible).

    b. Extinguish sources of ignition (e.g., flames, sparks, hot surfaces, cigarettes, etc.).

    c. Clear personnel from the spill location and cordon off the area.

    d. Utilize available spill control equipment in an effort to ensure that fires, explosions, and releases do not occur, recur, or spread.

    e. Use sorbent materials to control the spill at the source.

    f. Construct a temporary containment dike of sorbent materials, cinder blocks, bricks, or other suitable materials to help contain the spill.

    g. Attempt to identify the character, exact source, amount, and area of the released materials. Identification of the spilled material should be made as soon as possible so that the appropriate cleanup procedure can be identified.

    h. Assess possible hazards to human health or the environment as a result of the release, fire, or explosion.

    i. If spill response measures involve the temporary cessation of any operations, the Contractor shall monitor the affected equipment for: (1) leaks; (2) pressure buildup; (3) gas generation; or (4) ruptures in valves, pipes, or other equipment.

B. Spill Cleanup:

1. Following containment of the spill, the following spill cleanup procedures shall be initiated.

    a. Use proper waste containers.

    b. Remove bulk liquid and place material in properly labeled waste container. Be sure not to collect incompatible or reactive substances in the same container.

    c. Cleanup materials not reclaimed on-site shall be disposed of in accordance with all applicable state and federal regulations.

    d. Apply sorbent materials to pick up remaining liquid after bulk liquid has been removed. The Contractor shall not walk over spilled material. Absorbed material shall be collected and placed in a separate waste container, and shall not be mixed with bulk liquid.

e. Clean spill control equipment and containers. Replace equipment in its proper location. Restock or reorder any supplies used to clean up the spill.

f. Carefully wash spilled product from skin and clothing using soap. Change clothes, if necessary, to avoid further contact with product.

g. Disposal of all spilled product and waste generated by spill response activities shall be made off-site, and shall be arranged through the Contractor.

h. A Spill Report shall be completed, including a description of the event. A sample Spill Documentation Form is available at: https://ehs.cornell.edu/campus-health-safety/emergency-services/fire-medical-spill-response/spill-cleanup-procedure

C. Fire or Explosion:

1. In the event of a fire or explosion at the site, the Contractor shall:

a. Verify that the local fire department and the appropriate emergency response services (e.g., ambulance, police) have been notified. Confirm contact information for these services at Project Kick-off Meeting.

- For projects on the Cornell Campus call Cornell Police at (607) 255-1111 who will notify the appropriate emergency response agencies

b. Report to the scene, if safe to do so, and evaluate the situation (e.g., spill character, source, etc.). Coordinate, as necessary, with other appropriate site and emergency personnel.

c. Ensure that people are cleared from the area and all accounted.

d. Ensure that fires are safely extinguished (if possible), valves closed, and other immediate actions necessary to mitigate the emergency are addressed, if safe to do so.

e. Initiate responsible measures necessary to prevent subsequent fires, explosions, or releases from occurring or spreading to other areas of the site. These measures include stopping processes or operations, collecting, and containing released oil, or removing and isolating containers.

f. Take appropriate action to monitor for: (1) leaks; (2) pressure build-ups; (3) gas generation; or (4) ruptures in pipes, valves, or other equipment.

1.3 SPILL REPORTING AND DOCUMENTATION

In the event of a spill CALL CORNELL POLICE AT 607-255-1111 who will notify the appropriate departments within the university and coordinate with the contractor for external reporting, if required.

The contractor shall be responsible for the initiation of spill reporting and documentation procedures. All petroleum spills must be reported to **NYSDEC Spill Hotline at 1-800- 457-7362**, less than two hours following discovery. Notification must be made to Cornell Environment, Health and Safety (EHS), 607-255-8200, within 24 hours of reporting the release. The Contractor will be expected to provide EHS with the DEC issued spill number. Any petroleum spill must be reported to NYSDEC unless **ALL** of the following criteria apply:

TABLE 1
CRITERIA TO EXEMPT SPILL REPORTING

CRITERIA	DESCRIPTION
Quantity	The spill must be known to be less than 5 gallons.
Containment	The spill must be contained on an impervious surface or within an impervious structure, such that it cannot enter the environment.
Control	The spill must be under control and not reach a drain or leave the impervious surface.
Cleanup	The spill must be cleaned-up within two hours of occurrence.
Environment	The spill must not have already entered into environmental media such as soil, surface water (including storm water conveyances), sanitary sewers, or ground water.

A release of a "reportable quantity" or unknown amount of a hazardous substance must also be immediately reported to NYSDEC Spill Hotline. Spills of reportable quantities of chemicals or "harmful quantities"2 of oil to navigable waters must be reported to the federal **National Response Center, 1-800-424-8802**. Additional regulatory agency spill reporting requirements may apply depending on the material released and the media to which it is released to.

Spill Reporting Information: When making a telephone report, the caller should be prepared to provide the following information, if possible:

1. The date and time of the spill or release.

2. The identity or chemical name of the material released or spilled, including an indication of whether the material is defined as an extremely hazardous substance.

3. An estimate of the quantity of material released or spilled into the environment and the approximate duration of the event.

4. The exact location of the spill, including the name(s) of the waters involved or threatened, and/or other medium or media affected by the release or spill.

5. The source of the release or spill.

6. The name, address, and telephone number of the party in charge of, or responsible for, the facility or activity associated with the release or spill.

7. The extent of the actual and potential water pollution.

8. The name and telephone number of the person in charge of operations at the spill site.

9. The steps being taken or proposed to contain and cleanup the released or spilled material and any precautions taken to minimize impacts, including evacuation.

10. The extent of injuries, if any.

11. Any known or anticipated acute or chronic health risks associated with the emergency, and information regarding necessary medical attention for exposed individuals.

12. Assistance required, if any.

If the release of a hazardous substance or oil occurs in an amount which exceeds a reportable quantity (RQ) as defined in 40 CFR Part 110, 40 CFR Part 117, 40 CFR Part 302, or 6 NYCRR Part 597, then the Contractor shall do the following:

1. Call to the National Response Center shall be made by the person in charge of the site. The applicable phone numbers are 1-800-424-8802.

2. Within 14 days of the release, submit a written description of the release. The description should include: (1) a description of the release, (2) the type of material released, (3) estimated amount of the spill; (4) the date of the release, (5) an explanation of why the release occurred; and (6) a description of the measures to be implemented to prevent and control future releases.

[(1)]*Reportable Quantity*: A Reportable Quantity is the quantity of a hazardous substance or oil that triggers reporting requirements under the Comprehensive Emergency Response, Compensation, and Liability Act (CERCLA) (USEPA, September 1992). While the Contractor is legally responsible for knowing the risks of materials that are part of construction, members of the owner's spill response team have access to information that may help identify these quantities with you.

[(2)]*Harmful Quantity*: A Harmful Quantity of oil includes discharges that violate applicable water quality standards; cause a film, sheen, or discoloration on a water surface or adjoining shoreline; or cause a sludge or emulsion to be deposited beneath the water surface or shoreline (40 CFR 110.3).

2.0 PRODUCTS – NOT USED

3.0 EXECUTION – NOT USED

*****END OF SECTION 01 35 44*****

SECTION 01 41 00 REGULATORY REQUIREMENTS

1.0 GENERAL

1.1 PERMITS AND LICENSES

A. The Contractor shall obtain, maintain and pay for all permits and licenses necessary for the execution of the Work and for the use of such work when completed. Such permits shall include but are not limited to building, electrical, plumbing, backflow prevention, dig safe, fill, street use, pavement cuts and repairs, and building demolition.

B. For any projects which include demolition of a structure or load-bearing elements of a structure, the Contractor is required to complete a "Notification of Demolition and Renovation" and provide this notification to the United States Environmental Protection Agency (EPA) in advance of the work as specified in 40 CFR 61.145. The Contractor shall also provide a copy of this notification to the Owner's Representative prior to any demolition.

C. All Construction / Building / Hot Work and Occupancy permits shall be issued and maintained through Jim Yarbrough (jey38@cornell.edu), the SUNY Codes Official for Contract Colleges Facilities at Cornell, at no cost to the Contractor (for SUNY projects there are no permitting costs).

1.2 INSPECTIONS

A. Apply for and obtain all required inspections, pay all fees and charges for same, include all service charges and other associated costs.

1.3 COMPLIANCE

A. The Contractor shall give all notices, pay all fees and comply with all laws, rules and regulations applicable to the Work.

1. Any additional associated fees for permitting and regulatory fees due to changes in the Work shall be reconciled upon project completion per General Conditions Article 4 – Changes In Work.

1.4 OWNER'S REQUIREMENTS

A. The Contractor, Subcontractors, and employees of the Contractor and Subcontractors shall comply with all regulations governing conduct, access to the premises, operation of equipment and systems, and conduct while in or near the premises and shall perform the Work in such a manner as not to unreasonably interrupt or interfere with the conduct of business of the Owner.

B. Upon completion of the project, the Contractor agrees to provide the Owner with a summary of municipal permit fees paid. This shall include the name of the permits secured, the permit fees paid by the Contractor and a copy of the permit. If no permit fees were required, the Contractor shall so state, in writing, upon completion of the project.

2.0 PRODUCTS – NOT USED

3.0 EXECUTION – NOT USED

*****END OF SECTION 01 41 00*****

SECTION 01 42 00 REFERENCES

1.0 GENERAL

1.1 INTENT OF CONTRACT DOCUMENTS

A. Notes or instructions shown on any one Drawing, apply where applicable, to all other Drawings.

B. All references to codes, specifications and standards referred to in the Specification Sections and on the Drawings shall mean, and are intended to be, the latest edition, amendment and/or revision of such reference standard in effect as of the date of these Contract Documents.

C. Install All Work in Compliance with:

2. NYS Uniform Code

   a. International Building Code

   b. International Residential Code

   c. International Existing Building Code

   d. International Fire Code

   e. International Plumbing Code

   f. International Mechanical Code

   g. International Fuel Gas Code

   h. International Property Maintenance Code

   i. Uniform Code Supplement

3. NYS Energy Code

   a. International Energy Conservation Code

   b. ASHRAE 90.1

   c. Energy Code Supplement

4. National Electric Code

5. Occupational Safety and Health Administration (OSHA).

6. Life Safety Code NFPA 101.

7. All local ordinances

8. Plans and Specifications in excess of code requirements and not contrary to same.

1.2 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and other Division 1 Specification Sections, apply to this Section.

1.3 DEFINITIONS

A. "General": Basic Contract definitions are included in the Conditions of the Contract.

B. "Contract Documents": The Contract Documents consist of the Agreement between Owner and Contractor, General Conditions, General Requirements, Drawings, Specifications, addenda issued before execution of the Agreement, other documents listed in the Agreement, and modifications issued after execution of the Agreement.

C. "The Contract": The Contract Documents form the Contract for construction and represent the entire integrated Agreement between the Owner and Contractor.

D. "The Work": The work comprises the completed construction required by the Contract Documents and includes all labor necessary to produce such construction and all materials and equipment incorporated in such construction.

E. "Owner": Cornell University a New York corporation.

F. "Architect/Engineer": The Architect or Engineer is the person lawfully licensed to practice architecture and/or engineering in the state of New York, identified as such in the Owner Contractor Agreement, and is referred to throughout the Contract Documents as if singular in number. The terms Architect and/or Engineer mean the Architect and/or his authorized representative.

G. "Contractor": The Contractor, person, firm, or corporation with whom the Construction Agreement contract is made by Owner.

H. "Subcontractor": A person, firm, or corporation, supplying labor and/or materials for work at site of the project for and under separate contract or agreement with Contractor.

I. "Delegated Design" describes a collaboration between a design professional and contractor (or subcontractor) where the contractor assumes allocated responsibility for an element or portion of the Project's design. Delegated design allocation and assignment may occur in any project delivery method and will involve a licensed professional to perform the design. The Contractor or Subcontractor allocated an element or portion of the Project's design, will submit its engineered, stamped plans to the primary design team, who will check for any conflicts with any other aspect of the Work and make new documents to be included in the Project's design record. Contractor or Subcontractor allocated a delegated design element of the Project shall provide professional liability insurance for the design work in such amounts and as is required by Owner.

J. "As Approved" or "Approved": Architect's or Owner's approval.

K. "As Directed": Owner's direction or instruction. Other terms including "requested," "authorized," "selected," "required," and "permitted" have the same meaning as "directed."

L. “Indicated”: Requirements expressed by graphic representations or in written form on Drawings, in Specifications, and in other Contract Documents. Other terms including "shown," "noted," "scheduled," and "specified" have the same meaning as “indicated.”

M. “Regulations”: Laws, ordinances, statutes, and lawful orders issued by authorities having jurisdiction, and rules, conventions, and agreements within the construction industry that control performance of the Work.

N. “Furnish”: Supply and deliver to Project site, ready for unloading, unpacking, assembly, installation, and similar operations.

O. "Install": Operations at Project site including unloading, temporarily storing, unpacking, assembling, erecting, placing, anchoring, applying, working to dimension, finishing, curing, protecting, cleaning, and similar operations.

P. “Reinstall”. To place back into a former position.

Q. “Replace”. Provide a substitute for.

R. “Provide”: Furnish and install, complete and ready for the intended use.

S. “Concealed’: Work installed in pipe shafts, chases or recesses, behind furred walls, above ceilings, either permanent or removable.

T. “Exposed”: All capital Work not identified as concealed.

U. “Project Site”: Space available for performing construction activities. The extent of Project site is shown on Drawings and may or may not be identical with the description of the land on which Project is to be built.

V. “As-Built Documents”: Drawings and other records that are maintained by the Contractor to record all conditions which exist when the building construction is completed. This includes both the elements of the project itself and existing elements that are encountered during the course of project construction.

W. “Record Drawings”: Shows construction changes in the project and the final location of all services, lines, outlets, and connections including underground and concealed items. The “record” drawings shall be compiled by the Architect based on the working as-built drawings and revised in accordance with the marked up drawings submitted by the Contractor.

X. “Shop Drawings”: Drawings, diagrams, illustrations, charts, brochures, and other data that are prepared by Contractor or any Subcontractor, manufacturer, supplier or distributor, for some portion of the Work.

Y. “Samples”: Physical examples furnished to illustrate materials, equipment or workmanship, and to establish standards by which the work will be judged.

Z. “General Conditions”: The standardized contractual provisions describing the responsibilities, rights and relationships of the Owner and Contractor under the construction contract.

AA. "Contract Limit Lines": A limit line or perimeter line established on the drawings or elsewhere in the contract documents defining the boundaries of the site available to the contractor for construction purposes.

BB. "to do", "provide", "furnish", "install", etc., in these Specifications or on Drawings are directions given to the Contractor;

1.4 INDUSTRY STANDARDS

A. Applicability of Standards: Unless the Contract Documents include more stringent requirements, applicable construction industry standards have the same force and effect as if bound or copied directly into the Contract Documents to the extent referenced. Such standards are made a part of the Contract Documents by reference.

B. Publication Dates: Comply with standards in effect as of date of the Contract Documents unless otherwise indicated.

C. Copies of Standards: Each entity engaged in construction on Project should be familiar with industry standards applicable to its construction activity. Copies of applicable standards are not bound with the Contract Documents.

1. Where copies of standards are needed to perform a required construction activity, obtain copies directly from publication source.

D. Abbreviations and Acronyms for Standards and Regulations: Where abbreviations and acronyms are used in Specifications or other Contract Documents, they shall mean the recognized name of the organizations responsible for the standards and regulations in the following list. Names, telephone numbers, and Web sites are subject to change and are believed to be accurate and up-to-date as of the date of the Contract Documents.

ADAAG	Americans with Disabilities Act (ADA) Architectural Barriers Act (ABA) Accessibility Guidelines for Buildings and Facilities Available from Access Board www.access-board.gov	(800) 872-2253 (202) 272-0080
CFR	Code of Federal Regulations Available from Government Printing Office www.gpoaccess.gov/cfr/index.html	(866) 512-1800 (202) 512-1800
FS	Federal Specification Available from Department of Defense Single Stock Point http://dodssp.daps.dla.mil Available from Defense Standardization Program www.dps.dla.mil Available from General Services Administration www.gsa.gov	(215) 697-6257 (202) 619-8925

	Available from National Institute of Building Sciences www.nibs.org	(202) 289-7800
UFAS	Uniform Federal Accessibility Standards Available from Access Board www.access-board.gov	(800) 872-2253 (202) 272-0080

1.5 ABBREVIATIONS AND ACRONYMS

A. Industry Organizations: Where abbreviations and acronyms are used in Specifications or other Contract Documents, they shall mean the recognized name of the entities in the following list. Names, telephone numbers, and Web sites are subject to change and are believed to be accurate and up-to-date as of the date of the Contract Documents.

AA	Aluminum Association, Inc. (The) www.aluminum.org	(703) 358-2960
AAADM	American Association of Automatic Door Manufacturers www.aaadm.com	(216) 241-7333
AABC	Associated Air Balance Council www.aabchq.com	(202) 737-0202
AAMA	American Architectural Manufacturers Association www.aamanet.org	(847) 303-5664
AASHTO	American Association of State Highway and Transportation Officials www.transportation.org	(202) 624-5800
AATCC	American Association of Textile Chemists and Colorists (The) www.aatcc.org	(919) 549-8141
ABAA	Air Barrier Association of America www.airbarrier.org	(866) 956-5888
ABMA	American Bearing Manufacturers Association www.abma-dc.org	(202) 367-1155
ACI	ACI International (American Concrete Institute) www.aci-int.org	(248) 848-3700
ACPA	American Concrete Pipe Association www.concrete-pipe.org	(972) 506-7216
AEIC	Association of Edison Illuminating Companies, Inc. (The) www.aeic.org	(205) 257-2530

AF&PA	American Forest & Paper Association www.afandpa.org	(800) 878-8878 (202) 463-2700
AGA	American Gas Association www.aga.org	(202) 824-7000
AGC	Associated General Contractors of America (The) www.agc.org	(703) 548-3118
AHAM	Association of Home Appliance Manufacturers www.aham.org	(202) 872-5955
AI	Asphalt Institute www.asphaltinstitute.org	(859) 288-4960
AIA	American Institute of Architects (The) www.aia.org	(800) 242-3837 (202) 626-7300
AISC	American Institute of Steel Construction www.aisc.org	(800) 644-2400 (312) 670-2400
AISI	American Iron and Steel Institute www.steel.org	(202) 452-7100
AITC	American Institute of Timber Construction www.aitc-glulam.org	(303) 792-9559
ALCA	Associated Landscape Contractors of America (Now PLANET - Professional Landcare Network)	
ALSC	American Lumber Standard Committee, Incorporated www.alsc.org	(301) 972-1700
AMCA	Air Movement and Control Association International, Inc. www.amca.org	(847) 394-0150
ANSI	American National Standards Institute www.ansi.org	(202) 293-8020
AOSA	Association of Official Seed Analysts, Inc. www.aosaseed.com	(505) 522-1437
APA	APA - The Engineered Wood Association www.apawood.org	(253) 565-6600
APA	Architectural Precast Association www.archprecast.org	(239) 454-6989
API	American Petroleum Institute www.api.org	(202) 682-8000

ARI	Air-Conditioning & Refrigeration Institute www.ari.org	(703) 524-8800
ARMA	Asphalt Roofing Manufacturers Association www.asphaltroofing.org	(202) 207-0917
ASCE	American Society of Civil Engineers www.asce.org	(800) 548-2723 (703) 295-6300
ASHRAE	American Society of Heating, Refrigerating and Air-Conditioning Engineers www.ashrae.org	(800) 527-4723 (404) 636-8400
ASME	ASME International (The American Society of Mechanical Engineers International) www.asme.org	(800) 843-2763 (973) 882-1170
ASSE	American Society of Sanitary Engineering www.asse-plumbing.org	(440) 835-3040
ASTM	ASTM International (American Society for Testing and Materials International) www.astm.org	(610) 832-9585
AWI	Architectural Woodwork Institute www.awinet.org	(800) 449-8811 (703) 733-0600
AWPA	American Wood-Preservers' Association www.awpa.com	(334) 874-9800
AWS	American Welding Society www.aws.org	(800) 443-9353 (305) 443-9353
AWWA	American Water Works Association www.awwa.org	(800) 926-7337 (303) 794-7711
BHMA	Builders Hardware Manufacturers Association www.buildershardware.com	(212) 297-2122
BIA	Brick Industry Association (The) www.bia.org	(703) 620-0010
BICSI	BICSI www.bicsi.org	(800) 242-7405 (813) 979-1991
BISSC	Baking Industry Sanitation Standards Committee www.bissc.org	(866) 342-4772
CCC	Carpet Cushion Council www.carpetcushion.org	(203) 637-1312

CDA	Copper Development Association www.copper.org	(800) 232-3282 (212) 251-7200
CGA	Compressed Gas Association www.cganet.com	(703) 788-2700
CIMA	Cellulose Insulation Manufacturers Association www.cellulose.org	(888) 881-2462 (937) 222-2462
CISCA	Ceilings & Interior Systems Construction Association www.cisca.org	(630) 584-1919
CISPI	Cast Iron Soil Pipe Institute www.cispi.org	(423) 892-0137
CLFMI	Chain Link Fence Manufacturers Institute www.chainlinkinfo.org	(301) 596-2583
CPA	Composite Panel Association www.pbmdf.com	(301) 670-0604
CPPA	Corrugated Polyethylene Pipe Association www.cppa-info.org	(800) 510-2772 (202) 462-9607
CRI	Carpet & Rug Institute (The) www.carpet-rug.com	(800) 882-8846 (706) 278-3176
CRSI	Concrete Reinforcing Steel Institute www.crsi.org	(847) 517-1200
CSI	Cast Stone Institute www.caststone.org	(770) 972-3011
CSI	Construction Specifications Institute (The) www.csinet.org	(800) 689-2900 (703) 684-0300
CSSB	Cedar Shake & Shingle Bureau www.cedarbureau.org	(604) 820-7700
CTI	Cooling Technology Institute www.cti.org	(281) 583-4087
DHI	Door and Hardware Institute www.dhi.org	(703) 222-2010
EIA	Electronic Industries Alliance www.eia.org	(703) 907-7500
EIMA	EIFS Industry Members Association www.eima.com	(800) 294-3462 (770) 968-7945

EJCDC	Engineers Joint Contract Documents Committee www.ejdc.org	(703) 295-5000
EJMA	Expansion Joint Manufacturers Association, Inc. www.ejma.org	(914) 332-0040
ESD	ESD Association www.esda.org	(315) 339-6937
FMG	FM Global www.fmglobal.com	(401) 275-3000
FSA	Fluid Sealing Association www.fluidsealing.com	(610) 971-4850
FSC	Forest Stewardship Council www.fsc.org	49 228 367 66 0
GA	Gypsum Association www.gypsum.org	(202) 289-5440
GANA	Glass Association of North America www.glasswebsite.com	(785) 271-0208
GS	Green Seal www.greenseal.org	(202) 872-6400
GSI	Geosynthetic Institute www.geosynthetic-institute.org	(610) 522-8440
HI	Hydraulic Institute www.pumps.org	(888) 786-7744 (973) 267-9700
HI	Hydronics Institute www.gamanet.org	(908) 464-8200
HPVA	Hardwood Plywood & Veneer Association www.hpva.org	(703) 435-2900
HPW	H. P. White Laboratory, Inc. www.hpwhite.com	(410) 838-6550
IBR	Institute of Boiler & Radiation Manufacturers	
ICEA	Insulated Cable Engineers Association, Inc. www.icea.net	(770) 830-0369
ICRI	International Concrete Repair Institute, Inc. www.icri.org	(847) 827-0830

IEC	International Electrotechnical Commission www.iec.ch	41 22 919 02 11
IEEE	Institute of Electrical and Electronics Engineers, Inc. (The) www.ieee.org	(212) 419-7900
IESNA	Illuminating Engineering Society of North America www.iesna.org	(212) 248-5000
IEST	Institute of Environmental Sciences and Technology www.iest.org	(847) 255-1561
IGCC	Insulating Glass Certification Council www.igcc.org	(315) 646-2234
IGMA	Insulating Glass Manufacturers Alliance www.igmaonline.org	(613) 233-1510
ILI	Indiana Limestone Institute of America, Inc. www.iliai.com	(812) 275-4426
ISO	International Organization for Standardization www.iso.ch	41 22 749 01 11
	Available from ANSI www.ansi.org	(202) 293-8020
ISSFA	International Solid Surface Fabricators Association www.issfa.net	(877) 464-7732 (702) 567-8150
ITS	Intertek www.intertek.com	(800) 345-3851 (713) 407-3500
ITU	International Telecommunication Union www.itu.int/home	41 22 730 51 11
KCMA	Kitchen Cabinet Manufacturers Association www.kcma.org	(703) 264-1690
LMA	Laminating Materials Association (Now part of CPA)	
LPI	Lightning Protection Institute www.lightning.org	(800) 488-6864 (804) 314-8955
MBMA	Metal Building Manufacturers Association www.mbma.com	(216) 241-7333
MFMA	Maple Flooring Manufacturers Association, Inc. www.maplefloor.org	(847) 480-9138

MFMA	Metal Framing Manufacturers Association www.metalframingmfg.org	(312) 644-6610
MHIA	Material Handling Industry of America www.mhia.org	(800) 345-1815 (704) 676-1190
MIA	Marble Institute of America www.marble-institute.com	(440) 250-9222
MPI	Master Painters Institute www.paintinfo.com	(888) 674-8937
MSS	Manufacturers Standardization Society of The Valve and Fittings Industry Inc. www.mss-hq.com	(703) 281-6613
NAAMM	National Association of Architectural Metal Manufacturers www.naamm.org	(312) 332-0405
NACE	NACE International (National Association of Corrosion Engineers International) www.nace.org	(800) 797-6623 (281) 228-6200
NADCA	National Air Duct Cleaners Association www.nadca.com	(202) 737-2926
NAIMA	North American Insulation Manufacturers Association www.naima.org	(703) 684-0084
NBGQA	National Building Granite Quarries Association, Inc. www.nbgqa.com	(800) 557-2848
NCAA	National Collegiate Athletic Association (The) www.ncaa.org	(317) 917-6222
NCMA	National Concrete Masonry Association www.ncma.org	(703) 713-1900
NCPI	National Clay Pipe Institute www.ncpi.org	(262) 248-9094
NCTA	National Cable & Telecommunications Association www.ncta.com	(202) 775-3550
NEBB	National Environmental Balancing Bureau www.nebb.org	(301) 977-3698
NECA	National Electrical Contractors Association www.necanet.org	(301) 657-3110

NeLMA	Northeastern Lumber Manufacturers' Association www.nelma.org	(207) 829-6901
NEMA	National Electrical Manufacturers Association www.nema.org	(703) 841-3200
NETA	International Electrical Testing Association www.netaworld.org	(888) 300-6382 (303) 697-8441
NFHS	National Federation of State High School Associations www.nfhs.org	(317) 972-6900
NFPA	NFPA (National Fire Protection Association) www.nfpa.org	(800) 344-3555 (617) 770-3000
NFRC	National Fenestration Rating Council www.nfrc.org	(301) 589-1776
NGA	National Glass Association www.glass.org	(866) 342-5642 (703) 442-4890
NHLA	National Hardwood Lumber Association www.natlhardwood.org	(800) 933-0318 (901) 377-1818
NLGA	National Lumber Grades Authority www.nlga.org	(604) 524-2393
NOFMA	NOFMA: The Wood Flooring Manufacturers Association www.nofma.org	(901) 526-5016
NRCA	National Roofing Contractors Association www.nrca.net	(800) 323-9545 (847) 299-9070
NRMCA	National Ready Mixed Concrete Association www.nrmca.org	(888) 846-7622 (301) 587-1400
NSF	NSF International (National Sanitation Foundation International) www.nsf.org	(800) 673-6275 (734) 769-8010
NSSGA	National Stone, Sand & Gravel Association www.nssga.org	(800) 342-1415 (703) 525-8788
NTMA	National Terrazzo & Mosaic Association, Inc. (The) www.ntma.com	(800) 323-9736 (540) 751-0930
NYBFU	New York Board of Fire Underwriters www.nybfu.org	(212) 227-3700

PCI	Precast/Prestressed Concrete Institute www.pci.org	(312) 786-0300
PDCA	Painting & Decorating Contractors of America www.pdca.com	(800) 332-7322 (314) 514-7322
PDI	Plumbing & Drainage Institute www.pdionline.org	(800) 589-8956 (978) 557-0720
PGI	PVC Geomembrane Institute http://pgi-tp.ce.uiuc.edu	(217) 333-3929
PLANET	Professional Landcare Network www.landcarenetwork.org	(800) 395-2522
PTI	Post-Tensioning Institute www.post-tensioning.org	(602) 870-7540
RCSC	Research Council on Structural Connections www.boltcouncil.org	(800) 644-2400 (312) 670-2400
RFCI	Resilient Floor Covering Institute www.rfci.com	(301) 340-8580
RIS	Redwood Inspection Service www.calredwood.org	(888) 225-7339 (415) 382-0662
SAE	SAE International www.sae.org	(877) 606-7323 (724) 776-4841
SBI	Steel Boiler Institute	
SDI	Steel Deck Institute www.sdi.org	(847) 458-4647
SDI	Steel Door Institute www.steeldoor.org	(440) 899-0010
SEFA	Scientific Equipment and Furniture Association www.sefalabs.com	(516) 294-5424
SGCC	Safety Glazing Certification Council www.sgcc.org	(315) 646-2234
SIA	Security Industry Association www.siaonline.org	(703) 683-2075
SJI	Steel Joist Institute www.steeljoist.org	(843) 626-1995
SMA	Screen Manufacturers Association www.smacentral.org	(561) 533-0991

SMACNA	Sheet Metal and Air Conditioning Contractors' National Association www.smacna.org	(703) 803-2980
SMPTE	Society of Motion Picture and Television Engineers www.smpte.org	(914) 761-1100
SPFA	Spray Polyurethane Foam Alliance www.sprayfoam.org	(800) 523-6154
SPIB	Southern Pine Inspection Bureau (The) www.spib.org	(850) 434-2611
SPRI	Single Ply Roofing Industry www.spri.org	(781) 647-7026
SSINA	Specialty Steel Industry of North America www.ssina.com	(800) 982-0355 (202) 342-8630
SSPC	SSPC: The Society for Protective Coatings www.sspc.org	(877) 281-7772 (412) 281-2331
STI	Steel Tank Institute www.steeltank.com	(847) 438-8265
SWI	Steel Window Institute www.steelwindows.com	(216) 241-7333
SWRI	Sealant, Waterproofing, & Restoration Institute www.swrionline.org	(816) 472-7974
TCA	Tile Council of America, Inc. www.tileusa.com	(864) 646-8453
TIA/EIA	Telecommunications Industry Association/Electronic Industries Alliance www.tiaonline.org	(703) 907-7700
TMS	The Masonry Society www.masonrysociety.org	(303) 939-9700
TPI	Truss Plate Institute, Inc. www.tpinst.org	(703) 683-1010
TPI	Turfgrass Producers International www.turfgrasssod.org	(847) 649-5555
TRI	Tile Roofing Institute www.tileroofing.org	(312) 670-4177

UFPO	Underground Facilities Protective Organization www.ufpo.org	(800) 962-7962 (800) 962-7811
UL	Underwriters Laboratories Inc. www.ul.com	(877) 854-3577 (847) 272-8800
UNI	Uni-Bell PVC Pipe Association www.uni-bell.org	(972) 243-3902
USGBC	U.S. Green Building Council www.usgbc.org	(202) 828-7422
WASTEC	Waste Equipment Technology Association www.wastec.org	(800) 424-2869 (202) 244-4700
WCSC	Window Covering Safety Council www.windowcoverings.org	(800) 506-4636
WDMA	Window & Door Manufacturers Association www.wdma.com	(800) 223-2301
WI	Woodwork Institute www.wicnet.org	(916) 372-9943
WMMPA	Wood Moulding & Millwork Producers Association www.wmmpa.com	(800) 550-7889 (530) 661-9591
WSRCA	Western States Roofing Contractors Association www.wsrca.com	(800) 725-0333 (650) 570-5441
WWPA	Western Wood Products Association www.wwpa.org	(503) 224-3930

B. Code Agencies: Where abbreviations and acronyms are used in Specifications or other Contract Documents, they shall mean the recognized name of the entities in the following list. Names, telephone numbers, and Web sites are subject to change and are believed to be accurate and up-to-date as of the date of the Contract Documents.

IAPMO	International Association of Plumbing and Mechanical Officials www.iapmo.org	(909) 472-4100
ICC	International Code Council www.iccsafe.org	(888) 422-7233 (703) 931-4533
ICC-ES	ICC Evaluation Service, Inc. www.icc-es.org	(800) 423-6587 (562) 699-0543
NEC	National Electric Code	

C. Federal Government Agencies: Where abbreviations and acronyms are used in Specifications or other Contract Documents, they shall mean the recognized name of the entities in the following list. Names, telephone numbers, and Web sites are subject to change and are believed to be accurate and up-to-date as of the date of the Contract Documents.

CE	Army Corps of Engineers www.usace.army.mil	
CPSC	Consumer Product Safety Commission www.cpsc.gov	(800) 638-2772 (301) 504-7923
DOC	Department of Commerce www.commerce.gov	(202) 482-2000
DOD	Department of Defense http://.dodssp.daps.dla.mil	(215) 697-6257
DOE	Department of Energy www.energy.gov	(202) 586-9220
EPA	Environmental Protection Agency www.epa.gov	(202) 272-0167
FAA	Federal Aviation Administration www.faa.gov	(866) 835-5322
FCC	Federal Communications Commission www.fcc.gov	(888) 225-5322
FDA	Food and Drug Administration www.fda.gov	(888) 463-6332
GSA	General Services Administration www.gsa.gov	(800) 488-3111
HUD	Department of Housing and Urban Development www.hud.gov	(202) 708-1112
LBL	Lawrence Berkeley National Laboratory www.lbl.gov	(510) 486-4000
NCHRP	National Cooperative Highway Research Program (See TRB)	
NIST	National Institute of Standards and Technology www.nist.gov	(301) 975-6478
OSHA	Occupational Safety & Health Administration www.osha.gov	(800) 321-6742 (202) 693-1999

PBS	Public Building Service (See GSA)	
PHS	Office of Public Health and Science www.osophs.dhhs.gov/ophs	(202) 690-7694
RUS	Rural Utilities Service (See USDA)	(202) 720-9540
SD	State Department www.state.gov	(202) 647-4000
TRB	Transportation Research Board www.nas.edu/trb	(202) 334-2934
USDA	Department of Agriculture www.usda.gov	(202) 720-2791
USPS	Postal Service www.usps.com	(202) 268-2000

2.0 PRODUCTS - NOT USED

3.0 EXECUTION - NOT USED

*****END OF SECTION 01 42 00*****

SECTION 01 45 00 QUALITY CONTROL

1.0 GENERAL

1.1 DESCRIPTION

A. The Contractor shall provide and maintain an effective Contractor Quality Control (CQC) program and perform sufficient inspections and tests of all items of Work, including those of Subcontractors, to ensure compliance with Contract Documents. Include surveillance and tests specified in the technical sections of the Specifications. Furnish appropriate facilities, instruments, and testing devices required for performance of the quality control function. Controls must be adequate to cover construction operations and be keyed to the construction sequence. Construction shall not begin until the Owner has approved the CQC program.

1.2 CONTROL OF ON-SITE CONSTRUCTION

A. Include a control system for the following phases of inspection:

1. Pre-Installation Meeting. For all sections where pre-installations are defined, the Contractor shall arrange for a pre-installation meeting. When practical, pre-installation meetings shall be scheduled to take place on the same day as regularly schedule progress meetings. The Contractor shall make available, during this meeting, all approved submittals and products.

    a. Agenda to include the following:

        i. Appointment

        ii. Appointment of official representatives of participants in the Project.

        iii. Review of existing conditions and affected work, and testing thereof as required.

        iv. Review of installation procedures and requirements.

        v. Review of environmental and site condition requirements.

        vi. Schedule of the applicable portions of the Work.

        vii. Schedule of submission of samples, color chips, and items for Owners consideration.

        viii. Requirements for temporary facilities, site sign, offices, storage sheds, utilities, fences, Section 01 50 00.

        ix. Requirements for notification for reviews. Allow a minimum of 48 hour notice to Architect for review of the Work.

x. Requirements for inspections and tests, as applicable. Schedule and undertake inspections and tests in accordance with Section 01 41 00.

xi. Delivery schedule of specified equipment.

xii. Special safety requirements and procedures.

b. The following minimum personnel shall be at the meeting:

i. Project Manager.

ii. Project Field Supervisor

iii. Subcontractor

iv. Architect's Representative

v. Owner's Representative

vi. Testing Agency, when applicable

2. Preparatory Inspection. Perform this inspection prior to beginning work on any definable feature of Work. Include a review of contract requirements with the supervisors directly responsible for the performance of the Work; check to assure that materials, products, and equipment have been tested, submitted, and approved; check to assure that provisions have been made for required control testing; examine the work area to ascertain that preliminary work has been completed; physically examine materials and equipment to assure that they conform to shop drawings and data and that the materials and equipment are on hand.

3. Initial Inspection. Perform this inspection as soon as work commences on a representative portion of a particular feature of workmanship review control testing for compliance with contract requirements.

4. Follow-up Inspections. Perform these inspections on a regular basis to assure continuing compliance with contract requirements until completion of that particular work.

1.3 TESTING

A. The Owner may engage the services of an independent testing laboratory to confirm that an installed item or element of work conforms to the Specification and workmanship requirements.

1.4 OWNER'S REPRESENTATIVE

A. The Owner shall designate a Representative to monitor the progress and execution of the Work. The Representative shall have the authority to call for test samples, to approve or to reject work performed and to stop work in progress, if, in its opinion, the work is not in conformance with the Contract Documents. The Representative shall not be authorized to make changes or interpretations of the Contract Documents.

1. The Contractor shall maintain a project Deficiency/Issues Log in the ePM system to track non-conforming materials or sub-standard workmanship identified by Owner's Representative.

2.0 PRODUCTS – NOT USED

3.0 EXECUTION – NOT USED

*****END OF SECTION 01 45 00*****

SECTION 01 45 33 CODE REQUIRED SPECIAL INSPECTIONS AND PROCEDURES

1.0 GENERAL

1.1 REQUIREMENTS

A. Special Inspections and Structural Testing shall be in accordance with Chapter 17 of the *Building Code of New York State* (BCNYS).

B. Hold a Special Inspections preconstruction meeting at least seven (7) days prior to the initial planned date for start of construction.

1. Discussion shall include the following:

a. Review of specifications and Schedule of Special Inspections for work requiring Special Inspections.

b. Responsibilities of Contractor, Owner, Testing Agency, Special Inspector, and Registered Design Professional.

c. Notification and reporting procedures.

2. Attendees shall include the Contractor, Owner's representative, Testing Agency, Special Inspector, and Registered Design Professionals for Structural Engineering and for Architecture.

1.2 DEFINITIONS

A. Registered Design Professional: The licensed Professional Engineer or Registered Architect whose seal appears on the Construction Drawings.

B. Code Enforcement Official: The Officer or other designated authority charged with administration and enforcement of the BCNYS.

C. Testing/Inspecting Agency: An agent retained by the Special Inspector or by the Owner and coordinated by the Special Inspector, to perform some of the inspection services on behalf of the Special Inspector. (An example of an Inspecting Agent is a Geotechnical Engineer.)

D. Statement of Special Inspections: A document prepared by the Registered Design Professional and filed with and approved by the Code Enforcement Official that includes the Schedule of Special Inspections listing the materials and work requiring Special Inspections. This document includes the inspections and verifications required for the project and the individuals, agencies, and/or firms who will be retained to perform these services.

E. Continuous Special Inspection: The full-time observation of work by the Special Inspector or Testing Agency while the work is being performed.

F. Periodic Special Inspections: The part-time or intermittent observation of work by the Special Inspector or Testing Agency for work that has been or is being performed and at the completion of the Work.

1.3 QUALIFICATIONS

A. The Special Inspector and Testing/Inspecting Agency shall be accepted by the Owner.

B. Special Inspections shall be performed by agents who have relevant experience for each category of inspections indicated on the drawings.

C. Minimum qualifications of inspection agents are indicated on the drawings.

1.4 SUBMITTALS

A. The Special Inspector and Testing/Inspecting Agency shall submit to the Registered Design Professional and Code Enforcement Official for review, a copy of their qualifications including the names and qualifications of each of the individual inspectors and technicians who will be performing inspections or tests.

B. The Special Inspector and Testing/Inspecting Agency shall disclose any past or present business relationship or potential conflict of interest with the Contractor or any of the Subcontractors whose work will be inspected or tested.

1.5 PAYMENT

A. The Owner will engage and pay for the services of the Special Inspector and Testing/Inspecting Agency.

B. If any materials requiring Special Inspections are fabricated in a plant not located within 200 miles of the project site, the Contractor shall be responsible for the travel expenses of the Special Inspector or Testing/Inspecting Agency.

C. The Contractor shall be responsible for the cost of any retesting or re-inspection of work failing to comply with the requirements of the Contract Documents.

1.6 OWNER RESPONSIBILITIES

A. The Owner will provide the Special Inspector with a complete set of Contract Documents sealed by the Registered Design Professional and approved by the Code Enforcement Official.

1.7 CONTRACTOR RESPONSIBILITIES

A. The Contractor shall cooperate with the Special Inspector and his agents so that Special Inspections and testing may be performed without hindrance.

B. As indicated in the Schedule of Special Inspections, the Contractor shall notify the Special Inspector and/or Testing/Inspecting Agency at least 48 hours in advance of a required inspection or test.

C. The Contractor shall provide incidental labor and facilities to provide access to the Work to be inspected or tested, to obtain and handle samples at the site or at source of products to be tested, to facilitate tests and inspections, and for storage and curing of test samples.

D. If Special Inspections or testing require the use of the Contractor's scaffolding to access work areas, the Contractor shall provide a competent person to perform the daily evaluation of the scaffolding to verify that it is safe to use. The Contractor shall notify the Special Inspector and Testing Agent of this review before each use. The Contractor is responsible for the safe assembly and stability of the scaffolding.

E. The Contractor shall keep the latest set of Construction Drawings, field sketches, accepted shop drawings, and specifications at the project site for field use by the Inspectors and Testing Technicians.

F. The Contractor shall perform remedial work (if required) and sign non-conformance reports stating that remedial work has been completed. The Contractor shall submit signed reports to the Special Inspector as Work proceeds.

G. The Special Inspection program shall in no way relieve the Contractor of his obligation to perform work in accordance with the requirements of the Contract Documents or from implementing an effective Quality Control program.

H. The Contractor shall be solely responsible for construction site safety.

1.8 LIMITS ON AUTHORITY

A. The Special Inspector or Testing/Inspecting Agency shall not release, revoke, alter, or enlarge on the requirements of the Contract Documents.

B. The Special Inspector or Testing/Inspecting Agency shall not have control over the Contractor's means and methods of construction.

C. The Special Inspector or Testing/Inspecting Agency shall not be responsible for construction site safety.

D. The Special Inspector or Testing/Inspecting Agency shall not have the authority to stop the Work.

2.0 INSPECTIONS AND TESTING

A. The Contractor shall follow the Special Inspection requirements developed by the Registered Design Professional of Record.

3.0 DOCUMENTATION

3.1 RECORDS AND REPORTS

A. Detailed reports shall be prepared of each test or inspection. The reports shall include the following general information:

1. Project name and number.

2. Date of test or inspection.

3. Name of Testing Agency or Inspecting Agency.

4. Name of technician or inspector.

5. Weather conditions.

6. Locations and elevations of specific areas tested or inspected referenced to gridlines.

7. Description of test or inspection.

8. Reference to applicable ASTM standard.

9. Summary of observations, results, and recommendations.

10. Description of any areas or materials requiring retesting or re-inspection.

B. Concrete compressive strength test reports shall contain the following information:

1. Name of Contractor and concrete supplier.

2. Name of concrete testing service.

3. Name of technician making and testing specimens.

4. Truck number and delivery ticket number.

5. Date and location within the structure of concrete placement.

6. Concrete type, class, mix proportions of materials, and design compressive strength at 28 days.

7. Slump, air content, unit weight, and concrete temperature.

8. Total time period between batching and completion of placement for each truck.

9. Compressive strength and type of break for all tests.

C. Field reports for concrete inspection shall contain the general information noted above, plus ambient temperature and cylinder numbers.

D. Test reports for masonry materials shall include proportions, composition, and compressive strength.

3.2 COMMUNICATION

A. The Testing/Inspecting Agency shall immediately notify the Owner, Contractor, Special Inspector, and Registered Design Professional by telephone or email of any test results failing to comply with the requirements of the Contract Documents.

B. The Special Inspector shall immediately notify the Contractor of any work found to be in nonconformance with the Contract Documents during inspections. If the nonconforming work is not corrected while the Special Inspector is on-site, the Special Inspector shall notify the Owner and Registered Design Professional within 24 hours (one business day) and issue a nonconformance report. The Special Inspector may use the Special Inspection Non-Conformance Report form at the end of this section or other similar form.

C. If the nonconforming work is not corrected at the time of substantial completion of the structure or other appropriate time, the Special Inspector shall notify the Owner.

3.3 DISTRIBUTION OF REPORTS

A. The Testing/Inspecting Agency shall submit reports to the Owner, Special Inspector and the Registered Design Professional within seven (7) days of the inspection or test. Reports may be submitted in the ePM system.

B. The Special Inspector shall submit reports to the Owner and Registered Design Professional within seven (7) days of the inspections. Reports may be submitted in the ePM system

C. If requested by the Code Enforcement Official, the Special Inspector shall submit interim reports which include all inspections and tests performed since the beginning of construction or since the previous interim report. Interim reports shall be addressed to the Code Enforcement Official with copies sent to the Registered Design Professionals (Structural Engineer and Architect) and Contractor. Interim reports shall be signed by the agent performing inspections.

3.4 FINAL REPORT OF SPECIAL INSPECTIONS

A. At the completion of Work, each Testing/Inspecting Agency shall electronically submit an Agent's Final Report of Special Inspections to the Special Inspector stating that work was completed in substantial conformance with the Contract Documents and that appropriate inspections and tests were performed. The Testing/Inspecting Agency may use the Agent's Final Report of Special Inspections form provided at the end of this section or other similar form.

B. At the completion of Work, the Special Inspector shall compile all inspection and test reports generated by each Agent into a Final Report of Special Inspections. The Final Report of Special Inspections shall state that required inspections have been performed and shall itemize any nonconforming work not corrected or resolved.

C. The Special Inspector may use the Final Report of Special Inspections form provided at the end of this section or other similar form based on CASE Form 102-2001.

D. The Special Inspector shall submit The Final Report of Special Inspections to the Owner, Registered Design Professional and Code Enforcement Official prior to issuance of a Certificate of Use and Occupancy.

SPECIAL INSPECTION NON-CONFORMANCE REPORT NO.

DATE: _____

TO:

CC: Contractor:

FROM: _____, Special Inspector

PROJECT:

PART I: REFERENCE SPECIAL INSPECTION REPORT NO. _____

(*Attach copy of report*)

DESCRIPTION OF NON-CONFORMANCE:

RDP RESPONSE: (PROVIDE ATTACHMENTS IF NECESSARY)

RDP SIGNATURE _____ DATE_____

IS RE-INSPECTION BY SPECIAL INSPECTOR REQUIRED □ YES □ NO

PART II: CONTRACTOR VERIFICATION (To be completed by either the ***[General Contractor or Construction Manager]*** or Subcontractor and returned to the Special Inspector and the RDP.)

I verify that as of the date listed, the non-conforming item noted above has been corrected as required.

Date Completed _____ By _____

(Contractor's Site Representative)

AGENT'S FINAL REPORT OF SPECIAL INSPECTIONS

Project Name: _____ Special Inspector: _____

Location: _____ Agent: _____

Special Inspector's Project: _____

Agent's Project: _____

To the best of my information, knowledge, and belief, the Special Inspections or testing required for this project and designated for this Agent in the Statement of Special Inspections (which includes the Schedule of Special Inspections) submitted for permit have been performed and discovered discrepancies have been reported and resolved other than the following:

Comments:

[Attach continuation sheets if required to complete description of uncorrected discrepancies.]

Respectfully submitted,
Agent of the Special Inspector

_____
(Type or print name)

_____
Signature Date

_____
Address

_____
City, State, Zip

Design Professional Seal
or Certification

FINAL REPORT OF SPECIAL INSPECTIONS
AND STRUCTURAL OBSERVATIONS

Project Name: _____

Location: _____

Owner: CORNELL UNIVERSITY
Owner's Address:

Registered Design Professionals

Architecture: *Name*
Address

Structural Engineering: *Name*
Address

Special Inspector: *Name*
Address

To the best of my information, knowledge, and belief, the Special Inspections required for this project and itemized in the Statement of Special Inspections (which includes the Schedule of Special Inspections) submitted for permit have been performed and discovered discrepancies have been reported and resolved other than the following:

Comments:

[Attach continuation sheets if required to complete description of uncorrected discrepancies.]

Interim reports submitted prior to this final report form a basis for and are to be considered an integral part of this final report. Agent's Final Reports of Special Inspections are attached and are also a part of this Final Report.

Respectfully submitted,

Special Inspector

_____
(Type or print name)

_____
Signature Date

Professional Seal

*****END OF SECTION 01 45 33*****

Schedule of Inspection and Testing Agencies

This Statement of Special Inspections/Quality Assurance Plan includes the following building systems:

- ☒ Soils and Foundations
- ☒ Cast-in-Place Concrete
- ☐ Precast Concrete
- ☐ Masonry
- ☐ Structural Steel
- ☐ Cold-Formed Steel Framing
- ☐ Spray Fire Resistant Material
- ☐ Wood Construction
- ☐ Exterior Insulation and Finish System
- ☐ Mechanical & Electrical Systems
- ☐ Architectural Systems
- ☐ Special Cases

Special Inspection Agencies	Firm	Address, Telephone, e-mail
1. Special Inspection Coordinator		
2. Inspector		
3. Inspector		
4. Testing Agency		
5. Testing Agency		
6. Other		

Note: The inspectors and testing agencies shall be engaged by the Owner or the Owner's Agent, and not by the Contractor or Subcontractor whose work is to be inspected or tested. Any conflict of interest must be disclosed to the Building Official, prior to commencing work.

Quality Assurance Plan

Quality Assurance for Seismic Resistance

Seismic Design Category	*B*
Quality Assurance Plan Required (Y/N)	*N*

Description of seismic force resisting system and designated seismic systems:

Steel frame and concrete deck.

Quality Assurance for Wind Requirements

Basic Wind Speed (3 second gust)	*120 mph*
Wind Exposure Category	*B*
Quality Assurance Plan Required (Y/N)	*N*

Description of wind force resisting system and designated wind resisting components:

Steel frame and concrete deck.

Statement of Responsibility

Each contractor responsible for the construction or fabrication of a system or component designated above must submit a Statement of Responsibility.

Qualifications of Inspectors and Testing Technicians

The qualifications of all personnel performing Special Inspection and testing activities are subject to the approval of the Building Official. The credentials of all Inspectors and testing technicians shall be provided if requested.

Key for Minimum Qualifications of Inspection Agents:

When the Registered Design Professional in Responsible Charge deems it appropriate that the individual performing a stipulated test or inspection have a specific certification or license as indicated below, such designation shall appear in the 'Type or Area' column on the Schedule.

PE/SE	Structural Engineer – a licensed PE specializing in the design of building structures
PE/GE	Geotechnical Engineer – a licensed PE specializing in soil mechanics and foundations
EIT	Engineer-In-Training – a graduate engineer who has passed the Fundamentals of Engineering examination

American Concrete Institute (ACI) Certification

ACI-CFTT	Concrete Field Testing Technician – Grade 1
ACI-CCI	Concrete Construction Inspector
ACI-LTT	Laboratory Testing Technician – Grade 1 & 2
ACI-STT	Strength Testing Technician

American Welding Society (AWS) Certification

AWS-CWI	Certified Welding Inspector
AWS/AISC-SSI	Certified Structural Steel Inspector

American Society of Non-Destructive Testing (ASNT) Certification

ASNT	Non-Destructive Testing Technician – Level II or III.

International Code Council (ICC) Certification

ICC-SMSI	Structural Masonry Special Inspector
ICC-SWSI	Structural Steel and Welding Special Inspector
ICC-SFSI	Spray-Applied Fireproofing Special Inspector
ICC-PCSI	Prestressed Concrete Special Inspector
ICC-RCSI	Reinforced Concrete Special Inspector

National Institute for Certification in Engineering Technologies (NICET)

NICET-CT	Concrete Technician – Levels I, II, III & IV
NICET-ST	Soils Technician - Levels I, II, III & IV
NICET-GET	Geotechnical Engineering Technician - Levels I, II, III & IV

Type or Area of Special Inspection	Freq. of Inspection or Testing		Reference Standard (if applicable)	BCNYS Reference
	Continuous	Periodic		
1. Verify materials below shallow foundations are adequate to achieve the design bearing capacity. *PE/GE*		*x*		*1705.6.1*
2. Verify excavations are extended to proper depth and have reached proper material.		*x*		*1705.6.2*
3. Perform classification and testing of compacted fill materials.		*x*		*1705.6.3*
4. Verify use of proper materials, densities and lift thicknesses during placement and compaction of compacted fill.	*x*			*1705.6.4*
5. Prior to placement of compacted fill, inspect subgrade and verify that site has been prepared properly. *PE/GE*		*x*		*1705.6.5*

Type or Area of Special Inspection	Freq. of Inspection or Testing		Reference Standard (if applicable)	BCNYS Reference
	Continuous	Periodic		
1. Inspect reinforcing steel for correct material, size, condition and placement.		x	ACI 318: 3.5 ACI 318: 7.1-7.7	1903.5, 1907.1 1907.7, 1914.4
2. Inspect reinforcing steel welding: a) Verify Weldability of reinforcing bars other than ASTM A706; b) Inspect single-pass fillet welds, maximum 5/16", and c) Inspect all other welds	- X	X x	AWS D1.4 ACI 318: 3.5.2	1903.5.2
3. Prior to and during placement of concrete, inspect dowels installed in concrete for proper location and depth of embedment.	X			
4. Verify use of required mix design.		X	ACI 318: CH. 4 ACI 318: 5.2-5.4	1904, 1905.2, 1905.4, 1914.2, 1914.3
5. Prior to concrete placement, fabricate specimens for strength tests, perform slump and air contents tests, and determine the temperature of the concrete	X		ASTM C172 ASTM C31 ACI 318: 5.6, 5.8	1905.6, 1914.10
8. Verify maintenance of specified curing temperature and techniques.		X	ACI 318: 5.11-5.13	1905.11, 1905.13, 1914.9
9. Inspect formwork for shape, location and dimensions of the concrete member being formed.	X			

END OF SECTION 014110

SECTION 01 50 00 TEMPORARY FACILITIES AND CONTROLS

1.0 GENERAL

1.1 DESCRIPTION

A. The Contractor shall furnish, install and maintain all temporary facilities and services of every kind, as required by the Contractor and by its Subcontractors for their performance of the Work and compliance with the Contract Documents, and shall remove such facilities and complete such services upon the completion of all other work, or as Cornell University may direct.

B. The Contractor shall obtain all required permits and approvals for and shall provide, construct, or install, as well as operate, maintain, service and remove temporary facilities and services.

1.2 REQUIREMENTS OF REGULATORY AGENCIES

A. Comply with Federal, State and local codes and safety regulations.

2.0 PRODUCTS

2.1 MATERIALS, GENERAL

A. Choice of materials, as suitable for the accomplishment of the intended purpose, is the Contractor's option.

B. Materials may be new or used, but must not violate requirements of applicable codes, standards and specifications.

2.2 TEMPORARY FIRST AID FACILITIES

A. Provide first aid equipment and supplies, with qualified personnel continuously available to render first aid at the site.

B. Provide a sign, posted at the telephone, listing the telephone numbers for emergency medical services: Physicians, ambulance services and hospitals.

2.3 TEMPORARY FIRE PROTECTION

A. Provide a fire protection and prevention program for employees and personnel at the site. Any fire watches as a result of construction operations are the responsibility of the Contractor. Comply with NFPA 241. Develop, manage, and supervise an overall fire-prevention and -protection program for personnel at Project site. Review needs with Cornell University Fire Marshall Office (UFMO) and local fire code official and establish procedures to be followed. Instruct personnel in methods and procedures. Post warnings and information.

1. Impairments "Fire Code of NYS Section 901.7". Impairment; "the removal of fire alarm devices or sprinkler system coverage in a building." There are two different levels of impairments

   a. Partial Impairment. The removal of fire alarm devices or sprinkler system coverage via control valve in the immediate area of where work is to be performed.

      - Basic Impairment Notification will be sent to Local Authority Having Jurisdiction and FM Global.

      - No fire watch will be required unless the UFMO determines otherwise.

   b. Full System Impairment. The complete removal of a fire alarm "system" or sprinkler "system". Impairment of both the fire alarm system and sprinkler system at the same time is not allowed.

      - Full System Impairment Notification will be sent by the UFMO to local Authority Having Jurisdiction, FM Global, Ithaca Fire Department, Building Manager, Maintenance Manager, Customer Service, and Cornell Emergency Services.

      - Fire Watch staffing is the responsibility of the Contractor. The UFMO will require the Fire Watch person's name(s) and contact information to prepare the required Fire Watch Documentation Form.

B. Equipment:

1. Provide and maintain fire extinguishing equipment ready for instant use at all areas of the Project and at specific areas of critical fire hazard.

2. Hand extinguishers of the types and sizes recommended by the National Board of Fire Underwriters to control fires from particular hazards.

3. Construction period use of permanent fire protection system.

4. Water hoses connected to an adequate water pressure and supply system to reach each area or level of construction upon building enclosure or heating of the building.

5. Maintain existing standpipes and hoses for fire protection. Provide additional temporary hoses where required to comply with requirements. Hang hoses with a warning sign stating that hoses are for fire-protection purposes only and are not to be removed. Match hose size with outlet size and equip with suitable nozzles. Provide hoses of sufficient length to protect construction areas.

6. Maintain unobstructed access to fire extinguishers, fire hydrants, fire department connections, standpipes, temporary fire-protection facilities, stairways, and other access routes for emergency response personnel.

7. Where existing or temporary fire protection services are being replaced with new fire protection services, do not remove or impair existing or temporary services until new services are tested, accepted, placed into operation and use, and directed by the UFMO and AHJ.

8. At earliest feasible date in each area of Project, complete installation of permanent fire-protection facility and systems, including connected services, and place into operation and use. Instruct key personnel on use of facilities. Protect and maintain permanent fire protection system. Repair or replace any components damaged during construction.

C. Enforce fire-safety discipline:

1. Store combustible and volatile materials in an isolated, protected location.

2. Avoid accumulations of flammable debris and waste in or about the Project.

3. Prohibit smoking in the vicinity of hazardous conditions.

4. There is NO SMOKING allowed on construction sites located in any occupied building. Smoking is prohibited in all Cornell University buildings.

5. Closely supervise welding and torch-cutting operations in the vicinity of combustible materials and volatile conditions.

6. Supervise locations and operations of portable heating units and fuel.

D. Maintain fire extinguishing equipment in working condition, with current inspection certificate attached to each extinguisher.

E. Welding or burning operations shall be conducted under a Hot Work Permit issued in accordance with Section 01 41 00. Where such work is permitted, the Contractor shall comply with Cornell EHS's *Contractor Guidelines for Hot Work* and provide an approved fire extinguisher in good operating condition within easy reach of the operating personnel. In each instance, obtain prior approval of Cornell University Environment, Health & Safety.

Contractor Guidelines for Hot Work, https://ehs.cornell.edu/campus-health-safety/fire-and-life-safety/hot-work-and-welding-safety/general-contractor-guidelines-for-hot-work

F. Advise Cornell University Environmental Health and Safety of any items affecting Life Safety, e.g., inoperable safety devices or systems, road blockages, exit closing, etc.

2.4 CONSTRUCTION AIDS

A. Provide construction aids and equipment required to assure safety for personnel and to facilitate the execution of the Work; Scaffolds, staging, ladders, stairs, ramps, runways, platforms, railings, hoists, cranes, chutes, fall protection, harness, tie-off points, and other such equipment.

B. When permanent stair framing is in place, provide temporary treads, platforms and railings, for use by construction personnel.

C. Maintain all equipment in a safe condition.

2.5 SUPPORTS

A. The Contractor shall include cost of all materials and labor necessary to provide all supports, beams, angles, hangers, rods, bases, braces, etc. to properly support the Contract Work. All supports, etc. shall meet the approval of the Architect.

B. Any and all supports that are of "custom" fabrication or installation shall be designed by the Contractor's NYS licensed PE with stamped & signed shop drawings and calculations provided for same.

2.6 TEMPORARY ENCLOSURES

A. Provide temporary weather-tight enclosure for building exterior, maintain in-place until installation of permanent enclosures. Provide temporary weather-tight enclosure of exterior walls as work progresses for protection of construction, in progress and completed, from exposure, foul weather, other construction operations, and similar activities, and as necessary to provide acceptable working conditions, provide weather protection for interior materials, provide weather protection for occupied areas, allow for effective temporary heating, and to prevent entry of unauthorized persons.

1. Provide temporary exterior doors with self-closing hardware and padlocks or locksets.

2. Other enclosures shall be removable as necessary for work and for handling of materials.

3. Where heating or cooling is needed and permanent enclosure is incomplete, insulate temporary enclosures.

4. Coordinate enclosure with ventilation requirements, material drying or curing requirements, and specified environmental limitations to avoid dangerous or detrimental conditions and effects.

B. Provide temporary enclosures to separate work areas from areas of the existing building occupied by Owner; to prevent penetration of dust or moisture into occupied areas, to prevent damage to existing equipment, and to protect Owner's employees and operations from construction work.

1. Temporary partition and ceiling enclosures: Framing and sheet materials which comply with structural and fire rating requirements of applicable codes and standards.

   a. Close joints between sheet materials, and seal edges and intersections with existing surfaces, to prevent penetration of dust or moisture.

   b. In locations where fire protection is required, paint both sides of partitions and ceilings with fire-retardant paint as required by local fire regulations.

2. Do not remove existing exterior enclosure systems until new exterior enclosure systems are ready for installation. Complete removal of existing exterior enclosure systems as soon as possible. Immediately after completing removal, install new exterior enclosure systems and complete installation as soon as possible.

3. Do not remove existing HVAC systems connected to louvers at existing exterior enclosure systems until new HVAC systems and louvers at exterior enclosure systems are ready for installation. Complete removal of existing HVAC systems and louvers as soon as possible. Immediately after completing removal, install new HVAC systems and new louvers and complete installation as soon as possible.

2.7 TEMPORARY WATER CONTROL

A. The Contractor shall provide, maintain and operate pumps required to keep the Work free of water at all times.

B. Dispose of all water with due care and shall not infringe on the rights of others on the Site, of adjacent property owners and of the public. All cost in connection with the removal of such water shall be paid by the Contractor.

2.8 PERSONNEL, PUBLIC AND EMPLOYEE PROTECTION

A. Provide guardrails, barricades, fences, footways, tunnels and other devices necessary to protect all personnel, employees, and the public, against hazards on, adjacent to or accessing the construction site.

1. Provide signs, warning lights, signals, flags and illumination as necessary to alert persons to hazards and to provide safe, adequate visibility in areas of hazards.

2. Closed sidewalks need to be indicated with OSHA-approved signs, as well as, proper barricades.

3. Provide flag personnel as necessary to guide vehicles, protect personnel, public and employees.

2.9 ACCESS ROADS AND PARKING AREAS

A. Provide adequate temporary roads and walks to achieve all-weather access into the site from public thoroughfares, and within and adjacent to the site as necessary to provide uninterrupted access to field offices, work and storage areas.

B. Grade and provide drainage facilities to assure runoff of rainwater and to avoid blockage of flow from adjacent areas.

C. During dry weather wet down temporary unpaved areas when necessary to prevent blowing dust.

2.10 PROJECT IDENTIFICATION AND SIGNS

A. No Contractor signs to be displayed at the project site, unless authorized by the Owner in writing.

2.11 SECURITY

A. The Contractor shall provide security services as required to protect the interests of the Owner.

B. Locks applied to construction site gates and other access entrances shall be coordinated through the Project Manager to allow keys for emergency services.

2.12 FIELD OFFICES

A. Field offices are not required.

3.0 EXECUTION

3.1 PREPARATION

A. Consult with Owner, review site conditions and factors which affect construction procedures and temporary facilities, including adjacent properties and public facilities which may be affected by execution of the Work.

1. Designate the locations and extent of temporary construction, storage, and other temporary facilities and controls required for the expeditious accomplishment of the Work.

3.2 GENERAL

A. Comply with applicable requirements specified in sections of Division 02 through 40.

B. Make work structurally, mechanically and electrically sound throughout.

C. Install work in a neat and orderly manner.

D. Maintain, clean, service and repair facilities to provide continuous usage, and to the quality specified for the original installation.

E. Relocate facilities as required by progress of construction, by storage or work requirements, and to accommodate requirements of Owner and other contractors employed at the site.

F. Keep the site, at all times during the progress of the Work, free from accumulation of waste matter or rubbish and shall confine its apparatus, materials and operations of its workers to the limits prescribed except as the latter may be extended with the approval of the Owner's Representative. Cleaning of the structure or structures must be performed daily and removal of waste matter or rubbish must be performed at least once a week.

G. Contractor shall at all times keep access road and public roads clean of mud and construction debris and maintain dust control to the satisfaction of the Owner.

3.3 REMOVAL

A. Completely remove temporary structures, materials, equipment and services:

1. When construction needs can be met by use of permanent construction.

2. At completion of the Project.

B. Repair damage caused by installation or use of temporary facilities. Clean after removal.

C. Restore existing or permanent facilities used for temporary purposes to specified, or to original condition.

1. Remove foundations and underground installations for temporary construction and utilities.

2. Grade the areas of the site affected by temporary installations to required elevations and slopes, and clean the area.

*****END OF SECTION 01 50 00*****

SECTION 01 51 00 TEMPORARY UTILITIES

1.0 GENERAL

1.1 DESCRIPTION

A. The Contractor shall furnish, install and maintain temporary utilities required by all trades for construction. Remove on completion of the Work.

B. The Contractor shall provide all labor and materials for temporary connections and distribution.

1.2 REQUIREMENTS OF REGULATORY AGENCIES

A. Comply with National Electric Code, current edition.

B. Comply with Federal, State and local codes and safety regulations and with utility company requirements.

2.0 PRODUCTS

2.1 MATERIALS, GENERAL

A. Materials may be new or used, but must be adequate in capacity for the required usage, must not create unsafe conditions, and must not violate requirements of applicable codes and standards.

2.2 TEMPORARY ELECTRICITY, LIGHTING AND WATER

A. The Contractor shall have access to the Owner's water and electric power for constructing the Work. Temporary utility connections shall be made by the Contractor as close to its operations as possible as long as such connections do not over-load the capacity of the Owner's utilities or interfere with its customary utilization thereof. Utility access points shall be determined in cooperation with and acceptable to the Owner.

B. The Contractor shall be responsible for the economic use of the Owner's Water and Power. The Owner will pay for the water and power consumed in the construction of the Work as long as economical usage of these utilities is maintained. The Owner reserves the right to meter and charge for the power and water consumed if in the opinion of the Owner the usage of these utilities is not economically conducted by the Contractor. In such an event, the Owner shall give three (3) days written notice to the Contractor of its intentions to meter and charge for temporary utilities used by the Contractor.

C. All temporary power systems including wiring shall be removed by the Contractor when no longer required.

D. The minimum temporary lighting to be provided is at the rate of fifty foot candles, is to be maintained in each room and changed as required when interior walls are being erected. The required temporary lighting must be maintained for twenty-four (24) hours a day and seven (7) days a week at all stair levels and in all corridors below ground; in any and all egress; in all other spaces temporary lighting is to be maintained only during working hours. All temporary wiring and equipment shall be in conformity with the National Electric Code.

E. The minimum temporary outdoor security lighting to be provided is as follows:

1. Along the perimeter of the site fence, consisting of vandal-resistant light fixtures with HID lamps, located 150 foot center, mounted on the inside of the construction fence.

2. Lighting for temporary pedestrian paths and roadways, to provide a minimum of 0.1 foot-candle on the path of travel.

F. Three-phase temporary power circuits shall be installed as required to operate construction equipment of the various trades and to Install and test equipment such as pumps and elevators. The Contractor shall install and maintain temporary or permanent service for the permanently installed building equipment such as sump pumps, boilers, boiler controls, fans, pumps, so that such equipment may be operated when required and so ordered by the Owner's Representative for drainage or for temporary heat.

G. Except as otherwise provided in the Contract, the Contractor shall submit to the Owner or the Owner's Representative for approval a proposed schedule of all utility shutdowns and cutovers of all types which may be required in connection with the Work. Such schedule shall provide a minimum of two (2) weeks advance notice to the Owner prior to the time of the proposed shutdown and cutover. The Contractor shall be responsible for all charges relating to shutdowns.

H. Discontinuance, Changes and Removal

The Contractor shall:

1. Discontinue all temporary services required by the Contract when so directed by the Owner or the Owner's Representative. The discontinuance of any such temporary service prior to the completion of the Work shall not render the Owner liable for any additional cost entailed thereby.

2. Remove and relocate such temporary facilities as directed by the Owner or the Owner's Representative, and shall restore the Site and the Work to a condition satisfactory to the Owner.

2.3 TEMPORARY USE OF ELEVATOR

A. Use of Existing Elevator

1. If the Contractor elects to use the existing elevator equipment, the Contractor shall:

a. Provide adequate protection for such equipment and shall operate such equipment within a capacity not to exceed that allowed by law, rule or regulation.

b. Provide for the maintenance and cleaning of the elevator equipment as approved by the Owner's Representative.

c. Prior to start of construction, accurately record the condition of the existing elevator. Promptly repair or replace items that are damaged as a result of Contractor's use. Service calls that arise as a result of Contractor misuse will be charged to the Contractor. At Substantial Completion, restore elevators to condition existing before initial use.

d. Use only elevators designated by Owner's Representative at dates and times designated by Owner's Representative. Dates and times available for Contractor's use shall be scheduled with, and at the convenience of, the Owner, and may vary during the course of the Project.

e. Owner will not provide elevator operators or other monitoring of elevator use.

f. Do not load elevators beyond their rated weight capacity.

g. Provide code compliant protective coverings, barriers, devices, signs, or other procedures to protect elevator car and entrance doors and frame. If, despite such protection, elevators become damaged, engage elevator maintenance contractor to restore damaged work so no evidence remains of correction work. Return items that cannot be refinished in field to the shop, make required repairs and refinish entire unit, or provide new units as required.

h. Procure and coordinate the elevator maintenance contractor to gain access to the elevator shaft as required to complete the Work

2.4 TEMPORARY CONTRACTOR TELEPHONE SERVICE

A. Site Superintendent or their Representative shall carry a cellular telephone at all times.

B. Provide phone number to Cornell project representatives for communication during Work.

2.5 TEMPORARY SANITARY FACILITIES

A. The Owner shall designate sanitary facilities to be utilized by the Contractor during construction.

B. Existing plumbing facilities must be maintained during the project's duration and thoroughly cleaned at the project's completion. The Contractor will be responsible for any damage the facilities incur during the project's duration.

3.0 EXECUTION

3.1 REMOVAL

A. Completely remove temporary materials and equipment when their use is no longer required.

B. Clean and repair damage caused by temporary installations or use of temporary facilities.

C. Restore existing and permanent facilities used for temporary services to specified, or to original, condition.

*****END OF SECTION 01 51 00*****

SECTION 01 66 00 STORAGE AND PROTECTION

1.0 GENERAL

1.1 DESCRIPTION

A. Receive, pile, store and handle all materials, equipment and other items incorporated or to be incorporated in the Work, including items furnished by the Owner in a careful and prudent manner and shall protect them against loss or damage from every source.

B. Obscure from public view, in a manner acceptable to the Owner, staging and storage areas.

1.2 TRANSPORTATION AND HANDLING

A. Transport and handle products in accordance with manufacturer's instructions; using means and methods that will prevent damage, deterioration, and loss, including theft.

B. Schedule delivery to minimize long-term storage at Project site and to prevent overcrowding of construction space.

C. Coordinate delivery with installation time to ensure minimum holding time for items that are flammable, hazardous, easily damaged, or sensitive to deterioration, theft, and other losses.

D. Deliver products to Project site in an undamaged condition in manufacturer's original sealed container or other packaging system, complete with labels and instructions for handling, storing, unpacking, protecting, and installation.

E. Promptly inspect shipments to assure that products comply with requirements, quantities are correct and products are undamaged.

F. Provide equipment and personnel to handle products by methods to prevent soiling, disfigurement or damage.

1.3 ON-SITE STORAGE

A. Materials stored on the Site shall be neatly piled and protected, and shall be stored in a neat and orderly manner in locations that shall not interfere with the progress of the Work or with the daily functioning of the Institution.

B. Materials subject to weather damage shall be protected against the weather by floored weatherproof temporary storage sheds.

C. Comply with product manufacturer's written instructions for temperature, humidity, ventilation, and weather-protection requirements for storage.

D. Storage piles and sheds shall be located within the area designated as the Staging Area. The Contractor shall work to ensure that the condition of the staging area has no negative impact on the Campus, visually or otherwise; and that outside of that area. The Contractor has no impact at all on the Campus.

E. Materials stored within the building shall be distributed in such a manner as to avoid overloading of the structural frame, and never shall be concentrated in such a manner as to exceed the equivalent of 50 pounds per square foot uniformly distributed loading. Stored materials shall be moved if they interfere with the progress of the Work.

F. Should it become necessary during the course of the Work to move stored materials or equipment, the Contractor, at the direction of the Owner or the Owner's Representative, shall move such materials or equipment.

1.4 CAMPUS SITE / BOOKBANK DRIVE STORAGE

A. All property including construction materials and equipment stored at the Bookbank Drive or other Campus site, shall be stored at the Contractor's sole risk. The Contractor is solely responsible for repair or replacement of property due to any cause of loss. Due to work at the Bookbank Drive lot, staging space is limited and not guaranteed to be provided. If staging space is needed, a request should be submitted to the Project Manager.

B. The Contractor agrees to hold Cornell harmless from any accident or injury occurring at Bookbank Drive storage or other assigned Campus site associated with the Contractor's storage.

C. The Contractor understands that Cornell makes "no" warranty regarding any security at the Bookbank Drive or other assigned Campus site.

D. The Contractor agrees that it is solely responsible for any cleanup of any site contamination caused by the Contractor's storage or storage operations and the Contractor agrees to pay for cleanup of any contamination and restore the site back to the same condition it was found.

E. It shall be assumed that the Contractor is responsible for site contamination unless the Contractor has reported condition prior to moving storage materials and equipment onto the site. Each Contractor shall be responsible for their own general area whether defined formally or not but in cases where pollutants have traveled or are found in the public areas used by all contractors, the Contractor agrees as follows:

1. If it cannot be determined who is responsible for site contamination after an investigation, all contractors who could be responsible based upon location of the incident agree to share the expense of cleanup equally.

F. No storage of hazardous materials or environmental contaminants is permitted at the Bookbank Drive or any Campus site. All barrels must have labels affixed identifying contents.

G. The Contractor will be responsible for securing and maintaining any Campus site area designated to them. All contractor trailers or storage containers located on Cornell Campus Property will need to file for a building permit with the Town of Ithaca. If the trailer/container is there longer than 180 days, the trailer/container will need to meet the Building Code requirements of a permanent structure. The trailer/container will need a means of egress that can be operated from the inside and a fire extinguisher. The contractor will also need to file for a demolition permit when the trailer/container is removed

H. Unoccupied storage containers not within the project fence shall be labeled in the Cornell standard.

1.5 PROTECTION

A. The Contractor shall provide security personnel and adopt other security measures as may be necessary to adequately protect materials and equipment stored at the site. The Contractor shall be obligated to replace or pay for all materials and equipment including items furnished by the Owner which have been damaged or stolen prior to completion of the Work.

B. Protection of Utilities

1. If during the course of the Project, it is necessary to work adjacent to existing utilities, pipelines, structures and equipment, the Contractor shall take all necessary precautions to protect existing facilities from damage.

2. Locations of utilities as shown on the Contract Documents are approximate only. The Contractor shall excavate or otherwise locate to verify existing utilities in advance of its operation.

C. Protective Covering

1. All finished surfaces shall be protected by the Contractor as follows:

a. Door and windowsills and the jambs and soffits of openings used as passageways or through which material is handled, shall be cased and protected adequately against possible damage resulting from the conduct of the work of all trades.

b. All surfaces shall be clean and not marred upon delivery of the building to the Owner. The Contractor shall, without extra compensation, replace all blocks, gypsum board, plaster, paint, tile, and all other surfaces, whether or not protected, which are damaged, and shall refinish (including painting as specified) to satisfaction of Owner.

c. Tight wood sheathing shall be laid under any materials that are stored on finished concrete surfaces and planking must be laid before moving any materials over these finished areas. Wheelbarrows used over such areas shall have rubber tires on wheels.

d. Contractor has the responsibility for protection of carpeting and all finish flooring during all phases of the Work including after installation.

e. All floors exposed to view as a floor finish shall be protected by overlaying with plywood in all areas subject to construction traffic within and without the building, special care shall be taken to protect all stair finish surfaces including but not limited to flooring, wood in-fill stairs, cabinetry, counters, equipment, etc.

1.6 PROTECTION AFTER INSTALLATION

A. Protect installed products, including Owner-provided products, and control traffic in immediate area to prevent damage from subsequent operations.

B. Provide protective coverings at walls, projections, corners, and jambs, sills, and soffits of openings in and adjacent to traffic areas.

C. Cover walls and floors of elevator cabins, and jambs of cab doors, when elevators are used by construction personnel.

D. Protect finish floors and stairs from dirt, wear, and damage:

1. Secure heavy sheet goods or similar protective materials in place, in areas subject to foot traffic.

2. Lay planking or similar rigid materials in place, in areas subject to movement of heavy objects.

3. Lay planking or similar rigid materials in place, in areas where storage of products will occur.

E. Protect waterproofed and roofed surfaces:

1. Restrict use of surfaces for traffic of any kind, and for storage of products.

2. When an activity is mandatory, obtain recommendations for protection of surfaces from manufacturer. Install protection and remove on completion of activity. Restrict use of adjacent unprotected areas.

F. Restrict traffic of any kind across planted lawn and landscape areas.

2.0 PRODUCTS – NOT USED

3.0 EXECUTION – NOT USED

*****END OF SECTION 01 66 00*****

SECTION 01 73 29 CUTTING, PATCHING AND REPAIRING

1.0 GENERAL

1.1 DESCRIPTION

A. The Contractor shall be responsible for all cutting, fitting and patching, including excavation and backfill, required to complete the Work or to:

1. Make sure several parts fit together properly.
2. Uncover portions of the Work to provide for installation of ill-timed work.
3. Remove and replace defective work.
4. Remove and replace work not conforming to requirements of Contract Documents.
5. Remove samples of installed work as specified for testing.
6. Repair or restore existing or new surfaces and finishes to match adjacent existing or new surfaces and finishes.

B. Upon written instructions of the Owner's Representative:

1. Uncover designated portions of Work for Architect's observation of covered work.
2. Remove samples of installed materials for testing beyond that specified.
3. Remove Work to provide for the alteration of previously incorrectly installed work.
4. Patch work uncovered or removed.

C. Do not damage or endanger any Work by cutting or altering the Work or any part thereof.

D. Do not cut or otherwise alter the Work of the Owner except with the written consent of the Owner's Representative.

E. Where cutting and patching involves adding reinforcement to structural elements, submit details and engineering calculations showing integration of reinforcement with the original structure.

F. Openings and Chases

1. Build openings, including but not limited to channels, chases and flues as required to complete the Work as set forth in the Contract.
2. After installation and completion of any work for which openings have been provided, build in, over, and around and finish all such openings as required to complete the Work.
3. Furnish and install all sleeves, inserts, hangers and supports required for the execution of the Work.

1.2 SUBMITTALS

A. Submit a written request to the Architect prior to executing any cutting, alteration or excavation which affects the Work of the Owner, or which may affect the structural safety of any portion of the Project. Include:

1. Identification of the Project.

2. Description of the affected Work.

3. The necessity for doing the cutting, alteration or excavation.

4. The effect on the Work of the Owner's property, or on the structural integrity of the Project.

5. Description of the proposed Work:

   a. The scope of cutting, patching, alteration, or excavation.

   b. Contractor and trades who will execute the work.

   c. Products proposed to be used.

   d. The extent of refinishing to be done.

6. Alternatives to cutting, patching or excavation.

7. Designation of the responsibility for the cost of cutting and patching.

8. Written permission of any separate contractor whose work will be affected.

B. Should conditions of the Work or the schedule indicate a change of products from the original installation, submit a request for substitution as specified in Section 01 25 00 - Substitutions and Product Options.

C. Submit a written notice to the Architect and the Owner designating the date and the time the Work will be uncovered.

1.3 QUALITY ASSURANCE

A. Requirements for Structural Work: Do not cut and patch structural elements in a manner that would change their load-carrying capacity for load-deflection ratio.

1. Obtain written approval of the cutting and patching proposal before cutting and patching structural elements, including but not limited to the following:

   a. Foundation construction

   b. Bearing and retaining walls

   c. Structural concrete

   d. Structural steel and lintels

e. Structural decking

f. Miscellaneous structural metals

g. Exterior wall back-up supports and anchoring systems

h. Piping, ductwork, vessels, and equipment supports

i. Equipment supports

B. Operational Limitations: Do not cut and patch operating elements or related components in a manner that would result in reducing their capacity to perform as intended. Do not cut and patch operating elements or related components in a manner that would result in increased maintenance or decreased operation life or safety.

1. Obtain written approval of the cutting and patching proposal before cutting and patching the following operating elements or safety related systems:

a. Primary operational systems and equipment

b. Air or smoke barriers

c. Water, moisture, or vapor barriers

d. Membranes and flashings

e. Fire protection systems

f. Control systems

g. Communication systems

h. Electrical wiring systems

i. Operating systems of special construction for MEP work

C. Visual Requirements: Do not cut and patch construction exposed on the exterior or in occupied spaces in a manner that would, in the Owner's opinion, reduce the building's aesthetic qualities. Do not cut and patch construction in a manner that would result in visual evidence of cutting and patching. Remove and replace construction which was cut and patched in a visually unsatisfactory manner at no expense to the Owner.

D. Waterproofing and Water Tightness: Do not cut or alter waterproofed walls or floors or any structural members without written permission of the Owner.

1. Waterproofing and Roofing Membranes

a. Employ qualified contractors to accomplish all required cutting, patching, or repairing of existing waterproofing and roofing membranes.

b. Before beginning cutting, patching or repairing of existing waterproofing and roofing membranes, obtain approval of all materials, methods and contractor to be used from the Owner and agency, or agencies, holding bond or guarantee/warranty in force for membrane.

2. Water Tightness

   a. The Contractor shall be responsible for water tightness of product, materials, and workmanship, including work specified to be watertight and inferred by general practice to be watertight.

   b. All floors (slabs), walls, roof, glazing, windows, doors, sleeves through foundation walls, flashings, and similar items shall be watertight.

   c. If details or materials shown or specified are felt not satisfactory to produce water tightness, the Contractor shall inform the Owner's Representative before installation and submit proposed substitution or alternative method for review and approval. The Contractor shall execute approved change and make watertight at no additional cost to the Owner.

1.4 WARRANTIES

A. Replace, patch, and repair material and surfaces cut or damaged by methods and with materials in such a manner as not to void any warranties required or existing.

2.0 PRODUCTS

2.1 MATERIALS

A. Comply with the Contract Documents for each product involved.

B. Use materials identical to in-place or existing materials. For exposed surfaces, use materials that visually match existing adjacent surfaces to the fullest extent possible. If identical materials are unavailable or cannot be used, use materials whose installed performance will equal or surpass that of in-place or existing materials, and will match visual appearance of in-place or existing materials.

3.0 EXECUTION

3.1 INSPECTION

A. Inspect existing conditions of the Project, including elements subject to damage or to movement during:

   1. Cutting and patching.

   2. Excavation and backfilling.

B. After uncovering Work, inspect the conditions affecting the installation of products, or performance of the Work.

C. Report unsatisfactory or dubious conditions to the Architect in writing; do not proceed with the Work until the Architect has provided further instructions.

3.2 PREPARATION

A. Provide shoring, bracing and other support as necessary to assure the structural safety of that portion of the Work.

B. Provide devices and methods to protect other portions of the Project from damage.

C. Provide for vertical and lateral support required to protect adjacent buildings and properties.

D. Provide protection from the elements for that portion of the Project which may be exposed by cutting and patching work, including but not limited to pumping to maintain excavations free from water.

E. Avoid interference with use of adjoining areas or interruption of free passage to adjoining areas.

F. Avoid cutting existing pipe, conduit, or ductwork serving the building but scheduled to be removed or relocated until provisions have been made to bypass them.

3.3 PERFORMANCE

A. General: Employ skilled workers to perform cutting and patching. Proceed with cutting and patching at the earliest feasible time and complete without delay.

1. Cut existing construction to provide for installation of other components or performance of other construction activities and the subsequent fitting and patching required to restore surfaces to their original condition.

B. Cutting: Cut existing construction using methods which will assure safety, will be least likely to damage elements retained or adjoining construction, and will provide proper surfaces to receive new work.

1. In general, where cutting, use hand or small power tools designed for sawing or grinding, not hammering and chopping. Cut holes and slots as small as possible, neatly to size required, and with minimum disturbance of adjacent surfaces. Temporarily cover openings when not in use.

2. To avoid marring existing finished surfaces, cut or drill from the exposed or finished side into concealed surfaces.

3. Cut through concrete and masonry using a cutting machine, such as a carbon saw or a diamond-core drill.

4. Comply with the requirements of applicable MEP work where cutting and patching of services is required.

C. Patching: Patch with durable seams that are as invisible as possible. Comply with specified tolerances.

1. Where feasible, inspect and test patched areas to demonstrate integrity of the installation.

2. Restore exposed finishes of patched areas and extend finish restoration into retained adjoining construction in a manner that will eliminate evidence of patching and refinishing.

    a. Where patching occurs in a painted surface, apply primer and intermediate paint coats over patch and apply final paint coat over entire unbroken surface containing patch. Provide additional coats until patch blends with adjacent surfaces.

3. Refinish entire surfaces as necessary to provide an even finish to match adjacent finishes:

    a. For continuous surfaces, refinish to nearest intersection.

    b. For an assembly, refinish the entire unit.

4. When patching existing plaster finished walls and partitions, the Contractor shall utilize plaster trim, lath and other metal components to match the integrity of the existing system. All plaster finishes shall match existing finishes so as to provide a uniform visual appearance.

5. Floors and Walls: Where walls or partitions that are demolished extend one finished area into another, patch and repair floor and wall surfaces in the new space. Provide an even surface of uniform finish color, texture, and appearance. Remove existing floor and wall coverings and replace with new materials, if necessary, to achieve uniform color and appearance.

    a. Patch with durable seams that are as invisible as possible. Provide materials and comply with installation requirements specified in other Sections of these Specifications.

6. Ceilings: Patch, repair, or re-hang existing ceilings as necessary to provide an even-plane surface of uniform appearance.

7. Concrete Masonry Units: Patch walls by toothing-in units using salvaged or new CMU units matching in-place units for type and size. Match coursing patterns, mortar joint profiles, and other features of in-place CMU walls. Use accessory materials compatible with in-place materials.

8. Brick and Masonry: Patch walls by toothing-in units using salvaged or new brick and masonry matching in-place brick and masonry units. Match coursing patterns, mortar joint profiles, and other features of in-place brick and masonry walls. Use accessory materials compatible with in-place materials.

9. Exterior Building Enclosure: Patch components in a manner that restores enclosure to a weather-tight condition.

    a. Existing Roofing: Comply with requirements of existing roofing manufacturer for cutting and patching existing roofing system. Provide flashing and trim, base sheets, base flashing, adhesives, insulation, blocking, substrate boards, accessories, and other required items to patch roofing at penetrations and roof-top mounted items.

D. Repairs: Where repairs to existing surfaces are required, patch to produce surfaces suitable for new materials.

1. Completely fill holes and depressions in existing masonry walls that are to remain with an approved masonry patching material applied according to manufacturer's written recommendations.

E. Execute excavating and backfilling by methods which will assure safety, will prevent settlement or damage to other work.

F. Execute fitting and adjustment of products to provide a finished installation to comply with specified products, functions, tolerances and finishes.

G. Restore Work which has been cut or removed; install new products to provide completed Work in accordance with requirements of Contract Documents.

H. The Contractor shall replace, repair and patch all surfaces of the ground, and of any structure disturbed by its operations and its Work, which surfaces and structures are intended to remain, even if such operations and work are outside the property lines. Such replacement, repair and patching shall be with like material and shall restore surfaces as they existed.

3.4 CLEANING

A. Clean area and spaces where cutting and patching are performed. Completely remove paint, mortar, oils, putty, and similar items. Thoroughly clean piping, conduit, and similar features before applying paint or other finishing materials. Restore damaged pipe covering to its original condition.

B. 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 01 73 29*****

SECTION 01 77 00 PROJECT CLOSEOUT

1.0 GENERAL

1.1 INSPECTIONS

A. Substantial Completion:

1. Within a minimum of five (5) days prior to substantial completion, when the Work has reached such a point of completion that the building or buildings, equipment and apparatus can be occupied and used for the purpose intended, the Contractor shall conduct a detailed inspection of the Work to ensure that all requirements of the Contract have been met and that the Work is complete and is acceptable. Contractor shall prepare and submit a list of items to be completed and corrected (Contractor's punch list), indicating the value of each item on the list and reasons why the Work is incomplete.

2. After receipt of the Contractor's initial punch list, the Architect will make an inspection of the Work to determine that the Work is substantially complete and that requirements of the Contract have been met and that the Work is sufficiently complete and is acceptable for use. The Architect will submit a marked-up list of items to be completed and/or corrected, inclusive of the Contractor's punch list, with an estimated dollar value for each item.

3. The Architect shall prepare a Certificate of Substantial Completion, template provided by the Owner, on the basis of an inspection, when the Architect has determined that the Work is substantially complete.

4. A copy of the report of the inspection will be furnished to the Contractor as the inspection progresses so that the Contractor may proceed without delay with any part of the Work found to be incomplete or defective.

5. All work performed under a Fire Protection System Installation/Alteration Operating Permit shall be inspected by the Ithaca Fire Department, or if so delegated by the Ithaca Building Department and the Owner's Environmental Health and Safety Department.

    a. A member of the Ithaca Fire Department shall witness all acceptance or reacceptance testing of work performed under a Fire Protection System Installation Operating Permit. All testing and inspections shall be in compliance with the applicable NFPA codes as referenced by Section 906.1 of the Fire Code of NYS.

    b. Work classified as a 'Repair' under the Existing Building Code does not require the Ithaca Fire Department to witness the testing of the affected systems. Systems that have been repaired must still be tested as required by the Fire Code of NYS and NFPA.

c. The Ithaca Fire Department Shall Witness the Acceptance or Reacceptance Testing for the Following Conditions:

- Testing of any new installation of a fire alarm, fire suppression, or fire detection system as required by the Fire Code of New York State.
- Hydrostatic testing of sprinkler system where the modification affects more than twenty (20) sprinkler heads and the modified area can be isolated from the rest of the system
- Installation or replacement of a fire pump or drive elements of the fire pump.
- A Fire Alarm System with added or deleted components.
- A Fire Alarm System where the wiring or control circuits have been modified.
- A Fire Alarm System where the control unit (Fire Alarm Panel) has been replaced or the control unit software has been replaced.
- A smoke control system where the master control unit, individual fan control unit, or fan drive unit has been replaced or modified.
- An alternative fire suppression system that has been replaced or the actuation elements have been modified. Except: fusible link replacement.
- A modification or extension of the piping fur a fire standpipe system where a hydrostatic test is required by NFPA 14.

B. Final Acceptance:

1. When the items appearing on the report of inspection have been completed or corrected, the Contractor shall so advise the Architect. After receipt of this notification and Contractor’s certified list of completed items, the Owner's Representative will inform the Contractor of the date and time of final inspection. A copy of the report of the final inspection containing all remaining contract exceptions, omissions and incomplete Work will be furnished to the Contractor.

2. After receipt of notification of completion and all remaining contract exceptions, omissions and incomplete Work from the Contractor, the Architect will make an inspection to verify completion of the exception items appearing on the report of final inspection.

1.2 SUBMITTALS

A. Contractor's List of Incomplete Items: Initial punch list submittal at Substantial Completion.

1. Organize list of spaces in sequential order, starting with exterior areas first and proceeding from lowest floor to highest floor, listing by room or space number. Organize items applying to each space by major element, including categories for individual exterior face elevations, ceilings, individual walls, floors, doors, roof levels, casework, equipment, and building systems.

B. Contractor's Certified List of Completed Items: Final signed punch list submittal at Final Completion.

C. Certificates of Release: Occupancy permits from authorities having jurisdiction.

1.3 FINAL CLEAN UP

A. Upon completion of the Work covered by the Contract the Contractor shall leave the completed Project ready for use and occupancy without the need of further cleaning of any kind and with all Work in new condition and in perfect order. In addition, upon completion of all Work, the Contractor shall remove from the vicinity of the Work all plant, buildings, rubbish, unused materials, concrete forms and other materials belonging to him or used under its direction during construction or impairing the use or appearance of the property and shall restore such areas affected by the Work to their original condition, and, in the event of its failure to do so, the same shall be removed by the Owner at the expense of the Contractor, and the Contractor and/or its surety shall be liable therefore. Final clean-up shall include but not be limited to the following:

1. All finished surfaces shall be swept, dusted, washed and polished. This includes cleaning of the Work of all finishing trades where needed, whether or not cleaning by such trades is included in their respective sections of the specifications.

2. Roofs, utility tunnels, manholes and pipe trenches and spaces between the new and existing Work shall be left thoroughly cleaned.

3. Finished flooring shall be thoroughly cleaned in accordance with the manufacturer’s recommendations.

4. Where the finish of floors has been marred or damaged in any space or area, the entire floor of that space or area shall be refinished as recommended by the manufacturers of the flooring.

5. All equipment shall be in an undamaged, bright, clean, polished and new appearing condition.

6. All new glass shall be washed and polished, both sides. The Contractor shall be responsible for all breakage of glass in the area of the Work from the commencement of its activities until the building is turned over to Owner. The Contractor shall replace all broken glass and deliver the entire building with all glazing intact and clean.

7. Provide new filters for all fan convectors after final cleaning.

8. Refer to exterior clean up. Remove paint and glazing compound from surfaces.

B. Clean adjacent structures and improvements of dust, dirt, and debris caused by construction operations. Return adjacent areas to condition existing before construction operations began.

1.4 MAINTENANCE STOCK

A. Turn over to Owner's Representative the maintenance stock specified. Contractor shall obtain signed receipt from Owner's Representative for all maintenance stock.

2.0 PRODUCTS – NOT USED

3.0 EXECUTION – NOT USED

END OF SECTION 01 77 00

SECTION 01 78 23 OPERATING AND MAINTENANCE DATA

1.0 GENERAL

1.1 DESCRIPTION

A. The Contractor shall compile product data and related information appropriate for Owner's maintenance and operation of products furnished under the Contract.

1. Prepare operating and maintenance data as specified in this Section, as referenced in other pertinent sections of Specifications and as necessary to operate the completed Work.

2. Operations and maintenance data, in final format, shall be available to the Owner prior to substantial completion.

B. Instruct Owner's personnel in the maintenance of products and in the operation of equipment and systems.

1.2 FORM OF SUBMITTALS

A. Prepare data in the form of an instructional manual for use by Owner's personnel.

B. Upload electronic files to ePM system of complete manual in final form.

1. Format:

a. Size: 8-1/2" x 11”.

b. Text: Manufacturer's, scanned .pdf and/or neatly typewritten Word file.

c. Drawings in electronic format

- Drawings are required in PDF format. Drawings shall be in AutoCAD v14 or higher format.

d. Provide divider for each separate product, and major component parts of equipment.

- Provide type description of product, and major component parts of equipment.

- Provide indexed PDF bookmarks.

- Provide a series of files organized in subdirectories with a summary index with hyperlinks to the various documents.

e. Cover: Identify each volume with title "OPERATIONS AND MAINTENANCE INSTRUCTIONS".

List:

- Title of Project
- Identity of separate structure as applicable.
- Identity of general subject matter covered in the manual.

1.3 CONTENT OF MANUAL

A. Table of contents, typewritten, for each volume, arranged in a systematic order.

1. Contractor, name of responsible principal, address and telephone number.
2. A list of each product required to be included, indexed to the content of the volume.
3. List, with each product, the name, address and telephone number of:
   a. Subcontract or installer.
   b. Maintenance contractor, as appropriate.
   c. Identify the area of responsibility of each.
   d. Local source of supply for parts and replacement.
4. Identify each product by product name and other identifying symbols as set forth in Contract Documents.

B. Product Data:

1. Include only those sheets which are pertinent to the specific product.
2. Annotate each sheet to:
   a. Clearly identify the specific product or part installed.
   b. Clearly identify the data applicable to the installation.
   c. Delete reference to inapplicable information.

C. Submittal Data:

1. Include a record copy of the final, approved product submittal. Record copy shall be a clean copy (free of notes from the design professional) which has been updated to reflect the “as-installed” system.

D. Drawings:

1. Supplement product data with drawings as necessary to clearly illustrate:

a. Relations of component parts of equipment and systems.

b. Control and flow diagrams.

2. Coordinate drawings with information on Record Documents to assure correct illustration of completed installation.

3. Do not use Record Documents as maintenance drawings.

E. Written text, as required to supplement product data for the particular installation:

1. Organize in a consistent format under separate headings for different procedures.

2. Provide a logical sequence of instructions for each procedure.

F. Original copy of each warranty, bond, and service contract issued.

1. Provide information sheet for Owner's personnel, give:

a. Proper procedures in the event of failure.

b. Instances which might affect the validity of warranties or bonds.

1.4 MANUAL FOR MATERIALS AND FINISHES

A. Upload electronic files to ePM system.

B. Content, for architectural products, applied materials and finishes:

1. Manufacturer's data, giving full information on products:

a. Catalog number, size, and composition.

b. Color and texture designations.

c. Information required for reordering special-manufactured products.

d. Certification as to asbestos free

2. Instructions for care and maintenance:

a. Manufacturer's recommendation for types of cleaning agents and methods.

b. Cautions against cleaning agents and methods which are detrimental to the product.

c. Recommended schedule for cleaning and maintenance.

C. Content, for moisture-protection and weather-exposed products:

1. Manufacturer's data, giving full information on products.

a. Applicable standards

b. Chemical composition

c. Details of installation

2. Instructions for inspection, maintenance, and repair.

D. Additional requirements for maintenance data: The respective sections of Specifications.

1.5 MANUAL FOR EQUIPMENT AND SYSTEMS

A. Upload electronic files to ePM system.

B. Content, for each unit of equipment and system, as appropriate:

1. Description of unit and component parts.

a. Function, normal operating characteristics, and limiting conditions.

b. Performance curves, engineering data and tests.

c. Complete nomenclature and commercial number of all replaceable parts.

2. Operating procedures:

a. Start-up, break-in, routine and normal operating instructions.

b. Regulation, control, stopping, shutdown and emergency instructions.

c. Summer and winter operating instructions.

d. Special operating instructions.

3. Maintenance Procedures:

a. Routine operations.

b. Guide to "troubleshooting".

c. Disassembly, repair and reassembly.

d. Alignment, adjusting and checking.

4. Servicing and lubrication required:

a. List of lubricants required.

5. Manufacturer's printed operating and maintenance instructions.

6. Description of sequence of operation by control manufacturer.

7. Original manufacturer's parts list, illustrations, assembly drawings and diagrams required for maintenance.

    a. Predicted life of parts subject to wear.

    b. Items recommended to be stocked as spare parts.

8. As-installed control diagrams by controls manufacturer.

9. Each contractor's coordination drawings.

    a. As-installed color coded piping diagrams.

10. Charts of valve tag numbers, with the location and function of each valve.

11. List of original manufacturer's spare parts, manufacturer's current prices, and recommended quantities to be maintained in storage.

12. Other data as required under pertinent sections of Specifications.

C. Content, for each electric and electronic system, as appropriate:

1. Description of system and component parts:

    a. Function, normal operating characteristics, and limiting conditions.

    b. Performance curves, engineering data and tests.

    c. Complete nomenclature and commercial number of replaceable parts.

2. Circuit directories of panel boards:

    a. Electrical service.

    b. Controls.

    c. Communications.

3. As-installed color coded wiring diagrams.

4. Operating procedures:

    a. Routine and normal operating instructions.

    b. Sequences required.

    c. Special operating instructions.

5. Maintenance procedures:

   a. Routine operations.

   b. Guide to "troubleshooting".

   c. Disassembly, repair and reassembly.

   d. Adjustment and checking.

6. Manufacturer's printed operating and maintenance instructions.

7. List of original manufacturer's spare parts, manufacturer's current prices, and recommended quantities to be maintained in storage.

8. Other data as required under pertinent sections of Specifications.

D. Additional requirements for operations and maintenance data: See the respective sections of Specifications and General Conditions.

1.6 SUBMITTAL REQUIREMENTS

A. Submit through ePM system preliminary draft of proposed formats and outlines of contents of the O&M Manual thirty (30) calendar days after approved submittals.

B. Submit completed data in final form twenty (20) calendar days prior to the Acceptance Phase (final Payment Application) of the Project.

1.7 INSTRUCTIONS OF OWNER'S PERSONNEL

A. Prior to final inspections or acceptance, fully instruct Owner's designated operating and maintenance personnel in the operation, adjustment and maintenance of all products, equipment and systems:

1. Instruction time shall be sufficient to fully instruct all shifts of the Owner's operating and maintenance personnel.

B. Operations and maintenance shall constitute the basis of instruction:

1. Review contents of manual with Owner personnel in full detail to explain all aspects of operations and maintenance.

C. Submit documentation, signed by each of the Owner's Representatives who have been instructed, describing:

1. Method of Instruction.

2. Equipment and Systems Operated.

3. Length of Instruction Period.

D. Contractor is fully responsible until final acceptance, even though operated by Owner's personnel, unless otherwise agreed in writing.

1.8 OPERATING INSTRUCTIONS

A. Upload in ePM system all operating, maintenance and starting precautions and procedures to be followed by Owner for operating all systems and equipment.

2.0 PRODUCTS – NOT USED

3.0 EXECUTION – NOT USED

END OF SECTION 01 78 23

SECTION 01 78 36 WARRANTIES AND BONDS

1.0 GENERAL

1.1 DESCRIPTION

The Contractor shall:

A. Compile specified warranties and bonds.

B. Compile specified service and maintenance contracts.

C. Co-execute submittals when so specified.

D. Review submittals to verify compliance with Contract Documents.

E. Submit to Architect for transmittal to Owner.

1.2 SUMMARY

A. This Section specifies general administrative and procedural requirements for warranties and bonds required by the Contract Documents, including manufacturers' standard warranties on products and special warranties.

1. Refer to the General Conditions for terms of the Contractor's special warranty of workmanship and materials.

2. General closeout requirements are included in Section 01 77 00 - "Project Closeout."

3. Specific requirements for warranties for the Work and products and installations that are specified to be warranted, are included in the individual Sections of Divisions 2 through 40.

4. Certifications and other commitments and agreements for continuing services to Owner are specified elsewhere in the Contract Documents.

B. Disclaimers and Limitations: Manufacturer's disclaimers and limitations on product warranties do not relieve the Contractor of the warranty on the Work that incorporates the products, nor does it relieve suppliers, manufacturers, and Subcontractors required to countersign special warranties with the Contractor.

1.3 DEFINITIONS

A. Standard Product Warranties are pre-printed written warranties published by individual manufacturers for particular products and are specifically endorsed by the manufacturer to the Owner.

B. Special Warranties are written warranties required by or incorporated in the Contract Documents, either to extend time limits provided by standard warranties or to provide greater rights for the Owner

1.4 QUALITY ASSURANCE

A. Use adequate care and diligence to review Contract Documents to identify detailed requirements relating to warranties and bonds.

B. Verify that each item required for this submittal conforms with specified requirements.

1.5 WARRANTY REQUIREMENTS

A. In addition to standard and special warranties described in Divisions 2 through 40, Contractor shall warrant work included in this Project, for a minimum period of one (1) year following acceptance of a Certificate of Substantial Completion by Owner, to cover performance, materials, workmanship and compliance with Contract Documents.

B. Corrective Work: Provide service within thirty (30) calendar days when requested by Owner. Perform services during normal working hours, unless specifically directed otherwise by Owner. Coordinate with Owner's representative to schedule performance of corrective work. Where designated service providers cannot perform corrective work within the Owner's required time frame, engage another qualified service provider. Submit a written statement to Owner upon completion of corrective work; document work performed and list outstanding items, if any.

1. When a completed breakdown of a piece of equipment occurs of the malfunction of a system affects the environment or program involving 50 or more persons at a time (employees and students combined), or creates a safety or security risk to the Owner, an EMERGENCY may be declared by the Owner. The Owner may declare an emergency as defined above at which time the service response must be within 4 hours and may require action during non-normal working hours.

2. When an emergency condition occurs, the Owner may take immediate corrective action to relieve the problem by making, a minimum as possible, temporary adjustments and/or repairs when necessary to decrease the problem until the designated Contractor's representative can respond. These temporary adjustments and repairs will in no way jeopardize the existing warranty.

3. The Owner's service staff will advise the Contractor's Representative of all temporary adjustments and repairs done in relation to the malfunctioning equipment or facility.

4. If the Contractor fails to respond with actual service within four (4) hours, and/or the necessary repairs or adjustments are not satisfactorily complete twenty-four (24) hours, the Owner will have the authority to make the necessary repairs or adjustments and charge the Contractor for parts and labor.

5. If all adjustments and repairs done by the Owner in relation to the above conditions are done by authorized district personnel, there will be no negative effect of future warranty claims.

C. Related Damages and Losses: When correcting failed or damaged warranted work, remove and replace other Work that has been damaged as a result of such failure or that must be removed and replaced to provide access for correction of warranted work.

D. Reinstatement of Warranty: When work covered by a warranty has failed and been corrected by replacement or rebuilding, reinstate the warranty by written endorsement. The reinstated warranty shall be equal to the original warranty with an equitable adjustment for depreciation.

E. Replacement Cost: Upon determination that work covered by a warranty has failed, replace or rebuild the Work to an acceptable condition complying with requirements of Contract Documents. The Contractor is responsible for the cost of replacing or rebuilding defective work regardless of whether the Owner has benefited from use of the Work through a portion of its anticipated useful service life.

F. Owner's Recourse: Expressed warranties made to the Owner are in addition to implied warranties, and shall not limit the duties, obligations, rights and remedies otherwise available under the law. Expressed warranty periods shall not be interpreted as limitations on time in which the Owner can enforce such other duties, obligations, rights, or remedies.

G. Contractor's Procurement Obligations: Do not purchase, subcontract for, or allow others to purchase or subcontract for materials or units of work for Project where a special project guaranty, specified product warranty, certification, or similar commitment is required until it has been determined that entities required to sign or countersign such commitments are willing to do so.

H. Specific Warranty. Where a special warranty, certification, or similar commitment is required on such work or part of the Work, the Owner reserves the right to refuse to accept the Work until the Contractor presents evidence that entities required to countersign such commitments are willing to do so.

1.6 SUBMITTAL REQUIREMENTS

A. Submit written warranties to the Architect prior to the date certified for Substantial Completion. If the Architect's Certificate of Substantial Completion designates a commencement date for warranties other than the date of Substantial Completion for the Work, or a designated portion of the Work, submit written warranties upon request of the Architect or Owner.

1. When a designated portion of the Work is completed and occupied or used by the Owner, by separate agreement with the Contractor during the construction period, submit properly executed warranties to the Architect and Owner within fifteen (15) days of completion of that designated portion of the Work.

B. When a special warranty is required to be executed by the Contractor, or the Contractor and a Subcontractor, supplier or manufacturer, prepare a written document that contains appropriate terms and identification, ready for execution by the required parties. Submit a draft to the Owner through the Architect for acceptance prior to final execution.

1.7 SUBMITTALS REQUIRED

A. Submit warranties, bonds, and service and maintenance contracts as specified in the respective sections of Specifications. Submit a list of all required warranties.

2.0 PRODUCTS – NOT USED

3.0 EXECUTION

3.1 FORM OF SUBMITTALS

A. The Warranties and Bonds shall be in electronic pdf format. Each submission shall include the title of the Project and the name of the Contractor.

B. Provide a series of files organized in subdirectories with a summary index with hyperlinks to the various documents and or references.

C. Assemble warranties, bonds and service and maintenance contracts, executed by each of the respective manufacturers, suppliers and subcontractors.

D. Table of Contents: Neatly typed, in orderly sequence. Provide complete information for each item.

1. Product or work item.
2. Item description.
3. Notation of what the equipment serves (e.g. – Provides perimeter heat)
4. Warranty Provider. Is the warranty provided by a manufacturer or installer?
5. Firm, with name of principal and responsible party, address and telephone number.
6. Scope.
7. Duration.
    a. Date of beginning of warranty, bond or service and maintenance contract
    b. End date of warranty, bond or service and maintenance contract.
8. Provide information for Owner's personnel:
    a. Proper procedure in case of failure.
    b. Instances which might affect the validity of warranty or bond.
9. Contractor, name of responsible principal, address and telephone number.

3.2 TIME OF SUBMITTALS

A. Make final submittals within ten (10) days after Date of Substantial Completion, prior to final request for payment.

B. For items of work when acceptance is delayed materially beyond the Date of Substantial Completion, provide updated submittal within ten (10) days after acceptance, listing the date of acceptance as the start of the warranty period.

*****END OF SECTION 01 78 36*****

SECTION 01 78 39 RECORD DOCUMENTS

1.0 GENERAL

1.1 DESCRIPTION

A. The Contractor shall maintain at the site, during construction, one record copy of:

1. Drawings
2. Specifications
3. Addenda
4. Change Orders and other Modifications to the Contract
5. Architect's Field Orders or written instructions.
6. Final Shop Drawings, Product Data and Samples
7. Field Test records
8. Construction photographs

1.2 MAINTENANCE OF DOCUMENTS AND SAMPLES

A. Store documents and samples in Contractor's field office apart from documents used for construction.

B. File documents and samples in accordance with the Owner’s electronic project management system document structure.

C. Maintain documents in a clean, dry, legible condition and in good order. Do not use record documents for construction purposes.

D. Make documents and samples available at all times for review by the Owner’s Representative and the Architect.

1.3 RECORDING

A. Label each document "AS BUILT" in neat large printed letters.

B. Record information concurrently with construction progress.

1. Do not conceal any Work until required information is recorded.

C. Drawings

As built drawings shall consist of making any changes neatly and clearly on the Contract Drawings using colored ink or pencil, shall be kept current by the contractor on a day-to-day basis in concert with the progress of the Work. Where applicable, the change marked on a drawing is to carry the notation “per Change Order No. X”, or similar reference which cites the reason for the change. As an alternative approach the Contractor can submit a plan for producing the “As-Built” drawings via electronic mark-up in Bluebeam, Adobe Professional, or other similar program as an alternative to colored pencil or ink mark-ups. Such plan shall be subject to approval of the Owner.

The day-to-day construction as built drawings shall be made available to the Architect or Owner’s Representative for review upon request. The "As built" drawings shall show all changes to the following areas of construction:

1. Architectural:

    a. Modifications to components dictated by the building code

    b. Material and products where submittals are requested

2. Civil and Structural

    a. Dimensions for load carrying elements, both horizontal and vertical

    b. Materials and products where submittals are requested

    c. Load carrying elements and foundation systems

    d. Site related elements including:

        - Building outlines, entranceways, areaways, roof overhangs, downspouts, significant architectural projections and other pertinent data.

    e. All significant changes in foundations, columns, beams, openings, concrete reinforcing, lintels, concealed anchorages and "knock-out" panels made during construction.

    f. Building envelope systems including roofing systems and building shell systems

    g. Items that will require future maintenance

    h. Life safety critical items

3. Mechanical (HVAC, Plumbing and Fire Protection)

    a. Products where submittals are requested

    b. Final location and arrangement of all mechanical equipment and concealed gas, sprinkler, domestic, sanitary and drainage systems piping and other plumbing, including, but not limited to, supply and circulating mains, principal valves, meters, clean-outs, drains, pumps and controls, vent stacks, sanitary and storm water drainage.

4. Electrical

    a. Products where submittals were requested.

    b. Circuit (wire and raceway) size, number, and type.

    c. Final locations of equipment and devices, interior and exterior luminaires, and power supplies.

    d. Final location of electric signal system panels, final arrangement of all circuits and any significant changes made in electrical signal system design as a result of Change Order or job conditions.

5. Environmental

    a. Utility related elements and supporting infrastructure

    b. Storm water maintenance/testing access points

D. Specifications and Addenda

Legibly mark each section to record:

1. Manufacturer, trade name, catalog number, and Supplier of each product and item of equipment actually installed.

2. Changes made by Field Order or by Change Order.

1.4 SUBMITTAL

A. After completion of Punchlist, deliver copies of all record documents to the Owner's Representative.

B. Accompany submittal with transmittal letter in duplicate, containing:

1. Date

2. Project title and number

3. Contractor's name and address

4. Title and number of each record document

5. Certification that each document is complete and accurate

6. Signature of Contractor or its authorized representative.

2.0 PRODUCTS – NOT USED

3.0 EXECUTION – NOT USED

*****END OF SECTION 01 78 39*****

TECHNICAL SPECIFICATIONS

FOR

REPAIR PEDESTRIAN BRIDGE:
HUMAN ECOLOGY BUILDING

CORNELL UNIVERSITY
ITHACA, NEW YORK

SECTION 024119 - SELECTIVE DEMOLITION

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

B. Division 03: Cast-In-Place Concrete

1.2 SUMMARY

A. Section Includes:

1. Demolition and partial-depth removal of the concrete deck.

2. Demolition and removal of slab-on-grade sidewalk concrete adjacent to bridge.

3. Demolition, cutting, coring, trenching as required to complete the work.

1.3 MATERIALS OWNERSHIP

A. Unless otherwise indicated, demolition waste becomes property of Contractor.

B. Historic items, relics, antiques, and similar objects including, but not limited to, cornerstones and their contents, commemorative plaques and tablets, and other items of interest or value to Owner that may be uncovered during demolition remain the property of Owner.

1. Carefully salvage in a manner to prevent damage and promptly return to Owner.

1.4 PREINSTALLATION MEETINGS

A. Predemolition Conference: Conduct conference at Project Site.

1.5 ACTION SUBMITTALS

A. Proposed Protection Measures: Submit report, including Drawings, that indicates the measures proposed for protecting individuals and property for environmental protection, for dust control and, for noise control. Indicate proposed locations and construction of barriers. Clearly indicate required protective shields and catch platforms underneath the deck to prevent falling concrete from damaging traffic and pedestrians from active loading dock below.

B. Submit written description of how work will be executed:

1. Provide a step-by-step demolition sequence including debris/slurry containment.
2. Temporary shoring plans shall be prepared by an engineer licensed in the State of New York. If no shoring or bracing is anticipated for the partial bridge deck removal, provide a letter by a NYS licensed PE stating so.
3. Plan and materials to be used to shield traffic from demolition debris.
4. Blow-through contingency plan. Provide a written plan for potential blow-through scenarios. Include materials used to contain water and debris both above and below deck.

C. Schedule of selective demolition activities with starting and ending dates for each activity.

D. Predemolition photographs or video.

1.6 QUALITY ASSURANCE

A. Use the best practices of the trade.

B. Personnel performing the work shall have experience relevant to anticipated conditions, materials, installation requirements and all special techniques involved. Contractor shall have an experienced foreman or superintendent who will be present while work is performed.

C. Prior to proceeding with concrete removal, a preconstruction meeting shall be held.
1. Attendees shall include, at a minimum: owner, architect/engineer, contractor, entity performing the work.
2. Topics discussed shall include, at a minimum:
    a. Location and schedule of the work.
    b. Location and layout of the demolition equipment.
    c. Location and layout of exhaust system to avoid exhaust intake into adjacent buildings.
    d. Location and layout of fuel system required for the equipment, including method of fuel delivery.
    e. Whether impact tools are required to perform the work or whether they are permitted to be used.
    f. Equipment and method of removal for the debris from concrete demolition, including proposed active drive lanes to move debris off the structure such that the removal does not impact the ongoing operations of the university.
    g. Methods to ensure the safety of all personnel, property, and equipment.

D. Correct the following defects without additional compensation or contract time:
1. Blow-throughs or over-demolishing of concrete.
2. Insufficient concrete demolition.

1.7 FIELD CONDITIONS

A. Owner will occupy portions of building immediately adjacent to selective demolition area. Conduct selective demolition so Owner's operations will not be disrupted.

B. Conditions existing at time of inspection for bidding purpose will be maintained by Owner as far as practical.

C. Notify Architect of discrepancies between existing conditions and Drawings before proceeding with selective demolition.

D. Storage or sale of removed items or materials on-site is not permitted.

E. Utility Service: Maintain existing utilities indicated to remain in service and protect them against damage during selective demolition operations.

1. Maintain fire-protection facilities in service during selective demolition operations.

F. Arrange selective demolition schedule so as not to interfere with Owner's operations.

1.8 WARRANTY

A. Existing Warranties: Remove, replace, patch, and repair materials and surfaces cut or damaged during selective demolition, by methods and with materials and using approved contractors so as not to void existing warranties.

PART 2 - PRODUCTS

2.1 EQUIPMENT

A. Deck demolition equipment
1. 15-lb chipping hammers or other equipment to preclude damaging vibrations to bridge support structure and guardrails to complete partial-depth removal and achieve the specified minimum roughness profile (amplitude).
2. Sawcut as necessary to prevent spalling of sound concrete.
3. Partial depth removal

2.2 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. Examine concrete surface and remove any loose objects.

C. Notify the owner or owner's representative in writing of conditions that would hinder proper and timely installation or impair performance of finished work or of any unsafe conditions.

3.2 PREPARATION

A. Refrigerant: Before starting demolition, remove refrigerant from mechanical equipment according to 40 CFR 82 and regulations of authorities having jurisdiction.

3.3 UTILITY SERVICES AND MECHANICAL/ELECTRICAL SYSTEMS

A. Existing Services/Systems to Remain: Maintain services/systems indicated to remain and protect them against damage.

B. Existing Services/Systems to Be Removed, Relocated, or Abandoned: Locate, identify, disconnect, and seal or cap off utility services and mechanical/electrical systems serving areas to be selectively demolished.

1. Owner will arrange to shut off indicated services/systems when requested by Contractor.
2. Arrange to shut off utilities with utility companies.
3. If services/systems are required to be removed, relocated, or abandoned, provide temporary services/systems that bypass area of selective demolition and that maintain continuity of services/systems to other parts of building.
4. Disconnect, demolish, and remove fire-suppression systems, plumbing, and HVAC 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. Piping to Be Abandoned in Place: Drain piping and cap or plug piping with same or compatible piping material and leave in place.
    c. Equipment to Be Removed: Disconnect and cap services and remove equipment.
    d. Equipment to Be Removed and Reinstalled: Disconnect and cap services and remove, clean, and store equipment; when appropriate, reinstall, reconnect, and make equipment operational.
    e. Equipment to Be Removed and Salvaged: Disconnect and cap services and remove equipment and deliver to Owner.
    f. Ducts to Be Removed: Remove portion of ducts indicated to be removed and plug remaining ducts with same or compatible ductwork material.
    g. Ducts to Be Abandoned in Place: Cap or plug ducts with same or compatible ductwork material and leave in place.

3.4 PROTECTION

A. Temporary Protection: Provide temporary barricades and other protection required to prevent injury to people and damage to adjacent buildings and facilities to remain.

B. 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.

C. Remove temporary barricades and protections where hazards no longer exist.

3.5 SELECTIVE DEMOLITION

A. General: Demolish and remove existing construction only to the extent required by new construction and as indicated. Use methods required to complete the Work within limitations of governing regulations and as follows:

1. Neatly cut openings and holes plumb, square, and true to dimensions required. Use cutting methods least likely to damage construction to remain or adjoining construction. Use hand tools or small power tools designed for sawing or grinding, not hammering and chopping. Temporarily cover openings to remain.
2. Cut or drill from the exposed or finished side into concealed surfaces to avoid marring existing finished surfaces.
3. Do not use cutting torches until work area is cleared of flammable materials. At concealed spaces, such as duct and pipe interiors, verify condition and contents of hidden space before starting flame-cutting operations. Maintain portable fire-suppression devices during flame-cutting operations.
4. Maintain fire watch during and for at least two (2) hours after flame-cutting operations.
5. Locate selective demolition equipment and remove debris and materials so as not to impose excessive loads on supporting walls, floors, or framing.
6. Dispose of demolished items and materials promptly.[

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.

C. Removed and Salvaged Items:

1. Clean salvaged items.
2. Pack or crate items after cleaning. Identify contents of containers.
3. Store items in a secure area until delivery to Owner.
4. Transport items to Owner's designated storage area .
5. Protect items from damage during transport and storage.

D. Removed and Reinstalled Items:

1. Clean and repair items to functional condition adequate for intended reuse.
2. Pack or crate items after cleaning and repairing. Identify contents of containers.
3. Protect items from damage during transport and storage.
4. Reinstall items in locations indicated. Comply with installation requirements for new materials and equipment. Provide connections, supports, and miscellaneous materials necessary to make item functional for use indicated.

E. Existing Items to Remain: Protect construction indicated to remain against damage and soiling during selective demolition. When permitted by Architect, items may be removed to a suitable, protected storage location during selective demolitionand reinstalled in their original locations after selective demolition operations are complete.

3.6 CLEANING

A. Remove demolition waste materials from Project site and dispose of them accordingly.]

1. Do not allow demolished materials to accumulate on-site.
2. Remove and transport debris in a manner that will prevent spillage on adjacent surfaces and areas.

B. Burning: Do not burn demolished materials.

C. Clean adjacent structures and improvements of dust, dirt, and debris caused by selective demolition operations. Return adjacent areas to condition existing before selective demolition operations began.

END OF SECTION 024119

SECTION 033000 - CAST-IN-PLACE CONCRETE

PART 1 - GENERAL

1.1 RELATED SECTIONS

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

B. Cornell University (CU) Standard Specifications for 033000 “Cast-In-Place Concrete” apply to this Section.

C. Division 02 – Selective Demolition

D. Division 07 – Traffic Coatings

E. Division 07 – Joint Sealants

1.2 SUMMARY

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

B. Section includes providing Controlled Low-Strength Material (CLSM) if required as demolition progresses.

1.3 DEFINITIONS

A. Cementitious Materials: Portland cement alone or in combination with one or more of the following: blended hydraulic cement, fly ash, slag cement, other pozzolans, ground granulated blast-furnace slag, and silica fume; materials subject to compliance with requirements.

B. W/C Ratio: The ratio by weight of water to cementitious materials.

1.4 PREINSTALLATION MEETINGS

A. Preinstallation Conference: Conduct conference at Project site.

1. Before submitting design mixtures, review concrete design mixture and examine procedures for ensuring quality of concrete materials. Require representatives of each entity directly concerned with cast-in-place concrete to attend, including the following:

    a. Contractor's superintendent.
    b. Independent testing agency responsible for concrete design mixtures.

c. Ready-mix concrete manufacturer.
d. Concrete Subcontractor.
e. Special concrete finish Subcontractor.

2. Review special inspection and testing and inspecting agency procedures for field quality control, concrete finishes and finishing, cold- and hot-weather concreting procedures, curing procedures, construction contraction and isolation joints, and joint-filler strips, shoring and reshoring procedures, anchor rod and anchorage device installation tolerances, steel reinforcement installation, concrete repair procedures, and concrete protection.

1.5 ACTION SUBMITTALS

A. Product Data: For each type of product:

1. Portland cement.
2. Fly ash.
3. Slag cement.
4. Silica fume.
5. Aggregates.
6. Admixtures:

a. Include limitations of use, including restrictions on cementitious materials, supplementary cementitious materials, air entrainment, aggregates, temperature at time of concrete placement, relative humidity at time of concrete placement, curing conditions, and use of other admixtures.

7. Curing materials.
8. Joint fillers.
9. Color Pigments.
10. Repair materials.

B. Design Mixtures: For each concrete mixture. Submit alternate design mixtures when characteristics of materials, Project conditions, weather, test results, or other circumstances warrant adjustments.

1. Indicate amounts of mixing water to be withheld for later addition at Project site.

C. Samples for Verification:
1. Architectural concrete Samples, cast vertically, approximately 18 by 18 by 2 inches of finishes, colors, and textures to match design reference sample. Include Sample sets showing the full range of variations expected in these characteristics.
2. Two-stage samples are required for verification of concrete pigment.

D. Steel Reinforcement Shop Drawings: Placing Drawings that detail fabrication, bending, and placement. Include bar sizes, lengths, material, grade, bar schedules, stirrup spacing, bent bar diagrams, bar arrangement, splices and laps, mechanical connections, tie spacing, hoop spacing, and supports for concrete reinforcement.

E. Construction Joint Layout: Indicate proposed construction joints required to construct the structure.

1. Location of construction joints is indicated on the Plans. Proposed changes are subject to approval of the Engineer.

1.6 INFORMATIONAL SUBMITTALS

A. Qualification Data: For Installer.

B. Welding certificates.

C. Material Certificates: For each of the following, signed by manufacturers:

1. Cementitious materials.
2. Admixtures.
3. Form materials and form-release agents.
4. Steel reinforcement and accessories.
5. Waterstops.
6. Curing compounds.
7. Bonding agents.
8. Adhesives and epoxies.
9. Semirigid joint filler.
10. Joint-filler strips.
11. Repair materials.

1.7 QUALITY ASSURANCE

A. Manufacturer Qualifications: A firm experienced in manufacturing ready-mixed concrete products and that complies with ASTM C 94 requirements for production facilities and equipment.

1. Manufacturer certified according to NRMCA's "Certification of Ready Mixed Concrete Production Facilities."

B. Welding Qualifications: Qualify procedures and personnel according to AWS D1.4.

1.8 DELIVERY, STORAGE, AND HANDLING

A. Steel Reinforcement: Deliver, store, and handle steel reinforcement to prevent bending and damage.

B. Waterstops: Store waterstops under cover to protect from moisture, sunlight, dirt, oil, and other contaminants.

1.9 FIELD CONDITIONS

A. Cold-Weather Placement: Comply with ACI 306.1 and as follows. Protect concrete work from physical damage or reduced strength that could be caused by frost, freezing actions, or low temperatures.

1. When average high and low temperature is expected to fall below 40 deg F for three successive days, maintain delivered concrete mixture temperature within the temperature range required by ACI 301.
2. Do not use frozen materials or materials containing ice or snow. Do not place concrete on frozen subgrade or on subgrade containing frozen materials.
3. Do not use calcium chloride, salt, or other materials containing antifreeze agents or chemical accelerators unless otherwise specified and approved in mixture designs.

B. Hot-Weather Placement: Comply with ACI 301 and as follows:

1. Maintain concrete temperature below 90 deg F at time of placement. Chilled mixing water or chopped ice may be used to control temperature, provided water equivalent of ice is calculated to total amount of mixing water. Using liquid nitrogen to cool concrete is Contractor's option.
2. Fog-spray forms, steel reinforcement, and subgrade just before placing concrete. Keep subgrade uniformly moist without standing water, soft spots, or dry areas.

PART 2 - PRODUCTS

2.1 CONCRETE, GENERAL

A. ACI Publications: Comply with the following unless modified by requirements in the Contract Documents:

1. ACI 301.
2. ACI 117.

2.2 FORM-FACING MATERIALS

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

1. Plywood, metal, or other approved panel materials.
2. Exterior-grade plywood panels, suitable for concrete forms, complying with DOC PS 1, and as follows:

a. High-density overlay, Class 1 or better.

B. Forms for Cylindrical Columns, Pedestals, and Supports: Metal, glass-fiber-reinforced plastic, paper, or fiber tubes that produce surfaces with gradual or abrupt irregularities not exceeding

specified formwork surface class. Provide units with sufficient wall thickness to resist plastic concrete loads without detrimental deformation.

C. Pan-Type Forms: Glass-fiber-reinforced plastic or formed steel, stiffened to resist plastic concrete loads without detrimental deformation.

D. Chamfer Strips: Wood, metal, PVC, or rubber strips, 3/4 by 3/4 inch, minimum.

E. Rustication Strips: Wood, metal, PVC, or rubber strips, kerfed for ease of form removal.

F. Form-Release Agent: Commercially formulated form-release agent that does not bond with, stain, or adversely affect concrete surfaces and does not impair subsequent treatments of concrete surfaces.

1. Formulate form-release agent with rust inhibitor for steel form-facing materials.

G. Form Ties: Factory-fabricated, removable or snap-off glass-fiber-reinforced plastic or metal form ties designed to resist lateral pressure of fresh concrete on forms and to prevent spalling of concrete on removal.

2.3 STEEL REINFORCEMENT

A. Reinforcing Bars: ASTM A 615, Grade 60, deformed.

B. Epoxy-Coated Reinforcing Bars: ASTM A 615, Grade 60, deformed bars, ASTM A 775, epoxy coated, with less than 2 percent damaged coating in each 12-inch bar length.

C. Plain-Steel Welded-Wire Reinforcement: ASTM A 1064, plain, fabricated from as-drawn steel wire into flat sheets.

2.4 REINFORCEMENT ACCESSORIES

A. Joint Dowel Bars: ASTM A 615, Grade 60, plain-steel bars, cut true to length with ends square and free of burrs.

B. Epoxy Repair Coating: Liquid, two-part, epoxy repair coating; compatible with epoxy coating on reinforcement and complying with ASTM A 775.

C. Bar Supports: Bolsters, chairs, spacers, and other devices for spacing, supporting, and fastening reinforcing bars and welded-wire reinforcement in place. Manufacture bar supports from steel wire, plastic, or precast concrete according to CRSI's "Manual of Standard Practice," of greater compressive strength than concrete and as follows:

1. For concrete surfaces exposed to view, where legs of wire bar supports contact forms, use CRSI Class 1 plastic-protected steel wire or CRSI Class 2 stainless-steel bar supports.
2. For epoxy-coated reinforcement, use epoxy-coated or other dielectric-polymer-coated wire bar supports.

2.5 CONCRETE MATERIALS

A. Source Limitations: Obtain each type or class of cementitious material of the same brand from the same manufacturer's plant, obtain aggregate from single source, and obtain admixtures from single source from single manufacturer.

B. Cementitious Materials:

1. Portland Cement: ASTM C 150, Type I/II.
2. Silica Fume: ASTM C 1240, amorphous silica.

C. Normal-Weight Aggregates: ASTM C 33, Class 3S coarse aggregate or better, graded. Provide aggregates from a single source.

1. Maximum Coarse-Aggregate Size: 1 inch nominal.
2. Fine Aggregate: Free of materials with deleterious reactivity to alkali in cement.

D. Air-Entraining Admixture: ASTM C 260.

E. Chemical Admixtures: Certified by manufacturer to be compatible with other admixtures and that do not contribute water-soluble chloride ions exceeding those permitted in hardened concrete. Do not use calcium chloride or admixtures containing calcium chloride.

1. Water-Reducing Admixture: ASTM C 494, Type A.
2. Water-Reducing and Retarding Admixture: ASTM C 494, Type D.
3. Plasticizing and Retarding Admixture: ASTM C 1017, Type II.

F. Color Pigment: ASTM C979/C979M, synthetic mineral-oxide pigments or colored water-reducing admixtures; color stable, nonfading, and resistant to lime and other alkalis.

1. ColorFlo Liquid / ColorFlo Granular / Dry Integral Color.
2. Source Limitations: Obtain color pigment from single source from single manufacturer.
3. Color: To match adjacent concrete on the terrace level. Basis of Design is 920 Charcoal.
4. Add color pigment to concrete mixture in accordance with manufacturer's written instructions and to result in hardened concrete color consistent with approved samples/mockups.
5. Curing materials shall be approved by color pigment manufacturer.
6. Coordinate pigment dosage with Alternate No. 1 – Traffic Coatings.

G. Non-Set-Accelerating Corrosion-Inhibiting Admixture: Commercially formulated, non-set-accelerating, anodic inhibitor or mixed cathodic and anodic inhibitor; capable of forming a protective barrier and minimizing chloride reactions with steel reinforcement in concrete.

1. Products: Subject to compliance with requirements, available products that may be incorporated into the Work include, but are not limited to, the following:

a. BASF Construction Chemicals - Building Systems; Masterlife CL 222.
b. Grace Construction Products, W. R. Grace & Co.; DCI-S.
c. Sika Corporation; FerroGard 901.

H. Water: ASTM C 94 and potable.

2.6 WATERSTOPS

A. Self-Expanding Butyl Strip Waterstops: Manufactured rectangular or trapezoidal strip, butyl rubber with sodium bentonite or other hydrophilic polymers, for adhesive bonding to concrete, 3/4 by 1 inch.

B. Self-Expanding Rubber Strip Waterstops: Manufactured rectangular or trapezoidal strip, bentonite-free hydrophilic polymer-modified chloroprene rubber, for adhesive bonding to concrete, 3/8 by 3/4 inch.

2.7 CURING MATERIALS

A. Absorptive Cover: AASHTO M 182, Class 2, burlap cloth made from jute or kenaf, weighing approximately 9 oz./sq. yd. when dry.

B. Moisture-Retaining Cover: ASTM C 171, polyethylene film or white burlap-polyethylene sheet.

C. Water: Potable.

2.8 RELATED MATERIALS

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

B. Semirigid Joint Filler: Two-component, semirigid, 100 percent solids, epoxy resin with a Type A shore durometer hardness of 80 according to ASTM D 2240.

C. Bonding Agent: ASTM C 1059, Type II, nonredispersible, acrylic emulsion or styrene butadiene.

D. Epoxy Bonding Adhesive: ASTM C 881, two-component epoxy resin, capable of humid curing and bonding to damp surfaces, of class suitable for application temperature and of grade to suit requirements, and as follows:

1. Types I and II, nonload bearing, for bonding hardened or freshly mixed concrete to hardened concrete.

2.9 REPAIR MATERIALS

A. Repair Overlayment: Cement-based, polymer-modified, self-leveling product that can be applied in thicknesses from 1/4 inch and that can be filled in over a scarified surface to match adjacent floor elevations.

1. Cement Binder: ASTM C 150, Portland cement or hydraulic or blended hydraulic cement as defined in ASTM C 219.

2. Primer: Product of topping manufacturer recommended for substrate, conditions, and application.
3. Aggregate: Well-graded, washed gravel, 1/8 to 1/4 inch or coarse sand as recommended by topping manufacturer.
4. Compressive Strength: Not less than 5000 psi at 28 days when tested according to ASTM C 109.

2.10 CONCRETE MIXTURES, GENERAL

A. Prepare design mixtures for each type and strength of concrete, proportioned on the basis of laboratory trial mixture or field test data, or both, according to ACI 301.

B. Cementitious Materials: Limit percentage, by weight, of cementitious materials other than portland cement in concrete as follows, unless noted otherwise:

1. Silica Fume: 10 percent.

2. Fly Ash: 25 percent.
3. Combined Fly Ash and Pozzolan: 25 percent.
4. Ground Granulated Blast-Furnace Slag: 50 percent.
5. Combined Fly Ash or Pozzolan and Ground Granulated Blast-Furnace Slag: 50 percent portland cement minimum, with fly ash or pozzolan not exceeding 25 percent.

C. Limit water-soluble, chloride-ion content in hardened concrete to 0.06 percent by weight of cement.

D. Admixtures: Use admixtures according to manufacturer's written instructions.

1. Use water-reducing high-range water-reducing, or plasticizing admixture in concrete, as required, for placement and workability.
2. Use water-reducing as required.
3. Use corrosion-inhibiting admixture in concrete mixtures where indicated.

2.11 CONCRETE MIXTURES FOR SITE ELEMENTS

A. Exterior Slab-On-Grade Concrete: Normal-weight concrete.

1. Minimum Compressive Strength: 4500 psi at 28 days.
2. Maximum W/C Ratio: 0.45
3. Slump Limit: 5 inches before adding water-reducing admixture or plasticizing admixture plus or minus 1 inch.
4. Air Content: 6 percent, plus or minus 1.5 percent at point of delivery for 1-inch nominal maximum aggregate size.

B. Bridge Deck High Performance Concrete Overlay: Normal-weight concrete.

1. Minimum Compressive Strength: 6000 psi at 28 days.
2. Maximum W/CM Ratio: 0.35.

3. Minimum Cementitious Materials Content: 800 lb/cu. yd.
4. Silica Fume Dosage: 6% - 10%
5. HRWR Admixture: As required.
6. Slump Limit: 5 inches, plus or minus 1 inch.
7. Maximum ½ inch small coarse aggregate size.
8. Air Content: 6 percent, plus or minus 1 percent at point of delivery for 1/2-inch nominal maximum aggregate size. Minimum 5% air entrainment required.

C. Controlled Low-Strength Material (CLSM) (if required):

1. Minimum Compressive Strength: 1200 psi at 28 days.
2. Slump Spread: Min. 8 in.
3. Course Aggregate: 3/4 inch nominal maximum aggregate size.

2.12 FABRICATING REINFORCEMENT

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

2.13 CONCRETE MIXING

A. Ready-Mixed Concrete: Measure, batch, mix, and deliver concrete according to ASTM C 94, and furnish batch ticket information.

1. When air temperature is between 85 and 90 deg F, reduce mixing and delivery time from 1-1/2 hours to 75 minutes; when air temperature is above 90 deg F, reduce mixing and delivery time to 60 minutes.

B. ASTM C 94. Mix concrete materials in appropriate drum-type batch machine mixer.

2.14 TRENCH DRAIN(S)

A. System Description: Modular, pre-sloped trench drain system designed for site stormwater or indoor drainage.

B. Performance Requirements:
1. Loading Class: Must conform to EN 1433 load classes (e.g., Class C for light traffic, Class E/F for heavy-duty) or ASTM requirements.
2. Slope: Pre-sloped (typically 0.5% - 1%) or neutral channels.
3. ADA Compliance: Grates must be compliant if in pedestrian areas.

C. Submittals: Provide product data, drawings, and shop drawings showing layout, elevations, and piping connections.

D. PRODUCTS
1. Basis of Design: SlabDrain H100-8 or H100KS-8 by ACO, or equivalent.
2. Channel Material: Polymer concrete.
3. Frames: Stainless steel.
4. Grates: Stainless steel with locking/vandal-resistant devices.

5. Components: Include end caps, catch basins, and pipe connectors.

E. EXECUTION
1. Installation: Install in accordance with manufacturer's instructions.
2. Form and place concrete encasement.
3. Placement: Set channel as shown on drawings, using leveling devices to prevent movement during concrete pour.
4. Finishing: Ensure top of grate is 1/8 to 1/4 inch below adjacent pavement surface.

PART 3 - EXECUTION

3.1 FORMWORK INSTALLATION

A. Design, erect, shore, brace, and maintain formwork, according to ACI 301, to support vertical, lateral, static, and dynamic loads, and construction loads that might be applied, until structure can support such loads.

B. Construct formwork so concrete members and structures are of size, shape, alignment, elevation, and position indicated, within tolerance limits of ACI 117.

C. Limit concrete surface irregularities, designated by ACI 347 as abrupt or gradual, as follows:

1. Class C

D. Construct forms tight enough to prevent loss of concrete mortar.

E. Construct forms for easy removal without hammering or prying against concrete surfaces. Provide crush or wrecking plates where stripping may damage cast-concrete surfaces. Provide top forms for inclined surfaces steeper than 1.5 horizontal to 1 vertical.

1. Install keyways, reglets, recesses, and the like, for easy removal.
2. Do not use rust-stained steel form-facing material.

F. Set edge forms, bulkheads, and intermediate screed strips for slabs to achieve required elevations and slopes in finished concrete surfaces. Provide and secure units to support screed strips; use strike-off templates or compacting-type screeds.

G. Provide temporary openings for cleanouts and inspection ports where interior area of formwork is inaccessible. Close openings with panels tightly fitted to forms and securely braced to prevent loss of concrete mortar. Locate temporary openings in forms at inconspicuous locations.

H. Chamfer exterior corners and edges of permanently exposed concrete.

I. Form openings, chases, offsets, sinkages, keyways, reglets, blocking, screeds, and bulkheads required in the Work. Determine sizes and locations from trades providing such items.

J. Clean forms and adjacent surfaces to receive concrete. Remove chips, wood, sawdust, dirt, and other debris just before placing concrete.

K. Retighten forms and bracing before placing concrete, as required, to prevent mortar leaks and maintain proper alignment.

L. Coat contact surfaces of forms with form-release agent, according to manufacturer's written instructions, before placing reinforcement.

3.2 EMBEDDED ITEM INSTALLATION

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

1. Install anchor rods, accurately located, to elevations required and complying with tolerances in Section 7.5 of AISC 303.

3.3 STEEL REINFORCEMENT INSTALLATION

A. General: Comply with CRSI's "Manual of Standard Practice" for fabricating, placing, and supporting reinforcement.

B. Clean reinforcement of loose rust and mill scale, earth, ice, and other foreign materials that reduce bond to concrete.

C. Accurately position, support, and secure reinforcement against displacement. Locate and support reinforcement with bar supports to maintain minimum concrete cover. Do not tack weld crossing reinforcing bars.

1. Weld reinforcing bars according to AWS D1.4, where indicated.

D. Set wire ties with ends directed into concrete, not toward exposed concrete surfaces.

E. Install welded-wire reinforcement in longest practicable lengths on bar supports spaced to minimize sagging. Lap edges and ends of adjoining sheets at least one mesh spacing. Offset laps of adjoining sheet widths to prevent continuous laps in either direction. Lace overlaps with wire.

F. Epoxy-Coated Reinforcement: Repair cut and damaged epoxy coatings with epoxy repair coating according to ASTM D 3963. Use epoxy-coated steel wire ties to fasten epoxy-coated steel reinforcement.

3.4 JOINTS

A. General: Construct joints true to line with faces perpendicular to surface plane of concrete.

B. Construction Joints: Install so strength and appearance of concrete are not impaired, at locations indicated or as approved by Engineer.

1. Place joints perpendicular to main reinforcement. Continue reinforcement across construction joints unless otherwise indicated. Do not continue reinforcement through sides of strip placements of floors and slabs.
2. Form keyed joints as indicated. Embed keys at least into concrete.
3. Locate joints for beams, slabs, joists, and girders in the middle third of spans. Offset joints in girders a minimum distance of twice the beam width from a beam-girder intersection.
4. Locate horizontal joints in walls and columns at underside of floors, slabs, beams, and girders and at the top of footings or floor slabs.
5. Use a bonding agent at locations where fresh concrete is placed against hardened or partially hardened concrete surfaces.

C. Isolation Joints in Slabs-on-Grade: After removing formwork, install joint-filler strips at slab junctions with vertical surfaces, such as column pedestals, foundation walls, grade beams, and other locations, as indicated.

1. Extend joint-filler strips full width and depth of joint, terminating flush with finished concrete surface unless otherwise indicated.
2. Terminate full-width joint-filler strips not less than 1/2 inch or more than 1 inch below finished concrete surface where joint sealants, specified in Section 079200 "Joint Sealants," are indicated.
3. Install joint-filler strips in lengths as long as practicable. Where more than one length is required, lace or clip sections together.

3.5 WATERSTOP INSTALLATION

A. Self-Expanding Strip Waterstops: Install in construction joints and at other locations indicated, according to manufacturer's written instructions, adhesive bonding, mechanically fastening, and firmly pressing into place. Install in longest lengths practicable.

3.6 CONCRETE PLACEMENT

A. Before placing concrete, verify that installation of formwork, reinforcement, and embedded items is complete and that required inspections are completed.

B. Do not add water to concrete during delivery, at Project site, or during placement unless approved by Engineer.

1. Do not add water to concrete after adding high-range water-reducing admixtures to mixture.

C. Deposit concrete continuously in one layer or in horizontal layers of such thickness that no new concrete is placed on concrete that has hardened enough to cause seams or planes of weakness. If a section cannot be placed continuously, provide construction joints as indicated. Deposit concrete to avoid segregation.

1. Deposit concrete in horizontal layers of depth not to exceed formwork design pressures and in a manner to avoid inclined construction joints.
2. Consolidate placed concrete with mechanical vibrating equipment according to ACI 301.

3. Do not use vibrators to transport concrete inside forms. Insert and withdraw vibrators vertically at uniformly spaced locations to rapidly penetrate placed layer and at least 6 inches into preceding layer. Do not insert vibrators into lower layers of concrete that have begun to lose plasticity. At each insertion, limit duration of vibration to time necessary to consolidate concrete and complete embedment of reinforcement and other embedded items without causing mixture constituents to segregate.

D. Deposit and consolidate concrete for floors and slabs in a continuous operation, within limits of construction joints, until placement of a panel or section is complete.

1. Consolidate concrete during placement operations, so concrete is thoroughly worked around reinforcement and other embedded items and into corners.
2. Maintain reinforcement in position on chairs during concrete placement.
3. Screed slab surfaces with a straightedge and strike off to correct elevations.
4. Slope surfaces uniformly to drains where required.
5. Begin initial floating using bull floats or darbies to form a uniform and open-textured surface plane, before excess bleedwater appears on the surface. Do not further disturb slab surfaces before starting finishing operations.

3.7 FINISHING FORMED SURFACES

A. Smooth-Formed Finish: As-cast concrete texture imparted by form-facing material, arranged in an orderly and symmetrical manner with a minimum of seams. Repair and patch tie holes and defects. Remove fins and other projections that exceed specified limits on formed-surface irregularities.

1. Apply to concrete surfaces exposed to public view or to be covered with a coating or covering material applied directly to concrete.

B. Related Unformed Surfaces: At tops of walls, horizontal offsets, and similar unformed surfaces adjacent to formed surfaces, strike off smooth and finish with a texture matching adjacent formed surfaces. Continue final surface treatment of formed surfaces uniformly across adjacent unformed surfaces unless otherwise indicated.

3.8 FINISHING FLOORS AND SLABS

A. General: Comply with ACI 302.1R recommendations for screeding, restraightening, and finishing operations for concrete surfaces. Do not wet concrete surfaces.

B. Float Finish: Consolidate surface with power-driven floats or by hand floating if area is small or inaccessible to power-driven floats. Restraighten, cut down high spots, and fill low spots. Repeat float passes and restraightening until surface is left with a uniform, smooth, granular texture.

1. Apply float finish to surfaces in the Garage parking area and in the Lobby areas.

C. Broom Finish: Apply a Medium-Broom finish to surfaces in the Garage parking areas. Apply a Fine-Broom finish to surfaces in the Lobby areas, and elsewhere, as indicated.

1. Immediately after float finishing, slightly roughen trafficked surface by brooming with fiber-bristle broom perpendicular to main traffic route. Coordinate required final finish with Engineer before application.

3.9 MISCELLANEOUS CONCRETE ITEM INSTALLATION

A. Filling In: Fill in holes and openings left in concrete structures after work of other trades is in place unless otherwise indicated. Mix, place, and cure concrete, as specified, to blend with in-place construction. Provide other miscellaneous concrete filling indicated or required to complete the Work.

B. Curbs: Provide monolithic finish to interior curbs by stripping forms while concrete is still green and by steel-troweling surfaces to a hard, dense finish with corners, intersections, and terminations slightly rounded.

3.10 CONCRETE PROTECTING AND CURING

A. General: Protect freshly placed concrete from premature drying and excessive cold or hot temperatures. Comply with ACI 306.1 for cold-weather protection and ACI 301 for hot-weather protection during curing.

B. Formed Surfaces: Cure formed concrete surfaces, including underside of beams, supported slabs, and other similar surfaces. If forms remain during curing period, moist cure after loosening forms. If removing forms before end of curing period, continue curing for remainder of curing period.

C. Unformed Surfaces: Begin curing immediately after finishing concrete. Cure unformed surfaces, including floors and slabs, concrete floor toppings, and other surfaces.

D. Cure concrete according to ACI 308.1, by one or a combination of the following methods:

1. Moisture Curing: Keep surfaces continuously moist for not less than seven days with the following materials:

    a. Water.
    b. Continuous water-fog spray.
    c. Absorptive cover, water saturated, and kept continuously wet. Cover concrete surfaces and edges with 12-inch lap over adjacent absorptive covers.

2. Moisture-Retaining-Cover Curing: Cover concrete surfaces with moisture-retaining cover for curing concrete, placed in widest practicable width, with sides and ends lapped at least 12 inches, and sealed by waterproof tape or adhesive. Cure for not less than seven days. Immediately repair any holes or tears during curing period, using cover material and waterproof tape.

    a. Moisture cure or use moisture-retaining covers to cure concrete surfaces to receive floor coverings.
    b. Moisture cure or use moisture-retaining covers to cure concrete surfaces to receive penetrating liquid floor treatments.

c. Cure concrete surfaces to receive floor coverings with either a moisture-retaining cover or a curing compound that the manufacturer certifies does not interfere with bonding of floor covering used on Project.

3.11 JOINT FILLING

A. Prepare, clean, and install joint filler according to manufacturer's written instructions.

1. Defer joint filling until concrete has aged at least one month. Do not fill joints until construction traffic has permanently ceased.

B. Remove dirt, debris, saw cuttings, curing compounds, and sealers from joints; leave contact faces of joints clean and dry.

C. Install semi-rigid joint filler full depth in saw-cut joints and at least 2 inches deep in formed joints. Overfill joint and trim joint filler flush with top of joint after hardening.

3.12 CONCRETE SURFACE REPAIRS

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

B. Patching Mortar: Mix dry-pack patching mortar, consisting of 1 part Portland cement to 2-1/2 parts fine aggregate passing a No. 16 sieve, using only enough water for handling and placing.

C. Repairing Formed Surfaces: Surface defects include color and texture irregularities, cracks, spalls, air bubbles, honeycombs, rock pockets, fins and other projections on the surface, and stains and other discolorations that cannot be removed by cleaning.

1. Immediately after form removal, cut out honeycombs, rock pockets, and voids more than ½ inch in any dimension to solid concrete. Limit cut depth to ¾ inch. Make edges of cuts perpendicular to concrete surface. Clean, dampen with water, and brush-coat holes and voids with bonding agent. Fill and compact with patching mortar before bonding agent has dried. Fill form-tie voids with patching mortar or cone plugs secured in place with bonding agent.
2. Repair defects on surfaces exposed to view by blending white Portland cement and standard Portland cement so that, when dry, patching mortar matches surrounding color. Patch a test area at inconspicuous locations to verify mixture and color match before proceeding with patching. Compact mortar in place and strike off slightly higher than surrounding surface.
3. Repair defects on concealed formed surfaces that affect concrete’s durability and structural performance as determined by Engineer.

D. Repairing Unformed Surfaces: Test unformed surfaces, such as floors and slabs, for finish and verify surface tolerances specified for each surface. Correct low and high areas. Test surfaces sloped to drain for trueness of slope and smoothness; use a sloped template.

1. Repair finished surfaces containing defects. Surface defects include spalls, popouts, honeycombs, rock pockets, crazing and cracks in excess of 0.01 inch wide or that penetrate to reinforcement or completely through unreinforced sections regardless of width, and other objectionable conditions.
2. After concrete has cured at least 14 days, correct high areas by grinding.
3. Correct localized low areas during or immediately after completing surface finishing operations by cutting out low areas and replacing with patching mortar. Finish repaired areas to blend into adjacent concrete.
4. Correct other low areas scheduled to remain exposed with a repair topping. Cut out low areas to ensure a minimum repair topping depth of ¼ inch to match adjacent floor elevations. Prepare, mix, and apply repair topping and primer according to manufacturer's written instructions to produce a smooth, uniform, plane, and level surface.
5. Repair defective areas, except random cracks and single holes 1 inch or less in diameter, by cutting out and replacing with fresh concrete. Remove defective areas with clean, square cuts and expose steel reinforcement with at least a ¾-inch clearance all around. Dampen concrete surfaces in contact with patching concrete and apply bonding agent. Mix patching concrete of same materials and mixture as original concrete, except without coarse aggregate. Place, compact, and finish to blend with adjacent finished concrete. Cure in same manner as adjacent concrete.
6. Repair random cracks and single holes 1 inch or less in diameter with patching mortar. Groove top of cracks and cut out holes to sound concrete and clean off dust, dirt, and loose particles. Dampen cleaned concrete surfaces and apply bonding agent. Place patching mortar before bonding agent has dried. Compact patching mortar and finish to match adjacent concrete. Keep patched area continuously moist for at least 72 hours.

E. Perform structural repairs of concrete, subject to Engineer's approval, using epoxy adhesive and patching mortar.

F. Repair materials and installation not specified above may be used, subject to Engineer's approval.

3.13 FIELD QUALITY CONTROL

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

B. Inspections:

1. Steel reinforcement placement including post-tensioned tendons.
2. Steel reinforcement welding.
3. Verification of use of required design mixture.
4. Concrete placement, including conveying and depositing.
5. Curing procedures and maintenance of curing temperature.
6. Verification of concrete strength before removal of shores and forms from beams and slabs.

C. Concrete Tests: Testing of composite samples of fresh concrete obtained according to ASTM C 172 shall be performed according to the following requirements:

1. Testing Frequency: Obtain one composite sample for each day's pour of each concrete mixture exceeding 5 cu. yd., but less than 25 cu. yd., plus one set for each additional 50 cu. yd. or fraction thereof.
2. Slump: ASTM C 143; one test at point of placement for each composite sample, but not less than one test for each day's pour of each concrete mixture. Perform additional tests when concrete consistency appears to change.
3. Air Content: ASTM C 231, pressure method, for normal-weight concrete; one test for each composite sample, but not less than one test for each day's pour of each concrete mixture.
4. Concrete Temperature: ASTM C 1064; one test hourly when air temperature is 40 deg F and below or 80 deg F and above, and one test for each composite sample.
5. Compression Test Specimens: ASTM C 31.
    a. Cast and field-cure two sets of two standard cylinder specimens for each composite sample.

6. Compressive-Strength Tests: ASTM C 39:
    a. Test one set of two field-cured specimens at 7 days and one set of two specimens at 28 days.
    b. For elevated slab pours, test two field cured specimens at 3 days, two field cured specimens at 7 days and two laboratory cured specimens at 28 days.
    c. A compressive-strength test shall be the average compressive strength from a set of two specimens obtained from same composite sample and tested at age indicated.

7. When strength of field-cured cylinders is less than 85 percent of companion laboratory-cured cylinders, Contractor shall evaluate operations and provide corrective procedures for protecting and curing in-place concrete.
8. Strength of each concrete mixture will be satisfactory if every average of any three consecutive compressive-strength tests equals or exceeds specified compressive strength and no compressive-strength test value falls below specified compressive strength by more than 500 psi.
9. Test results shall be reported in writing to Engineer, concrete manufacturer, and Contractor within 48 hours of testing. Reports of compressive-strength tests shall contain Project identification name and number, date of concrete placement, name of concrete testing and inspecting agency, location of concrete batch in Work, design compressive strength at 28 days, concrete mixture proportions and materials, compressive breaking strength, and type of break for both 7- and 28-day tests.
10. Nondestructive Testing: Impact hammer, sonoscope, or other nondestructive device may be permitted by Engineer but will not be used as sole basis for approval or rejection of concrete.
11. Additional Tests: Testing and inspecting agency shall make additional tests of concrete when test results indicate that slump, air entrainment, compressive strengths, or other requirements have not been met, as directed by Engineer. Testing and inspecting agency may conduct tests to determine adequacy of concrete by cored cylinders complying with ASTM C 42 or by other methods as directed by Engineer.
12. Additional testing and inspecting, at Contractor's expense, will be performed to determine compliance of replaced or additional work with specified requirements.
13. Correct deficiencies in the Work that test reports and inspections indicate do not comply with the Contract Documents.

END OF SECTION 033000

SECTION 071800 - TRAFFIC COATINGS *(ALTERNATE NO. 1)*

PART 1 - GENERAL

1.1 SUMMARY

A. Section includes traffic coating for vehicular and pedestrian traffic on the HEB Bridge Deck.

1.2 WORK INCLUDED

A. Provide labor, materials, equipment and supervision necessary to complete the application of the deck coating system to all appropriate concrete surfaces.

1.3 SYSTEM DESCRIPTION

A. The pedestrian stadium deck coating system shall be based on solvent- free, 100% reactive Methyl Methacrylate (MMA) based resins.

B. The pedestrian stadium coating system shall cure and be available to normal traffic in no more than 90 minutes after application of the final wear coat. The system shall be chemically resistant to a wide range of acids, alkalis, salts, oils, automotive fluids and other chemicals.

1.4 PREINSTALLATION MEETINGS

A. Preinstallation Conference: Conduct conference at Project Site (Cornell HEB Plaza).

1.5 SUBMITTALS

A. Product Data: For each type of product.

1. Include installation instructions and details, material descriptions, dry or wet film thickness requirements, and finish.

B. Shop Drawings: For traffic coatings.

1. Include details for treating substrate joints and cracks, flashings, deck penetrations, and other termination conditions that are not included in manufacturer's product data.

C. Acceptance Sample: One (8” x 8”) sample of the specified acrylic pedestrian stadium deck coating system applied to hardboard or similar backing for rigidity and ease of handling.

D. Manufacturer's Literature: Descriptive data and specific recommendations for surface preparation, mixing, and application of materials.

E. Manufacturer's Safety Data Sheets (SDS) for each respective product to be used.

F. Sample warranty.

1.6 QUALITY ASSURANCE

A. Installer Qualifications: An entity that employs installers and supervisors who are trained and approved by manufacturer.

B. Bond Testing:
1. Surface preparation efforts shall be evaluated by conducting Bond Tests at the site prior to application of the deck coating system(s).

C. Pre-Installation Meeting
1. Owner should require a Pre-Installation Meeting with Owner or Owners representatives, Contractor and approved Applicator in attendance. The agenda shall include a review and clarification of this specification, application procedures, quality control, inspection and acceptance criteria, and production schedules. Applicator is not authorized to proceed until this meeting is held or waived by Owner.

D. Delivery, storage, and handling
1. All material shall be delivered in original Manufacturer's sealed containers with all pertinent labels intact and legible.
2. Store materials in dry protected area between 25°F and 80°F. Keep out of direct sunlight. Keep away from heat, hot surfaces, sparks, open flames, and other ignition sources. No smoking. Take precautionary measures against static discharge. Ground/bond container and receiving equipment. Use only non-sparking tools. Use explosion-proof electrical / ventilating / lighting / equipment. Keep the container tightly closed. Wear protective gloves/protective clothing/eye protection/face protection. Wash hands and exposed skin after use. Do not breathe dust / fume / gas / mist / vapors / spray. Contaminated work clothing should not be allowed out of the workplace. Work in well-ventilated zones or use proper respiratory protection.
3. Follow all Manufacturer's specific label instructions and prudent safety practices for storage and handling.

E. PROJECT/SITE CONDITIONS
1. Material, air, and surface temperatures shall be in the range of 32°F to 90°F during application and cure. If surface and ambient temperatures are outside of the specified range, please contact the manufacturer for additional recommendations.
2. Relative humidity in the specific location of the application shall be less than 85% and the surface temperature shall be at least 5°F above the dew point.
3. Conditions required of new concrete to be coated with MMA materials:
   a. Concrete shall be moisture cured for a minimum of 7 days at 70°F. The concrete must be fully cured for a minimum of 28 days prior to application of the coating system pending moisture testing.
   b. Surface contaminants such as curing agents, membranes, or other bond breakers should not be used.
   c. Concrete shall have a "rubbed" finish; float or darby finish the concrete (a hard steel trowel is neither necessary nor desirable).

d. Drains should be set to the concrete grade rather than raised to the finished grade of the topping.
e. Concrete shall have a percent relative humidity (RH) less than 85% as determined by in-situ RH probe using the current version of ASTM F2170 (Standard Test Method for Determining Relative Humidity in Concrete Floors Slabs Using in-situ Probes).
f. The concrete surface should be visibly dry.

4. Vapor barriers and/or suitable means should be installed beneath grade slabs, or where appropriate, to prevent vapor transmission or double prime with Primer. If moisture conditions exceed 85% or surface or ambient temperatures fall outside the specified range, please contact the manufacturer for additional recommendations.

1.7 WARRANTY

A. Manufacturer's Warranty: Manufacturer agrees to repair or replace traffic coating that fails in materials or workmanship within specified warranty period.

1. Warranty Period: Five (5) years from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

A. Material Compatibility: Provide primers; base coat, intermediate coat, and topcoat; and accessory materials that are compatible with one another and with substrate under conditions of service and application, as demonstrated by manufacturer based on testing and field experience.

2.2 TRAFFIC COATING

A. Traffic Coating: Manufacturer's standard, traffic-bearing, seamless, high-solids-content, cold liquid-applied, elastomeric, water-resistant membrane system with integral wearing surface for pedestrian traffic and vehicular traffic.
1. Res-Tek Inc DEK-Guard™ Pedestrian Stadium Coating System
2. Approved equal.

B. Prime Coat: Shall be Res-Tek DEK-641 Penetrating Primer mixed with RT-R-Component (DEK-641-R), a transparent, 100% reactive, MMA- based resin. See Res-Tek’s DEK-Guard Powder Hardener Dosing Chart for DEK-641 and R-Component mix ratio. DEK-641-R is mixed with Res- Tek Powder Hardener (BPO) at the job site.

C. Cracks, Control Joints: Shall be Res-Tek DEK-650 Flexible Membrane. DEK-650 is mixed with Res-Tek Powder Hardener (BPO) at the job site. See Res-Tek’s DEK-Guard Powder Hardener Dosing Chart.

D. Body Coat: Shall be DEK-675 flexible membrane, a transparent 100% reactive MMA based resin. DEK- 675 is mixed with Res-Tek Powder Hardener (BPO) at the job site. See Res-Tek's DEK-Guard Powder Hardener Dosing Chart.

E. Multi-colored Quartz broadcast into wet DEK-675 for aesthetics and high coefficient of friction.

F. Patching, Spall, and Joint Nosing Repair. Shall be Res-Tek RT-05LM Polymer Concrete. See Res-Tek's RT-05LM Polymer Concrete Extension Chart and/or Res-Tek's DEK-Guard Powder Hardener Dosing Chart.

G. Topcoat: Shall be Res-Tek MAC-680 Clear Topcoat, a transparent, 100% reactive, MMA based resin to which Res-Tek Powder Hardener (BPO) and pigment are added at the job site. See Res-Tek's MAC-Guard Powder Hardener Dosing Chart.

2.3 ACCESSORY MATERIALS

A. Joint Sealants: As specified in Section 079200 "Joint Sealants."

B. Sheet Flashing: Nonstaining sheet material recommended in writing by traffic-coating manufacturer.

C. Adhesive: Contact adhesive recommended in writing by traffic-coating manufacturer.

D. Reinforcing Strip: Fiberglass mesh recommended in writing by traffic-coating manufacturer.

E. Pigment: Shall be supplied by manufacturer. Color to be selected by owner/architect, from manufacturer's provided selection.

F. Broadcast Aggregate: Shall be clean, dry multi-colored quartz aggregate supplied by manufacturer. Aggregate to be selected by owner/architect, from manufacturer's provided selection.

G. Res-Tek Powder Hardener (BPO). See Res-Tek's DEK-Guard Powder Hardener Dosing Chart for appropriate dosing levels.

PART 3 - EXECUTION

3.1 PREPARATION

A. Clean and prepare substrates according to ASTM C1127 and manufacturer's written instructions to produce clean, dust-free, dry substrate for traffic-coating application.

B. Concrete Substrates: Mechanically abrade surface to a uniform profile acceptable to manufacturer, according to ASTM D4259. Do not acid etch.

1. Remove grease, oil, paints, and other penetrating contaminants from concrete.
2. Remove concrete fins, ridges, and other projections.

3. Remove laitance, glaze, efflorescence, curing compounds, concrete hardeners, form-release agents, and other incompatible materials that might affect coating adhesion.
4. Remove remaining loose material to provide a sound surface, and clean surfaces according to ASTM D4258.

C. Mechanical Surface Preparation
1. Demolition of top three (3) inches of concrete deck shall provide a roughed surface with a minimum ¼ inch amplitude.
2. All accessible concrete deck surfaces shall be mechanically blast cleaned using a mobile steel shot, dust recycling machine such as BLASTRAC®, as manufactured by BLASTRAC, NA, or approved equivalent. All surface and embedded accumulations of paint, toppings, hardened concrete layers, laitance, power trowel finishes, and other similar surface characteristics shall be completely removed leaving a bare concrete surface having a profile of CSP 5 or higher according to the Concrete Repair Institute's Concrete Surface Profile Scale and exposing the upper fascia of concrete aggregate.
3. Areas inaccessible to the mobile blast cleaning machines shall be mechanically abraded to the same degree of cleanliness, soundness, and profile using vertical disc scarifiers, starwheel scarifiers, needle guns, scabblers, grinding, or other suitably effective equipment.
4. After blasting, traces or accumulations of spent abrasive, laitance, removed toppings, and other debris shall be removed by scraping, brushing, sweeping, blowing, and/or vacuuming.
5. Any previous coatings or topping staying must still be mechanically prepared to the best appropriate means based on access and reasonable labor process for certain areas.
6. Conduct Bond Tests to check adequacy of surface preparation for all areas and all different methods of preparation.
7. Application of the respective specified material system(s) must be completed before any water or other contamination of the surface occurs.

D. Bond Testing
1. The applicator shall evaluate all surface preparation by conducting bond tests at strategic locations according to manufacturer's written instructions.
2. If further surface preparation is required, bond tests shall be conducted again when this has been completed.
3. If no amount or kind of surface preparation produces satisfactory bond tests, the applicator shall report that to the Owner, Engineer, and Manufacturer.

E. Mechanical Surface Preparation for spalled areas.
1. All spalled concrete must be removed.
2. Mark and saw cut concrete at a point just beyond spalled concrete to outline repair area. If within 3" of an existing joint, make the cut parallel to the joint.
3. Remove all spalled concrete from the repair area with chipping/jack hammer or by other appropriate mechanical means.
4. If reinforcing steel is exposed and corrosion exists; remove all loose rust with a wire brush or other adequate means.
5. Application of the respective specified patching material must be completed before any water or other contamination of the surface occurs.

3.2 TERMINATIONS AND PENETRATIONS

A. Prepare vertical and horizontal surfaces at terminations and penetrations through traffic coatings and at expansion joints, drains, and sleeves according to ASTM C1127 and manufacturer's written instructions.

B. Provide sealant cants at penetrations and at reinforced and nonreinforced, deck-to-wall butt joints.

C. Terminate edges of deck-to-deck expansion joints with preparatory base-coat strip.

3.3 JOINT AND CRACK TREATMENT

A. Prepare, treat, rout, and fill joints and cracks in substrates according to ASTM C1127 and manufacturer's written recommendations. Before coating surfaces, remove dust and dirt from joints and cracks according to ASTM D4258.

1. Comply with recommendations in ASTM C1193 for joint-sealant installation.

B. All existing joint sealant and sealant residue must be completely removed from cracks and control joints.

C. All cracks greater than 1/16” in width shall be routed/chased to measure 1/4” x 1/4”.

D. All control joints and cracks shall be primed and filled.

E. Apply reinforcing strip in traffic-coating system where recommended in writing by traffic-coating manufacturer.

3.4 TRAFFIC-COATING APPLICATION

A. Apply traffic coating according to ASTM C1127 and manufacturer's written instructions.

B. Apply coats of specified compositions for each type of traffic coating at locations as indicated on Drawings.

C. Apply traffic coatings to prepared wall terminations and vertical surfaces to height indicated; omit aggregate on vertical surfaces.

D. Cure traffic coatings.

3.5 PROTECTING AND CLEANING

A. Protect traffic coatings from damage and wear during remainder of construction period.

B. Clean spillage and soiling from adjacent construction using cleaning agents and procedures recommended by manufacturer of affected construction.

END OF SECTION 071800

SECTION 077123 – MANUFACTURED STAINLESS STEEL GUTTERS

PART 1 - GENERAL

1.1 RELATED SECTIONS

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. Factory-fabricated double-bottom stainless steel gutter systems.

2. Hangers, outlets, end caps, expansion provisions, fasteners, sealants, and accessories required for a complete installation.

1.3 SUBMITTALS

A. Submit manufacturer's product data.

B. Submit shop drawings indicating gutter profiles, dimensions, supports, joints, outlets, and installation details.

C. Submit manufacturer's installation instructions.

1.4 QUALITY ASSURANCE

A. Obtain gutters and accessories from a single manufacturer.

B. Install in accordance with the manufacturer's written instructions.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

A. Basis of Design:

1. Industrial Gutters 600 Suffield Street #179 Agawam, MA 01001
https://www.industrialgutters.com

B. Products by other manufacturers may be submitted for approval in accordance with Division 01 substitution requirements. Demonstrate equivalent materials, fabrication, performance, and appearance.

2.2 MATERIALS

A. Fabricate gutters from Type 316L stainless steel complying with ASTM A240/A240unless otherwise indicated.

B. Provide factory-fabricated double-bottom gutter sections as indicated on the Drawings.

C. Provide stainless steel hangers, brackets, fasteners, outlets, end caps, expansion joints, and accessories recommended by the manufacturer.

D. Provide sealants compatible with stainless steel and recommended by the manufacturer.

2.3 FINISHES

A. Exposed Stainless Steel: No. 4 directional satin finish in accordance with ASTM A480/A480M.

B. Concealed Stainless Steel: Manufacturer's standard 2B mill finish.

C. Protect finished surfaces during fabrication, shipping, and installation. Remove protective coverings after installation and clean exposed surfaces in accordance with the manufacturer's recommendations.

PART 3 - EXECUTION

3.1 INSTALLATION

A. Verify supporting construction is ready to receive the gutter system.

B. Install gutter system in accordance with the manufacturer's written instructions and approved shop drawings.

C. Install gutters true to line and grade with positive slope to outlets.

D. Secure gutters using manufacturer's recommended supports and fasteners.

E. Provide watertight joints and allow for thermal movement.

F. Coordinate installation with walkway floor.

3.2 CLEANING

A. Remove debris from gutters and outlets.

B. Clean exposed stainless steel surfaces.

C. Protect completed work until Substantial Completion.

END OF SECTION 077123

SECTION 078413 - PENETRATION FIRESTOPPING

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. Penetration firestopping systems for the following applications:

a. Penetrations in fire-resistance-rated walls.
b. Penetrations in horizontal assemblies.
c. Penetrations in smoke barriers.

1.3 COORDINATION

A. Coordinate construction of openings and penetrating items to ensure that penetration firestopping systems can be installed according to specified firestopping system design.

B. Coordinate sizing of sleeves, openings, core-drilled holes, or cut openings to accommodate penetration firestopping systems.

1.4 DEFINITIONS

A. UL Fire Resistance Directory: Product directory published yearly, with supplements, by Underwriters Laboratories Inc., containing listings and classifications in effect as of the published date for product categories covered by UL.

B. Factory Mutual Approval Guide: Product directory published yearly, with supplements, by Factory Mutual Research Corp., containing listed building products, materials, and assemblies which have been tested by Factory Mutual Research Corp., to recognized governing standards.

C. Intertek Group Directory of Listed Building Products: Product directory published yearly, with supplements, by Intertek Group, containing listed building products, materials, and assemblies.

D. F Rating: Prohibits flame passage through the system and requires acceptable hose stream test performance.

E. T Rating: Prohibits flame passage through the system and requires the maximum temperature rise on the unexposed surface of the wall or floor assembly, on the penetrating item and on the fill material not to exceed 325 degrees F above ambient and requires acceptable hose stream test performance.

F. Company Field Advisor: An employee of the Company which lists and markets the primary components of the system under their name who is certified in writing by the Company to be technically qualified in design, installation, and servicing of the required products or an employee of an organization certified by the foregoing Company to be technically qualified in design, installation and servicing of the required products. Personnel involved solely in sales do not qualify.

1.5 PREINSTALLATION MEETINGS

A. Conduct conference at Project site.

B. Before the firestop work is scheduled to commence, a conference will be called by the Director's Representative for the purpose of reviewing the Contract Documents and discussing requirements for the Work. The conference shall be attended by related trade Contractors (if any), their qualified firestopping installers, and associated firestopping manufacturer's Company Field Advisors.

1.6 SUBMITTALS

A. Submittals for this section are subject to the re-evaluation fee identified in Article 4 of the General Conditions.

B. Manufacturer's installation instructions shall be provided along with product data.

C. Submittals shall be provided in the order in which they are specified and tabbed (for combined submittals).

D. Submittals Package: Submit the following items specified below the same time as a package:

1. Product Data.
2. Samples.
3. Quality Control Submittals.
4. Firestop Schedule.

E. Product Data: For each type of product.

1. Indicate design number for each firestop proposed to be used which is detailed in the UL Fire Resistance Directory, Factory Mutual Approval Guide, or the Intertek Group Directory of Listed Building Products.
2. State the specific locations where each firestop system is proposed to be installed.

F. Product Schedule: For each penetration firestopping system. Include location, illustration of firestopping system, and design designation of qualified testing and inspecting agency.

1. Engineering Judgments: Where Project conditions require modification to a qualified testing and inspecting agency's illustration for a particular penetration firestopping system, submit illustration, with modifications marked, approved by penetration firestopping system manufacturer's fire-protection Director's Representative as an engineering judgment or equivalent fire-resistance-rated assembly. Obtain approval of authorities having jurisdiction prior to submittal.

G. Quality Control Submittals:

1. Design Data: Show details and include engineering information and manufacturer's written recommendations required under Design Requirements Article for each proposed firestop if other than a design detailed in the UL Fire Resistance Directory, Factory Mutual Approval Guide, or the Intertek Group Directory of Listed Building Products.

    a. State the specific locations where each firestop is proposed to be installed.

2. Installer's Qualifications Data:

    a. Name of each person who will be performing the Work and their employer's name, business address and telephone number.
    b. Names and addresses of 3 similar projects that each person has worked on during the past 5 years.

3. Company Field Advisor Data:

    a. Name, business address and telephone number of Company Field Advisor secured for the required services.
    b. Certified statement from the Company listing the qualifications of the Company Field Advisor and listing of services and each product specifically listed for this Project for which Company Field Advisor is given authorization by the Company to render advice.

H. Firestop Schedule: Submit schedule itemizing the following:

1. Manufacturer's product reference numbers and/or drawing numbers.
2. UL, Factory Mutual Research Corp., or Intertek Group design number.
3. Location of firestop material.
4. Penetrating Item Description/Limits: Material, size, insulated or uninsulated, and combustibility.
5. Maximum allowable annular space or maximum size opening.
6. Wall type construction.
7. Floor type construction.
8. Hourly Fire resistance rating of wall or floor.
9. F rating.
10. T rating, if available.

NOTE: Firestop Schedule is for information only and will not be acted on for approval. Refer to Sample Firestop Schedule bound in Appendix.

I. Product Test Reports: For each penetration firestopping system, for tests performed by a qualified testing agency.

1.7 CLOSEOUT SUBMITTALS

A. Installer Certificates: From Installer indicating that penetration firestopping systems have been installed in compliance with requirements and manufacturer's written instructions.

1.8 QUALITY ASSURANCE

A. Installer Qualifications: A firm that has been approved by FM Approval according to FM Approval 4991, "Approval Standard for Firestop Contractors," or been evaluated by UL and found to comply with its "Qualified Firestop Contractor Program Requirements."

B. Container/Package Labels: Include manufacturer’s name and identifying product number, date of manufacturer, lot number, shelf life (if applicable), qualified testing and inspecting agency classification marking, curing time, and mixing instructions for multi-component materials.

C. Company Field Advisor: Secure the services of a Company Field Advisor for the following:

1. Render advice regarding suitability of firestopping materials and methods.
2. Assist in completing firestop schedule.
3. Attend pre-installation conference.

D. Mockups: Prior to installing firestopping, erect mockup for each type through-penetration firestop system indicated in the Firestop Schedule to verify selections made and to establish standard of quality and performance by which the firestopping work will be judged.

1. Comply with the following requirements, using materials indicated for final installations.

a. Locate sample installations on site at locations where directed.
b. Obtain Director’s Representative’s acceptance of sample installations before start of firestopping installation.
c. Retain and maintain mockups during construction in an undisturbed condition.
d. Accepted sample installations in an undisturbed condition at time of substantial completion of Project may become part of completed firestopping work.

1.9 PROJECT CONDITIONS

A. Environmental Limitations: Do not install penetration firestopping system when ambient or substrate temperatures are outside limits permitted by penetration firestopping system manufacturers or when substrates are wet because of rain, frost, condensation, or other causes.

B. Install and cure penetration firestopping materials per manufacturer's written instructions using natural means of ventilations or, where this is inadequate, forced-air circulation.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

A. Fire-Test-Response Characteristics:

1. Perform penetration firestopping system tests by a qualified testing agency acceptable to authorities having jurisdiction.
2. Test per testing standards referenced in "Penetration Firestopping Systems" Article. Provide rated systems complying with the following requirements:

    a. Penetration firestopping systems shall bear classification marking of a qualified testing agency.

        1) UL in its "Fire Resistance Directory."
        2) Intertek Group in its "Directory of Listed Building Products."
        3) FM Approval in its "Approval Guide."

3. Exception: Where no listed designs exist that meet the requirements of a specific project condition, submit details and manufacturer’s written recommendations for a design meeting the requirements. Include evidence of engineering judgment and extrapolation from listed designs.

2.2 PENETRATION FIRESTOPPING SYSTEMS

A. Penetration Firestopping Systems: Systems that resist spread of fire, passage of smoke and other gases, and maintain original fire-resistance rating of construction penetrated. Penetration firestopping systems shall be compatible with one another, with the substrates forming openings, and with penetrating items if any.

B. Penetrations in Fire-Resistance-Rated Walls: Penetration firestopping systems with ratings determined per ASTM E814 or UL 1479, based on testing at a positive pressure differential of 0.01-inch wg.

1. F-Rating: Not less than the fire-resistance rating of constructions penetrated.

C. Penetrations in Horizontal Assemblies: Penetration firestopping systems with ratings determined per ASTM E814 or UL 1479, based on testing at a positive pressure differential of 0.01-inch wg.

1. F-Rating: At least one hour, but not less than the fire-resistance rating of constructions penetrated.
2. T-Rating: At least one hour, but not less than the fire-resistance rating of constructions penetrated except for floor penetrations within the cavity of a wall.
3. W-Rating: Provide penetration firestopping systems showing no evidence of water leakage when tested according to UL 1479.

D. Penetrations in Smoke Barriers: Penetration firestopping systems with ratings determined per UL 1479, based on testing at a positive pressure differential of 0.30-inch wg.

1. L-Rating: Not exceeding 5.0 cfm/sq. ft. of penetration opening at and no more than 50-cfm cumulative total for any 100 sq. ft. at both ambient and elevated temperatures.

E. Exposed Penetration Firestopping Systems: Flame-spread and smoke-developed indexes of less than 25 and 450, respectively, per ASTM E84.

F. Manufactured Piping Penetration Firestopping System: Penetration firestopping systems with ratings determined per ASTM E814 or UL 1479, based on testing at a positive pressure differential of 0.01-inch wg.

1. F-Rating: At least one hour, but not less than the fire-resistance rating of constructions penetrated.
2. T-Rating: At least one hour, but not less than the fire-resistance rating of constructions penetrated except for floor penetrations within the cavity of a wall.
3. W-Rating: Provide penetration firestopping systems showing no evidence of water leakage when tested according to UL 1479.
4. Sleeve: Molded-PVC plastic, of length to match slab thickness and with integral nailing flange on one end for installation in cast-in-place concrete slabs.
5. Stack Fitting: ASTM A48/A48M, gray-iron, hubless-pattern wye branch with neoprene O-ring at base and gray-iron plug in thermal-release harness. Include PVC protective cap for plug.
6. Special Coating: Corrosion resistant on interior of fittings.

G. Accessories: Provide components for each penetration firestopping system that are needed to install fill materials and to maintain ratings required. Use only those components specified by penetration firestopping system manufacturer and approved by qualified testing and inspecting agency for conditions indicated.

1. Permanent forming/damming/backing materials.
2. Substrate primers.
3. Collars.
4. Steel sleeves.

2.3 FILL MATERIALS

A. Cast-in-Place Firestop Devices: Factory-assembled devices for use in cast-in-place concrete floors and consisting of an outer sleeve lined with an intumescent strip, a flange attached to one end of the sleeve for fastening to concrete formwork, and a neoprene gasket.

B. Latex Sealants: Single-component latex formulations that do not re-emulsify after cure during exposure to moisture.

C. Firestop Devices: Factory-assembled collars formed from galvanized steel and lined with intumescent material sized to fit specific diameter of penetrant.

D. Intumescent Putties: Nonhardening, water-resistant, intumescent putties containing no solvents or inorganic fibers.

E. Mortars: Prepackaged dry mixes consisting of a blend of inorganic binders, hydraulic cement, fillers and lightweight aggregate formulated for mixing with water at Project site to form a nonshrinking, homogeneous mortar.

F. Pillows/Bags: Reusable heat-expanding pillows/bags consisting of glass-fiber cloth cases filled with a combination of mineral-fiber, water-insoluble expansion agents, and fire-retardant additives. Where exposed, cover openings with steel-reinforcing wire mesh to protect pillows/bags from being easily removed.

G. Silicone Foams: Multicomponent, silicone-based liquid elastomers that, when mixed, expand and cure in place to produce a flexible, nonshrinking foam.

H. Silicone Sealants: Single-component, silicone-based, neutral-curing elastomeric sealants.

2.4 MIXING

A. Penetration Firestopping Materials: For those products requiring mixing before application, comply with penetration firestopping system manufacturer's written instructions for accurate proportioning of materials, water (if required), type of mixing equipment, selection of mixer speeds, mixing containers, mixing time, and other items or procedures needed to produce products of uniform quality with optimum performance characteristics for application indicated.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine substrates and conditions, with Installer present, for compliance with requirements for opening configurations, penetrating items, substrates, and other conditions affecting performance of the Work.

B. Examine existing junctures, control joints, and expansion joints in the Work areas.

C. Where firestopping is missing or not intact, submit a written report to the Director’s Representative describing the existing conditions.

D. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

A. Surface Cleaning: Before installing penetration firestopping systems, clean out openings immediately to comply with manufacturer's written instructions and with the following requirements:

1. Remove from surfaces of opening substrates and from penetrating items foreign materials that could interfere with adhesion of penetration firestopping materials.

2. Clean opening substrates and penetrating items to produce clean, sound surfaces capable of developing optimum bond with penetration firestopping materials. Remove loose particles remaining from cleaning operation.
3. Remove laitance and form-release agents from concrete.

B. Prime substrates where recommended in writing by manufacturer using that manufacturer's recommended products and methods. Confine primers to areas of bond; do not allow spillage and migration onto exposed surfaces.

3.3 INSTALLATION

A. General: Install penetration firestopping systems to comply with manufacturer's written installation instructions and published drawings for products and applications.

1. Where applicable design is not detailed in the Directories, use forming materials and fill, void or cavity material to form through-penetration firestop in accordance with approved printed details and installation instructions from the company producing the forming materials and fill, void or cavity material.
2. If the construction type(s) of the building cannot be determined, provide firestopping with fire resistance ratings as specified in the Building Code of New York State, Tables 720.1(1), 720.1(2), 720.1(3), and 302.3.2.

B. Install forming materials and other accessories of types required to support fill materials during their application and in the position needed to produce cross-sectional shapes and depths required to achieve fire ratings.

1. After installing fill materials and allowing them to fully cure, remove combustible forming materials and other accessories not forming permanent components of firestopping.

C. Install fill materials by proven techniques to produce the following results:

1. Fill voids and cavities formed by openings, forming materials, accessories and penetrating items to achieve required fire-resistance ratings.
2. Apply materials so they contact and adhere to substrates formed by openings and penetrating items.
3. For fill materials that will remain exposed after completing the Work, finish to produce smooth, uniform surfaces that are flush with adjoining finishes.
4. Installer's name.

3.4 FIELD QUALITY CONTROL

A. Leave exposed those firestopping installations that are to be concealed behind other construction until the Director’s Representative has examined each installation.

B. Where deficiencies are found or penetration firestopping system is damaged or removed because of testing, repair or replace penetration firestopping system to comply with requirements.

C. Proceed with enclosing penetration firestopping systems with other construction only after inspection reports are issued and installations comply with requirements.

3.5 CLEANING AND PROTECTION

A. Clean off excess fill materials adjacent to openings as the Work progresses by methods and with cleaning materials that are approved in writing by penetration firestopping system manufacturers and that do not damage materials in which openings occur.

B. Provide final protection and maintain conditions during and after installation that ensure that penetration firestopping systems are without damage or deterioration at time of Substantial Completion. If, despite such protection, damage or deterioration occurs, immediately cut out and remove damaged or deteriorated penetration firestopping material and install new materials to produce systems complying with specified requirements.

END OF SECTION 078413

SECTION 079200 - JOINT SEALANTS

PART 1 - GENERAL

1.1 RELATED SECTIONS

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

B. Division 03 – Cast-In-Place Concrete

1.2 SUMMARY

A. Section Includes:

1. Silicone joint sealants.
2. Nonstaining silicone joint sealants.

1.3 PREINSTALLATION MEETINGS

A. Preinstallation Conference: Conduct conference at the Project Site (Cornell HEB Plaza).

1.4 ACTION SUBMITTALS

A. Product Data: For each joint-sealant product.

B. Samples: For each kind and color of joint sealant required.

C. Joint-Sealant Schedule: Include the following information:

1. Joint-sealant application, joint location, and designation.
2. Joint-sealant manufacturer and product name.
3. Joint-sealant formulation.
4. Joint-sealant color.

1.5 INFORMATIONAL SUBMITTALS

A. Product test reports.

B. Preconstruction field-adhesion-test reports.

C. Field-adhesion-test reports.

D. Sample warranties.

1.6 QUALITY ASSURANCE

A. Testing Agency Qualifications: Qualified according to ASTM C1021 to conduct the testing indicated.

1.7 WARRANTY

A. Special Installer's Warranty: Installer agrees to repair or replace joint sealants that do not comply with performance and other requirements specified in this Section within specified warranty period.

1. Warranty Period: Two (2) years from date of Substantial Completion.

B. Special Manufacturer's Warranty: Manufacturer agrees to furnish joint sealants to repair or replace those joint sealants that do not comply with performance and other requirements specified in this Section within specified warranty period.

1. Warranty Period: Five (5) years from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 JOINT SEALANTS, GENERAL

A. Colors of Exposed Joint Sealants: As selected by the Architect/Engineer from manufacturer's full range.

2.2 NONSTAINING SILICONE JOINT SEALANTS

A. Nonstaining Joint Sealants: No staining of substrates when tested according to ASTM C1248.

B. Silicone, Nonstaining, S, NS, 50, NT: Nonstaining, single-component, nonsag, plus 50 percent and minus 50 percent movement capability, nontraffic-use, neutral-curing silicone joint sealant; ASTM C920, Type S, Grade NS, Class 50, Use NT.

1. Acceptable manufacturers:
   a. Sika USA
   b. Pecora Corporration.

2. Tremco.

2.3 MILDEW-RESISTANT JOINT SEALANTS

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

B. Silicone, Mildew Resistant, Acid Curing, S, NS, 25, NT: Mildew-resistant, single-component, nonsag, plus 25 percent and minus 25 percent movement capability, nontraffic-use, acid-curing silicone joint sealant; ASTM C920, Type S, Grade NS, Class 25, Use NT.

2.4 JOINT-SEALANT BACKING

A. Cylindrical Sealant Backings: ASTM C1330, Type C (closed-cell material with a surface skin), and of size and density to control sealant depth and otherwise contribute to producing optimum sealant performance.

B. Bond-Breaker Tape: Polyethylene tape or other plastic tape recommended by sealant manufacturer.

2.5 MISCELLANEOUS MATERIALS

A. Primer: Material recommended by joint-sealant manufacturer where required for adhesion of sealant to joint substrates indicated, as determined from preconstruction joint-sealant-substrate tests and field tests.

B. Cleaners for Nonporous Surfaces: Chemical cleaners acceptable to manufacturers of sealants and sealant backing materials.

C. Masking Tape: Nonstaining, nonabsorbent material compatible with joint sealants and surfaces adjacent to joints.

PART 3 - EXECUTION

3.1 PREPARATION

A. Surface Cleaning of Joints: Clean out joints immediately before installing joint sealants to comply with joint-sealant manufacturer's written instructions and the following requirements:

1. Remove laitance and form-release agents from concrete.
2. Clean nonporous joint substrate surfaces with chemical cleaners or other means that do not stain, harm substrates, or leave residues capable of interfering with adhesion.

B. Joint Priming: Prime joint substrates where recommended by joint-sealant manufacturer or as indicated by preconstruction joint-sealant-substrate tests or prior experience.

C. Masking Tape: Use masking tape where required to prevent contact of sealant or primer with adjoining surfaces.

3.2 INSTALLATION OF JOINT SEALANTS

A. General: Comply with ASTM C1193 and joint-sealant manufacturer's written installation instructions for products and applications indicated, unless more stringent requirements apply.

B. Install sealant backings of kind indicated to support sealants during application and at position required to produce cross-sectional shapes and depths of installed sealants relative to joint widths that allow optimum sealant movement capability.

C. Install bond-breaker tape behind sealants where sealant backings are not used between sealants and backs of joints.

D. Install sealants using proven techniques that comply with the following and at the same time backings are installed:

1. Place sealants so they directly contact and fully wet joint substrates.
2. Completely fill recesses in each joint configuration.
3. Produce uniform, cross-sectional shapes and depths relative to joint widths that allow optimum sealant movement capability.

E. Tooling of Nonsag Sealants: Immediately after sealant application and before skinning or curing begins, tool sealants to form smooth, uniform beads of configuration indicated. Use tooling agents that are approved in writing by sealant manufacturer and that do not discolor sealants or adjacent surfaces.

1. Provide concave joint profile per Figure 8A in ASTM C1193 unless otherwise indicated.

3.3 JOINT-SEALANT SCHEDULE

A. Joint-Sealant Application: Exterior joints in horizontal and vertical surfaces.

1. Joint Locations:
   a. Isolation and contraction joints in cast-in-place concrete slabs.
   b. Joints between new construction and existing.
   c. Joints in brick façade, as required.
   d. Other joints as indicated on the Drawings
   e. Other joints identified in the field as demolition progresses.

2. Joint Sealant: Silicone, nonstaining, S, NS, 50, NT.
3. Joint-Sealant Color: As selected by Architect from manufacturer's full range of colors.

END OF SECTION 079200

SECTION 099113 - EXTERIOR PAINTING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

B. Division 02: Selective Demolition

C. Division 03: Cast-In-Place Concrete

D. Division 07: Joint Sealants

1.2 SUMMARY

A. Section Includes:

1. Surface preparation of exterior structural steel.
2. Primers for exterior structural steel.
3. Finish coating for exterior structural steel.

1.3 REFERENCES

A. Comply with the provisions of the following codes, specifications and standards; use the latest edition unless date is indicated. Modifications in this specification, when in conflict with the referenced codes, specifications, and standards, shall take precedence.
1. “New York State Building Code”.
2. Steel Structures Painting Council (SSPC) “SSPC Painting Manual”: “Systems and Specifications” and “Good Painting Practice”.
3. National Association of Corrosion Engineers (NACE) – Industrial Maintenance Painting.
4. OHSA Regulations.

1.4 ACTION SUBMITTALS

A. Product Data: For each type of product.

1. Include preparation requirements and application instructions.
2. Indicate VOC content.

B. Work Plan
1. Submit written description of how work will be executed.

C. Samples: For each type of topcoat product.

D. Samples for Initial Selection: For each type of topcoat product.

E. Samples for Verification: For each type of paint system and each color and gloss of topcoat.

1. Submit Samples on rigid steel backing, 8 inches square.
2. Apply coats on Samples in steps to show each coat required for system.
3. Label each coat of each Sample.
4. Label each Sample for location and application area.

A. Submit Painting Contractor's qualifications. Provide a minimum of three (3) representative commercial bridge or exposed exterior steel painting projects that meet this project's performance requirements and have been completed in the last six (6) years. Provide the following for review as part of the Bid Documents:

1. A client reference including Client Contact Information:

a. Name
b. Title
c. Company
d. Email Address
e. Phone Number

2. Project Name

3. Construction Cost

B. MAINTENANCE MATERIAL SUBMITTALS

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

1. Paint Products: 5 percent, but not less than seven (7) gallons of each material and color applied.

1.5 QUALITY ASSURANCE

A. Use the best practices of the trade.

B. Personnel performing the work shall have experience relevant to anticipated conditions, materials, installation requirements and all special techniques involved. Contractor shall have an experienced foreman or superintendent who will be present while work is performed.

C. The Painting Contractor shall have a minimum of 5-years experience applying the specified coating (or equal).

D. The Contractor shall reject and replace work that is not in conformance with contract documents.

E. Mockups: Apply mockups of each paint system indicated and each color and finish selected to verify selections made under Sample submittals, to demonstrate aesthetic effects, and to set quality standards for materials and execution.

1. Architect will select one surface to represent surfaces and conditions for application of each paint system.

    a. Vertical and Horizontal Surfaces: Provide samples of at least 100 sq. ft.
    b. Other Items: Architect/Engineer will designate items or areas required.

2. Final approval of color selections will be based on mockups.

    a. If preliminary color selections are not approved, apply additional mockups of additional colors selected by Architect at no added cost to Owner.

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.

F. Testing
1. Visually evaluate surface preparation.
2. Measure dry film thickness of each coat with a magnetic film thickness gauge in accordance with SSPC-PA 2.
3. Visually inspect dried film for runs, sags, dry spray, overspray and missed areas.
4. Test coatings for adhesion by means of ASTM D 3359 Method of Measuring Adhesion by Tape Test.

G. Correct the following defects without additional compensation or contract time:
1. Coats thinner than minimum dry fil thickness (DFT) specified by manufacturer.
2. Coats with excessive millage. Remove coats with excessive millage according to the coating manufacturer’s written instructions and recoat to Specifications.
3. Unauthorized paint application.
4. Overspray, spatter, runs, and sags.
5. Defects in the top coat, including abrasives or dust.

1.6 DELIVERY, STORAGE, AND HANDLING

A. Deliver materials to site at such intervals to ensure uninterrupted progress of work.

B. Store materials not in use in tightly covered containers in well-ventilated areas with ambient temperatures continuously maintained at not less than 45 deg F and not greater than maximum temperature recommended by material manufacturer.

1. Maintain containers in clean condition, free of foreign materials and residue.
2. Remove rags and waste from storage areas daily.
3. Do not keep material intended for use in storage beyond expiration date as indicated on material’s label.

1.7 FIELD CONDITIONS

A. Do not prepare steel surfaces in snow, rain, fog, or mist; when relative humidity exceeds 85 percent; at temperatures less than 5 deg F above the dew point.

B. Protect steel surfaces from moisture for duration of time from onset of steel cleaning through application of primer.

C. Apply paints only when temperature of surfaces to be painted and ambient air temperatures are between 50 and 95 deg F.

D. Do not apply paints in snow, rain, fog, or mist; when relative humidity exceeds 85 percent; at temperatures less than 5 deg F above the dew point; or to damp or wet surfaces.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

A. Tnemec or approved equal.

B. Source Limitations: Obtain each paint product from single source from single manufacturer.

2.2 PAINT PRODUCTS, GENERAL

A. Material Compatibility:

1. Provide materials for use within each paint system that are compatible with one another and substrates indicated, under conditions of service and application as demonstrated by manufacturer based on testing and field experience.
2. For each coat in a paint system, provide products recommended in writing by topcoat manufacturer for use in paint system and on substrate indicated.

B. Colors: As selected by Architect/Engineer from manufacturer's full range.

2.3 PRIMERS

A. Zinc-Rich, Primer: Corrosion-resistant, zinc-rich primer formulated for use on prepared steel subject to industrial or marine environments.

1. Series 90-75 Tnemec-Zinc primer by Tnemec 2.5-6.0 mils dry film thickness.

2.4 FINISH COATINGS

A. Exterior aliphatic polyurethane for use on primed structural steel.

1. Endura-Shield Series 1095 or 1096 by Tnemec, 5.0 mils dry film thickness.

2.5 SUBSTITUTIONS

A. Substitution of material other than as specified must be proposed and approved in writing. Substitutions, if approved, shall be at no additional cost to the owner.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine substrates and conditions, with Applicator present, for compliance with requirements for maximum moisture content and other conditions affecting performance of the Work.

B. Verify suitability of substrates, including surface conditions and compatibility, with finishes and primers.

C. Notify the owner or owner’s representative in writing of conditions that would hinder proper and timely installation or impair performance of finished work.

D. Proceed with coating application only after unsatisfactory conditions have been corrected.

1. Application of coating indicates acceptance of surfaces and conditions.

3.2 PREPARATION

A. Comply with manufacturer's written instructions applicable to substrates and paint systems indicated.

B. Remove hardware, covers, plates, and similar items already in place that are removable and are not to be painted. If removal is impractical or impossible because of size or weight of item, provide surface-applied protection before surface preparation and painting.

1. After completing painting operations, use workers skilled in the trades to reinstall items that were removed. Remove surface-applied protection.

C. Clean substrates of substances that could impair bond of paints, including dust, dirt, oil, grease, and incompatible paints and encapsulants.

1. Remove incompatible primers and reprime substrate with compatible primers or apply tie coat as required to produce paint systems specified in this Section.

D. Steel Substrates: Remove rust, loose mill scale, paint, and shop primer if any. Clean using methods recommended in writing by paint manufacturer, but not less than the following:

1. SSPC-SP 6.

3.3 INSTALLATION

A. Apply paints in accordance with manufacturer's written instructions.

1. Use applicators and techniques suited for paint and substrate indicated.
2. Paint surfaces behind movable items same as similar exposed surfaces.
3. All bolted connections shall be thoroughly brush-coated to work the paint in and around all projections.
4. Do not paint over labels of independent testing agencies or equipment name, identification, performance rating, or nomenclature plates.

B. If undercoats or other conditions show through topcoat, apply additional coats until cured film has a uniform paint finish, color, and appearance.

C. Apply paints to produce surface films without cloudiness, spotting, holidays, laps, brush marks, roller tracking, runs, sags, ropiness, or other surface imperfections. Cut in sharp lines and color breaks.

D. Remove paint and recoat areas which do not pass adhesion tests.

3.4 FIELD QUALITY CONTROL

A. Dry Film Thickness Testing: Owner may engage the services of a qualified testing and inspecting agency to inspect and test paint for dry film thickness.

1. Contractor shall touch up and restore painted surfaces damaged by testing.
2. If test results show that dry film thickness of applied paint does not comply with paint manufacturer's written instructions, Contractor shall pay for testing and apply additional coats as needed to provide dry film thickness that complies with paint manufacturer's written instructions.

3.5 CLEANING AND PROTECTION

A. Protect all surfaces below and adjacent to area being painted from drips, spatters, and overspray. If necessary, provide masking or covering of potentially affected areas.

B. 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.

C. After completing paint application, clean spattered surfaces. Remove spattered paints by washing, scraping, or other methods. Do not scratch or damage adjacent finished surfaces.

D. 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.

E. At completion of construction activities of other trades, touch up and restore damaged or defaced painted surfaces.

F. Recycle paint and primer that would otherwise be disposed of in accordance with requirements of authorities having jurisdiction or common paint recycling practices where requirements by authorities having jurisdiction do not exist.

END OF SECTION 099113

SECTION 220533 - HEAT TRACING FOR PLUMBING PIPING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

A. Section includes plumbing piping heat tracing for freeze prevention in gutters and downspouts with the following electric heating cables:
   1. Self-regulating, parallel resistance.

1.3 SUBMITTALS

A. Submittals for this section are subject to the re-evaluation fee identified in Article 4 of the General Conditions.

B. Manufacturer’s installation instructions shall be provided along with product data.

C. Submittals shall be provided in the order in which they are specified and tabbed (for combined submittals).

D. Product Data: For each type of product.

   1. Include rated capacities, operating characteristics, and furnished specialties and accessories.
   2. Schedule heating capacity, length of cable, spacing, and electrical power requirement for each electric heating cable required.

E. Field quality-control reports.

F. Sample Warranty: For special warranty.

1.4 CLOSEOUT SUBMITTALS

A. Operation and Maintenance Data: For electric heating cables to include in operation and maintenance manuals.

1.5 WARRANTY

A. Special Warranty: Manufacturer agrees to repair or replace electric heating cable that fails in materials or workmanship within specified warranty period.

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

PART 2 - PRODUCTS

2.1 SELF-REGULATING, PARALLEL-RESISTANCE HEATING CABLES

A. Comply with IEEE 515.1 “Standard for the Testing, Design, Installation, and Maintenance of Electrical Resistance Trace Heating for Commercial Applications”.

B. Heating Element: Pair of parallel No. 16 AWG, tinned, stranded copper bus wires embedded in crosslinked conductive polymer core, which varies heat output in response to temperature along its length. Terminate with waterproof, factory-assembled, nonheating leads with connectors at one end, and seal the opposite end watertight. Cable shall be capable of crossing over itself once without overheating.

C. Electrical Insulating Jacket: Flame-retardant polyolefin.

D. Cable Cover: [Tinned-copper] [Stainless-steel] braid[and polyolefin outer jacket with ultraviolet inhibitor].

E. Maximum Operating Temperature (Power On): 150 deg F.

F. Maximum Exposure Temperature (Power Off): 185 deg F.

G. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70 “Standard for Electrical Safety in the Workplace”, by a qualified testing agency, and marked for intended location and application.

H. Capacities and Characteristics:

1. Maximum Heat Output: 5 W/ft.
2. Piping Diameter: 3

2.2 CONTROLS

A. Pipe-Mounted Thermostats for Freeze Protection:

1. Remote bulb unit with adjustable temperature range from 30 to 50 deg F.
2. Snap action; open-on-rise, single-pole switch with minimum current rating adequate for connected cable.
3. Remote bulb on capillary, resistance temperature device, or thermistor for directly sensing pipe-wall temperature.

4. Corrosion-resistant, waterproof control enclosure.

2.3 ACCESSORIES

A. Cable Installation Accessories: Fiberglass tape, heat-conductive putty, cable ties, silicone end seals and splice kits, and installation clips all furnished by manufacturer, or as recommended in writing by manufacturer.

B. Warning Labels: Refer to Section 220553 "Identification for Plumbing Piping and Equipment."

C. Warning Tape: Continuously printed "Electrical Tracing"; vinyl, at least 3 mils thick, and with pressure-sensitive, permanent, waterproof, self-adhesive back.

1. Width for Markers on Pipes with OD, Including Insulation, Less Than 6 inches : 3/4 inch minimum.
2. Width for Markers on Pipes with OD, Including Insulation, 6 inches or Larger: 1-1/2 inches minimum.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine surfaces and substrates to receive electric heating cables for compliance with requirements for installation tolerances and other conditions affecting performance.

1. Ensure surfaces and pipes in contact with electric heating cables are free of burrs and sharp protrusions.

B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 INSTALLATION

A. Install electric heating cable across expansion, construction, and control joints according to manufacturer's written instructions; use cable-protection conduit and slack cable to allow movement without damage to cable.

B. Electric Heating-Cable Installation for Freeze Protection for Piping:

1. Install electric heating cables after piping has been tested and before insulation is installed.
2. Install electric heating cables according to IEEE 515.1 “Standard for the Testing, Design, Installation, and Maintenance of Electrical Resistance Trace Heating for Commercial Applications”.
3. Install insulation over piping with electric cables according to Section 220719 "Plumbing Piping Insulation."
4. Install warning tape on piping insulation where piping is equipped with electric heating cables.

C. Set field-adjustable switches and circuit-breaker trip ranges.

3.3 FIELD QUALITY CONTROL

A. Perform the following tests and inspections:

1. Perform tests after cable installation but before application of coverings such as insulation, wall or ceiling construction, or concrete.
2. Test cables for electrical continuity and insulation integrity before energizing.
3. Test cables to verify rating and power input. Energize and measure voltage and current simultaneously.

B. Repeat tests for continuity, insulation resistance, and input power after applying thermal insulation on pipe-mounted cables.

C. Cables will be considered defective if they do not pass tests and inspections.

D. Prepare test and inspection reports.

3.4 PROTECTION

A. Protect installed heating cables, including nonheating leads, from damage during construction.

B. Remove and replace damaged heat-tracing cables.

END OF SECTION 220533

SECTION 220553 - IDENTIFICATION FOR PLUMBING PIPING AND EQUIPMENT

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

A. Section Includes:
   1. Warning signs and labels.
   2. Pipe labels.

1.3 SUBMITTALS

A. Submittals for this section are subject to the re-evaluation fee identified in Article 4 of the General Conditions.

B. Manufacturer’s installation instructions shall be provided along with product data.

C. Submittals shall be provided in the order in which they are specified and tabbed (for combined submittals).Product Data: For each type of product indicated.

PART 2 - PRODUCTS

2.1 WARNING SIGNS AND LABELS

A. Material and Thickness: Multilayer, multicolor, plastic labels for mechanical engraving, 1/16 inch thick and having predrilled holes for attachment hardware.

B. Letter Color: Black.

C. Background Color: Yellow.

D. Maximum Temperature: Able to withstand temperatures up to 160 deg F.

E. Minimum Label Size: Length and width vary for required label content, but not less than 2-1/2 by 3/4 inch.

F. Minimum Letter Size: 1/4 inch for name of units if viewing distance is less than 24 inches, 1/2 inch for viewing distances up to 72 inches, and proportionately larger lettering for greater viewing distances. Include secondary lettering two-thirds to three-quarters the size of principal lettering.

G. Fasteners: Stainless-steel rivets.

H. Adhesive: Contact-type permanent adhesive, compatible with label and with substrate.

I. Label Content: Include caution and warning information plus emergency notification instructions.

2.2 PIPE LABELS

A. General Requirements for Manufactured Pipe Labels: Preprinted, color-coded, with lettering indicating service, and showing flow direction.

B. Pretensioned Pipe Labels: Precoiled, semirigid plastic formed to cover full circumference of pipe and to attach to pipe without fasteners or adhesive.

C. Self-Adhesive Pipe Labels: Printed plastic with contact-type, permanent-adhesive backing.

D. Pipe Label Contents: Include identification of piping service using same designations or abbreviations as used on Drawings; also include pipe size and an arrow indicating flow direction.

1. Flow-Direction Arrows: Integral with piping-system service lettering to accommodate both directions or as separate unit on each pipe label to indicate flow direction.
2. Lettering Size: Size letters according to ASME A13.1 for piping

PART 3 - EXECUTION

3.1 PREPARATION

A. Clean piping and equipment surfaces of substances that could impair bond of identification devices, including dirt, oil, grease, release agents, and incompatible primers, paints, and encapsulants.

3.2 GENERAL INSTALLATION REQUIREMENTS

A. Coordinate installation of identifying devices with completion of covering and painting of surfaces where devices are to be applied.

B. Coordinate installation of identifying devices with locations of access panels and doors.

C. Install identifying devices before installing acoustical ceilings and similar concealment.

D. Install the Work of this Section in accordance with the manufacturer’s printer installation instructions, unless otherwise specified.

3.3 PIPE LABEL INSTALLATION

A. Pipe Label Locations: Locate pipe labels where piping is exposed or above accessible ceilings in finished spaces; machine rooms; accessible maintenance spaces such as shafts, tunnels, and plenums; and exterior exposed locations as follows:
   1. Near each branch connection, excluding short takeoffs for fixtures and terminal units. Where flow pattern is not obvious, mark each pipe at branch.
   2. Near penetrations through walls, floors, ceilings, and inaccessible enclosures.
   3. Near major equipment items and other points of origination and termination.
   4. Spaced at maximum intervals of 50 feet along each run. Reduce intervals to 25 feet in areas of congested piping and equipment.

B. Directional Flow Arrows: Arrows shall be used to indicate direction of flow in pipes, including pipes where flow is allowed in both directions.

C. Pipe Label Color Schedule:

   1. Storm Drainage Piping:

      a. Background Color: Safety black
      b. Letter Color: White.

END OF SECTION 220553

SECTION 220719 - PLUMBING PIPING INSULATION

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 insulating the following plumbing piping services:
   1. Storm-water piping exposed to freezing conditions.
   2. Roof drains and rainwater leaders.

B. Abbreviations:
   1. ASTM – American Society for Testing and Materials

1.3 ACTION SUBMITTALS

A. Submittals for this section are subject to the re-evaluation fee identified in Article 4 of the General Conditions.

B. Manufacturer’s installation instructions shall be provided along with product data.

C. Submittals shall be provided in the order in which they are submitted and tabbed (for combined submittals).

D. Product Data: For each type of product. Include thermal conductivity, water-vapor permeance thickness, and jackets (both factory and field applied if any).

1.4 QUALITY ASSURANCE

A. Installer Qualifications: Skilled mechanics who have successfully completed an apprenticeship program or another craft training program certified by the Department of Labor, Bureau of Apprenticeship and Training.

B. Surface-Burning Characteristics: For insulation and related materials, as determined by testing identical products in accordance with ASTM E84 by a testing agency acceptable to authorities having jurisdiction. Factory label insulation and jacket materials and adhesive, mastic, tapes, and cement material containers, with appropriate markings of applicable testing agency.

   1. Insulation Installed Indoors: Flame-spread index of 25 or less and smoke-developed index of 50 or less.

2. Insulation Installed Outdoors: Flame-spread index of 75 or less and smoke-developed index of 150 or less.

1.5 DELIVERY, STORAGE, AND HANDLING

A. Packaging: Insulation material containers shall be marked by manufacturer with appropriate ASTM standard designation, type and grade, and maximum use temperature.

1.6 COORDINATION

A. Coordinate clearance requirements with piping Installer for piping insulation application. Before preparing piping Shop Drawings, establish and maintain clearance requirements for installation of insulation and field-applied jackets and finishes and for space required for maintenance.

B. Coordinate installation and testing of heat tracing.

1.7 SCHEDULING

A. Schedule insulation application after pressure testing systems and, where required, after installing and testing heat tracing. Insulation application may begin on segments that have satisfactory test results.

PART 2 - PRODUCTS

2.1 INSULATION MATERIALS

A. Comply with requirements in "Piping Insulation Schedule, General," and "Outdoor, Aboveground Piping Insulation Schedule," and articles for where insulating materials shall be applied.

B. Products shall not contain asbestos, lead, mercury, or mercury compounds.

C. Products that come into contact with stainless steel shall have a leachable chloride content of less than 50 ppm when tested in accordance with ASTM C871.

D. Insulation materials for use on austenitic stainless steel shall be qualified as acceptable in accordance with ASTM C795.

E. Cellular Glass: Inorganic, incombustible, foamed or cellulated glass with annealed, rigid, hermetically sealed cells. Comply with ASTM C552.

1. Preformed Pipe Insulation: Type II, Class 1, without jacket.
2. Factory fabricate shapes in accordance with ASTM C450 and ASTM C585.
3. Factory-applied jacket requirements are specified in "Factory-Applied Jackets" Article.

2.2 ADHESIVES

A. Materials shall be compatible with insulation materials, jackets, and substrates and for bonding insulation to itself and to surfaces to be insulated unless otherwise indicated.

B. Cellular-Glass Adhesive: Two-component, thermosetting urethane adhesive containing no flammable solvents, with a service temperature range of minus 100 to plus 200 deg F (minus 73 to plus 93 deg C).

2.3 MASTICS AND COATINGS

A. Materials shall be compatible with insulation materials, jackets, and substrates.

B. Vapor-Retarder Mastic, Solvent Based, Outdoor Use: Suitable for outdoor use on below-ambient services.

1. Water-Vapor Permeance: Comply with ASTM E96/E96M or ASTM F1249.
2. Service Temperature Range: Minus 50 to plus 220 deg F (Minus 46 to plus 104 deg C).
3. Color: White.

2.4 LAGGING ADHESIVES

A. Adhesives shall comply with MIL-A-3316C, Class I, Grade A, and shall be compatible with insulation materials, jackets, and substrates.

1. Fire-resistant, water-based lagging adhesive and coating for use indoors to adhere fire-resistant lagging cloths over pipe insulation.
2. Fire-resistant, water-based lagging adhesive and coating for use indoors to adhere fire-resistant lagging cloths over pipe insulation.
3. Service Temperature Range: 20 to plus 180 deg F (Minus 6 to plus 82 deg C).
4. Color: White.

2.5 SEALANTS

A. Materials shall be as recommended by the insulation manufacturer and shall be compatible with insulation materials, jackets, and substrates.

B. Joint Sealants:

1. Permanently flexible, elastomeric sealant.
2. Service Temperature Range: Minus 58 to plus 176 deg F (Minus 50 to plus 80 deg C).
3. Color: White or gray.

C. FSK and Metal Jacket Flashing Sealants:

1. Fire- and water-resistant, flexible, elastomeric sealant.
2. Service Temperature Range: Minus 40 to plus 250 deg F (Minus 40 to plus 121 deg C).

3. Color: Aluminum.

2.6 FIELD-APPLIED FABRIC-REINFORCING MESH

A. Woven Glass-Fiber Fabric: Approximately 2 oz./sq. yd. (68 g/sq. m) with a thread count of 10 strands by 10 strands/sq. in. (4 strands by 4 strands/sq. mm) for covering pipe and pipe fittings.

2.7 FIELD-APPLIED CLOTHS

A. Woven Glass-Fiber Fabric: Comply with MIL-C-20079H, Type I, plain weave, and presized a minimum of 8 oz./sq. yd. (271 g/sq. m).

2.8 FIELD-APPLIED JACKETS

A. Field-applied jackets shall comply with ASTM C1136, Type I, unless otherwise indicated.

B. Metal Jacket:

1. Aluminum Jacket: Comply with ASTM B209 (ASTM B209M), Alloy 3003, 3005, 3105, or 5005, Temper H-14.

    a. Factory cut and rolled to size.
    b. Finish and thickness are indicated in field-applied jacket schedules.
    c. Factory-Fabricated Fitting Covers:

        1) Same material, finish, and thickness as jacket.
        2) Preformed two-piece or gore, 45- and 90-degree, short- and long-radius elbows.
        3) Tee covers.
        4) Flange and union covers.
        5) End caps.
        6) Beveled collars.
        7) Valve covers.
        8) Field fabricate fitting covers only if factory-fabricated fitting covers are not available.

2.9 TAPES

A. ASJ Tape: White vapor-retarder tape matching factory-applied jacket with acrylic adhesive, complying with ASTM C1136.

1. Width: 3 inches (75 mm).
2. Thickness: 11.5 mils (0.29 mm).
3. Adhesion: 90 ounces force/inch (1.0 N/mm) in width.
4. Elongation: 2 percent.
5. Tensile Strength: 40 lbs.f/inch (7.2 N/mm) in width.

6. ASJ Tape Disks and Squares: Precut disks or squares of ASJ tape.

B. Aluminum-Foil Tape: Vapor-retarder tape with acrylic adhesive.

1. Width: 2 inches (50 mm).
2. Thickness: 3.7 mils (0.093 mm).
3. Adhesion: 100 ounces force/inch (1.1 N/mm) in width.
4. Elongation: 5 percent.
5. Tensile Strength: 34 lbs.f/inch (6.2 N/mm) in width.

2.10 SECUREMENTS

A. Bands:

1. Stainless Steel: ASTM A240/A240M, Type 304; 0.015 inch (0.38 mm) thick, 1/2 inch (13 mm) wide with wing seal or closed seal.

B. Staples: Outward-clinching insulation staples, nominal 3/4-inch- (19-mm-) wide, stainless steel or Monel.

C. Wire: 0.080-inch (2.0-mm) nickel-copper alloy.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine substrates and conditions for compliance with requirements for installation tolerances and other conditions affecting performance of insulation application.

1. Verify that systems to be insulated have been tested and are free of defects.
2. Verify that surfaces to be insulated are clean and dry.

B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

A. Clean and dry surfaces to receive insulation. Remove materials that will adversely affect insulation application.

B. Clean and prepare surfaces to be insulated. Before insulating, apply a corrosion coating to insulated surfaces as follows:
1. Carbon Steel: Coat carbon steel operating at a service temperature of between 32 and 300 deg F (0 and 149 deg C) with an epoxy coating. Consult coating manufacturer for appropriate coating materials and application methods for operating temperature range.

C. Coordinate insulation installation with the tradesman installing heat tracing. Comply with requirements for heat tracing that apply to insulation.

D. Mix insulating cements with clean potable water; if insulating cements are to be in contact with stainless steel surfaces, use demineralized water.

3.3 GENERAL INSTALLATION REQUIREMENTS

A. Install insulation materials, accessories, and finishes with smooth, straight, and even surfaces; free of voids throughout the length of piping, including fittings, valves, and specialties.

B. Install insulation materials, forms, vapor barriers or retarders, jackets, and of thicknesses required for each item of pipe system, as specified in insulation system schedules.

C. Install accessories compatible with insulation materials and suitable for the service. Install accessories that do not corrode, soften, or otherwise attack insulation or jacket in either wet or dry state.

D. Install insulation with longitudinal seams at top and bottom of horizontal runs.

E. Install multiple layers of insulation with longitudinal and end seams staggered.

F. Do not weld brackets, clips, or other attachment devices to piping, fittings, and specialties.

G. Keep insulation materials dry during storage, application, and finishing. Replace insulation materials that get wet.

H. Install insulation with tight longitudinal seams and end joints. Bond seams and joints with adhesive recommended by insulation material manufacturer.

I. Install insulation with least number of joints practical.

J. Where vapor barrier is indicated, seal joints, seams, and penetrations in insulation at hangers, supports, anchors, and other projections with vapor-barrier mastic.

1. Install insulation continuously through hangers and around anchor attachments.
2. For insulation application where vapor barriers are indicated, extend insulation on anchor legs from point of attachment to supported item to point of attachment to structure. Taper and seal ends attached to structure with vapor-barrier mastic.
3. Install insert materials and insulation to tightly join the insert. Seal insulation to insulation inserts with adhesive or sealing compound recommended by insulation material manufacturer.
4. Cover inserts with jacket material matching adjacent pipe insulation. Install shields over jacket, arranged to protect jacket from tear or puncture by hanger, support, and shield.

K. Apply adhesives, mastics, and sealants at manufacturer's recommended coverage rate and wet and dry film thicknesses.

L. Install insulation with factory-applied jackets as follows:

1. Draw jacket tight and smooth.
2. Cover circumferential joints with 3-inch- (75-mm-) wide strips, of same material as insulation jacket. Secure strips with adhesive and outward-clinching staples along both edges of strip, spaced 4 inches (100 mm) o.c.
3. Overlap jacket longitudinal seams at least 1-1/2 inches (38 mm). Install insulation with longitudinal seams at bottom of pipe. Clean and dry surface to receive self-sealing lap. Staple laps with outward-clinching staples along edge at 4 inches (100 mm) o.c.

    a. For below-ambient services, apply vapor-barrier mastic over staples.

4. Cover joints and seams with tape, in accordance with insulation material manufacturer's written instructions, to maintain vapor seal.
5. Where vapor barriers are indicated, apply vapor-barrier mastic on seams and joints and at ends adjacent to pipe flanges and fittings.

M. Cut insulation in a manner to avoid compressing insulation more than 25 percent of its nominal thickness.

N. Finish installation with systems at operating conditions. Repair joint separations and cracking due to thermal movement.

O. Repair damaged insulation facings by applying same facing material over damaged areas. Extend patches at least 4 inches (100 mm) beyond damaged areas. Adhere, staple, and seal patches in similar fashion to butt joints.

P. For above-ambient services, do not install insulation to the following:
1. Cleanouts.

3.4 GENERAL PIPE INSULATION INSTALLATION

A. Requirements in this article generally apply to all insulation materials, except where more specific requirements are specified in various pipe insulation material installation articles.

B. Insulation Installation on Fittings, Valves, Strainers, Flanges, Mechanical Couplings, and Unions:

1. Install insulation over fittings, valves, strainers, flanges, mechanical couplings, unions, and other specialties with continuous thermal and vapor-retarder integrity unless otherwise indicated.
2. Insulate pipe elbows using preformed fitting insulation made from same material and density as that of adjacent pipe insulation. Each piece shall be butted tightly against adjoining piece and bonded with adhesive. Fill joints, seams, voids, and irregular surfaces with insulating cement finished to a smooth, hard, and uniform contour that is uniform with adjoining pipe insulation.
3. Insulate tee fittings with preformed fitting insulation of same material and thickness as that used for adjacent pipe. Cut sectional pipe insulation to fit. Butt each section closely to the next and hold in place with tie wire. Bond pieces with adhesive.
4. Insulate flanges, mechanical couplings, and unions, using a section of oversized preformed pipe insulation. Overlap adjoining pipe insulation by not less than 2 times the thickness of

pipe insulation, or one pipe diameter, whichever is thicker. Stencil or label the outside insulation jacket of each union with the word "union" matching size and color of pipe labels.

5. Cover segmented insulated surfaces with a layer of finishing cement and coat with a mastic. Install vapor-barrier mastic for below-ambient services and a breather mastic for above-ambient services. Reinforce the mastic with fabric-reinforcing mesh. Trowel the mastic to a smooth and well-shaped contour.

C. Insulate instrument connections for thermometers, pressure gages, pressure temperature taps, test connections, flow meters, sensors, switches, and transmitters on insulated pipes. Shape insulation at these connections by tapering it to and around the connection with insulating cement and finish with finishing cement, mastic, and flashing sealant.

D. Install removable insulation covers at locations indicated. Installation shall conform to the following:

1. Make removable flange and union insulation from sectional pipe insulation of same thickness as that on adjoining pipe. Install same insulation jacket as that of adjoining pipe insulation.
2. When flange and union covers are made from sectional pipe insulation, extend insulation from flanges or union at least 2 times the insulation thickness over adjacent pipe insulation on each side of flange or union. Secure flange cover in place with stainless steel or aluminum bands. Select band material compatible with insulation and jacket.
3. Construct removable valve insulation covers in same manner as for flanges, except divide the two-part section on the vertical center line of valve body.
4. When covers are made from block insulation, make two halves, each consisting of mitered blocks wired to stainless steel fabric. Secure this wire frame, with its attached insulation, to flanges with tie wire. Extend insulation at least 2 inches (50 mm) over adjacent pipe insulation on each side of valve. Fill space between flange or union cover and pipe insulation with insulating cement. Finish cover assembly with insulating cement applied in two coats. After first coat is dry, apply and trowel second coat to a smooth finish.
5. Unless a PVC jacket is indicated in field-applied jacket schedules, finish exposed surfaces with a metal jacket.

3.5 INSTALLATION OF CELLULAR-GLASS INSULATION

A. Insulation Installation on Straight Pipes and Tubes:

1. Secure each layer of insulation to pipe with wire or bands, andbands and tighten bands without deforming insulation materials.
2. Where vapor barriers are indicated, seal longitudinal seams, end joints, and protrusions with vapor-barrier mastic and joint sealant.
3. For insulation with factory-applied jackets on above-ambient services, secure laps with outward-clinched staples at 6 inches (150 mm) o.c.
4. For insulation with factory-applied jackets on below-ambient services, do not staple longitudinal tabs. Instead, secure tabs with additional adhesive, as recommended by insulation material manufacturer, and seal with vapor-barrier mastic and flashing sealant.

B. Insulation Installation on Pipe Flanges:

1. Install preformed pipe insulation to outer diameter of pipe flange.
2. Make width of insulation section same as overall width of flange and bolts, plus twice the thickness of pipe insulation.
3. Fill voids between inner circumference of flange insulation and outer circumference of adjacent straight pipe segments with cut sections of cellular-glass block insulation of same thickness as that of pipe insulation.
4. Install jacket material with manufacturer's recommended adhesive, overlap seams at least 1 inch (25 mm), and seal joints with flashing sealant.

C. Insulation Installation on Pipe Fittings and Elbows:

1. Install preformed sections of same material as that of straight segments of pipe insulation when available. Secure according to manufacturer's written instructions.
2. When preformed sections of insulation are not available, install mitered sections of cellular-glass insulation. Secure insulation materials with wire or bands.

D. Insulation Installation on Valves and Pipe Specialties:

1. Install preformed sections of cellular-glass insulation to valve body.
2. Arrange insulation to permit access to packing and to allow valve operation without disturbing insulation.
3. Install insulation to flanges as specified for flange insulation application.

3.6 FINISHES

A. Do not field paint aluminum jackets.

3.7 PIPING INSULATION SCHEDULE, GENERAL

A. Acceptable preformed pipe and tubular insulation materials and thicknesses are identified for each piping system and pipe size range. If more than one material is listed for a piping system, selection from materials listed is Contractor's option.

B. Items Not Insulated: Unless otherwise indicated, do not install insulation on the following:

1. Drainage piping located in crawl spaces.
2. Underground piping.

3.8 OUTDOOR, ABOVEGROUND PIPING INSULATION SCHEDULE

A. Storm Piping Where Heat Tracing Is Installed:

1. All Pipe Sizes: Insulation shall be the following:

a. Cellular Glass: 2 inches (50 mm) thick.

3.9 OUTDOOR, FIELD-APPLIED JACKET SCHEDULE

A. Install jacket over insulation material. For insulation with factory-applied jacket, install the field-applied jacket over the factory-applied jacket.

B. If more than one material is listed, selection from materials listed is Contractor's option.

C. Piping, Exposed:
   1. Aluminum, Stucco Embossed: 0.016 inch (0.41 mm) thick.

END OF SECTION 220719

SECTION 221400 - FACILITY STORM DRAINAGE

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:
1. Storm water piping above grade.
2. Unions and flanges.
3. Pipe hangers and supports.
4. Cleanouts.

B. Related Sections:
1. Section 220553 - Identification for Plumbing Piping and Equipment: Product requirements for pipe identification for placement by this section.
2. Section 220700 - Plumbing Insulation: Product and execution requirements for pipe insulation.

1.2 REFERENCES

A. American Society of Mechanical Engineers:
1. ASME B31.9 - Building Services Piping.

B. ASTM International:

1. ASTM A74 - Standard Specification for Cast Iron Soil Pipe and Fittings.
2. ASTM B32 - Standard Specification for Solder Metal.
3. ASTM B306 - Standard Specification for Copper Drainage Tube (DWV).
4. ASTM C564 - Standard Specification for Rubber Gaskets for Cast Iron Soil Pipe and Fittings.
5. ASTM F708 - Standard Practice for Design and Installation of Rigid Pipe Hangers.

C. Cast Iron Soil Pipe Institute:

1. CISPI 301 - Standard Specification for Hubless Cast Iron Soil Pipe and Fittings for Sanitary and Storm Drain, Waste, and Vent Piping Applications.
2. CISPI 310 - Specification for Coupling for Use in Connection with Hubless Cast Iron Soil Pipe and Fittings for Sanitary and Storm Drain, Waste, and Vent Piping Applications.

D. Manufacturers Standardization Society of the Valve and Fittings Industry:

1. MSS SP 58 - Pipe Hangers and Supports - Materials, Design and Manufacturer.
2. MSS SP 69 - Pipe Hangers and Supports - Selection and Application.
3. MSS SP 89 - Pipe Hangers and Supports - Fabrication and Installation Practices.

1.3 SUBMITTALS

A. Submittals for this section are subject to the re-evaluation fee identified in Article 4 of the General Conditions.

B. Manufacturer’s installation instructions shall be provided along with product data.

C. Submittals shall be provided in the order in which they are specified and tabbed (for combined submittals).

D. Section 013300 - Submittal Procedures: Submittal procedures.

E. Product Data:

1. Piping: Submit data on pipe materials, fittings, and accessories. Submit manufacturers catalog information.
2. Hangers and Supports: Submit manufacturers catalog information including load capacity.
3. Storm Drainage Specialties: Submit manufacturers catalog information, component sizes, rough-in requirements, service sizes, and finishes.

F. Manufacturer's Installation Instructions: Submit installation instructions for material and equipment.

G. Manufacturer's Certificate: Certify products meet or exceed specified requirements.

1.4 CLOSEOUT SUBMITTALS

A. Project Record Documents: Record actual locations of equipment and cleanouts.

B. Operation and Maintenance Data: Submit spare parts lists, exploded assembly views for pumps and equipment.

1.5 QUALITY ASSURANCE

A. Perform Work according to Plumbing Code of NYS.

B. Maintain one copy of each document on site.

1.6 DELIVERY, STORAGE, AND HANDLING

A. Protect piping systems from entry of foreign materials by temporary covers, completing sections of the Work, and isolating parts of completed system.

1.7 FIELD MEASUREMENTS

A. Verify field measurements prior to fabrication.

PART 2 - PRODUCTS

2.1 STORM WATER PIPING, ABOVE GRADE

A. Cast Iron Pipe: ASTM A74 (Standard Specification for Cast Iron Soil Pipe and Fittings) extra heavy weight, bell and spigot ends.

1. Fittings: Cast iron, ASTM A74 (Standard Specification for Cast Iron Soil Pipe and Fittings).
2. Joints: ASTM C564 (Standard Specification for Rubber Gaskets for Cast Iron Soil Pipe and Fittings), neoprene gasket system or lead and oakum.

B. Cast Iron Pipe: CISPI 301 (Standard Specification for Hubless Cast Iron Soil Pipe and Fittings for Sanitary and Storm Drain, Waste, and Vent Piping Applications), hubless, service weight.

1. Fittings: Cast iron, CISPI 301 (Standard Specification for Hubless Cast Iron Soil Pipe and Fittings for Sanitary and Storm Drain, Waste, and Vent Piping Applications).
2. Joints: Neoprene gaskets and stainless steel clamp-and-shield assemblies.

C. Copper Tube: ASTM B306 (Standard Specification for Copper Drainage Tube (DWV)), DWV.

1. Fittings: ASME B16.23 (Cast Copper Alloy Solder Joint Drainage Fittings (DWV)), cast bronze, or ASME B16.29 (Wrought Copper and Wrought Copper Alloy Solder Joint Drainage Fittings – DWV) wrought copper.
2. Joints: ASTM B32 (Standard Specification for Solder Metal), Alloy Grade Sb5 tin-antimony, or Alloy Grade Sn95 tin-silver, solder.

2.2 UNIONS AND FLANGES

A. Flanges for Pipe 2-1/2 Inches and Larger:

1. Copper Piping: Class 150, slip-on bronze flanges.
2. Gaskets: 1/16 inch thick preformed neoprene gaskets.

2.3 PIPE HANGERS AND SUPPORTS

A. Furnish materials according to the Plumbing Code of NYS.

B. Drain, Waste, and Vent: Conform to ASME B31.9 and MSS SP 89.

C. Hangers for Pipe Sizes 2 Inches and Larger: Carbon steel, adjustable, clevis.

D. Multiple or Trapeze Hangers: Steel channels with welded spacers and hanger rods.

E. Wall Support for Pipe Sizes 3 Inches and Smaller: Cast iron hook.

F. Wall Support for Pipe Sizes 3 Inches and Larger: Welded steel bracket and wrought steel clamp.

G. Vertical Support: Steel riser clamp.

H. Floor Support: Cast iron adjustable pipe saddle, lock nut, nipple, floor flange, and concrete pier or steel support.

I. Copper Pipe Support: Carbon-steel, copper-plated adjustable ring.

2.4 CLEANOUTS

A. Exterior Unsurfaced Areas: Line type with lacquered cast iron body and round epoxy coated cover with gasket.
1.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Section 013000 - Administrative Requirements: Coordination and project conditions.

B. Verify excavations are to required grade, dry, and not over-excavated.

3.2 PREPARATION

A. Ream pipe and tube ends. Remove burrs. Bevel plain end ferrous pipe.

B. Remove scale and dirt, on inside and outside, before assembly.

C. Prepare piping connections to equipment with flanges or unions.

D. Keep open ends of pipe free from scale and dirt. Protect open ends with temporary plugs or caps.

3.3 INSTALLATION - HANGERS AND SUPPORTS

A. Inserts:

1. Provide inserts for placement in concrete forms.
2. Provide inserts for suspending hangers from reinforced concrete slabs and sides of reinforced concrete beams.
3. Provide hooked rod to concrete reinforcement section for inserts carrying pipe 4 inches and larger.
4. Where concrete slabs form finished ceiling, locate inserts flush with slab surface.
5. Where inserts are omitted, drill through concrete slab from below and provide through-bolt with recessed square steel plate and nut recessed into and grouted flush with slab.

B. Pipe Hangers and Supports:

1. Install according to ASME B31.9 and MSS SP 89.
2. Support horizontal piping as scheduled.
3. Install hangers to provide minimum 1/2 inch space between finished covering and adjacent work.
4. Place hangers within 12 inches of each horizontal elbow.
5. Use hangers with 1-1/2 inch minimum vertical adjustment. Design hangers for pipe movement without disengagement of supported pipe.
6. Support vertical piping at every floor. Support riser piping independently of connected horizontal piping.
7. Where installing several pipes in parallel and at same elevation, provide multiple pipe hangers or trapeze hangers.
8. Provide copper plated hangers and supports for copper piping.
9. Prime coat exposed steel hangers and supports. Hangers and supports located in crawl spaces, pipe shafts, and suspended ceiling spaces are not considered exposed.
10. Provide hangers adjacent to motor driven equipment with vibration isolation; refer to Section 210548.

3.4 INSTALLATION - ABOVE GROUND PIPING

A. Establish invert elevations, slopes for drainage to 1/8 inch per foot minimum. Maintain gradients.

B. Extend cleanouts to finished floor or wall surface. Lubricate threaded cleanout plugs with mixture of graphite and linseed oil. Provide clearance at cleanout for snaking drainage system.

C. Install non-conducting dielectric connections wherever jointing dissimilar metals.

D. Route piping in orderly manner and maintain gradient. Route parallel and perpendicular to walls.

E. Install piping to maintain headroom. Group piping to conserve space.

F. Group piping whenever practical at common elevations.

G. Support cast iron drainage piping at every joint.

H. Install piping to allow for expansion and contraction without stressing pipe, joints, or connected equipment..

I. Provide clearance in hangers and from structure and other equipment for installation of insulation.

J. Provide access where valves and fittings are not accessible.

K. Install piping penetrating roofed areas to maintain integrity of roof assembly.

L. Where pipe support members are welded to structural building framing, scrape, brush clean, and apply one coat of zinc rich primer to welding.

M. Install bell and spigot pipe with bell end upstream.

N. Sleeve pipes passing through partitions, walls and floors. Refer to Section 220529.

3.5 FIELD QUALITY CONTROL

A. Test storm drainage piping system according to local authority having jurisdiction.

B. Pipe Hanger Spacing:

1. Pipe Material: Cast iron.

    a. Maximum Hanger Spacing: 5 feet.
    b. Hanger Rod Diameter: 5/8 inch.

2. Pipe Material: Cast iron, with 10-foot length of pipe.

    a. Maximum Hanger Spacing: 6 feet.
    b. Hanger Rod Diameter: 1/2 inch.

3. Pipe Material: Copper tube.

    a. Size: 1-1/4 inches and smaller.
    b. Maximum Hanger Spacing: 6 feet.
    c. Hanger Rod Diameter: 1/2 inch.

4. Pipe Material: Copper tube.

    a. Size: 1-1/2 inches and larger.
    b. Maximum Hanger Spacing: 10 feet.
    c. Hanger Rod Diameter: 1/2 inch.

END OF SECTION 221400

SECTION 260501 - HEAT TRACING FOR GUTTERS & DOWNSPOUTS

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 gutter and downspout heat tracing for freeze prevention, in gutters and downspouts with the following electric heating cables:
   1. Self-regulating, parallel resistance.

1.3 SUBMITTALS

A. Submittals for this section are subject to the re-evaluation fee identified in Article 4 of the General Conditions.

B. Manufacturer’s installation instructions shall be provided along with product data.

C. Submittals shall be provided in the order in which they are specified and tabbed (for combined submittals).

D. Product Data: For each type of product.

   1. Include rated capacities, operating characteristics, and furnished specialties and accessories.
   2. Schedule heating capacity, length of cable, spacing, and electrical power requirement for each electric heating cable required.

E. Shop Drawings: For electric heating cable.

   1. Include plans, elevations, sections, and attachment details.
   2. Include diagrams for power, signal, and control wiring.

F. Field quality-control reports.

G. Sample Warranty: For special warranty.

1.4 CLOSEOUT SUBMITTALS

A. Operation and Maintenance Data: For electric heating cables to include in operation and maintenance manuals.

1.5 WARRANTY

A. Special Warranty: Manufacturer agrees to repair or replace electric heating cable that fails in materials or workmanship within specified warranty period.

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

PART 2 - PRODUCTS

2.1 SELF-REGULATING, PARALLEL-RESISTANCE HEATING CABLES

A. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:

1. Delta-Therm Corporation.
2. Nelson; Emerson Electric Co., Automation Solutions.
3. RAYCHEM; brand of nVent Electrical plc.
4. Or equal.

B. Comply with IEEE 515.1 “Standard for the Testing, Design, Installation, and Maintenance of Electrical Resistance Trace Heating for Commercial Applications”.

C. Heating Element: Pair of parallel No. 16AWG, tinned, stranded copper bus wires embedded in crosslinked conductive polymer core, which varies heat output in response to temperature along its length. Terminate with waterproof, factory-assembled, nonheating leads with connectors at one end, and seal the opposite end watertight. Cable shall be capable of crossing over itself once without overheating.

D. Electrical Insulating Jacket: Flame-retardant polyolefin.

E. Cable Cover: Tinned-copper and polyolefin outer jacket with ultraviolet inhibitor.

F. Maximum Operating Temperature (Power On): 150 deg F.

G. Maximum Exposure Temperature (Power Off): 185 deg F.

H. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70 “Standard for Electrical Safety in the Workplace”, by a qualified testing agency, and marked for intended location and application.

I. Capacities and Characteristics:

1. Maximum Heat Output: 8 W/ft.
2. Number of Parallel Cables2.
3. Electrical Characteristics for Single-Circuit Connection:

    a. Volts: 120.
    b. Phase: 1.
    c. Hertz: 60.
    d. Full-Load Amperes:**20**.
    e. Maximum Overcurrent Protection: **20**.

2.2 CONTROLS

A. Thermostats for Freeze Protection:

1. Remote bulb unit with adjustable temperature range from 30 to 50 deg F.
2. Snap action; open-on-rise, single-pole switch with minimum current rating adequate for connected cable.
3. Remote bulb on capillary, resistance temperature device, or thermistor for directly sensing temperature.
4. Corrosion-resistant, waterproof control enclosure.

B. Precipitation and Temperature Sensor for Snow Melting on Roofs and in Gutters:

1. Automatic control with manual on, automatic, and standby/reset switch.
2. Precipitation and temperature sensors shall sense the surface conditions of roof and gutters and shall be programmed to energize the cable as follows:

    a. Temperature Span: 34 to 44 deg F .
    b. Adjustable Delay-Off Span: 30 to 90 minutes.
    c. Energize Cables: Following two-minute delay if ambient temperature is below set point and precipitation is detected.
    d. De-Energize Cables: On detection of a dry surface plus time delay.

3. Corrosion-proof and waterproof enclosure suitable for outdoor mounting, for controls and precipitation and temperature sensors.
4. Minimum 20-A contactor to energize cable or close other contactors.
5. Precipitation sensor shall be freestanding.
6. Provide relay with contacts to indicate operational status, on or off, for interface with central HVAC control-system workstation.

2.3 ACCESSORIES

A. Cable Installation Accessories: Fiberglass tape, heat-conductive putty, cable ties, silicone end seals and splice kits, and installation clips all furnished by manufacturer, or as recommended in writing by manufacturer.

PART 3 - XECUTION

3.1 EXAMINATION

A. Examine surfaces and substrates to receive electric heating cables for compliance with requirements for installation tolerances and other conditions affecting performance.

1. Ensure surfaces and pipes in contact with electric heating cables are free of burrs and sharp protrusions.

B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 APPLICATIONS

A. Install the following types of electric heating cable for the applications described:

1. Snow and Ice Melting in Gutters and Downspouts: Self-regulating, parallel-resistance heating cable.

3.3 INSTALLATION

A. Install electric heating cable across expansion, construction, and control joints according to manufacturer's written instructions; use cable-protection conduit and slack cable to allow movement without damage to cable.

B. Electric Heating-Cable Installation for Snow and Ice Melting on in Gutters and Downspouts: Install in gutters and downspouts with clips furnished by manufacturer that are compatible with roof, gutters, and downspouts.

C. Set field-adjustable switches and circuit-breaker trip ranges.

3.4 CONNECTIONS

A. Ground equipment according to Section 260526 "Grounding and Bonding for Electrical Systems."

B. Connect wiring according to Section 260519 "Low-Voltage Electrical Power Conductors and Cables."

3.5 FIELD QUALITY CONTROL

A. Testing Agency: Contractor will engage a qualified testing agency to perform tests and inspections.

B. Manufacturer's Field Service: Engage a Company Field Advisor per OGS Spec Section 014216 factory-authorized service representative to test and inspect components, assemblies, and equipment installations, including connections.

C. Perform the following tests and inspections

1. Perform tests after cable installation but before application of coverings such as insulation, wall or ceiling construction, or concrete.
2. Test cables for electrical continuity and insulation integrity before energizing.
3. Test cables to verify rating and power input. Energize and measure voltage and current simultaneously.

D. Repeat tests for continuity, insulation resistance, and input power after applying thermal insulation on pipe-mounted cables.

E. Cables will be considered defective if they do not pass tests and inspections.

F. Prepare test and inspection reports.

3.6 PROTECTION

A. Protect installed heating cables, including nonheating leads, from damage during construction.

B. Remove and replace damaged heat-tracing cables.

END OF SECTION 260501

SECTION 260519 - LOW-VOLTAGE ELECTRICAL POWER CONDUCTORS AND CABLES

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. Copper building wire.

1.3 SUBMITTALS

A. Submittals for this section are subject to the re-evaluation fee identified in Article 4 of the General Conditions.

B. Submittals shall be provided in the order in which they are specified and tabbed (for combined submittals).

C. Product Data: For each type of product.

D. Qualification Data: For manufacturer's authorized service representative.

E. Field quality-control reports.

1.4 QUALITY ASSURANCE

A. Testing Agency Qualifications: Member company of NETA.

1. Testing Agency's Field Supervisor: Certified by NETA to supervise on-site testing.

B. Qualifications: The persons performing the Work of this Section and their supervisor shall be personally experienced in electrical work and shall have been regularly performing such work for a minimum of 3 years.

C. UL Listing: Equipment and materials for which Underwriters' Laboratories, Inc. (UL) provides product listing service shall be listed and bear the listing mark.

1. Witness installation of at least one splice and termination by each person who will be doing the actual cable splice and termination.

PART 2 - PRODUCTS

2.1 DATE OF MANUFACTURER:

A. All wire shall be new and manufactured within the past 24 months.

2.2 COPPER BUILDING WIRE

A. Description: Flexible, insulated, and uninsulated, drawn copper current-carrying conductor with an overall insulation layer or jacket, or both, rated 600 V or less.

B. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:

1. Cerro Wire LLC.
2. General Cable Technologies Corporation.
3. Southwire Company.
4. Or equal.

C. Standards:

1. Listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and use.
2. RoHS compliant.
3. Conductor and Cable Marking: Comply with wire and cable marking according to UL's "Wire and Cable Marking and Application Guide."
4. All wires shall be stranded per CU Standard 260519.

D. Conductors: Copper, complying with ASTM B3 for bare annealed copper and with ASTM B8 for stranded conductors.

E. Conductor Insulation:
1. Type THWN-2: Comply with UL 83.
2. Type THW-2: Comply with NEMA WC-70/ICEA S-95-658 and UL 83.
3. Type UF: Comply with UL 83 and UL 493.
4. Type XHHW-2: Comply with UL 44.
5. Note: THWN-a is for indoor use only and AHHW-2 is for exterior use only per CU Standard 260519.

2.3 CONNECTORS AND SPLICES

A. Description: Factory-fabricated connectors, splices, and lugs of size, ampacity rating, material, type, and class for application and service indicated; listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and use.

B. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:

1. 3M Electrical Products.
2. Appleton - O-Z/Gedney; Emerson Electric Co., Automation Solutions.
3. Ideal Industries, Inc.
4. Or equal.

C. Lugs: One piece, seamless, designed to terminate conductors specified in this Section.

1. Material: Copper.
2. Type: One hole with standard barrels.
3. Termination:Crimp.

PART 3 - EXECUTION

3.1 CONDUCTOR MATERIAL APPLICATIONS

A. Branch Circuits:

1. Copper stranded for all wire.

3.2 CONDUCTOR INSULATION AND MULTICONDUCTOR CABLE APPLICATIONS AND WIRING METHODS

A. Exposed Branch Circuits, Including in Crawlspaces: single conductors in raceway

B. Branch Circuits Concealed in Ceilings, Walls, and Partitions: single conductors in raceway.

3.3 INSTALLATION, GENERAL

A. Conceal cables in finished walls, ceilings, and floors unless otherwise indicated.

B. Completely install all exterior and underground conduit installation including connection to electrical enclosures and equipment prior to installing wire. Wires shall not be left hanging or exposed during exterior installation.

C. Complete raceway installation between conductor and cable termination points according to Section 260533 "Raceways and Boxes for Electrical Systems" prior to pulling conductors and cables.

D. Use manufacturer-approved pulling compound or lubricant where necessary; compound used must not deteriorate conductor or insulation. Do not exceed manufacturer's recommended maximum pulling tensions and sidewall pressure values.

E. Use pulling means, including fish tape, cable, rope, and basket-weave wire/cable grips, that will not damage cables or raceway.

3.4 CONNECTIONS

A. Tighten electrical connectors and terminals according to manufacturer's published torque-tightening values. If manufacturer's torque values are not indicated, use those specified in UL 486A-486B.

B. Make splices, terminations, and taps that are compatible with conductor material and that possess equivalent or better mechanical strength and insulation ratings than unspliced conductors.

1. Use oxide inhibitor in each splice, termination, and tap for aluminum conductors.

C. Wiring at Outlets: Install conductor at each outlet, with at least 6 inches (150 mm) of slack.

3.5 IDENTIFICATION

A. Identify and color-code conductors and cables according to Section 260553 "Identification for Electrical Systems."

B. Identify each spare conductor at each end with identity number and location of other end of conductor, and identify as spare conductor.

3.6 SLEEVE AND SLEEVE-SEAL INSTALLATION FOR ELECTRICAL PENETRATIONS

A. Install sleeves and sleeve seals at penetrations of exterior floor and wall assemblies. Comply with requirements in Section 260544 "Sleeves and Sleeve Seals for Electrical Raceways and Cabling."

3.7 FIRESTOPPING

A. Provide fire stopping as per manufacturing instructions at all wall penetrations.

3.8 FIELD QUALITY CONTROL

A. Tests and Inspections:

1. After installing conductors and cables and before electrical circuitry has been energized, test service entrance and feeder conductors for compliance with requirements.
2. After installing conductors and cables and before electrical circuitry has been energized, test conductors feeding all new equipment equipment and services for compliance with requirements:

3. Perform each of the following visual and electrical tests:

a. Inspect exposed sections of conductor and cable for physical damage and correct connection according to the single-line diagram.
b. Test bolted connections for high resistance using one of the following:

1) A low-resistance ohmmeter.

2) Calibrated torque wrench.
3) Thermographic survey.

c. Inspect compression-applied connectors for correct cable match and indentation.
d. Inspect for correct identification.
e. Inspect cable jacket and condition.
f. Continuity test on each conductor and cable.
g. Uniform resistance of parallel conductors.

B. Cables will be considered defective if they do not pass tests and inspections.

C. Prepare test and inspection reports to record the following:

1. Procedures used.
2. Results that comply with requirements.
3. Results that do not comply with requirements, and corrective action taken to achieve compliance with requirements.

END OF SECTION 260519

SECTION 260526 - GROUNDING AND BONDING FOR ELECTRICAL SYSTEMS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

A. Section includes grounding and bonding systems and equipment.

1.3 SUBMITTALS

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

1.4 QUALITY ASSURANCE

A. Testing Agency Qualifications: Certified by NETA.

PART 2 - PRODUCTS

2.1 SYSTEM DESCRIPTION

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

B. Comply with UL 467 for grounding and bonding materials and equipment.

2.2 MANUFACTURERS

A. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:

1. Blackburn/T&B Corp.
2. Burndy; Hubbell Incorporated, Construction and Energy.
3. O-Z/Gedney; Emerson Electric Co., Automation Solutions, Appleton Group.
4. Or equal.

2.3 CONDUCTORS

A. Insulated Conductors: Copper wire or cable insulated for 600 V unless otherwise required by applicable Code or authorities having jurisdiction.

2.4 CONNECTORS

A. Listed and labeled by an NRTL acceptable to authorities having jurisdiction for applications in which used and for specific types, sizes, and combinations of conductors and other items connected.

B. Cable-to-Cable Connectors: Compression type, copper or copper alloy.

C. Cable Tray Ground Clamp: Mechanical type, zinc-plated malleable iron.

D. Conduit Hubs: Mechanical type, terminal with threaded hub.

PART 3 - EXECUTION

3.1 APPLICATIONS

A. Conductors: Install stranded conductors for all sizes as per drawings AWG and larger unless otherwise indicated.

B. Grounding Conductors: Green-colored insulation with continuous yellow stripe.

C. Comply with IEEE C2 grounding requirements.

D. Copper conductor not less than No. 2 AWG for ground ring and for taps to equipment grounding terminals. Bury ground ring not less than 6 inches from the foundation.

3.2 EQUIPMENT GROUNDING

A. Install insulated equipment grounding conductors with all feeders and branch circuits.

B. Install insulated equipment grounding conductors with the following items, in addition to those required by NFPA 70:

1. Feeders and branch circuits.
2. Lighting circuits.
3. Receptacle circuits.
4. Single-phase motor and appliance branch circuits.
5. Three-phase motor and appliance branch circuits.
6. Flexible raceway runs.

3.3 INSTALLATION

A. Grounding Conductors: Route along shortest and straightest paths possible unless otherwise indicated or required by Code. Avoid obstructing access or placing conductors where they may be subjected to strain, impact, or damage.

3.4 FIELD QUALITY CONTROL

A. Perform tests and inspections.

B. Tests and Inspections:

1. After installing grounding system but before permanent electrical circuits have been energized, test for compliance with requirements.
2. Inspect physical and mechanical condition. Verify tightness of accessible, bolted, electrical connections with a calibrated torque wrench according to manufacturer's written instructions.

END OF SECTION 260526

SECTION 260529 - HANGERS AND SUPPORTS FOR ELECTRICAL SYSTEMS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

A. Section Includes:

1. Steel slotted support systems.
2. Conduit and cable support devices.
3. Support for conductors in vertical conduit.
4. Mounting, anchoring, and attachment components, including powder-actuated fasteners, mechanical expansion anchors, concrete inserts, clamps, through bolts, toggle bolts, and hanger rods.

1.3 SUBMITTALS

A. Manufacturer’s installation instructions shall be provided along with product data.

B. Product Data: For each type of product.

1. Include construction details, material descriptions, dimensions of individual components and profiles, and finishes for the following:

a. Slotted support systems, hardware, and accessories.
b. Clamps.
c. Hangers.
d. Sockets.
e. Eye nuts.
f. Fasteners.
g. Anchors.
h. Saddles.
i. Brackets.

2. Include rated capacities and furnished specialties and accessories.

C. Shop Drawings: Signed and sealed by a qualified Professional Engineer**.** For fabrication and installation details for electrical hangers and support systems.

1. Hangers. Include product data for components.
2. Slotted support systems.

3. Equipment supports.
4. Vibration Isolation Base Details: Detail fabrication including anchorages and attachments to structure and to supported equipment. Include adjustable motor bases, rails, and frames for equipment mounting.

D. Coordination Drawings: Reflected ceiling plan(s) and other details, drawn to scale, on which the following items are shown and coordinated with each other, using input from installers of the items involved:

1. Suspended ceiling components.
2. Ductwork, piping, fittings, and supports.
3. Structural members to which hangers and supports will be attached.
4. Size and location of initial access modules for acoustical tile.
5. Items penetrating finished ceiling, including the following:

a. Luminaires.
b. Air outlets and inlets.
c. Speakers.
d. Sprinklers.
e. Access panels.
f. Projectors.

1.4 QUALITY ASSURANCE

A. Welding Qualifications: Qualify procedures and personnel according to the following:

1. AWS D1.1/D1.1M.
2. AWS D1.2/D1.2M.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

A. Surface-Burning Characteristics: Comply with ASTM E84; testing by a qualified testing agency. Identify products with appropriate markings of applicable testing agency.

1. Flame Rating: Class 1.
2. Self-extinguishing according to ASTM D635.

2.2 SUPPORT, ANCHORAGE, AND ATTACHMENT COMPONENTS

A. Steel Slotted Support Systems: Preformed steel channels and angles with minimum 13/32-inch-(10-mm-) diameter holes at a maximum of 8 inches (200 mm) o.c. in at least one surface.

1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:

    a. Atkore International (Unistrut).
    b. Eaton (B-line).
    c. nVent (CADDY).
    d. Or equal.

2. Standard: Comply with MFMA-4 factory-fabricated components for field assembly.
3. Material for Channel, Fittings, and Accessories: Galvanized steel
4. Channel Width: Selected for applicable load criteria.
5. Metallic Coatings: Hot-dip galvanized after fabrication and applied according to MFMA-4.
6. Painted Coatings: Manufacturer's standard painted coating applied according to MFMA-4.

B. Conduit and Cable Support Devices: Steel and malleable-iron, Stainless-steel hangers, clamps, and associated fittings, designed for types and sizes of raceway or cable to be supported.

C. Mounting, Anchoring, and Attachment Components: Items for fastening electrical items or their supports to building surfaces include the following:

1. Powder-Actuated Fasteners: Threaded-steel stud, for use in hardened portland cement concrete, steel, or wood, with tension, shear, and pullout capacities appropriate for supported loads and building materials where used.

    a. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:

        1) Hilti, Inc.
        2) ITW Ramset/Red Head; Illinois Tool Works, Inc.
        3) MKT Fastening, LLC.
        4) Or equal.

2. Mechanical-Expansion A nchors: Insert-wedge-type, stainless steel, for use in hardened portland cement concrete, with tension, shear, and pullout capacities appropriate for supported loads and building materials where used.

    a. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:

        1) Eaton (B-line).
        2) Hilti, Inc.
        3) ITW Ramset/Red Head; Illinois Tool Works, Inc.
        4) Or equal.

3. Concrete Inserts: Steel or malleable-iron, slotted support system units are similar to MSS Type 18 units and comply with MFMA-4 or MSS SP-58.
4. Clamps for Attachment to Steel Structural Elements: MSS SP-58 units are suitable for attached structural element.
5. Through Bolts: Structural type, hex head, and high strength. Comply with ASTM F3125/F3125M, Grade A325 (Grade A325M).
6. Toggle Bolts: Stainless-steel springhead type.
7. Hanger Rods: Threaded steel.

2.3 FABRICATED METAL EQUIPMENT SUPPORT ASSEMBLIES

A. Description: Welded or bolted structural-steel shapes, shop or field fabricated to fit dimensions of supported equipment.

PART 3 - EXECUTION

3.1 APPLICATION

A. Comply with the following standards for application and installation requirements of hangers and supports, except where requirements on Drawings or in this Section are stricter:

1. NECA 1.
2. NECA 101
3. NECA 102.
4. NECA 105.
5. NECA 111.

B. Maximum Support Spacing and Minimum Hanger Rod Size for Raceways: Space supports for EMT, IMC, and RMC as per NFPA 70. Minimum rod size shall be 1/4 inch (6 mm) in diameter.

C. Spring-steel clamps designed for supporting single conduits without bolts may be used for 1-1/2-inch (38-mm) and smaller raceways serving branch circuits and communication systems above suspended ceilings, and for fastening raceways to trapeze supports.

3.2 SUPPORT INSTALLATION

A. Comply with NECA 1 and NECA 101 for installation requirements except as specified in this article.

B. Strength of Support Assemblies: Where not indicated, select sizes of components so strength will be adequate to carry present and future static loads within specified loading limits. Minimum static design load used for strength determination shall be weight of supported components plus 200 lb200 lb (90 kg).

C. Mounting and Anchorage of Surface-Mounted Equipment and Components: Anchor and fasten electrical items and their supports to building structural elements by the following methods unless otherwise indicated by code:

1. To Wood: Fasten with lag screws or through bolts.
2. To New Concrete: Bolt to concrete inserts.
3. To Masonry: Approved toggle-type bolts on hollow masonry units and expansion anchor fasteners on solid masonry units.
4. To Existing Concrete: Expansion anchor fasteners.
5. Instead of expansion anchors, powder-actuated driven threaded studs provided with lock washers and nuts may be used in existing standard-weight concrete 4 inches (100 mm) thick or greater. Do not use for anchorage to lightweight-aggregate concrete or for slabs less than 4 inches (100 mm) thick.
6. To Steel: Beam clamps (MSS SP-58, Type 19, 21, 23, 25, or 27), complying with MSS SP-69 or Spring-tension clamps.
7. Items Mounted on Hollow Walls and Nonstructural Building Surfaces: Mount cabinets, panelboards, disconnect switches, control enclosures, pull and junction boxes, transformers, and other devices on slotted-channel racks attached to substrate.

D. Drill holes for expansion anchors in concrete at locations and to depths that avoid the need for reinforcing bars.

3.3 INSTALLATION OF FABRICATED METAL SUPPORTS

A. Cut, fit, and place miscellaneous metal supports accurately in location, alignment, and elevation to support and anchor electrical materials and equipment.

B. Field Welding: Comply with AWS D1.1/D1.1M.

3.4 PAINTING

A. Touchup: Clean field welds and abraded areas of shop paint. Paint exposed areas immediately after erecting hangers and supports. Use same materials as used for shop painting. Comply with SSPC-PA 1 requirements for touching up field-painted surfaces.

1. Apply paint by brush or spray to provide minimum dry film thickness of 2.0 mils (0.05 mm).

B. Galvanized Surfaces: Clean welds, bolted connections, and abraded areas and apply galvanizing-repair paint to comply with ASTM A780.

END OF SECTION 260529

SECTION 260533 - RACEWAYS AND BOXES FOR ELECTRICAL SYSTEMS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

A. Section Includes:

1. Metal conduits and fittings.
2. Boxes, enclosures, and cabinets.

1.3 DEFINITIONS

A. GRC: Galvanized rigid steel conduit.

B. IMC: Intermediate metal conduit.

1.4 SUBMITTALS

A. Manufacturer’s installation instructions shall be provided along with product data.

B. Product Data: For surface raceways, wireways and fittings, floor boxes, hinged-cover enclosures, and cabinets.

C. Shop Drawings: For custom enclosures and cabinets. Include plans, elevations, sections, and attachment details.

PART 2 - PRODUCTS

2.1 METAL CONDUITS AND FITTINGS

A. Metal Conduit:

1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:

a. Allied Tube & Conduit Corp.

b. Western Tube & Conduit Corp.
c. Wheatland Tube Co.
d. Or equal.

2. Listing and Labeling: Listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and application.
3. GRC: Comply with ANSI C80.1 and UL 6.
4. IMC: Comply with ANSI C80.6 and UL 1242.
5. EMT: Comply with ANSI C80.3 and UL 797.
6. FMC: Comply with UL 1; **zinc-coated steel**.
7. LFMC: Flexible steel conduit with PVC jacket and complying with UL 360.

B. Metal Fittings:

1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:

a. Cooper/Crouse-Hinds.
b. OZGedney Co.
c. Thomas & Betts Corp.
d. Or equal.

2. Comply with NEMA FB 1 and UL 514B.
3. Listing and Labeling: Listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and application.
4. Fittings, General: Listed and labeled for type of conduit, location, and use.
5. Conduit Fittings for Hazardous (Classified) Locations: Comply with UL 1203 and NFPA 70.
6. Fittings for EMT:

a. Material: Steel.
b. Type: compression.

2.2 METAL WIREWAYS AND AUXILIARY GUTTERS

A. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:

1. Mono-Systems Inc.
2. Thomas & Betts Corp.
3. Wiremold Co.
4. Or equal.

B. Description: Sheet metal, complying with UL 870 and NEMA 250 Type 3R unless otherwise indicated, and sized according to NFPA 70.

1. Metal wireways installed outdoors shall be listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and application.

C. Fittings and Accessories: Include covers, couplings, offsets, elbows, expansion joints, adapters, hold-down straps, end caps, and other fittings to match and mate with wireways as required for complete system.

D. Wireway Covers**:** Hinged type unless otherwise indicated.

E. Finish: Manufacturer's standard enamel finish.

2.3 BOXES, ENCLOSURES, AND CABINETS

A. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:

1. Appleton - O-Z/Gedney; Emerson Electric Co., Automation Solutions.
2. Eaton (Crouse-Hinds).
3. Hubbell Incorporated.
4. Or equal.

B. General Requirements for Boxes, Enclosures, and Cabinets: Boxes, enclosures, and cabinets installed in wet locations shall be listed for use in wet locations.

C. Cast-Metal Outlet and Device Boxes: Comply with NEMA FB 1, ferrous alloy, Type FD, with gasketed cover.

D. Small Sheet Metal Pull and Junction Boxes: NEMA OS 1.

E. Cast-Metal Access, Pull, and Junction Boxes: Comply with NEMA FB 1 and UL 1773, [cast aluminum] [galvanized, cast iron] with gasketed cover.

F. Box extensions used to accommodate new building finishes shall be of same material as recessed box.

G. Device Box Dimensions: 4 inches square by 2-1/8 inches deep (100 mm square by 60 mm deep).

H. Gangable boxes are allowed.

PART 3 - EXECUTION

3.1 RACEWAY APPLICATION

A. Outdoors: Apply raceway products as specified below unless otherwise indicated:

1. Exposed Conduit: GRC .
2. Concealed Conduit, Aboveground: GRC’

B. Indoors: Apply raceway products as specified below unless otherwise indicated:

1. Exposed, Not Subject to Physical Damage: RNC.

2. Concealed in Ceilings and Interior Walls and Partitions: EMT
3. Connection to Vibrating Equipment (Including Transformers and Hydraulic, Pneumatic, Electric Solenoid, or Motor-Driven Equipment): FMC, except use LFMC in damp or wet locations.
4. Damp or Wet Locations: GRC.
5. Boxes and Enclosures: NEMA 250, Type 1, except use NEMA 250, Type 4 in institutional and commercial kitchens and damp or wet locations.

C. Minimum Raceway Size: 3/4-inch (21-mm) trade size.

D. Raceway Fittings: Compatible with raceways and suitable for use and location.

1. Rigid and Intermediate Steel Conduit: Use threaded rigid steel conduit fittings unless otherwise indicated. Comply with NEMA FB 2.10.
2. PVC Externally Coated, Rigid Steel Conduits: Use only fittings listed for use with this type of conduit. Patch and seal all joints, nicks, and scrapes in PVC coating after installing conduits and fittings. Use sealant recommended by fitting manufacturer and apply in thickness and number of coats recommended by manufacturer.
3. EMT: Use compression, steel fittings. Comply with NEMA FB 2.10.
4. Flexible Conduit: Use only fittings listed for use with flexible conduit. Comply with NEMA FB 2.20.

E. Install surface raceways only where indicated on Drawings.

3.2 INSTALLATION

A. Comply with requirements in Section 260529 "Hangers and Supports for Electrical Systems" for hangers and supports.

B. Comply with NECA 1 and NECA 101 for installation requirements except where requirements on Drawings or in this article are stricter. Comply with NECA 102 for aluminum conduits. Comply with NFPA 70 limitations for types of raceways allowed in specific occupancies and number of floors.

C. Do not install raceways or electrical items on any "explosion-relief" walls or rotating equipment.

D. Do not fasten conduits onto the bottom side of a metal deck roof.

E. Keep raceways at least 6 inches (150 mm) away from parallel runs of flues and steam or hot-water pipes. Install horizontal raceway runs above water and steam piping.

F. Complete raceway installation before starting conductor installation.

G. Arrange stub-ups so curved portions of bends are not visible above finished slab.

H. Install no more than the equivalent of three 90-degree bends in any conduit run except for control wiring conduits, for which fewer bends are allowed. Support within 12 inches (300 mm) of changes in direction.

I. Make bends in raceway using large-radius preformed ells. Field bending shall be according to NFPA 70 minimum radii requirements. Use only equipment specifically designed for material and size involved.

J. Conceal conduit within finished walls, ceilings, and floors unless otherwise indicated. Install conduits parallel or perpendicular to building lines.

K. Support conduit within 12 inches (300 mm) of enclosures to which attached.

L. Threaded Conduit Joints, Exposed to Wet, Damp, Corrosive, or Outdoor Conditions: Apply listed compound to threads of raceway and fittings before making up joints. Follow compound manufacturer's written instructions.

M. Raceway Terminations at Locations Subject to Moisture or Vibration: Use insulating bushings to protect conductors including conductors smaller than No. 4 AWG.

N. Terminate threaded conduits into threaded hubs or with locknuts on inside and outside of boxes or cabinets. Install bushings on conduits up to 1-1/4-inch (35mm) trade size and insulated throat metal bushings on 1-1/2-inch (41-mm) trade size and larger conduits terminated with locknuts. Install insulated throat metal grounding bushings on service conduits.

O. Install raceways square to the enclosure and terminate at enclosures with locknuts. Install locknuts hand tight plus 1/4 turn more.

P. Cut conduit perpendicular to the length. For conduits 2-inch (53-mm) trade size and larger, use roll cutter or a guide to make cut straight and perpendicular to the length.

Q. Install pull wires in empty raceways. Use polypropylene or monofilament plastic line with not less than 200-lb (90-kg) tensile strength. Leave at least 12 inches (300 mm) of slack at each end of pull wire. Cap underground raceways designated as spare above grade alongside raceways in use.

R. Surface Raceways:

1. Install surface raceway with a minimum 2-inch (50-mm) radius control at bend points.
2. Secure surface raceway with screws or other anchor-type devices at intervals not exceeding 48 inches (1200 mm) and with no less than two supports per straight raceway section. Support surface raceway according to manufacturer's written instructions. Tape and glue are not acceptable support methods.

S. Install raceway sealing fittings at accessible locations according to NFPA 70 and fill them with listed sealing compound. For concealed raceways, install each fitting in a flush steel box with a blank cover plate having a finish similar to that of adjacent plates or surfaces. Install raceway sealing fittings according to NFPA 70.

T. Install devices to seal raceway interiors at accessible locations. Locate seals so no fittings or boxes are between the seal and the following changes of environments. Seal the interior of all raceways at the following points:

1. Where conduits pass from warm to cold locations, such as boundaries of refrigerated spaces.
2. Where an underground service raceway enters a building or structure.
3. Conduit extending from interior to exterior of building.
4. Conduit extending into pressurized duct and equipment.
5. Conduit extending into pressurized zones that are automatically controlled to maintain different pressure set points.
6. Where otherwise required by NFPA 70.

U. Comply with manufacturer's written instructions for solvent welding RNC and fittings.

V. Expansion-Joint Fittings:

1. Install in each run of aboveground RNC that is located where environmental temperature change may exceed 30 deg F (17 deg C) and that has straight-run length that exceeds 25 feet (7.6 m). Install in each run of aboveground RMC and EMT conduit that is located where environmental temperature change may exceed 100 deg F (55 deg C) and that has straight-run length that exceeds 100 feet (30 m).
2. Install type and quantity of fittings that accommodate temperature change listed for each of the following locations:

    a. Outdoor Locations Not Exposed to Direct Sunlight: 125 deg F (70 deg C) temperature change.
    b. Outdoor Locations Exposed to Direct Sunlight: 155 deg F (86 deg C) temperature change.
    c. Indoor Spaces Connected with Outdoors without Physical Separation: 125 deg F (70 deg C temperature change.

3. Install fitting(s) that provide expansion and contraction for at least 0.00041 inch per foot of length of straight run per deg F (0.06 mm per meter of length of straight run per deg C) of temperature change for PVC conduits. Install fitting(s) that provide expansion and contraction for at least 0.000078 inch per foot of length of straight run per deg F (0.0115 mm per meter of length of straight run per deg C) of temperature change for metal conduits.
4. Install expansion fittings at all locations where conduits cross building or structure expansion joints.
5. Install each expansion-joint fitting with position, mounting, and piston setting selected according to manufacturer's written instructions for conditions at specific location at time of installation. Install conduit supports to allow for expansion movement.

W. Flexible Conduit Connections: Comply with NEMA RV 3. Use a maximum of 36 inches (915 mm) of flexible conduit for equipment subject to vibration, noise transmission, or movement; and for transformers and motors.

1. Use LFMC in damp or wet locations subject to severe physical damage.

2. Use LFMC or LFNC in damp or wet locations not subject to severe physical damage.

X. Locate boxes so that cover or plate will not span different building finishes.

Y. Fasten junction and pull boxes to or support from building structure. Do not support boxes by conduits.

3.3 SLEEVE AND SLEEVE-SEAL INSTALLATION FOR ELECTRICAL PENETRATIONS

A. Install sleeves and sleeve seals at penetrations of exterior floor and wall assemblies. Comply with requirements in Section 260544 "Sleeves and Sleeve Seals for Electrical Raceways and Cabling."

3.4 FIRESTOPPING

A. Install firestopping at penetrations of fire-rated floor and wall assemblies. Comply with requirements in Section 078413 "Penetration Firestopping."

3.5 PROTECTION

A. Protect coatings, finishes, and cabinets from damage and deterioration.

1. Repair damage to galvanized finishes with zinc-rich paint recommended by manufacturer.
2. Repair damage to PVC coatings or paint finishes with matching touchup coating recommended by manufacturer.

END OF SECTION 260533

SECTION 260544 - SLEEVES AND SLEEVE SEALS FOR ELECTRICAL RACEWAYS AND CABLING

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. Round sleeves.
2. Rectangular sleeves.
3. Sleeve seal systems.
4. Grout.
5. Pourable sealants.
6. Foam sealants

1.3 SUBMITTALS

A. Manufacturer’s installation instructions shall be provided along with product data.

B. Product Data: For each type of product.

PART 2 - PRODUCTS

2.1 ROUND SLEEVES

A. Wall Sleeves, Steel:

1. Description: ASTM A53/A53M, Type E, Grade B, Schedule 40, zinc coated, plain ends and integral waterstop.

B. Wall Sleeves, Cast Iron:

1. Description: Cast or fabricated "wall pipe," equivalent to ductile-iron pressure pipe, with plain ends and integral waterstop.

C. Molded Sleeves, PE, or PP:

1. Description: Removable, tapered-cup shaped, and smooth outer surface with nailing flange for attaching to wooden forms.

D. Sheet Metal Sleeves, Galvanized Steel, Round:

1. Description: Galvanized-steel sheet; thickness not less than 0.0239-inch (0.6-mm); round tube closed with welded longitudinal joint, with tabs for screw-fastening the sleeve to the board.

2.2 SLEEVE SEAL SYSTEMS

A. Description: Modular sealing device, designed for field assembly, to fill annular space between sleeve and raceway or cable or between raceway and cable.

1. Sealing Elements: EPDM rubber interlocking links shaped to fit surface of pipe. Include type and number required for pipe material and size of pipe.
2. Pressure Plates: Carbon steel or Stainless steel.
3. Connecting Bolts and Nuts: Stainless steel of length required to secure pressure plates to sealing elements.

2.3 GROUT

A. Description: Nonshrink; recommended for interior and exterior sealing openings in non-fire-rated walls or floors.

1. Standard: ASTM C1107/C1107M, Grade B, post-hardening and volume-adjusting, dry, hydraulic-cement grout.
2. Design Mix: 5000-psi (34.5-MPa), 28-day compressive strength.
3. Packaging: Premixed and factory packaged.

2.4 POURABLE SEALANTS

A. Description: Single-component, neutral-curing elastomeric sealants of grade indicated below.

1. Grade: Pourable (self-leveling) formulation for openings in floors and other horizontal surfaces that are not fire rated.

2.5 FOAM SEALANTS

A. Description: Multicomponent, liquid elastomers that, when mixed, expand and cure in place to produce a flexible, nonshrinking foam. Foam expansion must not damage cables or crack penetrated structure.

PART 3 - EXECUTION

3.1 INSTALLATION OF SLEEVES FOR NON-FIRE-RATED ELECTRICAL PENETRATIONS

A. Comply with NECA 1.

B. Sleeves for Conduits Penetrating Above-Grade, Non-Fire-Rated, Concrete and Masonry-Unit Floors and Walls:

1. Interior Penetrations of Non-Fire-Rated Walls and Floors:

   a. Seal space outside of sleeves with mortar or grout. Pack sealing material solidly between sleeve and wall or floor so no voids remain. Tool exposed surfaces smooth; protect material while curing.

2. Use pipe sleeves unless penetration arrangement requires rectangular sleeved opening.
3. Size pipe sleeves to provide 1/4-inch (6.4-mm) > annular clear space between sleeve and raceway or cable, unless sleeve seal system is to be installed.
4. Install sleeves for wall penetrations unless core-drilled holes or formed openings are used. Install sleeves during erection of walls. Cut sleeves to length for mounting flush with both surfaces of walls. Deburr after cutting.
5. Install sleeves for floor penetrations. Extend sleeves installed in floors 2 inches (50 mm) above finished floor level. Install sleeves during erection of floors.

C. Sleeves for Conduits Penetrating Non-Fire-Rated Wall Assemblies:

1. Use circular metal sleeves unless penetration arrangement requires rectangular sleeved opening.
2. Seal space outside of sleeves with approved joint compound for wall assemblies.

D. Roof-Penetration Sleeves: Seal penetration of individual raceways and cables with flexible boot-type flashing units applied in coordination with roofing work.

E. Aboveground, Exterior-Wall Penetrations: Seal penetrations using cast-iron pipe sleeves and mechanical sleeve seal systems. Size sleeves to allow for 1-inch (25-mm) annular clear space between pipe and sleeve for installing mechanical sleeve seals.

3.2 INSTALLATION OF SLEEVE SEAL SYSTEMS

A. Install sleeve seal systems in sleeves in exterior concrete walls and slabs-on-grade at raceway entries into building.

B. Install type and number of sealing elements recommended by manufacturer for raceway or cable material and size. Position raceway or cable in center of sleeve. Assemble mechanical sleeve seals and install in annular space between raceway or cable and sleeve. Tighten bolts against pressure plates that cause sealing elements to expand and make watertight seal.

END OF SECTION 260544

SECTION 262726 - WIRING DEVICES

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. Standard-grade receptacles, 125 V, 20 A.
2. Toggle switches, 120/277 V, 20 A.
3. Wall plates.

1.3 DEFINITIONS

A. GFCI: Ground-fault circuit interrupter.

1.4 SUBMITTALS

A. Manufacturer’s installation instructions shall be provided along with product data.

B. Product Data: For each type of product.

1.5 CLOSEOUT SUBMITTALS

A. Operation and Maintenance Data: For wiring devices to include in all manufacturers' packing-label warnings and instruction manuals that include labeling conditions.

PART 2 - PRODUCTS

2.1 GENERAL WIRING-DEVICE REQUIREMENTS

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

B. Comply with NFPA 70.

C. Comply with NEMA WD 1.

D. Devices that are manufactured for use with modular plug-in connectors may be substituted under the following conditions:

1. Connectors shall comply with UL 2459 and shall be made with stranding building wire.
2. Devices shall comply with requirements in this Section.

E. Device Color:

1. Wiring Devices Connected to Normal Power System: As selected by Owners representative unless otherwise indicated or required by NFPA 70 or device listing.

F. Wall Plate: For weatherproof for all covers

2.2 STANDARD-GRADE RECEPTACLES, 125 V, 20 A

A. Duplex Receptacles, 125 V, 20 A :

1. Manufacturers: Subject to compliance with requirements, provide products by the following:

a. Leviton Manufacturing Co., Inc.
b. Pass & Seymour; Legrand North America, LLC.
c. Wiring Device-Kellems; Hubbell Incorporated, Commercial and Industrial.
d. Or equal.

2. Description: Two pole, three wire, and self-grounding.
3. Configuration: NEMA WD 6, Configuration 5-20R.
4. Standards: Comply with UL 498 and FS W-C-596.

B. Weather-Resistant Duplex Receptacle, 125 V, 20 A

1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:

a. Leviton Manufacturing Co., Inc.
b. Pass & Seymour; Legrand North America, LLC.
c. Wiring Device-Kellems; Hubbell Incorporated, Commercial and Industrial.
d. Or equal.

2. Description: Two pole, three wire, and self-grounding. Integral shutters that operate only when a plug is inserted in the receptacle. Square face.
3. Configuration: NEMA WD 6, Configuration 5-20R.
4. Standards: Comply with UL 498.
5. Marking: Listed and labeled as complying with NFPA 70, "Receptacles in Damp or Wet Locations" Article.

6. Provide weatherproof covers for all exterior receptacles. Provide in-use weatherproof covers as directed by owners agent.

PART 3 - EXECUTION

3.1 INSTALLATION

A. Comply with NECA 1, including mounting heights listed in that standard, unless otherwise indicated.

B. Coordination with Other Trades:

1. Protect installed devices and their boxes. Do not place wall finish materials over device boxes, and do not cut holes for boxes with routers that are guided by riding against outside of boxes.
2. Keep outlet boxes free of plaster, drywall joint compound, mortar, cement, concrete, dust, paint, and other material that may contaminate the raceway system, conductors, and cables.
3. Install device boxes in brick or block walls so that the cover plate does not cross a joint unless the joint is troweled flush with the face of the wall.
4. Install wiring devices after all wall preparation, including painting, is complete.

C. Conductors:

1. Do not strip insulation from conductors until right before they are spliced or terminated on devices.
2. Strip insulation evenly around the conductor using tools designed for the purpose. Avoid scoring or nicking of solid wire or cutting strands from stranded wire.
3. The length of free conductors at outlets for devices shall comply with NFPA 70, Article 300, without pigtails.
4. Existing Conductors:

    a. Cut back and pigtail, or replace all damaged conductors.
    b. Straighten conductors that remain and remove corrosion and foreign matter.

D. Device Installation:

1. Replace devices that have been in temporary use during construction and that were installed before building finishing operations were complete.
2. Keep each wiring device in its package or otherwise protected until it is time to connect conductors.
3. Do not remove surface protection, such as plastic film and smudge covers, until the last possible moment.
4. Connect devices to branch circuits using pigtails that are not less than 6 inches in length.
5. When there is a choice, use side wiring with binding-head screw terminals. Wrap solid conductor tightly clockwise, two-thirds to three-fourths of the way around terminal screw.
6. Use a torque screwdriver when a torque is recommended or required by manufacturer.

7. When conductors larger than No. 12 AWG are installed on 15- or 20-A circuits, splice No. 12 AWG pigtails for device connections.
8. Tighten unused terminal screws on the device.
9. When mounting into metal boxes, remove the fiber or plastic washers used to hold device-mounting screws in yokes, allowing metal-to-metal contact.

3.2 SPECIFIC PURPOSE OUTLET BOXES

A. As fabricated by manufacturers for mounting their equipment.

3.3 IDENTIFICATION

A. Identify each receptacle with panelboard identification and circuit number. Use hot, stamped, or engraved machine printing with black-filled lettering on face of plate, and durable wire markers or tags inside outlet boxes.

B. Essential Electrical System: Mark receptacles supplied from the essential electrical system to allow easy identification using a self-adhesive label.

3.4 FIELD QUALITY CONTROL

A. Test Instruments: Use instruments that comply with UL 1436.

B. Test Instrument for Receptacles: Digital wiring analyzer with digital readout or illuminated digital-display indicators of measurement.

C. Tests for Receptacles:

1. Line Voltage: Acceptable range is 105 to 132 V.
2. Percent Voltage Drop under 15-A Load: A value of 6 percent or higher is unacceptable.
3. Ground Impedance: Values of up to 2 ohms are acceptable.
4. Using the test plug, verify that the device and its outlet box are securely mounted.
5. Tests shall be diagnostic, indicating damaged conductors, high resistance at the circuit breaker, poor connections, inadequate fault-current path, defective devices, or similar problems. Correct circuit conditions, remove malfunctioning units and replace with new ones, and retest as specified above.

D. Test straight-blade for the retention force of the grounding blade according to NFPA 99. Retention force shall be not less than 4 oz.

E. Wiring device will be considered defective if it does not pass tests and inspections.

F. Prepare test and inspection reports.

END OF SECTION 262726

SECTION 262816 - ENCLOSED SWITCHES AND CIRCUIT BREAKERS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

A. Section Includes:

1. Fusible switches.
2. Receptacle switches.
3. Shunt trip switches.
4. Molded-case circuit breakers (MCCBs).
5. Enclosures.

1.3 DEFINITIONS

A. NC: Normally closed.

B. NO: Normally open.

C. SPDT: Single pole, double throw.

1.4 SUBMITTALS

A. Submittals shall be provided in the order in which they are specified and tabbed (for combined submittals).

B. Product Data: For each type of enclosed switch, circuit breaker, accessory, and component indicated. Include nameplate ratings, dimensioned elevations, sections, weights, and manufacturers' technical data on features, performance, electrical characteristics, ratings, accessories, and finishes.

1. Enclosure types and details for types other than NEMA 250, Type 1.
2. Current and voltage ratings.
3. Short-circuit current ratings (interrupting and withstand, as appropriate).
4. Include evidence of a nationally recognized testing laboratory (NRTL) listing for series rating of installed devices.
5. Detail features, characteristics, ratings, and factory settings of individual overcurrent protective devices, accessories, and auxiliary components.

C. Shop Drawings: For enclosed switches and circuit breakers.

1. Include plans, elevations, sections, details, and attachments to other work.
2. Include wiring diagrams for power, signal, and control wiring.

1.5 FIELD CONDITIONS

A. Environmental Limitations: Rate equipment for continuous operation under the following conditions unless otherwise indicated:

1. Ambient Temperature: Not less than minus 22 deg F and not exceeding 104 deg F.
2. Altitude: Not exceeding 6600 feet.

1.6 WARRANTY

A. Manufacturer's Warranty: Manufacturer and Installer agree to repair or replace components that fail in materials or workmanship within specified warranty period.

1. Warranty Period: One year(s) from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 GENERAL REQUIREMENTS

A. Source Limitations: Obtain enclosed switches and circuit breakers, overcurrent protective devices, components, and accessories, within same product category, from single manufacturer.

B. Product Selection for Restricted Space: Drawings indicate maximum dimensions for enclosed switches and circuit breakers, including clearances between enclosures, and adjacent surfaces and other items. Comply with indicated maximum dimensions.

C. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, by an NRTL, and marked for intended location and application.

D. Comply with NFPA 70.

2.2 MANUAL MOTOR RATED STARTER SWITCHES

A. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:

1. ABB.
2. Eaton.
3. Schneider Electric USA (Square D).

B. Type HD, Heavy Duty:

1. Single throw.
2. One pole.
3. 120V ac.
4. With thermal overload sized to match motor.
5. Red pilot light

2.3 MOLDED-CASE CIRCUIT BREAKERS

A. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following]:

1. ABB
2. Eaton.
3. Schneider Electric USA (Square D).

B. Circuit breakers shall be constructed using glass-reinforced insulating material. Current carrying components shall be completely isolated from the handle and the accessory mounting area.

C. Circuit breakers shall have a toggle operating mechanism with common tripping of all poles, which provides quick-make, quick-break contact action. The circuit-breaker handle shall be over center, be trip free, and reside in a tripped position between on and off to provide local trip indication. Circuit-breaker escutcheon shall be clearly marked on and off in addition to providing international I/O markings. Equip circuit breaker with a push-to-trip button, located on the face of the circuit breaker to mechanically operate the circuit-breaker tripping mechanism for maintenance and testing purposes.

D. The maximum ampere rating and UL, IEC, or other certification standards with applicable voltage systems and corresponding interrupting ratings shall be clearly marked on face of circuit breaker. Circuit breakers shall be 100 percent rated.

E. Standard: Comply with UL 489 with interrupting capacity to comply with available fault currents.

F. Thermal-Magnetic Circuit Breakers: Inverse time-current thermal element for low-level overloads and instantaneous magnetic trip element for short circuits. Adjustable magnetic trip setting for circuit-breaker frame sizes 250 A and larger.

G. Current-Limiting Circuit Breakers: Frame sizes 400 A and smaller, and let-through ratings less than NEMA FU 1, RK-5.

H. Ground-Fault Equipment-Protection (GFEP) Circuit Breakers: With Class B ground-fault protection (30-mA trip).

I. Features and Accessories:

1. Standard frame sizes, trip ratings, and number of poles.
2. Lugs: Compression type, suitable for number, size, trip ratings, and conductor material.
3. Contractor shall verify that circuit breakers are compatible with existing panelboard(s).

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine elements and surfaces to receive enclosed switches and circuit breakers for compliance with installation tolerances and other conditions affecting performance of the Work.

B. Proceed with installation only after unsatisfactory conditions have been corrected.

1. Commencement of work shall indicate Installer's acceptance of the areas and conditions as satisfactory.

3.2 INSTALLATION

A. Coordinate layout and installation of switches, circuit breakers, and components with equipment served and adjacent surfaces. Maintain required workspace clearances and required clearances for equipment access doors and panels.

B. Install individual wall-mounted switches and circuit breakers with tops at uniform height unless otherwise indicated.

C. Temporary Lifting Provisions: Remove temporary lifting of eyes, channels, and brackets and temporary blocking of moving parts from enclosures and components.

D. Install fuses in fusible devices.

E. Comply with NFPA 70 and NECA 1.

3.3 IDENTIFICATION

A. Identify field-installed conductors, interconnecting wiring, and components; provide warning signs.

B. Label each enclosure with engraved metal or laminated-plastic nameplate.

3.4 FIELD QUALITY CONTROL

A. Tests and Inspections for Switches:

1. Visual and Mechanical Inspection:

a. Inspect physical and mechanical condition.
b. Inspect anchorage, alignment, grounding, and clearances.
c. Verify that the unit is clean.
d. Verify blade alignment, blade penetration, travel stops, and mechanical operation.
e. Verify that fuse sizes and types match the Specifications and Drawings.

f. Verify that each fuse has adequate mechanical support and contact integrity.
g. Inspect bolted electrical connections for high resistance using one of the two following methods:

1) Use a low-resistance ohmmeter.

a) Compare bolted connection resistance values to values of similar connections. Investigate values that deviate from those of similar bolted connections by more than 50 percent of the lowest value.

2) Verify tightness of accessible bolted electrical connections by calibrated torque-wrench method in accordance with manufacturer's published data or NETA ATS Table 100.12.

END OF SECTION 262816