UCONN

PROCUREMENT SERVICES

CAPITAL PROJECTS AND
FACILITIES PROCUREMENT

PROJECT MANUAL

FOR

GELFENBIEN PATIO LANDSCAPING IMPROVEMENTS

UNIVERSITY OF CONNECTICUT

STORRS CAMPUS
Storrs, Connecticut

PROJECT NUMBER: 300081

March 14, 2019

ARCHITECT/ENGINEER OF RECORD:
UNIVERSITY PLANNING, DESIGN AND CONSTRUCTION

UNIVERSITY OF CONNECTICUT
GELFENBIEN PATIO LANDSCAPING IMPROVEMENTS
PROJECT NUMBER: 300081

The following Bid Documents and all Bid Clarifications are to be obtained by accessing the following web link and clicking on the Project Number: 300081
http://cpca.uconn.edu/construction-current-opportunities-open-bids/

Table of Contents

Documents:	**# of Pages**
Table of Contents	1
Invitation to Bid	3
List of Prequalified Contractors	1
Instruction to Bidders	20
Form of Proposal/Bid Submission	28
Prevailing Wages Docs (Wages to come)	23
AIA 101 - Standard Form of Agreement – Draft	9
AIA 101 – Exhibit A – Insurance Requirements	3
AIA 101 – Exhibit F – State of Connecticut Terms and Conditions	6
AIA 201 - General Conditions	54
Project Specifications	295
Drawings	8
Labor Rate Sheet (example form) – for information only and will be filled out if Contractor is low bidder. Form can be found at http://paes.uconn.edu/contractors-working-at-uconn/	2

INVITATION TO BID

March 14, 2019

DUE DATE: **April 4, 2019**
TIME: **2:00 p.m.**
LOCATION: **University of Connecticut**
Capital Projects & Facilities Procurement
3 Discovery Drive, Unit 6076
Storrs, CT 06269
Attn: Cesar Alonzo

The University of Connecticut is accepting sealed bids for:

UNIVERSITY OF CONNECTICUT
GELFENBIEN PATIO LANDSCAPING IMPROVEMENTS
PROJECT NUMBER: 300081

Bids must be submitted on the forms supplied and in the manner specified within the Bid Documents. This invitation is **Only Open to Previously Prequalified On-Call $100K-$500K Sitework Contractors.**

PROJECT DESCRIPTION:
The Gelfenbien Dining Hall Patio is being transformed from asphalt paving to an enclosed patio with permeable brick paving and plantings. A security/privacy fence is integral to the design as it prevents access to the Dining Hall through an unattended entrance. A retaining wall will provide a larger level area for dining hall uses.

Scope of Work: The scope of work includes demolition of an existing asphalt patio, earthwork, grading and installation of a segmental retaining wall. Patio pavement will be replaced with permeable pavement. Existing light fixtures will be reset and tree, shrub, ground cover and perennial plantings will be added. A Security/Privacy fence of solid vinyl is integral to meeting the program needs. Work by others to be coordinated include the addition of an automatic door opener and the installation of an exterior door opener bollard.

Work required by the project shall commence immediately upon receipt of a Notice to Proceed. However, physical work on site may not commence sooner than **May 14, 2019**. The Contractor shall obtain the Certificate of Substantial Completion as defined in the Contract Documents within **90 (ninety) calendar days** of the Notice to Proceed, no later than **August 13, 2019**

PRE-BID CONFERENCE:
There will be a job-site walkthrough on **Tuesday, March 19, 2019 at 1:00 PM.** This walkthrough is ***not mandatory***; however, interested bidders are ***strongly encouraged*** to attend to view existing conditions. Meet at the **Purchasing Conference Room, 3 Discovery Drive, Storrs CT 06269 at the UConn Storrs Campus.** The Pre-Bid Conference will commence promptly at the time noted herein. There are limited short-term visitor parking spaces around the Purchasing Building. The North Parking Garage is recommended to all vendors as parking on campus is at your own risk.

REQUEST FOR INFORMATION PROCEDURE:

All Requests for Information ("RFI") must be received in writing no later than **2:00PM on Wednesday, March 27, 2019** and emailed to cesar.alonzo@uconn.edu using the RFI form included within the bid documents. Include in the subject line: RFI – Gelfenbien Patio Landscaping Improvements, Project #300081. **Questions received verbally will not be answered.** All answers will be published by written Bid Clarification. Extensions of RFI deadlines may only be revised via written Bid Clarification. It is the responsibility of all bidders to verify that they are current with all Bid Clarifications issued prior to bid submission.

Bids will be accepted at the Office of Capital Projects and Facilities Procurement, 3 Discovery Drive, Storrs, CT 06269 until 2:00 P.M. local time on Thursday, April 4, 2019 at which time they will be publicly opened and read.

The Bid shall be accompanied by a Bid Bond in the amount of ten percent (10%) of the amount bid. All bonds required for this Project shall be acceptable to the University and, as a minimum, issued through a bonding company licensed to transact such business in the State of Connecticut and named on the current list of "Surety Companies Acceptable on Federal Bonds" as published in the "Treasury Department Circular 570".

The successful Contractor shall be required to provide a Labor and Material Payment Bond and a Performance Bond for one hundred percent (100%) of the Contract price.

The "Set-Aside" for this project is that (1) not less than thirty (30%) of the total Contract Price be awarded to subcontractors who are certified by the Connecticut Department of Administrative Services as "Small Business Enterprises" ("SBEs") and (2) not less than ten (10%) of the total Contract Price be awarded to subcontractors who are certified by the Connecticut Department of Administrative Services as "Minority Business Enterprises" ("MBEs") (the 10% set aside for MBEs may be included in the 30% set aside for SBEs). The general contractors are responsible for ensuring that they and the SBEs they have selected are eligible contractors, and that they meet State requirements.

The University of Connecticut is committed to increasing participation and enrollment of Small and Minority Businesses (S/MBE's) on our contracts. It is expected that those contracting with us will give thoughtful consideration both to the approach they use in their selection of the eligible Connecticut-certified S/MBE's that they will utilize and in the maximizing of contracting and work opportunities for S/MBE's. To ensure that you are exploring all possible ways to be inclusive, included below is a sample of specific possibilities for breakout of the schedule of values. We appreciate your partnering with us to ensure that S/MBE's are given an opportunity to work, contribute and grow their businesses on University projects.

Specific possibilities for Inclusion of S/MBE's in the Schedule of Values

*Bold indicates suggested categories (if applicable)

01 – General Conditions	**Temporary Electric & Lighting** **Cleaning**
02 – Existing Conditions	**Demolition & Salvage** **Abatement**
03 – Concrete	**Sidewalks & Flatwork**
05 - Metals	**Metal Stairs & Railings**

	Miscellaneous Metals **Decorative Metal**
06 – Woods Plastics & Composites	**Rough Carpentry & Blocking**
07 – Thermal & Moisture Protection	**Insulation** **Sealers & Waterproofing**
08 – Openings	**Door Hardware**
09 – Finishes	**Tile Installations** **Acoustic Ceilings** **Flooring Installations** **Painting & Coatings** **Firestopping**
10 – Specialties	**Signage**
12 – Furnishings	**Window Treatments**
14 – Conveying Equipment	**Lifts**
23 – HVAC (Heating, Ventilating, Air Conditioning)	**HVAC Duct Insulation**
27 – Communications	**Low Voltage Cabling**
28 – Electronic Safety & Security	**Fire Alarm & Security Wiring**
32 – Exterior Improvements	**Retaining Walls** **Paving** **Fencing & Gates** **Landscaping**
44 – Pollution & Waste Control Equipment	**Trucking**

The University reserves the right to reject any or all Bids, in whole or in part, to award any item, group of items, or total Bid, and to waive any informality or technical defects, if it is deemed to be in the best interests of the University.

No Bidder may withdraw its Bid within ninety (90) days of the date of the Bid opening. Should there be reasons why the Contract cannot be awarded within the specified period, the time may be extended by mutual agreement between the University and the Bidder.

Cesar E Alonzo, PE
Senior Procurement Specialist
Capital Projects and Facilities Procurement

UNIVERSITY OF CONNECTICUT

Prequalified On Call Trade Contractors

Site Work

1	**All-Phase Enterprises, Inc.** **Stafford Springs, CT**
2	**All State Construction, Inc.** **Farmington, CT**
3	**G. Donovan Associates, Inc.** **North Franklin, CT**
4	**Machnik Bros. Inc.** **Old Lyme, CT**
5	**Manafort Brothers, Inc.** **Plainville, CT**
6	**Mather Corporation** **Bloomfield, CT**
7	**Milton C. Beebe & Sons, Inc.** **Storrs, CT**
8	**Nosal Builders Inc.** **Durham, CT**
9	**O & G Industries, Inc.** **Torrington, CT**
10	**Pondview Construction, Inc.** **Willington, CT**
11	**Spazzarini Construction Co., Inc.** **Enfield, CT**
12	**Tabacco & Son Builders, Inc.** **Bristol, CT**
13	**VMS Construction Company** **Vernon, CT**
14	**Waters Construction Co. Inc.** **Bridgeport, CT**

INSTRUCTIONS TO PREQUALIFIED BIDDERS

ARTICLE 1 GENERAL PROVISIONS

1.1 Connecticut Sales and Use Tax

1.1.1 The University of Connecticut is a tax-exempt institution. The Contractor shall be familiar with the current regulations of the Department of Revenue Service. The tax on materials or supplies exempted by such regulations shall not be included as part of the Bid. A Sales Tax Certificate is available from the Purchasing Department upon written request.

1.2 Contractor's Qualifications

In the Pre-Qualification to Bid Documents for this project, the University has reserved the right to request additional information from prospective Bidders beyond what may have been submitted in any Application and Statement of Qualifications in response to the Invitation to Pre-Qualify. The University has also reserved the right to find any Bidder to be non-responsible with respect to a specific project notwithstanding the fact that the Bidder may have previously been pre-qualified pursuant to the pre-qualification process. The University reaffirms these reservations of rights. In finding that a Bidder is non-responsible, the University may rely upon any information obtained prior to or subsequent to a finding that Bidder is pre-qualified.

1.2.1 CGS 4b-91 Requires each bid submitted shall include a copy of a prequalification certificate issued by the Commissioner of Administrative Services. The bid shall also be accompanied by an update bid statement in such form as the Commissioner of Administrative Services prescribes. The form for such update bid statement shall provide space for information regarding all projects completed by the bidder since the date the bidder's prequalification certificate was issued or renewed, all projects the bidder currently has under contract, including the percentage of work on such projects not completed, the names and qualifications of the personnel who will have supervisory responsibility for the performance of the contract, any significant changes in the bidder's financial position or corporate structure since the date the certificate was issued or renewed, any change in the contractor's qualification status as determined by the provisions of subdivision (6) of subsection (c) of section 4a-100 and such other relevant information as the Commissioner of Administrative Services prescribes. Any bid submitted without a copy of the prequalification certificate and an update bid statement shall be invalid and considered non-responsible.

1.3 Academic Schedule

1.3.1 It is important to the University, in order to maintain the integrity of its ongoing academic activities, that its rules and regulations and the requirements of the Contract Documents, regarding noise control, traffic control etc. and other matters which may affect its operations be strictly adhered to, and that its academic schedule be maintained. Therefore, all Bidders shall familiarize themselves with and comply with the academic schedule of the University, and its regulations regarding noise, traffic, etc. which are available from Architectural and Engineering Services. No noise generating work shall be allowed during exam periods where the noise will impact classroom functions. Examples of noise generating work include, but are not limited to, sawing, drilling, and hammering/jackhammering. The Contractor shall keep the

University Representative informed as to the location of its operations to enable necessary precautions or co-ordination to be implemented.

1.4 Non-Discrimination and Affirmative Action Provisions

1.4.1 Non-discrimination. References in this section to "Contract" shall mean the execution of AIA 101 or Purchase Order Contract; and references to "Contractor" shall mean the person or entity who will be solely responsible for execution of the work.

(a) The following subsections are set forth here as required by section 4a-60 of the Connecticut General Statutes:

(1) The Contractor agrees and warrants that in the performance of the Contract such Contractor will not discriminate or permit discrimination against any person or group of persons on the grounds of race, color, religious creed, age, marital status, national origin, ancestry, sex, mental retardation, mental disability or physical disability, including, but not limited to, blindness, unless it is shown by such Contractor that such disability prevents performance of the work involved, in any manner prohibited by the laws of the United States or of the state of Connecticut. The Contractor further agrees to take affirmative action to insure that applicants with job-related qualifications are employed and that employees are treated when employed without regard to their race, color, religious creed, age, marital status, national origin, ancestry, sex, mental retardation, mental disability or physical disability, including, but not limited to, blindness, unless it is shown by such Contractor that such disability prevents performance of the work involved; (2) the Contractor agrees, in all solicitations or advertisements for employees placed by or on behalf of the Contractor, to state that it is an "affirmative action-equal opportunity employer" in accordance with regulations adopted by the commission; (3) the Contractor agrees to provide each labor union or representative of workers with which such Contractor has a collective bargaining agreement or other contract or understanding and each vendor with which such Contractor has a contract or understanding, a notice to be provided by the commission advising the labor union or workers' representative of the Contractor's commitments under this section, and to post copies of the notice in conspicuous places available to employees and applicants for employment; (4) the Contractor agrees to comply with each provision of this section and sections 46a-68e and 46a-68f and with each regulation or relevant order issued by said commission pursuant to sections 46a-56, 46a-68e and 46a-68f; (5) the Contractor agrees to provide the Commission on Human Rights and Opportunities with such information requested by the commission, and permit access to pertinent books, records and accounts, concerning the employment practices and procedures of the Contractor as relate to the provisions of this section and section 46a-56.

(b) If the Contract is a public works contract, the Contractor agrees and warrants that he will make good faith efforts to employ minority business enterprises as subcontractors and suppliers of materials on such public works project.

(c) "Minority business enterprise" means any small contractor or supplier of materials fifty-one per cent or more of the capital stock, if any, or assets of which is owned by a person or persons: (1) Who are active in the daily affairs of the enterprise, (2) who have the power to direct the management and policies of the enterprise and (3) who are members of a minority, as such term is defined in subsection (a) of section 32-9n; and "good faith" means that degree of diligence which a reasonable person would exercise in the performance of legal duties and obligations. "Good faith efforts" shall include, but not be limited to, those reasonable initial efforts necessary to comply with statutory or regulatory requirements and additional or substituted efforts when it is determined that such initial efforts will not be sufficient to comply with such requirements.

(d) Determination of the Contractor's good faith efforts shall include but shall not be limited to the following factors: The Contractor's employment and subcontracting policies, patterns and practices; affirmative advertising, recruitment and training; technical assistance activities and such other reasonable activities or efforts as the commission may prescribe that are designed to ensure the participation of minority business enterprises in public works projects.

(e) The Contractor shall develop and maintain adequate documentation, in a manner prescribed by the commission, of its good faith efforts.

(f) The Contractor shall include the provisions of sections (a) and (b) above in every subcontract or purchase order entered into in order to fulfill any obligation of a contract with the state and such provisions shall be binding on a subcontractor, vendor or manufacturer unless exempted by regulations or orders of the commission. The Contractor shall take such action with respect to any such subcontract or purchase order as the commission may direct as a means of enforcing such provisions including sanctions for noncompliance in accordance with section 46a-56; provided, if such Contractor becomes involved in, or is threatened with, litigation with a subcontractor or vendor as a result of such direction by the commission, the Contractor may request the state of Connecticut to enter into any such litigation or negotiation prior thereto to protect the interests of the state and the state may so enter.

(g) The following subsections are set forth here as required by section 4a-60a of the Connecticut General Statutes:

(1) The Contractor agrees and warrants that in the performance of the Contract such Contractor will not discriminate or permit discrimination against any person or group of persons on the grounds of sexual orientation, in any manner prohibited by the laws of the United States or of the state of Connecticut, and that employees are treated when employed without regard to their sexual orientation; (2) the Contractor agrees to provide each labor union or representative of workers with which such Contractor has a collective bargaining agreement or other contract or understanding and each vendor with which such Contractor has a contract or understanding, a notice to be provided by the Commission on Human Rights and Opportunities advising the labor union or workers' representative of the Contractor's commitments under this section, and to post copies of the notice in conspicuous places available to employees and applicants for employment; (3) the Contractor agrees to comply with each provision of this section and with each regulation or relevant order issued by said commission pursuant to section 46a-56; and (4) the Contractor agrees to provide the Commission on Human Rights and Opportunities with such information requested by the commission, and permit access to pertinent books, records and accounts, concerning the employment practices and procedures of the Contractor which relate to the provisions of this section and section 46a-56.

(h) The Contractor shall include the provisions of section (g) above in every subcontract or purchase order entered into in order to fulfill any obligation of a contract with the state and such provisions shall be binding on a subcontractor, vendor or manufacturer unless exempted by regulations or orders of the commission. The Contractor shall take such action with respect to any such subcontract or purchase order as the commission may direct as a means of enforcing such provisions including sanctions for noncompliance in accordance with section 46a-56; provided, if such Contractor becomes involved in, or is threatened with, litigation with a subcontractor or vendor as a result of such direction by the commission, the Contractor may request the state of Connecticut to enter into any such litigation or negotiation prior thereto to protect the interests of the state and the state may so enter.

(i) For the purposes of this entire Non-Discrimination section, “Contract” or "contract" includes any extension or modification of the Contract or contract, “Contractor” or "contractor" includes any successors or assigns of the Contractor or contractor, "marital status" means being single, married as recognized by the state of Connecticut, widowed, separated or divorced, and "mental disability" means one or more mental disorders, as defined in the most recent edition of the American Psychiatric Association's "Diagnostic and Statistical Manual of Mental Disorders", or a record of or regarding a person as having one or more such disorders. For the purposes of this section, "Contract" does not include a contract where each contractor is (1) a political subdivision of the state, including, but not limited to, a municipality, (2) a quasi-public agency, as defined in Conn. Gen. Stat. Section 1-120, (3) any other state, including but not limited to any federally recognized Indian tribal governments, as defined in Conn. Gen. Stat. Section 1-267, (4) the federal government, (5) a foreign government, or (6) an agency of a subdivision, agency, state or government described in the immediately preceding enumerated items (1), (2), (3), (4) or (5).

1.5 Union Labor

1.5.1 Attention is called to the fact that there may be construction work now being carried on at the site at which this construction is contemplated being done by UNION LABOR. This fact must be kept in mind by all Bidders submitting proposals for this work.

1.6 Labor Market Area

1.6.1 All Bidders shall have read Sections 31-52 and 31-52a of the Connecticut General Statutes, as amended. These references relate to the preference of State citizens, the preference of residents of the labor market area in which the work under the Contract is to be done and the penalties for violations.

1.7 Wage Rates

1.7.1 If this project involves new construction of a building or other structure or improvement, and the total cost of all Work to be performed by Contractors and Subcontractors is $400,000.00 or more, or if the project involves remodeling, refurbishing, rehabilitation, alteration or repair of a building or other structure or improvement, and such total cost is $100,000.00 or more, then:

.1 The wages paid on an hourly basis to any mechanic, laborer or workman employed upon the work herein contracted to be done and the amount of payment or contribution paid or payable on behalf of each such employee to any employee welfare fund as defined in Subsection (h) of Section 31-53 of the Connecticut General Statutes, shall be at a rate equal to the rate customary or prevailing for the same work in the same trade or occupation in the town in which such project is being constructed. Any Contractor who is not obligated by agreement to make payment or contribution on behalf of such employees to any such employee welfare fund shall pay to each employee as part of his wages the amount of payment or contribution for his classification on each payday.

1.7.2 The State of Connecticut Labor Department Wage Rate Schedule, when required by the University, shall be provided with these documents or will be issued as part of the bid documents or by Bid Clarification/Addendum hereto and is deemed to reflect such customary

or prevailing wages for this project, and is hereby incorporated and made a part of the Contract Documents.

1.7.3 Each contractor who is awarded a contract on or after October 1, 2002 shall be subject to provisions of the Connecticut General Statutes, Section 31-53 as amended by Public Act 02-69, "An Act Concerning Annual Adjustments to Prevailing Wages".

1.7.4 Wage Rates will be posted each July 1st on the Department of Labor Website: www.ctdol.state.ct.us. Such prevailing wage adjustment will not be considered a matter for an annual contract amendment.

1.7.5 Wage rates shall be paid pursuant to Section 31-53 and 31-54 of the Connecticut General Statutes, and any regulations issued hereunder.

1.7.6 **Sec. 31-53b. Construction safety and health course. New miner training program. Proof of completion required for mechanics, laborers and workers on public works projects. Enforcement. Regulations. Exceptions.** (a) Each contract for a public works project entered into on or after July 1, 2009, by the state or any of its agents, or by any political subdivision of the state or any of its agents, described in subsection (g) of section 31-53, shall contain a provision requiring that each contractor furnish proof with the weekly certified payroll form for the first week each employee begins work on such project that any person performing the work of a mechanic, laborer or worker pursuant to the classifications of labor under section 31-53 on such public works project, pursuant to such contract, has completed a course of at least ten hours in duration in construction safety and health approved by the federal Occupational Safety and Health Administration or, has completed a new miner training program approved by the Federal Mine Safety and Health Administration in accordance with 30 CFR 48 or, in the case of telecommunications employees, has completed at least ten hours of training in accordance with 29 CFR 1910.268. (b) Any person required to complete a course or program under subsection (a) of this section who has not completed the course or program shall be subject to removal from the worksite if the person does not provide documentation of having completed such course or program by the fifteenth day after the date the person is found to be in noncompliance.

ARTICLE 2 BIDDERS' REPRESENTATIONS

2.1 The amount of each Bid shall be deemed to include the entire cost and expense of every item of labor, material and overhead necessary to complete the work bid upon, as specified, in full detail ready for use. The risk of all such costs and expenses shall be deemed assumed by the successful Bidder. The University shall assign a University Representative to work with the successful Contractor as a liaison.

2.2 In performing its obligations under this Contract, the Contractor agrees to comply with all applicable states, laws, ordinances, regulations, codes, rules or orders of, or issued by, any governmental body having jurisdiction over the work, location of the work or contract.

ARTICLE 3 BIDDING DOCUMENTS

3.1 Bid Clarifications, Addenda and Interpretations

3.1.1 No interpretations of the meaning of the Drawings, specifications or other Contract Documents will be made orally to any Bidder. Every request for such interpretation must be made in writing to the University Office of Capital Project & Contract Administration, and to be given consideration shall be received at the specified date outlined within the invitation to bid and/or adjusted by a bid clarification/addenda.

3.1.2 Any and all such interpretations and any supplemental instructions will be in the form of written bid clarification/addenda which, if issued, will be posted on the University's Capital Projects and Contract Administration's Department website; www.cpca.uconn.edu. for all prospective Bidders to access or for those without access to a computer you can obtain them through Joseph Merritt, no later than five (5) days prior to the date fixed for the opening of Bids. Failure of any Bidder to receive any such addendum or interpretation shall not release any Bidder from any obligations under his Bid as submitted, provided notice has been sent to the address furnished by such prospective Bidder for the transmittal of notices, addenda and interpretations. It shall be the Bidder's responsibility to make inquiry as to, and to obtain, the Addenda issued, if any.

3.1.3 The number of days shown in 3.1.1 and 3.1.2 may differ from the actual dates given in an Agenda for a Pre-Bid or Pre-Proposal Conference, if so, the number of days listed are, hereby, superseded by the Agenda dates, unless the Bid or Proposal is extended by Addendum, in which case the number of days will again apply unless stated differently in the Addendum.

3.1.4 Bidders shall promptly notify the University of any ambiguity, inconsistency or error which they may discover upon examination of these Contract Documents.

ARTICLE 4 BIDDING PROCEDURES

4.1 Requests for Information

4.1.1 Enclosed with this Invitation to Submit Proposals Manual is a Request for Information Form (RFI). All questions/clarifications must be submitted in writing on this form and before the prescribed RFI Deadline. No verbal questions will be answered. All answers to RFI's will be issued in a Bid Clarification/Addenda. Form is at the end of this document.

4.2 Form of Proposal

4.2.1 Enclosed with this Invitation to Submit Proposals Manual is a Form of Proposal. Bids shall be submitted on a copy of this form. Additional instructions to bidders including information on submission of bids and award and Contract appear on this form. All documents required by these Bid Documents must be returned with your Bid.

4.3 Bids and Rejection of Bids

4.3.1 General Bids shall be for the complete work as specified and shall include the names of any Subcontractors for the classes of work specified in the Form of Proposal, and for each other class of work for which the University has required a separate section and the dollar amounts of their subcontracts, and the General Contractor shall be selected on the basis of such general Bids. It shall be presumed that the general Bidder intends to perform with its own employees all work in such four classes and such other classes, for which no Subcontractor is

named. The general Bidder's qualifications for performing such work shall be subject to review by the University pursuant to the Bid and the Contract Documents.

4.3.2 Bids shall be submitted only on the forms furnished for the specific project, which shall include a completed Form of Proposal containing all information required on the Proposal form, executed with an original signature by a duly authorized officer or representative of the Bidder, and, in the case of a Joint Venture, by duly authorized representatives of each Joint Venture. In no event will Bids or changes in Bids made by telephone, email or fax be considered. Any Form of Proposal omitting or adding items, altering the form, containing conditional or alternative Bids, or without the original signature of the Bidder or its authorized representative, may be rejected.

4.3.3 Any Bids received after the scheduled closing time for the receipt of Bids will be returned to the Bidders unopened.

4.3.4 Any Bid once deposited with the University of Connecticut may only be withdrawn by letter of request, signed by the depositing Bidder and presented to the Office of Capital Project and Contract Administration, prior to the time of opening of any Bid for the project designated or identified project.

4.4 Bid Security

4.4.1 Each Bid must be accompanied by a certified check payable to the order of the University of Connecticut, or the Bid may be accompanied by a Bid Bond in the form required by the University, having as surety thereto such surety company or companies acceptable to the University and as are authorized to do business in this State, for an amount not less than 10 per cent of the Bid. All checks submitted by unsuccessful Bidders shall be returned to them after the Contract has been awarded. Bid Security is not required for projects under $50,000.00.

4.4.2 Failure of the successful Bidder to file the required Performance and Labor & Material bonds shall be just cause for the amount of the security deposited with the Bid to be forfeited, any part of the whole of which may be used to make up the difference between the Bid of the defaulting Bidder and the Bid of the next lowest responsible qualified Bidder to whom the work is finally awarded. Failure to execute a contract after award as specified and Bid shall also result in the forfeiture of such Bid Bonds or Certified Check.

4.5 Subcontractors

4.5.1 The Contractor shall not contract with a person or entity who appears on the State of Connecticut Debarment List, the Federal Davis Bacon Act Debarment List, both of which are available through: **http://ctdol.state.ct.us** or the Federal List of Excluded Parties Listing System available through: **http://epls.arnet.gov**

4.5.2 The Bidder shall furnish, with his submitted Bid, as is set forth in the Proposal Form, in the space provided for such purpose, the names and prices of responsible and qualified Subcontractors who are actually to perform the following categories of work under the Base Bid, if their prices exceed $25,000.00:

.1 Masonry
.2 Electrical
.3 Mechanical other than HVAC
.4 HVAC
.5 Any other class of work identified in the Proposal Form for which a blank space has been provided.

4.5.3 The Bidder further agrees that each of the Subcontractors listed on the Proposal Form will be used for the work indicated at the amount stated unless a substitution is permitted by the University.

4.5.4 The Bidder further agrees and warrants that he has made good faith efforts to employ minority business enterprises as Subcontractors and suppliers of materials under such contract and shall provide the Commission on Human Rights and Opportunities with such information as is requested by the Commission concerning his employment practices and procedures as they relate to the provisions of the general statutes governing contract requirements.

4.5.5 Pursuant to Connecticut General Statutes Section 49-41a, for every contract with the University for the construction, alteration or repair of any building or work, (1) the Contractor, within 30 days after payment to the Contractor by the University, shall be required to pay any amounts due any Subcontractor, whether for labor performed or materials furnished, when the labor or materials have been included in a requisition submitted by the Contractor and paid by the University; (2) the Contractor shall include in each of its subcontracts a provision requiring each Subcontractor to pay any amounts due any of its Subcontractors, whether for labor performed or materials furnished, within 30 days after each Subcontractor receives a payment from the Contractor which encompasses labor or materials furnished by such Subcontractor.

4.5.6 Within five days after being notified of the award of a general Contract by the University, or, in the case of an approval of a substitute Subcontractor by the University, within five days after being notified of such approval, the general Bidder shall present to each listed or substitute Subcontractor:

.1 A subcontract in the form set forth in Section 4b-96 of the Connecticut General Statutes and must be executed with all of your named subcontractors in your form of proposal.

.2 A notice of the time limit under this section for executing a subcontract. If a listed Subcontractor fails within five days, Saturdays, Sundays and legal holidays excluded, after presentation of a subcontract by the general Bidder selected as a General Contractor, to perform his agreement to execute a subcontract in the form hereinafter set forth with such general Bidder, contingent upon the execution of the general Contract, the General Contractor shall select another Subcontractor, with the approval of the University. When seeking approval for a substitute Subcontractor, the general Bidder shall provide the University with all documents showing (a) the general Bidder's proper presentation of a subcontract to the listed Subcontractor and, (b) communications to or from such Subcontractor after such presentation. The University

shall adjust the Contract Price to reflect the difference between the amount of the price of the new Subcontractor and the amount of the price of the listed Subcontractor, if the new Subcontractor's price is lower and may adjust such Contract Price, if the new Subcontractor's price is higher. The general Bidder shall, with respect to each listed Subcontractor or approved substitute Subcontractor, file with the University a copy of each executed subcontract within ten days, Saturdays, Sundays and legal holidays excluded, of presentation of a subcontract to such Subcontractor.

.3 In the event of any conflict or inconsistency between the University of Connecticut's Subcontract form and the Contractor's standard Subcontract form, the provisions of the University of Connecticut's Subcontract form shall prevail. Any standard Subcontract form used will be attached as a supplement to the University of Connecticut's Subcontract form.

4.6 LIQUIDATED DAMAGES

4.6.1 Liquidated Damages of **One Thousand and 00/100 Dollars ($1,000.00)** per calendar day shall be assessed if the Contractor fails to achieve Substantial Completion, or causes delay to the Substantial Completion of any portion of the Work within the Contract Time.

4.7 **COMMISSION ON HUMAN RIGHTS AND OPPORTUNITIES CONTRACT COMPLIANCE REGULATIONS:**

The contract to be awarded is subject to contract compliance requirements mandated by Sections 4a-60 and 4a-60a of the Connecticut General Statutes; and, when the awarding agency is the State, Sections 46a-71(d) and-81i(d) of the Connecticut General Statutes. There are Contract Compliance Regulations codified at Section-68j-21 through 43 of the Regulations of Connecticut State Agencies, which establish a procedure for awarding all contracts covered by Sections 4a-60 and 46a-71(d) of the Connecticut General Statutes. According to Section 46a-68j-30(9) of the Contract Compliance Regulations, every agency awarding a contract subject to the contract compliance requirements has an obligation to "aggressively solicit the participation of legitimate minority business enterprises as bidders, contractors, subcontractors and suppliers of materials." Minority business enterprise" is defined in Section 4a-60 of the Connecticut General Statutes as a business wherein fifty-one percent or more of the capital stock, or assets belong to a person or persons: "(1) Who are active in daily affairs of the enterprise; (2) who have the power to direct the management and policies of the enterprise; and (3) who are members of a minority, as such term is defined in subsection (a) of Section 32-9n." "Minority" groups are defined in Section 32-9n of the Connecticut General Statutes as "(1) Black Americans . . .(2) Hispanic Americans . . . (3) persons who have origins in the Iberian Peninsula . . . (4)Women . . . (5) Asian Pacific Americans and Pacific Islanders; (6) American Indians . . ." An individual with a disability is also a minority business enterprise as provided by Section 4a-60g of the Connecticut General Statutes. The above definitions apply to the contract compliance requirements by virtue of Section 46a-68j-21(11) of the Contract Compliance Regulations. The awarding agency will consider the following factors when reviewing the bidder's qualifications under the contract compliance requirements:(a) the bidder's success in implementing an affirmative action plan;(b) the bidder's success in developing an apprenticeship program complying with Sections 46a-68-1 to 46a-68-17 of the Administrative Regulations of Connecticut State Agencies, inclusive;(c) the bidder's promise to develop and implement a successful affirmative action plan;(d) the bidder's submission of

employment statistics contained in the "Employment Information Form", indicating that the composition of its workforce is at or near parity when compared to the racial and sexual composition of the workforce in the relevant labor market area; and(e) the bidder's promise to set aside a portion of the contract for legitimate minority business enterprises. See Section 46a-68j-30(10)(E) of the Contract Compliance Regulations.

4.7.1 The following BIDDER CONTRACT COMPLIANCE MONITORING REPORT must be completed in full, signed, and submitted with the bid for this contract. The contract awarding agency and the Commission on Human Rights and Opportunities will use the information contained thereon to determine the bidders compliance to Sections 4a-60 and 4a-60a CONN. GEN. STAT., and Sections 46a-68j-23 of the Regulations of Connecticut State Agencies regarding equal employment opportunity, and the bidders __good faith efforts to include minority business enterprises as subcontractors and suppliers for the work of the contract.

1) Definition of Small Contractor:
Section 4a-60g CONN. GEN. STAT. defines a small contractor as a company that has been doing business under the same management and control and has maintained its principal place of business in Connecticut for a one year period immediately prior to its application for certification under this section, had gross revenues not exceeding ten million dollars in the most recently completed fiscal year, and at least fifty-one percent of the ownership of which is held by a person or persons who are active in the daily affairs of the company, and have the power to direct the management and policies of the company, except that a nonprofit corporation shall be construed to be a small contractor if such nonprofit corporation meets the requirements of subparagraphs (A) and (B) of subdivision 4a-60g CONN. GEN. STAT.

2) Description of Job Categories (as used in Part IV Bidder Employment Information)
MANAGEMENT: Managers plan, organize, direct, and control the major functions of an organization through subordinates who are at the managerial or supervisory level. They make policy decisions and set objectives for the company or departments. They are not usually directly involved in production or providing services. Examples include top executives, public relations managers, managers of operations specialties (such as financial, human resources, or purchasing managers), and construction and engineering managers.
BUSINESS AND FINANCIAL OPERATIONS: These occupations include managers and professionals who work with the financial aspects of the business. These occupations include accountants and auditors, purchasing agents, management analysts, labor relations specialists, and budget, credit, and financial analysts.
COMPUTER SPECIALISTS: Professionals responsible for the computer operations within a company are grouped in this category. Examples of job titles in this category include computer programmers, software engineers, database administrators, computer scientists, systems analysts, and computer support specialists
ARCHITECTURE AND ENGINEERING: Occupations related to architecture, surveying, engineering, and drafting are included in this category. Some of the job titles in this category include electrical and electronic engineers, surveyors, architects, drafters, mechanical engineers, materials engineers, mapping technicians, and civil engineers.
OFFICE AND ADMINISTRATIVE SUPPORT: All clerical-type work is included in this category. These jobs involve the preparing, transcribing, and preserving of written communications and records; collecting accounts; gathering and distributing information; operating office machines and electronic data processing equipment; and distributing mail. Job titles listed in this

category include telephone operators, payroll clerks, bill and account collectors, customer service representatives, files clerks, dispatchers, shipping clerks, secretaries and administrative assistants, computer operators, mail clerks, and stock clerks.

BUILDING AND GROUNDS CLEANING AND MAINTENANCE:
This category includes occupations involving landscaping, housekeeping, and janitorial services. Job titles found in this category include supervisors of landscaping or housekeeping, janitors, maids, grounds maintenance workers, and pest control workers.

CONSTRUCTION AND EXTRACTION: This category includes construction trades and related occupations. Job titles found in this category include boilermakers, masons (all types), carpenters, construction laborers, electricians, plumbers (and related trades), roofers, sheet metal workers, elevator installers, hazardous materials removal workers, paperhangers, and painters. Paving, surfacing, and tamping equipment operators; drywall and ceiling tile installers; and carpet, floor and tile installers and finishers are also included in this category. First line supervisors, foremen, and helpers in these trades are also grouped in this category..

INSTALLATION, MAINTENANCE AND REPAIR: Occupations involving the installation, maintenance, and repair of equipment are included in this group. Examples of job titles found here are heating, ac, and refrigeration mechanics and installers; telecommunication line installers and repairers; heavy vehicle and mobile equipment service technicians and mechanics; small engine mechanics; security and fire alarm systems installers; electric/electronic repair, industrial, utility and transportation equipment; millwrights; riggers; and manufactured building and mobile home installers. First line supervisors, foremen, and helpers for these jobs are also included in the category.

MATERIAL MOVING WORKERS: The job titles included in this group are Crane and tower operators; dredge, excavating, and lading machine operators; hoist and winch operators; industrial truck and tractor operators; cleaners of vehicles and equipment; laborers and freight, stock, and material movers, hand; machine feeders and offbearers; packers and packagers, hand; pumping station operators; refuse and recyclable material collectors; and miscellaneous material moving workers.

3) Definition of Racial and Ethnic Terms (as used in Part IV Bidder Employment Information):
White (not of Hispanic Origin)- All persons having origins in any of the original peoples of Europe, North Africa, or the Middle East.
Black (not of Hispanic Origin)- All persons having origins in any of the Black racial groups of Africa.
Hispanic- All persons of Mexican, Puerto Rican, Cuban, Central or South American, or other Spanish culture or origin, regardless of race.
Asian or Pacific Islander- All persons having origins in any of the original peoples of the Far East, Southeast Asia, the Indian subcontinent, or the Pacific Islands. This area includes China, India, Japan, Korea, the Philippine Islands, and Samoa.
American Indian or Alaskan Native- All persons having origins in any of the original peoples of North America, and who maintain cultural identification through tribal affiliation or community recognition

ARTICLE 5 CONSIDERATION OF BIDS

5.1 Every general bid which is conditional or obscure, or which contains any addition not called for shall be invalid; and the University shall reject every such general Bid. The University shall be authorized to waive minor irregularities, which it considers in its best interest, provided the reasons for any such waiver are stated in writing by the University and made a part of the contract file. No such general Bid

shall be rejected because of the failure to submit prices for, or information relating to, any item or items for which no specific space is provided in the general Proposal Form furnished by the University, but this sentence shall not be applicable to any failure to furnish prices or information required by Articles 4.2.1 and 4.4.1 above to be furnished in the form provided by the University. The University also reserves the right to reject any and all bids and again advertise for bids, or to otherwise proceed as permitted under Connecticut General Statues 10a-109a through 10a-109y.

5.2 General Bids shall be publicly opened and read by the University forthwith. The University may require in the Proposal Form that the General Contractor agree to perform a stated, minimum percentage of work with his own forces. The University may also require the General Contractor to set aside a portion of the contract for Subcontractors who are eligible for set aside contracts. The University shall not permit substitution of a Subcontractor for one named in accordance with the provisions of these Instructions or substitution of a Subcontractor for any designated subtrade work bid to be performed by the General Contractor's own forces, except for good cause. The term "good cause" includes but is not limited to a Subcontractor's or, where appropriate, a General Contractor's: (1) Death or physical disability, if the listed Subcontractor is an individual; (2) dissolution, if a corporation or partnership; (3) bankruptcy; (4) inability to furnish any performance and payment bond shown on the Proposal Form; (5) inability to obtain, or loss of, a license necessary for the performance of a particular category of work; (6) failure or inability to comply with a requirement of law applicable to Contractors, Subcontractors, on construction, alteration, or repair projects; (7) failure to perform his agreement to execute a subcontract under Connecticut General Statutes Section 4b-96.

5.3 The general Bid Price shall be the price set forth in the space provided on the general Proposal Form. No general Bid shall be rejected (1) because of error in setting forth the name of a Subcontractor as long as the Subcontractors designated are clearly identifiable, or (2) because the Drawings and specifications do not accompany the Bid or are not submitted with the Bid. **FAILURE TO CORRECTLY STATE A SUBCONTRACTOR'S PRICE MAY BE CAUSE FOR REJECTION OF THE GENERAL BIDDER'S BID.**

5.4 Any General Contractor who violates any provision of Connecticut General Statutes Section 4b-95 may be disqualified from bidding on other contracts that are subject to the provisions of Chapter 60 of the General Statutes for a period not to exceed twenty-four months, commencing from the date on which the violation is discovered, for each violation.

5.5 The University reserves the right to accept or reject any or all Bids within 90 calendar days of the Bid opening, and the Bidder agrees that it may not modify, withdraw, or cancel its Bid and that its Bid Price will be firm for this 90 day period. This 90 day period may be extended by mutual agreement between the University and the Bidder.

5.6 The project will be awarded to the responsible qualified Bidder submitting the lowest Bid in compliance with the Bid requirements and within the budget, subject to the provisions of Connecticut General Statues 10a-109a through 10a-109y.

5.7 The University reserves the right to elect to implement some, all or none of the Alternates and/or Options set forth in the Proposal forms, as may be in the best interest of the University. The low Bid shall be determined by taking the Base Price set forth in the Proposal form as selected by the University, plus the Alternates and/or Options selected by the University.

5.8 The Bidder agrees that if selected as General Contractor, he shall, within ten (10) days, Saturdays, Sundays and legal holidays excluded, after presentation thereof by the University, execute a contract in accordance with the terms of the general Bid.

ARTICLE 6 POST- BID INFORMATION

6.1 Affirmative Action

6.1.1 Pursuant to Connecticut General Statutes Section 46a-68d, if this project is estimated to cost more than $50,000.00 then: In the event that the Bidder's Bid is accepted, after acceptance, but before a contract is awarded, the successful Bidder shall file and have approved by the Commission on Human Rights and Opportunities an Affirmative Action Plan. The Commission may provide for conditional acceptance of an Affirmative Action Plan provided written assurances are given by the Contractor that it will amend its plan to conform to affirmative action requirements. The University shall withhold 2% of the total Contract Price per month from any payment made to such Contractor until such time as the Contractor has developed an Affirmative Action Plan, and received the approval of the Commission. Notwithstanding the provisions of Connecticut General Statutes Section 46a-68d, a Contractor subject to the provisions of that Section may file a plan in advance of or at the same time as its Bid.

6.1.2 The University shall not enter into a contract with any Bidder or prospective Contractor unless the Bidder or prospective Contractor has satisfactorily complied with the provisions of Sections 4a-60, 32-9e, 46a-56 and 46a-68c to 46a-68f, inclusive of the Connecticut General Statutes, or submits a program for compliance acceptable to the Commission on Human Rights and Opportunities.

6.1.3 The Contractor shall designate an "Equal Opportunity Contract Compliance Officer" for the project. The Contractor designee, in addition to any other duties assigned by the Contractor, shall have the following responsibilities for the implementation of the Contractor Affirmative Action Plan (AAP) that is required for the project pursuant to Connecticut General Statutes Section's 46a-68c and 46a-68d.

.1 Maintain a project EEO file to include all records, correspondence and other documentation related to the project AAP.

.2 Communicate to and inform all project Contractors and Subcontractors, regardless of tier, and labor referral organizations (if applicable) about project equal opportunity and AAP expectations and performance requirements.

.3 Compile all on-site Contractor MONTHLY EMPLOYMENT UTILIZATION REPORTS (form CHRO cc-257) and submit a cumulative report for the project each month to report on contractor compliance to project AAP hiring goals. The cumulative report shall be submitted to the contract awarding agency and to the Commission on Human Rights and Opportunities by the 15th day following the end of each calendar month during the pendency of the on-site construction work of the project.

.4 Attach a copy of your transmittal letter to CHRO as a document to be submitted with your invoice.

.5 Compile and submit a QUARTERLY SMALL CONTRACTOR AND MINORITY BUSINESS ENTERPRISE PAYMENT STATUS REPORT (form CHRO cc-258) to report on the participation of such Contractors identified to participate on the project. The report shall be submitted to the contract awarding agency and to the Commission on Human Rights and Opportunities by the 15th day following the end of each calendar quarter during the pendency of the on-site construction work of the project.

.6 Attach a copy of your transmittal letter to CHRO as a document to be submitted with your invoice.

.7 Participate in project job meetings to inform project Contractors about project equal opportunity and AAP performance.

.8 Coordinate "External Communication" section (employment outreach) of contractor AAP for all employment opportunities resultant during the course of the project from all project Contractors and maintain documentation of all contacts and responses.

6.2 Tax Identification

6.2.1 The Contractor shall furnish to the Owner, at the time of execution of the Contract, the following information

.1 The identity and addresses of all subcontractors performing work on the project.
.2 The Connecticut tax registration numbers of the Contractor and all subcontractors.
.3 The Federal Social Security account numbers, or Federal Employer Identification numbers, or both, if applicable, for the Contractor and all subcontractors.

6.2.2 The aforementioned information shall be continuously updated by the Contractor to reflect any additions or changes to the previously identified subcontractors. Any final additions or changes to this information shall be submitted to the Owner with the Contractor's application for final payment.

6.3 Labor Rates

6.3.1 The Contractor shall provide labor rates for trade labor work self-performed by the Contractor utilizing the labor rate form template provided by the Owner and located at the following weblink:
http://paes.uconn.edu/contractors-working-at-uconn/

ARTICLE 7 PERFORMANCE AND PAYMENT BONDS AND CERTIFICATE OF COMPLIANCE.

7.1 Performance Bond

7.1.1 Prior to execution of the Contract, the successful Bidder shall substitute for the check or Bid Bond accompanying his Bid, an executed University of Connecticut Performance Bond, in the amount of 100 per cent of the Contract Price, conditioned upon the faithful performance of the Contract. See Form of Proposal for the appropriate form to be executed.

7.2 Labor and Material Payment Bond

7.2.1 Prior to execution of the Contract, the Bidder shall submit a University of Connecticut Labor and Material Payment Bond in the sum of not less than 100 per cent of the Contract Price, containing the condition that the Contractor will promptly pay for all material furnished and labor, supplied or performed in the prosecution of the work whether or not said material or labor is involved and/or becomes a component part of the structure or structures to be erected. Such additional bond shall be held for the use of each party who, as Subcontractor or otherwise, shall have furnished material or supplies or shall have performed labor in the prosecution of the work as herein provided and who has not been paid therefore. Such additional bond shall provide specifically that any person may bring suit thereon in the name of the person suing, prosecute the same to the final judgment and have execution thereon for such sum or sums as may be justly due. The State shall not be liable to furnish counsel nor for the payment of any costs or expenses of any such suit. This bond is to be furnished pursuant to Section 49-41 of the General Statutes of Connecticut, and claims thereon shall be subject to the provisions of Connecticut General Statutes Section 49-42. Such forms will be provided with the Letter of Intent to award to be executed.

7.3 Nonresident Contractor Certificate of Compliance

7.3.1 Prior to execution of the Contract, the Bidder shall submit proof that ensures they and all subcontractors being contracted to perform work under the awarded bid; are State of Connecticut resident contractors. Such proof shall be in a form on the awarding Contractor's letter head signed by the owner or principle of the company having authority to ensure that all agreements entered into under this contract are in-state resident contractors. Should the awarding Contractor and/or subcontractors who will perform work under this contract, are nonresident of the State of Connecticut, the awarding Contractor must provide a Certificate of Compliance from the Department of Revenue Services (DRS) for those nonresident firms who will be under contract. This Certificate of Compliance is pursuant to Statue 12-430 as amended by 2005 Connecticut Public Acts 260, 6; Connecticut Agencies Regulations 12-430 (7)-1.

7.4 General Provisions Regarding Bonds

7.4.1 The aforementioned Performance and Payment bonds shall be provided in the forms required by the University, samples of which are appended hereto. If the Contractor is a Joint Venture, all such bonds shall name all joint ventures as principals. The Contractor shall require the attorney-in-fact who executes the required bonds on behalf of the surety to affix thereto a certified and current copy of the power of attorney. The above bonds shall be required for awards for which the total estimated cost of labor and materials under the Contract is at least $100,000.00. The above bonds shall be acceptable to the University and, as a minimum, issued through a bonding company licensed to transact such business in the State of Connecticut and named on the current list of "Surety Companies Acceptable on Federal Bonds" as published in the "Treasury Department Circular 570."

ARTICLE 8 AFFIDAVITS/ETHICS AFFIRMATIONS

8.1 Affidavits/Ethics Affirmations to be completed in accordance with the instructions provided on the OPM website for each Affidavits/Ethics Affirmations.

Form 5. Consulting Agreement Affidavit (for contract values >$50,000)

Form 6. Affirmation of Receipt of State Ethics Laws Summary (for contract values >$500,000)

8.2 With regard to a State contract as defined in P.A. 07-1 having a value in a calendar year of $50,000 or more or a combination of series of such agreements or contracts having a value of $100,000 or more, the authorized signatory to this submission in response to the State's solicitation expressly state contractors of state campaign contribution and solicitation prohibitions, and will inform its principals of the contents of the notice. See attached **SEEC Form 11.**

Obtain OPM has posted the approved Forms on the OPM Web site - http://www.opm.state.ct.us/secr/forms/ContractAffidavitRequirements.htm

ARTICLE 9 CONTRACT

9.1 A draft of the contract has been provided with the bid documents. The University reserves the right to modify the contract or wave any informality as it deems to be in the best interest of the University. By submitting a bid the Contractor accepts the contract and any modifications that the University deems necessary to it without exception. Exceptions to the contract submitted by the Contractor at any time will not be considered.

UNIVERSITY OF CONNECTICUT
GELFENBIEN PATIO LANDSCAPING IMPROVEMENTS
PROJECT NUMBER: 300081

REQUEST FOR INFORMATION FORM

TO: **Cesar Alonzo**
cesar.alonzo@uconn.edu

FROM: _____
(Name of Bidding Firm)

Contact Name: _____

RFI Deadline: 3/27/2019 by 2:00PM

Phone # :_____ **Fax #** :_____

Specification Section: _____

Drawing No. / Drawing Date: _____

QUESTION (Please be specific): _____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

Signature: _____ **Date:** _____

NOTE: All questions must be submitted in writing before the prescribed RFI Deadline. No verbal questions will be answered. All questions must be submitted in writing on this RFI Form. All answers to RFI's will be issued in a Bidder's Clarification.

STATE OF CONNECTICUT
STATE ELECTIONS ENFORCEMENT COMMISSION
20 Trinity Street Hartford, Connecticut 06106—1628

SEEC FORM 11

NOTICE TO EXECUTIVE BRANCH STATE CONTRACTORS AND PROSPECTIVE STATE CONTRACTORS OF CAMPAIGN CONTRIBUTION AND SOLICITATION BAN

This notice is provided under the authority of Connecticut General Statutes 9-612(g)(2), as amended by P.A. 07-1, and is for the purpose of informing state contractors and prospective state contractors of the following law (italicized words are defined below):

Campaign Contribution and Solicitation Ban
No *state contractor, prospective state contractor, principal of a state contractor or principal of a prospective state contractor*, with regard to a *state contract* or *state contract solicitation* with or from a state agency in the executive branch or a quasi-public agency or a holder, or principal of a holder of a valid prequalification certificate, shall make a contribution to, or *solicit* contributions on behalf of (i) an exploratory committee or candidate committee established by a candidate for nomination or election to the office of Governor, Lieutenant Governor, Attorney General, State Comptroller, Secretary of the State or State Treasurer, (ii) a political committee authorized to make contributions or expenditures to or for the benefit of such candidates, or (iii) a party committee;

In addition, no holder or principal of a holder of a valid prequalification certificate, shall make a contribution to, or solicit contributions on behalf of (i) an exploratory committee or candidate committee established by a candidate for nomination or election to the office of State senator or State representative, (ii) a political committee authorized to make contributions or expenditures to or for the benefit of such candidates, or (iii) a party committee.

Duty to Inform
State contractors and prospective state contractors are required to inform their principals of the above prohibitions, as applicable, and the possible penalties and other consequences of any violation thereof.

Penalties for Violations
Contributions or solicitations of contributions made in violation of the above prohibitions may result in the following civil and criminal penalties:
Civil penalties--$2000 or twice the amount of the prohibited contribution, whichever is greater, against a principal or a contractor. Any state contractor or prospective state contractor which fails to make reasonable efforts to comply with the provisions requiring notice to its principals of these prohibitions and the possible consequences of their violations may also be subject to civil penalties of $2000 or twice the amount of the prohibited contributions made by their principals.
Criminal penalties—Any knowing and willful violation of the prohibition is a Class D felony, which may subject the violator to imprisonment of not more than 5 years, or $5000 in fines, or both.

Contract Consequences
Contributions made or solicited in violation of the above prohibitions may result, in the case of a state contractor, in the contract being voided.

Contributions made or solicited in violation of the above prohibitions, in the case of a prospective state contractor, shall result in the contract described in the state contract solicitation not being awarded to the prospective state contractor, unless the State Elections Enforcement Commission determines that mitigating circumstances exist concerning such violation.

The State will not award any other state contract to anyone found in violation of the above prohibitions for a period of one year after the election for which such contribution is made or solicited, unless the State Elections Enforcement Commission determines that mitigating circumstances exist concerning such violation.

Additional information and the entire text of P.A 07-1 may be found on the website of the State Elections Enforcement Commission, www.ct.gov/seec. Click on the link to "State Contractor Contribution Ban."

Definitions:

"State contractor" means a person, business entity or nonprofit organization that enters into a state contract. Such person, business entity or nonprofit organization shall be deemed to be a state contractor until December thirty-first of the year in which such contract terminates. "State contractor" does not include a municipality or any other political subdivision of the state, including any entities or associations duly created by the municipality or political subdivision exclusively amongst themselves to further any purpose authorized by statute or charter, or an employee in the executive or legislative branch of state government or a quasi-public agency, whether in the classified or unclassified service and full or part-time, and only in such person's capacity as a state or quasi-public agency employee.

"Prospective state contractor" means a person, business entity or nonprofit organization that (i) submits a response to a state contract solicitation by the state, a state agency or a quasi-public agency, or a proposal in response to a request for proposals by the state, a state agency or a quasi-public agency, until the contract has been entered into, or (ii) holds a valid prequalification certificate issued by the Commissioner of Administrative Services under section 4a-100. "Prospective state contractor" does not include a municipality or any other political subdivision of the state, including any entities or associations duly created by the municipality or political subdivision exclusively amongst themselves to further any purpose authorized by statute or charter, or an employee in the executive or legislative branch of state government or a quasi-public agency, whether in the classified or unclassified service and full or part-time, and only in such person's capacity as a state or quasi-public agency employee.

"Principal of a state contractor or prospective state contractor" means (i) any individual who is a member of the board of directors of, or has an ownership interest of five per cent or more in, a state contractor or prospective state contractor, which is a business entity, except for an individual who is a member of the board of directors of a nonprofit organization**,** (ii) an individual who is employed by a state contractor or prospective state contractor, which is a business entity, as president, treasurer or executive vice president, (iii) an individual who is the chief executive officer of a state contractor or prospective state contractor, which is not a business entity, or if a state contractor or prospective state contractor has no such officer, then the officer who duly possesses comparable powers and duties, (iv) an officer or an employee of any state contractor or prospective state contractor who has *managerial or discretionary responsibilities with respect to a state contract,* (v) the spouse or a *dependent child* who is eighteen years of age or older of an individual described in this subparagraph, or (vi) a political committee established or controlled by an individual described in this subparagraph or the business entity or nonprofit organization that is the state contractor or prospective state contractor.

"State contract" means an agreement or contract with the state or any state agency or any quasi-public agency, let through a procurement process or otherwise, having a value of fifty thousand dollars or more, or a combination or series of such agreements or contracts having a value of one hundred thousand dollars or more in a calendar year, for (i) the rendition of services, (ii) the furnishing of any goods, material, supplies, equipment or any items of any kind, (iii) the construction, alteration or repair of any public building or public work, (iv) the acquisition, sale or lease of any land or building, (v) a licensing arrangement, or (vi) a grant, loan or loan guarantee. "State contract" does not include any agreement or contract with the state, any state agency or any quasi-public agency that is exclusively federally funded, an education loan or a loan to an individual for other than commercial purposes.

"State contract solicitation" means a request by a state agency or quasi-public agency, in whatever form issued, including, but not limited to, an invitation to bid, request for proposals, request for information or request for quotes, inviting bids, quotes or other types of submittals, through a competitive procurement process or another process authorized by law waiving competitive procurement.

"Managerial or discretionary responsibilities with respect to a state contract" means having direct, extensive and substantive responsibilities with respect to the negotiation of the state contract and not peripheral, clerical or ministerial responsibilities.

"Dependent child" means a child residing in an individual's household who may legally be claimed as a dependent on the federal income tax of such individual.

"Solicit" means (A) requesting that a contribution be made, (B) participating in any fund-raising activities for a candidate committee, exploratory committee, political committee or party committee, including, but not limited to, forwarding tickets to potential contributors, receiving contributions for transmission to any such committee or bundling contributions, (C) serving as chairperson, treasurer or deputy treasurer of any such committee, or (D) establishing a political committee for the sole purpose of soliciting or receiving contributions for any committee. Solicit does not include: (i) making a contribution that is otherwise permitted by Chapter 155 of the Connecticut General Statutes; (ii) informing any person of a position taken by a candidate for public office or a public official, (iii) notifying the person of any activities of, or contact information for, any candidate for public office; or (iv) serving as a member in any party committee or as an officer of such committee that is not otherwise prohibited in this section.

END OF INSTRUCTION TO BIDDERS

UCONN

PROCUREMENT SERVICES

CAPITAL PROJECTS AND
FACILITIES PROCUREMENT

BID SUBMISSION

FOR

GELFENBIEN PATIO LANDSCAPING IMPROVEMENTS

PROJECT NUMBER: 300081

UNIVERSITY OF CONNECTICUT
STORRS CAMPUS
Storrs, Connecticut

April 4, 2019

NAME OF FIRM SUBMITTING:

_____

UNIVERSITY OF CONNECTICUT
GELFENBIEN PATIO LANDSCAPING IMPROVEMENTS
PROJECT NUMBER: 300081

FORM OF PROPOSAL

Proposal Submission Checklist

The following documents and information shall be submitted and included as your bid proposal. All documents must be submitted in a sealed envelope reflecting the submitting firm's name and address; addressed to CPFP attention to the appropriate purchasing agent, clearly stating the project name and project number. All required documents are to be included and executed in their original condition as issued.

- ☐ Ethics Forms 5 (if contract value is > $50,000) and 6 (if contract value is > $500,000).
- ☐ Bid Bond
- ☐ Fully executed Form of Proposal
- ☐ Copies of prequalification certificate and an updated statement as prescribed by Commissioner of Administrative Services for the State of Connecticut.

Contractors Certification

By submitting a bid proposal, the bidder is attesting to the review, reading, understanding, and acceptance of the information and requirements of the project contained within the bid documents without exception. By submitting a bid proposal, the Bidder represents that they have examined the site, and accept the conditions under which the work will be performed and we have read, evaluated, understand, and accepted all the Contract Documents, including those documents provided and their content in their entirety and have included all provisions necessary to accomplish all work according to the information and requirements prescribed therein without exception.

SUBMITTED BY:
Firm: _____ Date: _____

Address: _____

SUBMITTED BY: _____

Print Name: _____

Title: _____

Email Address: _____

Phone Number: _____

Contractor's Initials:_____

FORM OF PROPOSAL

University of Connecticut
Cesar Alonzo, Procurement Services
Capital Project & Facilities Procurement
3 Discovery Drive, Unit 6047
Storrs, Connecticut 06269-6047

Dear Mr. Alonzo:

1. In accordance with Connecticut General Statutes Sections 10a-109a through 10a-109y and pursuant to, and in compliance with your Invitation to Bid, the Notice and Instructions to Bidders, the Form of Contract, including the conditions thereto, the form of required bond, I (we) propose to furnish the labor and/or materials installed as required for the project named and numbered on the FORM OF PROPOSAL of this proposal to the extent of the Proposal submitted herein, furnishing all necessary equipment, machinery, tools, labor and other means of construction, and all materials specified in the manner and at the time prescribed strictly in accordance with the provisions of the Contract including specifications and/or drawings together with all addenda issued and received prior to the scheduled closing time for the receipt of the bids, and in conformity with requirements of the University of Connecticut and any laws or departmental regulations of the State of Connecticut or of the United States which may affect the same, for and in consideration of the price(s) stated on the said FORM OF PROPOSAL, hereof.

2. The Lump Sum Base Bid by me (us) on the FORM OF PROPOSAL includes all work indicated on the drawings and/or described in the specifications (including the furnishing and installing of all required materials, labor, equipment and allowances where applicable), except:

   A. Work covered by Alternates as may be listed on the FORM OF PROPOSAL.

   B. Contingent work covered by Unit Prices as may be listed on the FORM OF PROPOSAL.

   C. Work covered by Options as may be listed on the FORM OF PROPOSAL.

3. This proposal is submitted subject to and in compliance with the foregoing and following conditions and/or information.

   A. AWARD: All proposals shall be subject to the provisions and requirements of the Bid Documents and for purpose of award, consideration shall be given only to proposals submitted by qualified and responsible bidders.

   B. COMMENCEMENT AND COMPLETION OF WORK: Contractor shall commence and complete the work in accordance with the requirements of the Contract Documents.

   C. If the Contractor fails to complete the work within the time required by the Contract Documents, the University shall have the right to assess liquidated damages as provided in Paragraph 9.11 of the General Conditions.

   D. CONTRACTORS INSURANCE REQUIRED:
      1. The limits of liability and coverages shall be those set forth in Article 11 of the General Conditions included with this bid package (or as previously executed with the on-call trade contract).

 Contractor's Initials:_____

E. REQUIRED PERCENTAGES OF WORK AND SET-ASIDES

.1 If awarded this contract, we (I) as the General Contractor on this Project shall be required to perform not less than 10% of the completed dollar value of the Work with its own forces.

.2 We (I) as the General Contractor on this project shall award not less than 30% of the total Contract Price to subcontractors who are certified and eligible to participate under the State of Connecticut Small Business Set Aside Program, of which 10% (of the total Contract) must be awarded to Women Owned or Minority Businesses. This requirement must be met even if the General Contractor is certified and eligible to participate in the Small Business Set Aside Program. To facilitate compliance with this requirement for set aside subcontractors, submit a list of certified set aside contractors to be used on this project along with the dollar amounts to be paid to each, on the form provided, and a copy of their current certification must be attached. This information will be considered as part of your bid proposal and failure to comply with any portion of this requirement, including but not limited to failure to list or meet the necessary dollar amount of percentage of the bid price will be cause to reject your bid.

F. NONDISCRIMINATION & LABOR RECRUITMENT:

We (I) agree that the Contract awarded for this project shall be subject to the Executive Orders No. Three and Seventeen, promulgated June 16, 1971 and February 15, 1973 respectively and to the Guidelines and Rules of the State Labor Department implementing Executive Order No. Three and further agree to submit reports of Compliance Staffing on Labor Department Form E.O.3-1, when and as requested.

G. FEDERAL & STATE WAGE DETERMINATIONS AND PRICING CONSIDERATION:

.1 Each contractor who is awarded a contract on or after October 1, 2002 shall be subject to provisions of the Connecticut General Statutes, Section 31-53 as amended by Public Act 02-69, “An Act Concerning Annual Adjustments to Prevailing Wages”.

.2 In determining bid price, consideration should be given to Section 31-53 of the General Statutes of Connecticut as amended by Public Act 02-69, “An Act Concerning Annual Adjustments to Prevailing Wages”. Such prevailing wage adjustment will not be considered a basis for an annual contract adjustment.

.3 The State of Connecticut Labor Department Wage Schedule where required, shall be provided with these documents, typically with the Bidders’ Convenience Package, or will be incorporated in the Contract Documents as an Addendum. At the time of bidding, the bidder agrees to accept the current prevailing wage scale, as well as any annual adjustment to the prevailing wage scale, as provided by the Connecticut Department of Labor. Wage Rages will be posted each July 1st on the Department of Labor website: www.ctdol.state.ct.us . Such prevailing wage adjustment will not be considered a basis for an annual contract amendment.

H. CERTIFICATION OF BIDDER REGARDING EQUAL EMPLOYMENT OPPORTUNITY & NON-SEGREGATED FACILITIES:

We (I) acknowledge that we (I) and our subcontractors are obligated to fill out the forms provided by the University of Connecticut Office of Capital Project and Facilities Procurement and to agree to certify to the compliance of non-segregated facilities.

I. NOTICE TO EXECUTIVE BRANCH STATE CONTRACTORS AND PROSPECTIVE STATE CONTRACTORS OR CAMPAIGN CONTRIBUTION AND SOLICITATION BAN.

With regard to a State contract as defined in P.A. 07-1 having a value in a contract year of $50,000 or more or a combination or series of such agreements or contracts having a value of $100,000 or more, the authorized signatory to this submission in response to the State's solicitation expressly acknowledges receipt of the State Elections Enforcement Commission's notice advertising prospective principals of the contents of the notice. See Attachment SEEC Form 11.

4. ACCOMPANYING THIS PROPOSAL IS:

A. A CERTIFIED CHECK drawn to the order of the University of Connecticut in the amount of 10% of the Bid, i.e.:

_____ DOLLARS $_____

and drawn on the _____
(STATE BANK & TRUST COMPANY)

_____ located at _____
(A NATIONAL BANKING ASSOCIATION) (CITY & STATE)

which is understood shall be cashed and the proceeds thereof used so far as may be necessary to reimburse the State of Connecticut for losses and damages arising by virtue of my (our) failure to file the required Bonds and execute the required contract in this proposal as accepted by the University of Connecticut.

OR;

B. A BID BOND having as surety thereto a Surety Company for Companies authorized to transact business in the State of Connecticut and made out in the penal sum of 10% of the bid, (Bids $50,000 and greater) i.e.:

_____ DOLLARS $_____

If the bidder is a joint venture, the Bid Bond shall specifically identify and include each joint venturer as a principal.

C. If the bidder is a joint venture, a copy of the executed Joint Venture Agreement shall be submitted along with the bid materials.

5. We (I), the undersigned, hereby declare that I am (we are) the only person(s) interested in the proposal and that it is without any connection with any other person making any bid for the same work. No person acting for, or employed by, the State of Connecticut is directly interested in this proposal, or in any contract which may be made under it, or in expected profits to arise therefrom. This proposal is made without directly or indirectly influencing or attempting to influence any other person or corporation to bid or refrain from bidding or to influence the amount of the bid of any other person or corporation. This proposal is made in good faith without collusion or connection with any other person bidding for the same

work and this proposal is made with distinct reference and relation to the plans and specifications prepared for this Contract. I (We) further declare that in regard to the conditions affecting the work to be done and the labor and materials needed, this proposal is based solely on my (our) investigation and research and not in reliance upon any representations of any employee, officer or agent of the State.

6. Each class of work set forth in a separate Section of the Specifications and designated as a subtrade in Item 2A of the proposal pages shall be the matter of a subcontract made in accordance with the procedures set forth in the Bid and Contract Documents.

7. The undersigned agrees that, if selected as General Contractor, he shall, within ten (10) days, Saturdays, Sundays and legal holidays excluded, after presentation thereof by the University of Connecticut, execute a contract in accordance with the terms of this general bid.

8. The undersigned agrees and warrants that he has made good faith efforts to employ minority business enterprises as subcontractors and suppliers of materials under such contract and shall provide the Commission on Human Rights and Opportunities with such information as is requested by the Commission concerning his employment practices and procedures as they relate to the provisions of the Connecticut General Statutes governing contract requirements.

9. The undersigned acknowledges that should their submitted Form of Proposal fail to have included a copy of your firm's prequalification certificate and an updated statement accompany their bid submission, that their bid will be invalid and considered non-responsive. Per CGS 4b-91 amended.

Contractor's Initials:_____

A. STANDARD BID BOND:

NOW ALL MEN BY THESE PRESENTS,

That we, _____ hereinafter called the principal, of _____, as principal, and _____, hereinafter called the Surety, a corporation organized and existing under the laws of the State of _____, and duly authorized to transact a surety business in the State of Connecticut, as Surety, are held and firmly bound unto the State of Connecticut, as obligee, in the penal sum of ten (10) percent of the amount of the bid set forth in a proposal hereinafter mentioned, _____, in lawful money of the United States of America, for the payment of which sum, well and truly to be made to the Obligee, the Principal and the Surety bind, themselves, their heirs, executors, administrators, successors and assigns, jointly and severally, firmly by these presents.

THE CONDITION OF THIS OBLIGATION IS SUCH,

That, whereas the Principal has submitted or is about to submit a proposal the other obligee related to a contract for the Project Referenced above.

NOW, THEREFORE, if the said contract be awarded to the Principal and the Principal shall, within such time as may be specified, enter in the said contract in writing with the State of Connecticut and give the required bonds, with surety acceptable to the Obligee, or if the Principal shall fail to do so, pay to Obligee the damages which the Obligee may suffer by reason of such failure not exceeding the penal sum of this bond, then this obligation shall be void, otherwise to remain in full force and effect.

SIGNED, SEALED AND DATED this _____ day of _____, 20___

_____	_____	_____	_____
Witness	Surety	Witness	Principal
	_____		_____
	Title		Title

FORM OF PROPOSAL

B. The undersigned proposes to furnish all labor and material required for:

STAMFORD CLASSROOM 220 RENOVATION
PROJECT NUMBER: FO500032

University of Connecticut
Stamford, CT

In accordance with the accompanying Drawings and Specifications prepared by:

BL COMPANIES

The Contract Price specified below subject to additions and deductions according to the terms of the Contract Documents.

C. BID CLARIFICATIONS:

The undersigned acknowledges receipt of the following Bid Clarifications issued during the bidding period and has included all changes therein in the above base bid amount.

Clarifications/Addenda #_____, Dated_____
Clarifications/Addenda #_____, Dated_____
Clarifications/Addenda #_____, Dated_____
Clarifications/Addenda #_____, Dated_____

D. PROPOSED BASE CONTRACT PRICE:

Having carefully examined the Bid Documents for the above reference project, and having visited the project site and examined all conditions affecting the work, the undersigned, upon written notice of award of contract, agrees to provide all labor, supervision, materials, tools, construction equipment, services, safety, insurance, bonds, and to pay all applicable taxes, and other costs necessary or required to complete the Work of this Bid in full accordance with all Bid Documents and within the required timeframe as indicated by the proposed schedule for the Lump Sum Bid of:

_____US Dollars

($_____) (Which incorporates all allowances as may be listed in the plans and specifications)

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

The University reserves the right to elect to implement some, all or none of the Alternates and/or Options set forth in the Proposal forms, as may be in the best interest of the University. The low Bid shall be determined by taking the Base Price set forth in the Proposal form as selected by the University, plus the Alternates and/or Options selected by the University.

E. SCHEDULE OF ALTERNATES:

Provide Alternate Prices which reflect the work of the bid package under which this bid proposal was submitted and shall remain valid for the life of the project and include all costs for a complete installation. All pricing is inclusive of all costs of wages, applicable taxes, benefits, and applicable insurance. The Prices herein shall remain valid for the life of the project and include all costs for a complete installation. Alternate prices are good for both adds and deducts.

Alternate No. 1: Deduction for Seeded Lawn Areas

1. Base Bid: Within the project area, provide sodded lawn for all new and replaced lawn areas.
2. Alternate: Within the project area provide seeded lawns in lieu of sod for all new and replaced lawn areas.
3. Add/Deduct (circle one): $_____

END OF ALTERNATES

F. SCHEDULE OF UNIT PRICES:

All rates are inclusive of all costs of wages, applicable taxes, benefits, applicable insurance. The rates provided will be negotiated and included as part of the contract and of your subcontracts. The Unit Prices herein shall remain valid for the life of the project and include all costs for a complete installation. Unit prices are good for both adds and deducts.

A. Unit Price 1: Removal of unsatisfactory soil and replacement with satisfactory soil material.

1. Description: Unsatisfactory soil excavation and disposal off site and replacement with satisfactory fill material or structural fill from off site, as required, according to Division 31-0000 Section "Earthwork."
2. Unit of Measurement: Cubic yard of soil excavated, based on survey of volume removed.
3. Quantity Allowance: Coordinate unit price with allowance adjustment requirements in Division 01 Section "Allowances."
4. Price: $_____

B. Unit Price No. 2: Rock excavation and replacement with satisfactory soil material.

1. Description: Classified rock excavation and disposal off site and replacement with satisfactory fill material or engineered fill from off site, as required, according to Division 31-000 Section "Earthwork."
2. Unit of Measurement: Cubic yard of rock excavated, based on survey of volume removed.
3. Price: $_____

C. Unit Price No. 3 - Turf Restoration:

1. Description: Install seeding according to according to Division 32-9200 Section "Turf and Grasses."
2. Unit of Measurement: square foot.
3. Price: $_____

D. Unit Price No. 4 – Standard Duty Concrete Sidewalk:

1. Description: Install additional concrete sidewalk paving (including base preparation and aggregates) as shown on the drawings and according to Division 32-1312 Section "Concrete Paving."
2. Unit of Measurement: square foot.
3. Price: $_____

E. Unit Price No. 5 – Permeable pavement:

1. Description: Install permeable pavement according to Division 32-1416 Section "Permeable Paving."
2. Unit of Measurement: square foot.
3. Price: $_____

F. Unit Price No. 6 – Sodded Lawn:

1. Description: Install sodded lawn according to Division 32-92600 Section "Turf and Grasses."
2. Unit of Measurement: square foot.
3. Price: $_____

G. Unit Price No. 7 – Seeded Lawn:

1. Description: Install seeded lawn according to Division 32-92600 Section "Turf and Grasses."
2. Unit of Measurement: square foot.
3. Price: $_____

End of Unit Prices

G. SCHEDULE OF VALUES:

The undersigned agrees that the Schedule of Values submitted with this Bid is a true representation of the distribution of the costs of this project and equals the Stipulated Sum shown above. The Schedule of Values is an integral part of this proposal. Please indicate N/A for those divisions of work not applicable. The costs provided below include the complete cost for furnishing and installing of materials, labor, and equipment required to provide the complete scope of work for each specified division (includes the costs of applicable taxes, insurance, bonds, overhead, profit, small tools, travel, parking, supervision, etc.). The "TOTAL" price must equal your total lump sum bid proposal.

Division	Group	
01	General Requirements	**$**
02	Existing Conditions	**$**
03	Concrete	**$**
31	Earthwork	**$**
32	Exterior Improvements	**$**
Insurance		**$**
Bonds		**$**
Allowance #1	100 cu. yd. of unsatisfactory soil excavation, disposal off-site and replacement with satisfactory soil	**$**
Allowance #2	Value-Cost Allowance for background checks and badging	**$ 2,000.00**
Allowance #3	Value-Cost Allowance for imported bulk water for landscape watering	**$ 3,000.00**
TOTAL		**$**

Contractor's Initials:_____

H. The subdivision of Work in the proposed Contract Price is as follows:

ITEM 1 WORK BY GENERAL CONTRACTOR:
For all work other than that to be done by subcontractors included in Item 2A and Item 2B.

$_____(ITEM 1)

Note: In accordance with paragraph 3.E.1 this amount, together with work by the general contractor as listed in Item 2A below, must be at least 10% of the total bid price.

ITEM 2A WORK BY SUBCONTRACTORS NAMED:

Subcontractors and prices for the following trades must be listed (if such prices exceed $25,000). However, the general bidder may list himself together with his price if he customarily performs any of the trades specified. If the general contractor requires a performance and/or labor & material payment bond then the general contractor must indicate below which of the subcontractors are subject to this requirement. The amount (%) shall not exceed the subcontractor's price listed below.

DESCRIPTION	NAME OF SUBCONTACTOR	DOLLAR AMOUNT	LABOR & MATERIAL BOND	PERFORMANCE BOND
MASONRY				
ELECTRICAL				
MECHANICAL WITHOUT HVAC				
HVAC				

A copy of the executed agreement between the successful bidder and the named subcontractors above must be presented to the Office of CPFP at time of contract signing. The contract may not be executed until copies of executed agreements are received by CPFP.

ITEM 2B WORK BY SUBCONTRACTORS NOT NAMED:

$_____
(INCLUDES ALL SUBCONTRACT WORK NOT LISTED IN ITEM 2A)

The undersigned agrees that each of the subcontractors listed on this FORM OF PROPOSAL will be used for the work indicated at the amount stated, unless a substitution is permitted by the University.

FORM OF PROPOSAL

I. SET-ASIDE CONTRACTOR SCHEDULE

By submitting a bid for this project, the bidder represents that it has used good faith efforts to secure commitments from SBEs and MBEs in a value that is equal to, or greater than, the Set Aside (as defined in the Invitation to Bid). If, despite its good faith efforts, a bidder has not yet been able to secure commitments for the full value of the Set Aside, the bidder will nonetheless be expected to meet the Set Aside if it is awarded the contract for this project

Below, the bidder shall list those SBEs and MBEs from whom the bidder has secured commitments for the project as of the date hereof and the dollar amounts the bidder anticipates awarding to each such SBE/MBE.
The amount is NOT LESS THAN 30% of the proposed base contract price as stated on the Form of Proposal, Section D.

Name	Address	Amount

CERTIFICATE OF ELIGIBILIT HAS BEEN OBTAINED THROUGH THE FOLLOWING WEBSITE;
https://www.biznet.ct.gov/SupplierDiversity/SDSearch.aspx

FOR EACH OF THE NAMED CONTRACTORS AND IS BEING SUBMITTED WITH THIS FORM.
The Undersigned agrees that each of the subcontractors listed on the proposal form will be used for the work indicated at the amount stated, unless a substitution is permitted by the awarding authority.

_____ _____
Authorized Signature Title

_____
Company Name

J. BIDDER CONTRACT COMPLIANCE MONITORING REPORT

PART I - Bidder Information

<table>
<tr><td>Company Name
Street Address
City & State
Chief Executive</td><td>Bidder Federal Employer
Identification Number_____
Or
Social Security Number_____</td></tr>
<tr><td>Major Business Activity
(brief description)</td><td rowspan="3">Bidder Identification
(response optional/definitions in Instruction to Bidders page 18)

-Bidder is a small contractor. Yes__ No__

-Bidder is a minority business enterprise Yes__ No__
(If yes, check ownership category)

Black___ Hispanic___ Asian American___ American Indian/Alaskan Native ____
Iberian Peninsula___
Individual(s) with a Physical Disability___
Female___
-Bidder is certified as above by State of CT
Yes__ No__ -
DAS Certification Number
_____</td></tr>
<tr><td>Bidder Parent Company(If any)</td></tr>
<tr><td>Other Locations in Ct. (If any)</td></tr>
</table>

PART II - Bidder Nondiscrimination Policies and Procedures

1. Does your company have a written Affirmative Action/Equal Employment Opportunity statement posted on company bulletin boards? Yes__ No__	7. Do all of your company contracts and purchase orders contain non-discrimination statements as required by Sections 4a-60 & 4a-60a Conn. Gen. Stat.? Yes__ No__
2. Does your company have the state-mandated sexual harassment prevention in the workplace policy posted on company bulletin boards? Yes__ No__	8. Do you, upon request, provide reasonable accommodation to employees, or applicants for employment, who have physical or mental disability? Yes__ No__
3. Do you notify all recruitment sources in writing of your company's Affirmative Action/Equal Employment Opportunity employment policy? Yes__ No__	9. Does your company have a mandatory retirement age for all employees? Yes__ No__
4. Do your company advertisements contain a written statement that you are an Affirmative Action/Equal Opportunity Employer? Yes__ No__	10. If your company has 50 or more employees, have you provided at least two (2) hours of sexual harassment training to all of your supervisors? Yes__ No__ NA__
5. Do you notify the Ct. State Employment Service of all employment openings with your company? Yes__ No__	11. If your company has apprenticeship programs, do they meet the Affirmative Action/Equal Employment Opportunity requirements of the apprenticeship standards of the Ct. Dept. of Labor? Yes__ No__ NA__
6. Does your company have a collective bargaining agreement with workers? Yes__ No__ 6a. If yes, do the collective bargaining agreements contain non-discrimination clauses covering all workers? Yes__ No__ 6b. Have you notified each union in writing of your commitments under the nondiscrimination requirements of contracts with the state of Ct? Yes__ No__	12. Does your company have a written affirmative action Plan? If no, please explain. Yes__ No__ 13. Is there a person in your company who is responsible for equal employment opportunity? Yes__ No__ If yes, give name and phone number. _____ _____ _____

Part III - Bidder Subcontracting Practices

1. Will the work of this contract include subcontractors or suppliers? Yes__ No__

1a. If yes, please list all subcontractors and suppliers and report if they are a small contractor and/or a minority business enterprise as defined on page 1 / use additional sheet if necessary)

1b. Will the work of this contract require additional subcontractors or suppliers other than those identified in 1a? Yes__ No__

Part IV – Bidder Employment Information Date:

JOB CATEGORY	OVERALL TOTALS	WHITE (not of Hispanic origin)		BLACK (not of Hispanic origin)		HISPANIC		ASIAN or PACIFIC ISLANDER		AMERICAN INDIAN or ALASKAN NATIVE	
		Male	Female	Male	Female	Male	Female	Male	Female	Male	Female
Management											
Business & Financial Ops											
Computer Specialists											
Architecture/Engineering											
Office & Admin Support											
Bldg/ Grounds Cleaning/Maintenance											
Construction & Extraction											
Installation , Maintenance & Repair											
Material Moving Workers											
TOTALS ABOVE											
Total One Year Ago											
FORMAL ON THE JOB TRAINEES	(ENTER FIGURES FOR THE SAME CATEGORIES AS ARE SHOWN ABOVE)										
Apprentices											
Trainees											

PART V - Bidder Hiring and Recruitment Practices

1. Which of the following recruitment sources are used by you? (check yes or not and report percent used)				2. Check (x) any of the below listed requirements that you use as a hiring qualification		3. Describe below any other practices or actions that you take which show that you hire, train, and promote employees without discrimination?
SOURCE	YES	NO	% of applicants provided by source	(x)		
State Employment Service					Work Experience	
Private Employment Agencies					Ability To Speak Or Write English	
Schools And Colleges					Written Tests	
Newspaper Advertisements					High School Diploma	
Walk Ins					College Degree	
Present Employees					Union Membership	
Labor Organizations					Personal Recommendations	
Minority/Community Organizations					Height Or Weight	
Others Please Identify					Car Ownership	
					Arrest Record	
					Wage Garnishments	

Certification (Read this form and check your statements on it CAREFULLY before signing).
I certify that the statements made by me on this BIDDER CONTRACT COMPLIANCE MONITORING REPORT are complete and true to the best of my knowledge and belief, and are made in good faith. I understand that if I knowingly make any misstatements of facts, I am subject to be declared in non-compliance with Section 4a-60, 4a-60a, and related sections of the CONN. GEN. SAT.

Signature) (Date Signed)

_____

(Title) (Telephone)

K. PROPOSER'S QUALIFICATION/RESPONSIBILITY STATEMENT

The Proposer shall have already completed and submitted the Questionnaire and other submission required by the University in its Invitation to Pre-Qualify, regarding the Proposer's qualifications. If changed circumstances arising since the initial submission, or other facts have occurred which would result in a material change to any of the Proposer's initial responses or submissions, the Proposer shall provide any such supplementary, or revised information at this time, along with its Proposal.

1. State, identify any such changed circumstances or other facts and provide any such supplementary or revised information as described above, identifying specifically, by number and content, each prior question, response to the Questionnaire, or information changed, supplemented or revised. (Attach a separate sheet if necessary)

2. State "NONE" if there are no changes to be made. _____

Please note that if the end date of the time period covered by the information submitted during your pre-qualification is three or more months old, please provide current financial documentation demonstrating that your present financial position has remained the same, or showing and identifying any changes in any way, in relation to the audited financial statement you submitted with your pre-qualified application on this proposal.

Dated at this day of 20
Name of Organization:
Signature:
Print Name:
Title:
Notary Statement:
Mr./Mrs./Ms. being duly sworn deposes and says that he/she
is the of and that the
(Position or Title) (Firm Name)
answers to the foregoing questions and all statements therein contained are true and correct.
Subscribed and sworn to before me this day of 20
Notary Public:
My Commission Expires: 20

L. ETHICS FORMS **-** A duly authorized representative of the company must sign these forms

- √ **These forms must be notarized and clearly show notary seal or acknowledged by a Commissioner of the Superior Court**.

- √ ALL REQUIRED forms, **must be completed, signed and returned** by the bidder/proposer as part of the bid/proposal/RFQ response package.

- √ Failure to submit ALL REQUIRED forms constitutes grounds for rejection of your bid/proposal/RFQ.

- √ If it is determined by the University of Connecticut and/or State of Connecticut that **any information requested was not referenced and submitted** with this bid/proposal/RFQ/LOI, and then such determination **will be just cause for disqualification of the bid/proposal/RFQ.**

STATE OF CONNECTICUT
GIFT AND CAMPAIGN CONTRIBUTION CERTIFICATION

Written or electronic certification to accompany a State contract with a value of $50,000 or more in a calendar or fiscal year, pursuant to C.G.S. §§ 4-250 and 4-252(c); Governor M. Jodi Rell's Executive Orders No. 1, Para. 8, and No. 7C, Para. 10; and C.G.S. §9-612(g)(2)

INSTRUCTIONS:
Complete all sections of the form. Attach additional pages, if necessary, to provide full disclosure about any lawful campaign contributions made to campaigns of candidates for statewide public office or the General Assembly, as described herein. Sign and date the form, under oath, in the presence of a Commissioner of the Superior Court or Notary Public. Submit the completed form to the awarding State agency at the time of initial contract execution and if there is a change in the information contained in the most recently filed certification, such person shall submit an updated certification either (i) not later than thirty (30) days after the effective date of such change or (ii) upon the submittal of any new bid or proposal for a contract, whichever is earlier. Such person shall also submit an accurate, updated certification not later than fourteen days after the twelve-month anniversary of the most recently filed certification or updated certification.

CHECK ONE: ☐ Initial Certification ☐ 12 Month Anniversary Update (Multi-year contracts only.)

☐ Updated Certification because of change of information contained in the most recently filed certification or twelve-month anniversary update.

GIFT CERTIFICATION:

As used in this certification, the following terms have the meaning set forth below:

1) "Contract" means that contract between the State of Connecticut (and/or one or more of it agencies o instrumentalities) and the Contractor, attached hereto, or as otherwise described by the awarding Stat agency below;
2) If this is an Initial Certification, "Execution Date" means the date the Contract is fully executed by, and becomes effective between, the parties; if this is a twelve-month anniversary update, "Execution Date" means the date this certification is signed by the Contractor;
3) "Contractor" means the person, firm or corporation named as the contactor below;
4) "Applicable Public Official or State Employee" means any public official or state employee described i C.G.S. §4-252(c)(1)(i) or (ii);
5) **"Gift"** has the same meaning given that term in C.G.S. § 4-250(1);
6) "Principals or Key Personnel" means and refers to those principals and key personnel of the Contractor, and its or their agents, as described in C.G.S. §§ 4-250(5) and 4-252(c)(1)(B) and (C).

I, the undersigned, am a Principal or Key Personnel of the person, firm or corporation authorized to execute this certification on behalf of the Contractor. I hereby certify that, no gifts were made by (A) such person, firm, corporation, (B) any principals and key personnel of the person firm or corporation who participate substantially in preparing bids, proposals or negotiating state contracts or (C) any agent of such, firm, corporation, or principals or key personnel who participates substantially in preparing bids, proposals or negotiating state contracts, to (i) any public official or state employee of the state agency or quasi-public agency soliciting bids or proposals for state contracts who participates substantially in the preparation of bid solicitations or request for proposals for state contracts or the negotiation or award of state contracts or (ii) any public official or state employee of any other state agency, who has supervisory or appointing authority over such state agency or quasi-public agency.

I further certify that no Principals or Key Personnel know of any action by the Contractor to circumvent (or which would result in the circumvention of) the above certification regarding **Gifts** by providing for any other Principals, Key Personnel, officials, or employees of the Contractor, or its or their agents, to make a **Gift** to any Applicable Public Official or State Employee. I further certify that the Contractor made the bid or proposal for the Contract without fraud or collusion with any person.

CAMPAIGN CONTRIBUTION CERTIFICATION:

I further certify that, on or after December 31, 2006, neither the Contractor nor any of its principals, as defined in C.G.S. § 9-612(g)(1), has made any **campaign contributions** to, or solicited any contributions on behalf of, any exploratory committee, candidate committee, political committee, or party committee established by, or supporting or authorized to support, any candidate for statewide public office, in violation of C.G.S. § 9-612(g)(2)(A). I further certify that **all lawful campaign contributions** that have been made on or after December 31, 2006 by the Contractor or any of its principals, as defined in C.G.S. § 9-612(g)(1), to, or solicited on behalf of, any exploratory committee, candidate committee, political committee, or party committee established by, or supporting or authorized to support any candidates for statewide public office or the General Assembly, are listed below:

Lawful Campaign Contributions to Candidates for Statewide Public Office:

Contribution Date	Name of Contributor	Recipient	Value	Description

Lawful Campaign Contributions to Candidates for the General Assembly:

Contribution Date	Name of Contributor	Recipient	Value	Description

Sworn as true to the best of my knowledge and belief, subject to the penalties of false statement.

_____ _____
Printed Contractor Name **Printed Name of Authorized Official**

_____
Signature of Authorized Official

Subscribed and acknowledged before me this _____ day of _____, 20___.

_____
Commissioner of the Superior Court (or Notary Public)

_____
My Commission Expires

OPM Ethics Form 5 **Rev. 3-28-14**

STATE OF CONNECTICUT
CONSULTING AGREEMENT AFFIDAVIT

Affidavit to accompany a bid or proposal for the purchase of goods and services with a value of $50,000 or more in a calendar or fiscal year, pursuant to Connecticut General Statutes §§ 4a-81(a) and 4a-81(b). For sole source or no bid contracts the form is submitted at time of contract execution.

INSTRUCTIONS:

If the bidder or vendor has entered into a consulting agreement, as defined by Connecticut General Statutes § 4a-81(b)(1): Complete all sections of the form. If the bidder or contractor has entered into more than one such consulting agreement, use a separate form for each agreement. Sign and date the form in the presence of a Commissioner of the Superior Court or Notary Public. **If the bidder or contractor has not entered into a consulting agreement, as defined by Connecticut General Statutes § 4a-81(b)(1):** Complete only the shaded section of the form. Sign and date the form in the presence of a Commissioner of the Superior Court or Notary Public.

Submit completed form to the awarding State agency with bid or proposal. For a sole source award, submit completed form to the awarding State agency at the time of contract execution.

This affidavit must be amended if there is any change in the information contained in the most recently filed affidavit not later than (i) thirty days after the effective date of any such change or (ii) upon the submittal of any new bid or proposal, whichever is earlier.

AFFIDAVIT: [Number of Affidavits Sworn and Subscribed On This Day: _____]

I, the undersigned, hereby swear that I am a principal or key personnel of the bidder or contractor awarded a contract, as described in Connecticut General Statutes § 4a-81(b), or that I am the individual awarded such a contract who is authorized to execute such contract. I further swear that I have not entered into any consulting agreement in connection with such contract, **except for the agreement listed below**:

_____ _____
Consultant's Name and Title Name of Firm (if applicable)

_____ _____ _____
Start Date End Date Cost

Description of Services Provided: _____

_____

Is the consultant a former State employee or former public official? ☐ YES ☐ NO

If YES: _____ _____
Name of Former State Agency Termination Date of Employment

Sworn as true to the best of my knowledge and belief, subject to the penalties of false statement.

_____ _____ _____
Printed Name of Bidder or Contractor **Signature of Principal or Key Personnel** **Date**

_____ _____
Printed Name (of above) Awarding State Agency

Sworn and subscribed before me on this _____ day of _____, 20___.

_____
Commissioner of the Superior Court or Notary Public

_____
My Commission Expires

OPM Ethics Form 6 **Rev. 10-01-11**

STATE OF CONNECTICUT

AFFIRMATION OF RECEIPT OF STATE ETHICS LAWS SUMMARY

Written or electronic affirmation to accompany a large State construction or procurement contract, having a cost of more than $500,000, pursuant to Connecticut General Statutes §§ 1-101mm and 1-101qq

INSTRUCTIONS:
Complete all sections of the form. Submit completed form to the awarding State agency or contractor, as directed below.

CHECK ONE:

☐ I am a person seeking a large State construction or procurement contract. I am submitting this affirmation to the awarding State agency with my bid or proposal. [Check this box if the contract will be awarded through a competitive process.]

☐ I am a contractor who has been awarded a large State construction or procurement contract. I am submitting this affirmation to the awarding State agency at the time of contract execution. [Check this box if the contract was a sole source award.]

☐ I am a subcontractor or consultant of a contractor who has been awarded a large State construction or procurement contract. I am submitting this affirmation to the contractor.

☐ I am a contractor who has already filed an affirmation, but I am updating such affirmation either (i) no later than thirty (30) days after the effective date of any such change or (ii) upon the submittal of any new bid or proposal, whichever is earlier.

IMPORTANT NOTE:

Within fifteen (15) days after the request of such agency, institution or quasi-public agency for such affirmation contractors shall submit the affirmations of their subcontractors and consultants to the awarding State agency. Failure to submit such affirmations in a timely manner shall be cause for termination of the large State construction or procurement contract.

AFFIRMATION:

I, the undersigned person, contractor, subcontractor, consultant, or the duly authorized representative thereof, affirm (1) receipt of the summary of State ethics laws* developed by the Office of State Ethics pursuant to Connecticut General Statutes § 1-81b and (2) that key employees of such person, contractor, subcontractor, or consultant have read and understand the summary and agree to comply with its provisions.

* The summary of State ethics laws is available on the State of Connecticut's Office of State Ethics website.

_____ _____
Signature Date

_____ _____
Printed Name Title

_____
Firm or Corporation (if applicable)

_____ _____ ____ _____
Street Address City State Zip

_____
Awarding State Agency

OPM Iran Certification Form 7 (Rev. 3-28-14)

STATE OF CONNECTICUT

Written or electronic PDF copy of the written certification to accompany a large state contract pursuant to P.A. No. 13-162 (Prohibiting State Contracts With Entities Making Certain Investments In Iran)

Respondent Name: _____

INSTRUCTIONS:

CHECK ONE: ☐ Initial Certification.
☐ Amendment or renewal.

A. Who must complete and submit this form. Effective October 1, 2013, this form must be submitted for any large state contract, as defined in section 4-250 of the Connecticut General Statutes. This form must always be submitted with the bid or proposal, or if there was no bid process, with the resulting contract, regardless of where the principal place of business is located.

Pursuant to P.A. No. 13-162, upon submission of a bid or prior to executing a large state contract, **the certification portion of this form must be completed** by any corporation, general partnership, limited partnership, limited liability partnership, joint venture, nonprofit organization or other business organization **whose principal place of business is located outside of the United States**. United States subsidiaries of foreign corporations are exempt. For purposes of this form, a "foreign corporation" is one that is organized and incorporated outside the United States of America.

Check applicable box:

☐ Respondent's principal place of business is within the United States or Respondent is a United States subsidiary of a foreign corporation. Respondents who check this box **are not required to complete the certification portion of this form**, but must submit this form with its Invitation to Bid ("ITB"), Request for Proposal ("RFP") or contract package if there was no bid process.

☐ Respondent's principal place of business is outside the United States and it is not a United States subsidiary of a foreign corporation. **CERTIFICATION required.** Please complete the certification portion of this form and submit it with the ITB or RFP response or contract package if there was no bid process.

B. Additional definitions.

7) "Large state contract" has the same meaning as defined in section 4–250 of the Connecticut General Statutes;
8) "Respondent" means the person whose name is set forth at the beginning of this form; and
9) "State agency" and "quasi-public agency" have the same meanings as provided in section 1–79 of the Connecticut General Statutes.

C. Certification requirements.

No state agency or quasi-public agency shall enter into any large state contract, or amend or renew any such contract with any Respondent whose principal place of business is located outside the United States and is not a United States subsidiary of a foreign corporation unless the Respondent has submitted this certification.

Complete all sections of this certification and sign and date it, under oath, in the presence of a Commissioner of the Superior Court, a Notary Public or a person authorized to take an oath in another state.

CERTIFICATION:

I, the undersigned, am the official authorized to execute contracts on behalf of the Respondent. I certify that:

☐ Respondent has made no direct investments of twenty million dollars or more in the energy sector of Iran on or after October 1, 2013, as described in Section 202 of the Comprehensive Iran Sanctions, Accountability and Divestment Act of 2010.

☐ Respondent has either made direct investments of twenty million dollars or more in the energy sector of Iran on or after October 1, 2013, as described in Section 202 of the Comprehensive Iran Sanctions, Accountability and Divestment Act of 2010, or Respondent made such an investment prior to October 1, 2013 and has now increased or renewed such an investment on or after said date, or both.

OPM Iran Certification Form 7 (Rev. 3-28-14) **Page 2 of 2**

Sworn as true to the best of my knowledge and belief, subject to the penalties of false statement.

_____ _____

Printed Respondent Name **Printed Name of Authorized Official**

_____

Signature of Authorized Official

Subscribed and acknowledged before me this _____ day of _____, 20___.

_____

Commissioner of the Superior Court (or Notary Public)

_____

My Commission Expires

Form B
07-08-2009

STATE OF CONNECTICUT

NONDISCRIMINATION CERTIFICATION — Representation By Entity For Contracts Valued at Less Than $50,000

Written representation that complies with the nondiscrimination agreements and warranties under Connecticut General Statutes §§ 4a-60(a)(1) and 4a-60a(a)(1), as amended

INSTRUCTIONS:

For use by an entity (corporation, limited liability company, or partnership) when entering into any contract type with the State of Connecticut valued at less than $50,000 for each year of the contract. Complete all sections of the form. Submit to the awarding State agency prior to contract execution.

REPRESENTATION OF AN ENTITY:

I, _____ , _____ , of _____ ,
Authorized Signatory Title Name of Entity

an entity duly formed and existing under the laws of _____ ,
Name of State or Commonwealth

represent that I am authorized to execute and deliver this representation on behalf of

_____ and that _____
Name of Entity Name of Entity

has a policy in place that complies with the nondiscrimination agreements and warranties of Connecticut General Statutes §§ 4a-60(a)(1) and 4a-60a(a)(1), as amended.

_____ _____
Authorized Signatory Date

_____
Printed Name

STATE OF CONNECTICUT

NONDISCRIMINATION CERTIFICATION — Affidavit By Entity For Contracts Valued at $50,000 or More

Documentation in the form of an affidavit signed under penalty of false statement by a chief executive officer, president, chairperson, member, or other corporate officer duly authorized to adopt corporate, company, or partnership policy that certifies the contractor complies with the nondiscrimination agreements and warranties under Connecticut General Statutes §§ 4a-60(a)(1) and 4a-60a(a)(1), as amended

INSTRUCTIONS:

For use by an entity (corporation, limited liability company, or partnership) when entering into any contract type with the State of Connecticut valued at $50,000 or more for any year of the contract. Complete all sections of the form. Sign form in the presence of a Commissioner of Superior Court or Notary Public. Submit to the awarding State agency prior to contract execution.

AFFIDAVIT:

I, the undersigned, am over the age of eighteen (18) and understand and appreciate the obligations of

an oath. I am _____ of _____, an entity
Signatory's Title Name of Entity

duly formed and existing under the laws of _____.
Name of State or Commonwealth

I certify that I am authorized to execute and deliver this affidavit on behalf of

_____ and that _____
Name of Entity Name of Entity

has a policy in place that complies with the nondiscrimination agreements and warranties of Connecticut

General Statutes §§ 4a-60(a)(1) and 4a-60a(a)(1), as amended.

_____
Authorized Signatory

_____
Printed Name

Sworn and subscribed to before me on this _____ day of _____, 20___.

_____ _____
Commissioner of the Superior Court/ Notary Public **Commission Expiration Date**

FORM OF PROPOSAL

All pages within the Form of Proposal must be completed, signed by a duly authorized representative of the firm and returned as part of the bid/proposal/RFQ response package. NO FACSIMILE SIGNATURE PERMITTED

- √ **If the form of proposal is being submitted by a Joint Venture, each Joint Venture shall sign the Proposal, and each Joint Venture agrees to be bound by the terms and conditions thereof.**
- √ **Failure to submit ALL REQUIRED forms constitutes grounds for rejection of your bid/proposal/RFQ.**
- √ **If it is determined by the University of Connecticut and/or State of Connecticut that any information requested but not referenced and submitted with this bid/proposal; such determination will be just cause for disqualification of the bid/proposal.**

(TO BE FILLED IN AND SIGNED BY THE BIDDER)

Signed the _____ day of _____ 20____.

Firm Name: _____

Street: _____

City/State/Zip Code: _____

Telephone Number: _____

Signature/Title: _____

Print Name/Title: _____

(TO BE FILLED IN AND SIGNED BY JOINT VENTURE IF APPLICABLE)

Firm Name: _____

Street: _____

City/State/Zip Code: _____

Telephone Number: _____

Signature/Title: _____

Print Name/Title: _____

Signature/Title: _____

Print Name/Title: _____

End of Form of Proposal

THIS IS A PUBLIC WORKS PROJECT

Covered by the

PREVAILING WAGE LAW

CT General Statutes Section 31-53

If you have QUESTIONS regarding your wages
CALL (860) 263-6790

Section 31-55 of the CT State Statutes requires every contractor or subcontractor performing work for the state to post in a prominent place the prevailing wages as determined by the Labor Commissioner.

Section 31-53b

Sec. 31-53b. Construction safety and health course. New miner training program. Proof of completion required for mechanics, laborers and workers on public works projects. Enforcement. Regulations. Exceptions. (a) Each contract for a public works project entered into on or after July 1, 2009, by the state or any of its agents, or by any political subdivision of the state or any of its agents, described in subsection (g) of section 31-53, shall contain a provision requiring that each contractor furnish proof with the weekly certified payroll form for the first week each employee begins work on such project that any person performing the work of a mechanic, laborer or worker pursuant to the classifications of labor under section 31-53 on such public works project, pursuant to such contract, has completed a course of at least ten hours in duration in construction safety and health approved by the federal Occupational Safety and Health Administration or, has completed a new miner training program approved by the Federal Mine Safety and Health Administration in accordance with 30 CFR 48 or, in the case of telecommunications employees, has completed at least ten hours of training in accordance with 29 CFR 1910.268. (b) Any person required to complete a course or program under subsection (a) of this section who has not completed the course or program shall be subject to removal from the worksite if the person does not provide documentation of having completed such course or program by the fifteenth day after the date the person is found to be in noncompliance. The Labor Commissioner or said commissioner's designee shall enforce this section. (c) Not later than January 1, 2009, the Labor Commissioner shall adopt regulations, in accordance with the provisions of chapter 54, to implement the provisions of subsections (a) and (b) of this section. Such regulations shall require that the ten-hour construction safety and health courses required under subsection (a) of this section be conducted in accordance with federal Occupational Safety and Health Administration Training Institute standards, or in accordance with Federal Mine Safety and Health Administration Standards or in accordance with 29 CFR 1910.268, as appropriate. The Labor Commissioner shall accept as sufficient proof of compliance with the provisions of subsection (a) or (b) of this section a student course completion card issued by the federal Occupational Safety and Health Administration Training Institute, or such other proof of compliance said commissioner deems appropriate, dated no earlier than five years before the commencement date of such public works project. (d) This section shall not apply to employees of public service companies, as defined in section 16-1, or drivers of commercial motor vehicles driving the vehicle on the public works project and delivering or picking up cargo from public works projects provided they perform no labor relating to the project other than the loading and unloading of their cargo.

(P.A. 06-175, S. 1; P.A. 08-83, S. 1.)

History: P.A. 08-83 amended Subsec. (a) by making provisions applicable to public works project contracts entered into on or after July 1, 2009, replacing provision re total cost of work with reference to Sec. 31-53(g), requiring proof in certified payroll form that new mechanic, laborer or worker has completed a 10-hour or more construction safety course and adding provision re new miner training program, amended Subsec. (b) by substituting "person" for "employee" and adding "or program", amended Subsec. (c) by adding "or in

accordance with Federal Mine Safety and Health Administration Standards" and setting new deadline of January 1, 2009, deleted former Subsec. (d) re "public building", added new Subsec. (d) re exemptions for public service company employees and delivery drivers who perform no labor other than delivery and made conforming and technical changes, effective January 1, 2009.

Informational Bulletin

THE 10-HOUR OSHA CONSTRUCTION SAFETY AND HEALTH COURSE, PROGRAM OR TRAINING

(Applicable to public works contracts as described by Conn. Gen. Stat. § 31-53(g) entered into *on or after July 1, 2009*)

(1) This requirement was created by Public Act No. 08-83, which is codified in Section 31-53b of the Connecticut General Statutes;

(2) The course, program or training is required for public works contracts as described by Conn. Gen. Stat. § 31-53(g) entered into on or after July 1, 2009;

(3) It is required of private workers (not state or municipal workers) and apprentices who perform the work of a mechanic, laborer or worker pursuant to the classifications of labor under Conn. Gen. Stat. § 31-53 on a public works project as described by Conn. Gen. Stat. § 31-53(g);

(4) The ten-hour construction safety and health course, program or training pertains to the ten-hour Outreach Course conducted in accordance with federal OSHA Training Institute standards, a new mining training program approved by the Federal Mine Safety and Health Administration in accordance with 30 C.F. R. 48, or, for telecommunications workers, a ten-hour training course conducted in accordance with federal OSHA standard, 29 CFR 1910.268;

(5) The internet website for the federal OSHA Training Institute is http://www.osha.gov/fso/ote/training/edcenters/fact_sheet.html;

(6) The statutory language leaves it to the contractor and its employees to determine who pays for the cost of the ten-hour Outreach Course;

(7) Proof of course, program or training completion shall be demonstrated through the presentation of a "completion document" (card, document, certificate or other written record issued by federal OSHA or by the Federal Mine Safety and Health Administration) as defined by Conn. State Agencies Regs. § 31-53b-1(2).

(8) Any completion document with an issuance date more than 5 years prior to the commencement date of the public works project shall not constitute proof of compliance with § 31-53b;

(9) For each person who performs the duties of a mechanic, laborer or worker on a public works project, the contractor shall affix a copy of the completion document

to the certified payroll required to be submitted to the contracting agency for such project on which such worker's name first appears;

(10) Any mechanic, laborer or worker on a public works project found to be in non-compliance shall be subject to removal from the project if such employee does not provide satisfactory proof of course completion to the Labor Commissioner by the fifteenth day after the date the employee is determined to be in noncompliance;

(11) Any such employee who is determined to be in noncompliance may continue to work on a public works project for a maximum of fourteen consecutive calendar days while bringing his or her status into compliance;

(12) The statute provides the minimum standards required for the completion of a construction safety and health course, program or training by employees on public works contracts; any contractor can exceed these minimum requirements.;

(13) Regulations pertaining to § 31-53b are located at Conn. State Agencies Regs. §31-53b-1 *et seq.*, and are effective May 5, 2009. The regulations are posted on the CTDOL website;

(14) Any questions regarding this statute or the regulations may be directed to the Wage and Workplace Standards Division of the Connecticut Labor Department via the internet website of http://www.ctdol.state.ct.us/wgwkstnd/wgemenu.htm; or by telephone at (860)263-6790.

THE ABOVE INFORMATION IS PROVIDED EXCLUSIVELY AS AN EDUCATIONAL RESOURCE, AND IS NOT INTENDED AS A SUBSTITUTE FOR LEGAL INTERPRETATIONS WHICH MAY ULTMATELY ARISE CONCERNING THE CONSTRUCTION OF THE STATUTE OR THE REGULATIONS.

November 29, 2006

Notice

To All Mason Contractors and Interested Parties Regarding Construction Pursuant to Section 31-53 of the Connecticut General Statutes (Prevailing Wage)

The Connecticut Labor Department Wage and Workplace Standards Division is empowered to enforce the prevailing wage rates on projects covered by the above referenced statute.
Over the past few years the Division has withheld enforcement of the rate in effect for workers who operate a forklift on a prevailing wage rate project due to a potential jurisdictional dispute. The rate listed in the schedules and in our Occupational Bulletin (see enclosed) has been as follows:

Forklift Operator:

- Laborers (Group 4) Mason Tenders - operates forklift solely to assist a mason to a maximum height of nine feet only.

- Power Equipment Operator (Group 9) - operates forklift to assist any trade and to assist a mason to a height over nine feet.

The U.S. Labor Department conducted a survey of rates in Connecticut but it has not been published and the rate in effect remains as outlined in the above Occupational Bulletin.

Since this is a classification matter and not one of jurisdiction, effective January 1, 2007 the Connecticut Labor Department will enforce the rate on each schedule in accordance with our statutory authority.

Your cooperation in filing appropriate and accurate certified payrolls is appreciated.

STATUTE 31-55a

- SPECIAL NOTICE -

To: All State and Political Subdivisions,Their Agents, and Contractors
Connecticut General Statute 31-55a - Annual adjustments to wage rates by contractors doing state work.

Each contractor that is awarded a contract on or after October 1, 2002, for (1) the construction of a state highway or bridge that falls under the provisions of section 31-54 of the general statutes, or (2) the construction, remodeling, refinishing, refurbishing, rehabilitation, alteration or repair of any public works project that falls under the provisions of section 31-53 of the general statutes shall contact the Labor Commissioner on or before July first of each year, for the duration of such contract, to ascertain the prevailing rate of wages on an hourly basis and the amount of payment or contributions paid or payable on behalf of each mechanic, laborer or worker employed upon the work contracted to be done, and shall make any necessary adjustments to such prevailing rate of wages and such payment or contributions paid or payable on behalf of each such employee, effective each July first.

- The prevailing wage rates applicable to any contract or subcontract awarded on or after October 1, 2002 are subject to annual adjustments each July 1st for the duration of any project which was originally advertised for bids on or after October 1, 2002.

- Each contractor affected by the above requirement shall pay the annual adjusted prevailing wage rate that is in effect each July 1st, as posted by the Department of Labor.

- It is the ***contractor's*** responsibility to obtain the annual adjusted prevailing wage rate increases directly from the Department of Labor's Web Site. The annual adjustments will be posted on the Department of Labor Web page: www.ctdol.state.ct.us. For those without internet access, please contact the division listed below.

- The Department of Labor will continue to issue the initial prevailing wage rate schedule to the Contracting Agency for the project. All subsequent annual adjustments will be posted on our Web Site for contractor access.

Any questions should be directed to the Contract Compliance Unit, Wage and Workplace Standards Division, Connecticut Department of Labor, 200 Folly Brook Blvd., Wethersfield, CT 06109 at (860)263-6790.

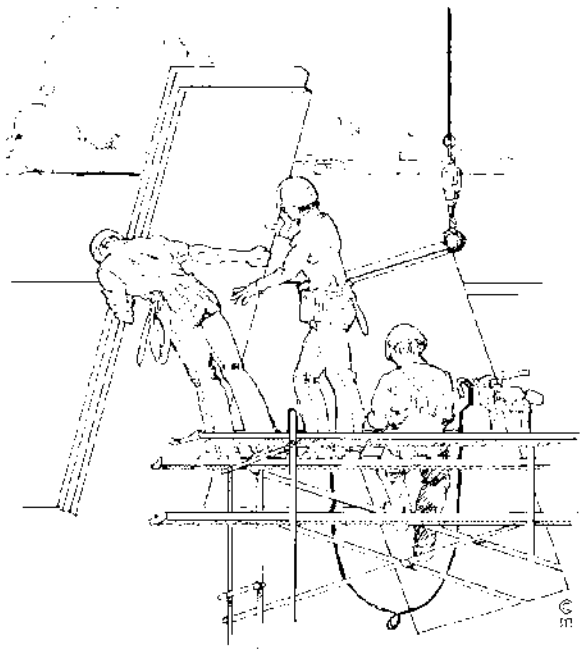
~NOTICE~

TO ALL CONTRACTING AGENCIES

Please be advised that Connecticut General Statutes Section 31-53, requires the contracting agency to certify to the Department of Labor, the total dollar amount of work to be done in connection with such public works project, regardless of whether such project consists of one or more contracts.

Please find the attached "Contracting Agency Certification Form" to be completed and returned to the Department of Labor, Wage and Workplace Standards Division, Public Contract Compliance Unit.

✎ Inquiries can be directed to (860)263-6543.



CONNECTICUT DEPARTMENT OF LABOR
WAGE AND WORKPLACE STANDARDS DIVISION
CONTRACT COMPLIANCE UNIT

CONTRACTING AGENCY CERTIFICATION FORM

I, _____, acting in my official capacity as _____,
authorized representative title

for _____, located at _____,
contracting agency address

do hereby certify that the total dollar amount of work to be done in connection with

_____, located at _____,
project name and number address

shall be $_____, which includes all work, regardless of whether such project

consists of one or more contracts.

CONTRACTOR INFORMATION

Name:_____

Address:_____
Authorized Representative:_____
Approximate Starting Date: _____

Approximate Completion Date:_____

_____ _____
Signature Date

Return To: Connecticut Department of Labor
Wage & Workplace Standards Division
Contract Compliance Unit
200 Folly Brook Blvd.
Wethersfield, CT 06109

Date Issued: _____

CONNECTICUT DEPARTMENT OF LABOR
WAGE AND WORKPLACE STANDARDS DIVISION

CONTRACTORS WAGE CERTIFICATION FORM

Construction Manager at Risk/General Contractor/Prime Contractor

I,_____ of _____
Officer, Owner, Authorized Rep. Company Name

do hereby certify that the _____
Company Name

_____
Street

_____
City

and all of its subcontractors will pay all workers on the

_____
Project Name and Number

_____
Street and City

the wages as listed in the schedule of prevailing rates required for such project (a copy of which is attached hereto).

_____
Signed

Subscribed and sworn to before me this _____ day of _____,_____.

_____
Notary Public

Return to:

Connecticut Department of Labor
Wage & Workplace Standards Division
200 Folly Brook Blvd.
Wethersfield, CT 06109

Rate Schedule Issued (Date): _____

CERTIFIED PAYROLL FORM WWS - CPI

In accordance with Connecticut General Statutes, 31-53 Certified Payrolls with a statement of compliance shall be submitted monthly to the contracting agency.

Note: Once you have downloaded these forms and are ready to print them out, set the print function on your PC to the horizontal print orientation.

Note2: Please download both the Payroll Certification for Public Works Projects **and** the Certified Statement of Compliance for a complete package. The Certified Statement of Compliance appears on the same page as the Fringe Benefits Explanation page.

Announcement: The Certified Payroll Form WWS-CPI can now be completed on-line!

- Certified Payroll Form WWS-CPI (PDF, 727KB)
- Sample Completed Form (PDF, 101KB)

[New] In accordance with Section 31-53b(a) of the C.G.S. each contractor shall provide a copy of the OSHA 10 Hour Construction Safety and Health Card for each employee, to be attached to the first certified payroll on the project.

In accordance with Connecticut General Statutes, 31-53
Certified Payrolls with a statement of compliance
shall be submitted monthly to the contracting agency.

PAYROLL CERTIFICATION FOR PUBLIC WORKS PROJECTS

WEEKLY PAYROLL

Connecticut Department of Labor
Wage and Workplace Standards Division
200 Folly Brook Blvd.
Wethersfield, CT 06109

CONTRACTOR NAME AND ADDRESS:

SUBCONTRACTOR NAME & ADDRESS

WORKER'S COMPENSATION INSURANCE CARRIER

POLICY #

EFFECTIVE DATE:
EXPIRATION DATE:

PAYROLL NUMBER | Week-Ending Date | PROJECT NAME & ADDRESS

PERSON/WORKER, ADDRESS and SECTION	APPR RATE %	MALE/ FEMALE AND RACE*	WORK CLASSIFICATION Trade License Type & Number - OSHA 10 Certification Number	DAY AND DATE S	M	T	W	TH	F	S	Total ST Hours Total O/T Hours	BASE HOURLY RATE TOTAL FRINGE BENEFIT PLAN CASH	TYPE OF FRINGE BENEFITS Per Hour 1 through 6 (see back)	GROSS PAY FOR ALL WORK PERFORMED THIS WEEK	TOTAL DEDUCTIONS FICA	FEDERAL WITH-HOLDING	STATE WITH-HOLDING	LIST OTHER	GROSS PAY FOR THIS PREVAILING RATE JOB	CHECK # AND NET PAY
				HOURS WORKED EACH DAY								$ Base Rate $ Cash Fringe	1. $ 2. $ 3. $ 4. $ 5. $ 6. $							
												$ Base Rate $ Cash Fringe	1. $ 2. $ 3. $ 4. $ 5. $ 6. $							
												$ Base Rate $ Cash Fringe	1. $ 2. $ 3. $ 4. $ 5. $ 6. $							
												$ Base Rate $ Cash Fringe	1. $ 2. $ 3. $ 4. $ 5. $ 6. $							

12/9/2013
WWS-CP1

*IF REQUIRED

*SEE REVERSE SIDE

PAGE NUMBER _____OF

OSHA 10 ~ATTACH CARD TO 1ST CERTIFIED PAYROLL

***FRINGE BENEFITS EXPLANATION (P):**

Bona fide benefits paid to approved plans, funds or programs, except those required by Federal or State Law (unemployment tax, worker's compensation, income taxes, etc.).

Please specify the type of benefits provided:

1) Medical or hospital care _____ 4) Disability_____

2) Pension or retirement _____ 5) Vacation, holiday_____

3) Life Insurance _____ 6) Other (please specify) _____

CERTIFIED STATEMENT OF COMPLIANCE

For the week ending date of _____,

I, _____of _____, (hereafter known as

Employer) in my capacity as _____ (title) do hereby certify and state:

Section A:

1. All persons employed on said project have been paid the full weekly wages earned by them during the week in accordance with Connecticut General Statutes, section 31-53, as amended. Further, I hereby certify and state the following:

a) The records submitted are true and accurate;

b) The rate of wages paid to each mechanic, laborer or workman and the amount of payment or contributions paid or payable on behalf of each such person to any employee welfare fund, as defined in Connecticut General Statutes, section 31-53 (h), are not less than the prevailing rate of wages and the amount of payment or contributions paid or payable on behalf of each such person to any employee welfare fund, as determined by the Labor Commissioner pursuant to subsection Connecticut General Statutes, section 31-53 (d), and said wages and benefits are not less than those which may also be required by contract;

c) The Employer has complied with all of the provisions in Connecticut General Statutes, section 31-53 (and Section 31-54 if applicable for state highway construction);

d) Each such person is covered by a worker's compensation insurance policy for the duration of his employment which proof of coverage has been provided to the contracting agency;

e) The Employer does not receive kickbacks, which means any money, fee, commission, credit, gift, gratuity, thing of value, or compensation of any kind which is provided directly or indirectly, to any prime contractor, prime contractor employee, subcontractor, or subcontractor employee for the purpose of improperly obtaining or rewarding favorable treatment in connection with a prime contract or in connection with a prime contractor in connection with a subcontractor relating to a prime contractor; and

f) The Employer is aware that filing a certified payroll which he knows to be false is a class D felony for which the employer may be fined up to five thousand dollars, imprisoned for up to five years or both.

2. OSHA~The employer shall affix a copy of the construction safety course, program or training completion document to the certified payroll required to be submitted to the contracting agency for this project on which such persons name first appears.

_____ _____ _____

(Signature) (Title) Submitted on (Date)

*****THIS IS A PUBLIC DOCUMENT*****
*****DO NOT INCLUDE SOCIAL SECURITY NUMBERS*****

Weekly Payroll Certification For Public Works Projects (Continued)

PAYROLL CERTIFICATION FOR PUBLIC WORKS PROJECTS

Week-Ending Date:

Contractor or Subcontractor Business Name:

WEEKLY PAYROLL

PERSON/WORKER, ADDRESS and SECTION	APPR RATE %	MALE/ FEMALE AND RACE*	WORK CLASSIFICATION Trade License Type & Number - OSHA 10 Certification Number	DAY AND DATE S	M	T	W	TH	F	S HOURS WORKED EACH DAY	Total ST Hours Total O/T Hours	BASE HOURLY RATE TOTAL FRINGE BENEFIT PLAN CASH	TYPE OF FRINGE BENEFITS Per Hour 1 through 6 (see back)	GROSS PAY FOR ALL WORK PERFORMED THIS WEEK	TOTAL DEDUCTIONS FICA	FEDERAL WITH-HOLDING	STATE WITH-HOLDING	LIST OTHER	GROSS PAY FOR THIS PREVAILING RATE JOB	CHECK # AND NET PAY
												$ Base Rate $ Cash Fringe	1. $ 2. $ 3. $ 4. $ 5. $ 6. $							
												$ Base Rate $ Cash Fringe	1. $ 2. $ 3. $ 4. $ 5. $ 6. $							
												$ Base Rate $ Cash Fringe	1. $ 2. $ 3. $ 4. $ 5. $ 6. $							
												$ Base Rate $ Cash Fringe	1. $ 2. $ 3. $ 4. $ 5. $ 6. $							
												$ Base Rate $ Cash Fringe	1. $ 2. $ 3. $ 4. $ 5. $ 6. $							

*IF REQUIRED

OCCUPATIONAL CLASSIFICATION BULLETIN

The Connecticut Department of Labor has the responsibility to properly determine "job classification" on prevailing wage projects covered under C.G.S. Section 31-53.

Note: This information is intended to provide a sample of some occupational classifications for guidance purposes only. It is not an all-inclusive list of each occupation's duties. This list is being provided only to highlight some areas where a contractor may be unclear regarding the proper classification.

Below are additional clarifications of specific job duties performed for certain classifications:

- **ASBESTOS WORKERS**
  - Applies all insulating materials, protective coverings, coatings and finishes to all types of mechanical systems.
- **ASBESTOS INSULATOR**
  - Handle, install apply, fabricate, distribute, prepare, alter, repair, dismantle, heat and frost insulation, including penetration and fire stopping work on all penetration fire stop systems.
- **BOILERMAKERS**
  - Erects hydro plants, incomplete vessels, steel stacks, storage tanks for water, fuel, etc. Builds incomplete boilers, repairs heat exchanges and steam generators.
- **BRICKLAYERS, CEMENT MASONS, CEMENT FINISHERS, MARBLE MASONS, PLASTERERS, STONE MASONS, PLASTERERS. STONE MASONS, TERRAZZO WORKERS, TILE SETTERS**
  - Lays building materials such as brick, structural tile and concrete cinder, glass, gypsum, terra cotta block. Cuts, tools and sets marble, sets stone, finishes concrete, applies decorative steel, aluminum and plastic tile, applies cements, sand, pigment and marble chips to floors, stairways, etc.
- **CARPENTERS, MILLWRIGHTS. PILEDRIVERMEN. LATHERS. RESILEINT FLOOR LAYERS, DOCK BUILDERS, DIKERS, DIVER TENDERS**
  - Constructs, erects, installs and repairs structures and fixtures of wood, plywood and wallboard. Installs, assembles, dismantles, moves industrial machinery. Drives piling into ground to provide foundations for structures such as buildings and bridges, retaining walls for earth embankments, such as cofferdams. Fastens wooden, metal or rockboard lath to walls, ceilings and partitions of buildings, acoustical tile layer, concrete form builder. Applies firestopping materials on fire resistive joint systems only. Installation of curtain/window walls only where attached to wood or metal studs. Installation

of insulated material of all types whether blown, nailed or attached in other ways to walls, ceilings and floors of buildings. Assembly and installation of modular furniture/furniture systems. Free-standing furniture is not covered. This includes free standing: student chairs, study top desks, book box desks, computer furniture, dictionary stand, atlas stand, wood shelving, two-position information access station, file cabinets, storage cabinets, tables, etc.

- **CLEANING LABORER**

  - The clean up of any construction debris and the general cleaning, including sweeping, wash down, mopping, wiping of the construction facility, washing, polishing, dusting, etc., prior to the issuance of a certificate of occupancy falls under the *Labor classification.*

- **DELIVERY PERSONNEL**

  - If delivery of supplies/building materials is to one common point and stockpiled there, prevailing wages are not required. If the delivery personnel are involved in the distribution of the material to multiple locations within the construction site then they would have to be paid prevailing wages for the type of work performed: laborer, equipment operator, electrician, ironworker, plumber, etc.

  - An example of this would be where delivery of drywall is made to a building and the delivery personnel distribute the drywall from one "stockpile" location to further sub-locations on each floor. Distribution of material around a construction site is the job of a laborer/tradesman and not a delivery personnel.

- **ELECTRICIANS**

  - Install, erect, maintenance, alteration or repair of any wire, cable, conduit, etc., which generates, transforms, transmits or uses electrical energy for light, heat, power or other purposes, including the Installation or maintenance of telecommunication, LAN wiring or computer equipment, and low voltage wiring. ***License required per Connecticut General Statutes: E-1,2 L-5,6 C-5,6 T-1,2 L-1,2 V-1,2,7,8,9.**

- **ELEVATOR CONSTRUCTORS**

  - Install, erect, maintenance and repair of all types of elevators, escalators, dumb waiters and moving walks. ***License required by Connecticut General Statutes: R-1,2,5,6.**

- **FORK LIFT OPERATOR**

  - Laborers Group 4) Mason Tenders - operates forklift solely to assist a mason to a maximum height of nine (9) feet only.

  - Power Equipment Operator Group 9 - operates forklift to assist any trade, and to assist a mason to a height over nine (9) feet.

- **GLAZIERS**

  - Glazing wood and metal sash, doors, partitions, and 2 story aluminum

storefronts. Installs glass windows, skylights, store fronts and display cases or surfaces such as building fronts, interior walls, ceilings and table tops and metal store fronts. Installation of aluminum window walls and curtain walls is the "joint" work of glaziers and ironworkers which requires either a blended rate or equal composite workforce.

- **IRONWORKERS**
  - Erection, installation and placement of structural steel, precast concrete, miscellaneous iron, ornamental iron, metal curtain wall, rigging and reinforcing steel. Handling, sorting, and installation of reinforcing steel (rebar). Metal bridge rail (traffic), metal bridge handrail, and decorative security fence installation. Installation of aluminum window walls and curtain walls is the "joint" work of glaziers and ironworkers which requires either a blended rate or equal composite workforce. Insulated metal and insulated composite panels are still installed by the Ironworker.
- **INSULATOR**
  - Installing fire stopping systems/materials for "Penetration Firestop Systems": transit to cables, electrical conduits, insulated pipes, sprinkler pipe penetrations, ductwork behind radiation, electrical cable trays, fire rated pipe penetrations, natural polypropylene, HVAC ducts, plumbing bare metal, telephone and communication wires, and boiler room ceilings. Past practice using the applicable licensed trades, Plumber, Sheet Metal, Sprinkler Fitter, and Electrician, is not inconsistent with the Insulator classification and would be permitted.
- **LABORERS**
  - Acetylene burners, asphalt rakers, chain saw operators, concrete and power buggy operator, concrete saw operator, fence and guard rail erector (except metal bridge rail (traffic), metal bridge handrail, and decorative security fence installation.), hand operated concrete vibrator operator, mason tenders, pipelayers (installation of storm drainage or sewage lines on the street only), pneumatic drill operator, pneumatic gas and electric drill operator, powermen and wagon drill operator, air track operator, block paver, curb setters, blasters, concrete spreaders.
- **PAINTERS**
  - Maintenance, preparation, cleaning, blasting (water and sand, etc.), painting or application of any protective coatings of every description on all bridges and appurtenances of highways, roadways, and railroads. Painting, decorating, hardwood finishing, paper hanging, sign writing, scenic art work and drywall hanging+ for any and all types of building and residential work.
- **LEAD PAINT REMOVAL**
  - Painter’s Rate

1. Removal of lead paint from bridges.

2. Removal of lead paint as preparation of any surface to be repainted.

3. Where removal is on a Demolition project prior to reconstruction.

- Laborer's Rate

1. Removal of lead paint from any surface NOT to be repainted.

2. Where removal is on a *TOTAL* Demolition project only.

- **PLUMBERS AND PIPEFITTERS**

  - Installation, repair, replacement, alteration or maintenance of all plumbing, heating, cooling and piping. ***License required per Connecticut General Statutes: P-1,2,6,7,8,9 J-1,2,3,4 SP-1,2 S-1,2,3,4,5,6,7,8 B-1,2,3,4 D-1,2,3,4.***

- **POWER EQUIPMENT OPERATORS**

  - ates several types of power construction equipment such as compressors, pumps, hoists, derricks, cranes, shovels, tractors, scrapers or motor graders, etc. Repairs and maintains equipment. ***License required, crane operators only, per Connecticut General Statutes.**

- **ROOFERS**

  - Covers roofs with composition shingles or sheets, wood shingles, slate or asphalt and gravel to waterproof roofs, including preparation of surface. (tear-off and/or removal of any type of roofing and/or clean-up of any and all areas where a roof is to be relaid)

- **SHEETMETAL WORKERS**

  - Fabricate, assembles, installs and repairs sheetmetal products and equipment in such areas as ventilation, air-conditioning, warm air heating, restaurant equipment, architectural sheet metal work, sheetmetal roofing, and aluminum gutters. Fabrication, handling, assembling, erecting, altering, repairing, etc. of coated metal material panels and composite metal material panels when used on building exteriors and interiors as soffits, facia, louvers, partitions, wall panel siding, canopies, cornice, column covers, awnings, beam covers, cladding, sun shades, lighting troughs, spires, ornamental roofing, metal ceilings, mansards, copings, ornamental and ventilation hoods, vertical and horizontal siding panels, trim, etc. The sheet metal classification also applies to the vast variety of coated metal material panels and composite metal material panels that have evolved over the years as an alternative to conventional ferrous and non-ferrous metals like steel, iron, tin, copper, brass, bronze, aluminum, etc. Insulated metal and insulated composite panels are still installed by the Iron Worker. Fabrication, handling, assembling, erecting, altering, repairing, etc. of architectural metal roof, standing seam roof, composite metal roof, metal and composite bathroom/toilet partitions, aluminum gutters, metal

and composite lockers and shelving, kitchen equipment, and walk-in coolers.

- **SPRINKLER FITTERS**

  - Installation, alteration, maintenance and repair of fire protection sprinkler systems. ***License required per Connecticut General Statutes: F-1,2,3,4.**

- **TILE MARBLE AND TERRAZZO FINISHERS**

  - Assists and tends the tile setter, marble mason and terrazzo worker in the performance of their duties.

- **TRUCK DRIVERS**

  - **Definitions:**

    - 1) "Site of the work" (29 Code of Federal Regulations (CFR) 5.2(l)(b) is the physical place or places where the building or work called for in the contract will remain and any other site where a significant portion of the building or work is constructed, provided that such site is established specifically for the performance of the contact or project;

      - (a) Except as provided in paragraph (l) (3) of this section, job headquarters, tool yards, batch plants, borrow pits, etc. are part of the "site of the work"; provided they are dedicated exclusively, or nearly so, to the performance of the contract or project, and provided they are adjacent to "the site of work" as defined in paragraph (e)(1) of this section;

      - (b) Not included in the "site of the work" are permanent home offices, branch plant establishments, fabrication plants, tool yards etc, of a contractor or subcontractor whose location and continuance in operation are determined wholly without regard to a particular State or political subdivision contract or uncertain and indefinite periods of time involved of a few seconds or minutes duration and where the failure to count such time is due to consideration justified by industrial realities (29 CFR 785.47)

    - 2) "Engaged to wait" is waiting time that belongs to and is controlled by the employer which is an integral part of the job and is therefore compensable as hours worked. (29 CFR 785.15)

    - 3) "Waiting to be engaged" is waiting time that an employee can use effectively for their own purpose and is not compensable as hours worked. (29 CFR 785.16)

    - 4) "De Minimus" is a rule that recognizes that unsubstantial or insignificant periods of time which cannot as a practical administrative matter be precisely recorded for payroll purposes, may be disregarded. This rule applies only where there are uncertain and indefinite periods of time involved of a short duration and where the failure to count such

time is due to consideration justified by worksite realities. For example, with respect to truck drivers on prevailing wage sites, this is typically less than 15 minutes at a time.

- **Coverage of Truck Drivers on State or Political subdivision Prevailing Wage Projects**

  - Truck drivers **are covered** for payroll purposes under the following conditions:

    - Truck Drivers for time spent working on the site of the work.

    - Truck Drivers for time spent loading and/or unloading materials and supplies on the site of the work, if such time is not de minimus

    - Truck drivers transporting materials or supplies between a facility that is deemed part of the site of the work and the actual construction site.

    - Truck drivers transporting portions of the building or work between a site established specifically for the performance of the contract or project where a significant portion of such building or work is constructed and the physical places where the building or work outlined in the contract will remain.

  For example: Truck drivers delivering asphalt are covered under prevailing wage while" engaged to wait" on the site and when directly involved in the paving operation, provided the total time is not "de minimus"

  - Truck Drivers **are not** covered in the following instances:

    - Material delivery truck drivers while off "the site of the work"

    - Truck Drivers traveling between a prevailing wage job and a commercial supply facility while they are off the "site of the work"

    - Truck drivers whose time spent on the "site of the work" is de minimus, such as under 15 minutes at a time, merely to drop off materials or supplies, including asphalt.

These guidelines are similar to U.S. Labor Department policies. The application of these guidelines may be subject to review based on factual considerations on a case by case basis.

For example:

- Material men and deliverymen are not covered under

prevailing wage as long as they are not directly involved in the construction process. If, they unload the material, they would then be covered by prevailing wage for the classification they are performing work in: laborer, equipment operator, etc.

- Hauling material off site is not covered provided they are not dumping it at a location outlined above.
- Driving a truck on site and moving equipment or materials on site would be considered covered work, as this is part of the construction process.

Any questions regarding the proper classification should be directed to:

Public Contract Compliance Unit
Wage and Workplace Standards Division
Connecticut Department of Labor
200 Folly Brook Blvd, Wethersfield, CT 06109
(860) 263-6543

Rev. 07/13

Connecticut Department of Labor
Wage and Workplace Standards Division
FOOTNOTES

Please Note: If the "Benefits" listed on the schedule for the following occupations includes a letter(s) (+ a or + a+b for instance), refer to the information below.

- Benefits to be paid at the appropriate prevailing wage rate for the listed occupation.

- If the "Benefits" section for the occupation lists only a dollar amount, disregard the information below.

Bricklayers, Cement Masons, Cement Finishers, Concrete Finishers, Stone Masons
(Building Construction) and (Residential- Hartford, Middlesex, New Haven, New London and Tolland Counties)

a. Paid Holiday: Employees shall receive 4 hours for Christmas Eve holiday provided the employee works the regularly scheduled day before and after the holiday. Employers may schedule work on Christmas Eve and employees shall receive pay for actual hours worked in addition to holiday pay.

Elevator Constructors: Mechanics
a. Paid Holidays: New Year's Day, Memorial Day, Independence Day, Labor Day, Veterans' Day, Thanksgiving Day, Christmas Day, plus the Friday after Thanksgiving.

b. Vacation: Employer contributes 8% of basic hourly rate for 5 years or more of service or 6% of basic hourly rate for 6 months to 5 years of service as vacation pay credit.

Glaziers
a. Paid Holidays: Labor Day and Christmas Day.

Power Equipment Operators
(Heavy and Highway Construction & Building Construction)

a. Paid Holidays: New Year's Day, Good Friday, Memorial day, Independence Day, Labor Day, Thanksgiving Day and Christmas Day, provided the employee works 3 days during the week in which the holiday falls, if scheduled, and if scheduled, the working day before and the working day after the holiday. Holidays falling on Saturday may be observed on Saturday, or if the employer so elects, on the preceding Friday.

Ironworkers

a. Paid Holiday: Labor Day provided employee has been on the payroll for the 5 consecutive work days prior to Labor Day.

Laborers (Tunnel Construction)

a. Paid Holidays: New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day and Christmas Day. No employee shall be eligible for holiday pay when he fails, without cause, to work the regular work day preceding the holiday or the regular work day following the holiday.

Roofers

a. Paid Holidays: July 4th, Labor Day, and Christmas Day provided the employee is employed 15 days prior to the holiday.

Sprinkler Fitters

a. Paid Holidays: Memorial Day, July 4th, Labor Day, Thanksgiving Day and Christmas Day, provided the employee has been in the employment of a contractor 20 working days prior to any such paid holiday.

Truck Drivers

(Heavy and Highway Construction & Building Construction)

a. Paid Holidays: New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, Christmas day, and Good Friday, provided the employee has at least 31 calendar days of service and works the last scheduled day before and the first scheduled day after the holiday, unless excused.

AIA® Document A101™ – 2017

Standard Form of Agreement Between Owner and Contractor *where the basis of payment is a Stipulated Sum*

AIA A101-2017 FOR ON-CALL TRADE ($100,000-$500,000)

Rev. 11-30-18

AGREEMENT made and effective as of the date that the Agreement is fully executed by the parties hereto.
(Paragraph deleted)
BETWEEN the Owner:
(Name, address and other information)

and the Contractor:
(Name, address and other information)

for the following Project:
(Name, location and description)

The Architect:
(Name, address and other information)

The Owner and Contractor agree as follows:

The Contractor is a participant in the University of Connecticut's Trade Labor Program. This Contract has been issued under that program pursuant to the terms and conditions of the Master Agreement for On-Call Trade Contractor Services executed by the Owner on _____(the "Master Agreement").

ADDITIONS AND DELETIONS:
The author of this document has added information needed for its completion. The author may also have revised the text of the original AIA standard form. An *Additions and Deletions Report* that notes added information as well as revisions to the standard form text is available from the author and should be reviewed. A vertical line in the left margin of this document indicates where the author has added necessary information and where the author has added to or deleted from the original AIA text.

This document has important legal consequences. Consultation with an attorney is encouraged with respect to its completion or modification.

The parties should complete A101™–2017, Exhibit A, Insurance and Bonds, contemporaneously with this Agreement. AIA Document A201™–2017, General Conditions of the Contract for Construction, is adopted in this document by reference. Do not use with other general conditions unless this document is modified.

Init.
/

AIA Document A101™ – 2017. Copyright © 1915, 1918, 1925, 1937, 1951, 1958, 1961, 1963, 1967, 1974, 1977, 1987, 1991, 1997, 2007 and 2017 by The American Institute of Architects. All rights reserved. WARNING: This AIA® Document is protected by U.S. Copyright Law and International Treaties. Unauthorized reproduction or distribution of this AIA® Document, or any portion of it, may result in severe civil and criminal penalties, and will be prosecuted to the maximum extent possible under the law. This document was produced by AIA software at 10:14:13 ET on 01/28/2019 under Order No.4449788754 which expires on 04/27/2019, and is not for resale.
User Notes:
(1379427140)

TABLE OF ARTICLES

1 THE CONTRACT DOCUMENTS

2 THE WORK OF THIS CONTRACT

3 DATE OF COMMENCEMENT AND SUBSTANTIAL COMPLETION

4 CONTRACT SUM

5 PAYMENTS

6 DISPUTE RESOLUTION

7 TERMINATION OR SUSPENSION

8 MISCELLANEOUS PROVISIONS

9 ENUMERATION OF CONTRACT DOCUMENTS

EXHIBIT A INSURANCE AND BONDS

ARTICLE 1 THE CONTRACT DOCUMENTS

The Contract Documents consist of the Master Agreement, this Agreement, the AIA A201-2017 General Conditions, as modified by the Owner prior to the execution of this Agreement (as so modified, the "General Conditions"), Drawings, Specifications, Addenda issued prior to execution of this Agreement, other documents listed in this Agreement, and Modifications issued after execution of this Agreement, all of which form the Contract, and are as fully a part of the Contract as if attached to this Agreement or repeated herein. The Contract represents the entire and integrated agreement between the parties hereto and supersedes prior negotiations, representations, or agreements, either written or oral. An enumeration of the Contract Documents, other than a Modification, appears in Article 9.

ARTICLE 2 THE WORK OF THIS CONTRACT

§ 2.1 The Contractor shall fully execute the Work described in the Contract Documents, except as specifically indicated in the Contract Documents to be the responsibility of others.

ARTICLE 3 DATE OF COMMENCEMENT AND SUBSTANTIAL COMPLETION

§ 3.1 The date of commencement of the Work shall be:
(Check one of the following boxes.)

[ ] The date of this Agreement.

[X] A date set forth in a notice to proceed issued by the Owner.

[ ] Established as follows:
(Insert a date or a means to determine the date of commencement of the Work.)

(Paragraphs deleted)

§ 3.2 The Contract Time shall be measured from the date of commencement of the Work.

§ 3.3 Substantial Completion

§ 3.3.1 Subject to adjustments of the Contract Time as provided in the Contract Documents, the Contractor shall achieve Substantial Completion of the entire Work:
(Check one of the following boxes and complete the necessary information.)

AIA Document A101™ – 2017. Copyright © 1915, 1918, 1925, 1937, 1951, 1958, 1961, 1963, 1967, 1974, 1977, 1987, 1991, 1997, 2007 and 2017 by The American Institute of Architects. All rights reserved. WARNING: This AIA® Document is protected by U.S. Copyright Law and International Treaties. Unauthorized reproduction or distribution of this AIA® Document, or any portion of it, may result in severe civil and criminal penalties, and will be prosecuted to the maximum extent possible under the law. This document was produced by AIA software at 10:14:13 ET on 01/28/2019 under Order No.4449788754 which expires on 04/27/2019, and is not for resale.
User Notes: (1379427140)

[ ] Not later than ( ) days from the date of commencement of the Work.

[ ] By the following date:

In addition to the foregoing, the Work shall be performed in general conformance with the preliminary construction schedule attached hereto as **Exhibit D**. Upon the Owner's approval of the construction schedule to be submitted by the Contractor pursuant to the requirements set forth in Section 3.10.1 of the General Conditions, such preliminary construction schedule shall be superseded and replaced by such approved construction schedule.

§ 3.3.2 Subject to adjustments of the Contract Time as provided in the Contract Documents, if portions of the Work are to be completed prior to Substantial Completion of the entire Work, the Contractor shall achieve Substantial Completion of such portions by the following dates:

Portion of Work	Substantial Completion Date

§ 3.3.3 If the Contractor fails to achieve Substantial Completion as provided in this Section 3.3, liquidated damages, if any, shall be assessed as set forth in Section 4.5.

ARTICLE 4 CONTRACT SUM

§ 4.1 The Owner shall pay the Contractor the Contract Sum in current funds for the Contractor's performance of the Contract. The Contract Sum shall be ($), subject to additions and deductions as provided in the Contract Documents.

(Paragraph deleted)

§ 4.2.1 The Contract Sum is based upon and includes the following alternates, if any, which are further described in the Contract Documents and are hereby accepted by the Owner.

All alternate prices set forth in this Section 4.2.1 and in Section 4.2.2 below are "All-Inclusive Prices". For the purposes of this Agreement an "All Inclusive Price" is a price for a portion of the Work which represents the total cost to the Owner for the Contractor's performance, furnishing and installation of such portion of the Work including, without limitation, overhead and profit thereon. Alternate prices are good for both adds and deducts.

§ 4.2.2 Subject to the conditions noted below, the following alternates may be accepted by the Owner following execution of this Agreement. Upon acceptance, the Owner shall issue a Modification to this Agreement.

(Insert below each alternate and the conditions that must be met for the Owner to accept the alternate.)

Item	Price	Conditions for Acceptance

§ 4.3 Allowances, if any, included in the Contract Sum:

(Identify each allowance.)

Item	Price

§ 4.4 Unit prices applicable to the Work, if any, are set forth below (the "Unit Prices").

Unit Prices shall be valid for the life of the Project and represent All-Inclusive Prices. Unit prices are good for both adds and deducts.

Init. /

AIA Document A101™ – 2017. Copyright © 1915, 1918, 1925, 1937, 1951, 1958, 1961, 1963, 1967, 1974, 1977, 1987, 1991, 1997, 2007 and 2017 by The American Institute of Architects. All rights reserved. WARNING: This AIA® Document is protected by U.S. Copyright Law and International Treaties. Unauthorized reproduction or distribution of this AIA® Document, or any portion of it, may result in severe civil and criminal penalties, and will be prosecuted to the maximum extent possible under the law. This document was produced by AIA software at 10:14:13 ET on 01/28/2019 under Order No.4449788754 which expires on 04/27/2019, and is not for resale.
User Notes: (1379427140)

§ 4.5 Liquidated Damages:
It is acknowledged that the Contractor's failure to achieve Substantial Completion of the Work within the Contract Time provided by the Contract Documents will cause the Owner to incur substantial economic damages and losses of types and in amounts which are impossible to compute and ascertain with certainty as a basis for recovery by the Owner of actual damages, and that liquidated damages represent a fair, reasonable and appropriate estimate thereof. Accordingly, in lieu of actual damages for such delay, the Contractor agrees that liquidated damages may be assessed and recovered by the Owner as against the Contractor and its Surety in the event of delayed completion, without the Owner being required to present any evidence of the amount or character of actual damages sustained by reason thereof.

Therefore, the Contractor shall be liable to the Owner for payment of liquidated damages in the amount of _____ Dollars ($_____) for each day that Substantial Completion is delayed beyond the date set forth herein for the achievement of Substantial Completion, as adjusted for time extensions as may have been granted pursuant to the terms and conditions of the Contract Documents. Such liquidated damages are intended to represent estimated actual damages and are not intended as a penalty, and the Contractor shall pay them to the Owner without limiting the Owner's right to terminate this Agreement as provided elsewhere herein.

If, pursuant to Section 3.3.2, the Contractor is required to achieve Substantial Completion of any portion of the Work prior to the date required for the Substantial Completion of the entirety of the Work, the Owner shall be entitled to assess the foregoing liquidated damages for the failure of the Contractor to complete such portion of the Work by the applicable Substantial Completion Date reflected in Section 3.3.2, as adjusted for time extensions as may have been granted pursuant to the terms and conditions of the Contract Documents.

The collection of liquidated damages by the Owner under this Section 4.5 shall be in addition to, and not in lieu of, the Owner's right to recover from the Contractor the Owner's increased costs to complete the Project arising from the Contractor's delay. Further, such liquidated damages shall in no way limit the Owner's other rights under this Agreement or the Owner's entitlement to damages for any other injury, damage or loss, other than for delay, for which the Contractor may be responsible.

§ 4.6
(Paragraphs deleted)
Not Used.

ARTICLE 5 PAYMENTS

§ 5.1 Progress Payments

§ 5.1.1 Based upon Applications for Payment submitted to the Architect by the Contractor and Certificates for Payment issued by the Architect, the Owner shall make progress payments on account of the Contract Sum to the Contractor as provided below and elsewhere in the Contract Documents.

§ 5.1.2 The period covered by each Application for Payment shall be one calendar month ending on the last day of the month.

§ 5.1.3 The Owner shall make payments of amounts certified by the Architect and properly due to the Contractor under each Application for Payment within thirty (30) days after the Owner's and the Architect's receipt of such Application for Payment, provided it is properly submitted, correct and accepted by the Owner in accordance with the provisions of Article 9 of the General Conditions.

§ 5.1.4 Each Application for Payment shall be based on the most recent schedule of values submitted by the Contractor in accordance with the Contract Documents. The schedule of values shall allocate the entire Contract Sum among the various portions of the Work. The schedule of values shall be prepared in such form, and supported by such data to substantiate its accuracy, as the Architect and the Owner may require. This schedule unless objected to by the Architect or the Owner shall be used as a basis for reviewing the Contractor's Applications for Payment.

Init. /

AIA Document A101™ – 2017. Copyright © 1915, 1918, 1925, 1937, 1951, 1958, 1961, 1963, 1967, 1974, 1977, 1987, 1991, 1997, 2007 and 2017 by The American Institute of Architects. All rights reserved. WARNING: This AIA® Document is protected by U.S. Copyright Law and International Treaties. Unauthorized reproduction or distribution of this AIA® Document, or any portion of it, may result in severe civil and criminal penalties, and will be prosecuted to the maximum extent possible under the law. This document was produced by AIA software at 10:14:13 ET on 01/28/2019 under Order No.4449788754 which expires on 04/27/2019, and is not for resale.
User Notes: (1379427140)

§ 5.1.5 Applications for Payment shall show the percentage of completion of each portion of the Work as of the end of the period covered by the Application for Payment.

§ 5.1.6 Subject to the provisions of the Contract Documents, the amount of each progress payment shall be computed as follows:

§ 5.1.6.1 The amount of each progress payment shall first include:

.1 That portion of the Contract Sum properly allocable to completed Work; and

.2 That portion of the Contract Sum properly allocable to materials and equipment delivered and suitably stored at the site for subsequent incorporation in the completed construction, and, if approved in advance by the Owner, suitably stored off the site at a location agreed upon in writing.

§ 5.1.6.2 The amount of each progress payment shall then be reduced by:

.1 The aggregate of any amounts previously paid by the Owner;

.2 The amount, if any, for Work that remains uncorrected and for which the Architect has previously withheld a Certificate for Payment as provided in Article 9 of the General Conditions;

.3 Any amount for which the Contractor does not intend to pay a Subcontractor or material supplier, unless the Work has been performed by others the Contractor intends to pay;

.4 For Work performed or defects discovered since the last payment application, any amount for which the Architect may withhold payment, or nullify a Certificate of Payment in whole or in part, as provided in Article 9 of the General Conditions;

.5 Retainage withheld pursuant to Section 5.1.8; and

.6 Any additional amounts required by law to be withheld by the Owner due to the Contractor's failure to comply with its obligations under Connecticut General Statutes Sections 4a-60, 4a-60(a) or Sections 46a-68c to 46a-68f, inclusive. Unless otherwise required by applicable law, the Owner shall withhold two percent (2%) of each progress payment (the "CHRO Holdback") until such time as the Connecticut Commission on Human Rights and Opportunities ("CHRO") notifies the Owner that it may release the CHRO Holdback to the Contractor.

§ 5.1.7 In addition to the foregoing, the Owner shall make the following payments:

(Paragraphs deleted)

§5.1.7.1 Upon determination by the Owner Representative that "Fifty Percent of the Contract is Completed", the Owner shall calculate the "Excess Retainage Amount" and shall pay the "Excess Retainage Amount" to the Contractor within ninety days after the Owner's receipt of the Application for Payment that first reflects that "Fifty Percent of the Contract is Completed".

§5.1.7.2 Upon Substantial Completion of the Work, the Contractor shall be entitled to payment of the balance of the Contract Sum net of amounts the Owner Representative determines for incomplete or nonconforming Work, retainage applicable to such incomplete or nonconforming Work, the CHRO Holdback, as applicable, and unsettled claims.

§5.1.7.3 Upon acceptance and written consent of the Contractor's surety, if any, and a written statement from the CHRO releasing the Owner from any obligation to withhold the CHRO Holdback, the Contractor shall be entitled to payment of the CHRO Holdback.

§5.1.7.4 If final completion of the Work is materially delayed through no fault of the Contractor, any Subcontractor, Sub-subcontractor or any other party for whom any of them is responsible, the Contractor shall be entitled to payment of any amounts payable in accordance with Section 9.10.3 of the General Conditions.

§ 5.1.8 Retainage

§ 5.1.8.1 For Applications for Payment Prior to Determination that Fifty Percent of the Contract is Completed:
Retainage withheld by the Owner shall be seven and one-half percent (7.5%) of each progress payment.

AIA Document A101™ – 2017. Copyright © 1915, 1918, 1925, 1937, 1951, 1958, 1961, 1963, 1967, 1974, 1977, 1987, 1991, 1997, 2007 and 2017 by The American Institute of Architects. All rights reserved. WARNING: This AIA® Document is protected by U.S. Copyright Law and International Treaties. Unauthorized reproduction or distribution of this AIA® Document, or any portion of it, may result in severe civil and criminal penalties, and will be prosecuted to the maximum extent possible under the law. This document was produced by AIA software at 10:14:13 ET on 01/28/2019 under Order No.4449788754 which expires on 04/27/2019, and is not for resale.
User Notes:

§ 5.1.8.2 For Applications for Payment Following Determination that Fifty Percent of the Contract is Completed: Retainage withheld by the Owner shall be five percent (5.0%) of each progress payment.

§ 5.1.8.3 The Contractor shall not withhold retainage from any Subcontractor in excess of that withheld by the Owner in connection with such Subcontractor's Work. The Contractor shall release retainage to each Subcontractor upon the Contractor's receipt of retainage from the Owner attributable to the Work performed by such Subcontractor.

§ 5.1.8.4 For the purposes of Section 5.1.7 above and this Section 5.1.8, the following terms shall have the following meanings:

§ 5.1.8.4.1 "Fifty Percent of the Contract is Completed" is the stage in the progress of the Work when Certificates for Payment have been issued by the Architect and payment thereof approved by the Owner for an aggregate amount equal to fifty percent (50%) of the Contract Sum, as it may have been adjusted in accordance with the Contract Documents. For the purposes of this subsection 5.1.8.4.1, the Contract Sum shall include amounts payable for pending construction change orders and other pending change directives described in Section 9.3.1.1 of the General Conditions and excludes any amounts paid by joint check pursuant to Section 9.5.4 of the General Conditions.

§ 5.1.8.4.2 "Excess Retainage Amount" shall mean the amount by which the total retainage then withheld by the Owner exceeds the amount of retainage that would have then been withheld by the Owner if the applicable retainage withheld thus far had been based on five percent (5%) of each progress payment made instead of seven and one-half percent (7.5%).

§ 5.1.9 Except with the Owner's prior approval, the Contractor shall not make advance payments to suppliers for materials or equipment which have not been delivered and stored at the site.

§ 5.2 Final Payment

§ 5.2.1 Final payment, constituting the entire unpaid balance of the Contract Sum, shall be made by the Owner to the Contractor when

.1 the Contractor has fully performed the Work and all of its obligations under the Contract Documents except for the Contractor's responsibility to correct Work as provided in Article 12 of the General Conditions, and to satisfy other requirements, if any, which extend beyond final payment; and

.2 a final Certificate for Payment has been issued by the Architect.

§ 5.2.2 The Owner's final payment to the Contractor shall be made no later than thirty (30) days after the issuance of the Architect's final Certificate for Payment subject to the provisions of Article 9 of the General Conditions.

(Paragraphs deleted)

ARTICLE 6 DISPUTE RESOLUTION

§ 6.1 Initial Decision Maker

The Associate Vice President for University Planning, Design and Construction for the Owner (or his/her designee) and in the case of a project for UCONN Health ("UCH"), its Associate Vice President for Facilities Development & Operations (or his/her designee) or their respective successors in function will serve as the Initial Decision Maker pursuant to Article 15 of the General Conditions, unless the parties appoint below another individual, not a party to this Agreement, to serve as the Initial Decision Maker.

(Paragraphs deleted)

§ 6.2

(Paragraphs deleted)

Not Used.

ARTICLE 7 TERMINATION OR SUSPENSION

AIA Document A101™ – 2017. Copyright © 1915, 1918, 1925, 1937, 1951, 1958, 1961, 1963, 1967, 1974, 1977, 1987, 1991, 1997, 2007 and 2017 by The American Institute of Architects. All rights reserved. WARNING: This AIA® Document is protected by U.S. Copyright Law and International Treaties. Unauthorized reproduction or distribution of this AIA® Document, or any portion of it, may result in severe civil and criminal penalties, and will be prosecuted to the maximum extent possible under the law. This document was produced by AIA software at 10:14:13 ET on 01/28/2019 under Order No.4449788754 which expires on 04/27/2019, and is not for resale.
User Notes: (1379427140)

§ 7.1 The Contract may be terminated by the Owner or the Contractor as provided in Article 14 of the General Conditions.

(Paragraphs deleted)
§ 7.2 The Work may be suspended by the Owner as provided in Article 14 of the General Conditions.

ARTICLE 8 MISCELLANEOUS PROVISIONS
§ 8.1 Where reference is made in this Agreement to a provision of the General Conditions or another Contract Document, the reference refers to that provision as amended or supplemented by other provisions of the Contract Documents.

§ 8.2 The Owner Representative
(Paragraphs deleted)
Prior to the commencement of the Work, the Owner shall provide the Contractor with the name and contact information (including an email address for notice pursuant to Section 8.6) for the individual who will serve as the primary point of contact for the Contractor's day to day communications with the University. Except as otherwise expressly provided in the Contract Documents, such individual shall not have the authority to approve or execute Change Orders, or other amendments to the Contract. Claims shall be submitted as provided in Article 15 of the General Conditions.

§ 8.3 The Contractor's Representative
(Name, address, email address, and other information)

_____

§ 8.4 The Contractor's representative shall not be changed without ten days' prior notice to the Owner.

§ 8.5 Insurance and Bonds
§ 8.5.1 The Owner and the Contractor shall purchase and maintain insurance as set forth in **Exhibit A** attached hereto and as provided elsewhere in the Contract Documents.

§ 8.5.2 The Contractor shall provide bonds as described in Article 11 of the General Conditions.

§ 8.6 Notice in electronic
(Paragraphs deleted)
format for the purposes of Section 1.6.1 of the General Conditions from one party to this Agreement to the other shall be transmitted by electronic mail to the email addresses for the designated representatives as provided in Sections 8.2 and 8.3 of this Agreement.

§ 8.7 Other Provisions
§ 8.7.1 The Contractor is hereby specifically cautioned that unless specifically authorized, in writing, by the University's Vice President of Communications or successor in function, on a case by case basis, the Contractor shall have no right to use, and shall not use, in any manner, the name of the University of Connecticut, its officials or employees, or the Seal of the University:
(a) in any advertising, publicity, promotion nor;
(b) to express or to imply any endorsement of the Contractor's work product or services.

§ 8.7.2 The Contractor shall comply, and shall require all Subcontractors, Sub-subcontractors and suppliers to comply, with all of the State Requirements set forth on **Exhibit F** to the extent applicable.

§ 8.7.3 This Agreement may be executed in counterparts, and each counterpart shall have the same force and effect as an original and, when taken together, shall constitute one and the same instrument and an effective binding agreement on the part of each of the undersigned. Execution of a facsimile or PDF copy shall have the same force and effect as execution of an original. Signed copies of this Agreement may be faxed and e-mailed with the same force and effect as if the originally executed Agreement had been delivered.

§ 8.8 Joint Venture/General Partnership

Init.
/
AIA Document A101™ – 2017. Copyright © 1915, 1918, 1925, 1937, 1951, 1958, 1961, 1963, 1967, 1974, 1977, 1987, 1991, 1997, 2007 and 2017 by The American Institute of Architects. All rights reserved. WARNING: This AIA® Document is protected by U.S. Copyright Law and International Treaties. Unauthorized reproduction or distribution of this AIA® Document, or any portion of it, may result in severe civil and criminal penalties, and will be prosecuted to the maximum extent possible under the law. This document was produced by AIA software at 10:14:13 ET on 01/28/2019 under Order No.4449788754 which expires on 04/27/2019, and is not for resale.
User Notes:
(1379427140)

§ 8.8.1 If the Contractor is a joint venture or a general partnership, each member of the joint venture (a "Member") or partner of the partnership ("Partner"), as applicable, shall be jointly, severally and individually responsible to the Owner for the performance of all obligations of the Contractor under the Contract Documents and jointly, severally and individually liable to the Owner for the Contractor's failure to perform such obligations. In its dealings with the Owner, each Member or Partner, as applicable, shall have full authority to act on behalf of and to bind the Contractor as well as all Members or Partners, as applicable. Each Member or Partner, as applicable, shall be considered to be the agent of the Contractor and of all other Members or Partners.

ARTICLE 9 ENUMERATION OF CONTRACT DOCUMENTS

§ 9.1 The Contract Documents, except for Modifications issued after the execution of this Agreement, are enumerated below:

.1 This Agreement

.2 **Exhibit A**, Insurance

.3 The General Conditions

.4

(Paragraphs deleted)

The Master Agreement

.5 Drawings prepared by _____ and dated _____, and listed on the List of Drawings attached as **Exhibit B**, as the

(Table deleted)

same may have been modified or supplemented by Bid Clarifications and Addenda.

.6 Specifications

(Paragraphs deleted)

prepared by _____ and dated _____, and which are listed in the Table of Contents attached as **Exhibit C**

.7 Bid Clarifications and Addenda, if any, are as follows:

Number	Date	Pages

(Paragraph deleted)

.8 Other Exhibits:
Exhibit D - Preliminary Construction Schedule
Exhibit E - Labor Rates

(Paragraphs deleted)

Exhibit F - State Requirements

(Table deleted)

.9 Other documents, if any, forming part of the Contract Documents are listed below:

i. Invitation to Bid for the Project issued by the Owner on _____, _____ including all exhibits and schedule attached thereto and all other documents incorporated therein by reference.
ii. The Owner's Contractor Environmental, Health & Safety Manual current as of the date of the execution of this Agreement by the Owner.
iii. The Owner's Code of Conduct current as of the date of the execution of this Agreement by the Owner.

Signed and agreed by:

AIA Document A101™ – 2017. Copyright © 1915, 1918, 1925, 1937, 1951, 1958, 1961, 1963, 1967, 1974, 1977, 1987, 1991, 1997, 2007 and 2017 by The American Institute of Architects. **All rights reserved.** WARNING: This AIA® Document is protected by U.S. Copyright Law and International Treaties. Unauthorized reproduction or distribution of this AIA® Document, or any portion of it, may result in severe civil and criminal penalties, and will be prosecuted to the maximum extent possible under the law. This document was produced by AIA software at 10:14:13 ET on 01/28/2019 under Order No.4449788754 which expires on 04/27/2019, and is not for resale.
User Notes: (1379427140)

OWNER *(Signature)*	**CONTRACTOR** *(Signature)*
(Printed name and title)	*(Printed name and title)*
Date:	Date:

Init.
/

AIA Document A101™ – 2017. Copyright © 1915, 1918, 1925, 1937, 1951, 1958, 1961, 1963, 1967, 1974, 1977, 1987, 1991, 1997, 2007 and 2017 by The American Institute of Architects. **All rights reserved.** WARNING: This AIA® Document is protected by U.S. Copyright Law and International Treaties. Unauthorized reproduction or distribution of this AIA® Document, or any portion of it, may result in severe civil and criminal penalties, and will be prosecuted to the maximum extent possible under the law. This document was produced by AIA software at 10:14:13 ET on 01/28/2019 under Order No.4449788754 which expires on 04/27/2019, and is not for resale.
User Notes:

EXHIBIT A
INSURANCE REQUIREMENTS

I. CONTRACTOR'S LIABILITY INSURANCE

A. The Contractor shall maintain with a company or companies lawfully authorized to do business in the State of Connecticut such insurance as will protect the Contractor from claims set forth below which may arise out of or result from the Contractor's operations and completed operations under the Contract and for which the Contractor may be legally liable, whether such operations be by the Contractor, a Subcontractor, a Sub-subcontractor, or anyone directly or indirectly employed by any of them, or by anyone for whose acts any of them may be liable:

1. Claims under workers' compensation, disability benefit and other similar employee benefit acts that are applicable to the Work to be performed;
2. Claims for damages because of bodily injury, occupational sickness or disease, or death of the Contractor's employees;
3. Claims for damages because of bodily injury, sickness or disease, or death of any person other than the Contractor's employees;
4. Claims for damages insured by usual personal injury liability coverage;
5. Claims for damages, other than to the Work itself, because of injury to or destruction of tangible property, including loss of use resulting therefrom;
6. Claims for damages because of bodily injury, death of a person or property damage arising out of ownership, maintenance or use of a motor vehicle;
7. Claims for bodily injury or property damage arising out of completed operations; and
8. Claims involving contractual liability applicable to the Contractor's obligations under Section 3.18 of the General Conditions.

B. The insurance required by Section A above shall be written for not less than the limits of liability set forth below or required by law, whichever coverage is greater. Coverages shall be maintained without interruption from the date of commencement of the Work until the date of final payment and, (i) with respect to coverage required to be maintained under the Contract Documents for a period of time after final payment, for such additional period of time, and, (ii) with respect to the Contractor's completed operations coverage, until the expiration of the period for correction of Work and for such additional period as may be specified in the Contract Documents. Coverage for all insurance policies shall be on an occurrence basis, with the exception of the Pollution Liability coverage described in Section I.B.6 herein, which may be on a claims-made basis.

1. **Worker's Compensation Insurance**: Worker's Compensation Insurance in Statutory Limits of the Worker's Compensation Laws of the State of Connecticut, and other extensions, with Coverage B – Employer's Liability of not less than limits of $1,000,000 – Each Accident, $1,000,000 – Policy Limit and $1,000,000 – Each Employee. Coverage under the Broad Form All State extension shall also be included.
2. **Commercial General Liability Insurance**: $1,000,000 combined single limit per occurrence for bodily injury, personal injury and property damage, with no exclusions for hazards of operations (including but not limited to elevators, explosion, collapse and/or underground hazards). Coverage shall include Premises and Operations, Independent Contractors, Products and Completed Operations, Contractual Liability and Broad Form Property Damage coverage. If a general aggregate is used, the general aggregate limit shall apply separately to the project or the general aggregate limit shall be twice the occurrence limit. The coverage shall contain no special limitations on the scope of protection afforded to the State. Said policy shall also state that it is primary insurance. Completed operations coverage shall be maintained for a period of three (3) years after final completion of the Work.
3. **Automobile Liability Insurance**: Automobile Liability Insurance covering all owned, non-owned and hired automobiles, trucks and trailers of the respective parties required to provide and maintain this insurance. Such insurance shall provide coverage not less than that of the Standard Comprehensive Automobile Liability policy in limits not less than, as respects Contractor and all tiers of Subcontractors, $1,000,000 Combined Single Limit each occurrence for Bodily Injury and Property Damage.

4. **Umbrella Liability Insurance:** Umbrella liability (following form) in the amount of $5,000,000 per Occurrence.
5. **Aircraft Liability**: If aircraft of any kind is used by the Contractor, any tier of Subcontractor or by anyone else on their behalf, the Contractor or Subcontractor shall maintain or cause the operator of the aircraft to maintain aircraft public liability insurance insuring passengers and the general public against personal injury, bodily injury or property damage arising from aircraft owned, used, operated or hired in connection with the Work by the Contractor, Subcontractor or anyone else in limits of $50,000,000 Combined Single Limit for any one occurrence, each aircraft. If the aircrafts to be used are unmanned aircrafts, the Contractor, Subcontractor or operator of the aircraft may be permitted by the Owner to maintain other coverages and limits than as provided herein for aircrafts generally if approved by the Owner in writing in advance of the use of such unmanned aircrafts
6. **Contractor's Pollution Liability**: If the work of this project includes the abatement, removal, cleanup or handling of any asbestos, PCB's, lead based paint, or other pollutants or hazardous materials, then the Contractor shall also provide evidence that Pollution Liability Insurance, including completed operations and Contractual Liability coverage of not less than limits of $5,000,000 has been procured and is in force on the project. However, if the Contractor demonstrates that coverage for claims arising out of the abatement, removal, cleanup or other handling of asbestos, PCB's, lead based paint, or other pollutants or hazardous materials is covered by the Contractor's general liability insurance, a separate Contractor's Pollution Liability Policy will not be required.
7. **Professional Liability:** If the Contractor is required to furnish professional services for the Project, the Contractor shall procure Professional Liability insurance covering the performance of the professional services, with policy limits of not less than $1,000,000 per claim and $2,000,000 in the aggregate unless otherwise required by the Owner.
8. **Additional Insured Requirements**: The University of Connecticut, the State of Connecticut, their respective officers, officials, agents, employees, boards and commissions shall be named as Additional Insureds under the coverages described in Paragraphs 2-6 of this Section B and that said coverage(s) is provided for all operations, uses, occupations, acts and activities of the insureds under the Contract Documents and under any amendments, modifications, extensions or renewals of said Contracts regardless of whether liability is attributable to the named insureds or a combination of the named insureds and the additional named insureds. Coverage shall be provided in the form of an endorsement to the Contractor's insurance policy or policies, which endorsement shall be at least as broad as ISO Form CG 20 37 04 13 and ISO Form CG 20 10 04 13.
9. If the Contractor is a joint venture or general partnership, the joint venture or general partnership and each individual member or partner of the joint venture or general partnership, as applicable, must be designated in each policy as named insureds.
10. A Certificate of Insurance shall clearly indicate the Project name, Project number or some easily identifiable reference to the relationship to the Owner.
11. Each liability policy shall contain a Cross Liability Endorsement and shall include a waiver of subrogation clause.
12. All insurance secured by Contractor or Subcontractors pursuant to the Owner's requirements under the provisions of this Section shall be in policies subject to the Owner's approval, as to form, content, limits of liability, cost and issuing companies. Such companies shall have and maintain an A.M. Best rating of not less than A-(VII), or otherwise acceptable to Owner.
13. If the Contractor maintains insurance against physical loss or damage to Contractor's construction equipment and tools, such insurance shall include an insurer's waiver of rights of subrogation in favor of Owner.

C. Certificates of insurance acceptable to the Owner shall be filed with the Owner prior to commencement of the Work and thereafter upon renewal or replacement of each required policy of insurance. These certificates and the insurance policies required under this Exhibit A shall contain a provision that coverages afforded under the policies will not be canceled, terminated or materially changed, altered or allowed to expire until at least thirty (30) days' prior written notice has been given to the Owner. If any of the foregoing insurance coverages are required to remain in force after final payment and are reasonably available, an additional certificate evidencing continuation of liability coverage, including coverage for completed operations, shall be submitted with the final Application for Payment as required by Section 9.10.2 of the General Conditions and thereafter upon renewal or replacement of such coverage until the expiration of the time required by Section I.B of this Exhibit A. Information concerning

reduction of coverage on account of revised limits or claims paid under the General Aggregate, or both, shall be furnished by the Contractor with reasonable promptness in accordance with the Contractor's information and belief and shall identify on their faces the project name and contract number to which they apply. The Certificate(s) of Insurance must also provide clear evidence that the Contractor's Insurance Policies contain at least the minimum limits of coverage and special provisions prescribed in this Exhibit A.

II. PROPERTY INSURANCE

A. Property insurance on an all-risk basis, including coverage for the perils of earthquakes and floods, has been purchased by the Owner. Insurance required by this Section is not intended to cover machinery, tools and equipment of the Contractor which is used in the performance of the Work, but is not incorporated into the permanent improvements, nor any materials and equipment paid for by the Owner and stored off-site, for which the Contractor shall procure property insurance satisfactory to the Owner. The Contractor shall, at is own expense, provide coverage for its machinery, tools and equipment subject to these provisions. Unless the Project is for new construction (rather than for renovations to an existing structure or facilities), the Owner's property insurance program shall provide for Builder's Risk insurance coverage for the Project.

B. **Builder's Risk Insurance:** If the Project is for new construction (rather than for renovations to an existing structure or facilities), the Contractor shall purchase and maintain Builder's Risk Insurance in the amount of the initial Contract Sum (or Guaranteed Maximum Price, as applicable) plus values of subsequent modifications or change orders on a replacement cost basis. The terms and conditions of such Builder's Risk insurance shall be satisfactory to the Owner in all respects. The Builder's Risk coverage shall be written on a Special Covered Cause of Loss form and shall include theft, vandalism, malicious mischief, collapse, temporary buildings, transit, debris removal, increased cost of construction, architect fees and expenses, soft costs, flood and earthquake. Builder's Risk shall include portions of Work located away from site but intended for use at the site. Contractor shall obtain consent of the insurance company and delete any provisions with regard to restrictions within any occupancy clause. Equipment break down coverage shall be included and shall cover insured equipment during installation and testing.

C. As regards Builder's Risk insurance maintained by the Contractor under Section II.B above, the Contractor shall be responsible for all costs not covered because of deductibles required under such insurance. As regards Builder's Risk insurance maintained by the Owner under Section II.A above, if such insurance requires deductibles, the Contractor shall pay costs not covered because of such deductibles provided the subject loss was caused by the acts or omissions of the Contractor, a Subcontractor or Sub-subcontractor or any other person or entity for whom or which any of them is responsible.

D. As regards partial occupancy or use by the Owner the Owner and the Contractor shall take reasonable steps to obtain consent of the insurance company or companies and shall, without mutual written consent, take no action with respect to partial occupancy or use that would cause cancellation, lapse or reduction of insurance.

For Use with GC and CMR Contracts

EXHIBIT F
State of Connecticut Terms and Conditions

1. **STATUTORY AUTHORITY**. Statutory Authority. Connecticut General Statutes §§ 4a-52a, 10a-104, 10a-108, 10a-109d(a)(5) and/or 10a-151b, provide the University with authority to enter into contracts in the pursuit of its mission.

2. **NONDISCRIMINATION**. References in this section to "Contract" shall mean this Agreement and references to "Contractor" shall mean the Contractor.
(a) For purposes of this Section, the following terms are defined as follows: 1) "Commission" means the Commission on Human Rights and Opportunities; 2)"Contract" and "contract" include any extension or modification of the Contract or contract; 3) "Contractor" and "contractor" include any successors or assigns of the Contractor or contractor; 4) "Gender identity or expression" means a person's gender-related identity, appearance or behavior, whether or not that gender-related identity, appearance or behavior is different from that traditionally associated with the person's physiology or assigned sex at birth, which gender-related identity can be shown by providing evidence including, but not limited to, medical history, care or treatment of the gender-related identity, consistent and uniform assertion of the gender-related identity or any other evidence that the gender-related identity is sincerely held, part of a person's core identity or not being asserted for an improper purpose; 5)"good faith" means that degree of diligence which a reasonable person would exercise in the performance of legal duties and obligations; 6)"good faith efforts" shall include, but not be limited to, those reasonable initial efforts necessary to comply with statutory or regulatory requirements and additional or substituted efforts when it is determined that such initial efforts will not be sufficient to comply with such requirements; 7) "marital status" means being single, married as recognized by the State of Connecticut, widowed, separated or divorced; 8) "mental disability" means one or more mental disorders, as defined in the most recent edition of the American Psychiatric Association's "Diagnostic and Statistical Manual of Mental Disorders", or a record of or regarding a person as having one or more such disorders; 9) "minority business enterprise" means any small contractor or supplier of materials fifty-one percent or more of the capital stock, if any, or assets of which is owned by a person or persons: (1) who are active in the daily affairs of the enterprise, (2) who have the power to direct the management and policies of the enterprise, and (3) who are members of a minority, as such term is defined in subsection (a) of Conn. Gen. Stat. § 32-9n; and 10) "public works contract" means any agreement between any individual, firm or corporation and the State or any political subdivision of the State other than a municipality for construction, rehabilitation, conversion, extension, demolition or repair of a public building, highway or other changes or improvements in real property, or which is financed in whole or in part by the State, including, but not limited to, matching expenditures, grants, loans, insurance or guarantees.

For purposes of this Section, the terms "Contract" and "contract" do not include a contract where each contractor is (1) a political subdivision of the state, including, but not limited to, a municipality, unless the contract is a municipal public works contract or quasi-public agency project contract, (2) any other state, including but not limited to any federally recognized Indian tribal governments, as defined in Conn. Gen. Stat. § 1-267, (3) the federal government, (4) a foreign government, or (5) an agency of a subdivision, state or government described in the immediately preceding enumerated items (1), (2), (3), or (4).

(b) (1) The Contractor agrees and warrants that in the performance of the Contract such Contractor will not discriminate or permit discrimination against any person or group of persons on the grounds of race, color, religious creed, age, marital status, national origin, ancestry, sex, gender identity or expression, status as a veteran, intellectual disability, mental disability or physical disability, including, but not limited to, blindness, unless it is shown by such Contractor that such disability prevents performance of the work involved, in any manner prohibited by the laws of the United States or of the State of Connecticut; and the Contractor further agrees to take affirmative action to ensure that applicants with job-related qualifications are employed and that employees are treated when employed without regard to their race, color, religious creed, age, marital status, national origin, ancestry, sex, gender identity or expression, status as a veteran, intellectual disability, mental disability or physical disability, including, but not limited to, blindness, unless it is shown by the Contractor that such disability prevents performance of the work involved; (2) the Contractor agrees, in all solicitations or advertisements for employees placed by or on behalf of the Contractor, to state that it is an "affirmative action equal opportunity employer" in accordance with regulations adopted by the Commission; (3) the Contractor agrees to provide each labor union or representative of workers with which the Contractor has a collective bargaining Agreement or other contract

or understanding and each vendor with which the Contractor has a contract or understanding, a notice to be provided by the Commission, advising the labor union or workers' representative of the Contractor's commitments under this section and to post copies of the notice in conspicuous places available to employees and applicants for employment; (4) the Contractor agrees to comply with each provision of this Section and Conn. Gen. Stat. §§ 46a-68e and 46a-68f and with each regulation or relevant order issued by said Commission pursuant to Conn. Gen. Stat. §§ 46a-56, 46a-68e, 46a-68f and 46a-86; and (5) the Contractor agrees to provide the Commission on Human Rights and Opportunities with such information requested by the Commission, and permit access to pertinent books, records and accounts, concerning the employment practices and procedures of the Contractor as relate to the provisions of this Section and Conn. Gen. Stat. § 46a-56. If the contract is a public works contract, municipal public works contract or contract for a quasi-public agency project, the Contractor agrees and warrants that he or she will make good faith efforts to employ minority business enterprises as subcontractors and suppliers of materials on such public works or quasi-public agency projects.

(c) Determination of the Contractor's good faith efforts shall include, but shall not be limited to, the following factors: The Contractor's employment and subcontracting policies, patterns and practices; affirmative advertising, recruitment and training; technical assistance activities and such other reasonable activities or efforts as the Commission may prescribe that are designed to ensure the participation of minority business enterprises in public works projects.

(d) The Contractor shall develop and maintain adequate documentation, in a manner prescribed by the Commission, of its good faith efforts.

(e) The Contractor shall include the provisions of subsection (b) of this Section in every subcontract or purchase order entered into in order to fulfill any obligation of a contract with the State and in every subcontract entered into in order to fulfill any obligation of a municipal public works contract for a quasi-public agency project, and such provisions shall be binding on a subcontractor, vendor or manufacturer unless exempted by regulations or orders of the Commission. The Contractor shall take such action with respect to any such subcontract or purchase order as the Commission may direct as a means of enforcing such provisions including sanctions for noncompliance in accordance with Conn. Gen. Stat. § 46a-56 as amended; provided if such Contractor becomes involved in, or is threatened with, litigation with a subcontractor or vendor as a result of such direction by the Commission regarding a State contract, the Contractor may request the State of Connecticut to enter into any such litigation or negotiation prior thereto to protect the interests of the State and the State may so enter.

(f) The Contractor agrees to comply with the regulations referred to in this Section as they exist on the date of this Contract and as they may be adopted or amended from time to time during the term of this Contract and any amendments thereto.

(g) (1) The Contractor agrees and warrants that in the performance of the Contract such Contractor will not discriminate or permit discrimination against any person or group of persons on the grounds of sexual orientation, in any manner prohibited by the laws of the United States or the State of Connecticut, and that employees are treated when employed without regard to their sexual orientation; (2) the Contractor agrees to provide each labor union or representative of workers with which such Contractor has a collective bargaining Agreement or other contract or understanding and each vendor with which such Contractor has a contract or understanding, a notice to be provided by the Commission on Human Rights and Opportunities advising the labor union or workers' representative of the Contractor's commitments under this section, and to post copies of the notice in conspicuous places available to employees and applicants for employment; (3) the Contractor agrees to comply with each provision of this section and with each regulation or relevant order issued by said Commission pursuant to Conn. Gen. Stat. § 46a-56; and (4) the Contractor agrees to provide the Commission on Human Rights and Opportunities with such information requested by the Commission, and permit access to pertinent books, records and accounts, concerning the employment practices and procedures of the Contractor which relate to the provisions of this Section and Conn. Gen. Stat. § 46a-56.

(h) The Contractor shall include the provisions of the foregoing paragraph in every subcontract or purchase order entered into in order to fulfill any obligation of a contract with the State and such provisions shall be binding on a subcontractor, vendor or manufacturer unless exempted by regulations or orders of the Commission. The Contractor shall take such action with respect to any such subcontract or purchase order as the Commission may direct as a means of enforcing such provisions including sanctions for noncompliance in accordance with Conn. Gen. Stat. § 46a-56 as amended; provided, if such Contractor becomes involved in, or is threatened with, litigation with a subcontractor or vendor as a result of such direction by the Commission regarding a State contract, the

Contractor may request the State of Connecticut to enter into any such litigation or negotiation prior thereto to protect the interests of the State and the State may so enter.

3. STATE EXECUTIVE ORDERS

This Contract is subject to the provisions of Executive Order No. Three of Governor Thomas J. Meskill, promulgated June 16, 1971, concerning labor employment practices, Executive Order No. Seventeen of Governor Thomas J. Meskill, promulgated February 15, 1973, concerning the listing of employment openings and Executive Order No. Sixteen of Governor John G. Rowland promulgated August 4, 1999, concerning violence in the workplace, all of which are incorporated into and are made a part of the Contract as if they had been fully set forth in it. The Contract may also be subject to Executive Order No. 14 of Governor M. Jodi Rell, promulgated April 17, 2006, concerning procurement of cleaning products and services and to Executive Order No. 49 of Governor Dannel P. Malloy, promulgated May 22, 2015, mandating disclosure of certain gifts to public employees and contributions to certain candidates for office. If Executive Order 14 and/or Executive Order 49 are applicable, they are deemed to be incorporated into and are made a part of the Contract as if they had been fully set forth in it. At the Contractor's request, the Owner shall provide a copy of these orders to the Contractor.

4. ETHICS AND COMPLIANCE

Contractor acknowledges that by doing business with or seeking to do business with the State it is subject to certain provisions of the Code of Ethics for Public Officials of the State of Connecticut (the "Code of Ethics") applicable to current or prospective state contractors. Contractor acknowledges receipt and review of the "Guide to the Code of Ethics for Current or Potential State Contractors" as currently posted on the Web site of the Office of State Ethics www.ct.gov/ethics and agrees to comply with all provisions of the Code of Ethics applicable to Contractor as a current or potential state contractor. As required under Connecticut General Statutes §1-101qq, the Contractor will include the foregoing reference to the state ethics law summary in each subcontract entered into with Subcontractors in connection with the Project.

In accordance with the Owner's compliance program, the Owner has in place an anonymous ethics and compliance reporting hotline service – 1-888-685-2637. Any person who is aware of unethical practices, fraud, violation of state laws or regulations or other concerns relating to Owner policies and procedures can report such matters anonymously.

Such persons may also directly contact the Owner's compliance office at: Office of Audit, Compliance, and Ethics, 9 Walters Avenue, Unit 5084, Storrs, CT 06269-5084; Phone 860-486-4526; Fax 860-486-4527. As a provider of goods and/or services to the Owner, you are hereby required to notify your employees, as well as any subcontractors, who are involved in the implementation of this contract, of this reporting mechanism.

5. CAMPAIGN CONTRIBUTION RESTRICTIONS

For all State contracts as defined in section 9-612 of the Connecticut General Statutes having a value in a calendar year of $50,000 or more or a combination or series of such agreements or contracts having a value of $100,000 or more, the authorized signatory to this Contract expressly acknowledges receipt of the State Elections Enforcement Commission's notice advising state contractors of state campaign contribution and solicitation prohibitions, and will inform its principals of the contents of the notice (SEEC Form 11):

SEEC FORM 11 CONNECTICUT STATE ELECTIONS ENFORCEMENT COMMISSION (Rev.7/18)

Notice to Executive Branch State Contractors and Prospective State Contractors of Campaign Contribution and Solicitation Limitations

This notice is provided under the authority of Connecticut General Statutes §9-612 (f) (2) and is for the purpose of informing state contractors and prospective state contractors of the following law (italicized words are defined on the reverse side of this page).

CAMPAIGN CONTRIBUTION AND SOLICITATION LIMITATIONS

No state contractor, prospective state contractor, principal of a state contractor or principal of a prospective state contractor, with regard to a state contract or state contract solicitation with or from a state agency in the executive branch or a quasi-public agency or a holder, or principal of a holder, of a valid prequalification certificate, shall make a contribution to (i) an exploratory committee or candidate committee established by a candidate for nomination or election to the office of Governor, Lieutenant Governor, Attorney General, State Comptroller, Secretary of the State or State Treasurer, (ii) a political committee authorized to make

contributions or expenditures to or for the benefit of such candidates, or (iii) a party committee (which includes town committees).

In addition, no holder or principal of a holder of a valid prequalification certificate, shall make a contribution to (i) an exploratory committee or candidate committee established by a candidate for nomination or election to the office of State senator or State representative, (ii) a political committee authorized to make contributions or expenditures to or for the benefit of such candidates, or (iii) a party committee.

On and after January 1, 2011, no state contractor, prospective state contractor, principal of a state contractor or principal of a prospective state contractor, with regard to a state contract or state contract solicitation with or from a state agency in the executive branch or a quasi- public agency or a holder, or principal of a holder of a valid prequalification certificate, shall knowingly solicit contributions from the state contractor's or prospective state contractor's employees or from a subcontractor or principals of the subcontractor on behalf of (i) an exploratory committee or candidate committee established by a candidate for nomination or election to the office of Governor, Lieutenant Governor, Attorney General, State Comptroller, Secretary of the State or State Treasurer, (ii) a political committee authorized to make contributions or expenditures to or for the benefit of such candidates, or (iii) a party committee.

DUTY TO INFORM

State contractors and prospective state contractors are required to inform their principals of the above prohibitions, as applicable, and the possible penalties and other consequences of any violation thereof.

PENALTIES FOR VIOLATIONS

Contributions or solicitations of contributions made in violation of the above prohibitions may result in the following civil and criminal penalties:

Civil penalties —Up to $2,000 or twice the amount of the prohibited contribution, whichever is greater, against a principal or a contractor. Any state contractor or prospective state contractor which fails to make reasonable efforts to comply with the provisions requiring notice to its principals of these prohibitions and the possible consequences of their violations may also be subject to civil penalties of up to $2,000 or twice the amount of the prohibited contributions made by their principals.

Criminal penalties —Any knowing and willful violation of the prohibition is a Class D felony, which may subject the violator to imprisonment of not more than 5 years, or not more than $5,000 in fines, or both.

CONTRACT CONSEQUENCES

In the case of a state contractor, contributions made or solicited in violation of the above prohibitions may result in the contract being voided.

In the case of a prospective state contractor, contributions made or solicited in violation of the above prohibitions shall result in the contract described in the state contract solicitation not being awarded to the prospective state contractor, unless the State Elections Enforcement Commission determines that mitigating circumstances exist concerning such violation.

The State shall not award any other state contract to anyone found in violation of the above prohibitions for a period of one year after the election for which such contribution is made or solicited, unless the State Elections Enforcement Commission determines that mitigating circumstances exist concerning such violation.

Additional information may be found on the website of the State Elections Enforcement Commission, www.ct. go v/ see c . Click on the link to "Lobbyist/Contractor Limitations."

DEFINITIONS

"State contractor" means a person, business entity or nonprofit organization that enters into a state contract. Such person, business entity or nonprofit organization shall be deemed to be a state contractor until December thirty-first of the year in which such contract terminates. "State contractor" does not include a municipality or any other political subdivision of the state, including any entities or associations duly created by the municipality or political subdivision exclusively amongst themselves to further any purpose authorized by statute or charter, or an employee in the executive or legislative branch of state government or a quasi-public agency, whether in the classified or unclassified service and full or part-time, and only in such person's capacity as a state or quasi-public agency employee.

"Prospective state contractor" means a person, business entity or nonprofit organization that (i) submits a response to a state contract

solicitation by the state, a state agency or a quasi-public agency, or a proposal in response to a request for proposals by the state, a state agency or a quasi-public agency, until the contract has been entered into, or (ii) holds a valid prequalification certificate issued by the Commissioner of Administrative Services under section 4a-100.

"Prospective state contractor" does not include a municipality or any other political subdivision of the state, including any entities or associations duly created by the municipality or political subdivision exclusively amongst themselves to further any purpose authorized by statute or charter, or an employee in the executive or legislative branch of state government or a quasi-public agency, whether in the classified or unclassified service and full or part-time, and only in such person's capacity as a state or quasi-public agency employee.

"Principal of a state contractor or prospective state contractor" means (i) any individual who is a member of the board of directors of, or has an ownership interest of five per cent or more in, a state contractor or prospective state contractor, which is a business entity, except for an individual who is a member of the board of directors of a nonprofit organization, (ii) an individual who is employed by a state contractor or prospective state contractor, which is a business entity, as president, treasurer or executive vice president, (iii) an individual who is the chief executive officer of a state contractor or prospective state contractor, which is not a business entity, or if a state contractor or prospective state contractor has no such officer, then the officer who duly possesses comparable powers and duties, (iv) an officer or an employee of any state contractor or prospective state contractor who has *managerial or discretionary responsibilities with respect to a state contract,* (v) the spouse or a *dependent child* who is eighteen years of age or older of an individual described in this subparagraph, or (vi) a political committee established or controlled by an individual described in this subparagraph or the business entity or nonprofit organization that is the state contractor or prospective state contractor.

"State contract" means an agreement or contract with the state or any state agency or any quasi-public agency, let through a procurement process or otherwise, having a value of fifty thousand dollars or more, or a combination or series of such agreements or contracts having a value of one hundred thousand dollars or more in a calendar year, for (i) the rendition of services, (ii) the furnishing of any goods, material, supplies, equipment or any items of any kind, (iii) the construction, alteration or repair of any public building or public work, (iv) the acquisition, sale or lease of any land or building, (v) a licensing arrangement, or (vi) a grant, loan or loan guarantee.

"State contract" does not include any agreement or contract with the state, any state agency or any quasi-public agency that is exclusively federally funded, an education loan, a loan to an individual for other than commercial purposes or any agreement or contract between the state or any state agency and the United States Department of the Navy or the United States Department of Defense.

"State contract solicitation" means a request by a state agency or quasi-public agency, in whatever form issued, including, but not limited to, an invitation to bid, request for proposals, request for information or request for quotes, inviting bids, quotes or other types of submittals, through a competitive procurement process or another process authorized by law waiving competitive procurement.

"Managerial or discretionary responsibilities with respect to a state contract" means having direct, extensive and substantive responsibilities with respect to the negotiation of the state contract and not peripheral, clerical or ministerial responsibilities.

"Dependent child" means a child residing in an individual's household who may legally be claimed as a dependent on the federal income tax of such individual.

"Solicit" means (A) requesting that a contribution be made, (B) participating in any fundraising activities for a candidate committee, exploratory committee, political committee or party committee, including, but not limited to, forwarding tickets to potential contributors, receiving contributions for transmission to any such committee, serving on the committee that is hosting a fundraising event, introducing the candidate or making other public remarks at a fundraising event, being honored or otherwise recognized at a fundraising event, or bundling contributions, (C) serving as chairperson, treasurer or deputy treasurer of any such committee, or (D) establishing a political committee for the sole purpose of soliciting or receiving contributions for any committee. Solicit does not include: (i) making a contribution that is otherwise permitted by Chapter 155 of the Connecticut General Statutes; (ii) informing any person of a position taken by a candidate for public office or a public official, (iii) notifying the person of any activities of, or contact information for, any candidate for public office; or (iv) serving as a member in any party committee or as an officer of such committee that is not otherwise prohibited in this section.

"Subcontractor" means any person, business entity or nonprofit organization that contracts to perform part or all of the obligations of a state contractor's state contract. Such person, business entity or nonprofit organization shall be deemed to be a subcontractor until December thirty first of the year in which the subcontract terminates. "Subcontractor" does not include (i) a municipality or any other political subdivision of the state, including any entities or associations duly created by the municipality or political subdivision exclusively amongst themselves to further any purpose authorized by statute or charter, or (ii) an employee in the executive or legislative branch of state government or a quasi-public agency, whether in the classified or unclassified service and full or part- time, and only in such person's capacity as a state or quasi-public agency employee.

"Principal of a subcontractor" means (i) any individual who is a member of the board of directors of, or has an ownership interest of five per cent or more in, a subcontractor, which is a business entity, except for an individual who is a member of the board of directors of a nonprofit organization, (ii) an individual who is employed by a subcontractor, which is a business entity, as president, treasurer or executive vice president, (iii) an individual who is the chief executive officer of a subcontractor, which is not a business entity, or if a subcontractor has no such officer, then the officer who duly possesses comparable powers and duties, (iv) an officer or an employee of any subcontractor who has managerial or discretionary responsibilities with respect to a subcontract with a state contractor, (v) the spouse or a dependent child who is eighteen years of age or older of an individual described in this subparagraph, or (vi) a political committee established or controlled by an individual described in this subparagraph or the business entity or nonprofit organization that is the subcontractor.

6. WHISTLEBLOWING

This Contract is subject to the provisions of § 4-61dd of the Connecticut General Statutes. In accordance with this statute, if an officer, employee or appointing authority of the Contractor takes or threatens to take any personnel action against any employee of the Contractor in retaliation for such employee's disclosure of

information to any employee of the Contracting state or quasi-public agency or the Auditors of Public Accounts or the Attorney General under the provisions of subsection (a) of such statute, the Contractor shall be liable for a civil penalty of not more than five thousand dollars for each offense, up to a maximum of twenty per cent of the value of this Contract. Each violation shall be a separate and distinct offense and in the case of a continuing violation, each calendar day's continuance of the violation shall be deemed to be a separate and distinct offense. The Owner may request that the Attorney General bring a civil action in the Superior Court for the Judicial District of Hartford to seek imposition and recovery of such civil penalty. In accordance with subsection (f) of such statute, each large state Contractor, as defined in the statute, shall post a notice of the provisions of the statute relating to large state Contractors in a conspicuous place which is readily available for viewing by the employees of the Contractor.

7. CODE OF CONDUCT

In furtherance of its longstanding commitment to fundamental human rights, to the dignity of all people, and to the environment, the Owner has developed the Code of Conduct for University of Connecticut Vendors (the "Vendor Code of Conduct"). The Contractor hereby acknowledges receipt of the Vendor Code of Conduct. A copy of the Vendor Code of Conduct is available at http://csr.uconn.edu/. The Vendor Code of Conduct is hereby incorporated herein by reference to the extent the Contractor is required to comply with the same pursuant to this section.

The Contractor agrees to comply with the "Principal Expectations" described in the Vendor Code of Conduct. The Contractor further agrees to comply with the "Preferential Standards" described in the Vendor Code of Conduct, to the extent a commitment to so comply, or a representation of compliance, was provided by the Contractor to the Owner in writing. Any such commitment or representation is hereby incorporated herein by reference.

The Contractor agrees to provide the Owner with such evidence of Contractor's compliance with this section as the Owner reasonably requests and to, at the request of the Owner, provide a comprehensive, annual summary report of the Contractor's corporate social and environmental practices.

8. BACKGROUND CHECKS

The Contractor shall comply with all of the Owner's background screening requirements applicable to the Project (the "Screening Requirements"). If the Project is to take place on the UConn Health campus in Farmington, Connecticut, the Screening Requirements will be outlined in the Specifications for the Project. If the Project is located on any other campus of the Owner, the Screening Requirements will be outlined in the Bid Documents for the Project. The Contractor warrants that it will not assign any employee, independent contractor or agent to perform services under this Contract unless that employee, independent contractor or agent is cleared for work on the Project by the Contractor, in a manner consistent with the Screening Requirements, for performing such services. Without limiting the foregoing, the Contractor shall immediately remove any employee, independent contractor or agents performing services under this Contract on any campus of the Owner if it becomes known to the Contractor that such person may be a danger to the health or safety of the campus community, or at the request of the Owner based on a concern of community or individual safety.

Without limiting the obligations of the Contractor under §3.18 of the General Conditions, the Contractor shall defend, indemnify and hold harmless the state of Connecticut, the Owner, and all of their employees, agents and/or assigns for and against any claims, suits or proceedings resulting from the failure of the Contractor to comply with the Screening Requirements and/or that are caused in whole or in part by the actions or omissions of the Contractor, any Subcontractor, Sub-subcontractor, their respective employees, or any other person or entity for whom any of them is responsible.

AIA® Document A201™ – 2017

General Conditions of the Contract for Construction

AIA A201-2017 FOR USE WITH A101-2017 FOR ON-CALL TRADE ($100,000-$500,000)
Rev. 12-19-18

for the following PROJECT:
(Name and location or address)

THE OWNER:
(Name and address)

THE CONTRACTOR:
(Name and address)

THE ARCHITECT:
(Name and address)

ADDITIONS AND DELETIONS:
The author of this document has added information needed for its completion. The author may also have revised the text of the original AIA standard form. An *Additions and Deletions Report* that notes added information as well as revisions to the standard form text is available from the author and should be reviewed. A vertical line in the left margin of this document indicates where the author has added necessary information and where the author has added to or deleted from the original AIA text.

This document has important legal consequences. Consultation with an attorney is encouraged with respect to its completion or modification.

For guidance in modifying this document to include supplementary conditions, see AIA Document A503™, Guide for Supplementary Conditions.

TABLE OF ARTICLES

1 GENERAL PROVISIONS
2 OWNER
3 CONTRACTOR
4 ARCHITECT
5 SUBCONTRACTORS
6 CONSTRUCTION BY OWNER OR BY SEPARATE CONTRACTORS
7 CHANGES IN THE WORK
8 TIME
9 PAYMENTS AND COMPLETION
10 PROTECTION OF PERSONS AND PROPERTY
11 INSURANCE AND BONDS

AIA Document A201™ – 2017. Copyright © 1911, 1915, 1918, 1925, 1937, 1951, 1958, 1961, 1963, 1966, 1970, 1976, 1987, 1997, 2007 and 2017 by The American Institute of Architects. All rights reserved. WARNING: This AIA® Document is protected by U.S. Copyright Law and International Treaties. Unauthorized reproduction or distribution of this AIA® Document, or any portion of it, may result in severe civil and criminal penalties, and will be prosecuted to the maximum extent possible under the law. This document was produced by AIA software at 11:58:18 ET on 02/08/2019 under Order No.4449788754 which expires on 04/27/2019, and is not for resale.
User Notes: (1883989588)

Init. /

12 UNCOVERING AND CORRECTION OF WORK

13 MISCELLANEOUS PROVISIONS

14 TERMINATION OR SUSPENSION OF THE CONTRACT

15 CLAIMS AND DISPUTES

Init.
/

AIA Document A201™ – 2017. Copyright © 1911, 1915, 1918, 1925, 1937, 1951, 1958, 1961, 1963, 1966, 1970, 1976, 1987, 1997, 2007 and 2017 by The American Institute of Architects. All rights reserved. WARNING: This AIA® Document is protected by U.S. Copyright Law and International Treaties. Unauthorized reproduction or distribution of this AIA® Document, or any portion of it, may result in severe civil and criminal penalties, and will be prosecuted to the maximum extent possible under the law. This document was produced by AIA software at 11:58:18 ET on 02/08/2019 under Order No.4449788754 which expires on 04/27/2019, and is not for resale.
User Notes: (1883989588)

ARTICLE 1 GENERAL PROVISIONS

§ 1.1 Basic Definitions

(Paragraphs deleted)

§ 1.1.1 The Contract Documents

The Contract Documents are enumerated in the Agreement between the Owner and Contractor (hereinafter the "Agreement") and consist of the Master Agreement (as defined in the Agreement), the Agreement, these General Conditions of the Contract for Construction (hereinafter the "General Conditions"), Drawings, Specifications, Addenda issued prior to execution of the Contract, other documents listed in the Agreement, and Modifications issued after execution of the Contract. A Modification is (1) a written amendment to the Contract signed by both parties; (2) a Change Order; (3) a Construction Change Directive; or (4) a written order for a minor change in the Work issued by the Architect.

§ 1.1.2 The Contract

The Contract Documents form the Contract for Construction. The Contract represents the entire and integrated agreement between the parties hereto and supersedes prior negotiations, representations or agreements, either written or oral. The Contract may be amended or modified only by a Modification. The Contract Documents shall not be construed to create a contractual relationship of any kind (1) between the Contractor and the Architect or the Architect's consultants; (2) between the Owner and a Subcontractor or a Sub-subcontractor; (3) between the Owner and the Architect or the Architect's consultants; or (4) between any persons or entities other than the Owner and the Contractor. The Architect shall, however, be entitled to performance and enforcement of obligations under the Contract intended to facilitate performance of the Architect's duties.

§ 1.1.3 The Work

The term "Work" means all of the construction and services required by, described in, reasonably inferable from, and as necessary to produce the results required by the Contract Documents, whether completed or partially completed, and includes, without limitation, the furnishing of (1) all materials, supplies, equipment, fixtures, tools, implements, and other items and facilities required for, or in connection with, or for inclusion or incorporation into, the Project; and (2) all labor, supervision, transportation, utilities, storage and all other services required for or in connection with the Project, except as specifically indicated in the Contract Documents to be the responsibility of others. The Work may constitute the whole or a part of the Project, whether on or off the site of the Project.

§ 1.1.4 The Project

The Project is the total construction of which the Work performed under the Contract Documents may be the whole or a part, and which may include construction by the Owner and by Separate Contractors.

§ 1.1.5 The Drawings

The Drawings are the graphic and pictorial portions of the Contract Documents showing the design, location, and dimensions of the Work, generally including plans, elevations, sections, details, schedules, and diagrams.

§ 1.1.6 The Specifications

The Specifications are that portion of the Contract Documents consisting of the written requirements for materials, equipment, systems, standards and workmanship for the Work, and performance of related services.

(Paragraphs deleted)

§ 1.1.7 Instruments of Service

Instruments of Service are representations, in any medium of expression now known or later developed, of the tangible and intangible creative work performed by the Architect and the Architect's consultants under their respective professional services agreements. Instruments of Service may include, without limitation, studies, surveys, models, sketches, drawings, specifications, and other similar materials and Instruments of Service may be in paper or electronic form.

§ 1.1.8 Initial Decision Maker

The Initial Decision Maker is the person identified in Section 6.1 of the Agreement to render initial decisions on Claims in accordance with Section 15.2.

AIA Document A201™ – 2017. Copyright © 1911, 1915, 1918, 1925, 1937, 1951, 1958, 1961, 1963, 1966, 1970, 1976, 1987, 1997, 2007 and 2017 by The American Institute of Architects. All rights reserved. WARNING: This AIA® Document is protected by U.S. Copyright Law and International Treaties. Unauthorized reproduction or distribution of this AIA® Document, or any portion of it, may result in severe civil and criminal penalties, and will be prosecuted to the maximum extent possible under the law. This document was produced by AIA software at 11:58:18 ET on 02/08/2019 under Order No.4449788754 which expires on 04/27/2019, and is not for resale.
User Notes:
(1883989588)

§ 1.2 Correlation and Intent of the Contract Documents

§ 1.2.1 Intent of the Contract Documents

The intent of the Contract Documents is to include all items necessary for the proper execution and completion of the Work by the Contractor. The Contract Documents are complementary, and what is required by one shall be as binding as if required by all; performance by the Contractor shall be required only to the extent consistent with the Contract Documents and reasonably inferable from them as being necessary to produce the indicated results.

§ 1.2.1.1 Severability

The invalidity of any provision of the Contract Documents shall not invalidate the Contract or its remaining provisions. If it is determined that any provision of the Contract Documents violates any law, or is otherwise invalid or unenforceable, then that provision shall be revised to the extent necessary to make that provision legal and enforceable. In such case the Contract Documents shall be construed, to the fullest extent permitted by law, to give effect to the parties' intentions and purposes in executing the Contract.

§ 1.2.1.2 Inconsistencies

In the event of inconsistencies within or between parts of the Contract Documents or between the Contract Documents and applicable standards, codes, and ordinances, the Contractor shall: (1) provide the better quality or greater quantity of Work; or (2) comply with the more stringent requirement; either or both in accordance with the Owner Representative's interpretation. The terms and conditions of this Section 1.2.1.2 however, shall not relieve the Contractor of any of the obligations set forth in Sections 3.2 and 3.7.

§ 1.2.1.1.1 Before ordering any materials or equipment or performing any Work, the Contractor shall verify the figures shown on the Drawings before laying out the Work and will be responsible for any errors or inaccuracies resulting from Contractor's failure to do so. In the event that the Contractor shall, while laying out the Work, become aware of: (1) any conflicts between (a) the Drawings, the Specifications or any Modification to the Drawings or the Specifications and (b) the actual layout of the Work, or (2) any conflicts or inconsistencies in the Drawings, the Specifications or any Modification to the Drawings or the Specifications themselves, Contractor shall promptly notify the Architect. If the Contractor proceeds without the Architect's clarification and instruction on the matter, the Contractor shall proceed at Contractor's own risk.

§ 1.2.1.1.2 If a minor change in the Work is found necessary to address actual field conditions, the Contractor shall submit detailed drawings to reflect such change for approval by the Architect before implementing such change in the Work.

§ 1.2.2 Organization of the Specifications into divisions, sections and articles, and arrangement of Drawings shall not control the Contractor in dividing the Work among Subcontractors or in establishing the extent of Work to be performed by any trade.

§ 1.2.3 Unless otherwise stated in the Contract Documents, words that have well-known technical or construction industry meanings are used in the Contract Documents in accordance with such recognized meanings.

(Paragraphs deleted)

§ 1.3 Capitalization

Terms capitalized in these General Conditions include those that are (1) specifically defined, (2) the titles of numbered articles or (3) the titles of other documents published by the American Institute of Architects.

§ 1.4 Interpretation

In the interest of brevity, the Contract Documents frequently omit modifying words such as "all" and "any" and articles such as "the" and "an," but the fact that a modifier or an article is absent from one statement and appears in another is not intended to affect the interpretation of either statement.

§ 1.5 Ownership and Use of Drawings, Specifications and other Instruments of Service

§ 1.5.1 The Owner will retain all common law, statutory and other reserved rights, including copyrights, in the

AIA Document A201™ – 2017. Copyright © 1911, 1915, 1918, 1925, 1937, 1951, 1958, 1961, 1963, 1966, 1970, 1976, 1987, 1997, 2007 and 2017 by The American Institute of Architects. All rights reserved. WARNING: This AIA® Document is protected by U.S. Copyright Law and International Treaties. Unauthorized reproduction or distribution of this AIA® Document, or any portion of it, may result in severe civil and criminal penalties, and will be prosecuted to the maximum extent possible under the law. This document was produced by AIA software at 11:58:18 ET on 02/08/2019 under Order No.4449788754 which expires on 04/27/2019, and is not for resale.
User Notes: (1883989588)

Instruments of Service as provided in the contract between the Owner and the Architect. Unless otherwise indicated in such contract, the Architect and the Architect's consultants shall be deemed the authors of their respective Instruments of Service. Upon completion of the Work, and at the request of the Architect, all copies of the Instruments of Service, except one record set that may be retained by the Contractor, shall be returned or suitably accounted for to the Architect. None of the Contractor, Subcontractor, Sub-subcontractor, or any material or equipment supplier shall own or claim a copyright in the Instruments of Service. The Instruments of Service and other documents prepared by the Architect and the Architect's consultants, and copies thereof furnished to the Contractor, are for use solely with respect to the Project. None of the Contractor, a Subcontractor, Sub-subcontractor, or any material or equipment suppliers may use the Instruments of Service on other projects or for additions to the Project outside the scope of the Work without the specific written consent of the Owner, Architect, and the Architect's consultants.

§ 1.5.2 The Contractor, Subcontractors, Sub-subcontractors and material or equipment suppliers are authorized to use and reproduce applicable portions of the Drawings, Specifications and other documents prepared by the Architect and the Architect's consultants appropriate to and for use in the execution of the Work under the Contract Documents. All copies made under this authorization shall bear the statutory copyright notice, if any, shown on the Drawings, Specifications and other documents. Submittal or distribution to meet official regulatory requirements or for other purposes in connection with this Project is not to be construed as publication in derogation of the Architect's or Architect's consultants' reserved rights.

§ 1.6 Notice

§ 1.6.1 Except as otherwise provided in Section 1.6.2, where the Contract Documents require one party to notify or give notice to the other party, such notice shall be provided in writing to the designated representative of the party to whom the notice is addressed and shall be deemed to have been duly served if delivered in person, by mail, by courier, or by electronic transmission if a method for electronic transmission is set forth in the Agreement.

§ 1.6.2 Notice of Claims as provided in Section 15.1.3 shall be provided in writing and shall be deemed to have been duly served only if delivered to the designated representative of the party to whom the notice is addressed (and also, in the case of a Notice of Claims by the Contractor to the Owner, to the Owner's Representative and the Initial Decision Maker) by certified or registered mail, or by courier providing proof of delivery.

(Paragraphs deleted)

§ 1.7 Transmission of Data in Digital Form

If the parties intend to transmit Instruments of Service or any other information or documentation in digital form, they shall endeavor to establish necessary protocols governing such transmissions, unless otherwise already provided in the Contract or the Contract Documents.

§ 1.8 Digital Data Use and Transmission

The parties shall agree upon protocols governing the transmission and use of Instruments of Service or any other information or documentation in digital form. The parties may use AIA Document E203™–2013, Building Information Modeling and Digital Data Exhibit, to establish the protocols for the development, use, transmission, and exchange of digital data.

§ 1.9 Building Information Models Use and Reliance

Any use of, or reliance on, all or a portion of a building information model without agreement to protocols governing the use of, and reliance on, the information contained in the model and without having those protocols set forth in AIA Document E203™–2013, Building Information Modeling and Digital Data Exhibit, and the requisite AIA Document G202™–2013, Project Building Information Modeling Protocol Form, shall be at the using or relying party's sole risk and without liability to the other party and its contractors or consultants, the authors of, or contributors to, the building information model, and each of their agents and employees.

§ 1.10 Provisions Required by Law Deemed Inserted

§ 1.10.1 Each and every provision of law and clause required by law to be inserted in this Contract shall be deemed to be inserted herein and the Contract shall be read and enforced as though it were included herein, and

AIA Document A201™ – 2017. Copyright © 1911, 1915, 1918, 1925, 1937, 1951, 1958, 1961, 1963, 1966, 1970, 1976, 1987, 1997, 2007 and 2017 by The American Institute of Architects. All rights reserved. WARNING: This AIA® Document is protected by U.S. Copyright Law and International Treaties. Unauthorized reproduction or distribution of this AIA® Document, or any portion of it, may result in severe civil and criminal penalties, and will be prosecuted to the maximum extent possible under the law. This document was produced by AIA software at 11:58:18 ET on 02/08/2019 under Order No.4449788754 which expires on 04/27/2019, and is not for resale.
User Notes:

if through mistake or otherwise any such provision is not inserted, or is not correctly inserted, then upon the application of either party, the Contract shall forthwith be physically amended to make such insertion.

ARTICLE 2 OWNER

§ 2.1 General

§ 2.1.1 The Owner is the person or entity identified as such in the Agreement and is referred to throughout the Contract Documents as if singular in number. Except as otherwise provided in Section 4.2.1, the Architect does not have any authority to act on behalf of the Owner. The term "Owner" means the Owner or the Owner's authorized representative.

§ 2.1.1.1 Pursuant to Section 8.2 of the Agreement, the Owner shall designate a representative through whom all communications by the Contractor with the Owner shall be made except as otherwise provided in the Contract Documents or instructed in writing by the Owner. If the Owner retains a third party (other than the Architect) to provide construction administration services, the Owner shall instruct the Contractor as to the role of such third party in the Project (including, without limitation, the extent to which the Contractor is to communicate directly with such third party) and the authority of such third party, if any, to act on behalf of the Owner.

§ 2.1.2 Not Used.

§ 2.2 Not Used.

(Paragraphs deleted)

§ 2.3 Information and Services Required of the Owner

§ 2.3.1 Except for permits and fees that are the responsibility of the Contractor under the Contract Documents, including those required under Section 3.7.1, the Owner shall secure and pay for necessary approvals, easements, assessments and charges required for construction, use or occupancy of permanent structures or for permanent changes in existing facilities.

§ 2.3.2 The Owner shall retain an architect lawfully licensed to practice architecture, or an entity lawfully practicing architecture, in the jurisdiction where the Project is located. That person or entity is identified as the Architect in the Agreement and is referred to throughout the Contract Documents as if singular in number.

§ 2.3.3 If the employment of the Architect terminates, the Owner shall employ a successor whose status under the Contract Documents shall be that of the Architect.

(Paragraph deleted)

§ 2.3.4 To the extent such surveys are in the possession of the Owner and are required for the performance of the Work, the Owner shall furnish surveys describing physical characteristics, legal limitations and utility locations for the site of the Project. The Contractor shall exercise proper precautions relating to the safe performance of the Work. Contractor shall review such surveys and notify the Owner of any inaccuracies therein within fourteen (14) days of its receipt.

§ 2.3.5 Data concerning the Project site, size of the Project site, access to the Project site, staging and storing, present obstructions on or near the Project site, conditions of existing adjacent structures, locations and depths of sewers, conduits or pipes, gas lines, position of sidewalks, curbs and pavements, and other data concerning site conditions to the extent provided by the Owner, has been obtained from sources Owner believes reliable. Accuracy of such data, however, is not guaranteed and is furnished solely for accommodation of Contractor. Use of such data is made at the Contractor's sole risk and expense.

(Paragraphs deleted)

§ 2.3.6 The Owner shall furnish information or services required of the Owner by the Contract Documents with reasonable promptness. The Owner shall also furnish any other information or services under the Owner's control and relevant to the Contractor's performance of the Work with reasonable promptness after receiving the Contractor's written request for such information or services.

AIA Document A201™ – 2017. Copyright © 1911, 1915, 1918, 1925, 1937, 1951, 1958, 1961, 1963, 1966, 1970, 1976, 1987, 1997, 2007 and 2017 by The American Institute of Architects. All rights reserved. WARNING: This AIA® Document is protected by U.S. Copyright Law and International Treaties. Unauthorized reproduction or distribution of this AIA® Document, or any portion of it, may result in severe civil and criminal penalties, and will be prosecuted to the maximum extent possible under the law. This document was produced by AIA software at 11:58:18 ET on 02/08/2019 under Order No.4449788754 which expires on 04/27/2019, and is not for resale.
User Notes:

§ 2.3.7 The Contractor shall be responsible for determining how many copies of the Drawings and other Contract Documents are necessary for the execution of the Work. The Contractor shall be responsible for the reproduction and distribution of such copies.

§ 2.4 Owner's Right to Stop the Work

If the Contractor (1) fails to correct Work that is not in accordance with the requirements of the Contract Documents as required by Section 12.2; (2) repeatedly fails to carry out Work in accordance with the Contract Documents; or (3) creates a situation which the Owner believes, in its sole judgement, poses an imminent risk of loss to property or persons, the Owner may issue a written order to the Contractor to stop the Work, or any portion thereof, until the cause for such order has been eliminated; however, the right of the Owner to stop the Work shall not give rise to a duty on the part of the Owner to exercise this right for the benefit of the Contractor or any other person or entity, except to the extent required by Section 6.1.3.

§ 2.5 Owner's Right to Carry Out the Work

If the Contractor defaults or neglects to carry out the Work in accordance with the Contract Documents and (1) fails within a seven-day period after receipt of notice of such default or neglect from the Owner to commence and continue correction of such default or neglect with diligence and promptness, and (2) further fails to do so within three days after receipt of a second such notice from the Owner, the Owner shall be entitled to (but not obligated to), without prejudice to other rights and remedies Owner may have, correct the deficiencies in the Work. In such case an appropriate Change Order shall be issued deducting from payments then or thereafter due the Contractor the Owner's cost of correcting such deficiencies in the Work, including expenses and compensation payable to the Architect for additional services made necessary by Contractor's default, neglect or failure. The Contractor shall also be responsible for all of the Owner's other costs, damages, delays, and associated impacts arising from the Owner's exercise of its rights under this Section 2.5. If payments then or thereafter due the Contractor are not sufficient to cover amounts payable to the Owner under this Section 2.5, the Contractor shall pay the difference to the Owner.

§2.6 Extent of Owner Rights

§2.6.1 The rights stated in Article 2 and elsewhere in the Contract Documents are cumulative and not in limitation of any rights of the Owner (1) granted in the Contract Documents, (2) at law or (3) in equity.

§2.6.2 In no event shall the Owner have control over, charge of, or any responsibility for construction means, methods, techniques, sequences or procedures for safety precautions and programs in connection with the Work, notwithstanding any of the rights and authority granted the Owner in the Contract Documents.

ARTICLE 3 CONTRACTOR

§ 3.1 General

§ 3.1.1 The Contractor is the person or entity identified as such in the Agreement and is referred to throughout the Contract Documents as if singular in number. The Contractor shall be lawfully licensed, if required in the jurisdiction where the Project is located. The Contractor has designated the representative set forth as Contractor's representative in Section 8.3 of the Agreement who has express authority to bind the Contractor with respect to all matters under this Contract. Any and all notices to be provided to the Contractor by the Owner or Architect under the Contract Documents shall be delivered to such Contractor's representative. The term "Contractor" means the Contractor or the Contractor's authorized representative. The Contractor shall not replace the Contractor's representative without ten days prior written notice and the prior written consent of the Owner.

§ 3.1.2 The Contractor shall perform the Work in accordance with the Contract Documents.

§ 3.1.3 The Contractor shall not be relieved of obligations to perform the Work in accordance with the Contract Documents either by activities or duties of the Architect or the Owner in the administration of the Contract, or by tests, inspections or approvals required or performed by persons or entities other than the Contractor.

§ 3.1.4 The Contractor represents and warrants the following to the Owner (in addition to the other representations and warranties contained in the Contract Documents) as an inducement to the Owner to execute the Contract, which representations and warranties shall survive the execution and delivery of the Contract and

AIA Document A201™ – 2017. Copyright © 1911, 1915, 1918, 1925, 1937, 1951, 1958, 1961, 1963, 1966, 1970, 1976, 1987, 1997, 2007 and 2017 by The American Institute of Architects. All rights reserved. WARNING: This AIA® Document is protected by U.S. Copyright Law and International Treaties. Unauthorized reproduction or distribution of this AIA® Document, or any portion of it, may result in severe civil and criminal penalties, and will be prosecuted to the maximum extent possible under the law. This document was produced by AIA software at 11:58:18 ET on 02/08/2019 under Order No.4449788754 which expires on 04/27/2019, and is not for resale.
User Notes:
(1883989588)

the final completion of the Work:

.1 That it is financially solvent, able to pay its debts as they mature and possesses sufficient working capital to complete the Work and perform its obligations under the Contract Documents;

.2 That it, through its Subcontractors or otherwise, is able to furnish the tools, materials, supplies, equipment and labor required to complete the Work and perform its obligations hereunder and has sufficient experience and competence to do so;

.3 That it is authorized to do business in the State where the Project is located and properly licensed by all necessary governmental and public and quasi-public authorities having jurisdiction over it and over the Work and the site of the Project;

.4 That its execution of the Contract and its performance thereunder have been duly authorized by all necessary corporate action; and

.5 That its duly authorized representative has visited the site of the Project, familiarized himself or herself with the local conditions under which the Work is to be performed and correlated his/her observations with the requirements of the Contract Documents.

§ 3.2 Review of Contract Documents and Field Conditions by Contractor

§ 3.2.1 The Contractor shall, along with such Subcontractors as the Contractor deems necessary, visit the Project site prior to the execution of the Contract. The execution of the Contract by the Contractor is a representation that the Contractor and such Subcontractors have visited the Project site, become familiar with all existing conditions under which the Work is to be performed and correlated personal observations with requirements of the Contract Documents.

§ 3.2.2 The Contractor may request permission from the Owner to conduct, at Contractor's sole cost and expense, tests, examinations and/or inspections as Contractor deems necessary to become sufficiently acquainted with existing conditions on the Project site. No such tests, examinations or inspections shall be conducted without the Owner's prior written approval and any engineer or consultant engaged by the Contractor or a Subcontractor to perform such test, examination or inspection shall be subject to the Owner's prior approval.

§ 3.2.3 Because the Contract Documents are complementary, the Contractor shall, before ordering any materials or starting each portion of the Work, carefully study and compare the various Contract Documents relative to that portion of the Work, as well as the information furnished by the Owner pursuant to Section 2.3, shall take field measurements of any existing conditions related to that portion of the Work, and shall observe any conditions at the site affecting it. These obligations are for the purpose of facilitating coordination and construction by the Contractor and are not for the purpose of discovering errors, omissions, or inconsistencies in the Contract Documents; however, the Contractor shall promptly report to the Architect and Owner Representative any errors, inconsistencies or omissions discovered by or made known to the Contractor as a request for information in such form as the Architect and the Owner may require. It is recognized that the Contractor's review is made in the Contractor's capacity as a contractor and not as a licensed design professional, unless otherwise specifically provided in the Contract Documents. After reporting to the Architect any error, inconsistency, or omission in or among the Contract Documents which the Contractor discovers or which is made known to the Contractor, the Contractor shall not proceed with the subject Work without the Architect's written response and/or clarifications and, if required, Owner's approval of any associated adjustments to the Contract Documents.

§ 3.2.4 The Contractor is not required to ascertain that the Contract Documents are in accordance with applicable laws, statutes, ordinances, building codes, rules and regulations, or lawful orders of public authorities, but the Contractor shall promptly report to the Architect and the Owner any nonconformity discovered by or made known to the Contractor as a request for information in such form as the Architect may require.

AIA Document A201™ – 2017. Copyright © 1911, 1915, 1918, 1925, 1937, 1951, 1958, 1961, 1963, 1966, 1970, 1976, 1987, 1997, 2007 and 2017 by The American Institute of Architects. All rights reserved. WARNING: This AIA® Document is protected by U.S. Copyright Law and International Treaties. Unauthorized reproduction or distribution of this AIA® Document, or any portion of it, may result in severe civil and criminal penalties, and will be prosecuted to the maximum extent possible under the law. This document was produced by AIA software at 11:58:18 ET on 02/08/2019 under Order No.4449788754 which expires on 04/27/2019, and is not for resale.
User Notes: (1883989588)

§ 3.2.5 If the Contractor believes that additional cost or time is involved because of clarifications or instructions the Architect issues in response to the Contractor's notices or requests for information pursuant to Sections 3.2.2 or 3.2.3, the Contractor shall submit Claims as provided in Article 15. If the Contractor fails to perform the obligations of Sections 3.2.2 or 3.2.3, the Contractor shall pay such costs and damages to the Owner, as would have been avoided if the Contractor had performed such obligations and the Contractor shall be responsible for associated delays and impacts. If the Contractor performs those obligations, the Contractor shall not be liable to the Owner or Architect for damages resulting from errors, inconsistencies or omissions in the Contract Documents, for differences between field measurements or conditions and the Contract Documents, or for nonconformities of the Contract Documents to applicable laws, statutes, ordinances, codes, rules and regulations, and lawful orders of public authorities unless the Contractor should have but failed to recognize such error, inconsistency, omission or difference.

§ 3.2.6 No additional compensation or time will be granted to the Contractor by reason of conditions which the Contractor could have discovered or reasonably anticipated through the fulfillment of its obligations under this Section 3.2.

§ 3.3 Supervision and Construction Procedures

§ 3.3.1 The Contractor shall supervise and direct the Work, using the Contractor's best skill and attention. The Contractor shall be solely responsible for, and have control over, construction means, methods, techniques, sequences, and procedures, and for coordinating all portions of the Work under the Contract. The Contractor shall schedule and perform the Work so as not to interfere with the Owner's on-going business operations or any other work being performed by or on behalf of the Owner in or about the Project site. If the Contract Documents give specific instructions concerning construction means, methods, techniques, sequences or procedures, the Contractor shall evaluate the jobsite safety thereof and, except as stated below, shall be fully and solely responsible for the jobsite safety of such means, methods, techniques, sequences or procedures. If the Contractor determines that such means, methods, techniques, sequences or procedures may not be safe, the Contractor shall give timely notice to the Owner and Architect, and shall propose alternative means, methods, techniques, sequences, or procedures. The Architect shall evaluate the proposed alternative solely for conformance with the design intent for the completed construction. Unless the Architect objects to the Contractor's proposed alternative, the Contractor shall perform the Work using its alternative means, methods, techniques, sequences or procedures.

§ 3.3.2 The Contractor shall be responsible to the Owner for any claims against the Owner and any damages, losses, costs and expenses incurred by the Owner resulting or arising from the acts and omissions of the Contractor's employees, Subcontractors, Sub-subcontractors, material and equipment suppliers, and their respective agents and employees, and any other persons or entities performing portions of the Work for, or on behalf of, the Contractor or any Subcontractors or Sub-subcontractors or material and equipment suppliers.

§ 3.3.3 The Contractor shall be responsible for inspection of portions of Work already performed to determine that such portions are in proper condition to receive subsequent Work.

§ 3.3.4 The Contractor's qualified representative shall attend all periodic progress meetings which will be held at such time and at such place as the Architect or the Owner shall designate.

§ 3.4 Labor and Materials

§ 3.4.1 Unless otherwise provided in the Contract Documents, the Contractor shall provide and pay for labor, materials, equipment, tools, construction equipment and machinery, water, heat, utilities, transportation, and other facilities and services necessary for proper execution and completion of the Work, whether temporary or permanent and whether or not incorporated or to be incorporated in the Work.

§ 3.4.2 Except in the case of minor changes in the Work approved by the Architect in accordance with Section 3.12.8 or ordered by the Architect in accordance with Section 7.4, the Contractor may make substitutions only with the consent of the Owner, after evaluation by the Architect and in accordance with a Change Order or Construction Change Directive.

§ 3.4.2.1 Contractor's request for any substitution shall constitute a representation by the Contractor that:

AIA Document A201™ – 2017. Copyright © 1911, 1915, 1918, 1925, 1937, 1951, 1958, 1961, 1963, 1966, 1970, 1976, 1987, 1997, 2007 and 2017 by The American Institute of Architects. All rights reserved. WARNING: This AIA® Document is protected by U.S. Copyright Law and International Treaties. Unauthorized reproduction or distribution of this AIA® Document, or any portion of it, may result in severe civil and criminal penalties, and will be prosecuted to the maximum extent possible under the law. This document was produced by AIA software at 11:58:18 ET on 02/08/2019 under Order No.4449788754 which expires on 04/27/2019, and is not for resale.
User Notes:
(1883989588)

.1 the Contractor and any Subcontractors and Sub-subcontractors impacted by such substitution have investigated the proposed substitute product and determined that it is equal or superior in all respects to the product specified;

.2 the Contractor and proposed manufacturer will provide the same or superior warranty coverage for the substitution that the Contractor would for the product specified;

.3 the cost data presented is complete and includes all related costs under this Contract, and Contractor waives all claims for additional costs related to the substitution which subsequently become apparent;

.4 Contractor shall coordinate the installation of the accepted substitution, making such changes as may be required for the Work to be complete in all respects;

.5 Contractor shall make requests for substitutions for Contractor's convenience within fourteen (14) days after Contract award or at the preconstruction meeting; and

.6 Contractor shall reimburse and compensate the Owner for any costs incurred in connection with, and/or the value of, any services performed by the Architect and/or the Owner associated with, addressing the request for substitution.

§ 3.4.3 All labor shall be performed by workmen skilled in their respective trades, and workmanship shall be of good quality so that first class work in accordance with the standards of construction set forth in the Contract Documents will be achieved. The Contractor shall enforce strict discipline and good order among the Contractor's employees and other persons carrying out the Work. The Contractor shall not permit the employment of unfit persons or persons not properly skilled in tasks assigned to them.

§ 3.4.3.1 The Contractor shall neither permit nor suffer the use of offensive language or lewd conduct by Contractor's employees or other persons carrying out the Work on or about the Project site. All of the Owner's buildings are smoke-free buildings. The Contractor shall not permit (1) smoking in the Owner's buildings, (2) outdoor smoking, where outdoor smoking could create a hazard, or (3) the introduction or use of drugs, spirituous or intoxicating liquors, on or about the Owner's property by the Contractor's employees or other persons carrying out the Work. The Contractor shall comply with the Owner's current "Policy on Discrimination Harassment and Related Interpersonal Violence" including its provisions prohibiting sexual harassment. The Contractor shall be fully responsible to the Owner for the acts and omissions of the Contractor's employees, Subcontractors, Sub-subcontractors and material and equipment suppliers, and all persons either directly or indirectly employed by any of them to perform any part of the Work.

§ 3.5 Warranty

§ 3.5.1 The Contractor warrants to the Owner and Architect that materials and equipment furnished under the Contract will be of good quality and new unless the Contract Documents require or permit otherwise. The Contractor further warrants that the Work will conform to the requirements of the Contract Documents and will be free from defects, except for those inherent in the quality of the Work the Contract Documents require or permit. Work, materials, or equipment not conforming to these requirements and any substitutions not properly approved and authorized, may be considered defective. The Contractor's warranty excludes remedy for damage or defect caused by abuse, alterations to the Work not executed by the Contractor, improper or insufficient maintenance, improper operation, or normal wear and tear and normal usage. If required by the Architect, the Contractor shall furnish satisfactory evidence as to the kind and quality of materials and equipment.

§ 3.5.2 The Contractor shall procure and assign to the Owner at the time of Substantial Completion of the Work any and all Subcontractor, Sub-subcontractor, manufacturer or supplier warranties relating to any materials or labor used in the Work. Such warranties shall supplement the warranties provided by the Contractor in Section 3.5.1. All material, equipment, or other special warranties required by the Contract Documents shall be issued in the name of the Owner, or shall be transferable to the Owner, and shall commence in accordance with Section 9.8.4.

§ 3.5.3 Directions, specifications and recommendations by manufacturers for installation, handling, storing, adjustment, and operation of their materials or equipment shall be complied with, but the Contractor shall nonetheless have the responsibility of determining whether such directions, specifications, and recommendations may safely and suitably be employed in the Work, and of notifying the Architect and Owner

AIA Document A201™ – 2017. Copyright © 1911, 1915, 1918, 1925, 1937, 1951, 1958, 1961, 1963, 1966, 1970, 1976, 1987, 1997, 2007 and 2017 by The American Institute of Architects. All rights reserved. WARNING: This AIA® Document is protected by U.S. Copyright Law and International Treaties. Unauthorized reproduction or distribution of this AIA® Document, or any portion of it, may result in severe civil and criminal penalties, and will be prosecuted to the maximum extent possible under the law. This document was produced by AIA software at 11:58:18 ET on 02/08/2019 under Order No.4449788754 which expires on 04/27/2019, and is not for resale.
User Notes: (1883989588)

in advance in writing of any deviation or modification necessary for installation safety or proper operation of the item.

§ 3.6 Taxes

The Owner is a tax-exempt institution. The Contractor shall be familiar with the current regulations of the Department of Revenue Service. The tax on materials or supplies exempted by such regulations shall not be included as part of the Contract Sum, or any Application for Payment, or request for Change Order or other compensation. A Sales Tax Certificate for the duration of the Project is available from the Owner's Purchasing Department upon written request.

§ 3.7 Permits, Fees, Notices, and Compliance with Laws

§ 3.7.1 Unless otherwise provided in the Contract Documents, the Contractor shall secure and pay for the building permit as well as for other permits, fees, licenses, and inspections by government agencies necessary for proper execution and completion of the Work that are customarily secured after execution of the Contract and legally required at the time bids are received or negotiations concluded.

§ 3.7.2 The Contractor shall comply with, be responsible for the performance of the Work in accordance with, and give notices required by all local, state and federal laws, statutes, ordinances, codes, building codes, rules, regulations, permits, and orders enacted, promulgated, issued or ordered by any governmental body or public or quasi-public authority having jurisdiction over the Work, the Contractor and/ or the site of the Project. The foregoing requirements shall include, without limitation, those relating to equal opportunity, labor, wages, and employment.

§ 3.7.3 If the Contractor performs Work knowing it to be contrary to applicable laws, statutes, ordinances, codes, rules, and regulations, or lawful orders of public authorities, the Contractor shall assume appropriate responsibility for such Work and shall bear the costs attributable to correction.

(Paragraphs deleted)

§ 3.7.4 If any governmental body having jurisdiction over the Work requires licenses or registrations for the performance of the Work, or any part thereof, the Contractor shall hold such valid licenses or registrations as may be required by law to prosecute the Work to completion. If any part of the Work for which such a license or registration is required to be performed by a Subcontractor or Sub-subcontractor, the Contractor shall ensure that any such subcontractor holds such valid licenses or registrations as may be required by law to prosecute said Work to completion.

§ 3.7.5 Concealed or Unknown Conditions. See Section 15.1.9 of these General Conditions.

§ 3.7.6 If, in the course of the Work, the Contractor encounters human remains or recognizes the existence of burial markers, archaeological sites or wetlands not indicated in the Contract Documents, the Contractor shall immediately suspend any operations that would affect them and shall notify the Owner and Architect. Upon receipt of such notice, the Owner shall promptly take any action necessary to obtain governmental authorization required to resume the operations. The Contractor shall continue to suspend such operations until otherwise instructed by the Owner but shall continue with all other operations that do not affect those remains or features. Requests for adjustments in the Contract Sum and Contract Time arising from the existence of such remains or features may be made as provided in Article 15.

§ 3.8 Allowances

§ 3.8.1 The Contractor shall include in the Contract Sum all allowances stated in the Contract Documents. Items covered by allowances shall be supplied for such amounts and by such persons or entities as the Owner may direct, but the Contractor shall not be required to employ persons or entities to whom the Contractor has reasonable objection.

§ 3.8.2 Unless otherwise provided in the Contract Documents,

.1 Allowances shall cover the cost to the Contractor of materials and equipment delivered at the site and all required taxes, less applicable trade discounts;

.2 Contractor's costs for unloading and handling at the site, labor, installation costs, overhead,

Init.
/
AIA Document A201™ – 2017. Copyright © 1911, 1915, 1918, 1925, 1937, 1951, 1958, 1961, 1963, 1966, 1970, 1976, 1987, 1997, 2007 and 2017 by The American Institute of Architects. All rights reserved. WARNING: This AIA® Document is protected by U.S. Copyright Law and International Treaties. Unauthorized reproduction or distribution of this AIA® Document, or any portion of it, may result in severe civil and criminal penalties, and will be prosecuted to the maximum extent possible under the law. This document was produced by AIA software at 11:58:18 ET on 02/08/2019 under Order No.4449788754 which expires on 04/27/2019, and is not for resale.
User Notes:
(1883989588)

profit and other expenses contemplated for stated allowance amounts shall be included in the Contract Sum but not in the allowances, except when installation is specified as part of the allowance in Division 1 Specifications; and

.3 Whenever costs are more than or less than allowances, the Contract Sum shall be adjusted accordingly by Change Order. The amount of the Change Order shall reflect (1) the difference between actual costs and the allowances under Section 3.8.2.1; and (2) changes in Contractor's costs under Section 3.8.2.2, except when installation is specified as part of the allowance in the General Requirements (Division 1 of the Specifications).

§ 3.8.3 Materials and equipment under an allowance shall be selected by the Owner with reasonable promptness.

§ 3.9 Superintendent and Project Manager

§ 3.9.1 The Contractor shall employ a competent, experienced, full-time superintendent(s) and necessary assistants who shall be in attendance at the Project site during performance of the Work for the duration of the entire Project. The superintendent shall be satisfactory to the Owner and the Contractor shall not replace the superintendent without the prior written consent of the Owner. The superintendent shall represent the Contractor, and communications given to the superintendent shall be as binding as if given to the Contractor.

§ 3.9.2 If not already identified as part of the Owner's pre-qualification process, the Contractor, as soon as practicable after award of the Contract, shall furnish in writing to the Owner and Architect the name, qualifications and references of the proposed superintendent(s).

§ 3.9.3 The Contractor shall not employ a proposed superintendent to whom the Owner or Architect has made reasonable and timely objection. If, for any reason, the Owner finds the superintendent(s) to be unsatisfactory, the Contractor will, within five (5) days after the request of Owner, replace such superintendent with a qualified individual to whom neither the Owner nor the Architect has objection. The Contractor shall not change the superintendent without the Owner's written consent, which shall not unreasonably be withheld or delayed.

§ 3.9.4 The Contractor shall employ a competent Project Manager and necessary assistants who shall be in attendance at the Project site during performance of the Work for the duration of the entire Project. The Project Manager shall be satisfactory to the Owner and the Contractor shall not replace the Project Manager without the prior written consent of the Owner. The Project Manager shall represent the Contractor and communications given to the Project Manager shall be as binding as if given to the Contractor. Important communications shall be confirmed in writing. Other communications shall be similarly confirmed on written request in each case.

§ 3.9.5 If not already identified as part of the Owner's pre-qualification process, the Contractor, as soon as practicable after award of the Contract, shall furnish in writing to the Owner and the Architect the name, qualifications, and references of the proposed Project Manager. The Contractor shall not employ a proposed Project Manager to whom the Owner or Architect has made reasonable and timely objection. If, for any reason the Owner finds a Project Manager to be unsatisfactory, the Contractor shall, upon the request of the Owner, replace such Project Manager with a qualified individual to whom neither the Owner nor the Architect has objection. The Contractor shall not replace the Project Manager without the prior written consent of the Owner.

§ 3.9.6 Additional key personnel may be required for the Project. The Contractor shall provide additional personnel as required to ensure proper project management and coordination.

§ 3.10 Contractor's Construction Schedule

§ 3.10.1 The Contractor shall, within ten (10) days after the execution of the Contract, submit for the Owner's approval and the Architect's information a construction schedule for the Work including such detail and information and in the form as described in Division 1 of the Specifications. The schedule shall include, without limitation, (1) the date of commencement of the Work, interim schedule milestone dates, and the date of Substantial Completion; (2) an apportionment of the Work by construction activity; and (3) the time

AIA Document A201™ – 2017. Copyright © 1911, 1915, 1918, 1925, 1937, 1951, 1958, 1961, 1963, 1966, 1970, 1976, 1987, 1997, 2007 and 2017 by The American Institute of Architects. All rights reserved. WARNING: This AIA® Document is protected by U.S. Copyright Law and International Treaties. Unauthorized reproduction or distribution of this AIA® Document, or any portion of it, may result in severe civil and criminal penalties, and will be prosecuted to the maximum extent possible under the law. This document was produced by AIA software at 11:58:18 ET on 02/08/2019 under Order No.4449788754 which expires on 04/27/2019, and is not for resale.
User Notes: (1883989588)

required for completion of each portion of the Work. The schedule shall provide for the orderly progression of the Work to completion and shall not exceed time limits current under the Contract Documents. Upon the Owner's approval of the schedule, such approved schedule shall be deemed to supersede and replace the preliminary schedule attached as Exhibit D to the Agreement and such approved schedule shall constitute a Contract Document. The schedule shall be revised at appropriate intervals as required by the conditions of the Work and Project.

§ 3.10.2 The Contractor, promptly after being awarded the Contract and thereafter as necessary to maintain a current submittal schedule, shall submit a submittal schedule for simultaneous review and approval by the Owner and Architect. The Owner and Architect's approval shall not be unreasonably delayed or withheld. The submittal schedule shall (1) be coordinated with the Contractor's construction schedule; and (2) allow the Architect reasonable time to review submittals. If the Contractor fails to submit a submittal schedule, or fails to provide submittals in accordance with the approved submittal schedule, the Contractor shall not be entitled to any increase in Contract Sum or extension of Contract Time based on the time required for review of submittals.

(Paragraph deleted)

§ 3.11 Documents and Samples at the Site

§ 3.11.1 The Contractor shall make available, at the Project site, the Contract Documents, including Change Orders, Construction Change Directives, and other Modifications, in good order and marked currently to indicate field changes and selections made during construction, and the approved Shop Drawings, Product Data, Samples, and similar required submittals. These shall be in electronic form or paper copy as required by the Owner, available to the Architect and Owner, and delivered to the Architect for submittal to the Owner upon completion of the Work as a record of the Work as constructed.

§ 3.11.2 In addition, the Contractor shall indicate on the Drawings, as best as possible, all new and existing pipe and conduit runs which are concealed in the floor slabs, walls, ceilings, etc. The Contractor shall indicate on the Drawing the electrical distribution panel and circuit number supplying each item installed or reconnected, with diagrammatic lines showing sequence of connections. All changes shall be identified and circled on the Architect's and Engineer's drawings at the time they occur for each such field change.

§ 3.12 Shop Drawings, Product Data and Samples

§ 3.12.1 Shop Drawings are drawings, diagrams, schedules, and other data specially prepared for the Work by the Contractor or a Subcontractor, Sub-subcontractor, manufacturer, supplier, or distributor to illustrate some portion of the Work.

§ 3.12.2 Product Data are illustrations, standard schedules, performance charts, instructions, brochures, diagrams and other information furnished by the Contractor to illustrate materials or equipment for some portion of the Work.

§ 3.12.3 Samples are physical examples that illustrate materials, equipment or workmanship and establish standards by which the Work will be judged.

§ 3.12.4 Shop Drawings, Product Data, Samples and similar submittals are not Contract Documents. Their purpose is to demonstrate how the Contractor proposes to conform to the information given and the design concept expressed in the Contract Documents for those portions of the Work for which the Contract Documents require submittals. Review by the Architect is subject to the limitations of Section 4.2.7. Informational submittals upon which the Architect is not expected to take responsive action may be so identified in the Contract Documents. Submittals that are not required by the Contract Documents may be returned by the Architect without action.

§ 3.12.5 The Contractor shall review for compliance with the Contract Documents, approve and submit to the Architect Shop Drawings, Product Data, Samples and similar submittals required by the Contract Documents in accordance with the submittal schedule approved by the Architect or, in the absence of an approved submittal schedule, with reasonable promptness and in such sequence as to cause no delay in the Work or in the activities of the Owner or of Separate Contractors. Submittals which are not marked as reviewed for

AIA Document A201™ – 2017. Copyright © 1911, 1915, 1918, 1925, 1937, 1951, 1958, 1961, 1963, 1966, 1970, 1976, 1987, 1997, 2007 and 2017 by The American Institute of Architects. All rights reserved. WARNING: This AIA® Document is protected by U.S. Copyright Law and International Treaties. Unauthorized reproduction or distribution of this AIA® Document, or any portion of it, may result in severe civil and criminal penalties, and will be prosecuted to the maximum extent possible under the law. This document was produced by AIA software at 11:58:18 ET on 02/08/2019 under Order No.4449788754 which expires on 04/27/2019, and is not for resale.
User Notes:

compliance with the Contract Documents and approved by the Contractor may be returned by the Architect or Engineer without action. Such return without action will not be grounds for an increase in the Contract Time.

§ 3.12.6 By submitting Shop Drawings, Product Data, Samples and similar submittals, the Contractor represents to the Owner and Architect that the Contractor has (1) reviewed and approved them; (2) determined and verified materials, field measurements and field construction criteria related thereto, or will do so; and (3) checked and coordinated the information contained within such submittals with the requirements of the Work and of the Contract Documents.

§ 3.12.7 The Contractor shall perform no portion of the Work for which the Contract Documents require submittal and review of Shop Drawings, Product Data, Samples or similar submittals until the respective submittal has been approved by the Architect.

§ 3.12.8 The Work shall be in accordance with approved submittals except that the Contractor shall not be relieved of responsibility for deviations from requirements of the Contract Documents by the Architect's approval of Shop Drawings, Product Data, Samples or similar submittals unless the Contractor has specifically notified and informed the Architect and the Owner of such deviation at the time of submittal and (1) the Owner has given written approval to the specific deviation as a minor change in the Work; or (2) a Change Order or Construction Change Directive has been issued authorizing the deviation. The Contractor shall not be relieved of responsibility for errors or omissions in Shop Drawings, Product Data, Samples or similar submittals by the Architect's approval thereof.

§ 3.12.9 The Contractor shall direct specific attention, in writing or on resubmitted Shop Drawings, Product Data, Samples or similar submittals, to revisions other than those requested by the Architect on previous submittals. In the absence of such notice, the Architect's approval of a resubmission shall not apply to such revisions.

§ 3.12.10 The Contractor shall not be required to provide professional services that constitute the practice of architecture or engineering unless such services are specifically required by the Contract Documents for a portion of the Work or unless the Contractor needs to provide such services in order to carry out the Contractor's responsibilities for construction means, methods, techniques, sequences, and procedures. The Contractor shall not be required to provide professional services in violation of applicable law.

§ 3.12.10.1 If professional design services or certifications by a design professional related to systems, materials or equipment are specifically required of the Contractor by the Contract Documents, the Owner and the Architect will specify all performance and design criteria that such services must satisfy. The Contractor shall be entitled to reasonably rely upon the adequacy and accuracy of the performance and design criteria provided in the Contract Documents. The Contractor shall cause such services or certifications to be provided by a properly licensed design professional, whose signature and seal shall appear on all drawings, calculations, specifications, certifications, Shop Drawings, and other submittals prepared by such professional. Shop Drawings and other submittals related to the Work designed or certified by such professional, if prepared by others, shall bear such professional's written approval when submitted to the Architect. The Owner and the Architect shall be entitled to rely upon the adequacy, accuracy, and completeness of the services, certifications and approvals performed or provided by such design professionals, provided the Owner and Architect have specified to the Contractor the performance and design criteria that such services must satisfy. Pursuant to this Section 3.12.10, the Architect will review, approve or take other appropriate action on submittals only for the limited purpose of checking for conformance with information given and the design concept expressed in the Contract Documents.

§ 3.12.10.2 If the Contract Documents require the Contractor's design professional to certify that the Work has been performed in accordance with the design criteria, the Contractor shall furnish such certifications to the Architect at the time and in the form specified by the Architect.

§ 3.12.11 See Specifications for additional information on Shop Drawings.

AIA Document A201™ – 2017. Copyright © 1911, 1915, 1918, 1925, 1937, 1951, 1958, 1961, 1963, 1966, 1970, 1976, 1987, 1997, 2007 and 2017 by The American Institute of Architects. All rights reserved. WARNING: This AIA® Document is protected by U.S. Copyright Law and International Treaties. Unauthorized reproduction or distribution of this AIA® Document, or any portion of it, may result in severe civil and criminal penalties, and will be prosecuted to the maximum extent possible under the law. This document was produced by AIA software at 11:58:18 ET on 02/08/2019 under Order No.4449788754 which expires on 04/27/2019, and is not for resale.
User Notes:
(1883989588)

§ 3.13 Use of Site

§ 3.13.1 The Contractor shall confine operations at the Project site to areas permitted by applicable laws, statutes, ordinances, codes, rules and regulations, lawful orders of public authorities, and the Contract Documents and shall not unreasonably encumber the site with materials or equipment.

§ 3.13.2 Nothing contained in the Contract Documents shall be interpreted as giving the Contractor exclusive use of the Project site.

§ 3.13.3 The performance of the Work shall not impede the Owner's normal, continuous, and safe use and operation of its roadways and buildings in and around the Project site. If it appears that the performance of the Work will impede such use and operation, the timing and manner of the performance of the Work shall be subject to the approval of the Owner.

§ 3.13.4 The Contractor shall comply with the following procedures when working in occupied areas including classrooms, hallways, and office spaces.

§ 3.13.4.1 The Contractor shall notify the Owner two (2) days prior to commencing Work in an occupied area. This notification shall include a detailed description of the Work to be performed in the occupied area.

§ 3.13.4.2 There shall be no overhead Work (e.g. demolition, HVAC ductwork, and/or electrical) performed directly over occupied areas.

§ 3.13.5 The Contractor shall produce a site logistics plan for the Owner's review and approval before beginning operations on the Project site. This document shall be updated and submitted to the Owner on a periodic basis as required by the Owner. No deviations from this plan will be allowed without the prior approval of the Owner.

§ 3.14 Cutting and Patching

§ 3.14.1 The Contractor shall be responsible for cutting, fitting or patching required to complete the Work or to make its parts fit together properly. All areas requiring cutting, fitting, or patching shall be restored to the condition existing prior to the cutting, fitting, or patching, unless otherwise required by the Contract Documents.

§ 3.14.2 The Contractor shall not damage or endanger a portion of the Work or fully or partially completed construction of the Owner or Separate Contractors by cutting, patching, or otherwise altering such construction, or by excavation. The Contractor shall not cut or otherwise alter construction by the Owner or a Separate Contractor except with written consent of the Owner and of the Separate Contractor. Consent shall not be unreasonably withheld. The Contractor shall not unreasonably withhold, from the Owner or a Separate Contractor, its consent to cutting or otherwise altering the Work.

§ 3.14.3 Unless authorized in writing by the Architect, structural elements of the Work shall not be cut, patched, or otherwise altered or repaired. Existing Work that is cut, damaged, disturbed or otherwise interfered with by the Contractor, a Subcontractor, Sub-subcontractor or anyone for whom any of them is responsible, shall be fully, properly, and carefully repaired by the responsible Contractor, Subcontractor or Sub-subcontractor. All such repairs shall be completed to the satisfaction of the Architect, and shall match similar existing adjoining work.

§ 3.14.4 See Specifications for additional information on Cutting and Patching.

§ 3.15 Cleaning Up

§ 3.15.1 The Contractor shall keep the premises and surrounding area and roadways free from accumulation of waste materials and rubbish caused by operations under the Contract. At completion of the Work, the Contractor shall remove waste materials, rubbish, the Contractor's tools, construction equipment, machinery, and surplus materials and shall clean and/or remove all stains, spots, marks, blemishes, foreign matter and dirt from surfaces of the Work and from other surfaces not a part of the Work but where such conditions resulted from the Contractor's operations from and about the Project.

AIA Document A201™ – 2017. Copyright © 1911, 1915, 1918, 1925, 1937, 1951, 1958, 1961, 1963, 1966, 1970, 1976, 1987, 1997, 2007 and 2017 by The American Institute of Architects. All rights reserved. WARNING: This AIA® Document is protected by U.S. Copyright Law and International Treaties. Unauthorized reproduction or distribution of this AIA® Document, or any portion of it, may result in severe civil and criminal penalties, and will be prosecuted to the maximum extent possible under the law. This document was produced by AIA software at 11:58:18 ET on 02/08/2019 under Order No.4449788754 which expires on 04/27/2019, and is not for resale.
User Notes:

(1883989588)

§ 3.15.2 If the Contractor fails to clean up as provided in the Contract Documents, the Owner may do so and the Owner shall be entitled to reimbursement from the Contractor.

§ 3.16 Access to Work

The Contractor shall provide the Owner and Architect with access to the Work in preparation and progress wherever located.

§ 3.17 Royalties, Patents and Copyrights

The Contractor shall pay all royalties and license fees. The Contractor shall defend suits or claims for infringement of copyrights and patent rights and shall hold the Owner and Architect harmless from loss on account thereof, but shall not be responsible for defense or loss when a particular design, process or product of a particular manufacturer or manufacturers is required by the Contract Documents, or where the copyright violations are contained in Drawings, Specifications or other documents prepared by the Owner or Architect. However, if the Contractor has reason to believe that the required design, process or product is an infringement of a copyright or patent or such infringement is discovered by, or made known to, the Contractor, the Contractor shall be responsible for the loss unless the information is promptly furnished to the Architect. In the event of legal action arising out of such infringement for which the Contractor is responsible and which action has the effect of stopping the Work, the Owner may require the Contractor to substitute other products of like kind as will make it possible to pursue and complete the Work. Costs and expenses caused thereby shall be borne by the Contractor.

§ 3.18 Indemnification

§ 3.18.1 To the fullest extent permitted by law the Contractor shall defend, indemnify and hold harmless the Owner, Architect, Architect's consultants, and agents and employees of any of them from and against claims, damages, losses and expenses, including but not limited to attorneys' fees, arising out of or resulting from performance of the Work, provided that such claim, damage, loss or expense is attributable to bodily injury, sickness, disease or death, or to injury to or destruction of tangible property (other than the Work itself), but only to the extent caused by the willful, wanton or negligent acts or omissions of the Contractor, a Subcontractor, Sub-subcontractor, anyone directly or indirectly employed by them or anyone for whose acts they may be liable, regardless of whether or not such claim, damage, loss or expense is caused in part by a party indemnified hereunder. Such obligation shall not be construed to negate, abridge, or reduce other rights or obligations of indemnity which would otherwise exist as to a party or person described in this Section 3.18. Nothing in this Section shall be construed as obligating the Contractor to indemnify or hold harmless any of the parties indemnified hereunder against liability for damage arising out of bodily injury to persons or damage to property caused by or resulting from the negligence of any such indemnified party, or such party's agents or employees.

§ 3.18.2 In claims against any person or entity indemnified under this Section 3.18 by an employee of the Contractor, a Subcontractor, Sub-subcontractor, anyone directly or indirectly employed by them or anyone for whose acts they may be liable, the indemnification obligation under Section 3.18.1 shall not be limited by a limitation on amount or type of damages, compensation or benefits payable by or for the Contractor, a Subcontractor or Sub-subcontractor under workers' compensation acts, disability benefit acts or other employee benefit acts.

§ 3.18.3 Additional Indemnification Obligations

§ 3.18.3.1 The Contractor shall defend, indemnify and hold harmless the Owner, the Architect, and the Architect's consultants and their agents and employees from and against all claims, damages, losses, including, but not limited to, attorneys' fees, arising out of or resulting from any type of pollution and/or environmental impairment into or upon the land, the atmosphere, or any course or body of water that is above or below ground, which is caused by any negligent or willful or wanton act or omission of the Contractor, Subcontractors, Sub-subcontractors or anyone directly or indirectly employed by any of them or anyone for whose acts any of them may be liable.

§ 3.18.3.2 The Contractor shall defend, indemnify and hold harmless the Owner, the Architect, and the Architect's consultants, and the agents and employees of any of them from and against all claims, damages,

Init.
/
AIA Document A201™ – 2017. Copyright © 1911, 1915, 1918, 1925, 1937, 1951, 1958, 1961, 1963, 1966, 1970, 1976, 1987, 1997, 2007 and 2017 by The American Institute of Architects. All rights reserved. WARNING: This AIA® Document is protected by U.S. Copyright Law and International Treaties. Unauthorized reproduction or distribution of this AIA® Document, or any portion of it, may result in severe civil and criminal penalties, and will be prosecuted to the maximum extent possible under the law. This document was produced by AIA software at 11:58:18 ET on 02/08/2019 under Order No.4449788754 which expires on 04/27/2019, and is not for resale.
User Notes: (1883989588)

losses, including, but not limited to, attorneys' fees, arising out of or resulting from any acts of Contractor, Subcontractors, Sub-subcontractors or anyone directly or indirectly employed by any of them or anyone for whose acts any of them may be liable that are outside of the Contract Specifications, and without the supervision or direction of the Owner, its Architects and Engineers.

§ 3.18.3.3 The Contractor shall defend, indemnify and hold harmless the Owner, the Architect, and the Architect's consultants, and the agents and employees of any of them from and against all claims, damages, losses, and expenses including, but not limited to, attorneys' fees, arising out of or resulting from the misuse or malfunction of any equipment rented, owned, or leased by the Contractor, any Subcontractor, Sub-subcontractor or anyone directly or indirectly employed by any of them or anyone for whose acts they may be liable.

§ 3.18.3.4 Nothing in Section 3.18.3 shall be construed as obligating the Contractor to indemnify or hold harmless any of the parties indemnified hereunder against liability for damage arising out of bodily injury to persons or damage to property caused by or resulting from the negligence of any such indemnified party, or such party's agents or employees.

§ 3.18.3.5 The Owner assumes no responsibility or liability from loss or damage to the Contractor's equipment, materials, or supplies.

§ 3.19 The Contractor shall obtain and maintain at its expense such general liability insurance coverage as will insure its indemnification obligations under Section 3.18 and any other contractual indemnity obligations assumed by the Contractor under the Contract Documents.

ARTICLE 4 ARCHITECT

§ 4.1 General

§ 4.1.1 The Architect is the person or entity retained by the Owner pursuant to Section 2.3.2 and identified as such in the Agreement.

§ 4.1.2 Duties, responsibilities, and limitations of authority of the Architect as set forth in the Contract Documents shall not be restricted, modified, or extended without written consent of the Owner, Contractor, and Architect. Consent shall not be unreasonably withheld.

§ 4.2 Administration of the Contract

§ 4.2.1 The Architect will provide administration of the Contract as described in the Contract Documents and will be an Owner's representative during construction until the date the Architect issues the final Certificate for Payment. The Architect will have authority to act on behalf of the Owner only to the extent provided in the Contract Documents.

§ 4.2.2 The Architect will visit the site at intervals appropriate to the stage of construction, or as otherwise agreed with the Owner, to become generally familiar with the progress and quality of the portion of the Work completed, and to determine in general if the Work observed is being performed in a manner indicating that such portion of the Work is, and when the Work is fully completed the entirety of the Work will be, in accordance with the Contract Documents. However, the Architect will not be required to make exhaustive or continuous on-site inspections to check the quality or quantity of the Work. The Architect will not have control over, charge of, or responsibility for, the construction means, methods, techniques, sequences or procedures, or for the safety precautions and programs in connection with the Work, since these are solely the Contractor's rights and responsibilities under the Contract Documents.

§ 4.2.2.1 Where it is stated in the Contract Documents that the Contractor shall pay for or reimburse the Owner for services of the Architect, such payment shall be at a rate of two and one half (2.5) times the Architect's Direct Personnel Expense plus any expenses incurred in providing such services. Direct Personnel Expense is defined as the direct salaries of the Architect's personnel engaged on the Project and the portion of the cost of their mandatory and customary contributions and benefits related thereto, such as employment taxes and other statutory employee benefits, insurance, sick leave, holidays, vacations, pensions, and similar contribution and benefits.

AIA Document A201™ – 2017. Copyright © 1911, 1915, 1918, 1925, 1937, 1951, 1958, 1961, 1963, 1966, 1970, 1976, 1987, 1997, 2007 and 2017 by The American Institute of Architects. All rights reserved. WARNING: This AIA® Document is protected by U.S. Copyright Law and International Treaties. Unauthorized reproduction or distribution of this AIA® Document, or any portion of it, may result in severe civil and criminal penalties, and will be prosecuted to the maximum extent possible under the law. This document was produced by AIA software at 11:58:18 ET on 02/08/2019 under Order No.4449788754 which expires on 04/27/2019, and is not for resale.
User Notes:
(1883989588)

§ 4.2.3 On the basis of the site visits, the Architect will keep the Owner reasonably informed about the progress and quality of the portion of the Work completed, and promptly report to the Owner (1) known deviations from the Contract Documents; (2) known deviations from the most recent construction schedule submitted by the Contractor; and (3) defects and deficiencies observed in the Work. The Architect will not be responsible for the Contractor's failure to perform the Work in accordance with the requirements of the Contract Documents. The Architect will not have control over or charge of and will not be responsible for acts or omissions of the Contractor, Subcontractors, or their agents or employees, or any other persons or entities performing portions of the Work.

§ 4.2.4 Communications

Owner and Contractor shall include the Architect in all communications that relate to or affect the Architect's services or professional responsibilities. The Owner shall promptly notify the Architect of the substance of any direct communications between the Owner and the Contractor otherwise relating to the Project. Communications by and with the Architect's consultants shall be through the Architect. Communications by and with Subcontractors and suppliers shall be through the Contractor. Communications by and with Separate Contractors shall be through the Owner. The Contract Documents may specify other communication protocols.

§ 4.2.5 Based on the Architect's evaluations of the Contractor's Applications for Payment, the Architect will review and certify the amounts due the Contractor and will issue Certificates for Payment in such amounts.

§ 4.2.6 Each of the Owner and the Architect has authority to reject Work that does not conform to the Contract Documents. Whenever the Owner or the Architect considers it necessary or advisable for implementation of the intent of the Contract Documents, the Owner or the Architect, as applicable, will have authority to require additional inspection or testing of the Work in accordance with Sections 13.4.2 and 13.4.3, whether or not such Work is fabricated, installed or completed. The Architect shall advise and assist the Owner in performing any of the functions set forth in this Section that are performed by the Owner.

§ 4.2.7 The Architect will review and approve, or take other appropriate action upon, the Contractor's submittals such as Shop Drawings, Product Data, and Samples, but only for the limited purpose of checking for conformance with information given and the design concept expressed in the Contract Documents. The Architect's action will be taken in accordance with the submittal schedule approved by the Architect or, in the absence of an approved submittal schedule, with reasonable promptness while allowing sufficient time in the Architect's professional judgment to permit adequate review. Review of such submittals is not conducted for the purpose of determining the accuracy and completeness of other details such as dimensions and quantities, or for substantiating instructions for installation or performance of equipment or systems, all of which remain the responsibility of the Contractor as required by the Contract Documents. The Architect's review of the Contractor's submittals shall not relieve the Contractor of the obligations under Sections 3.3, 3.5, and 3.12. The Architect's review shall not constitute approval of safety precautions or of any construction means, methods, techniques, sequences, or procedures. The Architect's approval of a specific item shall not indicate approval of an assembly of which the item is a component.

§ 4.2.8 The Owner or the Architect will prepare Change Orders and Construction Change Directives and may order minor changes in the Work as provided in Section 7.4.

§ 4.2.9 The Architect will conduct inspections to determine the date or dates of Substantial Completion and the date of final completion; issue Certificates of Substantial Completion pursuant to Section 9.8; receive and forward to the Owner, for the Owner's review and records, written warranties and related documents required by the Contract and assembled by the Contractor pursuant to Section 9.10; and issue a final Certificate for Payment pursuant to Section 9.10. The undertaking of inspections by the Architect is not to be construed as supervision of construction activities nor an assumption by the Architect of any responsibility for job site safety for the performance of Work.

§ 4.2.10 Not Used.

AIA Document A201™ – 2017. Copyright © 1911, 1915, 1918, 1925, 1937, 1951, 1958, 1961, 1963, 1966, 1970, 1976, 1987, 1997, 2007 and 2017 by The American Institute of Architects. All rights reserved. WARNING: This AIA® Document is protected by U.S. Copyright Law and International Treaties. Unauthorized reproduction or distribution of this AIA® Document, or any portion of it, may result in severe civil and criminal penalties, and will be prosecuted to the maximum extent possible under the law. This document was produced by AIA software at 11:58:18 ET on 02/08/2019 under Order No.4449788754 which expires on 04/27/2019, and is not for resale.
User Notes:

§ 4.2.11 The Architect will interpret and decide matters concerning performance under, and requirements of, the Contract Documents on written request of either the Owner or Contractor. The Architect's response to such requests will be made in writing within any time limits agreed upon provided that, if not agreed otherwise, the Architect shall respond to such requests within fifteen (15) days after Architect's receipt of such request. If such written request is made of the Architect, and the Owner or the Contractor disagrees with the Architect's response to such request, the matter shall be submitted to the Initial Decision Maker pursuant to Article 15.

§ 4.2.12 Interpretations and decisions of the Architect will be consistent with the intent of, and reasonably inferable from, the Contract Documents and will be in writing or in the form of drawings. When making such interpretations and decisions, the Architect will endeavor to secure faithful performance by both Owner and Contractor, will not show partiality to either and will not be liable for results of interpretations or decisions rendered in good faith.

§ 4.2.13 The decision of the Owner, in consultation with the Architect, on matters relating to aesthetic effect will be final if consistent with the intent expressed in the Contract Documents.

§ 4.2.14 The Architect will review and respond to requests for information about the Contract Documents. The Architect's response to such requests will be made in writing within any time limits agreed upon provided that, unless agreed otherwise, the Architect shall respond to such requests within fifteen days after Architect's receipt of such request. If appropriate, the Architect will prepare and issue supplemental Drawings and Specifications in response to the requests for information.

ARTICLE 5 SUBCONTRACTORS

§ 5.1 Definitions

§ 5.1.1 A Subcontractor is a person or entity who has a direct contract with the Contractor to perform a portion of the Work at the site. The term "Subcontractor" is referred to throughout the Contract Documents as if singular in number and means a Subcontractor or an authorized representative of the Subcontractor. The term "Subcontractor" does not include a Separate Contractor or the subcontractors of a Separate Contractor.

§ 5.1.2 A Sub-subcontractor is a person or entity who has a direct or indirect contract with a Subcontractor to perform a portion of the Work at the site and, unless otherwise expressly indicated, refers to subcontractors of all tiers performing any part of the Work (other than Subcontractors). The term "Sub-subcontractor" is referred to throughout the Contract Documents as if singular in number and means a Sub-subcontractor or an authorized representative of the Sub-subcontractor.

§ 5.2 Award of Subcontracts and Other Contracts for Portions of the Work

§ 5.2.1 Unless otherwise stated in the Contract Documents, the Contractor, as soon as practicable, but in no event more than ten days after the Owner's execution of the Contract (or such shorter period of time as required by applicable law), shall notify the Owner and Architect of the names, addresses, Connecticut Tax Registration numbers, and Federal Employer Identification numbers (or social security numbers as to individuals) of the persons or entities proposed for each principal portion of the Work, including those who are to furnish materials or equipment fabricated to a special design. Within fourteen days of receipt of the information, the Architect or Owner may notify the Contractor whether the Owner or the Architect (1) has reasonable objection to any such proposed person or entity; or (2) requires additional time for review. Failure of the Architect or Owner to provide notice within the fourteen-day period shall constitute notice of no reasonable objection.

§ 5.2.2 The Contractor shall not contract with a proposed person or entity to whom the Owner or Architect has made reasonable and timely objection.

§ 5.2.2.1 The Contractor shall not contract with a person or entity who appears on the State of Connecticut Debarment List, the Federal Davis Bacon Act Debarment List, both of which are available through:

http://www.ctdol.state.ct.us/

or the Federal List of Excluded Parties Listing System available through http://epls.arnet.gov/

AIA Document A201™ – 2017. Copyright © 1911, 1915, 1918, 1925, 1937, 1951, 1958, 1961, 1963, 1966, 1970, 1976, 1987, 1997, 2007 and 2017 by The American Institute of Architects. All rights reserved. WARNING: This AIA® Document is protected by U.S. Copyright Law and International Treaties. Unauthorized reproduction or distribution of this AIA® Document, or any portion of it, may result in severe civil and criminal penalties, and will be prosecuted to the maximum extent possible under the law. This document was produced by AIA software at 11:58:18 ET on 02/08/2019 under Order No.4449788754 which expires on 04/27/2019, and is not for resale.
User Notes:
(1883989588)

§ 5.2.3 If the Owner or Architect has reasonable objection to a person or entity proposed by the Contractor, the Contractor shall propose another to whom the Owner or Architect has no reasonable objection. If the proposed but rejected Subcontractor was reasonably capable of performing the Work and is not ineligible to be contracted with in accordance with Section 5.2.2.1, the Contract Sum shall be increased or decreased by the difference, if any, occasioned by such change, and an appropriate Change Order shall be issued before commencement of the substitute Subcontractor's Work. However, no increase in the Contract Sum shall be allowed for such change unless the Contractor has acted promptly and responsively in submitting names as required.

§ 5.2.4 The Contractor shall not substitute a Subcontractor, person or entity (including those who are to furnish materials or equipment fabricated to a special design) for one previously selected if the Owner or Architect makes reasonable objection to such substitution.

(Paragraphs deleted)
§ 5.2.5 If requested by the Owner, the Contractor shall provide to the Owner copies of all subcontracts and supply agreements entered into by the Contractor for the Work.

§ 5.2.6 The Contractor shall comply with its obligations under Connecticut General Statutes §4b-93 and §4b-96 including, without limitation and as applicable, its obligation to contract with those Subcontractors identified in the Contractor's bid for the Project to perform the (1) masonry, (2) electrical, (3) plumbing, and (4) heating, ventilating and air conditioning (HVAC) components of the Work and to timely provide copies to the Owner of the executed subcontracts in accordance with the requirements of Connecticut General Statutes §4b-96.

§ 5.2.7 All subcontracts shall comply with the requirements of Connecticut General Statutes §4b-96 and shall be in the form provided by the Owner. The Contractor may supplement the terms and conditions set forth in the Owner supplied form of subcontract by attachment of additional terms and conditions thereto provided such supplemental terms and conditions are not inconsistent or in conflict with the requirements of CGS §4b-96. In the event of any such conflict or inconsistency, the provisions of the form of subcontract set forth in CGS §4b-96 shall prevail and control.

§ 5.3 Subcontractual Relations
§ 5.3.1 By appropriate written agreement, the Contractor shall require each Subcontractor, to the extent of the Work to be performed by the Subcontractor, to be bound to the Contractor by terms of the Contract Documents, and to assume toward the Contractor all the obligations and responsibilities, including the responsibility for safety of the Subcontractor's Work that the Contractor, by these Contract Documents, assumes toward the Owner and Architect. Each subcontract agreement shall preserve and protect the rights of the Owner and Architect under the Contract Documents with respect to the Work to be performed by the Subcontractor so that subcontracting thereof will not prejudice such rights, and shall allow to the Subcontractor, unless specifically provided otherwise in the subcontract agreement, the benefit of all rights, remedies and redress against the Contractor that the Contractor, by the Contract Documents, has against the Owner. Where appropriate, the Contractor shall require each Subcontractor to enter into similar agreements with Sub-subcontractors. The Contractor shall make available to each proposed Subcontractor, prior to the execution of the subcontract agreement, copies of the Contract Documents to which the Subcontractor will be bound, and, upon written request of the Subcontractor, identify to the Subcontractor terms and conditions of the proposed subcontract agreement that may be at variance with the Contract Documents. Subcontractors will similarly make copies of applicable portions of such documents available to their respective proposed Sub-subcontractors.

§ 5.4 Contingent Assignment of Subcontracts
§ 5.4.1 Each subcontract for a portion of the Work is assigned by the Contractor to the Owner, provided that

.1 assignment is effective only after termination of the Contract by the Owner pursuant to Article 14 and only for those subcontracts that the Owner accepts by notifying the Subcontractor and Contractor; and

.2 assignment is subject to the prior rights of the surety, if any, obligated under bond relating to the Contract.

AIA Document A201™ – 2017. Copyright © 1911, 1915, 1918, 1925, 1937, 1951, 1958, 1961, 1963, 1966, 1970, 1976, 1987, 1997, 2007 and 2017 by The American Institute of Architects. All rights reserved. WARNING: This AIA® Document is protected by U.S. Copyright Law and International Treaties. Unauthorized reproduction or distribution of this AIA® Document, or any portion of it, may result in severe civil and criminal penalties, and will be prosecuted to the maximum extent possible under the law. This document was produced by AIA software at 11:58:18 ET on 02/08/2019 under Order No.4449788754 which expires on 04/27/2019, and is not for resale.
User Notes: (1883989588)

When the Owner accepts the assignment of a subcontract, the Owner assumes the Contractor's rights and obligations under the subcontract but only to the extent arising subsequent to the effective date of the assignment and related to Work not yet performed. Contractor agrees to execute any and all other documents reasonably required to effect the assignment.

§ 5.4.2 Upon such assignment, if the Work has been suspended for more than sixty (60) days, the Subcontractor's compensation shall be equitably adjusted for increases in cost resulting from the suspension.

§ 5.4.3 Upon assignment to the Owner under this Section 5.4, the Owner may further assign the subcontract to a successor contractor or other entity.

§ 5.4.4 The Contractor shall promptly, but in any event not later than ten (10) days after obtaining knowledge thereof, advise the Owner in writing of any claim or demand by a Subcontractor claiming that any amount is due to such Subcontractor or claiming any default by the Contractor in any of its obligations to such Subcontractor.

ARTICLE 6 CONSTRUCTION BY OWNER OR BY SEPARATE CONTRACTORS

§ 6.1 Owner's Right to Perform Construction and to Award Separate Contracts

§ 6.1.1 The term "Separate Contractor(s)" shall mean other contractors retained by the Owner under separate agreements. The Owner reserves the right to perform construction or operations related to the Project with the Owner's own forces, and with Separate Contractors retained under Conditions of the Contract substantially similar to those of this Contract, including those provisions of the Conditions of the Contract related to insurance and waiver of subrogation.

§ 6.1.2 When separate contracts are awarded for different portions of the Project or other construction or operations on the site, the term "Contractor" in the Contract Documents in each case shall mean the Contractor who executes each separate Owner-Contractor Agreement.

§ 6.1.3 The Owner shall provide for coordination of the activities of the Owner's own forces and of each Separate Contractor with the Work of the Contractor, who shall cooperate with them. The Contractor shall participate with any Separate Contractors and the Owner in reviewing their construction schedules and construction requirements. The Contractor shall make any revisions to its construction schedule deemed necessary after a joint review and mutual agreement between the Owner and Contractor. The construction schedules shall then constitute the schedules to be used by the Contractor, Separate Contractors, and the Owner until subsequently revised.

§ 6.1.4 Unless otherwise provided in the Contract Documents, when the Owner performs construction or operations related to the Project with the Owner's own forces or with Separate Contractors, the Owner or its Separate Contractors shall have the same obligations and rights that the Contractor has under these General Conditions, including, without excluding others, those stated in Article 3, this Article 6, and Articles 10, 11, and 12.

§ 6.2 Mutual Responsibility

§ 6.2.1 The Contractor shall afford the Owner and Separate Contractors reasonable opportunity for introduction and storage of their materials and equipment and performance of their activities, and shall connect and coordinate the Contractor's construction and operations with theirs as required by the Contract Documents.

§ 6.2.2 If part of the Contractor's Work depends for proper execution or results upon construction or operations by the Owner or a Separate Contractor, the Contractor shall, prior to proceeding with that portion of the Work, promptly notify the Architect of apparent discrepancies or defects in the construction or operations by the Owner or Separate Contractor that would render it unsuitable for proper execution and results of the Contractor's Work. Failure of the Contractor to notify the Architect of apparent discrepancies or defects prior to proceeding with the Work shall constitute an acknowledgment that the Owner's or Separate Contractor's completed or partially completed construction is fit and proper to receive the Contractor's Work. The Contractor shall not be responsible for discrepancies or defects in the construction or operations by the Owner or Separate Contractor that are not apparent. If the performance of any part of a Contractor's Work depends on

AIA Document A201™ – 2017. Copyright © 1911, 1915, 1918, 1925, 1937, 1951, 1958, 1961, 1963, 1966, 1970, 1976, 1987, 1997, 2007 and 2017 by The American Institute of Architects. All rights reserved. WARNING: This AIA® Document is protected by U.S. Copyright Law and International Treaties. Unauthorized reproduction or distribution of this AIA® Document, or any portion of it, may result in severe civil and criminal penalties, and will be prosecuted to the maximum extent possible under the law. This document was produced by AIA software at 11:58:18 ET on 02/08/2019 under Order No.4449788754 which expires on 04/27/2019, and is not for resale.
User Notes: (1883989588)

proper and timely execution or relies upon the interphasing or coordinating of the work of any Separate Contractor or the Owner, the Contractor shall allow for this interrelationship in the planning and performance of the Contractor's Work, without interference with the work of any Separate Contractor or the Owner.

§ 6.2.3 The Contractor shall reimburse the Owner for costs the Owner incurs that are payable to a Separate Contractor because of the Contractor's delays, improperly timed activities or defective construction (collectively and individually, "Interference"). The Owner shall have the right to off-set such costs against any amounts owed to the Contractor by the Owner to the extent related to the Project. The Owner shall be responsible to the Contractor for costs the Contractor incurs because of a Separate Contractor's Interference but only as regards Interference by Separate Contractors whose work was not identified in the Contract Documents as work to be performed by Separate Contractors.

§ 6.2.4 The Contractor shall promptly remedy the damage that the Contractor wrongfully causes to completed or partially completed construction or to the property of the Owner or Separate Contractor as provided in Section 10.2.5.

§ 6.2.5 The Owner and each Separate Contractor shall have the same responsibilities for cutting and patching as are described for the Contractor in Section 3.14.

§6.2.6 Upon the Owner's request, the Contractor shall defend any proceedings brought against the Owner by any Separate Contractor on account of any damage alleged to have been caused by the Contractor which arises from the Contractor's failure to comply with the terms and conditions of this Section 6.2.

§ 6.3 Owner's Right to Clean Up

If a dispute arises among the Contractor, Separate Contractors, and the Owner as to the responsibility under their respective contracts for maintaining the premises and surrounding area free from waste materials and rubbish, the Owner may clean up and the Owner will allocate the cost among those responsible.

ARTICLE 7 CHANGES IN THE WORK

§ 7.1 General

§ 7.1.1 Changes in the Work may be accomplished after execution of the Contract, and without invalidating the Contract, by Change Order, Construction Change Directive or order for a minor change in the Work, subject to the limitations stated in this Article 7 and elsewhere in the Contract Documents.

§ 7.1.2 A Change Order shall be based upon agreement among the Owner, Contractor and Architect. A Construction Change Directive is a directive by the Owner that may or may not be agreed to by the Contractor. All changes to the Work shall be approved by the Owner. Except as permitted in Section 7.3, a change in the Contract Sum or the Contract Time shall be accomplished only by Change Order. Accordingly, no course of conduct or dealings between the parties, nor express or implied acceptance of alterations or additions to the Work, and no claim that the Owner has been unjustly enriched by any alterations or additions to the Work, whether or not there is, in fact, any unjust enrichment, shall be the basis for any claim for an increase in the Contract Sum, an extension of the Contract Time, or a change in any time period provided for in the Contract Documents.

§ 7.1.3 Changes in the Work shall be performed under applicable provisions of the Contract Documents. The Contractor shall proceed promptly with changes in the Work, unless otherwise provided in the Change Order, Construction Change Directive, or order for a minor change in the Work.

§ 7.2 Change Orders

§ 7.2.1 A Change Order is a written instrument prepared by the Owner or Architect and signed by the Owner, Contractor and Architect stating their agreement upon all of the following:

.1 The change in the Work;
.2 The amount of the adjustment, if any, in the Contract Sum; and
.3 The extent of the adjustment, if any, in the Contract Time.

There shall be no extension in the Contract Time unless the Contractor can effectively demonstrate that the

AIA Document A201™ – 2017. Copyright © 1911, 1915, 1918, 1925, 1937, 1951, 1958, 1961, 1963, 1966, 1970, 1976, 1987, 1997, 2007 and 2017 by The American Institute of Architects. All rights reserved. WARNING: This AIA® Document is protected by U.S. Copyright Law and International Treaties. Unauthorized reproduction or distribution of this AIA® Document, or any portion of it, may result in severe civil and criminal penalties, and will be prosecuted to the maximum extent possible under the law. This document was produced by AIA software at 11:58:18 ET on 02/08/2019 under Order No.4449788754 which expires on 04/27/2019, and is not for resale.
User Notes:

(1883989588)

Work delayed is on the critical path of the approved construction schedule as provided in Division 1 of the Specifications and in Section 8.3 of these General Conditions.

The signature of the Architect on the Change Order signifies that the Architect has reviewed the proposed Change Order, with accompanied breakdowns and subcontractor's change proposals, for appropriate quantities and unit costs and recommends approval of the proposed Change Order. The Architect's signature is not necessary in order for the Change Order to constitute a modification to the Contract which binds the Owner and the Contractor if the Contractor and the Owner have both signed the Change Order.

§ 7.2.2 Change Order Cost Components
The Contractor's proposal for a Change Order shall be itemized completely, submitted in a detailed format acceptable to the Owner, and shall include the following itemized cost components, as applicable:

§ 7.2.2.1 Engineered Equipment and Materials:
Costs for Engineered Equipment and Materials included in any Change Order shall be considered all-inclusive of the purchase cost thereof including all freight costs, purchasing services, expediting, and inspections and shall be substantiated by manufacturer and supplier quotes subject to review and approval by the Owner. Engineered Equipment shall be defined as equipment to be incorporated into and become a permanent part of the completed installation specified in the Contract Documents. Materials shall be defined as construction materials that become incorporated into and become a permanent part of the completed installation.

§ 7.2.2.2 Direct Field Labor Hours:
Direct labor work hours included in any Change Order shall be itemized indicating the direct labor hours to be expended in the actual installation of Engineered Equipment and Materials. The quantity of hours shall be based upon the Contractor's estimate to complete the subject Work based upon actual field conditions and shall be subject to review and approval by the Owner.

§ 7.2.2.3 Direct Field Labor Costs:
Direct field labor costs are defined as the costs of the direct labor required for the actual installation of Engineered Equipment and Materials. Direct field labor costs shall be based on the Contractor's direct field labor rates, which rates are subject to review and approval by the Owner and which rates shall be substantiated by a detailed direct labor cost breakdown with associated back-up support in a form acceptable to the Owner. The Contractor's direct field labor rates may include hourly labor classifications for foremen, journeymen, apprentices, laborers, etc. Direct field labor rates may include the Contractor's direct labor payroll costs including social security, unemployment (federal and state), workers' compensation insurance, fringe benefits, and any other identified costs directly related to direct labor.

If the Project is subject to prevailing wage rates, no wage rate above the prevailing rate shall be allowed unless such wage rate is substantiated by documentation of actual wages paid in accordance with such wage rate except in the case where the Contractor's wage rates were submitted to and accepted by the Owner as a condition of the Contract.

§ 7.2.2.4 Construction Equipment and Tool Rental:
Costs associated with Contractor owned or rented construction equipment and major tools used in the performance of the Work may be included as part of the cost of a Change Order if it is demonstrated to the Owner's satisfaction that such costs are valid and related to the change in the Work which is the subject of the Change Order. Major tools shall be defined as non-hand-held tools. Pricing rates for construction equipment and major tools shall be subject to Owner's review and approval. Costs for specialized construction equipment not already on site shall be shown separately and shall require justification by the Contractor.

§ 7.2.2.5 Field Overheads (Indirects):
Field overhead (indirect) labor shall mean and include field (onsite) supervision (general foremen, field engineers). Costs for field overhead (indirect) labor shall be based on hourly rates which are subject to review and approval by the Owner. Such costs shall be allowed as part of the cost of a Change Order if it is demonstrated to the Owner's satisfaction that such costs are valid and arise as a direct result of the change in the Work which is the subject of the Change Order. All such costs shall be substantiated by supporting data

AIA Document A201™ – 2017. Copyright © 1911, 1915, 1918, 1925, 1937, 1951, 1958, 1961, 1963, 1966, 1970, 1976, 1987, 1997, 2007 and 2017 by The American Institute of Architects. All rights reserved. WARNING: This AIA® Document is protected by U.S. Copyright Law and International Treaties. Unauthorized reproduction or distribution of this AIA® Document, or any portion of it, may result in severe civil and criminal penalties, and will be prosecuted to the maximum extent possible under the law. This document was produced by AIA software at 11:58:18 ET on 02/08/2019 under Order No.4449788754 which expires on 04/27/2019, and is not for resale.
User Notes:
(1883989588)

submitted for review and approval by the Owner. Costs for specialized personnel or additional staff shall be shown separately and shall require justification by the Contractor.

Field Facilities shall mean and include the following:

1. Temporary offices (including office furniture, copiers, computers, printers, other office equipment, and supplies);
2. Temporary material storage (storage vans and containers, warehouse rental); and
3. Utilities (electricity, phones, data lines, restroom facilities).

Costs for Field Facilities, which are subject to the review and approval of the Owner, may only be included as part of the costs of a Change Order if (1) the Change Order includes an extension of the Contract Time which has been approved by the Owner in accordance with Section 8.3; or (2) the Contractor otherwise demonstrates to the Owner's satisfaction that such costs are valid and arise as a direct result of the change in Work which is the subject of the Change Order.

§ 7.2.2.6 As noted in Section 3.6, the Owner is a tax-exempt institution. The tax on materials or supplies exempted by the current regulations of the Department of Revenue Services shall not be included as a cost component of any Change Order or Change Order request/proposal.

§ 7.2.2.7 Subcontractors

Subcontractors shall adhere to the same contract requirements and shall utilize change order pricing methodology that is consistent with the Contract. The Contractor shall provide detailed Subcontractor cost proposals to substantiate all subcontractor pricing.

§ 7.2.2.8 General and Administrative Overhead (Home Office) Costs and Profit (Overhead and Profit)

Overhead and Profit shall cover the following:

1. All home office expenses;
2. Safety related items, including safety equipment, safety administration, and all related costs associated with the contractor's safety program;
3. Small tools, which are defined as construction tools with a value of up to $500;
4. Consumable materials, which are normally used in the execution of the Work and as may be further defined in the general conditions section of the Specifications;
5. Indirect costs as related to field administrative personnel (project manager, field safety supervisor, planners, estimators, office manager, secretarial services, document control);
6. Indirect costs as related to support staff;
7. Commercial General, Automobile, Umbrella, Aircraft and Contractor's Pollution Liability Insurance as described in Section 11.1.1;
8. Parking;
9. Safety;
10. Commissioning Requirements;
11. Such other items as are commonly considered part of home office overhead;
12. Company vehicles, gas, mileage and travel time;
13. Union-related contributions and expenses;
14. Any training; and
15. Licenses.

§ 7.2.2.9 The amount to be included in a Change Order for Overhead and Profit shall be based on and limited to the markup percentages identified in the table below as applied to the total net increase in the direct costs of the Work which arises as a direct result of the change in the Work which is the subject of the Change Order.

Contractor/Subcontractor Combined Overhead and Profit Markup Table:	
Contractor markup on self-performed work	15%
Contractor markup on Subcontractor work.	5%
Subcontractor markup on self-performed work.	15%

AIA Document A201™ – 2017. Copyright © 1911, 1915, 1918, 1925, 1937, 1951, 1958, 1961, 1963, 1966, 1970, 1976, 1987, 1997, 2007 and 2017 by The American Institute of Architects. All rights reserved. WARNING: This AIA® Document is protected by U.S. Copyright Law and International Treaties. Unauthorized reproduction or distribution of this AIA® Document, or any portion of it, may result in severe civil and criminal penalties, and will be prosecuted to the maximum extent possible under the law. This document was produced by AIA software at 11:58:18 ET on 02/08/2019 under Order No.4449788754 which expires on 04/27/2019, and is not for resale.
User Notes: (1883989588)

Subcontractor markup on Work performed by Sub-subcontractors under contract with a Subcontractor.	5%
Markup on Work that is self-performed by a Sub-subcontractor under contract with a Subcontractor.	10%
Subcontractor markup on Sub-subcontractor work	0%
Sub-subcontractor markup on Work performed by lower tier Sub-subcontractors	0%

§ 7.2.2.10 Notwithstanding the foregoing, the aggregate markup for Overhead and Profit included in any Change Order shall not exceed twenty percent (20%) of the total net increase in the direct costs of the Work which arises as a direct result of the change in the Work which is the subject of the Change Order.

§ 7.2.2.11 Overtime, when specifically authorized by the Owner and not as an Extraordinary Measure (as defined in Section 8.2.3.2), shall be paid for by the Owner on the basis of premium payment only, plus the cost of insurance and taxes based on the premium payment period.

§ 7.2.2.12 For a change in the Work resulting in a net decrease in the direct cost of the Work, the Change Order will reflect a reduction in the Contract Sum of an amount equal to such net decrease as confirmed by the Owner. In the case where there are both increases and decreases in direct costs of the Work, Overhead and Profit included in the Change Order shall be figured on the basis of the net increase in costs, if any, with respect to that change.

§ 7.2.2.14 Bond Costs: Actual additional bond premiums assessed to the Contractor by the surety issuing the payment and performance bonds for the Project as a direct result of an increase in the Contract Sum reflected in the subject Change Order may be included as part of the costs of the Change Order only when supported by written documentation from the surety confirming that the Change Order requires an increase to the original payment and performance bonds. Any additional bond premiums to which Contractor would be entitled shall be addressed in a final Change Order with no additional fee or mark-up thereon.

§ 7.2.3 The Contractor shall submit proposals for Change Orders on the "Change Order Proposal Request Form" provided in Division 1of the Specifications or on a form and in a format otherwise acceptable to the Owner. In order to facilitate the Owner's review of quotations for extras or credits, all proposals, except those so minor that their propriety can be seen by inspection, shall be accompanied by a complete itemization of costs including labor, materials, unit prices, and Subcontracts. Subcontractor proposals shall be submitted in support of the Contractor's Change Order proposal and shall be similarly itemized.

§ 7.2.4 Alternates awarded by Change Order after Contract execution are not subject to Contractor, Subcontractor or Sub-subcontractor mark-up for Overhead and Profit.

§ 7.2.5 Agreement upon and execution of any Change Order shall constitute a final settlement of all matters relating to the change in the Work which is the subject of the Change Order, including, but not limited to, all direct and indirect costs associated with such change and any and all adjustments to the Contract Sum and the Contract Time. In the event a Change Order increases the Contract Sum, Contractor shall include the Work covered by such Change Orders in Applications for Payment as if such Work were originally part of the Contract Documents.

§ 7.2.6 Any percentage referred to hereafter for General Conditions, and/or Overhead and Profit included in the adjustment to the Contract Sum shall be applied to the costs of performing the Work attributable to the change as stated in 7.3.4.1 through 7.3.4.5. No markup shall be allowed for premiums on bonds and insurance.

§ 7.3 Construction Change Directives

§ 7.3.1 A Construction Change Directive is a written order prepared by the Owner or Architect and signed by the Owner and Architect, directing a change in the Work prior to agreement on adjustment, if any, in the Contract Sum or Contract Time, or both. The Owner may by Construction Change Directive, without

AIA Document A201™ – 2017. Copyright © 1911, 1915, 1918, 1925, 1937, 1951, 1958, 1961, 1963, 1966, 1970, 1976, 1987, 1997, 2007 and 2017 by The American Institute of Architects. All rights reserved. WARNING: This AIA® Document is protected by U.S. Copyright Law and International Treaties. Unauthorized reproduction or distribution of this AIA® Document, or any portion of it, may result in severe civil and criminal penalties, and will be prosecuted to the maximum extent possible under the law. This document was produced by AIA software at 11:58:18 ET on 02/08/2019 under Order No.4449788754 which expires on 04/27/2019, and is not for resale.
User Notes:
(1883989588)

invalidating the Contract, order changes in the Work within the general scope of the Contract consisting of additions, deletions or other revisions, the Contract Sum and Contract Time being adjusted accordingly. The signature of the Architect signifies that he has reviewed and recommends the change. However, if the Owner has signed the Change Directive the Architect's signature is not necessary in order for the Change Directive to be valid.

§ 7.3.2 A Construction Change Directive shall be used in the absence of total agreement on the terms of a Change Order.

§ 7.3.3 If the Construction Change Directive provides for a proposed adjustment to the Contract Sum, the adjustment shall be based on one of the following methods:

.1 Mutual acceptance of a lump sum properly itemized and supported by sufficient substantiating data to permit evaluation;

.2 Unit prices stated in the Contract Documents or subsequently agreed upon;

.3 Cost to be determined in a manner agreed upon by the parties and a mutually acceptable fixed or percentage fee;

.4 Time and materials subject to a not to exceed a stipulated price; or

.5 As provided in Section 7.3.4.

§ 7.3.4 If the Contractor does not respond promptly or disagrees with the method for adjustment in the Contract Sum, the method for adjustment in the Contract Sum shall be determined in the sole discretion of the Owner, on the basis of reasonable expenditures and savings of those performing the Work attributable to the change, including, in case of an increase in the Contract Sum, a reasonable amount for overhead and profit in accordance with, and not to exceed the limitations set forth in, Section 7.2. In such case, and also under Section 7.3.3.3, the Contractor shall keep and present, in such form as the Owner may prescribe, an itemized accounting together with appropriate supporting data. Unless otherwise provided in the Contract Documents, costs of performing the Work for the purposes of this Section 7.3.4 shall be limited to the following as described in Section 7.2:

.1 Costs of labor, including applicable payroll taxes, fringe benefits required by agreement or custom, workers' compensation insurance, and other employee costs approved by the Architect;

.2 Costs of materials, supplies and equipment, including the cost of transportation, whether incorporated or consumed;

.3 Rental costs of machinery and equipment, exclusive of hand tools and any hand-held equipment, whether rented from the Contractor or others;

.4 Costs of premiums for all bonds, permit fees, and sales, use or similar taxes directly related to the change; and

.5 Costs of field overhead personnel directly attributable to the change based on supporting data.

§ 7.3.5 If the Contractor disagrees with the adjustment in the Contract Time, the Contractor may make a Claim in accordance with applicable provisions of Article 15.

§ 7.3.6 Upon receipt of a Construction Change Directive, the Contractor shall promptly proceed with the change in the Work involved and advise the Owner of the Contractor's agreement or disagreement with the method, if any, provided in the Construction Change Directive for determining the proposed adjustment in the Contract Sum or Contract Time.

§ 7.3.7 A Construction Change Directive signed by the Contractor indicates the Contractor's agreement therewith, including adjustment in Contract Sum and Contract Time or the method for determining them. The Contractor must proceed promptly regardless if the directive is signed by the Contractor.

§ 7.3.8 Not Used.

§ 7.3.9 Not Used.

§ 7.3.10 When the Owner and Contractor agree concerning the adjustments in the Contract Sum and/or Contract Time, or otherwise reach agreement upon the adjustments, such agreement shall be effective immediately and

AIA Document A201™ – 2017. Copyright © 1911, 1915, 1918, 1925, 1937, 1951, 1958, 1961, 1963, 1966, 1970, 1976, 1987, 1997, 2007 and 2017 by The American Institute of Architects. **All rights reserved.** WARNING: This AIA® Document is protected by U.S. Copyright Law and International Treaties. Unauthorized reproduction or distribution of this AIA® Document, or any portion of it, may result in severe civil and criminal penalties, and will be prosecuted to the maximum extent possible under the law. This document was produced by AIA software at 11:58:18 ET on 02/08/2019 under Order No.4449788754 which expires on 04/27/2019, and is not for resale.
User Notes: (1883989588)

shall be recorded by preparation and execution of an appropriate Change Order. Change Orders may be issued for all or any part of a Construction Change Directive.

§ 7.3.11 If the Contractor does not expeditiously proceed with the Work to be performed under a Construction Change Directive (regardless of whether or not such Work is in dispute), the Owner may, in its sole discretion, cause such Work to be performed by others, and deduct the actual costs incurred by the Owner in connection with such reassigned Work from the Contract Sum.

§ 7.4 Minor Changes in the Work

The Architect may, subject to approval of the Owner, order minor changes in the Work that are consistent with the intent of the Contract Documents and do not involve an adjustment in the Contract Sum or an extension of the Contract Time. The Contractor shall carry out such written orders promptly.

The Architect's order for minor changes shall be in writing. If the Contractor believes that the proposed minor change in the Work will affect the Contract Sum or Contract Time, the Contractor shall notify the Architect and Owner and shall not proceed to implement the change in the Work. If the Contractor performs the Work set forth in the Architect's order for a minor change without prior notice to the Architect and Owner that such change will affect the Contract Sum or Contract Time, the Contractor waives any adjustment to the Contract Sum or extension of the Contract Time.

ARTICLE 8 TIME

§ 8.1 Definitions

§ 8.1.1 Unless otherwise provided, Contract Time is the period of time, including authorized adjustments, allotted in the Contract Documents for Substantial Completion of the Work.

§ 8.1.2 The date of commencement of the Work is the date established in the Notice to Proceed.

§ 8.1.3 The date of Substantial Completion is the date Substantial Completion is achieved in accordance with Section 9.8.

§ 8.1.4 The term "day" as used in the Contract Documents shall mean calendar day unless otherwise specifically defined.

§ 8.2 Progress and Completion

§ 8.2.1 Time limits stated in the Contract Documents are of the essence of the Contract. By executing the Contract, the Contractor confirms that the Contract Time is a reasonable period for performing the Work and that the Contractor is capable of completing the Work in accordance with the Contract Documents within the Contract Time.

§ 8.2.2 The Contractor shall not knowingly, except by agreement or instruction of the Owner in writing, commence the Work prior to the effective date of insurance required to be furnished by the Contractor and Owner.

§ 8.2.3 The Contractor shall proceed expeditiously with adequate forces and shall achieve Substantial Completion within the Contract Time.

(Paragraph deleted)

§ 8.2.3.1 The Contractor shall monitor the progress of the Work for conformance with the requirements of the construction schedule and shall promptly advise the Owner of any delays or potential delays. The construction schedule shall be updated to reflect actual conditions (sometimes referred to as progress reports) as set forth in Section 3.10.1 of these General Conditions or as otherwise requested by the Owner. In the event any progress report indicates any delays or potential delays, the Contractor shall advise the Owner of its plan to recover the schedule, providing the Owner with a recovery schedule, and shall further take all steps necessary to correct the delay, including overtime and/or additional labor, if necessary. In no event shall any progress report or recovery schedule constitute an adjustment in the Contract Time or the Contract Sum unless any such adjustment is agreed to by the Owner and authorized pursuant to Change Order.

Init.
/
AIA Document A201™ – 2017. Copyright © 1911, 1915, 1918, 1925, 1937, 1951, 1958, 1961, 1963, 1966, 1970, 1976, 1987, 1997, 2007 and 2017 by The American Institute of Architects. All rights reserved. WARNING: This AIA® Document is protected by U.S. Copyright Law and International Treaties. Unauthorized reproduction or distribution of this AIA® Document, or any portion of it, may result in severe civil and criminal penalties, and will be prosecuted to the maximum extent possible under the law. This document was produced by AIA software at 11:58:18 ET on 02/08/2019 under Order No.4449788754 which expires on 04/27/2019, and is not for resale.
User Notes: (1883989588)

§ 8.2.3.2 In the event the Owner determines that the performance of the Work has not progressed or reached the level of completion required by the approved construction schedule for reasons within the responsibility of the Contractor, the Owner shall have the right to order the Contractor to take any and all corrective measures necessary to expedite the progress of construction, including, without limitation, (1) working additional shifts or overtime; (2) supplying additional manpower, equipment, and facilities; and (3) other similar measure (hereinafter referred to collectively as "Extraordinary Measures"). Such Extraordinary Measure shall continue until the progress of the Work complies with the stage of completion required by the approved construction schedule. The Owner's right to require Extraordinary Measures is solely for the purpose of ensuring the Contractor's compliance with the construction schedule.

§ 8.2.3.3 The Contractor shall not be entitled to any adjustment in the Contract Price in connection with Extraordinary Measures required by the Owner, if the Owner determines that the conditions creating the need for such Extraordinary Measures were within the responsibility of the Contractor.

§ 8.2.3.4 The Owner may exercise the rights furnished the Owner under or pursuant to this Section as frequently as the Owner deems necessary to ensure that the Contractor's performance of the Work will comply with any approved construction schedule or completion date established in accordance with the Contract.

§ 8.2.4 Not Used.

§ 8.2.5 Except in the event of an emergency, no substantial field operations shall be performed outside of regular working hours without the prior approval of the Owner. The Contractor shall not be entitled to additional compensation for work performed outside of regular working hours. For the purposes of this Contract "regular working hours" shall mean and include the hours of 7:00 a.m. to 3:00 p.m. unless otherwise provided in the Contract Documents.

§ 8.3 Delays and Extensions of Time

§ 8.3.1 If the Contractor is delayed at any time in the commencement or progress of the Work by (1) an act or neglect of the Owner or Architect, of an employee of either, or of a Separate Contractor; (2) by changes ordered in the Work; or (3) by labor disputes, fire, or unavoidable casualties beyond the Contractor's control, then the Contract Time may be extended by Change Order for such reasonable time periods as demonstrated through a Critical Path Analysis as described in and in conformance with Division 1 of the Specifications and accepted by the Owner.

§ 8.3.2 Claims relating to time shall be made in accordance with applicable provisions of Article 15.

§ 8.3.2.1 Claims of delay and requests for extensions of time shall set forth in detail the circumstances of such claim, the dates upon which the claimed delay began and ended, and the number of days' extension of time requested. The Contractor shall provide supporting documentation as the Architect and Owner may require, including a revised Construction Schedule indicating the effect of the circumstances which form the basis for the claim.

§ 8.3.2.2 The Contractor shall not be entitled to an extension of time for each and every one of a number of causes which have a concurrent and interrelated effect on the progress of the Work.

§ 8.3.2.3 Claims for extensions of time arising out of authorized changes in the Work shall be made in writing prior to or concurrent with the submission of the Contractor's proposal for such changes. No extension of time arising out of changes in the Work will be granted after the date upon which the Contractor is authorized to proceed with such changes unless specific provision for an extension of time has been incorporated in the Owner's authorization to proceed.

§ 8.3.2.4 No Damage for Delay. Notwithstanding anything to the contrary set forth in the Contract Documents, the Owner shall not be liable to the Contractor for Claims or damages of any nature caused by or arising out of delays. The sole remedy against the Owner for delays shall be the allowance of additional time for completion of the Work, the amount of which shall be subject to the procedures set forth in the Contract

AIA Document A201™ – 2017. Copyright © 1911, 1915, 1918, 1925, 1937, 1951, 1958, 1961, 1963, 1966, 1970, 1976, 1987, 1997, 2007 and 2017 by The American Institute of Architects. All rights reserved. WARNING: This AIA® Document is protected by U.S. Copyright Law and International Treaties. Unauthorized reproduction or distribution of this AIA® Document, or any portion of it, may result in severe civil and criminal penalties, and will be prosecuted to the maximum extent possible under the law. This document was produced by AIA software at 11:58:18 ET on 02/08/2019 under Order No.4449788754 which expires on 04/27/2019, and is not for resale.
User Notes:
(1883989588)

Documents. Except to the extent, if any, expressly prohibited by law, the Contractor expressly agrees not to make and hereby waives any Claim for damages for any delay, including, but not limited to, those resulting from increased labor or material costs; directions given or not given by the Owner or Architect, including scheduling and coordination of the Work; the Architect's preparation of drawings and specifications or review of shop drawings and requests for instruction(s); or, on account of any delay, obstruction or hindrance for any cause whatsoever by the Owner, Owner, Architect, or any Separate Contractor, whether or not foreseeable or anticipated. The Contractor agrees that its sole right and remedy therefore shall be an extension of the Contract Time, if appropriate.

§ 8.3.2.5 It is expressly understood that, notwithstanding anything to the contrary set forth in the Contract Documents, no Subcontractor or Sub-subcontractor shall be entitled to make any Claim for additional compensation, costs or damages against the Contractor (nor may the Contractor assert against Owner such Claims as pass-through claims of Subcontractor or otherwise) for delay. Unless agreed by Owner in writing, Contractor shall include in every Subcontract a 'No-Damage-For-Delay' provision in a form approved by the Owner.

§ 8.3.3 This Section 8.3 does not preclude recovery of damages for delay by the Owner under other provisions of the Contract Documents.

ARTICLE 9 PAYMENTS AND COMPLETION

§ 9.1 Contract Sum

§ 9.1.1 The Contract Sum is stated in the Agreement and, including authorized adjustments, is the total amount payable by the Owner to the Contractor for performance of the Work under the Contract Documents.

§ 9.1.2 If unit prices are stated in the Contract Documents or subsequently agreed upon, and if quantities originally contemplated are materially changed so that application of such unit prices to the actual quantities causes substantial inequity to the Owner or Contractor, the applicable unit prices shall be equitably adjusted.

§ 9.2 Schedule of Values

§ 9.2.1 The Contractor shall submit a schedule of values to the Architect and Owner, as provided in Section 9.2.1.1 below, allocating the entire Contract Sum to the various portions of the Work. The schedule of values shall be prepared in the form, and supported by the data to substantiate its accuracy, as the Owner may require. This schedule, unless objected to by the Architect or Owner, shall be used as a basis for reviewing the Contractor's Applications for Payment for the Work. Any changes to the schedule of values shall be submitted to the Architect and Owner and supported by such data to substantiate its accuracy as the Architect or Owner may require, and, unless objected to by the Architect or Owner, shall be used as a basis for reviewing the Contractor's subsequent Applications for Payment.

§ 9.2.1.1 The Contractor shall submit its proposed schedule of values to the Owner and the Architect for review and approval before the earlier of (i) thirty (30) days after the execution of the Contract; and (ii) the submission by the Contractor of its first Application for Payment for the Work.

§ 9.2.1.2 The final schedule of values for the Work shall be submitted (typewritten) on an AIA Document G702 form and shall be broken down into a minimum of sixteen (16) divisions based on the Construction Specifications Institute (CSI) Guidelines and subdivided further by Materials and Labor.

§ 9.3 Applications for Payment

§ 9.3.1 By the twenty-fifth day of each month, the Contractor shall submit to the Owner and the Architect a draft Application for Payment for Work performed through the end of such month in the form of an AIA Document G702, Application and Certification for Payment, supported by AIA Document G703, Continuation Sheet. The latest edition issued by the AIA of each such document must be used.

The Owner and the Architect will within ten (10) days after receipt of the Contractor's draft Application for Payment notify the Contractor in writing of all necessary revisions.

The Contractor shall make all revisions to the Application for Payment as required by the Owner.

Init.
/

AIA Document A201™ – 2017. Copyright © 1911, 1915, 1918, 1925, 1937, 1951, 1958, 1961, 1963, 1966, 1970, 1976, 1987, 1997, 2007 and 2017 by The American Institute of Architects. All rights reserved. WARNING: This AIA® Document is protected by U.S. Copyright Law and International Treaties. Unauthorized reproduction or distribution of this AIA® Document, or any portion of it, may result in severe civil and criminal penalties, and will be prosecuted to the maximum extent possible under the law. This document was produced by AIA software at 11:58:18 ET on 02/08/2019 under Order No.4449788754 which expires on 04/27/2019, and is not for resale.
User Notes:
(1883989588)

The Contractor shall then submit to the Owner and the Architect an Application for Payment for Work in the form of a notarized AIA Document G702, Application for Payment, supported by AIA Document G703, Continuation Sheet, free of any handwritten, marks, notes, annotations, etc. and an Affidavit of Payment and Release of Claims form (either partial release or final release as appropriate) in a form as provided by the Owner.

By submission of the Affidavit and the Application for Payment the Contractor certifies that, to the best of the Contractor's knowledge, information and belief, the Work covered by this Application for Payment has been completed in accordance with the Contract Documents, that all amounts have been paid by the Contractor for Work for which previous Certificates for Payment were issued and payments received from the Owner, and that the current payment requested and shown therein is now due.

§ 9.3.1.1 Each payment requisition submitted by the Contractor shall include a statement showing the status of all pending construction change orders, other pending change directives and approved changes to the original Contract or subcontract. Such statement shall identify the pending construction change orders and other pending change directives, and shall include the date such change orders and directives were initiated, the costs associated with their performance and a description of any work completed. As used in this subsection, "pending construction change order" or "other pending change directive", means an authorized directive for extra work that has been issued to the Contractor or a Subcontractor.

§ 9.3.1.2 Applications for Payment shall not include requests for payment for portions of the Work for which the Contractor does not intend to pay a Subcontractor or material or equipment supplier, unless such Work has been performed by others whom the Contractor intends to pay.

§ 9.3.1.3 Applications for Payment shall deduct, from the amount claimed due, the retainage and any other amounts to be withheld pursuant to Section 5.1.6 of the Agreement. The Contractor shall be prohibited from withholding more than the retainage withheld by the Owner pursuant to the Agreement from any payment which is otherwise due to any Subcontractor.

§ 9.3.1.4 Pursuant to the requirements of §4b-93 of the Connecticut General Statutes, whenever the Owner has designated a separate section for a class of work, the Contractor shall, when applicable, state as part of its application for partial payment that it considers the work required to be done under any such separate section to be fully completed in accordance with the terms of the Contract. The Owner shall thereupon conduct an inspection of the work in such class, and if it finds that such work has been fully completed in accordance with the terms of the Contract, it shall issue a statement certifying that such work is accepted as fully completed, and shall pay the Contractor in full for such work.

§ 9.3.2 Unless otherwise specifically approved by the Owner, the Owner will pay only for materials and equipment delivered and incorporated in the Work as required by the Contract Documents. If approved in advance by the Owner, payment may be similarly made for materials and equipment suitably stored on site or off site at a location agreed upon in writing. Payment for materials and equipment stored on or off the site shall be conditioned upon compliance by the Contractor with procedures satisfactory to the Owner to establish the Owner's title to such materials and equipment or otherwise protect the Owner's interest, and shall include the costs of applicable insurance, storage and transportation to the site for such materials and equipment stored off the site.

§ 9.3.2.1 Payment for stored material or equipment either on site or off site will require Owner's prior approval. Approval will be dependent upon Contractor's demonstration of hardship due to extended time duration between required purchase and actual field installation or the critical nature of the commodity in relation to the critical path of the construction schedule. Additionally, the Contractor must provide secured storage, insurance coverage for the material or equipment during storage, transfer of ownership of the material or equipment to the Owner and the Contractor shall indemnify the Owner for all costs associated with any delay and the costs associated with or resulting from, the loss or damage of such material or equipment during such storage. Payment for such stored material or equipment will be limited to 80% of invoice verified cost to the Contractor. No payment will be considered for raw materials. Those items requiring fabrication must be

AIA Document A201™ – 2017. Copyright © 1911, 1915, 1918, 1925, 1937, 1951, 1958, 1961, 1963, 1966, 1970, 1976, 1987, 1997, 2007 and 2017 by The American Institute of Architects. All rights reserved. WARNING: This AIA® Document is protected by U.S. Copyright Law and International Treaties. Unauthorized reproduction or distribution of this AIA® Document, or any portion of it, may result in severe civil and criminal penalties, and will be prosecuted to the maximum extent possible under the law. This document was produced by AIA software at 11:58:18 ET on 02/08/2019 under Order No.4449788754 which expires on 04/27/2019, and is not for resale.
User Notes:
(1883989588)

complete so that identification and appropriate documentation can be obtained to ensure such items are part of the Work.

§ 9.3.3 The Contractor warrants that title to all Work covered by an Application for Payment will pass to the Owner no later than the time of payment. The Contractor further warrants that upon submittal of an Application for Payment, all Work for which Certificates for Payment have been previously issued and payments received from the Owner shall, to the best of the Contractor's knowledge, information and belief, be free and clear of liens, claims, security interests, or encumbrances, in favor of the Contractor, Subcontractors, suppliers, or other persons or entities that provided labor, materials, and equipment relating to the Work.

(Paragraph deleted)
§ 9.3.4 If payment for stored materials or equipment is approved, Contractor shall furnish with its Application for Payment which includes such stored materials or equipment a vendor invoice establishing the value of the material or equipment stored along with a statement of the amount to be paid to the vendor therefore.

§ 9.3.4.1 Such stored items are subject to prior approval for storage and to inspection by Architect and Owner before payment therefore will be approved.

§ 9.3.4.2 The Contractor shall give the Owner Certificates of Insurance in accordance with the Contract Documents covering the full value of the items stored. Such insurance shall be maintained until the items are incorporated in the Work.

§ 9.4 Certificates for Payment
§ 9.4.1 The Architect will, within seven days after receipt of the Contractor's Application for Payment, either (1) issue to the Owner a Certificate for Payment in the full amount of the Application for Payment, with a copy to the Contractor; or (2) issue to the Owner a Certificate for Payment for such amount as the Architect determines is properly due, and notify the Contractor and Owner of the Architect's reasons for withholding certification in part as provided in Section 9.5.1; or (3) withhold certification of the entire Application for Payment, and notify the Contractor and Owner of the Architect's reason for withholding certification in whole as provided in Section 9.5.1.

§ 9.4.2 The issuance of a Certificate for Payment will constitute a representation by the Architect to the Owner, based on the Architect's evaluation of the Work and the data in the Application for Payment, that, to the best of the Architect's knowledge, information, and belief, the Work has progressed to the point indicated, 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 foregoing representations are subject to an evaluation of the Work for conformance with the Contract Documents upon Substantial Completion, to results of subsequent tests and inspections, to correction of minor deviations from the Contract Documents prior to completion and to specific qualifications expressed by the Architect. However, the issuance of a Certificate for Payment will not be a representation that the Architect has (1) made exhaustive or continuous on-site inspections to check the quality or quantity of the Work; (2) reviewed construction means, methods, techniques, sequences, or procedures; (3) reviewed copies of requisitions received from Subcontractors and suppliers and other data requested by the Owner to substantiate the Contractor's right to payment; or (4) made examination to ascertain how or for what purpose the Contractor has used money previously paid on account of the Contract Sum.

§ 9.5 Decisions to Withhold Certification
§ 9.5.1 The Architect, following consultation with the Owner, may withhold a Certificate for Payment in whole or in part, to the extent reasonably necessary to protect the Owner, if in the Architect's opinion the representations to the Owner required by Section 9.4.2 cannot be made. If the Architect is unable to certify payment in the amount of the Application, the Architect will notify the Contractor and Owner as provided in Section 9.4.1. The Architect, following consultation with the Owner, may also withhold a Certificate for Payment or, because of subsequently discovered evidence, may nullify the whole or a part of a Certificate for Payment previously issued, to such extent as may be necessary in the Architect's opinion to protect the Owner from loss for which the Contractor is responsible, including loss resulting from acts and omissions described in Section 3.3.2, because of:

.1 defective Work not remedied;

Init.
/
AIA Document A201™ – 2017. Copyright © 1911, 1915, 1918, 1925, 1937, 1951, 1958, 1961, 1963, 1966, 1970, 1976, 1987, 1997, 2007 and 2017 by The American Institute of Architects. All rights reserved. WARNING: This AIA® Document is protected by U.S. Copyright Law and International Treaties. Unauthorized reproduction or distribution of this AIA® Document, or any portion of it, may result in severe civil and criminal penalties, and will be prosecuted to the maximum extent possible under the law. This document was produced by AIA software at 11:58:18 ET on 02/08/2019 under Order No.4449788754 which expires on 04/27/2019, and is not for resale.
User Notes: (1883989588)

.2 third party claims filed or reasonable evidence indicating probable filing of such claims unless full bond coverage, insurance or security acceptable to the Owner is provided by or demonstrated by the Contractor;

.3 failure of the Contractor to make payments properly to Subcontractors or suppliers for labor, materials or equipment in accordance with the provisions of this Contract;

.4 reasonable evidence that the Work cannot be completed for the unpaid balance of the Contract Sum;

.5 injury to persons or damage to the Work or property of the Owner, or a Separate Contractor, or others caused by the act of neglect of the Contractor or any Subcontractors;

.6 reasonable evidence that the Work will not be completed within the Contract Time, and that the unpaid balance of the Contract Sum would not be adequate to cover actual or liquidated damages for the anticipated delay;

.7 repeated failure to carry out the Work in accordance with the Contract Documents;

.8 failure to submit Construction Schedules as outlined in Division 1 of the Specifications in the time prescribed;

.9 failure to submit all documents necessary for compliance with CHRO requirements;

.10 failure to submit all copies of all certified payrolls;

.11 failure to provide copies of subcontractors contracts per statute;

.12 failure to submit any other documentation requested by the Owner necessary for compliance with the requirements of any regulatory agency;

.13 amounts previously paid to the Contractor in excess of amounts properly due the Contractor; or

.14 failure of the Contractor to comply with any of the Contractor's indemnification obligations under the Contract Documents.

§ 9.5.2 When either party disputes the Architect's decision regarding a Certificate for Payment under Section 9.5.1, in whole or in part, that party may submit a Claim in accordance with Article 15.

§ 9.5.3 When the reasons for withholding certification are removed, certification will be made for amounts previously withheld. The Owner shall not be deemed in default by reason of withholding payment while any of the above grounds remain uncured, nor shall any interest accrue or be payable with respect to any payments so withheld.

§ 9.5.4 If the Architect withholds certification for payment under Section 9.5.1.3, the Owner may, at its sole option, issue joint checks to the Contractor and to any Subcontractor or supplier to whom the Contractor failed to make payment for Work properly performed or material or equipment suitably delivered. If the Owner makes payments by joint check, the Owner shall notify the Architect and the Contractor shall reflect such payment on its next Application for Payment.

§ 9.5.5 The Owner shall have the right to apply any such amounts so withheld in such manner, as the Owner may deem proper to satisfy such claims or to secure such protection. Such application of such amounts shall constitute payments to the Contractor.

§ 9.6 Progress Payments

§ 9.6.1 After the Architect has certified an Application for Payment, the Owner shall make payment of the certified amount in the manner and within the time provided in the Contract Documents or shall so notify the Contractor of the Owner's intent to withhold payment to the extent reasonably necessary to protect the Owner from loss for which the Contractor is responsible, including, loss resulting from acts or omissions of Subcontractors due to causes set forth in Section 9.5.1.

§ 9.6.2 The Contractor shall pay any amounts due a Subcontractor or supplier, whether for labor performed or materials furnished, not later than seven (7) days after the date the Contractor receives payment from the Owner which encompasses labor performed or materials furnished by such Subcontractor or supplier. Retainage withheld by the Contractor from such payments shall not exceed amounts actually retained from payments to the Contractor on account of the Subcontractor's or supplier's portion of the Work. The Contractor shall include in all of its Subcontracts with its Subcontractors and suppliers a requirement that the Subcontractors and suppliers pay any amounts due any sub-subcontractors or suppliers no later than seven (7)

AIA Document A201™ – 2017. Copyright © 1911, 1915, 1918, 1925, 1937, 1951, 1958, 1961, 1963, 1966, 1970, 1976, 1987, 1997, 2007 and 2017 by The American Institute of Architects. All rights reserved. WARNING: This AIA® Document is protected by U.S. Copyright Law and International Treaties. Unauthorized reproduction or distribution of this AIA® Document, or any portion of it, may result in severe civil and criminal penalties, and will be prosecuted to the maximum extent possible under the law. This document was produced by AIA software at 11:58:18 ET on 02/08/2019 under Order No.4449788754 which expires on 04/27/2019, and is not for resale.
User Notes:
(1883989588)

days after the Subcontractor or supplier receives a payment from the Contractor which encompasses labor performed or materials furnished by such sub-subcontractor or supplier.

§ 9.6.3 The Architect will, on request, furnish to a Subcontractor, if practicable, information regarding percentages of completion or amounts applied for by the Contractor and action taken thereon by the Architect and Owner on account of portions of the Work done by such Subcontractor.

§ 9.6.4 The Owner has the right to request written evidence from the Contractor that the Contractor has properly paid Subcontractors and suppliers the amounts paid by the Owner to the Contractor for subcontracted Work. If the Contractor fails to furnish such evidence within seven days, the Owner shall have the right to contact Subcontractors and suppliers to ascertain whether they have been properly paid. Neither the Owner nor Architect shall have an obligation to pay, or to see to the payment of money to, a Subcontractor or supplier, except as may otherwise be required by law.

§ 9.6.5 The Contractor payments to suppliers shall be treated in a manner similar to that provided in Sections 9.6.2, 9.6.3 and 9.6.4.

§ 9.6.6 A Certificate for Payment, a progress payment, or partial or entire use or occupancy of the Project by the Owner shall not constitute acceptance of Work not in accordance with the Contract Documents.

§ 9.6.7 Pursuant to Connecticut General Statutes Sections 10a-109a through 10a-109y:

.1 No payments shall be made by the Owner on account of this Contract for this project until the bills or estimates presented for such payments shall have been duly certified to be correct by the Owner;

.2 The obligations of the Owner or the State of Connecticut to make payments to the Contractor for services, labor, or materials provided on this project are limited to those amounts set forth in the Contract Documents and any agreed upon changes or amendments thereto. Neither the Owner nor the State of Connecticut shall or may be liable to make payments in excess of such amount.

§ 9.6.8 Provided the Owner has fulfilled its payment obligations under the Contract Documents, the Contractor shall defend and indemnify the Owner from all loss, liability, damage or expense, including reasonable attorney's fees and litigation expenses, arising out of any lien claim or other claim for payment by any Subcontractor, Sub-subcontractor or supplier of any tier. Upon receipt of notice of a lien claim or other claim for payment, the Owner shall notify the Contractor. If approved by the applicable court, when required, the Contractor may substitute a surety bond for the property against which the lien or other claim for payment has been asserted.

§ 9.7 Failure of Payment

If the Architect does not issue a Certificate for Payment in accordance with the requirements of the Contract Documents, through no fault of the Contractor, within seven (7) days after receipt of the Contractor's Application for Payment, or if the Owner does not pay the Contractor within seven (7) days after the date established in the Contract Documents the amount certified by the Architect or awarded by binding dispute resolution, then the Contractor may, upon seven (7) additional days' notice to the Owner and Architect be entitled to the applicable statutory interest. Said provision does not apply where the Owner has submitted to the Contractor its intention to withhold payment in accordance with Section 9.6.1 or where the Architect has submitted to the Contractor its intention to withhold certification in accordance with Section 9.5.1.

§ 9.8 Substantial Completion

§ 9.8.1 Substantial Completion is the stage in the progress of the Work when the Work or designated portion thereof is sufficiently complete in accordance with the Contract Documents so that the Owner can occupy or utilize, without impact or interruptions the Work for its intended use.

The Work shall be considered to be "Substantially Complete(d)" or to have reached "Substantial Completion" on the date as determined by the Architect when (1) the entirety of the Work is sufficiently complete in accordance with the Contract Documents so that the Owner can utilize the Work for the use for which it is

Init.
/
AIA Document A201™ – 2017. Copyright © 1911, 1915, 1918, 1925, 1937, 1951, 1958, 1961, 1963, 1966, 1970, 1976, 1987, 1997, 2007 and 2017 by The American Institute of Architects. All rights reserved. WARNING: This AIA® Document is protected by U.S. Copyright Law and International Treaties. Unauthorized reproduction or distribution of this AIA® Document, or any portion of it, may result in severe civil and criminal penalties, and will be prosecuted to the maximum extent possible under the law. This document was produced by AIA software at 11:58:18 ET on 02/08/2019 under Order No.4449788754 which expires on 04/27/2019, and is not for resale.
User Notes:
(1883989588)

intended (subject only items on the Punch List, the completion of which can be accomplished within thirty (30) days without interfering with the actual use of the Work by the Owner or those claiming by, through or under the Owner); (2) the Contractor has obtained a temporary or permanent certificate of occupancy for the Work permitting the lawful occupancy of the entire Project and any other permits, approvals, licenses, and other documents from any governmental authority having jurisdiction thereof necessary for the beneficial occupancy thereof; and (3) the Architect has issued a Certificate of Substantial Completion for the entirety of the Work pursuant to Section 9.8.4 of these General Conditions and the Owner has issued written approval of the Certificate of Substantial Completion.

§ 9.8.2 When the Contractor considers that the Work, or a portion thereof which the Owner agrees to accept separately, is Substantially Complete (with the exception of the issuance of the Architect's Certificate of Substantial Completion and the Owner's approval thereof), the Contractor shall prepare and submit to the Architect a comprehensive list of items to be completed or corrected prior to final payment (the "Punchlist"). Failure to include an item on the Punchlist does not alter the responsibility of the Contractor to complete all Work in accordance with the Contract Documents.

§ 9.8.3 Upon receipt of the Contractor's Punchlist, the Architect will make an inspection to determine whether the Work or designated portion thereof is Substantially Complete (with the exception of the issuance of the Architect's Certificate of Substantial Completion and the Owner's approval thereof). If the Architect's inspection discloses any item, whether or not included on the Contractor's Punchlist, which is not sufficiently complete in accordance with the Contract Documents so that the Owner can occupy or utilize the Work or designated portion thereof for its intended use, the Contractor shall, before issuance of the Certificate of Substantial Completion, complete or correct such item upon notification by the Architect. In such case, the Contractor shall then submit a request for another inspection by the Architect to determine Substantial Completion.

§ 9.8.4 When the Work or designated portion thereof is Substantially Complete, the Architect will prepare a Certificate of Substantial Completion that shall establish the date of Substantial Completion; establish responsibilities of the Owner and Contractor for security, maintenance, heat, utilities, damage to the Work and insurance; and fix the time within which the Contractor shall finish all items on the Punchlist accompanying the Certificate. Warranties required by the Contract Documents shall commence on the date of Substantial Completion of the Work or designated portion thereof unless otherwise provided in the Certificate of Substantial Completion.

§ 9.8.5 The Certificate of Substantial Completion shall be submitted to the Owner and Contractor for their written acceptance of responsibilities assigned to them in the Certificate. The Certificate of Substantial Completion shall become valid upon the written approval thereof by the Owner.

§ 9.8.6 Certifications. The Contractor at completion of construction shall provide to the Owner a "Certificate of Substantial Compliance" bearing original signatures of an officer of the company stating: "This is to CERTIFY that, in my professional opinion the complete structure/renovations described above is in substantial compliance with the approved construction documents on file with the Owner. Minor deviations and special stipulations are noted below (if any)".

§ 9.9 Partial Occupancy or Use

§ 9.9.1 The Owner may occupy or use any completed or partially completed portion of the Work at any stage when such portion is designated by separate agreement with the Contractor, provided such occupancy or use is consented to by the insurer and authorized by public authorities having jurisdiction over the Project. Such partial occupancy or use may commence whether or not the portion is substantially complete, provided the Owner and Contractor have accepted in writing the responsibilities assigned to each of them for payments, retainage, if any, security, maintenance, heat, utilities, damage to the Work and insurance, and have agreed in writing concerning the period for correction of the Work and commencement of warranties required by the Contract Documents. When the Contractor considers a portion substantially complete, the Contractor shall prepare and submit a list to the Architect as provided under Section 9.8.2. Consent of the Contractor to partial occupancy or use shall not be unreasonably withheld. The stage of the progress of the Work shall be determined by written agreement between the Owner and Contractor or, if no agreement is reached, by the

AIA Document A201™ – 2017. Copyright © 1911, 1915, 1918, 1925, 1937, 1951, 1958, 1961, 1963, 1966, 1970, 1976, 1987, 1997, 2007 and 2017 by The American Institute of Architects. All rights reserved. WARNING: This AIA® Document is protected by U.S. Copyright Law and International Treaties. Unauthorized reproduction or distribution of this AIA® Document, or any portion of it, may result in severe civil and criminal penalties, and will be prosecuted to the maximum extent possible under the law. This document was produced by AIA software at 11:58:18 ET on 02/08/2019 under Order No.4449788754 which expires on 04/27/2019, and is not for resale.
User Notes:

decision of the Architect.

§ 9.9.2 Immediately prior to such partial occupancy or use, the Owner, Contractor and Architect shall jointly inspect the area to be occupied or the portion of the Work to be used in order to determine and record the condition of the Work.

§ 9.9.3 Unless otherwise agreed upon, partial occupancy or use of a portion or portions of the Work shall not constitute acceptance of Work not complying with the requirements of the Contract Documents.

§ 9.10 Final Completion and Final Payment

§ 9.10.1 Upon receipt of the Contractor's notice that the Work is ready for final inspection and acceptance and upon receipt of a final Application for Payment, the Architect will promptly make such inspection. When the Architect finds the Work acceptable under the Contract Documents and the Contract fully performed, the Architect will promptly issue a final Certificate for Payment stating that to the best of the Architect's knowledge, information and belief, and on the basis of the Architect's on-site visits and inspections, the Work has been completed in accordance with the Contract Documents and that the entire balance found to be due the Contractor and noted in the final Certificate is due and payable. The Architect's final Certificate for Payment will constitute a further representation that conditions listed in Section 9.10.2 as precedent to the Contractor's being entitled to final payment have been fulfilled.

§ 9.10.2 Neither final payment nor any remaining retained percentage shall become due until the Contractor submits to the Architect (1) an affidavit that payrolls, bills for materials and equipment, and other indebtedness connected with the Work for which the Owner or the Owner's property might be responsible or encumbered (less amounts withheld by Owner) have been paid or otherwise satisfied; (2) a certificate evidencing that insurance required by the Contract Documents to remain in force after final payment is currently in effect; (3) a written statement that the Contractor knows of no reason that the insurance will not be renewable to cover the period required by the Contract Documents; (4) consent of surety, if any, to final payment; (5) documentation of any special warranties, such as manufacturers' warranties or specific Subcontractor warranties;, (6) if required by the Owner, other data establishing payment or satisfaction of obligations, such as receipts and releases and waivers of liens, claims, security interests or encumbrances arising out of the Contract, to the extent and in such form as may be designated by the Owner; (7) all documents necessary for compliance with CHRO requirements and as required to obtain the written statement of release from CHRO referenced in Section 5.1.6.2.6 of the Agreement; (8) copies of all certified payrolls, (9) certifies that all material installed does not contain asbestos; (10) the Certificate of Substantial Compliance referenced in Section 9.8.6; and (11) any other documentation requested by the Owner necessary for compliance with the requirements of any regulatory agency. If a Subcontractor refuses to furnish a release or waiver required by the Owner, the Contractor may furnish a bond satisfactory to the Owner to indemnify the Owner against such lien, claim, security interest, or encumbrance. If a lien, claim, security interest, or encumbrance remains unsatisfied after payments are made, the Contractor shall promptly pay to the Owner all money that the Owner may be compelled to pay in discharging the lien, claim, security interest, or encumbrance, including all costs and reasonable attorneys' fees.

§ 9.10.3 If, after Substantial Completion of the Work, final completion thereof is materially delayed through no fault of the Contractor or by issuance of Change Orders affecting final completion, and the Architect so confirms, the Owner shall, upon application by the Contractor, the written approval of the Owner and certification by the Architect, and without terminating the Contract, make payment of the balance due for that portion of the Work fully completed, corrected, and accepted. If the remaining balance for Work not fully completed or corrected is less than retainage stipulated in the Contract Documents, and if bonds have been furnished, the written consent of the surety to payment of the balance due for that portion of the Work fully completed and accepted shall be submitted by the Contractor to the Architect prior to certification of such payment. Such payment shall be made under terms and conditions governing final payment, except that it shall not constitute a waiver of Claims.

§ 9.10.4

(Paragraphs deleted)

Not Used.

AIA Document A201™ – 2017. Copyright © 1911, 1915, 1918, 1925, 1937, 1951, 1958, 1961, 1963, 1966, 1970, 1976, 1987, 1997, 2007 and 2017 by The American Institute of Architects. All rights reserved. WARNING: This AIA® Document is protected by U.S. Copyright Law and International Treaties. Unauthorized reproduction or distribution of this AIA® Document, or any portion of it, may result in severe civil and criminal penalties, and will be prosecuted to the maximum extent possible under the law. This document was produced by AIA software at 11:58:18 ET on 02/08/2019 under Order No.4449788754 which expires on 04/27/2019, and is not for resale.
User Notes:
(1883989588)

§ 9.10.5 Acceptance of final payment by the Contractor, a Subcontractor, or a supplier, shall constitute a waiver of claims by that payee except those previously made in writing and identified by that payee as unsettled at the time of final Application for Payment.

ARTICLE 10 PROTECTION OF PERSONS AND PROPERTY

§ 10.1 Safety Precautions and Programs

§ 10.1.1 The Contractor shall be responsible for initiating, maintaining and supervising all safety precautions and programs in connection with the performance of the Contract. Prior to and as a condition of mobilization on site, the Contractor shall submit a Safety Plan to Owner. To the extent the Owner provides safety manuals or other information, any such manuals and information shall be deemed minimum requirements for the Contractor's fulfillment of its safety obligations. Safety fines may be assessed based on Owner's safety plan and or Occupational Safety and Health Administration ("OSHA").

§10.1.1.1 Prior to the commencement of the Work, the Contractor shall submit proof to the Owner of compliance with the requirements of Connecticut General Statutes §31-53b.

§10.1.1.2 The Contractor shall remove all snow and ice as may be required for the proper protection and/or prosecution of the Work. The Contractor shall coordinate and cooperate with the Owner for such activities.

§ 10.1.2 Contractor's Safety Program: The Contractor hereby acknowledges that the job site safety will be of utmost importance. Contractor shall be responsible for initiating, maintaining and supervising safety and anti-substance abuse precautions and programs in connection with the Work. Contractor shall provide all protection to prevent injury to all persons involved in any way in the Work and all other persons, including, without limitation, the employees, agents, guests, visitors, invitees and licensees of the Owner who may visit or be affected thereby. These precautions shall include, but in no event be limited to: (1) those set forth in the most current provisions of the Owner's Contractor Environmental Health and Safety Manual, which is incorporated by reference as a Contract Document; (2) the posting of danger signs and personal notification to all affected persons of the existence of a hazard of whatever nature; (3) the furnishing and maintaining of necessary traffic control barricades and flagger services; (4) the use, storage, removal and disposal of required explosives or other hazardous materials only under the supervision of qualified personnel and after first obtaining permission of all applicable governmental authorities; (5) and the maintenance of adequate quantities of both hose and operable fire extinguishers at the job site. The Contractor shall set forth in writing its own safety and anti-substance abuse precautions and programs in connection with the Work and if requested by the Owner submit the same to the Owner or its designee for review. The Owner may but shall not be obligated to make suggestions and recommendations to the Contractor with respect thereto.

.1 **Compliance of Work, Equipment and Procedures with all Laws**: All Work, whether performed by the Contractor, Subcontractors or Sub-subcontractors, or anyone directly or indirectly employed by any of them, and all equipment, appliances, machinery, materials, tools and like items incorporated or used in the Work, shall be in compliance with and conform to: (a) all applicable laws, ordinances, rules, regulations and orders of any public, quasi-public or other governmental bodies relating to the safety of persons and their protection against injury, specifically including, but in no event limited to the Federal Occupational Safety and Health Act of 1970, as amended and all rules and regulations now or hereafter in effect pursuant to said Act and the OSH Act of the State of Connecticut, as amended and all rules and regulations now or hereafter in effect pursuant to said Act; and (b) all rules, regulations and requirements of the Owner and its insurance carriers relating thereto. In the event of conflicting provisions, the more stringent shall govern.

.2 **Contractor's Designation of Safety Program Administrator**: The Contractor shall designate a qualified member of its organization at the job site in accordance with the requirements of the Owner's Contractor Environmental Health and Safety Manual, whose duties shall include enforcement of the Contractor's Safety Program to assure compliance with Article 10 and to prevent accidents. This position may be required to be a full-time position dedicated to this Project. This person's name, qualifications and the estimated number of man-hours of effort per week performing this function shall be submitted to the Owner in writing. His or her identity,

AIA Document A201™ – 2017. Copyright © 1911, 1915, 1918, 1925, 1937, 1951, 1958, 1961, 1963, 1966, 1970, 1976, 1987, 1997, 2007 and 2017 by The American Institute of Architects. All rights reserved. WARNING: This AIA® Document is protected by U.S. Copyright Law and International Treaties. Unauthorized reproduction or distribution of this AIA® Document, or any portion of it, may result in severe civil and criminal penalties, and will be prosecuted to the maximum extent possible under the law. This document was produced by AIA software at 11:58:18 ET on 02/08/2019 under Order No.4449788754 which expires on 04/27/2019, and is not for resale.
User Notes:
(1883989588)

qualifications and level of effort must be satisfactory to the Owner who shall have the sole discretion to approve or reject the same. Any reduction to this schedule must be submitted to the Owner for approval. The Contractor shall further cause each of its Subcontractors of any tier to designate a qualified safety representative to assist the Contractor's safety representative in the performance of his or her duties as described above and the names of such representative shall be given to the Owner.

.3 **Suspension of Contractor's Work**: If in the opinion of the Owner or its designee the Contractor shall fail to provide a safe area for the performance of the Work or any portion thereof, the Owner or its designee shall have the right (but not the obligation) to suspend Work in the unsafe area. Contractor shall be liable for all costs incurred of any nature (including without limitation overtime pay, liquidated damages or other costs resulting from delays) resulting from the suspension.

.4 **Right of Owner to have Contractor Send Worker Home**: The Contractor shall provide to each worker on the job site the proper safety equipment for the duties being performed by that worker and will not permit any worker on the job site who fails or refuses to use the same. The Owner shall have the right but not the obligation to order the Contractor to cause any worker to be sent home for the day or to otherwise temporarily or permanently remove him or her from the job site for his or her failure to comply with safe practices or anti-substance abuse policies. Contractor shall promptly comply with such orders from the Owner and shall be liable for any and all costs of whatsoever nature, including attorney's fees paid or incurred by the Owner.

§ 10.1.3 Protection of Work and Property; Responsibility for Loss The Contractor shall, throughout its performance of the Work, maintain adequate and continuous protection of all property of the Owner and third parties and of the Work and temporary facilities against loss or damage from whatever cause arising out of the performance of the Work and shall comply with the requirements of the Owner and its insurance carriers and with all applicable laws, codes, rules and regulations with respect to the prevention of loss or damage to property as a result of fire or other hazards.

§ 10.1.4 Emergencies In any emergency affecting the safety of persons or property, or in the event of a claimed violation of any federal or state safety or health law or regulation arising out of or in any way connected with the Work or its performance, the Contractor shall act immediately to prevent threatened damage, injury, or loss or to remedy said violation whichever is applicable, failing which the Owner or its designee may immediately take whatever action it deems necessary including, but not limited to, suspending the Work.

The Owner may offset any and all cost or expenses of whatever nature including attorneys' fees paid or incurred by the Owner in taking such action against any sums then or thereafter due to the Contractor. The Contractor shall defend, indemnify, and hold the Owner, and its officers, agents, employees, harmless against any and all costs, expenses or liability in accordance with Section 3.18. If the Contractor shall be entitled to any additional compensation or extension of time claimed on account of emergency work not due to the fault or neglect of the Contractor or its Subcontractors or Sub-subcontractors, it shall be handled as a request for a Change Order as provided in Section 7.2 of this Contract.

§ 10.2 Safety of Persons and Property

§ 10.2.1 The Contractor shall take reasonable precautions for the safety of, and shall provide reasonable protection to prevent damage, injury or loss to

.1 Employees on the Work and other persons who may be affected thereby;

.2 The Work and materials and equipment to be incorporated therein, whether in storage on or off the site, under care, custody, or control of the Contractor, a Subcontractor, or a Sub-subcontractor; and

.3 Other property at the site or adjacent thereto, such as trees, shrubs, lawns, walks, pavements, roadways, structures and utilities not designated for removal, relocation or replacement in the course of construction.

The Contractor shall provide and pay for whatever security measures the Contractor deems necessary to protect the Work until acceptance by the Owner through the issuance of a Certificate of Substantial Completion.

Init.
/
AIA Document A201™ – 2017. Copyright © 1911, 1915, 1918, 1925, 1937, 1951, 1958, 1961, 1963, 1966, 1970, 1976, 1987, 1997, 2007 and 2017 by The American Institute of Architects. All rights reserved. WARNING: This AIA® Document is protected by U.S. Copyright Law and International Treaties. Unauthorized reproduction or distribution of this AIA® Document, or any portion of it, may result in severe civil and criminal penalties, and will be prosecuted to the maximum extent possible under the law. This document was produced by AIA software at 11:58:18 ET on 02/08/2019 under Order No.4449788754 which expires on 04/27/2019, and is not for resale.
User Notes:
(1883989588)

§ 10.2.2 The Contractor shall comply with and give notices required by applicable laws, statutes, ordinances, codes, rules and regulations, and lawful orders of public authorities bearing on the safety of persons or property or their protection from damage, injury or loss.

§ 10.2.3 At a minimum, the Contractor shall implement, erect and maintain, as required by existing conditions and performance of the Contract, reasonable safeguards for safety and protection, including posting danger signs and other warnings against hazards, promulgating safety regulations and notifying owners and users of adjacent sites and utilities of the safeguards. Additionally, the Contractor shall maintain all passageways, guard fences, lights and other facilities for protection. The Contractor shall also be responsible for all measures necessary to protect any property adjacent to the Project and improvements thereon. Any damage to such property or improvements shall be promptly repaired by the Contractor at its sole cost and expense.

§ 10.2.4 When use or storage of explosives or other hazardous materials or equipment or unusual methods are necessary for the execution of the Work, the Contractor, at a minimum, shall exercise utmost care and carry on such activities under the supervision of properly qualified personnel. When use or storage of explosives or other hazardous materials or equipment or unusual methods are necessary, the Contractor shall give the Owner advance written notice of at least five (5) days prior to bringing to the site or utilizing such explosives, materials, equipment or methods.

§ 10.2.5 The Contractor shall promptly remedy damage and loss (other than damage or loss insured under property insurance required by the Contract Documents) to property referred to in Sections 10.2.1.2 and 10.2.1.3 and indemnify and save the Owner harmless for all damage or injury to referenced persons and property caused in whole or in part by the Contractor, a Subcontractor, a Sub-subcontractor, or anyone directly or indirectly employed by any of them, or by anyone for whose acts they may be liable and for which the Contractor is responsible under Sections 10.2.1.2 and 10.2.1.3. The Contractor may make a Claim for the cost to remedy the damage or loss to the extent such damage or loss is attributable to acts or omissions of the Owner or Architect or anyone directly or indirectly employed by either of them, or by anyone for whose acts either of them may be liable, and not attributable in whole or in part to the fault or negligence of the Contractor a Subcontractor, a Sub-subcontractor, or anyone directly or indirectly employed by any of them, or by anyone for whose acts they may be liable. The foregoing obligations of the Contractor are in addition to the Contractor's obligations under Section 3.18.

.1 The Contractor shall repair or replace any such damage at no additional cost to the Owner. Such repair or replacement shall be completed within one week of the damage or as otherwise directed by the Owner . If the Contractor fails or refuses to repair the damage promptly, the Owner may have the repair or replacement performed and charge the cost to the Contractor by way of offset or direct payment as elected by the Owner.

(Paragraph deleted)

§ 10.2.7 The Contractor shall not load or permit any part of the construction or site to be loaded so as to endanger the safety of persons or property or cause damage or create an unsafe condition.

(Paragraphs deleted)

§ 10.2.8 All materials furnished and all Work installed shall comply with the rules and recommendations of the National Board of Fire Underwriters; with all applicable State and local codes, laws, ordinances, rules and regulations; with all requirements of local utility companies and with the recommendations of the Insurance Rating Organization having jurisdiction.

§ 10.2.9 All apparatus, equipment and construction such as ladders, scaffolds, chutes, etc. shall comply with the recommendations of the manual of Accident Prevention in Construction published by the Associated General Contractors of America.

§ 10.3 Hazardous Materials and Substances

§ 10.3.1 The Contractor is responsible for compliance with any requirements included in the Contract Documents, including but not limited to the Owner's Contractor Environmental Health and Safety Manual,

AIA Document A201™ – 2017. Copyright © 1911, 1915, 1918, 1925, 1937, 1951, 1958, 1961, 1963, 1966, 1970, 1976, 1987, 1997, 2007 and 2017 by The American Institute of Architects. All rights reserved. WARNING: This AIA® Document is protected by U.S. Copyright Law and International Treaties. Unauthorized reproduction or distribution of this AIA® Document, or any portion of it, may result in severe civil and criminal penalties, and will be prosecuted to the maximum extent possible under the law. This document was produced by AIA software at 11:58:18 ET on 02/08/2019 under Order No.4449788754 which expires on 04/27/2019, and is not for resale.
User Notes:

(1883989588)

regarding any material, substance, chemical, waste, product, derivative, compound, mixture, solid, liquid, mineral or gas, whether naturally occurring or manmade, that is hazardous, toxic, or words of similar import or regulatory effect, and any petroleum or petroleum-derived products, radon, radioactive materials or wastes, asbestos in any form, lead or lead-containing materials, urea formaldehyde foam insulation, polychlorinated biphenyls and any other regulated materials identified by the U.S. Environmental Protection Agency (EPA), the U.S. Occupational Health and Safety Administration (OSHA), the U.S. Department of Transportation (DOT) and/or the Nuclear Regulatory Commission (collectively, "Hazardous Materials"). If the Contractor believes its Work will disturb or otherwise implicate any actual or suspected Hazardous Material or encounters a Hazardous Material not addressed in the Contract Documents, the Contractor shall not disturb any such Hazardous Material, immediately report the condition to the Owner and the Architect in writing and take all necessary precautions to prevent release of and exposure to the Hazardous Materials and foreseeable bodily injury or death to persons resulting from such Hazardous Material. If such reasonable precautions will be inadequate to prevent the release of and exposure to Hazardous Materials, or foreseeable bodily injury and death, the Contractor shall, upon recognizing the condition, immediately stop Work in the affected area.

§ 10.3.1.1 Upon request, the Owner will provide the Contractor with a written copy of the Hazard Communication Program and chemical inventory for areas in which the Work will be performed. The Owner, upon request, will make available to the Contractor an opportunity to review the Material Safety Data Sheets ("MSDS") on file for areas where hazardous chemicals are used and stored and in which the Work will be performed.

§ 10.3.2 Upon receipt of the Contractor's notice, pursuant to Section 10.3.1 the Owner shall obtain the services of a qualified consultant to assess the presence or absence of the material or substance reported by the Contractor and, in the event such material or substance is found to be present, to cause it to be rendered harmless or otherwise abated. Upon written request, the Owner shall furnish in writing to the Contractor and Architect the names and qualifications of persons or entities who are to perform the assessments for the presence or absence of the material or substance or who are to perform the task of removal or safe containment of the material or substance. The Contractor and the Architect will promptly reply to the Owner in writing stating whether or not either has reasonable objection to the persons or entities proposed by the Owner. If either the Contractor or Architect has an objection to a person or entity proposed by the Owner, the Owner shall propose another to whom the Contractor and the Architect have no reasonable objection. When the Hazardous Material or substance has been rendered harmless or otherwise abated, Work in the affected area shall resume upon written agreement of the Owner and Contractor. By Change Order, the Contract Time shall be extended appropriately (provided the Contractor has demonstrated to the Owner's satisfaction that delay to address the Hazardous Material impacted the critical path of the construction schedule) and the Contract Sum shall be increased by the amount of the Contractor's reasonable additional costs of shutdown, delay, and start-up.

§ 10.3.3 Not Used.

§ 10.3.4 In no event shall the Owner have any responsibility for any substance or material that is brought to the Project site by the Contractor, any Subcontractor, Sub-subcontractor, any materialman or supplier or any entity for whom any of them is responsible. The Contractor agrees not to use any fills or other materials to be incorporated into the Work, which are hazardous, toxic or comprised of any items that are hazardous or toxic. In the event it is determined that materials that are hazardous, toxic or comprised of items that are hazardous or toxic have been used as fills or incorporated into the Work, the Contractor, at its sole expense, shall be responsible for immediate removal, proper disposal, and replacement of materials of the Work and surrounding areas so affected.

§ 10.3.5 The Contractor shall reimburse the Owner for the cost and expense the Owner incurs (1) for remediation of hazardous materials or substances the Contractor brings to the site and negligently handles; or (2) where the Contractor fails to perform its obligations under Section 10.3.1, except to the extent that the cost and expense are due to the Owner's fault or negligence.

(Paragraphs deleted)

§ 10.4 Emergencies

In an emergency affecting the safety of persons or property, the Contractor shall act, at the Contractor's

AIA Document A201™ – 2017. Copyright © 1911, 1915, 1918, 1925, 1937, 1951, 1958, 1961, 1963, 1966, 1970, 1976, 1987, 1997, 2007 and 2017 by The American Institute of Architects. All rights reserved. WARNING: This AIA® Document is protected by U.S. Copyright Law and International Treaties. Unauthorized reproduction or distribution of this AIA® Document, or any portion of it, may result in severe civil and criminal penalties, and will be prosecuted to the maximum extent possible under the law. This document was produced by AIA software at 11:58:18 ET on 02/08/2019 under Order No.4449788754 which expires on 04/27/2019, and is not for resale.
User Notes:

(1883989588)

discretion, to prevent threatened damage, injury or loss. Additional compensation or extension of time claimed by the Contractor on account of an emergency shall be determined as provided in Article 15 and Article 7. The Contractor shall promptly notify insurers, as applicable, the Architect and the Owner of the nature of the emergency. Immediately thereafter, the Contractor shall submit to the Architect and the Owner a written report including a description of the circumstances of the emergency and details of actions taken.

§ 10.5 Lockout/Tagout Procedures Required by OSHA

§ 10.5.1 The Contractor shall abide by all OSHA and Owner regulations and procedures pertaining to lockout and tagout of machines or equipment to prevent injuries by ensuring that hazardous forms of energy are isolated. This includes electrical, mechanical, hydraulic, pneumatic, chemical, thermal or other energy sources.

§ 10.7 Confined Space Entry

§ 10.7.1 The Contractor shall abide by all OSHA and Owner regulations and procedures required to implement a confined space entry permit program.

§ 10.8 Excavation and Trenching

§ 10.8.1 Any Work carried out under this Contract that will require excavation or trenching shall be carried out in accordance with all applicable Federal, State and Local rules and regulations, including OSHA regulations, and the Owner's applicable policies and procedures included in the Contract Documents.

§ 10.8.3 At a minimum, the Contractor shall comply with the Owner's Contractor Environmental Health and Safety Manual, which is available for review upon request and constitutes a Contract Document.

ARTICLE 11 INSURANCE AND BONDS

§ 11.1 Contractor's Insurance and Bonds

§ 11.1.1 The Contractor shall purchase and maintain insurance of the types and limits of liability, containing the endorsements, and subject to the terms and conditions, as described below, in the Agreement and, as applicable, elsewhere in the Contract Documents. The Contractor shall purchase and maintain the required insurance from an insurance company or insurance companies lawfully authorized to issue insurance in the jurisdiction where the Project is located. The Owner, the State of Connecticut and their respective officers, officials, agents, employees, boards and commissions shall be named as additional insureds as provided in the Agreement and as otherwise required by the Contract Documents.

§ 11.1.2 The Contractor shall furnish to the Owner, and deliver at the time of the execution of the Contract, Performance and Labor and Material Payment Bonds (each, a "Bond" and collectively, the "Bonds") pursuant to the requirements of Connecticut General Statutes §49-41,et seq. and the requirements of this Section 11.1. In all cases where the Contract Sum exceeds $100,000, the Contractor shall furnish the Bonds, each of which shall be in compliance with the Owner's required bond forms. The Bonds shall be provided by a Surety company licensed to do business in the State of Connecticut, that is acceptable to the Owner, and that is named in the current list of "Surety Companies Acceptable on Federal Bonds" as published in the "Treasury Department Circular 570". The Surety company's underwriting limitation, as further set forth in "Treasury Department Circular 570", must not be less than the Contract Sum. The amount of each Bond shall be equal to the Contract Sum. The Bonds shall name the Owner as "Obligee".

§ 11.1.3 In addition to the foregoing, each of the Bonds shall contain the following language: "In the event that the surety assumes the contract or obtains a bid or bids for completion of the Contract, the surety shall ensure that the contractor chosen to complete the Contract is prequalified pursuant to Section 4a-100 of the Connecticut General Statutes in the requisite classification and has the aggregate work capacity rating and single project limit necessary to complete the contract".

§ 11.1.4 Upon the request of any person or entity appearing to be a potential beneficiary of the Bond covering payment of obligations arising under the Contract, the Contractor shall promptly furnish a copy of such Bond or shall authorize a copy to be furnished.

(Paragraphs deleted)

§ 11.1.5 Notice of Cancellation or Expiration of Contractor's Required Insurance. Within three (3) business days

AIA Document A201™ – 2017. Copyright © 1911, 1915, 1918, 1925, 1937, 1951, 1958, 1961, 1963, 1966, 1970, 1976, 1987, 1997, 2007 and 2017 by The American Institute of Architects. All rights reserved. WARNING: This AIA® Document is protected by U.S. Copyright Law and International Treaties. Unauthorized reproduction or distribution of this AIA® Document, or any portion of it, may result in severe civil and criminal penalties, and will be prosecuted to the maximum extent possible under the law. This document was produced by AIA software at 11:58:18 ET on 02/08/2019 under Order No.4449788754 which expires on 04/27/2019, and is not for resale.
User Notes: (1883989588)

after the date the Contractor becomes aware of an impending or actual cancellation or expiration of any insurance required by the Contract Documents, the Contractor shall provide notice to the Owner of such impending or actual cancellation or expiration. Upon receipt of notice from the Contractor, the Owner shall, unless the lapse in coverage arises from an act or omission of the Owner, have the right to stop the Work until the lapse in coverage has been cured by the procurement of replacement coverage by the Contractor. The furnishing of notice by the Contractor shall not relieve the Contractor of any contractual obligation to provide any required coverage. In the event of suspension by the Owner due to the Contractor's failure to maintain the required insurance, the Contractor shall be responsible for, and shall not receive an extension of the Contract Time in connection with, the delay in the Work arising from the suspension.

§ 11.2 Not Used.

§ 11.3 Waivers of Subrogation

§ 11.3.1 The Owner and Contractor waive all rights against (1) each other and any of their subcontractors, sub-subcontractors, agents, and employees, each of the other; (2) the Architect and Architect's consultants; and (3) Separate Contractors, if any, and any of their subcontractors, sub-subcontractors, agents, and employees, for damages caused by fire, or other causes of loss, to the extent those losses are covered by property insurance required by the Agreement or other property insurance applicable to the Project, except such rights as they have to proceeds of such insurance. The Owner or Contractor, as appropriate, shall require similar written waivers in favor of the individuals and entities identified above from the Architect, Architect's consultants, Separate Contractors, subcontractors, and sub-subcontractors. The policies of insurance purchased and maintained by each person or entity agreeing to waive claims pursuant to this Section 11.3.1 shall not prohibit this waiver of subrogation. This waiver of subrogation shall be effective as to a person or entity (1) even though that person or entity would otherwise have a duty of indemnification, contractual or otherwise, (2) even though that person or entity did not pay the insurance premium directly or indirectly, or (3) whether or not the person or entity had an insurable interest in the damaged property.

§ 11.3.2 Not Used.

(Paragraphs deleted)

§ 11.4 Not Used.

§11.5 Adjustment and Settlement of Insured Loss

§ 11.5.1 A loss insured under the property insurance required by the Agreement shall be adjusted by the Owner and made payable to the Owner for the insureds, as their interests may appear, subject to requirements of any applicable mortgagee clause. The Owner shall pay the Architect and Contractor their just shares of insurance proceeds received by the Owner, and, by appropriate agreements, the Architect and Contractor shall make payments to their consultants and Subcontractors in a similar manner.

§ 11.5.2 Not Used.

§ 11.5.3 If the Contractor or any of its Subcontractors is a non-resident contractor, the Contractor and/or subcontractor shall comply with the requirements of Connecticut General Statutes Section 12-430(7) (the "Statute"), to the extent applicable. If the Contractor is a verified contractor as defined in the Statute, the Contractor shall provide to the Owner written verification of that status from the State Commissioner of Revenue Services. If the Contractor is an unverified contractor as defined in the Statute, the Contractor shall provide to the Owner proof that the Contractor has posted with the Commissioner of Revenue Services a surety bond in an amount equal to five percent (5%) of the Contract Sum and which is otherwise in compliance with the requirements of the Statute.

§ 11.4.3 If the Contractor proposes to utilize a Subcontractor Default Insurance program in lieu of requiring Subcontractors to provide surety bonds for the Project, the Contractor must demonstrate actual cost savings to the Owner of no less than 18% between the cost of such program and the cost of traditional Subcontractor surety bonds.

ARTICLE 12 UNCOVERING AND CORRECTION OF WORK

AIA Document A201™ – 2017. Copyright © 1911, 1915, 1918, 1925, 1937, 1951, 1958, 1961, 1963, 1966, 1970, 1976, 1987, 1997, 2007 and 2017 by The American Institute of Architects. All rights reserved. WARNING: This AIA® Document is protected by U.S. Copyright Law and International Treaties. Unauthorized reproduction or distribution of this AIA® Document, or any portion of it, may result in severe civil and criminal penalties, and will be prosecuted to the maximum extent possible under the law. This document was produced by AIA software at 11:58:18 ET on 02/08/2019 under Order No.4449788754 which expires on 04/27/2019, and is not for resale.
User Notes:

§ 12.1 Uncovering of Work

§ 12.1.1 If a portion of the Work is covered contrary to the Architect's request or to requirements specifically expressed in the Contract Documents, it must, if requested in writing by the Architect, be uncovered for the Architect's examination and be replaced at the Contractor's expense without a change in the Contract Time.

§ 12.1.2 If a portion of the Work has been covered that the Owner has not specifically requested to examine prior to its being covered, the Owner may request to see such Work and it shall be uncovered by the Contractor. If such Work is in accordance with the Contract Documents, the Contractor shall be entitled to an equitable adjustment to the Contract Sum and Contract Time as may be appropriate. If such Work is not in accordance with the Contract Documents, the costs of uncovering the Work, and the cost of correction shall be at the Contractor's expense and the Contractor shall not be entitled to an adjustment of the Contract Time.

§ 12.2 Correction of Work

§ 12.2.1 Before Substantial Completion

The Contractor shall promptly correct Work rejected by the Owner or failing to conform to the requirements of the Contract Documents, whether discovered before or after Substantial Completion and whether or not fabricated, installed or completed. Costs of correcting such rejected Work, including additional testing inspections, uncovering and replacement, and compensation for the Architect's and Owner services made necessary thereby, shall be at the Contractor's expense.

If prior to the date of Substantial Completion, the Contractor, a Subcontractor, a Sub-subcontractor or anyone for whom any of them is responsible uses or damages any portion of the Work, including, without limitation, mechanical, electrical, plumbing, and other building systems, machinery, equipment, or other mechanical device, the Contractor shall cause such item to be restored to "like new" condition at no expense to the Owner.

§ 12.2.2 After Substantial Completion

§ 12.2.2.1 In addition to the Contractor's obligations under Section 3.5 and extended warranties required by the Contract Documents, if, within one year after the date of Substantial Completion of the Work or designated portion thereof or after the date for commencement of warranties established under Section 9.8.4, or by terms of any applicable special warranty required by the Contract Documents, any of the Work is found to be not in accordance with the requirements of the Contract Documents, the Contractor shall correct it promptly at Contractor's sole expense after receipt of notice from the Owner to do so unless the Owner has previously given the Contractor a written acceptance of such condition. The Owner shall give such notice promptly after discovery of the condition. During the one-year period for correction of Work, if the Owner fails to notify the Contractor by the end of such one-year period and, thereafter, give the Contractor an opportunity to make the correction, the Owner waives the rights to require correction by the Contractor. If the Contractor fails to correct nonconforming Work within a reasonable time after receipt of notice from the Owner or Architect not to exceed thirty (30) days, the Owner may correct it in accordance with Section 2.5 or take such other commercially reasonable measures to recompense the Owner for its expenses, losses and damages arising from such nonconforming work.

§ 12.2.2.2 The one-year period for correction of Work shall be extended with respect to portions of Work first performed after Substantial Completion by the period of time between Substantial Completion and the actual completion of that portion of the Work.

§ 12.2.2.3 The one-year period for correction of Work shall not be extended by corrective Work performed by the Contractor pursuant to this Section 12.2.

§ 12.2.3 The Contractor shall remove from the site portions of the Work that are not in accordance with the requirements of the Contract Documents and are neither corrected by the Contractor nor accepted by the Owner.

§ 12.2.4 The Contractor shall bear the cost of correcting destroyed or damaged construction of the Owner or Separate Contractors, whether completed or partially completed, caused by the Contractor's correction or removal of Work that is not in accordance with the requirements of the Contract Documents.

AIA Document A201™ – 2017. Copyright © 1911, 1915, 1918, 1925, 1937, 1951, 1958, 1961, 1963, 1966, 1970, 1976, 1987, 1997, 2007 and 2017 by The American Institute of Architects. All rights reserved. WARNING: This AIA® Document is protected by U.S. Copyright Law and International Treaties. Unauthorized reproduction or distribution of this AIA® Document, or any portion of it, may result in severe civil and criminal penalties, and will be prosecuted to the maximum extent possible under the law. This document was produced by AIA software at 11:58:18 ET on 02/08/2019 under Order No.4449788754 which expires on 04/27/2019, and is not for resale.
User Notes: (1883989588)

§ 12.2.5 Nothing contained in this Section 12.2 shall be construed to modify the Contractor's obligations under Section 3.5 of these General Conditions or to establish a period of limitation with respect to other obligations the Contractor has under the Contract Documents. Establishment of the one-year period for correction of Work as described in Section 12.2.2 relates only to the specific obligation of the Contractor to correct the Work, and has no relationship to the time within which the obligation to comply with the Contract Documents may be sought to be enforced, nor to the time within which proceedings may be commenced to establish the Contractor's liability with respect to the Contractor's obligations other than specifically to correct the Work.

§ 12.3 Acceptance of Nonconforming Work

If the Owner prefers to accept Work that is not in accordance with the requirements of the Contract Documents, the Owner may do so instead of requiring its removal and correction, in which case the Contract Sum will be reduced as appropriate and equitable. Such adjustment shall be effected whether or not final payment has been made.

ARTICLE 13 MISCELLANEOUS PROVISIONS

§ 13.1 Governing Law

The Contract shall be governed by the law of the place where the Project is located, excluding that jurisdiction's choice of law rules.

§ 13.2 Successors and Assigns

§ 13.2.1 The Owner and Contractor respectively bind themselves, their partners, successors, assigns and legal representatives to the other party hereto and to partners, successors, assigns and legal representatives of such other party in respect to covenants, agreements and obligations contained in the Contract Documents. Except as provided in Section 13.2.2, neither party to the Contract shall assign the Contract as a whole without written consent of the other. If either party attempts to make an assignment without such consent, that party shall nevertheless remain legally responsible for all obligations under the Contract.

§ 13.2.2 The Owner may, without the consent of the Contractor, assign the Contract to a lender providing construction financing for the Project, if the lender assumes the Owner's rights and obligations under the Contract Documents. The Contractor shall execute all consents reasonably required to facilitate the assignment.

§ 13.3 Rights and Remedies

§ 13.3.1 Duties and obligations imposed by the Contract Documents and rights and remedies available thereunder shall be in addition to and not a limitation of duties, obligations, rights, and remedies otherwise imposed or available by law.

§ 13.3.2 No action or failure to act by the Owner, Architect, or Contractor shall constitute a waiver of a right or duty afforded them under the Contract, nor shall such action or failure to act constitute approval of or acquiescence in a breach thereunder, except as may be specifically agreed upon in writing.

§ 13.4 Tests and Inspections

§ 13.4.1 Tests, inspections and approvals of portions of the Work shall be made at an appropriate time as required by the Contract Documents and by applicable laws, statutes, ordinances, codes, rules and regulations or lawful orders of public authorities having jurisdiction. Unless otherwise provided, the Contractor shall make arrangements for such tests, inspections and approvals with an independent testing laboratory or entity acceptable to the Owner, or with the appropriate public authority, and shall bear all related costs of tests, inspections and approvals. The Contractor shall give the Architect timely notice of when and where tests and inspections are to be made so that the Architect may be present for such procedures. The Owner shall bear costs of tests, inspections or approvals that do not become requirements until after bids are received or negotiations concluded. The Owner shall directly arrange and pay for tests, inspections, or approvals where building codes or applicable laws or regulations so require.

§ 13.4.2 If the Architect, Owner, or public authorities having jurisdiction determine that portions of the Work require additional testing, inspection, or approval not included under Section 13.4.1, the Architect will, upon written authorization from the Owner, instruct the Contractor to make arrangements for such additional testing,

Init.
/
AIA Document A201™ – 2017. Copyright © 1911, 1915, 1918, 1925, 1937, 1951, 1958, 1961, 1963, 1966, 1970, 1976, 1987, 1997, 2007 and 2017 by The American Institute of Architects. All rights reserved. WARNING: This AIA® Document is protected by U.S. Copyright Law and International Treaties. Unauthorized reproduction or distribution of this AIA® Document, or any portion of it, may result in severe civil and criminal penalties, and will be prosecuted to the maximum extent possible under the law. This document was produced by AIA software at 11:58:18 ET on 02/08/2019 under Order No.4449788754 which expires on 04/27/2019, and is not for resale.
User Notes:
(1883989588)

inspection, or approval, by an entity acceptable to the Owner, and the Contractor shall give timely notice to the Architect of when and where tests and inspections are to be made so that the Architect may be present for such procedures. Such costs, except as provided in Section 13.4.3, shall be at the Owner's expense. If the inspections and tests conducted under Section 13.4.1 or this Section 13.4.2 reveal a failure in a portion of the Work, the Owner may order the inspection and testing at the Contractor's expense of any and all portions of the Work that are identical or similar to the failing portion.

§ 13.4.3 If procedures for testing, inspection, or approval under Sections 13.4.1 and 13.4.2 reveal failure of the portions of the Work to comply with requirements established by the Contract Documents, all costs made necessary by such failure including those of repeated procedures and compensation for the Architect's and Owner services and expenses, shall be at the Contractor's expense.

§ 13.4.4 Required certificates of testing, inspection, or approval shall, unless otherwise required by the Contract Documents, be secured by the Contractor and promptly delivered to the Architect.

§ 13.4.5 If the Architect is to observe tests, inspections, or approvals required by the Contract Documents, the Architect will do so promptly and, where practicable, at the normal place of testing.

§ 13.4.6 Tests or inspections conducted pursuant to the Contract Documents shall be made promptly to avoid unreasonable delay in the Work.

§ 13.5 Interest Not Used.
(Paragraph deleted)

§ 13.6 Compliance with Owner Policies and Guidelines

At a minimum, the Contractor shall comply with established Owner policies and guidelines, which have been previously provided to bidders and/or are available for review upon request. These policies are hereby incorporated by reference herein, including but not limited to: Policies on Lockout/Tagout; Confined Space Entry as referenced in the Contractor's Environmental Health and Safety Manual; Code of Conduct; Sexual Harassment; Racism and Acts of Intolerance; Smoking.

§ 13.7 Preference in Employment

§ 13.7.1 In the employment of labor to perform the work specified herein, preference shall be given to citizens of the United States, who are, and continuously for three months prior to the date hereof have been residents of the labor market areas, as established by the Labor Commissioner in which said work is to be done; and if no such qualified persons are available, then to citizens who have continuously resided in the county in which the work is to be performed for at least three months prior to the date hereof and then to citizens of the State who have continuously resided in the State at least three months prior to the date hereof. In no event shall said provisions be deemed to abrogate or supersede in any manner any provision regarding residence requirements contained in a Collective Bargaining Agreement to which the Contractor is a party.

§ 13.8 Minimum Wage Rates

§ 13.8.1 If the Project involves new construction of a building or other structure or improvement and the total cost of all Work to be performed by Contractors and Subcontractors is $1,000,000 or more or if the project involves remodeling, refurbishing, rehabilitation, alteration or repair of a building or other structure or improvement and such total cost is $100,000 or more then:

.1 The wages paid on an hourly basis to any person performing the work of any mechanic, laborer or worker on the work herein contracted to be done and the amount of payment or contribution paid or payable on behalf of each such person to any employee welfare fund, as defined in subsection (i) of Section 31-53 of the Connecticut General Statutes , shall be at a rate equal to the rate customary or prevailing for the same work in the same trade or occupation in the town in which such public works project is being constructed. Any contractor who is not obligated by agreement to make payment or contribution on behalf of such persons to any such employee welfare fund shall pay to each mechanic, laborer or worker as part of such person's wages the amount of payment or contribution for such person's classification on each pay day.

§ 13.8.2 The State of Connecticut Labor Department Wage Schedule ("Wage Schedule")(where required) has

AIA Document A201™ – 2017. Copyright © 1911, 1915, 1918, 1925, 1937, 1951, 1958, 1961, 1963, 1966, 1970, 1976, 1987, 1997, 2007 and 2017 by The American Institute of Architects. All rights reserved. WARNING: This AIA® Document is protected by U.S. Copyright Law and International Treaties. Unauthorized reproduction or distribution of this AIA® Document, or any portion of it, may result in severe civil and criminal penalties, and will be prosecuted to the maximum extent possible under the law. This document was produced by AIA software at 11:58:18 ET on 02/08/2019 under Order No.4449788754 which expires on 04/27/2019, and is not for resale.
User Notes: (1883989588)

been provided to the Contractor and the Contractor acknowledges receipt the Wage Schedule and agrees to accept the current prevailing wage scale as well as any annual adjustment to the prevailing wage scale as provided by the Connecticut Department of Labor. Wage Rates will be posted each July 1st on the Department of Labor's website: www.ctdol.state.ct.us. No such prevailing wage adjustment will be considered a basis for an amendment to this Contract. The Wage Schedule is deemed to reflect customary or prevailing wages for the Project and is hereby incorporated and made a part of the Contract Documents. Wage Rates shall be paid pursuant to Sections 31-53 and 31-54 of the Connecticut General Statutes and any regulations issued thereunder.

§ 13.9 Hours of Labor Permitted

§ 13.9.1 Pursuant to Section 31-57 of the Connecticut General Statutes, as applicable, no person shall be employed to work or be permitted to work more than eight hours in any day or more than forty hours in any week on any work provided for in the Contract. The operation of such limitation of hours of work may be suspended during an emergency upon the approval of the Owner.

§ 13.10 Examining and Copying Contractor's Records

§ 13.10.1 The Contractor shall permit the Owner or its duly authorized representative to examine and copy books and records of the Contractor relative to charges for extra work, alleged breaches of contract, settlement of claims, or any other matter involving the Contractor's demand for added compensation from the Owner. The Contractor shall also permit such examination and copying of its records as the Owner may deem necessary, excepting papers and records preceding the execution of the Contract that are not a matter of record with the Owner, in order to determine that the Contractor has complied with all laws and regulations pertaining to the Contract, such as but not limited to Labor Compliance, Affirmative Action Program and Equal Employment Opportunity.

§ 13.10.2 The Contractor further agrees that he shall keep all records relating to this Contract until the expiration of six (6) years after final payment under this Contract is made, or six (6) months after settlement of any disputes whichever may be later.

§ 13.10.3 The Contractor further agrees that Contractor and all Subcontractors shall permit the Owner, at its own expense, by its duly authorized representatives, to inspect and audit all their data, records and files pertaining to this Contract.

§ 13.11 System Layout Drawing

§ 13.11.1 System layouts indicated on the on the drawings are generally diagrammatic and locations and arrangements of items are approximate. Exact routing of conduit, wiring, location of fixtures, outlets, panels, piping, valves and all other equipment shall be governed by the structural conditions and obstructions. The entire layout shall be followed as closely as possible and the right is reserved by the Owner to reasonably change the locations to accommodate any conditions which may arise during the progress of the Work without additional compensation to the Contractor.

§ 13.12 Guaranty of Performance

§ 13.12.1 If the Contractor has submitted the financial statement of a parent or other affiliated entity in its Proposers Qualification Statement, or if pre-qualified, its application for pre-qualification and has also indicated in that submission that such parent or affiliate will guarantee the performance of the Contract, then the parent or affiliate shall execute, simultaneously, with the Contractor's execution of the Contract, a Guaranty in a form provided by and acceptable to the Owner.

§ 13.13 JOINT VENTURE

§ 13.13.1 If the Contractor is a joint venture, each joint venture partner shall be jointly, severally and individually responsible to the Owner for the performance of any and all obligations of the Contractor encompassed by the Contract Documents and as otherwise required by applicable law, and each joint venture partner shall be jointly, severally and individually liable to the Owner for any failures to perform such obligations in accordance with the Contract and such applicable law. In its dealings with the Owner, each joint venture partner shall have full authority to act in behalf of and bind the joint venture and any other joint venture partner. Each joint venture partner shall be considered to be the agent of the joint venture and of any other joint

AIA Document A201™ – 2017. Copyright © 1911, 1915, 1918, 1925, 1937, 1951, 1958, 1961, 1963, 1966, 1970, 1976, 1987, 1997, 2007 and 2017 by The American Institute of Architects. All rights reserved. WARNING: This AIA® Document is protected by U.S. Copyright Law and International Treaties. Unauthorized reproduction or distribution of this AIA® Document, or any portion of it, may result in severe civil and criminal penalties, and will be prosecuted to the maximum extent possible under the law. This document was produced by AIA software at 11:58:18 ET on 02/08/2019 under Order No.4449788754 which expires on 04/27/2019, and is not for resale.
User Notes:

(1883989588)

venture partner.

§13.14 Worker Geographic Distribution

§13.14.1 If the Project is a Covered Project (as defined hereinafter), the Contractor shall comply with the provisions of this Section 13.14.

§13.14.2 The Contractor shall submit to the Owner a plan for encouraging the hiring of Workers (as defined hereinafter) with Residence (as defined hereinafter) in the State of Connecticut.

§13.14.3 Following the close of each Quarter (as defined hereinafter), the Contractor shall submit a Worker Geographic Distribution Report (as defined hereinafter) to the Owner in a form satisfactory to the Owner. The "Worker Geographic Distribution Report" is a report that shall provide the following information for each Worker paid, during the most recently closed Quarter, for Work performed on the Project:

.1 The numbers of hours of Work for which such Worker was paid during such Quarter.

.2 The Wages (as defined hereinafter) paid to such Worker during such Quarter.

.3 The Residence of such Worker as of the close of such Quarter.

§13.14.4 The Worker Geographic Distribution Report shall not contain any personally identifiable information about a Worker.

§13.14.5 The following terms shall have the meaning assigned below for the purposes of this Section 13.14.

.1 "Covered Project" is a project that is both subject to Section 31-53(a) of the Connecticut General Statutes and for which the Contract Sum is $1,000,000 or greater.

.2 "Quarter" means a calendar quarter of each calendar year.

.3 "Residence" is the state and town in which a Worker resides, as reflected in the payroll records of such Worker's employer.

.4 "Subcontractor" is any subcontractor or sub-subcontractor of the Contractor, which subcontractor or sub-subcontractor employs Workers on the Project.

.5 "Wages" are the wages that are subject to Section 31-53(a) of the Connecticut General Statutes (including any amounts paid to an employee welfare fund).

.6 "Worker" is an employee of the Contractor or a Subcontractor (as defined hereinabove), which employee is performing Work on the Project and whose wages for such Work is subject to Section 31-53(a) of the Connecticut General Statutes.

ARTICLE 14 TERMINATION OR SUSPENSION OF THE CONTRACT

§ 14.1 Termination by the Contractor

§ 14.1.1 The Contractor may terminate the Contract if the Work is stopped for a period of sixty (60) consecutive days through no act or fault of the Contractor, a Subcontractor, a Sub-subcontractor, their agents or employees, or any other persons or entities performing portions of the Work, for any of the following reasons:

.1 Issuance of an order of a court or other public authority having jurisdiction that requires all Work to be stopped; or

.2 An act of government, such as a declaration of national emergency that requires all Work to be

(Paragraphs deleted)

stopped.

§ 14.1.2 Not Used.

§ 14.1.3 If one of the reasons described in Section 14.1.1 exists, the Contractor may, upon seven (7) days' written notice to the Owner, the Initial Decision Maker and the Architect, terminate the Contract and recover from the Owner payment for Work executed in accordance with the Contract Documents and for proven loss with respect to materials, equipment, tools, and construction equipment and machinery which loss arises as a direct result of such termination.

§ 14.1.4 If the Work is stopped for a period of sixty (60) consecutive days through no act or fault of the Contractor, a Subcontractor, a Sub-subcontractor, or their agents or employees or any other persons or entities

Init.
/
AIA Document A201™ – 2017. Copyright © 1911, 1915, 1918, 1925, 1937, 1951, 1958, 1961, 1963, 1966, 1970, 1976, 1987, 1997, 2007 and 2017 by The American Institute of Architects. All rights reserved. WARNING: This AIA® Document is protected by U.S. Copyright Law and International Treaties. Unauthorized reproduction or distribution of this AIA® Document, or any portion of it, may result in severe civil and criminal penalties, and will be prosecuted to the maximum extent possible under the law. This document was produced by AIA software at 11:58:18 ET on 02/08/2019 under Order No.4449788754 which expires on 04/27/2019, and is not for resale.
User Notes: (1883989588)

performing portions of the Work because the Owner has repeatedly failed to fulfill the Owner's obligations under the Contract Documents with respect to matters important to the progress of the Work, the Contractor may, upon seven (7) additional days' notice to the Owner and the Architect, terminate the Contract and recover from the Owner as provided in Section 14.1.3.

§ 14.2 Termination by the Owner for Cause

(Paragraphs deleted)

§ 14.2.1 The Owner may terminate, without prejudice and without waiving any other right or remedy the Owner may have, the Contract if the Contractor

.1 refuses or fails to supply enough properly skilled workers or proper materials;

.2 fails to make payment to Subcontractors for materials or labor in accordance with the respective agreements between the Contractor and the Subcontractors;

.3 disregards applicable laws, statutes, ordinances, codes, rules and regulations, or lawful orders of a public authority;

.4 otherwise is guilty of substantial breach of a provision of the Contract Documents;

.5 Fails to furnish the Owner with assurances satisfactory to the Owner evidencing the Contractor's ability to complete the Work in compliance with all requirements of the Contract Documents;

.6 Refuses or fails to prosecute the Work or any separable part, with the diligence that will ensure its completion in accordance with the approved construction schedule for the Project as it may be adjusted in accordance with the Contract Documents; or

.7 Fails to comply with laws, rules, regulations, or directives regarding job site safety; or to comply with the provisions of the Owner's Contractor Environmental Health and Safety Manual, or orders or directives regarding safety issued by the Owner pursuant to the Contract.

§ 14.2.2 When any of the reasons described in Section 14.2.1 exists and the Owner determines that sufficient cause exists to justify such action, the Owner may, without prejudice to any other rights or remedies of the Owner and after giving the Contractor and the Contractor's surety, if any, seven (7) days' notice, terminate employment of the Contractor and may, subject to any prior rights of the surety:

.1 Exclude the Contractor from the site and take possession of all materials, equipment, tools, and construction equipment and machinery thereon owned by the Contractor;

.2 Accept assignment of subcontracts pursuant to Section 5.4; and

.3 Finish the Work by whatever reasonable method the Owner may deem expedient. Upon written request of the Contractor, the Owner shall furnish to the Contractor a detailed accounting of the costs incurred by the Owner in finishing the Work.

In lieu of terminating the employment of the Contract as regards the entirety of the Work, the Owner may elect to limit such termination to a portion of the Work and to require the Contractor to proceed with the balance of the Work in accordance with the Contract Documents.

§ 14.2.3 When the Owner terminates the Contract for one of the reasons stated in Section 14.2.1, the Contractor shall not be entitled to receive further payment until the Work is finished.

§ 14.2.4 If the unpaid balance of the Contract Sum exceeds costs of finishing the Work, including compensation for the Architect's services and expenses made necessary thereby, and other damages incurred by the Owner and not expressly waived, such excess shall be retained by the Owner. If such costs and damages exceed the unpaid balance, the Contractor shall pay the difference to the Owner. The amount to be paid to the Contractor or Owner, as the case may be, shall be certified by the Architect and Initial Decision Maker, upon application, and this obligation for payment shall survive termination of the Contract.

§ 14.3 Suspension by the Owner for Convenience

§ 14.3.1 The Owner may, without cause and without prejudice and without waiving any other right or remedy the Owner may have, order the Contractor in writing to suspend, delay or interrupt the Work in whole or in part for such period of time as the Owner may determine.

§ 14.3.2 The Contract Sum and Contract Time shall be adjusted for increases in the cost and time caused by

AIA Document A201™ – 2017. Copyright © 1911, 1915, 1918, 1925, 1937, 1951, 1958, 1961, 1963, 1966, 1970, 1976, 1987, 1997, 2007 and 2017 by The American Institute of Architects. All rights reserved. WARNING: This AIA® Document is protected by U.S. Copyright Law and International Treaties. Unauthorized reproduction or distribution of this AIA® Document, or any portion of it, may result in severe civil and criminal penalties, and will be prosecuted to the maximum extent possible under the law. This document was produced by AIA software at 11:58:18 ET on 02/08/2019 under Order No.4449788754 which expires on 04/27/2019, and is not for resale.
User Notes: (1883989588)

suspension, delay, or interruption under Section 14.3.1. Adjustment of the Contract Sum shall include profit as and to the extent provided in the Contract Documents. No adjustment shall be made to the extent

.1 that performance is, was or would have been so suspended, delayed or interrupted by another cause for which the Contractor is responsible; or

.2 that an equitable adjustment is made or denied under another provision of the Contract.

§ 14.4 Termination by the Owner for Convenience

§ 14.4.1 The Owner may, at any time, without prejudice and without waiving any other right or remedy the Owner may have, terminate the Contract in whole or in part for the Owner's convenience and without cause. Termination by the Owner under this Section shall be by a notice of termination delivered to the Contractor specifying the extent of termination and the effective date.

§ 14.4.2 Upon receipt of a notice of termination for convenience, the Contractor shall immediately and in accordance with instructions from the Owner, proceed with performance of the following duties (regardless of whether or not there is agreement between the Owner and the Contractor as to amounts due to the Contractor and remaining unpaid hereunder):

.1 Cease operations as specified in the notice;

.2 Place no further orders and enter into no further Subcontracts for materials, labor, services or facilities except as necessary to complete Work not terminated;

.3 except for Work directed to be performed prior to the effective date of termination stated in the notice, terminate all existing subcontracts and purchase orders and enter into no further subcontracts and purchase orders.

.4 Proceed to complete the performance of Work not terminated; and

.5 Take actions that may be necessary or that the Owner may direct for the protection and preservation of the terminated Work.

§ 14.4.3 Upon such termination for the Owner's convenience, the Contractor shall be entitled to recover as its sole remedy for such termination, payment for terminated Work performed in accordance with the Contract Documents prior to the effective date of termination, payment for items associated with the terminated Work that were properly and timely purchased or fabricated off the Project site, delivered and stored in accordance with the Owner's instructions and satisfactorily evidenced demobilization costs. The Contractor hereby waives and forfeits all other claims for payment and damages, including without limitation, anticipated profits.

§14.4.4 In calculating the amount payable to the Contractor by the Owner upon termination for the Owner's convenience, the Owner shall be credited for (1) payments previously made to the Contractor for the terminated portion of the Work; (2) claims which the Owner has against the Contractor under the Contract and (3) the value of the materials, supplies, equipment or other items that are to be disposed of by the Contractor that are part of the Contract Sum.

§14.4.5 The payment to the Contractor pursuant to this Section may not exceed the total Contract Sum as reduced by:

.1 The amount of payments previously made by the Owner to the Contractor; and

.2 The portion of the Contract Sum allocable to Work not terminated.

ARTICLE 15 CLAIMS AND DISPUTES

§ 15.1 Claims

§ 15.1.1 Definition

A Claim is a properly noticed demand or assertion by one of the parties seeking, as a matter of right, payment of money, a change in the Contract Time or other relief with respect to the terms of the Contract. The term "Claim" also includes other disputes and matters in question between the Owner and Contractor arising out of or relating to the Contract. The responsibility to substantiate Claims shall rest with the party making the Claim. This Section 15.1.1 does not require the Owner to file a Claim in order to impose liquidated damages in accordance with the Contract Documents.

AIA Document A201™ – 2017. Copyright © 1911, 1915, 1918, 1925, 1937, 1951, 1958, 1961, 1963, 1966, 1970, 1976, 1987, 1997, 2007 and 2017 by The American Institute of Architects. All rights reserved. WARNING: This AIA® Document is protected by U.S. Copyright Law and International Treaties. Unauthorized reproduction or distribution of this AIA® Document, or any portion of it, may result in severe civil and criminal penalties, and will be prosecuted to the maximum extent possible under the law. This document was produced by AIA software at 11:58:18 ET on 02/08/2019 under Order No.4449788754 which expires on 04/27/2019, and is not for resale.
User Notes: (1883989588)

§ 15.1.2 Time Limits on Claims

Claims by the Contractor against the Owner must be initiated within twenty-one (21) days after the occurrence of the event giving rise to such Claim or within fourteen (14) days after the Contractor first recognizes the condition giving rise to the Claim, whichever is later. Claims may also be reserved by the Contractor in writing within the time limits set forth in this Section 15.1.2. If a Claim is reserved, the Resolution of Claims and Disputes procedures described in this Article 15 shall not commence until a written notice from the Contractor in compliance with the requirements of Section 15.1.3 is received by the Owner. No such claim shall be valid unless so made. The Contractor waives all Claims and causes of action not commenced in accordance with this Section 15.1.

§ 15.1.3 Notice of Claims

§ 15.1.3.1 Claims by the Contractor, where the condition giving rise to the Claim is first discovered prior to expiration of the period for correction of the Work set forth in Section 12.2.2, shall be initiated by notice to the Owner and to the Initial Decision Maker with a copy sent to the Architect.

§ 15.1.3.2 Claims by either the Owner or Contractor, where the condition giving rise to the Claim is first discovered after expiration of the period for correction of the Work set forth in Section 12.2.2, shall be initiated by notice to the other party and the Initial Decision Maker.

§ 15.1.3.3 All notices of Claims (whether before or after the period for correction of Work) must state the following in bold capital letters: **"THIS COMMUNICATION CONSTITUTES A NOTICE OF CLAIM"**. Any communication that does not include such statement shall not constitute a Claim under the Contract. As regards a notice of reservation of Claim, such notice must state the following in bold capital letters: **"THIS COMMUNICATION CONSTITUTES NOTICE OF RESERVATION OF A CLAIM"**. Any communication that does not include such statement shall not constitute a reservation of a Claim under the Contract. In addition, any notice of Claim or reservation of Claim must clearly identify the alleged cause and the nature of the Claim and include data and information then available to the Contractor to enable and to facilitate the Owner's verification and evaluation of the Claim.

§ 15.1.4 Continuing Contract Performance

§ 15.1.4.1 Pending final resolution of a Claim, except as otherwise agreed in writing or as provided in Article 14, the Contractor shall proceed diligently with performance of the Contract and the Owner shall continue to make payments in accordance with the Contract Documents.

§ 15.1.4.2 The Contract Sum and Contract Time shall be adjusted in accordance with the Initial Decision Maker's decision, subject to the right of either party to proceed in accordance with this Article 15. The Architect will issue Certificates for Payment in accordance with the decision of the Initial Decision Maker.

(Paragraphs deleted)

§ 15.1.5 Claims for Additional Cost

If the Contractor wishes to make a Claim for an increase in the Contract Sum, notice as provided in Section 15.1.3 shall be given before proceeding to execute the portion of the Work that is the subject of the Claim. Prior notice is not required for Claims relating to an emergency endangering life or property arising under Section 10.4.

§15.1.5.2 If the Contractor believes that additional cost is involved for reasons including but not limited to (1) a written interpretation from the Architect; (2) an order by the Owner to stop the Work where the Contractor was not at fault; (3) a written order for a minor change in the Work issued by the Architect; (4) failure of payment by the Owner; (5) termination of the Contract by the Owner; (6) Owner's suspension; or (7) other reasonable grounds, the Claim shall be made in accordance with the provisions of this Article 15.

§ 15.1.6 Claims for Additional Time

§ 15.1.6.1 If the Contractor wishes to make a Claim for an increase in the Contract Time, notice as provided in Section 15.1.3 shall be given. The Contractor's Claim shall include an estimate of cost and of probable effect of delay on progress of the Work. No such claim shall be valid unless made in accordance with the provisions of

Init.
/
AIA Document A201™ – 2017. Copyright © 1911, 1915, 1918, 1925, 1937, 1951, 1958, 1961, 1963, 1966, 1970, 1976, 1987, 1997, 2007 and 2017 by The American Institute of Architects. All rights reserved. WARNING: This AIA® Document is protected by U.S. Copyright Law and International Treaties. Unauthorized reproduction or distribution of this AIA® Document, or any portion of it, may result in severe civil and criminal penalties, and will be prosecuted to the maximum extent possible under the law. This document was produced by AIA software at 11:58:18 ET on 02/08/2019 under Order No.4449788754 which expires on 04/27/2019, and is not for resale.
User Notes:
(1883989588)

this Article 15. In the case of a continuing delay, only one Claim is necessary.

§ 15.1.6.2 If adverse weather conditions are the basis for a Claim for additional time, such Claim shall be documented by data substantiating that weather conditions were abnormal for the period of time, could not have been reasonably anticipated and had an adverse effect on the scheduled construction.

(Paragraphs deleted)

§ 15.1.7 Waiver of Claims for Consequential Damages

Not Used.

§ 15.1.8 Injury or Damage to Person or Property. If the Contractor suffers injury or damage to person or property because of an act or omission of the Owner, or of others for whose acts such party is legally responsible, written notice of such injury or damage, whether or not insured, shall be given to the other party within a reasonable time not exceeding twenty-one (21) days after discovery. The notice shall provide sufficient detail to enable the other party to investigate the matter.

§ 15.1.9 Claims for Concealed or Unknown Conditions: If, upon or subsequent to the Contractor's and its Subcontractors' site visits pursuant to Section 3.2.1 and performance of the tests, examinations, and inspections required by Section 3.2.2, the Contractor encounters conditions at the site that are (1) subsurface or otherwise concealed physical conditions that differ materially from those indicated in the Contract Documents or (2) unknown physical conditions of an unusual nature that differ materially from those ordinarily found to exist and generally recognized as inherent in construction activities of the character provided for in the Contract Documents, the Contractor will promptly provide notice to the Owner and the Architect before conditions are disturbed and in no event later than 5 days after first observance of the conditions. The Architect will promptly investigate such conditions and, if the Architect determines that they differ materially and cause an increase or decrease in the Contractor's cost of, or time required for, performance of any part of the Work, will recommend an equitable adjustment in the Contract Sum or Contract Time, or both. If the Architect determines that the conditions at the site are not materially different in the respects noted above and that no change in the terms of the Contract is justified, the Architect shall promptly notify the Owner and Contractor in writing, stating the reasons. Any claim by the Contractor in opposition to such determination must be made within 21 days after the Architect has given notice of the recommendation. The Owner will have the final authority to accept or reject the Architect's recommendations, which decision by the Owner shall be subject to further proceedings pursuant to Article 15.

§ 15.2 Initial Decision

§ 15.2.1 Claims by the Contractor, excluding those where the condition giving rise to the Claim is first discovered after expiration of the period for correction of the Work set forth in Section 12.2.2 or arising under Sections 10.3, 10.4, and 11.5, shall be referred to the Initial Decision Maker for initial decision. The Owner will serve as the Initial Decision Maker, unless otherwise indicated in Section 6.1 of the Agreement. Except for those Claims excluded by this Section 15.2.1, an initial decision shall be required as a condition precedent to mediation of any Claim arising prior to the date final payment is due, regardless of (1) whether such matters relate to execution and progress of the Work, or (2) the extent to which the Work has been completed. The decision by the Initial Decision Maker in response to a Claim shall not be a condition precedent to arbitration or litigation in the event (1) the position of Initial Decision Maker is vacant, (2) the Contractor has not provided substantiating evidence of its Claim; or (3) the Initial Decision Maker has failed to take action required under Section 15.2.2 within thirty (30) days after the Claim is made.

§ 15.2.2 The Initial Decision Maker will review Claims by the Contractor and within thirty (30) days of the receipt of a Claim take one or more of the following actions: (1) request additional supporting data from the claimant or a response with supporting data from the other party; (2) reject the Claim in whole or in part; (3) approve the Claim; (4) suggest a compromise; or (5) advise the parties that the Initial Decision Maker is unable to resolve the Claim if the Initial Decision Maker lacks sufficient information to evaluate the merits of the Claim or if the Initial Decision Maker concludes that, in the Initial Decision Maker's sole discretion, it would be inappropriate for the Initial Decision Maker to resolve the Claim.

§ 15.2.3 In evaluating Claims of the Contractor, the Initial Decision Maker may, but shall not be obligated to,

AIA Document A201™ – 2017. Copyright © 1911, 1915, 1918, 1925, 1937, 1951, 1958, 1961, 1963, 1966, 1970, 1976, 1987, 1997, 2007 and 2017 by The American Institute of Architects. All rights reserved. WARNING: This AIA® Document is protected by U.S. Copyright Law and International Treaties. Unauthorized reproduction or distribution of this AIA® Document, or any portion of it, may result in severe civil and criminal penalties, and will be prosecuted to the maximum extent possible under the law. This document was produced by AIA software at 11:58:18 ET on 02/08/2019 under Order No.4449788754 which expires on 04/27/2019, and is not for resale.
User Notes: (1883989588)

consult with or seek information from either party or from persons with special knowledge or expertise who may assist the Initial Decision Maker in rendering a decision.

§ 15.2.4 If the Initial Decision Maker requests a party to provide a response to a Claim of the Contractor or to furnish additional supporting data, such party shall respond, within ten (10) days after receipt of such request, and shall either (1) provide a response on the requested supporting data; (2) advise the Initial Decision Maker when the response or supporting data will be furnished; or (3) advise the Initial Decision Maker that no supporting data will be furnished. Upon receipt of the response or supporting data, if any, the Initial Decision Maker will either reject or approve the Claim in whole or in part.

§ 15.2.4.1 If a Claim of the Contractor has not been resolved after consideration of the foregoing, the Initial Decision Maker will render a written decision on the claim, including any change in the Contract Sum or Contract Time or both, which decision shall be final and binding but subject to meeting and mediation pursuant to Section 15.3 of this document and arbitration or litigation pursuant to Connecticut General Statutes Section 4-61 and Section 15.4 of this Contract to the extent applicable.

§ 15.2.5 Not Used.

§ 15.2.6 Not Used.

§ 15.2.6.1 Not Used.

§ 15.2.7 In the event of a Claim against the Contractor, the Owner may, but is not obligated to, notify the surety, if any, of the nature and amount of the Claim. If the Claim relates to a possibility of a Contractor's default, the Owner may, but is not obligated to, notify the surety and request the surety's assistance in resolving the controversy.

§ 15.2.8 Not Used.

§ 15.3 Mediation

§ 15.3.1 Claims of the Contractor except those waived as provided for in Section 9.10.5 shall be submitted to the meeting and mediation process described in the Sections which follow, prior to and as a precondition to the Contractor pursuing any other available remedy. Claims by the Owner, at the option of the Owner, may be submitted to such meeting process and/or mediation process, and, in such event, Contractor shall be required to submit to and participate in such a meeting and/or mediation. The meeting shall be between the parties and attended by individuals with decision-making authority regarding the dispute, to attempt in good faith to negotiate a resolution of the dispute.

§ 15.3.2 The meeting referenced in Section 15.3.1 shall be held promptly, but not less than fourteen (14) days after a party's request for the meeting. The Contractor shall not submit any claim to mediation in accordance with the provisions of Sections 15.3.1 through 15.3.6 until fourteen (14) days after the date of the meeting.

§ 15.3.3 In connection with any such mediation, a request for mediation shall be made in writing, delivered to the other party to the Contract. The request may be made concurrently with the filing of applicable binding dispute resolution proceedings but, in such event, mediation shall proceed in advance of binding dispute resolution proceedings, which shall be stayed pending mediation for a period of sixty (60) days from the date of filing, unless stayed for a different period of time by agreement of the parties or as modified by court order.

§ 15.3.4 The parties will jointly appoint a mutually acceptable mediator, seeking assistance in such regard from a mutually agreed upon dispute resolution entity if they have been unable to agree upon such appointment within twenty (20) days from the submittal of the request for mediation. If the parties are unable to agree on the dispute resolution entity, the mediation shall be administered by the American Arbitration Association in accordance with its Construction Industry Mediation Procedures in effect on the date of this Contract.

§ 15.3.5 The parties agree to participate in good faith in the mediation and negotiations related thereto for a period of sixty (60) days from the date of submittal, or until the parties reach an impasse as evidenced by a

AIA Document A201™ – 2017. Copyright © 1911, 1915, 1918, 1925, 1937, 1951, 1958, 1961, 1963, 1966, 1970, 1976, 1987, 1997, 2007 and 2017 by The American Institute of Architects. All rights reserved. WARNING: This AIA® Document is protected by U.S. Copyright Law and International Treaties. Unauthorized reproduction or distribution of this AIA® Document, or any portion of it, may result in severe civil and criminal penalties, and will be prosecuted to the maximum extent possible under the law. This document was produced by AIA software at 11:58:18 ET on 02/08/2019 under Order No.4449788754 which expires on 04/27/2019, and is not for resale.
User Notes:
(1883989588)

letter from a party to the mediator, whichever first occurs. If the parties are not successful in resolving the dispute through mediation, then the parties may pursue other legal remedies available to them.

§ 15.3.6 Should the Owner request, the Contractor agrees to participate as a party in any mediation proceeding between the Owner and the Architect or other Consultant for the Project in which construction deficiencies, contract breaches, or other alleged wrongful acts by the Contractor are alleged.

§ 15.4 ARBITRATION OR LITIGATION OF CLAIMS

§ 15.4.1 Not Used.

§ 15.4.1.1 Not Used.

§ 15.4.2 Not Used.

§ 15.4.3 Not Used.

§ 15.4.4 Should the Owner have a claim against the Contractor, the parties agree that the Owner, whether or not it elects to proceed with the meeting process or mediation described in Section 15.3, shall have the option of either prosecuting the claim against the Contractor in an appropriate court of general jurisdiction, or by arbitrating the claim by filing a demand for arbitration pursuant to the rules of a dispute resolution entity agreed upon by the parties, except that if the parties cannot agree upon a dispute resolution entity, the rules of the American Arbitration Association shall apply.

§ 15.4.5 Should the Contractor have a claim against the Owner which has not been resolved by mediation or any other procedure set forth in this Contract, the Contractor's rights to assert its claim against the Owner shall be subject to the provisions of Connecticut General Statutes Section 4-61.

§ 15.4.6 Consolidation or Joinder

§ 15.4.6.1 Should either the Contractor institute an arbitration to the extent authorized by Section 4-61 of the Connecticut General Statutes or the Owner institute an arbitration as set forth herein, the Contractor agrees that any such arbitration may be consolidated, at the Owner's discretion, with any arbitration proceeding involving the Owner and the Architect or other Consultant for the Project in which construction or design deficiencies, breaches of contract, or any other alleged wrongful acts by the Contractor or Architect are alleged.

§ 15.4.6.2 Not Used.

§ 15.4.6.3 Not Used.

ARTICLE 16 OWNER POLICIES

§ 16.1 The Contractor shall, at no additional cost to the Owner, comply with all policies and procedures of the Owner. In the event the Owner establishes new policies or procedures following the execution of the Contract, or makes modifications to policies or procedures in existence at the time of Contract execution, the Contractor shall comply with such new or modified policies or procedures upon receipt of written notice of such new policies or procedures.

ARTICLE 17 SOVEREIGN IMMUNITY

§ 17.1 The parties acknowledge and agree that nothing in this Contract shall be construed as a waiver by the State of Connecticut or the Owner of any rights or defenses of sovereign immunity, which it may have had, now has, or will have with respect to all matters arising out of this Contract. To the extent that this provision conflicts with any other provision hereunder, this provision shall govern.

These General Conditions may be executed in counterparts, and each counterpart shall have the same force and effect as an original and, when taken together, shall constitute one and the same instrument and an effective binding agreement on the part of each of the undersigned. Execution of a facsimile or PDF copy shall have the same force and effect as execution of an original. Signed copies of this Agreement may be faxed and e-mailed

AIA Document A201™ – 2017. Copyright © 1911, 1915, 1918, 1925, 1937, 1951, 1958, 1961, 1963, 1966, 1970, 1976, 1987, 1997, 2007 and 2017 by The American Institute of Architects. All rights reserved. WARNING: This AIA® Document is protected by U.S. Copyright Law and International Treaties. Unauthorized reproduction or distribution of this AIA® Document, or any portion of it, may result in severe civil and criminal penalties, and will be prosecuted to the maximum extent possible under the law. This document was produced by AIA software at 11:58:18 ET on 02/08/2019 under Order No 4449788754 which expires on 04/27/2019, and is not for resale.
User Notes: (1883989588)

with the same force and effect as if the originally executed General Conditions had been delivered.

Acknowledging agreement to these General Conditions as of _____, 20___.

OWNER *(Signature)*	**CONTRACTOR** *(Signature)*
Scott A. Jordan Executive VP for Administration & CFO Duly Authorized	Duly Authorized
(Printed name and title)	*(Printed name and title)*
Date: _____	Date: _____

(Paragraphs deleted)

Init.
/

AIA Document A201™ – 2017. Copyright © 1911, 1915, 1918, 1925, 1937, 1951, 1958, 1961, 1963, 1966, 1970, 1976, 1987, 1997, 2007 and 2017 by The American Institute of Architects. All rights reserved. WARNING: This AIA® Document is protected by U.S. Copyright Law and International Treaties. Unauthorized reproduction or distribution of this AIA® Document, or any portion of it, may result in severe civil and criminal penalties, and will be prosecuted to the maximum extent possible under the law. This document was produced by AIA software at 11:58:18 ET on 02/08/2019 under Order No.4449788754 which expires on 04/27/2019, and is not for resale.
User Notes:
(1883989588)

PROJECT MANUAL

Project # 300081

Gelfenbien Patio Improvements
Towers Loop Road

Construction Documents
Volume 1 of 1

UCONN
UNIVERSITY OF CONNECTICUT

State of Connecticut

University of Connecticut
Office of Planning, Design and Construction

Susan Herbst
President

Prepared By:

University Planning, Design and Construction
31 LeDoyt Road
Storrs, CT 06269

March 7, 2019/Issued for Bid

SECTION 01-0110 – TABLE OF CONTENTS

SECTION NUMBER	SECTION TITLE
01-1000	Summary
01-2100	Allowances
01-2200	Unit Prices
01-2300	Alternates
01-2500	Substitution Procedures
01-2600	Contract Modification Procedures
01-3100	Project Management and Coordination
01-3200	Construction Progress Documentation
01-3233	Photographic Documentation
01-3300	Submittal Procedures
01-4000	Quality Requirements
01-5000	Temporary Facilities and Controls
01-5640	Tree Protection and Preservation
01-5719	Temporary Environmental Controls
01-6000	Product Requirements
01-7300	Execution
01-7700	Closeout Procedures
01-7823	Operation and Maintenance Data
01-7839	Project Record Documents
01-7900	Demonstration and Training
02-4113	Selective Site Demolition
03-3300	Cast in Place Concrete
31-0000	Earthwork
31-0121	Sweeping and Water for Dust Control
31-1000	Site Clearing
31-2500	Erosion and Sedimentation Controls
32-1312	Concrete Paving
32-1373	Concrete Paving Joint Sealants
32 1443	Permeable Pavement
32-3223.13	Segmental Unit Retaining Wall Systems
32-4220	Site Improvements
32-9113	Topsoil
32-9200	Turf and Grasses
32-9300	Plants
32-9353	Landscape Maintenance

DRAWING LIST

Cover
L-0.0 – Drawing Notes
L-1.0 – Erosion and Sediment Control, Logistics and Demolition Plans
L-2.0 – Materials, Layout, Grading and Planting Plans
L-3.1 – Site Details
L-3.2 – Site Details
L-3.3 – Site Details
L-3.4 – Site Details

END OF SECTION 01-0110

SECTION 01-1000 - SUMMARY

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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. Related Documents
2. Summary
3. Project information.
4. Work covered by Contract Documents.
5. Work under separate contracts.
6. Definitions
7. Time of Completion.
8. Documents required before execution of the Contract.
9. Access to site and use of the Site.
10. Coordination with occupants.
11. Work restrictions.
12. Prohibited Items
13. Work Sequence.
14. Miscellaneous provisions.

B. Related Requirements:

1. Division 01 Section "Temporary Facilities and Controls" for limitations and procedures governing temporary use of Owner's facilities.

2. Division 01 Section “Temporary Tree and Planting Protection” for general protection and pruning of existing trees and plants that are affected by the execution of the Work.

3. Division 01 Section “Submittal Procedures” for submittal requirements prior to start of work.

1.3 PROJECT INFORMATION

A. Project Identification: Gelfenbien Patio Improvements, Project #300081.

1. Project Location: 3384 Towers Loop Road, Storrs CT 06269.

B. Owner: University of Connecticut

1. Owner's Representative: Eileen L. McHugh, RLA, LEED AP, Landscape Architect, University Tree Warden, University Planning, Design, and Construction, University of Connecticut, 31 LeDoyt Road, Unit 3038, Storrs, CT 06269; Ofc 860-486-1397 Cell 860-420-7292; eileen.mchugh@uconn.edu.

C. Landscape Architect: Eileen L. McHugh, RLA, LEED AP, Landscape Architect, University Tree Warden, University Planning, Design, and Construction, University of Connecticut, 31 LeDoyt Road, Unit 3038, Storrs, CT 06269; Ofc 860-486-1397 Cell 860-420-7292; eileen.mchugh@uconn.edu. .

1.4 WORK COVERED BY CONTRACT DOCUMENTS

The Work of Project is defined by the Contract Documents and consists of the following:

1. Project consists of site improvements to an existing Dining Hall Outdoor Seating area (Patio). The work includes the removal of existing pavements and related improvements, and construction of new permeable brick seating area, Privacy/security fencing, segmental retaining wall, concrete piers with fence posts and planting. Improvements include earthwork/grading, pavements, landscaping, site lighting and furnishings.

2. Removal of all debris caused by this Contract.

3. Protection of the public, building, grounds from damage during this contract is the responsibility of the Contractor for this project at all times.

4. Accommodation throughout construction of required building exits and egress paths, and staging areas.

5. Repair or replace landscaping including trees, shrubs or other planting disturbed during the Work of the contract with new to match existing, unless otherwise noted. Regrade and reseed any grass area damaged as a result of the Work. Repair any walkways or paved areas damaged as a result of the Work.

1.5 WORK UNDER SEPARATE CONTRACTS

General: Cooperate fully with contractors that may have been issued separate contract(s) to perform certain construction operations at the site prior to construction activity under this contract so work on those contracts may be carried out smoothly, without interfering with or delaying work under this Contract or other contracts. Coordinate the Work of this Contract with work performed under separate contracts.

1.6 DEFINITIONS UNDER THE CONTRACT DOCUMENTS

A. Landscape Architect/Engineer: The term used to designate the Professional Consultant who contracts with the Owner or Design Builder to provide Landscape Architectural, Engineering, Interior Design, Commissioning services for the Project.

B. Contract Documents: The Contract between Owner and Contractor signed by the Owner and the Contractor and any documents expressly incorporated therein for the Project. Such incorporated

documents customarily include the Contract and General Conditions, any Supplemental General Conditions, any Special Conditions, the plans and the specifications, and all modifications, including addenda and subsequent Change Orders.

C. Contractor: The person or entity with whom the Owner has directly entered into a contractual agreement to do the Work. Applies to Construction Manager, General Contractor or Prime Contractor.

Companies that are owned or operated by the same individual or entity, close relations, parent company or subsidiary, who operate under the same address and/or building, has either directly or indirectly any degree of ownership, management or control of another corporation, company or partnership; has directly or indirectly close relations or family members, share the same or adjacent space addresses or share resources to perform work as a joint venture formally or informally; is viewed as a signatory employer and not as separate trade supplier or installers who subcontracts and/or supply to each other. Such entities are viewed as a single pooled resource and therefore not separate unto each other.

D. Day: Means a calendar day, 24-hour period. All response times and schedules shall be based on a calendar day, unless specifically noted otherwise.

E. Daily Construction Report: A written daily log recording the day's construction site activities conditions and progress.

F. Daily Additional Work Tickets: Recording the day's trade labor work performed for a change in the work issued by a CCD.

G. Drawing: A page or sheet of the Plan which presents a graphic representation, usually drawn to scale, showing the technical information, design, location, and dimensions of various elements of the Work. The graphic representations include, but are not limited to, plan views, elevations, transverse and longitudinal sections, large and small scale sections and details, isometrics, diagrams, schedules, tables and/or pictures.

H. Like New Condition: The appearance of looking new having no marks, chips, or cracks.

I. Notice to Proceed: A written notice given by the Owner to the Contractor fixing the date on which the Contract time will commence for the Contractor to begin the prosecution of the Work in accordance with the requirements of the Contract Documents. The Notice to Proceed will customarily identify a Contract Completion Date.

J. Owner: Office of University Planning, Design and Construction.

K. Project: The term used instead of the specific or proper assigned title of the entire undertaking which includes, but is not limited to, the "Work" described by the Contract Documents.

L. Project Manager: The Project Manager as used herein shall be the Owner's designated representative on the Project. The Project Manager shall be the person through whom the Owner generally conveys decisions. The Owner may change the Project Manager from time to time or may appoint an interim Project Manager.

M. Site: Shall mean the location at which the Work is performed or is to be performed. Also referred to as Work Zone, Site Logistics Plan, and Construction Area.

N. Specifications: That part of the Contract Documents containing the written administrative requirements and the technical descriptions of materials, equipment, construction systems, standards, and workmanship which describe the proposed Work in sufficient detail and provide sufficient information for the Contractor to perform the Work.

O. Subcontractor: A person or entity having a direct or indirect contract with the Contractor for the performance of the Work. Subcontractor includes any person or entity who provides on-site labor but does not include any person or entity who only furnishes or supplies materials for the Project.

A person or entity that provides and installs product received from a wholesaler or distributor and not directly from the manufacturer/fabricator/producer, are viewed as a Dealer. Dealer entities are recognized as Subcontractors and shall follow the same requirements under the contractor documents. Dealers shall disclose their net costs for materials and equipment from where they purchase their materials.

A person or entity that has either directly or indirectly any degree of ownership, management or control of another corporation, company or partnership; directly or indirectly with family members, share the same or adjacent space addresses or share resources to perform work as a joint venture formally or informally; is viewed as a signatory employer. Such circumstances shall be viewed as a single entity and not as sub-tiers or separate supplier and installer. Where the contract documents refer to the "Contractor", the requirements under the contract shall also apply to the Subcontractor.

P. Submittals: All shop, fabrication, setting and installation drawings, diagrams, illustrations, schedules, samples, and other data required by the Contract Documents which are specifically prepared by or for the Contractor to illustrate some portion of the Work and all illustrations, brochures, standard schedules, performance charts, instructions, diagrams and other information prepared by a Supplier and submitted by the Contractor to illustrate material or equipment conformance of some portion of the Work with the requirements of the Contract Documents.

Q. Substantial Completion: The entire work shall not be limited to physical construction. The Work for Substantial Completion shall include aspects of general conditions and general requirements.

R. Supplier: A manufacturer, fabricator, wholesaler or distributor, who provides material for the Project but does not provide on-site labor. A subcontractor or sub-tier subcontractor cannot be also a material supplier. See definition of Subcontractor which addresses Dealers.

S. Traffic Control: A person who is appropriately trained and certified to provide traffic control flagging services. On any State roads running through any University campus, traffic control shall be performed by University Police.

T. Time for Completion: The number of consecutive calendar days following the issuance of the Notice to Proceed which the Contractor has to substantially complete all Work required by the Contract. When the Notice to Proceed is issued, it states a Contract Completion Date, which has been set by the Owner based on the Time for Completion.

U. Work: The services performed under this Contract including, but not limited to, furnishing labor, and furnishing and incorporating materials and equipment into the construction. The

Work also includes the entire completed construction, or the various separately identifiable parts thereof, required to be furnished under the Contract Documents.

1.7 TIME OF COMPLETION

The established Substantial Completion Date or number of consecutive calendar days (if specifically outlined) following the issuance of the Notice to Proceed which the Contractor has to substantially complete all Work required by the Contract. Work required by the project shall commence immediately upon receipt of a Notice to Proceed. However, physical work on site may not commence sooner than **May 14, 2019**.

1. The Contractor shall obtain the Certificate of Substantial Completion as defined in the Contract Documents within **90 (ninety)** calendar days of the Notice to Proceed.

2. Substantial Completion as defined in the Contract Documents must be achieved and evidenced by a Certificate of Substantial Completion no later than **August 13, 2019**.

   Due to the nature of this institution, it is required that the academic schedule must be maintained. Contractor shall cooperate and coordinate with the Owner to assure that the academic schedule will be maintained.

1.8 DOCUMENTS REQUIRED BEFORE EXECUTION OF A CONTRACT

Contractor shall provide the following documents for the scope review meeting or if there is no scope review meeting provide the list of required documents within the time period outlined within the Letter of Intent to award:

A. Project Specific Milestone Construction Schedule in sufficient detail as required under Section 01-3200 Construction Progress Documentation.

B. Labor Rates for trade labor work self-performed by the Contractor shall be submitted utilizing the most current labor rate form template provided by the Owner. Labor Rates shall be reviewed and accepted by the Owner and are established for the life of the project. See Section on Contract Modifications for more on Labor Rate requirements. Labor Rate template can be found at the following weblink: https://updc.uconn.edu/contractors-working-at-uconn/

1.9 ACCESS TO THE SITE AND USE OF THE SITE

A. General: Contractor shall have limited use of Project site for construction operations as indicated on Drawings by the Contract limits and as indicated by requirements of this Section.

B. Use of Site: Limit use of Project site to areas indicated; allow for Owner occupancy and use by the public. Do not disturb portions of Project site beyond areas in which the Work is indicated.

1. Limits: Confine construction operations to areas within the Project limits indicated in the contract documents. Portions of the site beyond areas in which construction operations are indicated are not to be disturbed.
   a. Changes to the location of the identified perimeter contract limits, including access to the project site shall not be assumed by the Contractor. Contractor must submit

a detailed narrative to the Architect and Owner on impacts to constructability as to why the contracted Project limits cannot be maintained.

b. Restore all lawn, sidewalk, paved areas damaged by vehicles and or construction activities to their original or better condition. See Section on Temporary Facilities and Controls for more details.

c. All grounds including construction site within contract limit shall be kept neat and orderly at all times.

2. Driveways, Walkways and Entrances: Keep driveways and entrances serving premises clear and available to Owner, Owner's employees, other contractors and emergency vehicles at all times. Do not use these areas for parking or storage of materials.
   a. Schedule deliveries to minimize space and time requirements for storage of materials and equipment on-site.
   b. Maintain night lighting on all walkways, including temporary walkways, at a minimum .5 footcandle level throughout the construction period.

3. Burial of Waste Materials: Do not dispose of organic and hazardous material on site, either by burial or by burning.

4. Construction Entrances:
   Contractor shall prevent sediment from being transported onto paved areas and roads by construction vehicles exiting the project site. Contractor shall be responsible for immediate clean-up of soils or sediments tracked onto paved off site areas including but not limited to sweeping with motorized sweepers and power washing paved areas as required.
   a. Schedule deliveries to minimize use of driveways and entrances by construction operations.
   b. Schedule deliveries to minimize space and time requirements for storage of materials and equipment on-site.

5. Condition of Existing Building:
   Maintain portions of existing building affected by construction operations in a weather tight condition throughout construction period. Repair damage caused by construction operations. Take all precautions necessary to protect the building and its occupants during the construction period.

6. Condition of existing perimeter Buildings and Landscape:
   Protect surrounding buildings from noise, dust/dirt and pollution caused by the construction of the project. Take all precaution necessary to protect the surrounding space and maintain controls.

7. Contractor Parking:
   All Contractors working for the University of Connecticut at the Storr's and regional campuses will follow the University Policy on Contractor Parking. A modest quantity of campus parking spaces shall be made available in close proximity to the contract limits. Such policy can be located utilizing the following link; http://policy.uconn.edu/2016/02/04/contractor-parking-policy.

8. Access to the Campus and Site:

As it relates to the Storrs Campus, Contractor shall restrict use of construction related trucks on local, secondary roads, such as Hillyndale, Eastwood and Westwood Road, Hunting Lodge, Separatist and North Eagleville Road (from Hunting Lodge to SR 32) by using SR 195, SR 275 and North Hillside Road (from SR44 to North Eagleville Road on campus) as primary travel routes to the campus. Contractor shall not authorize the use of these secondary roads by construction related trucks in support of the project without explicit pre-authorization from the Owner on a per project basis.

Road Restrictions Map can be found at the following web link: https://updc.uconn.edu/contractors-working-at-uconn/

Refer to Section 01-3300 Part 2.1.L Safety Plan for submittal requirements prior to site access

Refer to Section 01-5000 Temporary Facilities and Controls for additional requirements

Refer to Section 01-5719 Temporary Environmental Controls for additional requirements

1.10 COORDINATION WITH OCCUPANTS

A. Full Owner Occupancy: Owner will occupy site and building(s) during entire construction period. Cooperate with Owner during construction operations to minimize conflicts and facilitate Owner usage. Perform the Work so as not to interfere with Owner's day-to-day operations. Maintain existing exits unless otherwise indicated.

1. Maintain access to existing walkways, corridors, and other adjacent occupied or used facilities. Do not close or obstruct walkways, corridors, or other occupied or used facilities without written permission from Owner and approval of authorities having jurisdiction.
2. Maintain night lighting on all walkways, including temporary walkways, at a minimum .5 footcandle level throughout the construction period.
3. Notify Owner not less than 72 hours in advance of activities that will affect Owner's operations.

B. Partial Owner Occupancy: The Owner reserves the right to occupy and to place and install equipment in completed areas of the building, prior to Substantial Completion provided that such occupancy does not interfere with completion of the Work. Such placing of equipment and partial occupancy shall not constitute acceptance of the total Work or infer that the Contractor has met Substantial Completion.

1. A Certificate of Substantial Completion will be executed for each specific portion of the Work to be occupied prior to Owner occupancy.

2. Certifications. The Contractor at completion of construction shall provide to the University a “Certificate of Substantial Compliance with the State Building and Fire Safety Codes” bearing original signatures of an officer of the company stating: “This is the CERTIFY that in my professional opinion the complete structure/renovations described above is in substantial compliance with the approved construction documents on file with the University of Connecticut. Minor deviations and special stipulations are noted below (if any)”.

3. Prior to partial Owner occupancy, mechanical and electrical systems shall be fully operational. Required inspections and tests shall have been successfully completed. Upon recognition of mechanical and electrical systems being fully functioning and successfully inspected and tested for completeness, the Owner will provide operation and maintenance of mechanical and electrical systems in occupied portions of the building.
4. All roads and parking areas shall have the bituminous binder course installed by August 1, 2019.

1.11 WORK RESTRICTIONS

A. Work Restrictions, General: Comply with restrictions on construction operations, the use of public streets and with other requirements of authorities having jurisdiction.

1. Work off Campus or on the edge of any campus where town residence property back up to or in close proximity to the Work, shall adhere to the Owner's noise limits.
    a. On-Site Work Hours: Limit work in the existing building to normal business working hours of 7:00 a.m. to 4:30 p.m., Monday through Friday, unless otherwise indicated. Permission must be requested and approved in writing prior to performance of the work outside the normal working hours or on a State Holiday.

    b. Early Morning Hours for Dormitory Work: No noisy activities where the noise exceeds 55 dBA can take place prior to 8:00 am when working on or in the vicinity of a student dormitory. The project site is adjacent to the Towers Residence Hall which will be partially occupied during the summer.

Refer to Section 01-5719 Temporary Environmental Controls for other acceptable noise levels during working hours.

2. Existing Utility Interruptions: Do not interrupt utilities serving facilities occupied by Owner or others unless permitted under the following conditions and then only after providing temporary utility services according to requirements indicated:
    a. Obtain Owner Representative written permission before proceeding with utility interruptions.

3. Noise, Vibration, and Odors: Coordinate operations that may result in high levels of noise and vibration, odors, or other disruption to Owner occupancy with Owner.
    a. Notify Owner Representative not less than two days in advance of proposed disruptive operations.
    b. Obtain Owner's written permission before proceeding with disruptive operations
    c. Noise which exceeds 55 db at the site perimeter will not be permitted between the hours of 8:00 PM and 8:00 AM.
    d. No Work may be conducted during University exam periods, commencement/graduation day, student move in/convocation days (includes Fridays), move out days (including Fridays) and Open House Fall and Spring without the written permission from the Owner. Exam periods which may affect this project are scheduled per attached link: http://www.registrar.uconn.edu/calendar.htm

4. Deviations: Contractor shall not assume deviations to the noise restrictions.
    a. Deviation is dependent upon availability of University supervisory personnel.

b. Certain aspects of the project, may require work to be performed off hours outside of the requirements the Contractor or Owner determines that work on this project must be performed during a time other than normal working hours of the University, costs for any premium time must be included in the Base Bid.

1.12 Prohibited Items: Refer to the latest version of the University's Contractor Environmental Health and Safety Manual for products and substances which are prohibited on University property.

1.13 WORK SEQUENCE

The responsibility of phasing the Work falls entirely on the Contractor.

1.14 MISCELLANEOUS PROVISIONS

1. Certifications
   a. The Contractor, at completion of construction, shall provide to the University a "Certificate of Substantial Compliance" bearing original signatures of an officer of the company stating: "this is to CERTIFY that, in my professional opinion, the complete structure/renovations described above is in substantial compliance with the approved construction documents on file with the University of Connecticut. Minor deviations and special stipulations are noted below (if any)"
   b. The Contractor shall provide licensed and/or specific certification(s) of subcontractors who self-perform the work. Contractor shall provide a list of suppliers and all subcontractors and sub-tier subcontractors that have performed work on the project under the contract. Refer to submittal and close out provisions for additional requirements.

2. Owner Supplied Documents

The majority of the Owner's buildings were constructed prior to 1978 and are likely to have painted surfaces contacting lead based paint. Any information the Owner provides on known location of lead base paint or other hazardous materials. Any information the Owner provides on known locations of lead based paint or other hazardous materials is offered, in good faith for information only, solely for the purpose of placing the Contractor in receipt of all information known to the University at this time. Unless otherwise provided, this data is not to be considered a part of the contract documents. The University does not warrant or represent that the information contained in these reports is complete or accurate but only that it constitutes a disclosure of the information known to the Owner at this time regarding these conditions.

Original construction drawings are provided for information and reference only and do not represent exact conditions existing in the buildings. The Contractor is responsible for all work described in the scope of work regardless of information provided in the reference drawings. This information is offered in good faith for information only, solely for the purpose of placing the Contractor in receipt of all information known to the University at this time. Unless otherwise provided, this data is not to be considered a part of the contract documents. The University does not warrant or represent that the information contained in these reports is complete or accurate but only that it constitutes a disclosure of the information known to the Owner at this time regarding these conditions.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 01-1000

SECTION 01-2100 - ALLOWANCES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

A. Section includes administrative and procedural requirements governing allowances.

1. 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 Contractor. If necessary, additional requirements will be issued by Change Order.

B. Types of allowances include the following:

1. Value Allowance
   An amount established in the Contract Documents for inclusion in the Contract Sum to cover the cost of prescribed items not specified in detail, and as shown in the Allowance Schedule.
2. Quantity Allowances.
   An amount which is attributable to a discrete quantity to be carried. Unit costs applicable to a quantity allowance, shall be used for values associated.

C. Related Requirements:

1. Division 01 Section "Unit Prices" for procedures for using unit prices.
2. Divisions 02 through 33 Sections for items of Work covered by allowances.

1.3 SELECTION AND PURCHASE

A. Within the initial submitted CPM schedule, reflect the dates when final selection and purchase of each product or system described by an allowance must be completed to avoid delaying the Work. Such dates shall represent what the supplier’s lead time for delivery of product through its installation and commissioning (where applicable).

B. At Landscape Architect's request, obtain proposals for each allowance for use in making final selections, include recommendations that are relevant to performing the Work.

C. Purchase products and systems specified by the Landscape Architect.

1.4 SUBMITTALS

A. Labor hours shall have pre-approved hourly rates. Failure of the Contractor to obtain pre-approved hourly rates prior to use of the allowance, shall not relieve the Contractor from reconciliation of the allowance upon final receipt of approved labor rates. Adjustments to the previous use shall be made accordingly.

B. Submit proposals for purchase of products or systems included in allowances, in the form specified for Change Orders.

C. Submit invoices or delivery/weigh slips to show actual quantities of materials delivered to or removed from the site for use in fulfillment of each allowance.

D. Submit time sheets and other documentation to show labor time and cost for installation of allowance items that include installation as part of the allowance.

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

1.5 UNUSED MATERIALS

A. Return unused materials to the manufacturer or supplier for credit to the Owner, after installation has been completed and accepted.

B. Where it is not economically feasible to return unused material for credit and when requested by the Owner, prepare unused material for the Owner’s storage, and deliver to the Owner’s storage space as directed. Otherwise, disposal of excess material is the Contractor’s responsibility.

1.6 COORDINATION

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

1.7 ALLOWANCES

A. Allowance shall include cost to Contractor of specific products and materials ordered by Owner or selected by Landscape Architect under allowance and shall include freight**,** and delivery to Project site.

B. Unless otherwise indicated, Contractor's costs for receiving and handling at Project site, labor, installation, overhead and profit and similar costs related to products and materials under allowance shall be included as part of the Contract Sum and not part of the allowance.

1.8 ADJUSTMENT OF ALLOWANCES

A. Allowance Adjustment: To adjust allowance amounts, prepare a Proposed Change Order 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. If requested, 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 Orders related to unit-cost allowances.
4. Owner reserves the right to establish the quantity of work-in-place by independent quantity survey, measure, or count.
5. Remaining balance values in an allowance cannot be used to compensate overages in another allowance without prior written change management document approval from the Owner.

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, overhead, and profit.

1. Do not include Contractor's or subcontractor's indirect expense 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 expense is permitted for selection of higher- or lower-priced materials or systems of the same scope and nature as originally indicated.

1.9 ALLOWANCE CLOSE OUT

A. Any unused portion of the allowance, whether it is value allowance or quantity allowance, shall be credited to the Owner. Any unused portion of the allowance shall be reviewed by the owner to determine the amount of credit, based on actual invoices, delivery slips, etc.

PART 2 - PRODUCTS (Not Used)

PART 3 - 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: Quantity Allowance: Include 100 cu. yd. of unsatisfactory soil excavation and disposal off-site and replacement with satisfactory soil material from off-site, as specified in Division 31 Section "Earth Moving"

1. Coordinate quantity allowance adjustment with unit-price requirements in Division 01 Section "Unit Prices."

B. Allowance No. 2: Value-Cost Allowance: Include the sum of $2,000 for Contractor and subcontractor background checks and badging as specified in Section 01-3100, Project Management And Coordination.

1. Coordinate allowance adjustment with unit-price requirements in Division 01- Section “Unit Prices”.

C. Allowance No. 4: Value-Cost Allowance: Include the sum of $3,000 for imported bulk water for landscape watering in times of Stage III and Stage IV Water restrictions, as specified in 32-9200 Turf and Grasses, and 32-9300 Plants.

1. Coordinate allowance adjustment with unit-price requirements in Division 01- Section “Unit Prices”.

END OF SECTION 01-2100

SECTION 01-2200 - UNIT PRICES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

A. Section includes administrative and procedural requirements for unit prices.

1. A unit price is an amount stated on the Proposal Form or in the Specifications as a price per unit of measurement for materials or services that will be added to or deducted from the Contract Sum by Change Order in the event the quantities of Work required by the Contract Documents are increased or decreased.

2. Unit Prices include all necessary material, overhead, profit, and applicable taxes.

3. Refer to individual Specification Sections for construction activities requiring the establishment of unit prices. Methods of measurement and payment for unit prices are specified in those Sections.

B. Related Requirements:

1. Division 01 Section "Contract Modification Procedures" for procedures for submitting and handling Change Orders.
2. Division 01 Section "Quality Requirements" for general testing and inspecting requirements.

1.3 DEFINITIONS

A. Unit price is an amount incorporated in the Agreement, applicable during the duration of the Work as a price per unit of measurement for materials, equipment, or services, or a portion of the Work, added to or deducted from the Contract Sum by appropriate modification, if the scope of Work or estimated quantities of Work required by the Contract Documents are increased or decreased.

1.4 PROCEDURES

A. Unit prices include all necessary material, plus cost for delivery, installation, insurance, applicable taxes, overhead, and profit.

B. Measurement and Payment: See individual Specification Sections for work that requires establishment of unit prices. For adjustment of the Contract Sum, track and provide supporting

documentation (delivery or removal/disposal tickets) as deemed necessary to confirm Unit quantities provided or removed. Such quantities shall be tracked against any specific "Allowance" line item which may be included within the base contract value. Contractor must report status of Unit Price Allowances regularly and not exceed such allowance value without prior authorization from the Owner. Unit Price that does not have an allowance applied to it shall be treated with a CCD until all quantities have been determined. Owner reserves the right to reject Contractor's measurement of work-in-place that involves use of established unit prices and to have this work measured, at Owner's expense, by an independent surveyor acceptable to Contractor. Should it be determined that the work measured by the independent surveyor is five (5) or more percent less than the Contractor's reported measurement, Contractor shall be responsible for the cost associated with the independent survey and adjustment to the measurement.

C. List of Unit Prices: A schedule of unit prices is included in Part 3. Specification Sections referenced in the schedule contain requirements for materials described under each unit price.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION

3.1 SCHEDULE OF UNIT PRICES

A. Unit Price 1: Removal of unsatisfactory soil and replacement with satisfactory soil material.

1. Description: Unsatisfactory soil excavation and disposal off site and replacement with satisfactory fill material or structural fill from off site, as required, according to Division 31-0000 Section "Earthwork."

2. Unit of Measurement: Cubic yard of soil excavated, based on survey of volume removed.

3. Quantity Allowance: Coordinate unit price with allowance adjustment requirements in Division 01 Section "Allowances."

B. Unit Price No. 2: Rock excavation and replacement with satisfactory soil material.

1. Description: Classified rock excavation and disposal off site and replacement with satisfactory fill material or engineered fill from off site, as required, according to Division 31-000 Section "Earthwork."

2. Unit of Measurement: Cubic yard of rock excavated, based on survey of volume removed.

C. Unit Price No. 3 - Turf Restoration:

1. Description: Install seeding according to according to Division 32-9200 Section "Turf and Grasses."

2. Unit of Measurement: square foot.

D. Unit Price No. 4 – Standard Duty Concrete Sidewalk:

1. Description: Install additional concrete sidewalk paving (including base preparation and aggregates) as shown on the drawings and according to Division 32-1312 Section "Concrete Paving."

2. Unit of Measurement: square foot.

E. Unit Price No. 5 – Permeable pavement:

1. Description: Install permeable pavement according to Division 32-1416 Section "Permeable Paving."

2. Unit of Measurement: square foot.

F. Unit Price No. 6 – Sodded Lawn:

1. Description: Install sodded lawn according to Division 32-92600 Section "Turf and Grasses."

2. Unit of Measurement: square foot.

G. Unit Price No. 7 – Seeded Lawn:

1. Description: Install seeded lawn according to Division 32-92600 Section "Turf and Grasses."

2. Unit of Measurement: square foot.

END OF SECTION 01-2200

SECTION 01-2300 - ALTERNATES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

A. Section includes administrative and procedural requirements for alternates.

1.3 DEFINITIONS

A. Alternate: An amount proposed by bidders and stated on the Bid Form for certain work defined in the bidding requirements that may be added to or deducted from the base bid amount if Owner decides to accept a corresponding change either in the amount of construction to be completed or in the products, materials, equipment, systems, or installation methods described in the Contract Documents.

1. Alternates described in this Section are part of the Work only if enumerated in the Agreement.
2. The cost or credit for each alternate is the addition to or deduction from the Contract Sum to incorporate alternate into the Work. No other adjustments are made to the Contract Sum and Contract Time.

1.4 PROCEDURES

A. Coordination: Revise or adjust affected adjacent work as necessary to completely integrate work of the alternate into Project.

1. Include as part of each alternate, miscellaneous devices, accessory objects, and similar items incidental to or required for a complete installation whether or not indicated as part of alternate.

B. Notification: Immediately following award of the Contract, notify each party involved, in writing, of the status of each alternate. Indicate if alternates have been accepted, rejected, or deferred for later consideration. Include a complete description of negotiated revisions to alternates.

C. Execute accepted alternates under the same conditions as other work of the Contract.

D. Schedule: A schedule of alternates is included at the end of this Section. Specification Sections referenced in schedule contain requirements for materials necessary to achieve the work described under each alternate.

E. Alternates shall be valid for the life of the contract. Alternates not selected at the time of award, but not identified as rejected may be selected within the time frame identified by the Contractor through the construction schedule where the selection will not impact the critical path and overall substantial completion of the contract. Should the Owner wish to exercise executing an Alternate after the last date reflected within the CPM Construction schedule for selection of an Alternate, the Alternate(s) may be negotiated as applicable, in accordance with the requirements associated with a Proposed Change Order.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION

3.1 SCHEDULE OF ALTERNATES

A. Alternate No. 1: Deduction for Seeded Lawn Areas

1. Base Bid: Within the project area, provide sodded lawn for all new and replaced lawn areas.
2. Alternate: Within the project area provide seeded lawns in lieu of sod for all new and replaced lawn areas.

END OF SECTION 01-2300

SECTION 01-2500 - SUBSTITUTION PROCEDURES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

A. Section includes administrative and procedural requirements for substitutions.

B. Related Requirements:

1. Division 01 Section "Allowances" for products selected under an allowance.
2. Division 01 Section "Alternates" for products selected under an alternate.
3. Division 01 Section "Product Requirements" for requirements for submitting comparable product submittals for products by listed manufacturers.
4. Divisions 02 through 33 Sections for specific requirements and limitations for substitutions.

1.3 DEFINITIONS

A. Substitutions: Changes in products, materials, equipment, and methods of construction from those required by the Contract Documents.

1. Substitutions for Cause: Changes proposed by Contractor that are required due to changed Project conditions, such as unavailability of product, regulatory changes, or unavailability of required warranty terms.
2. Substitutions for Convenience: Changes proposed by Contractor that are not required in order to meet other Project requirements but may offer advantages to Contractor or Owner.

1.4 ACTION SUBMITTALS

A. Substitution Requests: Submit three copies of each request for consideration. Identify product or fabrication or installation method to be replaced. Include Specification Section number and title and Drawing numbers and titles.

1. Substitution Request Form: Use CSI Form 13.1A or similar.
2. Documentation: Show compliance with requirements for substitutions and the following, as applicable:

a. Statement indicating why specified product or fabrication or installation cannot be provided, if applicable. Provide documentation that supports such submission
b. Coordination information, including a list of changes or revisions needed to other parts of the Work and to construction performed by Owner and separate contractors that will be necessary to accommodate proposed substitution.

c. Detailed comparison of significant qualities of proposed substitution with those of the Work specified. Include annotated copy of applicable Specification Section. Significant qualities may include attributes such as performance, weight, size, durability, visual effect, sustainable design characteristics, warranties, and specific features and requirements indicated. Indicate deviations, if any, from the Work specified.
d. Product Data, including drawings and descriptions of products and fabrication and installation procedures.
e. Samples, where applicable or requested.
f. Certificates and qualification data, where applicable or requested.
g. List of similar installations for completed projects with project name and contact names, current phone numbers and addresses of architects and owners who were directly involved with accepting the product substitution.
h. Material test reports from a qualified testing agency indicating and interpreting test results for compliance with requirements indicated.
i. Safety Data Sheet that demonstrates that the product does not contain any hazardous material as defined in Section 01-7839 Project Record Documents.
j. Detailed comparison of Contractor's construction schedule using proposed substitution with products specified for the Work, including effect on the overall Contract Time. If specified product or method of construction cannot be provided within the Contract Time, include letter from manufacturer, on manufacturer's letterhead, stating date of receipt of purchase order, lack of availability, or delays in delivery.
k. Savings to the Owner, including a proposal of change, if any, in the Contract Sum.
l. Contractor's certification that proposed substitution complies with requirements in the Contract Documents except as indicated in substitution request, is compatible with related materials, and is appropriate for applications indicated.
m. Contractor's waiver of rights to additional payment or time that may subsequently become necessary because of failure of proposed substitution to produce indicated results.

3. Architect's Action: If necessary, Architect will request additional information or documentation for evaluation within seven (7) days of receipt of a request for substitution. Architect will notify the Owner of their recommendation to accept or reject the submission. Upon Owner decision, Architect will notify Contractor of acceptance or rejection of proposed substitution within seven (7) days of receipt of request, or seven (7) days of receipt of additional information or documentation, whichever is later.

a. Forms of Acceptance: Executed substitution form and/or a Change Order.
b. Use product specified if Architect does not issue a decision on use of a proposed substitution within time allocated.

1.5 QUALITY ASSURANCE

A. Compatibility of Substitutions: Investigate and document compatibility of proposed substitution with related products and materials. If applicable, engage a qualified testing agency to perform compatibility tests recommended by manufacturers.

1.6 PROCEDURES

A. Coordination: Revise or adjust affected work as necessary to integrate work of the approved substitutions.

B. Architect/Engineer shall review the request for substitution in accordance with the conditions and requirements stated within. Once a determination has been made by the Architect/Engineer, the Architect/Engineer will summarize the request and provide their findings and recommendations in writing to the Owner. The Owner will review and make the final determination of acceptance of the substitution. Such acceptance must be obtained in writing from the Owner. Provide the summary findings and Owner acceptance of the substitution with the change management document if applicable.

PART 2 - PRODUCTS

2.1 SUBSTITUTIONS

A. Substitutions for Cause: Submit requests for substitution immediately on discovery of need for change, but not later than Thirty (30) days prior to time required for preparation and review of related submittals.

1. Conditions: Architect and Owner will consider Contractor's request for substitution when the following conditions are satisfied. If the following conditions are not satisfied, Architect will return requests without action, except to record noncompliance with any of these requirements:

a. Requested substitution is consistent with the Contract Documents and will produce indicated results.
b. Requested substitution provides sustainable design characteristics that specified product provided.
c. Requested substitution is fully documented and properly submitted.
d. Requested substitution does not contain any hazardous material.
e. Requested substitution will not adversely affect Contractor's construction schedule.
f. Requested substitution has received necessary approvals of authorities having jurisdiction.
g. Requested substitution is fully compatible with other portions of the Work.
h. Requested substitution has been coordinated with other portions of the Work.
i. Requested substitution provides specified warranty.
j. If requested substitution involves more than one contractor, requested substitution has been coordinated with other portions of the Work, is uniform and consistent, is compatible with other products, and is acceptable to all contractors involved.
k. Requested substitution does not require additional design changes to be performed by the architect/engineer in order to incorporate the substitution into the work.
l. Request for substitution shall not be based on failure to adequately plan the review of a product submittal, obtain approval of the product submittal, properly schedule, and receive delivery of the specified product in sufficient time to install within the construction contract time without impacting other tasks. The Contractor is responsible for any costs associated in expediting delivery or upcharges to changes in product in order to maintain adherence to the construction schedule as defined in the contract documents.

B. Substitutions for Convenience: Such request shall be submitted by the Contractor ten (10) days prior to contract execution. Should an approval of any substitutions for convenience be submitted for consideration after contract execution, it shall be at the sole discretion of the Owner. If the substitution is not accepted the Contractor remains obligated to supply the originally specified product at no additional cost to the Owner. If the substitution is accepted all coordination and liability is the sole responsibility of the Contractor. Contractor shall follow all requirements as outlined for Substitution for Cause.

a. Requested substitution is a gross credit to the Owner.
b. Requested substitution does not require more than one submission.

PART 3 - EXECUTION (Not Used)

END OF SECTION 01-2500

SECTION 01-2600 - CONTRACT MODIFICATION PROCEDURES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

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

B. Related Requirements:

1. Division 01 Section "Substitution Procedures" for administrative procedures for handling requests for substitutions made after the Contract award.

1.3 MINOR CHANGES IN THE WORK

A. Architect will issue supplemental instructions authorizing minor changes in the Work, not involving adjustment to the Contract Sum or the Contract Time, on **AIA Document G710, "Architect's Supplemental Instructions" (ASI).** The Contractor shall proceed with minor changes in the work shown on ASI's

1.4 AE PROPOSAL REQUESTS OR BULLETINS

A. Initiated Proposal Requests: Architect or Owner will issue a detailed description of proposed changes in the Work that may require adjustment to the Contract Sum or the Contract Time. If necessary, the description will include supplemental or revised Drawings and Specifications.

B. Proposal Requests (PR) or Bulletins issued by the Architect or Engineer are not instructions either to stop work in progress or to execute the proposed change. The Contractor shall only proceed with the change work when a CCD or CO is counter-executed by the Owner.

1.5 ADMINISTRATION OF CHANGES IN THE WORK

A. Changes to the work shall be submitted in accordance with all contract document requirements.
1. Section 4b-24 of the Connecticut General Statutes, the public auditors of the State of Connecticut and the auditors or accountants of the Owner shall have the right to audit and make copies of the books of the Contractor employed by the Owner.
2. All changes in the Work shall be subject to the written approval of the Owner. A change in the Contract Sum or the Contract Time shall be accomplished only by formal written change order signed by both parties. Accordingly, no course of conduct or dealings between the parties, nor express or implied acceptance of alterations or additions to the Work, and no claim that the Owner has been unjustly enriched by any alterations or

additions to the Work, whether or not there is, in fact, any unjust enrichment shall be the basis for any claim for an increase in any amounts due or a change in any time period extension owed under the contract documents.

B. Labor Rates:

Utilize the Owner's Labor Rate Sheet template which can be obtained through the Owner's website (http://updc.uconn.edu). No other format shall be utilized. Previously agreed upon labor rates shall not be utilized in establishment of labor rates for this project.

1. Prior to the submission of the first application for payment or within 21 days from the contract start date whichever comes first, the Contractor will obtain from their subcontractor's labor rates for all their self-performed trade labor work for review in the format provided by the Owner. The labor rates shall be inclusive of benefits, applicable taxes and worker compensation insurance. When calculating labor rates, rates shall not include those general and administrative overhead costs and profit. Labor rates shall be valid for the life of the project; no rate adjustment shall be allowed for any increases that occur with prevailing wage or union agreements while under this contract.
2. All labor rates are subject to thorough analysis and possible adjustment prior to their acceptance by the Owner. Analysis review shall include but not be limited to:
    a. Labor Rates submitted are only for the Contractor identified on the rate sheet for review and approval. Rates are for the identified Contractor's self-performed trade labor work.
    b. Compliance with prevailing wage
    c. State and Federal wage taxes
    d. Contractors current worker's compensation premium statement that includes modification ratings
    e. Consideration of current union wage package.
    f. Payroll of employees (non-owner/family member) if deemed necessary to confirm base wage and fringe of proposed trade labor category. Reasonable wage rate shall be based on a rate equal to the customary or prevailing for the same work in the same trade or occupation in the town in which such project is being constructed. Customary rate shall mean a labor rate no more than the standard journeyman, apprentice or foreman rate as established by the trade union agreement for the work and the location of the project.
    g. Labor rates cannot be interchangeable from Contractor to subcontractor or from subcontractor to subcontractor.
    h. Approved labor rates shall not be transferable from project to project. Or contract to contract.
    i. Labor rates shall not include those items as considered part of overhead and profit outlined within the General Conditions of the contract documents or union agreement costs outside of the defined wage package of base wage and fringe above the line.
    j. Failure to submit and receive approval of each sub and sub-tier worker's classification labor rates prior to work performed and payment made is at the Contractors risk. Such value paid will not impact the review and acceptance process.

C. Labor Representation: (Contractor's or Subcontractor's own self performed forces)

1. No Proposed Change Order shall be negotiated if the request is solely for the increased labor rate over those originally carried by the Contractor in its original bid.

2. Additional Foreman hours shall not be included unless additional crews are added. Additional Superintendent hours shall not be included unless a compensable time extension is granted. Project Executive and Project Manager time shall not be included as a direct cost as it is part of the overhead mark-up allowed.
3. Labor efforts shall be on the direct time performing the work, regardless of any union conditions. If a worker performs work under one particular trade category and then switches to perform work under another trade category in one work day, such work shall be represented as the worker's direct time performing each of the trade categories for that work day.
4. Overtime, increased manpower, and additional shifts:
    a. The Contractor shall take necessary steps to maintain project schedule.
    b. If the Contractor is not behind Schedule and the Owner requests an acceleration of the work, the Owner will pay the Contractor the actual additional premium portion of the wages for overtime or additional shift work not included in the Contract price.
    c. If the Contractor, through its sole or partial fault or neglect is behind Schedule, the Contractor shall at its own expense, increase its manpower or to work any overtime or additional shifts or take other action necessary to expedite the Work to meet the Project Schedule.

D. Equipment Rates: Prior to the first application for payment, the Contractor shall submit for review and approval by the Owner an hourly, weekly and monthly rate for each self-owned piece of equipment. Such rates shall not exceed the rate reflected in Equipment Watch. The list of equipment shall provide the following information:
    1. Type of Equipment
    2. Year
    3. Make
    4. Model
    5. Size / Capacity
    6. Registration #

E. Proposed Cost: The Owner may rely on supporting documentation provided by the Contractor and/or Subcontractor in agreeing to a cost for the change. If the Owner believes that additional information is necessary to substantiate the accuracy of the cost, the Owner reserves the right to request and receive additional information from the Contractor. The proposed cost must be based upon those identified in support of a Proposed Change Order.
    1. Proposed cost estimated by the Contractor on behalf of the subcontractor shall be prohibited.
    2. General Conditions / General Requirements shall be calculated on the actual cost impact to the critical path schedule. If the time extension does not extend beyond the month identified within the contract documents, only on-site field labor costs shall be allowed.

F. Construction Change Directive (CCD): Where the lack of timely authorization would impact the critical path schedule of the work or where the entitlement to additional cost is not clear or is not in total agreement by the parties, the Owner may issue a Construction Change Directive on a modified AIA Document G714 form. The Contractor shall immediately proceed with the change in the Work as indicated and directed in the CCD. Issuance of a CCD to the Contractor shall also be considered an issuance of the directive to the subcontractor(s) to proceed with the work.

    1. Contents: The CCD will contain a complete description of the change in the Work. It will also designate the method to be followed to determine the adjustment in the Contract

Sum and/or the Contract Time, if any. The Contractor may be requested to provide an order of magnitude (not to exceed) cost estimate for the change in the work. However, an executed CCD shall not be the sole backup to a Proposed Change Order (PCO) nor shall the execution of a CCD as a "Lump Sum" be considered binding as such when transposing into a change order.

2. Documentation: Contractor's order of magnitude estimate of the work on Contractor letterhead or email reflecting at a minimum the following:
   a. Breakdown of how the cost estimate was established
   b. Inclusive of all work effort associated with the change. Inclusive of applicable supervision and any estimated extension of time.
3. Execution: If issued as a Time and Materials and/or Not to Exceed, the documentation and monitoring of the work shall be reflected on daily "Additional Work Tickets" received from subcontractors and/or documented by the Contractor and consists at a minimum, the following:
   a. Filling out of daily additional work tickets documenting the additional work performed from beginning to completion of the work.
   b. The date of the day the work is performed.
   c. Project Name
   d. Contracting Firm's name.
   e. Person's full name clearly printed who is monitoring and tracking the work being performed.
   f. Name of the company performing the work and what work is being performed.
   g. Number of workers, by trade labor category.
   h. Number of hours worked by each worker.
   i. Signature of the person monitoring the work certifying that the information contained on the Daily Additional Work Tickets is true and accurate. An additional signature by the Owner verifying the work performed on the ticket is preferred.
   j. Owner reserves the right to not accept rely on or accept information represented on the daily additional work tickets if Owner did not verify the tickets.

G. Proposed Change Orders (PCO): Contractor shall utilize the most current Owner PCO and Labor Rate Sheet templates which can be obtained through the Owner's website (http://updc.uconn.edu). No other format shall be utilized.

1. Submit to the Architect and Owner a complete itemized PCO within seven (7) working days from the date reflected on the Proposal Request or when response to an RFI has been received. If the PCO and backup is incomplete the Architect will notify the Contractor within seven (7) days to revise and resubmit. Contractor is to identify revisions to the submitted PCO document by enumerating as the PCO number -R1, -R2, R3 etc. and date of the revision being submitted.

   If a Proposal Request was not issued for the change, submit a PCO within seven (7) days from the date the initial discovery for change was formally documented.

2. Include within the PCO template a list of quantities of labor and/or products required or eliminated and/or pre-approved unit costs, with total amount of purchases and credits that encompass the changes identified and affected by the proposal request. If requested, furnish survey data to substantiate quantities.
3. Forms must be drafted and signed by the authorized agent of the Contractor or their subcontractor represented on the PCO. Contractor shall not formulate, calculate or

submit proposed costs for a change on behalf of the sub-tier subcontractors and suppliers. All sub-tier contractors and suppliers shall submit their costs on supporting company letterhead in the format outlined within.

4. Electronic signatures from the submitting Company and its Representative identified on the PCO form is preferred. Failure of the Contractor or Subcontractor to sign the form, shall not relieve the Contractor of their obligations to represent true net costs for the change. Information misrepresented knowingly or unknowingly to receive financial gain, shall be a breach of their obligations to perform nor allow for a claim under the contract.
5. Failure of the Contractor to timely submit complete itemized PCO's, such failure shall not relieve the Contractor of their obligations to perform nor to allow for a claim under the contract.
6. Markup shall be calculated with combined overhead and profit in a single percentage as identified as allowed within the General Conditions of the contract for both the Prime Contractor and Sub-tier Contractors.
7. Changing the distribution of the percentage of allowed markups identified within the contract shall be prohibited.

H. The basis for each PCO shall be identified and a copy of the following shall be provided:
   1. Entitlement
      a. On the format required by the Owner, summarize and describe the need for the change and the basis of the entitlement for an increase and/or extension to the contract sum or contract time;
      b. Identify all pertinent project information, sequential tracking, and original issue date and revision dates (if any)*;*
      c. Classification of the PCO as being predominately due to Unforeseen Field Conditions or the actions or requests of the Contractor, the Owner or AE Firm; and
      d. List the proposed change value for each effected Prime Subcontractor and lower tier Subcontractor(s).

   2. Supporting Documentation for Entitlement
      Include a copy of the document that initiated the PCO, which may include one or more of the following:

      a. A copy of an executed Proposal Request (PR) from the AE Firm or Owner with all attachments;
      b. A copy of a Bulletin from the Architect or Engineer of Record;
      c. A copy of a Sketch(s) issued by the AE Firm clearly outlining the change;
      d. A copy of an inspection report or notes by an official having jurisdiction's that identifies a directive for a change;
      e. A copy of any pertinent Field Directives, RFI's, e-mails or other correspondence regarding the change, if applicable; and
      f. A copy of the executed CCD form, (where applicable).
      g. Where a request for an extensions of time is included, a copy of the CPM project schedule reflecting the direct impact to the critical path and any other documents required by the Owner shall be provided.

   3. Supporting Documentation for Costs
      a. Include a list of quantities of products required or eliminated and unit costs, with total amount of purchases and credits to be made. If requested, furnish survey data to substantiate quantities.

b. Copies of all supporting quotes from the material suppliers and sub tier work (detailed below). The PCO supporting documentation should identify the companies submitting the information and the individuals who prepared the quotations.

c. Calculate the labor required to complete the work utilizing the contractually approved hourly rates of the submitting Contractor and their subcontractor's self-performed trade labor category as established in the contract. Where there are not preapproved labor rates for the Contractor or subcontractor's self-performed trade labor category of work, submit labor rates in the format required by the Owner for review and approval.

1. Hourly labor rates shall not include Overhead and Profit (O&P), small tools, or any other general conditions costs as identified in the contract under Sec. 7.2.2.8 of the AIA 201 between the Owner and Contractor.
    a) Note that the definition of "small tools" includes equipment utilized in the normal course of work including items such as shovels, picks, rakes, ladders, and power tools which are expected to be utilized on a project. Trade related equipment, hand tools, and power tools normally supplied with the labor or that are normally expected to be owned in the performance of the typical work for a trade are not compensable. These costs shall not be approved as part of the Direct Cost of a Change Order as they are included in the Contractor's overhead mark-up percentage.
    b) Additional Supervisory or Foreman hours shall not be included in the cost calculation for the change unless additional crews are necessary and added and/or a compensable time extension is granted.
    c) General, Area or Lead Foreman and Project Management support is considered as part of overhead and profit.
    d) Labor Rates shall not be limited to trade labor categories as defined within the prevailing wage schedule applicable to the project. Include labor costs for offsite sheet metal fabrication, air balancing, engineering and programming services in support of the project,
    e) Approved Labor Rates are for the life of the contract term and therefore not adjustable unless the contract completion date is extended beyond the month of June within the year the contract was to be completed. Adjustment to pre-approved labor rates shall only be considered for change order work issued after receipt of Final Completion.
    f) Forms must be drafted and signed by the authorized agent of the Contractor or subcontractor who is self-performing the trade work represented on the labor rate sheet. Contractor shall not misrepresent proposed labor rates from the sub-tier contractors.

d. Provide a detailed and itemized break-down of all anticipated material and equipment costs, with the unit cost per item multiplied by the number of units. Additional documentation is required as follows:

1. Supporting quote from a material supplier reflecting the units and unit cost(s) for each item type;
2. Supporting quote from the equipment supplier, with the hourly rental rate multiplied by the number of hours. One of the following shall be submitted in support of the equipment costs:

a) When equipment is rented from a third-party, supporting rental quote from the supplier reflecting daily/weekly/monthly equipment costs (whichever applies) for equipment.
b) When equipment is owned and used directly on the change work by the Contractor or subcontractor, the daily rate shall not exceed the rate calculated by taking the monthly rental rate as identified by a nationally recognized construction cost estimating guide or service and divided by 20 days. The weekly or monthly rate (respectively) shall not exceed the weekly/monthly rate calculated by a nationally recognized construction cost estimating guide or service. Year, make and model of the equipment must be provided and used as the basis for establishing the rental rate.

e. If the PCO is made on a "unit cost" basis as part of the established contract, provide a copy of approved unit costs reflected in the contract, or if the unit cost was not identified in the contract, provide a complete breakdown of how the unit cost was arrived at with supporting documentation as prescribed above.
f. If the work was previously performed based on issuance of a CCD on a Time & Material and/or Not to Exceed basis, provide:
   1. Daily Additional Work Tickets as outlined above.
   2. Actual material and rental supplier invoicing.
   3. Subcontractor billings with actual material and rental supplier invoicing.
g. To the extent that work is subcontracted to Lower Tier Subcontractors, anticipated labor, materials and equipment of sub-subcontractor costs shall be substantiated and consistent with the guidelines prescribed above.
h. Costs calculated and represented are not to be rounded up or down.

4. Supporting Documentation for Time Extension
   a. If the change is believed to impact the current critical path of construction, the Contractor must demonstrate the impact via the current critical path construction schedule of the project.
   b. The current critical path schedule shall show all early and late starts, all early and late completions to disclose any residual float.
   c. The change must clearly show the impact associated to the critical path of construction, where resequencing of activities does not provide work to be performed concurrently.
   d. Failure to maintain the project's critical path construction schedule, shall not relieve the Contractor of demonstrating true impact of the change.
   e. Also refer to the General Conditions of the contract document for further conditions associated with a request for time extension.

I. Allowance Adjustment: See Division 01 Section "Allowances" for administrative procedures for preparation of Change Order Proposal for adjusting the Contract Sum to reflect actual costs of allowances.

J. Unit-Price Adjustment: See Division 01 Section "Unit Prices" for administrative procedures for preparation of Change Order Proposal for adjusting the Contract Sum to reflect measured scope of unit-price work as recognized within the contract.

1.6 CHANGE ORDER PROCEDURES

A. On Owner's acceptance of the information contained in a Proposed Change Order, Architect will issue a Change Order for signatures of Owner, Architect and Contractor on AIA Document G701.
   1. Follow requirements for PCO's as outlined above.
   2. Each Change Order shall list and reflect the following:
      a. Each PCO # included within the change order;
      b. Each CCD# (when applicable to an identified PCO);
      c. Brief description of the work included within the PCO;
      d. Dollar value of the PCO
      e. Total of all PCO's represented
      f. Date of contractual Substantial Completion
      g. Extensions of time being granted (if any) and the new date of Substantial Completion.
   3. Contractor's failure to submit PCO's or complete CO's within the time frame outlined in the contract documents and/or failure to comply with the adherence of all portions of the change management requirements and/or Contractor's payment to a Prime or Sub-tier Subcontractor prior to submitting and/or receiving formal approval of a Change Order shall not be grounds for acceptance or commitment of represented costs. Change costs shall be reviewed and accepted as outlined.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 012600

SECTION 01-3100 - PROJECT MANAGEMENT AND COORDINATION

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

A. Section includes administrative provisions for coordinating construction operations on Project including, but not limited to, the following:

1. Informational Submittals
2. General coordination procedures.
3. Coordination drawings.
4. Requests for Information (RFIs).
5. Project Meetings.
    a. Pre-construction conference
    b. Pre-installation conference
    c. Progress meetings
    d. Coordination meetings
    e. Landscape Status Updates
6. General Administration

B. Each contractor shall participate in coordination requirements. Certain areas of responsibility are assigned to a specific contractor.

C. Related Requirements:

1. Division 01 Section "Construction Progress Documentation" for preparing and submitting Contractor's CPM construction schedule.
2. Division 01 Section "Execution" for procedures for coordinating general installation and field-engineering services, including establishment of benchmarks and control points.
3. Division 01 Section "Closeout Procedures" for coordinating closeout of the Contract.

1.3 DEFINITIONS

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

1.4 INFORMATIONAL SUBMITTALS

A. Key Personnel: Provide at the pre-construction meeting a list of key personnel assignments, including project manager, superintendent, safety engineer and other personnel in attendance at

Project site. Identify individuals and their duties and responsibilities; list business addresses and telephone numbers, including office, and cellular telephone numbers and e-mail addresses. Provide names, addresses, and telephone numbers of individuals assigned as alternates in the absence of individuals assigned to Project.

1. Keep list current and available at all times.

2. The Owner requires as a minimum, the following Key Personnel be assigned to this project. Each position shall be with an individual knowledgeable in the work that they will be providing under this contract and who is employed full-time under the Contractor, dedicated to the position listed.

    a. Project Manager (on site a minimum of once a week for duration of the project through closeout)
    b. Project Superintendent (on-site full time for duration of the project through closeout)
    c. Safety Engineer shall be responsible for all work safety on the site throughout the duration of the work. The Contractor has sole responsibility for maintaining a safe and secure work site, how they achieve the security and safety of the workers and property is at their discretion. However, at a minimum the Owner expects the Safety Engineer to visit the site once a week and during high risk activities and at intervals as identified in the contract documents. Safety Engineer shall document his/her visits and reflect any issues or findings within such report. Reports shall be available within 24 hours of the inspection. Project Engineer (Project specific)

3. Each individual listed above shall have not less than five (5) years' experience performing work of a similar nature to this project and in a comparable position to the position assigned on this project. Resumes will be required on all key personnel prior to acceptance by the Owner. Any Contractor personnel denoted as Key Personnel that were previously accepted by the Owner, shall not be removed from the project without Owner's prior approval.

4. Each individual listed or identified at a later date shall have a background check performed as outlined in the University's Contractor Background Checks Policy that can be viewed at the following weblink: http://updc.uconn.edu.

B. Contractor's Background Screenings: Provide at the pre-construction meeting the Contractor's Background Screening Control Plan on how the Background Screenings will be performed and how the workers will be tracked to ensure that Background screenings are to be performed and reviewed prior to allowing any worker to access the project site. See Section 01 3300 Submittal Procedures and Section 01 5000 Project Management and Coordination for additional requirements on Contractor background screening.

    1. A summary report of background screenings on each individual performing any type of work on the project that will be coming to the project site for any length of time. This excludes delivery and teamster trucking only.

C. Subcontract Information: Using the Owner's template format, prepare a schedule identifying individuals or firms contracted for each portion of the Work, including those who are to furnish products or equipment fabricated to a special design.

D. See section on submittals for more required submittals for approval.

1.5 GENERAL COORDINATION PROCEDURES

A. Permits: The Owner shall provide the initial building permit for the project. The local Public Safety shall have jurisdiction with non-threshold buildings, for inspection work. However, in cases where a building is a threshold building or is being demolished, the Contractor is responsible for coordinating, obtaining and paying for required permits.

B. Coordination: Coordinate construction operations included in different Sections of the Specifications to ensure efficient and orderly installation of each part of the Work. Coordinate construction operations, included in different Sections that depend on each other for proper installation, connection, and operation.

1. Schedule construction operations in sequence required to obtain the best results where installation of one part of the Work depends on installation of other components, before or after its own installation.
2. At a minimum, weekly inspections of project by the safety officer are required. Safety inspector reports shall be made available at the Owner's request within 24 hours.
3. Inspections of the project by the official(s) having jurisdiction at intervals required by the respective general permit requirements. Regardless as to who applied for a permit, the Contractor is responsible to comply and perform all requirements associated with any permit issued against the Project.
    a. http://publicsafety.uconn.edu/fmbio/
    b. Operating permit
    c. Health and Safety permit
    d. Environmental permit(s)
4. The Contractor is responsible to abide by the terms of all Environmental Permit requirements including but not limited to:
    a. Flood Management Permit (when applicable)
    b. Construction Stormwater General Permit (when applicable)
    c. Inland Wetlands and Water Resource Permit (when applicable)
        i. Turbidity testing and reporting
    d. New Source Review permit (when applicable)
    e. Waste Water Discharge permit (when applicable)
    f. Environmental Title V Air permit (when applicable)
5. Coordinate installation of different components to ensure maximum performance and accessibility for required maintenance, service, and repair.
6. Coordinate demolition of different components to ensure maximum performance and safety.
    a. Upon immediate demolition, cap the ends of the pipes to contain the off gases coming from within the pipe to eliminate potential false gas leak reports and ensure safety to other areas not being impacted.
7. Make adequate provisions to accommodate items scheduled for later installation.

C. Where necessary, prepare memoranda for distribution to each party involved, outlining special procedures required for coordination. Include such items as required notices, reports, and list of attendees at meetings.

1. Prepare similar memoranda for Owner and separate contractors if coordination of their Work is required.

D. Administrative Procedures: Coordinate scheduling and timing of required administrative procedures with other construction activities to avoid conflicts and to ensure orderly progress of the Work. Such administrative activities required by the Contractor include, but are not limited to, the following:

1. Submission of Contractor's CPM construction schedule
2. Preparation of the schedule of values
3. Approval of required submittals
4. Purchase of equipment and material, long lead items
5. Installation and removal of temporary facilities and controls
6. Listing, delivery and processing of submittals.
7. Documentation, circulation and acceptance of all Project meetings
8. Documentation, circulation and acceptance of all Progress meetings
9. Project closeout activities
10. Startup and adjustment of systems

E. Conservation: Coordinate construction activities to ensure that operations are carried out with consideration given to conservation of energy, water, and materials. Coordinate use of temporary utilities to minimize waste.

1. Salvage materials and equipment involved in performance of, but not actually incorporated into, the Work. See other Sections for disposition of salvaged materials that are designated as Owner's property.

1.6 COORDINATION DRAWINGS

A. Coordination Drawings, General: **PRIOR TO START OF WORK ACTIVITY:** Prepare coordination drawings according to requirements in individual Sections, and additionally where installation is not completely shown on Shop Drawings, where limited space availability necessitates coordination, or if coordination is required to facilitate integration of products and materials fabricated or installed by more than one entity.

1. Content: Project-specific information, drawn accurately to a scale large enough to indicate and resolve conflicts. Do not base coordination drawings on standard printed data or Architects or Engineers electronic data. Include the following information, as applicable:

    a. Use applicable Drawings as a basis for preparation of coordination drawings. Prepare sections, elevations, and details as needed to describe relationship of various systems and components.
    b. Coordinate the addition of trade-specific information to the coordination drawings by multiple contractors in a sequence that best provides for coordination of the information and resolution of conflicts between installed components before submitting for review.
    c. Indicate functional and spatial relationships of components of architectural, structural, civil, mechanical, and electrical systems.
    d. Indicate space requirements for routine maintenance and for anticipated replacement of components during the life of the installation.

e. Show location and size of access doors required for access to concealed dampers, valves, and other controls.
f. Indicate required installation sequences.
g. Indicate dimensions shown on the Drawings. Specifically note dimensions that appear to be in conflict with submitted equipment and minimum clearance requirements. Provide alternate sketches to Architect indicating proposed resolution of such conflicts. Minor dimension changes and difficult installations will not be considered changes to the Contract.

B. Coordination Drawing Organization: Organize coordination drawings as follows:

1. Floor Plans and Reflected Ceiling Plans: Show architectural and structural elements, and mechanical, plumbing, fire-protection, fire-alarm, and electrical Work. Show locations of visible ceiling-mounted devices relative to acoustical ceiling grid. Supplement plan drawings with section drawings where required to adequately represent the Work.
2. Plenum Space: Indicate sub-framing for support of ceiling and wall systems, mechanical and electrical equipment, and related Work. Locate components within ceiling plenum to accommodate layout of light fixtures indicated on Drawings. Indicate areas of conflict between light fixtures and other components.
3. Mechanical Rooms: Provide coordination drawings for mechanical rooms showing plans and elevations of mechanical, plumbing, fire-protection, fire-alarm, and electrical equipment.
4. Structural Penetrations: Indicate penetrations and openings required for all disciplines.
5. Slab Edge and Embedded Items: Indicate slab edge locations and sizes and locations of embedded items for metal fabrications, sleeves, anchor bolts, bearing plates, angles, door floor closers, slab depressions for floor finishes, curbs and housekeeping pads, and similar items.
6. Mechanical and Plumbing Work: Show the following:

    a. Sizes and bottom elevations of ductwork, piping, and conduit runs, including insulation, bracing, flanges, and support systems.
    b. Dimensions of major components, such as dampers, valves, diffusers, access doors, cleanouts and electrical distribution equipment.
    c. Fire-rated enclosures around ductwork.

7. Electrical Work: Show the following:

    a. Runs of vertical and horizontal conduit 1-1/4 inches in diameter and larger.
    b. Light fixture, exit light, emergency battery pack, smoke detector, and other fire-alarm locations.
    c. Panel board, switch board, switchgear, transformer, busway, generator, and motor control center locations.
    d. Location of pull boxes and junction boxes, dimensioned from column center lines.

8. Fire-Protection System: Show the following:

    a. Locations of standpipes, mains piping, branch lines, pipe drops, and sprinkler heads.

9. Coordination Drawings Review: Architect will review coordination drawings to confirm that the Work is being coordinated, but not for the details of the coordination, which are

Contractor's responsibility. If Architect determines that coordination drawings are not being prepared in sufficient scope or detail, or are otherwise deficient, Architect will so inform Contractor, who shall make changes as directed and resubmit.

a. Contractor shall not rely on the availability of BIM for use in Contractor's coordination.

1.7 REQUESTS FOR INFORMATION (RFIs)

A. General: Immediately on discovery of the need for additional information or interpretation of the Contract Documents, Contractor shall prepare and submit an RFI in the form specified and sent directly to the Architect.

1. Architect will return RFIs submitted to Architect by other entities controlled by Contractor with no response.
2. Coordinate and submit RFIs in a prompt manner so as to avoid delays in Contractor's work or work of subcontractors.
3. Habitual submissions of RFI's not having any serious purpose and/or having no sound basis and/or is consistently incomplete and/or is already answered within the Contract documents, the Contractor shall reimburse the Owner for the Architect's additional time reviewing and answering such RFIs.

B. Content of the RFI: Include a detailed, legible description of item needing information or interpretation and the following:

1. Project name.
2. Project number.
3. Date.
4. Name of the Contractor.
5. Name of the person requesting clarification.
6. Name of Architect.
7. Name of the person responding to the RFI
8. RFI number, numbered sequentially.
9. RFI subject.
10. Specification Section number and title and related paragraphs, as appropriate.
11. Drawing number and detail references, as appropriate.
12. Field dimensions and conditions, as appropriate.
13. Contractor's suggested resolution. If Contractor's suggested resolution impacts the Contract Time or the Contract Sum, Contractor shall state impact in the RFI.
14. Contractor's signature.
15. Attachments: Include sketches, descriptions, measurements, photos, Product Data, Shop Drawings, coordination drawings, and other information necessary to fully describe items needing interpretation.

    a. Include dimensions, thicknesses, structural grid references, and details of affected materials, assemblies, and attachments on attached sketches.

C. RFI Forms: AIA Document G716 or similar and in a form acceptable to the Owner and Architect

1. Attachments shall be electronic files in Adobe Pro PDF format.

D. Architect's Action: Architect will review each RFI, determine action required, and respond. Allow seven (7) days for Architect's response for each RFI. RFIs received by Architect after 3:00 p.m. will be considered as received the following working day.

1. The following Contractor-generated RFIs will be returned without action:

    a. Requests for approval of submittals.
    b. Requests for approval of substitutions.
    c. Requests for approval of Contractor's means and methods.
    d. Requests for coordination information already indicated in the Contract Documents.
    e. Requests for adjustments in the Contract Time or the Contract Sum.
    f. Requests for interpretation of Architect's actions on submittals.
    g. Incomplete RFIs or inaccurately prepared RFIs.

2. Architect's action may include a request for additional information, in which case Architect's time for response will date from time of receipt of additional information.
3. Architect's action on RFIs is not intended to change the Contract Time or the Contract Sum.

    a. If Contractor believes the RFI response warrants change in the Contract Time or the Contract Sum, notify Architect and Owner in writing within seven (7) days of receipt of the RFI response with a proposed order of magnitude cost.

E. RFI Log: Prepare, maintain, and submit a tabular log of RFIs organized by the RFI number. Submit log monthly or as directed in a format **acceptable to the Architect and Owner**. Include the following:

1. Project name.
2. Name and address of Contractor.
3. Name and address of Architect.
4. RFI number including RFIs that were returned without action or withdrawn.
5. RFI description.
6. Date the RFI was submitted.
7. Date Architect's response was received.

F. On receipt of Architect's action, update the RFI log and immediately distribute the RFI response to affected parties. Review response and notify Architect within seven (7) days if Contractor disagrees with response.

1. Identification of related Minor Change in the Work.
2. Identification of related Field Order, Work Change Directive, and Proposal Request, as appropriate.

1.8 PROJECT MEETINGS

A. Preconstruction Conference: The successful bidder shall attend a preconstruction conference and organizational meeting at the Owner’s Office of Planning, Architectural and Engineering Services, with the Owner prior to any field work to review responsibilities and personnel assignments and to insure that Specifications, drawings and all conditions are understood to properly complete this Contract.

1. The meeting will be scheduled by the Owner's Representative.
2. Attendees: The Owner, authorities having jurisdiction, Environmental Health and Safety Representative, Parking Services Representative, Environmental Compliance representative, Commissioning Agent, Architect, and their consultants; Contractor and its superintendent; major subcontractors; suppliers; and other concerned parties may attend the conference. Participants at the conference shall be familiar with Project and authorized to conclude matters relating to the Work.
3. Agenda: Discuss items of significance that could affect progress, including but not limited to the following where applicable:

    a. List of Submittals initially required, see 3300 submittal procedures.
        i. Review each to ensure that they have been submitted for review and acceptance.
    b. Items for discussion or review not limited to:
        i. Contractor's CPM Construction schedule.
        ii. Phasing.
        iii. Logistics Plan review.
        iv. Critical work sequencing and long-lead items.
        v. Labor Market Regulations.
        vi. Designation of key personnel and their duties.
        vii. Lines of communications and emergency phone numbers.
        viii. Background Check Plan review, where applicable.
        ix. Procedures for processing field decisions and potential Change Orders.
        x. Procedures for RFIs.
        xi. Procedures for testing and inspecting.
        xii. Procedures for processing Applications for Payment.
        xiii. Distribution of the Contract Documents and correspondence.
        xiv. Submittal procedures.
        xv. Sustainable design requirements.
        xvi. Preparation of record documents.
        xvii. Use of the premises, including dust and noise control.
        xviii. Parking and parking permits, see contractor parking policy http://policy.uconn.edu/2016/02/04/contractor-parking-policy/
        xix. Work restrictions including working hours.
        xx. Owner's occupancy requirements.
        xxi. Responsibility for temporary facilities and controls.
        xxii. Procedures for disruptions and shutdowns.
        xxiii. Construction waste management and recycling.
        xxiv. Office, work, and storage areas.
        xxv. Equipment deliveries and priorities.
        xxvi. Owner's Vendor Code of Conduct Policy: http://policy.uconn.edu/2013/02/12/vendor-code-of-conduct/
        xxvii. Security.
        xxviii. Progress cleaning.
        xxix. Owner's Contractor Environmental Health and Safety Manual, Safety procedures, including the Owner's Hazard Communication Program and policies on pest control, asbestos, lead-based paints, lockout/tagout procedures, excavation and trenching, disposal of PCB containing light ballasts, use of solvents, solvent or epoxy based paints, confined space entries and use of open flames.

4. Minutes: Entity responsible for conducting meeting will record and distribute meeting minutes.

B. Project Meeting: The Contractor shall schedule and conduct meetings and conferences at Project site unless otherwise indicated. Project Meetings shall at a minimum be performed bi-weekly.

1. Attendees: Coordinate with the Owner and Architect a set day and time for the project meetings. Identify in collaboration with the Owner and Architect any other key individuals whose presence is required. This meeting is not intended to be inclusive with any Pre-installation Conference or Progress Meeting requirements. List all required attendees.
2. Agenda: Prepare the meeting agenda. Distribute the agenda to all invited attendees at least two working days prior to the scheduled meeting. Discuss items of significance that could affect progress, including but not limited to the following:
    a. Review of the previous meeting minutes. Record corrections and any agreements/disagreements
    b. Progress of the work.
    c. Compare construction progress with the Project's approved CPM Construction Schedule.
        i. Review progress since the last meeting.
        ii. Identify activities on the critical path that are ahead of schedule, or behind schedule, in relation to the contractually accepted construction schedule.
        iii. Provide recovery steps on how construction behind schedule will be brought back into schedule.
        iv. Discuss whether schedule revisions are required to ensure that current and subsequent activities will be completed within the Contract Time.
    d. Review Contractor's site safety reports.
    e. Review any critical work sequencing and long-lead items.
    f. Review sustainable design/LEED requirements.
    g. Review of any management or supervisory responsibilities:
        i. Contractor conduct
        ii. Unacceptable behavior of any worker
        iii. Background screening log.
        iv. Staffing / Man Power.
        v. Protection of construction personnel and adjacent sites.
        vi. Dust and noise control.
        vii. Progress cleaning.
        viii. Temporary facilities and controls.
        ix. Moisture and mold control.
        x. Construction waste management and recycling.
        xi. Security
        xii. Hazard Communication Program
    h. Review of Submittal log.
    i. Review of RFI log.
    j. Review of proposed change order (PCO) log.
    k. Review of Change Order log.
    l. Review any labor or wage issues.
    m. Review any Payment issues.
    n. Review the next two weeks look ahead schedule.
        i. Identify any testing and inspections to be performed.
        ii. Any work restrictions including working hours.

iii. Scheduling of disruptions and shutdowns
iv. Equipment deliveries and priorities.

o. Review any other critical issues.

3. Minutes: Entity responsible for conducting meeting will clearly identify themselves as the author of the minutes, record and distribute meeting minutes. The meeting will record significant discussions and agreements achieved. With each meeting held, minutes shall reflect the author, all invited attendees, any additional attendees who attended the meeting and those invited attendees that did not attend the meeting. Distribute the meeting minutes to everyone concerned for review, including but not limited to Owner and Architect, within three (3) days of the meeting.

4. Minutes from the previous meeting shall be reviewed at the start of each subsequent meeting. Document any clarifications, corrections, or exceptions to the contents of the minutes and identify the attendee requesting the adjustments. Resolve any disagreements that may arise with the contents and document accordingly and document within the minutes. Minutes shall not require acceptance prior to the next scheduled meeting, unless the project has reached final completion and final payment is in process.

C. Pre-installation Conferences: Conduct a preinstallation conference at Project site before each construction activity that requires coordination with other construction.

1. Attendees: Installer and representatives of manufacturers and fabricators involved in or affected by the installation and its coordination or integration with other materials and installations that have preceded or will follow, shall attend the meeting. Advise Architect, and Owner of scheduled meeting dates.
2. Agenda: Review progress of other construction activities and preparations for the particular activity under consideration, including but not limited to requirements for the following:

a. Contract Documents.
b. Options.
c. Related RFIs.
d. Related Change Orders.
e. Purchases.
f. Deliveries.
g. Submittals, shop drawings, product data, and quality control samples.
h. Sustainable design requirements.
i. Review of mockups.
j. Possible conflicts.
k. Compatibility requirements.
l. Time schedules.
m. Weather limitations.
n. Manufacturer's written instructions.
o. Warranty requirements.
p. Compatibility of materials.
q. Acceptability of substrates.
r. Temporary facilities and controls.
s. Space and access limitations.
t. Safety.
u. Regulations of authorities having jurisdiction.

v. Testing and inspecting requirements.
w. Commissioning
x. Installation procedures.
y. Coordination with other work.
z. Required performance results.
aa. Protection of adjacent work.
bb. Protection of construction and personnel.

3. Record significant conference discussions, agreements, and disagreements, including required corrective measures and actions.
4. Reporting: Entity responsible for conducting meeting will record and distribute meeting minutes. Meeting minutes shall identify who the author is and date the meeting was held. Distribute minutes of the meeting to each party present and to other parties requiring information.
5. Do not proceed with installation if the conference cannot be successfully concluded. Initiate whatever actions are necessary to resolve impediments to performance of the Work and reconvene the conference at earliest feasible date.

D. Progress Meetings: Conduct progress meetings with Contractor's subcontractors at the Project Site at regularly (minimum bi-weekly) scheduled intervals. Contractor shall:

1. Coordinate dates of meetings with preparation of payment requests.
2. Attendees: In addition to representatives of Owner and Architect, each contractor, subcontractor, supplier, and other entity concerned with current progress or involved in planning, coordination, or performance of future activities shall be represented at these meetings. All participants at the meeting shall be familiar with Project and authorized to conclude matters relating to the Work.
3. Agenda: Review and correct or accept minutes of previous progress meeting. Review other items of significance that could affect progress. Include topics for discussion as appropriate to status of Project.

    a. Contractor's CPM Construction Schedule: Review progress since the last meeting. Determine whether each activity is on time, ahead of schedule, or behind schedule, in relation to Contractor's construction schedule. Determine how construction activities behind schedule will be expedited; secure commitments from parties involved to do so. Discuss whether schedule revisions are required to ensure that current and subsequent activities will be completed within the Contract Time.

        i. Review schedule for next period.

    b. Review present and future needs of each entity present, including but not limited to the following:

        i. Interface requirements.
        ii. Sequence of operations.
        iii. Status of submittals.
        iv. Status of stainable design documentation, if required.
        v. Deliveries.
        vi. Off-site fabrication problems.
        vii. Access.
        viii. Site utilization.

ix. Temporary facilities and controls.
x. Progress cleaning.
xi. Quality and work standards.
xii. Status of correction of deficient items.
xiii. Field observations.
xiv. Status of RFIs.
xv. Status of proposal requests.
xvi. Pending changes.
xvii. Status of Change Orders.
xviii. Pending claims and disputes.
xix. Documentation of information for payment requests.
xx. Safety and Subcontractor Conduct on the site.

4. Minutes: Entity responsible for conducting the meeting will record and distribute the meeting minutes to each party present and to parties requiring information. Meeting minutes shall identify who the author is and the date the meeting was held. Contractor shall distribute copies of minutes of the meeting to each party present and to other parties who should have been present. Include a brief summary, in narrative form, of progress since the previous meeting and report. Submit report no later than 3 days after each progress meeting date.

    a. Schedule Updating: Revise Contractor's CPM Construction Schedule after each progress meeting where revisions to the schedule to recover have been discussed. Issue revised schedule concurrently with the report of each meeting.

E. Coordination Meetings: Conduct Project coordination meetings at regular intervals convenient for all parties involved. Project coordination meetings are in addition to specific meetings held for other purposes, such as progress meetings and preinstallation conferences.

1. Attendees: Every party currently involved in coordination or planning for the construction activities involved. All participants at the meetings shall be familiar with Project and authorized to conclude matters relating to the Work.

2. Reporting: Record meeting results and distribute copies to everyone in attendance and to others affected by decisions or actions resulting from each meeting. Meeting minutes shall identify who the author is and the date the meeting was held.

F. Landscape Status Updates: Contractor shall require and receive regular written status updates from his landscape sub-contractor(s) on portions of the work the subcontractor is performing. Contractor shall distribute status updates to the Owner.

1.9 GENERAL ADMINISTRATION

A. Call Before You Dig (CBYD): Contractor is responsible to monitor the conditions of the markings and maintain their appearance throughout the duration necessary to complete the work associated with the markings. At the time of Substantial Completion, the Contractor is responsible for the complete removal of all CBYD markings required for the project that is applied to any hard surface.

B. GIS Surveying: Contractor is responsible for documenting field conditions and new installation using coordinates mapping. In cases of subsurface material installation, such mapping shall include depth to the top of the material, size and characteristics of the material and distance adjacencies to other subsurface identified material, active or inactive that is exposed. Contractor is responsible for ensuring that any flags or markings used in establishing the mapping are removed at the completion of the survey work for the day. Contractor shall immediately have removed any flags or markings that are no longer needed.

C. Contractor shall comply to the requirements outlined within CGS Sec. 4e-70 relating to confidential information,

D. Contractor and Subcontractor Information:
1. Before the first application for payment, provide a list of all known Contractors, Subcontractors and Suppliers who are intended to be working on or supplying material and equipment to the project for review and acceptance by the Owner.
2. List shall include key information about the Contractor and subcontracts assigned under this Project in a format acceptable to the Owner. Please refer to the format template located at the following weblink. http://updc.uconn.edu/
    a. Identify if the business is a nonresident business, are they verified or unverified by the State of Connecticut Department of Revenue Services pursuant to Conn. Gen. Stat. §12-430 and follow all requirements associated.
    b. Such list shall be updated and resubmitted with each month's application for payment pencil draft.

E. Application for Payment Procedures:
1. Contractor shall submit for review within 30 days of contract signing, a project specific schedule of values for payment. Schedule of values are to represent at a minimum the following (as applicable) and shall have a value associated with each element:
    a. General Conditions:
        i. Bond Costs (actual)
        ii. Project and Administrative Management
        iii. Supervisory and Daily Site Record keeping
        iv. Safety Management
        v. Site Trailer and associated general site operational expenses
        vi. Temporary Fencing – Site Logistics
        vii. Security Management
        viii. Coordination Documents – assigned value shall be no less than 25 % of total general conditions value. Payment shall be made based on full complete coordination of systems within the documents.
        ix. Closeout Documents – assigned value shall be no less than 30 % of total general conditions value.
    b. List of CSI Division sections identified within the contract documents, broken down by:
        i. Labor
        ii. Material
        iii. Equipment (large value pieces and/or systems
        iv. If the project requires work to be performed in phases, breakdown by phase and then by General Conditions and by CSI Divisions.
        v. If the project work entails multiple floors/stories, breakdown by floor and then by CSI Divisions.
    c. List only those Change Orders that have been fully executed by all parties.

i. Include with the CO listing within the Schedule of Values, any CCD that was issued in support of the Change Order. Example: CO 3 / CCD 2 Insulation of water line Gampel.

d. Do not list alone PCO's or CCD's within the schedule of values.

e. Only those change orders that have been fully executed by all parties shall be listed and allowed to be a part of the month's billing. Should the Contractor list a change order prior to full execution and receipt back, regardless if the application has been certified by the Architect, the Owner shall not be responsible for any delays in payment and shall have the right to reject the application and ask for a resubmission with removal of any change orders as deemed warranted.

2. Attachments to the Application for Payment for processing:

a. Pencil Draft

i. Copy of email sent to designated UPDC email address submitting report and payroll in support of previous months' work.

ii. Copy of certified summary cover sheet Worker Distribution Report.

iii. Copy of transmittal to CHRO in support of submitting updates to the Contractor's affirmative action plan.

iv. Subcontractor list updated in the format required by the Owner.

b. First Application for payment

i. List of all Subcontractors and Suppliers who will be providing or performing work under the contract in the format outlined by the Owner. Format is available at:
https://updc.uconn.edu/contractors-working-at-uconn/

ii. Formal submission to the Owner for review and approval, Contractor and subcontractors (where applicable) list of company owned equipment in the format outlined in Section 2600 Contract Modifications.

iii. Formal submission to the Owner for review and approval, Contractor, subcontractor and sub-tiers Labor Rates.

iv. Equipment Rates: Contractor shall submit for review and approval by the Owner an hourly, weekly and monthly rate for each self-owned piece of equipment. Such rates shall not exceed the rate reflected in Equipment Watch. The list of equipment shall provide the following information:

a) Type of Equipment
b) Year
c) Make
d) Model
e) Size / Capacity
f) Registration #

F. Certified Payroll: Pursuant to CGS Sec. 31-53, original certified payrolls with a statement of compliance shall be submitted.

1. On a monthly basis, all certified payrolls for the project shall be received from their subcontractors by the Contractor. The Contractor is responsible to track, monitor and report for compliance with the Department of Labor and Owner requirements.

a. Documents are to be submitted in the format acceptable to the Connecticut Department of Labor.

b. Verify all certified payrolls are being received from all subcontractors and sub-tier subcontractors performing work on the project for the period of time being reported.
c. Confirm payroll information has been included not limited to paycheck number.
d. Ensure each payroll reporting is filled out completely even if the worker is the "owner" of the company performing the work. Reporting as "Owner" performance with no payment information is not in conformance with CTDOL requirements.
e. Verify that the Subcontractor has a current compliant Connecticut Worker's Compensation policy.
    i. Obtain the subcontractor's workers compensation policy premium sheet.
    ii. Policies that state "Interstate' do not meet the statutory requirements.
f. Verify the appropriate Agent for the Subcontractor submitting the payroll has certified each reporting week.
g. Obtain and verify current OSHA 10 certifications for any all workers who performed on the project. Include a copy of each workers OSHA 10 certification, when first reporting them on certified payrolls.
h. Ensure all certified payrolls for the month have been received for work performed by the various subcontractors and sub-tiers, inclusive of all weeks within the month worked and not worked.
i. Ensure that the last required submission of certified payrolls are identified as the "Final" submission.
j. Utilize the Worker Geographic Report data template and record each weekly Certified Payroll submission from each subcontractor for work performed or not under the project for that particular week. Record alphabetically.
k. Refer to the following weblink for the most current acceptable format template: https://updc.uconn.edu/contractors-working-at-uconn/

2. Contractor shall submit all certified payrolls (including their own) and supporting documents to the Owner in the following manner:
    a. Submit electronically to: **UPDCcertifiedpayroll@uconn.edu**
    b. Submit monthly at the same time as when the pencil draft of the application for payment is submitted for approval.
    c. Provide in the Subject line of the email the following information in the order represented:
        i. Project #
        ii. Contractor Name
        iii. Period Reporting On

        Example: 901211 Turner April 2016 Certified Payrolls
    d. Organize the documents in the following manner prior to uploading the document into the email:
        i. Contractor's Worker Geographic Distribution Report
        ii. Contractor's certified payrolls with each week of the month in sequential order;
        iii. Subcontractors certified payrolls organized alphabetically by subcontractor and then within each subcontractor submission, by each sequential week of the month being reported;
        iv. Ensure that each side of a payroll page (if double sided) has been scanned to include their certification for that payroll reporting;
        v. In the body of the email, identify any non-compliance issues relating to the payrolls being reported on to the Owner.

3. Failure to consistently submit complete complying certified payrolls to the Owner in the format outlined, any costs incurred by the Owner to perform the requirements, shall be a reimbursement from the Contractor to the Owner.

4. Worker Geographic Distribution Report (Report): Following the close of each consecutive month's certified payrolls and in conjunction with the certified payroll submission, the Contractor who is directly contracted with the Owner shall submit a project specific Worker Geographic Distribution Report on all workers who performed work on the project for the period of time represented on the report.
    a. For the purposes of this reporting, the following terms shall have the meaning as assigned.
        i. "Covered Project" is a project that is subject to Section 31-53(a) of the Connecticut General Statutes.
        ii. "Monthly" means a calendar month of each calendar year.
        iii. "Residence" is the state in which a Worker resides, as reflected in the payroll records of such Worker's employer.
        iv. "Subcontractor" is any subcontractor or sub-subcontractor of the Contractor, which subcontractor or sub-subcontractor employs Workers on the Project.
        v. "Wages" are the wages that are subject to Section 31-53(a) of the Connecticut General Statutes (including any amounts paid to an employee welfare fund).
        vi. "Worker" is an employee of the Contractor or a Subcontractor (as defined hereinabove), which employee is working on the Project and whose wages for such work is subject to Section 31-53(a) of the Connecticut General Statutes.
    b. The monthly Worker Geographic Distribution Report shall summarize and include all Contractor and subcontractors' worker data information provided in a format required by the Owner.
        i. The numbers of hours of Project work for which such Worker was paid during such month reporting.
        ii. The Wages (as defined hereinafter) paid to such Worker during such month's reporting.
        iii. The State of residence for such Workers being reported as of the close of such month's reporting.
        iv. The reporting shall not contain any personally identifiable information about a worker.
        v. Certified payrolls applicable shall accompany the monthly reporting.
        vi. Owner format shall be used and not altered in any way without explicit approval from the Owner. Refer to the following weblink for the most current acceptable format template: **https://updc.uconn.edu/contractors-working-at-uconn/**
        vii. Failure to submit Worker Geographic Distribution Report in the format required, any costs the Owner incurs to perform the requirements outlined shall be reimbursed by the Contractor.
    c. Such report shall be updated and resubmitted monthly with the submission of each month's application for payment as a condition of release of payment.
    d. Such report uncertified by the Contractor does not relieve the Contractor of the accuracy or completeness of information that is or should be represented within the report.

G. CHRO Reporting: Submit to the Commission on Human Rights and Opportunities (CHRO) on a monthly basis their Small Contractor/Minority Business Enterprise Utilization, Payment Status and Materials Consumption Reports (i.e., Form CHRO cc-257, cc-257a, cc-257b, cc-258a and cc-259). ORIGINAL reports shall be sent by the 25th day following the end of each calendar month to:

1. Commission on Human Rights and Opportunities (CHRO)
   25 Sigourney Street, 7th Floor
   Hartford, CT 06106

Provide a copy of the transmittal sent to CHRO to the following Owner contact:
veronica.cook@uconn.edu.

Do not send any CHRO reports with the certified payroll or to anyone else other than those identified, unless otherwise directed by the Owner. Upon request, the Contractor shall provide documentation to the Owner of compliance with small business and minority business enterprise contracting goals.

H. Contractor's Background Screenings

1. Prior to, and as a condition of mobilization on site, the Contractor shall submit a Background Screening Control Plan process on each worker for each project regardless of past screenings and shall be consistent with the requirements of the University's Capital Project's Background Screening Guidelines. The University's Capital Project's Background Screening Guidelines can be found: http://updc.uconn.edu

   a. Identify the background screening company who will be conducting the screenings for all workers under this project. And the process they will be using to perform the screenings.
   b. Identify how the Contractor will control access to the Construction Site to restrict non-screened or non-approved workers from entering the work site and performing work.

2. Provide a report monthly listing all workers who have been approved for work, disqualified for work and who are pending review. Compare list of workers from certified payroll against the list of background screenings performed. Report those subcontractors and the worker(s) who performed work on the project site but did not go through a background check.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 01-3100

SECTION 01-3200 - CONSTRUCTION PROGRESS DOCUMENTATION

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

A. Section includes administrative and procedural requirements for documenting the progress of construction during performance of the Work, including the following:
   1. Contractor's Project Milestone Construction schedule.
   2. Contractor’s CPM schedule
   3. Construction CPM schedule updating reports.
   4. Daily construction reports.
   5. Material location reports.
   6. Site condition reports.
   7. Special reports.
   8. GIS Mapping of existing and new conditions

B. Related Requirements:
   1. Retain subparagraphs below to cross-reference requirements Contractor might expect to find in this Section but are specified in other Sections.
   2. Division 01 Section "Submittal Procedures" for submitting schedules and reports.

C. Division 01 Section "Quality Requirements" for submitting a schedule of tests and inspections.

1.3 DEFINITIONS

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

B. Cost Loading: The allocation of the schedule of values for the completion of an activity as scheduled. The sum of costs for all activities must equal the total Contract Sum unless otherwise approved by Owner.

C. Milestone: An action or event marking a significant stage or stages in the life of a construction project. Significant milestones may include but not limited to (where applicable):

1. Projected start date. Provide sufficient time for the Owner and Contractor to execute the contract.
2. Pre-Construction Meeting
3. Critical and non-critical Submittal submissions and approvals (provide sufficient time for reviews as outlined in the contract)
   a. Pre-functional checklist of equipment submittals, as a part of commissioning
4. Mobilization with temporary fencing system and project signage installation.
5. Construction start date
6. Site work start date
7. Demolition start date
8. Demolition completion date
9. Site work completion date
10. Utilities upgrades start date (each)
11. Utilities shutdown / tie-ins (each)
12. Utilities upgrades completion date (each)
13. Structural Foundations start date
14. Structural Foundations completion date
15. Elevator Shaft start date
16. Elevator Shaft completion date
17. Building Core start date
18. Building Core completion date
19. Skeleton Framing completion date
20. Façade installation start date
21. Façade installation completion date
22. Roof framing completion date
23. Window installation start date
24. Window installation completion date
25. Water Tight Building date
26. Mechanical infrastructure start date
27. Plumbing infrastructure start date
28. Electrical infrastructure start date
29. Interior framing start date
30. Interior wall enclosure start date
31. Interior wall enclosure completion date
32. Ceiling installation start date
33. Ceiling installation completion date
34. Finish installation start date
35. Field completion of functional equipment / Submission of Statement of preparedness
36. Substantial Completion
37. Final Completion

D. CPM: Critical path method, which is a method of planning and scheduling a construction project where activities are arranged based on activity relationships. Network calculations determine when activities can be performed and the critical path of Project.

E. Critical Path: The longest connected chain of interdependent activities through the network schedule that establishes the minimum overall Project duration and contains no float.

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

1. Float: The measure of leeway in starting and completing an activity. The excess time included in a construction schedule to accommodate such items as severe unusual inclement weather and associated delays, equipment failures, and other such unscheduled events. It is the contingency time associated with a path or chain of activities and represents the amount of time by which the early finish date of an activity may be delayed without impacting the critical path and delaying the overall completion of the Project. Any difference in time between the Contractors' approved early completion date and the Contract Completion Date shall be considered a part of the Project float. Float time belongs to the Owner. Free Float: The time (in days) by which an activity may be delayed or lengthened without adversely impacting upon the early start day of any activity following in the chain.

2. Total Float: The difference (in days) between the maximum time available within which to perform an activity and the duration of an activity. It represents the time by which an activity may be delayed or lengthened without impacting the Time for Completion or the Contract Completion Date.

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

1.4 INFORMATIONAL SUBMITTALS

A. Contractor's CPM Construction Schedule shall be submitted within 14 days of contract execution and notice to proceed or at the time of the pre-construction meeting whichever comes first. Should Contractor fail to submit a project specific CPM construction schedule within time table outlined, costs associated for an independent third party scheduler hired by the Architect to establish and maintain for the duration of the project will be borne by the Contractor. Contractor shall provide input and adhere to the established CPM construction schedule.

B. Format for Submittals: Submit required schedule submittals in the following format:
   1. Working electronic copy of construction schedule file, as indicated.
   2. Acceptable software:
      a. Microsoft office for small uncomplicated projects as determined by the Owner.
      b. Primavera 6 for large more complicated projects as determined by the Owner
   3. Format submission
      a. In the format detail as required of the particular schedule requirements
      b. Software as determined by the Owner.
      c. PDF (ADOBE PRO) electronic file.
      d. Three (3) paper copies.

C. Contractor's Project Milestone Construction Schedule: Initial schedule, of size required to display entire schedule for entire construction period.
   1. Milestone schedule shall be submitted upon receipt of Letter of Intent as a condition to award and shall be in a size required to display a readable schedule for entire construction period. Document page size shall not exceed 8.5x11 and is not limited to a single page.
   2. Submit an electronic copy of schedule, using software acceptable to the Owner, and labeled to comply with requirements for submittals.
   3. Contractually accepted Contractor's Project Milestone Construction schedule shall not be altered from what was initially accepted. Contractor's Project Milestone Construction schedule can only be adjusted by fully executed change order.

D. Contractor’s CPM Schedule: Subsequent schedule that details all activities associated with the work. The Contractor’s CPM schedule represents the Contractor’s plan for achieving the contractual completion of the project. Updates to and the submission of the Contractor’s CPM schedule shall not represent acceptance by the Owner and/or Architect.

E. CPM Reports: Concurrent with CPM schedule, submit each of the following reports. Format for each activity in reports shall contain activity number, activity description, cost and resource loading, original duration, remaining duration, early start date, early finish date, late start date, late finish date, and total float in calendar days.
   1. Activity Report: List of all activities sorted by activity number and then early start date, or actual start date if known.
   2. Logic Report: List of preceding and succeeding activities for all activities, sorted in ascending order by activity number and then early start date, or actual start date if known.
   3. Total Float Report: List of all activities sorted in ascending order of total float.
   4. Earnings Report: Compilation of Contractor's total earnings from the Notice to Proceed until most recent Application for Payment.
   5. Resource Loading Report: List all activities initial resource loadings as compared to actual for the month.

F. CPM Construction Schedule Updating Reports: Submit with each Applications for Payment.

G. Daily Construction Reports: Submit at monthly application for payment intervals.

H. Material Location Reports: Submit at monthly application for payment intervals.

I. Geographic Distribution Reports: Submit at monthly application for payment intervals.

J. Site Condition Reports: Submit at time of discovery of differing conditions.

K. Special Reports: Submit at time of unusual event.

1.5 COORDINATION

A. Coordinate preparation and processing of schedules and reports with performance of construction activities and with scheduling and reporting of separate Owner’s contractors and/or Contractor’s subcontractors.

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

PART 2 - PRODUCTS

2.1 CONTRACTOR'S CONSTRUCTION SCHEDULE, GENERAL

A. Time Frame: Extend schedule from date established for the Notice to Proceed to the date required for Substantial Completion.
   1. Anticipated Notice to Proceed date: For purposes in establishing the start date of the project schedule, represent the start date as an additional seven (7) days beyond the time allotted within the letter of intent for required documents to be submitted by the Contractor to the Owner for contract execution. Should the time anticipated for the project start date be exceeded due to Contractor's failure to provide accurate timely documents and/or availability to fully execute the contract, Contractor shall not be entitled to an extension to the date outlined for Substantial Completion. Should the time anticipated for the project start date be exceeded due to Owner's failure to provide accurate timely documents and/or availability to fully execute the contract, the Contractor shall be entitled to an extension to the date outlined for Substantial Completion equal to the days taken by the Owner to issue a Notice to Proceed. Such extension shall not be compensable.
   2. Substantial Completion date shall not be changed for reasons not caused by the Owner. Should the time allotted within the letter of intent for contract required documents to be submitted by the Contractor, be exceeded due to Contractors failure to provide such accurate timely documents within the time frame identified the Contractor shall not be entitled to an extension to the date outlined for Substantial Completion.
   3. Contract completion date shall not be changed by submission of a schedule that shows an early completion date, unless specifically authorized by Change Order.

B. Activities: Treat each story or separate area as a separate numbered activity for each main element of the Work. Comply with the following:
   1. Revise "Activity Duration" Subparagraph below to suit Project. Long activity durations provide less detail and, therefore, less information with which to manage a project. As an alternative to specifying activity duration, indicate minimum and maximum number of activities, which will result in a similar effect.
   2. Activity Duration: Define activities so no activity is longer than twenty (20) days, unless specifically allowed by the Owner.
   3. Procurement Activities: Include procurement process activities for long lead items and major items, requiring a cycle of more than sixty (60) days, as separate activities in schedule. Procurement cycle activities include, but are not limited to, submittals, approvals, purchasing, fabrication, and delivery.
   4. Submittal Review Time: Include review and resubmittal times indicated in Division 01 Section "Submittal Procedures" in schedule. Coordinate submittal review times in Contractor's construction schedule with submittal schedule.
   5. Startup and Testing Time: Include no fewer than fifteen (15) days for startup and testing.
   6. Substantial Completion: Indicate completion in advance of date established for Substantial Completion, and allow a minimum of fifteen (15) days for Architect's administrative procedures necessary for Punch List and certification of Substantial Completion.
   7. Punch List and Final Completion: Include not more than thirty (30) days for completion of punch list items and final completion.

C. Milestones: Include milestones indicated in the Contract Documents in schedule, including, but not limited to, the Notice to Proceed, Utility interruptions, Substantial Completion, and Final Completion.

D. Two Week Look ahead schedule: Prepare summary report indicating activities scheduled to occur or commence prior to submittal of next schedule update. Summarize the following issues:
   1. Unresolved issues.
   2. Unanswered Requests for Information.
   3. Rejected or unreturned submittals.
   4. Notations on returned submittals.
   5. Pending modifications affecting the Work and Contract Time.

E. Recovery Schedule: When periodic update indicates the Work is behind the current approved schedule, submit a separate recovery schedule indicating means by which Contractor intends to regain compliance with the schedule. Indicate changes to working hours, working days, crew sizes, and equipment required to achieve compliance, and date by which recovery will be accomplished.

F. Computer Scheduling Software: Prepare schedules using current version of a program that has been developed specifically to manage construction schedules.

2.2 CONTRACTOR'S CONSTRUCTION SCHEDULE (CPM SCHEDULE)

A. CPM Schedule: Prepare Contractor's construction schedule of sufficient detail to indicate all significant construction activities. The level of detail should be such that no activity should exceed twenty (20) days. Where similar activities continue beyond the twenty (20) day limit, these activities should be broken into subgroups, specific areas, or phases so that the twenty (20) day maximum duration is maintained.
   1. Develop network diagram in sufficient time to submit CPM schedule for review no later than fourteen (14) days after date established of contract execution.
      a. Failure to include any work item required for performance of this Contract shall not excuse Contractor from completing all work within applicable completion dates, regardless of Owner's approval of the schedule.
   2. Establish procedures for monitoring and updating CPM schedule and for reporting progress. Coordinate procedures with progress meeting and payment request dates.
   3. Subparagraph below coordinates between working days of time and calendar days. Under AIA Document A201, the Contract Time is in calendar days.
   4. Use "one calendar day" as the unit of time for individual activities. Indicate nonworking days, restricted days as outlined in Section 01-1000 Summary and holidays incorporated into the schedule in order to coordinate with the Contract Time.

B. CPM Schedule Preparation: Prepare a list of all activities required to complete the Work. Using the startup network diagram, prepare a skeleton network to identify probable critical paths.
   1. Activities: Indicate the estimated time duration, sequence requirements, and relationship of each activity in relation to other activities. Include estimated time frames for the following activities:
      a. Date of Notice to Proceed

b. Preparation and processing of submittals.
c. Mobilization and demobilization.
d. Purchase of materials.
e. Delivery.
f. Fabrication.
g. Utility interruptions.
h. Installation.
i. Special Equipment
j. Testing.
k. Commissioning
l. Telecommunications installations
m. Furniture installations (where applicable) and Owner installations
n. Punch list and final completion.
o. Activities occurring following final completion.

2. Critical Path Activities: Identify critical path activities, including those for interim completion dates. Scheduled start and completion dates shall be consistent with Contract milestone dates.
3. Processing: Process data to produce output data on a computer-drawn, time-scaled network. Revise data, reorganize activity sequences, and reproduce as often as necessary to produce the CPM schedule within the limitations of the Contract Time.
4. Format: Mark the critical path. Locate the critical path near center of network; locate paths with most float near the edges.

a. Subnetworks on separate sheets are permissible for activities clearly off the critical path.

2.3 REPORTS

A. Daily Construction Reports: Prepare a daily construction report recording the following information concerning events at Project site:
1. Day of the week, date and the time of day the report is filled out.
2. List of subcontractors at Project site.
3. List of separate contractors at Project site.
4. Approximate count of personnel by subcontractor and trade labor work being performed at Project site.
5. Separately document any and all change order work being performed, the subcontractor/contractor performing and number of personnel. Obtain and confirm work performed, manpower trade category and hours worked against additional work tickets of the subcontractor or Contractor.
6. Construction equipment at Project site.
7. Material deliveries and confirmation receipts of quantities delivered.
8. Materials and Equipment not yet incorporated into the work yet stored at the Project site.
9. High and low temperatures and general weather conditions, including presence of rain or snow.
10. Accidents.
11. Meetings and significant decisions.
12. Unusual events (see special reports).
13. Stoppages, delays, shortages, and losses.
14. Meter readings and similar recordings.
15. Emergency procedures.

16. Orders and requests of authorities having jurisdiction.
17. Daily additional work tickets
18. Photographs taken
19. Services connected and disconnected.
20. Equipment or system tests and startups.
21. Partial completions and occupancies.
22. Substantial Completions authorized.

B. Material Location Reports: At monthly intervals, prepare and submit a comprehensive list of materials delivered to and stored at Project site. List shall be cumulative, showing materials previously reported plus items recently delivered. Include with list a statement of progress on and delivery dates for materials or items of equipment fabricated or stored away from Project site. Indicate the following categories for stored materials:
1. Material stored prior to previous report and remaining in storage.
2. Material stored prior to previous report and since removed from storage and installed.
3. Material stored following previous report and remaining in storage.

C. Site Condition Reports: Immediately on discovery of a difference between site conditions and the Contract Documents, prepare and submit a detailed report. Submit with a Request for Information. Include a detailed description of the differing conditions, together with recommendations for changing the Contract Documents.

D. Daily Additional Work Tickets: Prepare daily additional work tickets recording the following information for a change in the work issued by a CCD. Tickets shall be documented separately for each trade labor category being performed that day and shall reflect at a minimum the following:
1. Date and day of the week
2. Change work being performed and percentage progress
3. Number of workers working on the change consistently and their respective work labor category.
4. Number of hours worked working on the change consistently per trade labor category.
5. Materials delivered and used specifically for the change work.
6. Equipment delivered and/or used specifically and consistently for the change work. If equipment already exists on site and is used to perform the change work, number of hours the equipment is used shall be documented.

2.4 SPECIAL REPORTS

A. General: Submit special reports directly to Owner within one (1) day of an occurrence. Distribute copies of report to parties affected by the occurrence.

B. Reporting Unusual Events: When an event of an unusual and significant nature occurs at Project site, whether or not related directly to the Work, prepare and submit a special report. List chain of events, persons participating and response by Contractor's personnel, evaluation of results or effects, and similar pertinent information. Advise Owner in advance when these events are known or predictable.

2.5 GIS Mapping: When the subsurface is open and there are existing and new utilities and any abandon piping/ductbanks conditions exposed, Contractor is responsible for subcontracting with

a surveyor proficient in GIS mapping to collect the metadata as outlined by the Owner of the utilities or abandon piping/ductbanks before back filling. Should Contractor fail to properly survey the conditions, at the Contractors cost, they shall open up the subsurface so that such conditions can be properly documented as outlined.

PART 3 - EXECUTION

3.1 CONTRACTOR'S CONSTRUCTION SCHEDULE

A. Contractor's CPM Construction Schedule Updating: At monthly intervals, update schedule to reflect actual construction progress and activities. Issue schedule one week before each regularly scheduled project and progress meetings.
   1. Revise schedule immediately after each meeting or other activity where revisions have been recognized or made. Issue updated two week look ahead schedule concurrently with the report of each such meeting. In the event the updated Schedule exceeds the Construction Completion date recognized in the contract, the Contractor must accompany the update with a recovery schedule.
   2. Include a report with updated schedule that indicates every change, including, but not limited to, changes in logic, durations, actual starts and finishes, and activity durations.
   3. As the Work progresses, indicate final completion percentage for each activity.

B. Distribution: Distribute copies of the updated schedule to Architect, Owner, separate contractors, testing and inspecting agencies, and other parties identified by Contractor with a need-to-know schedule responsibility.
   1. Post copies in Project meeting rooms and temporary field offices.
   2. When revisions are made, distribute updated schedules to the same parties and post in the same locations. Delete parties from distribution when they have completed their assigned portion of the Work and are no longer involved in performance of construction activities.

END OF SECTION 01-3200

SECTION 01-3233 - PHOTOGRAPHIC DOCUMENTATION

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

A. Section includes administrative and procedural requirements for the following:

1. Preconstruction photographs.
2. Periodic construction photographs.
3. Final completion construction photographs.

B. Related Requirements:

1. Division 01 Section "Submittal Procedures" for submitting photographic documentation.
2. Division 01 Section "Closeout Procedures" for submitting photographic documentation as project record documents at Project closeout.
3. Division 02 Section "Selective Demolition" for photographic documentation before selective demolition operations commence.

1.3 INFORMATIONAL SUBMITTALS

A. Key Plan: Submit key plan of Project site and building with notation of vantage points marked for location and direction of each photograph. Indicate elevation or story of construction. Include same information as corresponding photographic documentation.

1. Digital Photographs: Submit image files within three days of taking photographs.

2. Digital Camera: Minimum sensor resolution of 8 megapixels.
3. Format: JPG2 with a minimum 3200 by 2400 pixels, uncompressed or layered in unaltered original files, with same aspect ratio as the sensor, uncropped, date and time stamped with key plan location number, in a folder named by date of photograph, accompanied by key plan file.
4. Identification: Provide the following information with each image description in file metadata tag:
    a. Name of Project.
    b. Name and contact information of the photographer.
    c. Name of Contractor.
    d. Date photograph was taken.
    e. Description of vantage point, indicating location, direction (by compass point), and elevation or story of construction.
    f. Unique sequential identifier keyed to accompanying key plan.

B. Construction Photographs: Submit digital images in JPG2 format of photos taken within the month with the pencil draft of invoice being submitted for review.

C. Aerial Photographs: If requested by the Owner, submit digital images in JPG2 format as outlined for digital cameras. If it is intended to use drones, Contractor must notify the Owner prior to use.

1.4 USAGE RIGHTS

A. Provide or transfer copyright usage rights from photographer to Owner for unlimited reproduction of photographic documentation.

PART 2 - PRODUCTS (not used)

PART 3 - EXECUTION

3.1 CONSTRUCTION PHOTOGRAPHS

A. Photographer: Engage a qualified photographer to take construction photographs.

B. General: Take photographs using the maximum range of depth of field, and that are in focus, to clearly show the Work. Photographs with blurry or out-of-focus areas will not be accepted.

C. Digital Images: Submit digital images exactly as originally recorded in the digital camera, without alteration, manipulation, editing, or modifications using image-editing software.

1. Date and Time: Include date and time in file name for each image.
2. Field Office Images: Maintain one set of images accessible in the field office at Project site, available at all times for reference. Identify images in the same manner as those submitted to the Owner.

D. Web Cameras: Are required / are not required for this project. System shall provide for time lapse videography with web view access at a minimum.

E. Preconstruction Photographs: Before commencement of demolition for renovation projects or starting new construction, take photographs of Project site and surrounding properties, including existing items to remain during construction, from different vantage points, as directed by Architect.

1. Flag construction limits before taking construction photographs.
2. Take not less than 20 photographs to show existing conditions adjacent to property before starting the Work.
3. Take not less than 20 photographs of existing buildings either on or adjoining property to accurately record physical conditions at start of construction.
4. Take additional photographs as required to record settlement or cracking of adjacent structures, pavements, and improvements.
5. Contractor has the option of video-taping as opposed to digital photos.

F. Periodic Construction Photographs: Take no less than 20 photographs daily or at significant start and finish points of construction phases with the cutoff date associated with each Application for Payment. Select vantage points to show status of construction and progress since last photographs were taken.

1. Significant Critical activities include but not limited to:
   a. Commencement of the Work
   b. Depth and connections of all utilities of subgrade construction.
   c. Above-grade structural framing.
   d. Exterior building enclosure.
   e. Interior Work, through date of Substantial Completion.

G. Owner-Directed Construction Photographs: From time to time, Owner may instruct photographer about number and frequency of photographs and general directions on vantage points. Select actual vantage points and take photographs to show the status of construction and progress since last photographs were taken.

H. Time-Lapse Sequence Construction Photographs: Take photographs as indicated, to show status of construction and progress since last photographs were taken.

1. Frequency: Take photographs hourly or as required by industry standards, coinciding with the cutoff date associated with each Application for Payment.

I. Vantage Points: As identified in the Key Plan and accepted by the Owner, follow select vantage points. During each of the following construction phases, Final Completion Construction Photographs: Take color photographs after date of Substantial Completion for submission as project record documents. Key plan will inform photographer of desired vantage points or as directed by the Owner.

1. Do not include date stamp.

J. Additional Photographs: Owner may request photographs in addition to periodic photographs specified.

1. Three days' notice will be given, where feasible.
2. In emergency situations, take additional photographs within 24 hours of request.
3. Circumstances that could require additional photographs include, but are not limited to, the following:

   a. Special events planned at Project site.
   b. Immediate follow-up when on-site events result in construction damage or losses.
   c. Photographs to be taken at fabrication locations away from Project site. These photographs are not subject to unit prices or unit-cost allowances.
   d. Substantial Completion of a major phase or component of the Work.
   e. Extra record photographs at time of final acceptance.
   f. Owner's request for special publicity photographs.

END OF SECTION 01-3233

SECTION 01-3300 - SUBMITTAL PROCEDURES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

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

1. Contractor’s construction schedule
2. Submittal schedule
3. Shop Drawings
4. Coordination Drawings and Layout
5. Daily Construction Reports
6. Product Data
7. Samples
8. Site Mobilization Plan
9. Safety Plan
10. Background Screenings

B. Related Requirements:

1. AIA Document A101 Contract Article 5 "Payments" for submitting Applications for Payment and the schedule of values.
2. Division 01 Section "Construction Progress Documentation" for submitting schedules and reports, including Contractor's construction schedule.
3. Division 01 Section "Operation and Maintenance Data" for submitting operation and maintenance manuals.
4. Division 01 Section "Project Record Documents" for submitting record Drawings, record Specifications, and record Product Data.

1.3 DEFINITIONS

A. Action Submittals: Written and graphic information and physical samples that require Architect's responsive action. Action submittals are those submittals indicated in individual Specification Sections as "action submittals."

B. Informational Submittals: Written and graphic information and physical samples that do not require Architect's responsive action. Submittals may be rejected for not complying with

requirements contract. Informational submittals are those submittals indicated in individual Specification Sections as "informational submittals."

C. Portable Document Format (PDF-Adobe Pro): An open standard file format licensed by Adobe Systems used for representing documents in a device-independent and display resolution-independent fixed-layout document format.

1.4 ACTION SUBMITTALS

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

1. Coordinate submittal schedule with list of subcontracts, the schedule of values, and Contractor's construction schedule.
2. Initial Submittal: Submit concurrently with startup construction schedule. Include submittals required during the first 30-60 days of construction. List those submittals required to maintain orderly progress of the Work and those required early because of long lead time for manufacture or fabrication.
3. Final Submittal: Submit concurrently with the first complete submittal of Contractor's CPM construction schedule which is due within twenty (20) days from contract execution.

    a. Submit revised submittal schedule to reflect changes in current status and timing for submittals.

4. Format: Arrange the following information in a tabular format:

    a. Project Name and Project Number
    b. Scheduled date for first submittal.
    c. Specification Section number and title.
    d. Submittal category: Action; informational.
    e. Name of subcontractor.
    f. Scheduled date for Architect's final release or approval.

B. Submittals Initially Required: Contractor shall initially submit for review prior to or at the pre-construction meeting the following submittals not limited to:
1. Emergency / Point of Contact Information: Point of contact shall be persons whom are directly employed by the Contractor who are designated to be available 24/7 for the duration of the project. Such person(s) shall be accessible and responsive as required within the University’s Contractors Environmental Health and Safety Manual. Such responsiveness shall also include but not be limited to remedies to the perimeter construction fence and security breaches to the project site.
2. Contractor’s Health and Safety Plan specific to the project: Prior to, and as a condition of mobilization on site, the Contractor shall submit a Safety Plan consisting of no less than the following information:
    a. Safety Data Sheets for all potentially harmful substances.

b. A list of Contractor, Subcontractor, and Owner personnel to be notified in the event of an emergency.
c. A list of Contractor's personnel to be notified by the Owner in the event of an emergency during "off" hours.
d. Evacuation Plans.
e. Emergency medical procedures.
f. Locations of emergency medical equipment.
g. Completed Contractor Receipt Acknowledgement Form from the last page of the University of Connecticut, Contractor EHS Manual http://www.ehs.uconn.edu/ppp/Contractor_EHS_Manual.pdf
h. Executed Confined Space as required by the Owner's EHS manual. Utilize provided forms.

3. Contractor's Quality control plan specific to the project.
   a. Outline responsibilities within the Contractor's project team.
   b. Responsibility with review of submittals being received from their subcontractors before passing them along to the Architect. What are the mechanisms within your process of review of your various trade submittals to ensure proper coordination has been performed prior to forwarding the submittals to the Architect?
4. Copy of the transmittal letter of the project specific Affirmative Action Plan submission to CHRO and Owner. Transmittal must reflect the project name and number and date transmitted.
5. Detailed CPM Construction Schedule specific to the project detailed in a format required within the contract documents.
   a. Breakdown complete Submittal Schedule.
6. List of all Subcontractors and Suppliers in a format required by the Owner. Utilize Owner's template that can be found at the following web link under "working with us / Contractor and Consultants": http://updc.uconn.edu.
7. Background Screening Control Plan (where applicable)
8. Labor Rate Submissions for all sub and sub-tier subcontractor's self-performed trade labor work and each classification. Follow the requirements outlined within other sections of Division One.
9. Specific Trade Certification Submittals, not limited to:
   a. Telecommunication technician certifications (where applicable)
   b. Millwork certification (where applicable)
   c. Millwork installer certification (if different from the millwork fabricator)
   d. Contract Arborist (where applicable)
   e. ACI certification for flatwork concrete installations
   f. AWI certification for fabrication and installation of millwork product
10. Erosion Control Plan
11. Any proposed Changes to the Site Logistics Plan and a justification for why it is being proposed.

1.5 SUBMITTAL ADMINISTRATIVE REQUIREMENTS

A. Coordination: Coordinate preparation and processing of submittals with performance of construction activities.

1. Coordinate each submittal with fabrication, purchasing, testing, delivery, other submittals, and related activities that require sequential activity.

2. Submit all submittal items required for each Specification Section concurrently unless partial submittals for portions of the Work are indicated on approved submittal schedule.
3. Submit action submittals and informational submittals required by the same Specification Section as separate packages under separate transmittals.
4. Coordinate transmittal of different types of submittals for related parts of the Work so processing will not be delayed because of need to review submittals concurrently for coordination.

    a. Architect reserves the right to withhold action on a submittal requiring coordination with other submittals until related submittals are received.

B. Processing Time: Allow time for any submittal review, including time for resubmittals, as follows. Time for review shall commence on Architect's receipt, Commissioning Agent's receipt and Official having jurisdiction receipt of submittal. No extension of the Contract Time will be authorized because of failure to transmit submittals enough in advance of the Work to permit processing, including resubmittals.

1. Initial Review: Allow fourteen (14) days from receipt for initial review of each submittal. Allow additional time if coordination with subsequent submittals is required. Architect will advise Contractor when a submittal being processed must be delayed for coordination.
2. Intermediate Review: If intermediate submittal is necessary, process it in same manner as initial submittal.
3. Resubmittal Review: Allow fourteen (14) days for review of each resubmittal.
4. Sequential Review: Where sequential review of submittals by Architect's consultants, Owner, or other parties is indicated, allow twenty-one (21) days for initial review of each submittal.
5. Concurrent Consultant Review: Where the Contract Documents indicate that submittals may be transmitted simultaneously to Architect and to Architect's consultants, allow fourteen (14) days for review of each submittal. Submittal will be returned to Architect before being returned to Contractor.

C. Paper Submittals: Place a permanent label or title block on each submittal item for identification.

1. Indicate name of firm or entity that prepared each submittal on label or title block.
2. Provide a space approximately 6 by 8 inches on label or beside title block to record Contractor's review and approval markings and action taken by Architect.
3. Include the following information for processing and recording action taken:

    a. Project name.
    b. Date.
    c. Name of Architect.
    d. Name of Contractor.
    e. Name of subcontractor.
    f. Name of supplier.
    g. Name of manufacturer.
    h. Submittal number or other unique identifier, including revision identifier.

        1) Submittal number shall use Specification Section number followed by a decimal point and then a sequential number (e.g., 061000.01).

Resubmittals shall include an alphabetic suffix after another decimal point (e.g., 061000.01.A).

i. Number and title of appropriate Specification Section.
j. Drawing number and detail references, as appropriate.
k. Location(s) where product is to be installed, as appropriate.
l. Other necessary identification.

4. Additional Paper Copies: Unless additional copies are required for final submittal, and unless Architect observes noncompliance with provisions in the Contract Documents, initial submittal may serve as final submittal.

   a. Submit one copy of submittal to concurrent reviewer in addition to specified number of copies to Owner.

5. Transmittal for Paper Submittals: Assemble each submittal individually and appropriately for transmittal and handling. Transmit each submittal using a transmittal form. Architect will return without review submittals received from sources other than Contractor.

   a. Transmittal Form for Paper Submittals: Use AIA Document G810 or similar format.

D. Electronic Submittals: Identify and incorporate information in each electronic submittal file as follows:

1. Assemble complete submittal package into a single indexed file incorporating paper submittal requirements of a single Specification Section and transmittal form with links enabling navigation to each item.
2. Name file with submittal number or other unique identifier, including revision identifier.

   a. File name shall use project identifier and Specification Section number followed by a decimal point and then a sequential number (e.g., LNHS-061000.01). Resubmittals shall include an alphabetic suffix after another decimal point (e.g., LNHS-061000.01.R1).

3. Provide means for insertion to permanently record Contractor's review and approval markings and action taken by Architect.

4. Transmittal Form for Electronic Submittals: Use electronic form acceptable to Owner, containing the following information:

   a. Project name.
   b. Date.
   c. Name and address of Architect.
   d. Name of Contractor.
   e. Names of subcontractor, manufacturer, and supplier.
   f. Category and type of submittal.
   g. Specification Section number and title.
   h. Related physical samples submitted directly.
   i. Indication of full or partial submittal.

j. Transmittal number.
k. Submittal and transmittal distribution record.
l. Remarks.

E. Options: Identify options requiring selection by Architect.

F. Additional Information: On an attached separate sheet, prepared on Contractor's letterhead, record relevant information, requests for data, revisions other than those requested by Architect on previous submittals, from requirements in the Contract Documents, including minor variations and limitations. Include same identification information as related submittal.

G. Resubmittals: Make resubmittals in same form and number of copies as initial submittal.

1. Note date and content of previous submittal.
2. Note date and content of revision in label or title block and clearly indicate extent of revision.
3. Resubmit submittals until they are marked with approval notation from Architect's action stamp.

H. Distribution: Furnish copies of final submittals to manufacturers, subcontractors, suppliers, fabricators, and installers, authorities having jurisdiction, and others as necessary for performance of construction activities. Show distribution on transmittal forms.

I. Use for Construction: Retain complete copies of submittals on Project site. Use only final action submittals that are marked with approval notation from Architect's action stamp.

PART 2 - PRODUCTS

2.1 SUBMITTAL PROCEDURES

A. General Submittal Procedure Requirements: Prepare and submit submittals required by individual Specification Sections. Types of submittals are indicated in individual Specification Sections. Transmit each submittal from Contractor to Owner using a transmittal form.

1. Submit electronic submittals as PDF-Adobe Pro electronic files.

a. Architect will return annotated file. Annotate and retain one copy of file as an electronic Project record document file.

2. Action Submittals: Submit five (5) paper copies of each submittal unless otherwise indicated. Architect will coordinate reviews and incorporate comments received from officials having jurisdiction and return four (4) copies, one to Owner, two to Contractor and one to the official having jurisdiction.

3. Informational Submittals: Submit five (5) paper copies of each submittal unless otherwise indicated. Architect will not return copies.

4. Certificates and Certifications Submittals: Provide a statement that includes signature of entity responsible for preparing certification. Certificates and certifications shall be

signed by an officer or other individual authorized to sign documents on behalf of that entity.

a. Provide a digital signature with digital certificate on electronically submitted certificates and certifications where indicated.
b. Provide a notarized statement on original paper copy certificates and certifications where indicated.

B. Product Data: Collect information into a single submittal for each element of construction and type of product or equipment.

1. If information must be specially prepared for submittal because standard published data are not suitable for use, submit as Shop Drawings, not as Product Data.
2. Mark each copy of each submittal to show which products and options are applicable.
3. Include the following information, as applicable:

a. Manufacturer's catalog cuts.
b. Manufacturer's product specifications.
c. Standard color charts.
d. Statement of compliance with specified referenced standards.
e. Notation of coordination requirements.

4. For equipment, include the following in addition to the above, as applicable:

a. Clearances required to other construction, if not indicated on accompanying Shop Drawings.

5. Submit Product Data before or concurrent with Samples.
6. Submit Product Data in the following format:

a. Four (4) paper copies of Product Data unless otherwise indicated. Owner will retain one (1) copy and Architect will retain one (1) copy; remainder will be returned.

C. Shop Drawings: Prepare Project-specific information, drawn accurately to scale. Do not base Shop Drawings on reproductions of the Contract Documents or standard printed data.

1. Preparation: Fully illustrate requirements in the Contract Documents. Include the following information, as applicable:

a. Identification of products.
b. Schedules.
c. Compliance with specified standards.
d. Notation of coordination requirements.
e. Notation of dimensions established by field measurement.
f. Relationship and attachment to adjoining construction clearly indicated.
g. Seal and signature of professional engineer if specified.

2. Sheet Size: Except for templates, patterns, and similar full-size drawings, submit Shop Drawings on sheets at least 8-1/2 by 11 inches, but no larger than 30 by 42 inches.
3. Submit Shop Drawings in the following format:

If five (5) opaque copies of each submittal. Owner will retain one (1) copy, official having jurisdiction will retain one (1) copy and Architect will retain two (2) copies; remainder will be returned.

D. Samples: Submit physical Samples for review of kind, color, pattern, and texture for a check of these characteristics with other elements and for a comparison of these characteristics between submittal and actual component as delivered and installed.

1. Transmit Samples that contain multiple, related components such as accessories together in one submittal package.
2. Identification: Attach label on unexposed side of Samples that includes the following:

    a. Generic description of Sample.
    b. Product name and name of manufacturer.
    c. Sample source.
    d. Number and title of applicable Specification Section.

3. For projects where electronic submittals are required, provide corresponding electronic submittal in addition to physical Sample transmittal, digital image file illustrating Sample characteristics, and identification information for record.

4. Disposition: Maintain sets of approved Samples at Project site, available for quality-control comparisons throughout the course of construction activity. Sample sets may be used to determine final acceptance of construction associated with each set.

    a. Samples that may be incorporated into the Work are indicated in individual Specification Sections. Such Samples must be in an undamaged condition at time of use.
    b. Samples not incorporated into the Work, or otherwise designated as Owner's property, are the property of Contractor.

5. Samples for Initial Selection: Submit manufacturer's color charts consisting of units or sections of units showing the full range of colors, textures, and patterns available.

    a. Number of Samples: Submit two full set(s) of available choices where color, pattern, texture, or similar characteristics are required to be selected from manufacturer's product line. Architect will return submittal with options selected.

6. Samples for Verification: Submit full-size units or Samples of size indicated, prepared from same material to be used for the Work, cured and finished in manner specified, and physically identical with material or product proposed for use, and that show full range of color and texture variations expected. Samples include, but are not limited to, the following: partial sections of manufactured or fabricated components; small cuts or containers of materials; complete units of repetitively used materials; mock-ups, swatches showing color, texture, and pattern; color range sets; and components used for independent testing and inspection.

    a. Number of Samples: Submit three (3) sets of Samples. Architect will retain two Sample sets; remainder will be returned. Mark up and retain one returned Sample set as a project record sample.

1) Submit a single Sample where assembly details, workmanship, fabrication techniques, connections, operation, and other similar characteristics are to be demonstrated.
2) If variation in color, pattern, texture, or other characteristic is inherent in material or product represented by a Sample, submit at least three (3) sets of paired units that show approximate limits of variations.

E. Coordination Drawing Submittals: Comply with requirements specified in Division 01 Section "Project Management and Coordination."

F. Contractor's Construction Schedule: Comply with requirements specified in Division 01 Section "Construction Progress Documentation."

G. Application for Payment and Schedule of Values: Comply with requirements specified in Division 00 Section "Payment Procedures."

H. Test and Inspection Reports and Schedule of Tests and Inspections Submittals: Comply with requirements specified in Division 01 Section "Quality Requirements."

I. Closeout Submittals and Maintenance Material Submittals: Comply with requirements specified in Division 01 Section "Closeout Procedures."

J. Maintenance Data: Comply with requirements specified in Division 01 Section "Operation and Maintenance Data."

K. Site Mobilization / Logistics Plan

1. Prior to the start of operations on the site, the Contractor shall submit to the Owner, a Site Mobilization Logistics Plan which shall indicate pertinent dates and times, logistics, construction fence, laydown area, traffic flow and compliance with the General Requirements to a level of detail commensurate with the complexity of the construction and the sensitivity of the Owner’s ongoing activities on site.

L. Safety Plan

1. Prior to, and as a condition of mobilization on site, the Contractor shall submit a Safety Plan consisting of no less that the following information:

a. Material Safety Data Sheets for all potentially harmful substances.
b. A list of Contractor, Subcontractor, and Owner personnel to be notified in the event of an emergency.
c. A list of Contractor’s personnel to be notified by the Owner in the event of an emergency during “off” hours.
d. Evacuation Plans.
e. Emergency medical procedures.
f. Locations of emergency medical equipment.
g. Completed Contactor Receipt Acknowledgement Form from the last page of the University of Connecticut, Contractor EHS Manual (http://www.ehs.uconn.edu/ppp/Contractor_EHS_Manual.pdf)

M. Contractor’s Background Screenings

1. Prior to, and as a condition of mobilization on site, the Contractor shall submit a Background Screening Control Plan process on each worker for each project regardless of past screenings and shall be consistent with the requirements of the University's Capital Project's Background Screening Guidelines. The University's Capital Project's Background Screening Guidelines can be found: http://paes.uconn.edu/Contractors.html

    a. Identify the background screening company who will be conducting the screenings for all workers under this project. And the process they will be using to perform the screenings.
    b. Identify how the Contractor will control access to the Construction Site to restrict non-screened or non-approved workers from entering the work site and performing work.
2. Provide a report monthly listing all workers who have been approved for work, disqualified for work and who are pending review.

2.2 DELEGATED-DESIGN SERVICES

A. Performance and Design Criteria: Where professional design services or certifications by a design professional are specifically required of Contractor by the Contract Documents, provide products and systems complying with specific performance and design criteria indicated.

1. If criteria indicated are not sufficient to perform services or certification required, submit a written request for additional information to Architect.

B. Delegated-Design Services Certification: In addition to Shop Drawings, Product Data, and other required submittals, submit digitally signed PDF electronic file and three (3) paper copies of certificate, signed and sealed by the responsible design professional, for each product and system specifically assigned to Contractor to be designed or certified by a design professional.

1. Indicate that products and systems comply with performance and design criteria in the Contract Documents. Include list of codes, design loads, and other factors used in performing these services.

PART 3 - EXECUTION

3.1 CONTRACTOR'S REVIEW

A. Action and Informational Submittals: Review each submittal and check for coordination with other Work of the Contract and for compliance with the Contract Documents. Note corrections and field dimensions. Mark with approval stamp before submitting to Architect. Project Closeout and Maintenance Material Submittals: See requirements in Division 01 Section "Closeout Procedures."

Incomplete submittals are unacceptable, will be considered nonresponsive, and will be returned for resubmittal without review. Any re-review of any one submittal beyond two reviews by the Architect or Engineer (not a direct cause by the Architect or Engineer), costs associated for their continued review(s) shall be at the Contractor's expense.

B. Approval Stamp: Stamp each submittal with a uniform, approval stamp. Include Project name and location, submittal number, Specification Section title and number, name of reviewer, date of Contractor's approval, and statement certifying that submittal has been reviewed, checked, and approved for compliance with the Contract Documents.

3.2 ARCHITECT'S ACTION

A. Action Submittals: Architect will review each submittal, make marks to indicate corrections or revisions required, and return the submittal to contractor, Owner will receive final approved submittal from the Architect. Architect will stamp each submittal with an action stamp and will mark stamp appropriately to indicate action.

B. Informational Submittals: Architect will review each submittal and will not return it, or will return it if it does not comply with requirements. Architect will forward each submittal to appropriate party.

C. Partial submittals prepared for a portion of the Work will be reviewed when use of partial submittals has received prior approval from Architect.

D. Incomplete submittals are unacceptable, will be considered nonresponsive, and will be returned for resubmittal without review.

E. Submittals not required by the Contract Documents may be returned by the Architect without action.

END OF SECTION 01-3300

SECTION 01-4000 - QUALITY REQUIREMENTS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

A. Section includes administrative and procedural requirements for quality assurance and quality control.

B. Testing and inspecting services are required to verify compliance with requirements specified or indicated. These services do not relieve Contractor of responsibility for compliance with the Contract Document requirements.

1. Specific quality-assurance and -control requirements for individual construction activities are specified in the Sections that specify those activities. Requirements in those Sections may also cover production of standard products.
2. Specified tests, inspections, and related actions do not limit Contractor's other quality-assurance and control procedures that facilitate compliance with the Contract Document requirements.
3. Requirements for Contractor to provide quality-assurance and control services required by Architect, Owner, or authorities having jurisdiction are not limited by provisions of this Section.

C. Related Requirements:

1. Division 01 Section "Allowances" for testing and inspecting allowances.
2. Divisions 01 Section Close out
3. Divisions 02 through 33 Sections for specific test and inspection requirements.

1.3 DEFINITIONS

A. Quality-Assurance Services: Activities, actions, and procedures performed before and during execution of the Work to guard against defects and deficiencies and substantiate that proposed construction will comply with requirements.

B. Quality-Control Services: Tests, inspections, procedures, and related actions during and after execution of the Work to evaluate that actual products incorporated into the Work and completed construction comply with requirements. Services do not include contract enforcement activities performed by Architect.

C. Mockups: Full-size physical assemblies that are constructed on-site. Mockups are constructed to verify selections made under Sample submittals; to demonstrate aesthetic effects and, where indicated, qualities of materials and execution; to review coordination, testing, or operation; to show interface between dissimilar materials; and to demonstrate compliance with specified installation tolerances. Mockups are not Samples. Unless otherwise indicated, approved mockups establish the standard by which the Work will be judged.

D. Preconstruction Testing: Tests and inspections performed specifically for Project before products and materials are incorporated into the Work, to verify performance or compliance with specified criteria.

E. Product Testing: Tests and inspections that are performed by an NRTL, an NVLAP, or a testing agency qualified to conduct product testing and acceptable to authorities having jurisdiction, to establish product performance and compliance with specified requirements.
1. NRTL: A nationally recognized testing laboratory according to 29 CFR 1910.7.
2. NVLAP: A testing agency accredited according to NIST's National Voluntary Laboratory Accreditation Program.

F. Source Quality-Control Testing: Tests and inspections that are performed at the source, e.g., plant, mill, factory, or shop.

G. Field Quality-Control Testing: Tests and inspections that are performed on-site for installation of the Work and for completed Work.

H. Testing Agency: An entity engaged to perform specific tests, inspections, or both. Testing laboratory shall mean the same as testing agency.

I. Installer/Applicator/Erector: Contractor or another entity engaged by Contractor as an employee, Subcontractor, or Sub-subcontractor, to perform a particular construction operation, including installation, erection, application, and similar operations.

1. Use of trade-specific terminology in referring to a trade or entity does not require that certain construction activities be performed by accredited or unionized individuals, or that requirements specified apply exclusively to specific trade(s).

J. Experienced: When used with an entity or individual, "experienced" means having successfully completed a minimum of five previous projects similar in nature, size, and extent to this Project; being familiar with special requirements indicated; and having complied with requirements of authorities having jurisdiction.

1.4 CONFLICTING REQUIREMENTS

A. Referenced Standards: If compliance with two or more standards is specified and the standards establish different or conflicting requirements for minimum quantities or quality levels, comply with the most stringent requirement. Refer conflicting requirements that are different, but apparently equal, to Architect for a decision before proceeding.

B. Minimum Quantity or Quality Levels: The quantity or quality level shown or specified shall be the minimum provided or performed. The actual installation may comply exactly with the minimum quantity or quality specified, or it may exceed the minimum within reasonable limits.

To comply with these requirements, indicated numeric values are minimum or maximum, as appropriate, for the context of requirements. Refer uncertainties to Architect for a decision before proceeding.

1.5 INFORMATIONAL SUBMITTALS

A. Contractor's Quality-Control Plan: For quality-assurance and quality-control activities and responsibilities.

B. Qualification Data: For Contractor's quality-control personnel.

C. Contractor's Statement of Responsibility: When required by authorities having jurisdiction, submit copy of written statement of responsibility sent to authorities having jurisdiction before starting work on the following systems:

1. Seismic-force-resisting system, designated seismic system, or component listed in the designated seismic system quality-assurance plan prepared by Architect.
2. Main wind-force-resisting system or a wind-resisting component listed in the wind-force-resisting system quality-assurance plan prepared by Architect.
3. Any other delegated design work required within the contract documents.

D. Schedule of Tests and Inspections: Prepare in tabular form and include the following:

1. Specification Section number and title.
2. Entity responsible for performing tests and inspections.
3. Description of test and inspection.
4. Identification of applicable standards.
5. Identification of test and inspection methods.
6. Number of tests and inspections required.
7. Time schedule or time span for tests and inspections.
8. Requirements for obtaining samples.
9. Unique characteristics of each quality-control service.

1.6 CONTRACTOR'S QUALITY-CONTROL PLAN

A. Quality-Control Plan, General: Submit project specific quality-control plan within ten (10) days of Notice to Proceed, and not less than five (5) days prior to preconstruction conference. Submit in format acceptable to Owner. Identify personnel, procedures, controls, instructions, tests, records, and forms to be used to carry out Contractor's quality-assurance and quality-control responsibilities. Coordinate with Contractor's construction schedule.

1. Vibration Monitoring – occupied building space (the Vivarium) below the quadrangle space houses research activity and laboratory animals which are very sensitive to vibration. To eliminate the risk of construction impact on the occupants and their work, the Contractor shall establish at least 6 monitoring points within the building (locations to be determined in coordination with the Owner and the building's facility manager) and maintain them throughout the construction period. Drawings describe limitations on the type and use of equipment allowed in order to reduce the likelihood of any vibration reaching levels that affect the research in this facility. The Quality Control Plan shall

include delineation of activities that may cause vibration and description of proposed equipment to be used and measures to be taken to eliminate impact on the both the structure and the occupants. Quality Control Plan shall include advance notification (2 weeks) of activities that might cause vibration in the facility.

B. Quality-Control Personnel Qualifications: Engage qualified full-time personnel trained and experienced in managing and executing quality-assurance and quality-control procedures similar in nature and extent to those required for Project.

1. Project quality-control manager may also serve as Project superintendent.

C. Submittal Procedure: Describe procedures for ensuring compliance with requirements through review and management of submittal process. Indicate qualifications of personnel responsible for submittal review.

D. Testing and Inspection: In quality-control plan, include a comprehensive schedule of Work requiring testing or inspection, including the following:

1. Contractor-performed tests and inspections including subcontractor-performed tests and inspections. Include required tests and inspections and Contractor-elected tests and inspections.
2. Special inspections required by authorities having jurisdiction and indicated on the "Statement of Special Inspections."
3. Owner-performed tests and inspections indicated in the Contract Documents.

E. Continuous Inspection of Workmanship: Describe process for continuous inspection during construction to identify and correct deficiencies in workmanship in addition to testing and inspection specified. Indicate types of corrective actions to be required to bring work into compliance with standards of workmanship established by Contract requirements and approved mockups.

F. Monitoring and Documentation: Maintain testing and inspection reports including log of approved and rejected results. Include work Architect has indicated as nonconforming or defective. Indicate corrective actions taken to bring nonconforming work into compliance with requirements. Comply with requirements of authorities having jurisdiction.

1.7 REPORTS AND DOCUMENTS

A. Test and Inspection Reports: Prepare and submit certified written reports specified in other Sections. Include the following:

1. Date of issue.
2. Project title and number.
3. Name, address, and telephone number of testing agency.
4. Dates and locations of samples and tests or inspections.
5. Names of individuals making tests and inspections.
6. Description of the Work and test and inspection method.
7. Identification of product and Specification Section.
8. Complete test or inspection data.

9. Test and inspection results and an interpretation of test results.
10. Record of temperature and weather conditions at time of sample taking and testing and inspecting.
11. Comments or professional opinion on whether tested or inspected Work complies with the Contract Document requirements.
12. Name and signature of laboratory inspector.
13. Recommendations on retesting and re-inspecting.

B. Manufacturer's Technical Representative's Field Reports: Prepare written information documenting manufacturer's technical representative's tests and inspections specified in other Sections. Include the following:

1. Name, address, and telephone number of technical representative making report.
2. Statement on condition of substrates and their acceptability for installation of product.
3. Statement that products at Project site comply with requirements.
4. Summary of installation procedures being followed, whether they comply with requirements and, if not, what corrective action was taken.
5. Results of operational and other tests and a statement of whether observed performance complies with requirements.
6. Certification that conditions, products, and installation will satisfy all aspects of the warranty.
7. Other required items indicated in individual Specification Sections.

C. Factory-Authorized Service Representative's Reports: Prepare written information documenting manufacturer's factory-authorized service representative's tests and inspections specified in other Sections. Include the following:

1. Name, address, and telephone number of factory-authorized service representative making report.
2. Statement that equipment complies with requirements.
3. Results of operational and other tests and a statement of whether observed performance complies with requirements.
4. Certification that conditions, products, and installation will satisfy all aspects of the warranty
5. Other required items indicated in individual Specification Sections.

1.8 QUALITY ASSURANCE

A. General: Qualifications paragraphs in this article establish the minimum qualification levels required; individual Specification Sections specify additional requirements.

B. Manufacturer Qualifications: A firm experienced in manufacturing products or systems similar to those indicated for this Project and with a record of successful in-service performance, as well as sufficient production capacity to produce required units.

C. Fabricator Qualifications: A firm experienced in producing products similar to those indicated for this Project and with a record of successful in-service performance, as well as sufficient production capacity to produce required units.

D. Installer Qualifications: A firm or individual experienced and certified in installing, erecting, or assembling work similar in material, design, and extent to that indicated for this Project, whose work has resulted in construction with a record of successful in-service performance.

E. Professional Engineer Qualifications: A professional engineer who is legally qualified to practice in jurisdiction where Project is located and who is experienced in providing engineering services of the kind indicated. Engineering services are defined as those performed for installations of the system, assembly, or product that are similar in material, design, and extent to those indicated for this Project.

F. Specialists: Certain Specification Sections require that specific construction activities shall be performed by entities who are recognized experts in those operations. Specialists shall satisfy qualification requirements indicated and shall be engaged for the activities indicated.

1. Requirements of authorities having jurisdiction shall supersede requirements for specialists.

G. Testing Agency Qualifications: An NRTL, an NVLAP, or an independent agency with the experience and capability to conduct testing and inspecting indicated, as documented according to ASTM E 329; and with additional qualifications specified in individual Sections; and, where required by authorities having jurisdiction, that is acceptable to authorities.

H. Manufacturer's Technical Representative Qualifications: An authorized representative of manufacturer who is trained and approved by manufacturer to observe and inspect installation of manufacturer's products that are similar in material, design, and extent to those indicated for this Project.

I. Factory-Authorized Service Representative Qualifications: An authorized representative of manufacturer who is trained and approved by manufacturer to inspect installation of manufacturer's products that are similar in material, design, and extent to those indicated for this Project.

J. Mockups: Before installing portions of the Work requiring mockups, build mockups for each form of construction and finish required to comply with the following requirements, using materials indicated for the completed Work:

1. Build mockups in location and of size indicated or, if not indicated, as directed by Architect.
2. Notify Architect seven (7) days in advance of dates and times when mockups will be constructed.
3. Employ supervisory personnel who will oversee mockup construction. Employ workers that will be employed during the construction at Project.
4. Demonstrate the proposed range of aesthetic effects and workmanship.
5. Obtain Architect's approval of mockups before starting work, fabrication, or construction.

    a. Allow seven (7) days for initial review and each re-review of each mockup.

6. Maintain mockups during construction in an undisturbed condition as a standard for judging the completed Work.
7. Demolish and remove mockups when directed unless otherwise indicated.

K. Integrated Exterior Mockups: Construct integrated exterior mockup as indicated on Drawings. Coordinate installation of exterior envelope materials and products for which mockups are required in individual Specification Sections, along with supporting materials.

1.9 QUALITY CONTROL

A. Owner Responsibilities: The Owner will provide independent inspections, tests, and similar quality control services specified to be performed by independent agencies and not by the contractor, except where they are specifically indicated as the contractor's responsibility or are provided by another identified entity. Costs for these services are not included in the Contract Sum.

1. The Owner will employ and pay for services of an independent agency and furnish Contractor with names, addresses, and telephone numbers of testing agencies engaged and a description of types of testing and inspecting they are engaged to perform.
2. Costs for retesting and re-inspecting construction that replaces or is necessitated by work that failed to comply with the Contract Documents, cancellation of a scheduled test short of the required time the testing agency has mandated or in instances where the work is not prepared for testing within a reasonable amount of time from arrival of the testing agent, will be charged to Contractor**,** and the Contract Sum will be adjusted by Change Order.

B. Contractor Responsibilities: Perform additional quality-control activities required to verify that the Work complies with requirements, whether specified or not.

1. Unless otherwise indicated, provide quality-control services specified and those required by authorities having jurisdiction. Perform quality-control services required of Contractor by authorities having jurisdiction, whether specified or not.
2. Where services are indicated as Contractor's responsibility, engage a qualified testing agency to perform these quality-control services.

    a. Contractor shall not employ same entity engaged by Owner, unless agreed to in writing by Owner.

3. Notify the Owner and testing agencies at least 24 hours in advance of time when Work that requires testing or inspecting will be performed.
4. Where quality-control services are indicated as Contractor's responsibility, submit a certified written report, in duplicate, of each quality-control service.
5. Testing and inspecting requested by Contractor and not required by the Contract Documents are Contractor's responsibility.
6. Submit additional copies of each written report directly to authorities having jurisdiction, when they so direct.

C. Manufacturer's Field Services: Where indicated, engage a factory-authorized service representative to inspect field-assembled components and equipment installation, including service connections. Report results in writing as specified in Division 01 Section "Submittal Procedures."

D. Manufacturer's Technical Services: Where indicated, engage a manufacturer's technical representative to observe and inspect the Work. Manufacturer's technical representative's

services include participation in preinstallation conferences, examination of substrates and conditions, verification of materials, observation of Installer activities, inspection of completed portions of the Work, and submittal of written reports.

E. Retesting/Reinspecting: Regardless of whether original tests or inspections were Contractor's responsibility, provide quality-control services, including retesting and reinspecting, for construction that replaced Work that failed to comply with the Contract Documents.

F. Testing Agency Responsibilities: Cooperate with Architect**,** and Contractor in performance of duties. Provide qualified personnel to perform required tests and inspections.

1. Notify Owner, Architect**,** and Contractor promptly of irregularities or deficiencies observed in the Work during performance of its services.
2. Determine the location from which test samples will be taken and in which in-situ tests are conducted.
3. Conduct and interpret tests and inspections and state in each report whether tested and inspected work complies with or deviates from requirements.
4. Submit a certified written report, in duplicate, of each test, inspection, and similar quality-control service through Contractor.
5. Do not release, revoke, alter, or increase the Contract Document requirements or approve or accept any portion of the Work.
6. Do not perform any duties of Contractor.

G. Associated Services: Cooperate with agencies performing required tests, inspections, and similar quality-control services, and provide reasonable auxiliary services as requested. Notify agency sufficiently in advance of operations to permit assignment of personnel. Provide the following:

1. Access to the Work.
2. Incidental labor and facilities necessary to facilitate tests and inspections.
3. Adequate quantities of representative samples of materials that require testing and inspecting. Assist agency in obtaining samples.
4. Facilities for storage and field curing of test samples.
5. Delivery of samples to testing agencies.
6. Preliminary design mix proposed for use for material mixes that require control by testing agency.
7. Security and protection for samples and for testing and inspecting equipment at Project site.

H. Coordination: Coordinate sequence of activities to accommodate required quality-assurance and control services with a minimum of delay and to avoid necessity of removing and replacing construction to accommodate testing and inspecting.

1. Schedule times for tests, inspections, obtaining samples, and similar activities.

I. Schedule of Tests and Inspections: Prepare a schedule of tests, inspections, and similar quality-control services required by the Contract Documents. Coordinate and submit concurrently with Contractor's construction schedule. Update as the Work progresses.

1. Distribution: Distribute schedule to Owners Representative, Architect, testing agencies, and each party involved in performance of portions of the Work where tests and inspections are required.

1.10 SPECIAL TESTS AND INSPECTIONS

A. Special Tests and Inspections: Owner will engage a qualified special inspector to conduct special tests and inspections required by authorities having jurisdiction as the responsibility of Owner**,** as indicated in Statement of Special Inspections attached to this Section.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION

3.1 TEST AND INSPECTION LOG

A. Test and Inspection Log: Prepare a record of tests and inspections. Include the following:

1. Date test or inspection was conducted.
2. Description of the Work tested or inspected.
3. Date test or inspection results were transmitted to Architect.
4. Identification of testing agency or special inspector conducting test or inspection.

B. Maintain log at Project site. Post changes and revisions as they occur. Provide access to test and inspection log for Owner and Architect's reference during normal working hours.

3.2 REPAIR AND PROTECTION

A. General: On completion of testing, inspecting, sample taking, and similar services, repair damaged construction and restore substrates and finishes.

1. Provide materials and comply with installation requirements specified in other Specification Sections or matching existing substrates and finishes. Restore patched areas and extend restoration into adjoining areas with durable seams that are as invisible as possible. Comply with the Contract Document requirements for cutting and patching in Division 01 Section "Execution."

B. Protect construction exposed by or for quality-control service activities.

C. Repair and protection are Contractor's responsibility, regardless of the assignment of responsibility for quality-control services.

END OF SECTION 01-4000

SECTION 01-5000 - TEMPORARY FACILITIES AND CONTROLS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

A. Section includes requirements for temporary services and facilities, including:

1. Utilities
2. Temporary construction
3. Construction aids
4. Barriers and enclosures
5. Security
6. Access roads
7. Temporary controls
8. Traffic control
9. Project identification signs and banners
10. Site Logistics
11. Field offices and sheds
12. Temporary use of Roads and Campus grounds
13. Maintenance of temporary services and facilities

.

B. Related Requirements:

1. Division 01 Section "Summary" for work restrictions and limitations on utility interruptions.
2. Divisions 01 Section “Temporary Tree and Plant Protection” for protection and pruning of existing trees and plants that are affected by execution of the Work.
3. Division 32 Section "Asphalt Paving" for construction and maintenance of asphalt pavement for temporary roads and paved areas.
4. Division 32 Section "Concrete Paving" for construction and maintenance of cement concrete pavement for temporary roads and paved areas.

C. Temporary utilities may include but are not limited to:

1. Temporary electric power and light.
2. Temporary heating, cooling and ventilating.
3. Telephone service.
4. Water services and distribution.
5. Temporary sanitary facilities, including drinking water.
6. Temporary sewers and drainage

7. Temporary fire protection.

D. Security may include but is not limited to:
1. On-Site -24hour security
2. Security enclosures, fences and lockups
3. Gate attendants and gate house

E. Temporary use of access roads and parking include but are not limited to:

1. Temporary roads and paving

2. Temporary use of grounds for parking, access and laydown space

3. Use of public and private roads to the project site.

F. Temporary controls may include but are not limited to:

1. Dewatering facilities and drains
2. Waste disposal
3. Rodent and pest control
4. Environmental protection
5. Nuisance dust control
6. Noise control.
7. Site area fencing
8. Safety controls
9. Covered walkways at entrances and other locations
10. Protection of grounds including protection of existing hard and soft scape surfaces.

1.3 USE CHARGES

A. General: Installation and removal of and use charges for temporary facilities shall be included in the Contract Sum unless otherwise indicated. Allow other entities to use temporary services and facilities without cost, including, but not limited to, Architect, testing agencies, and Owner's contractor and authorities having jurisdiction.

1. Contractor shall furnish and install all necessary temporary switches, wiring, fixtures, bulbs, piping and other devices as may be required to connect to existing systems.

B. Water and Sewer Service from Existing System: Water from Owner's existing water system is available for use for the temporary facility without metering and without payment of use charges. Provide connections and extensions of services as required for construction operations. The Owner reserves the right to require the Contractor to install meters and, if obvious excessive use is observed, to pay for these utilities. Should water restrictions be issues, the use of surface water on Owner's properties or water system of any kind shall be prohibited. Periodic water restrictions have been experienced within the months of July, August and September. And during periods of water restrictions, contractor shall be responsible for providing water to support the project at no cost to the Owner.
1. When water restrictions are in place, Contractor shall provide clean filtered water to the project at no additional cost.
2. The use of water course water is prohibited.

3. The use of water from any fire hydrant without prior permission from the authority having jurisdiction is strictly prohibited.
4. Contractors who violate these provisions shall be billed at a cost to the contractor at a rate triple the cost if the water had been purchased and supplied by a reputable source. In addition, if it is found that water was supplied from a watercourse, the Contractor shall be responsible for all testing costs associated on the materials the water was used for and the water itself, for any contaminates or organic matter not suitable for the applied use. Contractor shall be responsible for cost of removal of the impacted materials and their replacement.

C. Electric Power Service from Existing System: A moderate quantity of electric power from Owner's existing system is available for use without metering and without payment of use charges. Provide connections and extensions of services as required for construction operations. The Owner reserves the right to require the Contractor to install meters and, if obvious and excessive use is observed, to pay for these utilities.

D. Telecommunications from Existing Systems: A moderate quantity of telecommunications and data connections from Owner's existing system is available for use for a monthly charge. Owner reserves the right to shut down or terminate connections at their discretion.
1. The installation and cost of all data and telecommunications infrastructure required to connect to Owner’s identified demarcation for temporary services shall be the responsibility of the Contractor.
2. The use of CAT6 cable is required and shall have lightning protection installed on both the connection and termination ends.
3. Contractor is responsible to supply their own router and operate the device in a routed mode using RFC1918 private addresses as needed for Contractor’s LAN segment.
4. Remove all conduit and cabling infrastructure previously installed in support of the temporary service when it is no longer required.
5. There is a cost for Network connections $65/month per each connection. Cost for Voice connection, one-time installation charge $75. And a $35.50/month (plus toll) charge per line. Cost of Voice Mail is an additional $7/month per mailbox.
6. Contractor is responsible for contacting and discontinuing service.
7. To arrange for services, contact UConn Help Center: 860-486-4357

E. Contractor Parking: A moderate quantity of campus parking spaces shall be made available within the contract limits. And remaining contractor parking shall be at a remote location to be identified for each campus. Refer to the Contractor Parking requirements located utilizing the following web link: http://updc.uconn.edu

F. Traffic Control: Contractor is responsible for all traffic control requirements and costs. Any state or local road work must have a traffic control police officer present. Any off road work must have a certified flagman. See further details on Safety and Traffic Controls within this section.

1.4 INFORMATIONAL SUBMITTALS

A. Site Mobilization Logistics Plan:

1. Prior to and as a condition of mobilization on site, the Contractor shall submit to the Owner, a Site Mobilization Logistics Plan which shall indicate pertinent dates and times,

logistics, construction fence, laydown area, traffic flow and compliance with the General Requirements to a level of detail commensurate with the complexity of the construction and the sensitivity of the Owner's ongoing activities on site.

2. Contractor's Site Mobilization Logistics Plan shall be within the limits reflected on the contract documents and in a form consistent with the contract documents, specifically the Site Logistics Guidance Plan established by the Owner and Architect. The Contractor Site Logistics Plan, shall be sized the same as the plan sheets in the contract documents and address the following, including but not limited to:
   a. Site Access from SRs 195, 32, 44 and North Hill Side Road for any deliveries and Contractor and site vehicles for all Storr's campus projects are to be utilized.
   b. Phases of work, each phase and all work should be documented
   c. Pedestrian Circulation/Detours, ADA Access, including provisions for temporary night lighting of pedestrian walkways or routes to a .5 footcandle minimum.
   d. Site lines within the construction fence and outside the construction fence.
   e. Safety within the construction fence and outside the construction fence.
   f. Emergency vehicle circulation, 18' minimum width
   g. Vehicular Circulation/Detours
   h. Tracking pads
   i. Construction Circulation
   j. Site perimeter fencing system location
   k. Signs including vehicular and pedestrian detours, project sign and project banners, including their anticipated respective locations.
   l. Staging Area / Stockpile Area
   m. Trailer with allowable parking spaces
   n. Portable Restrooms
   o. Temporary Utilities hookups
   p. Transit Disruptions not limited to road shut downs or Bus/Emergency vehicle access

3. Provide the following for discussion regarding the Site Mobilization Logistics Plan:
   a. Submittal of the perimeter area Construction Site fencing system: Type (driven/temporary), fence height, fence construction and installation details taking into account the necessary durability during the seasons, and (i.e. snow plowing).
   b. Submittal of the scrim that connects to the fence system.
   c. Regular maintenance controls of the temporary facilities, fencing and grounds within the fenced in area and accesses to the Construction Site area.
   d. Construction Equipment and Vehicle parking requirements anticipated.
   e. Proposed safety and security measures for the Construction Site.
   f. Heavy equipment special needs
   g. Identify where existing parking spaces are impacted by the project limits reflected on the contract documents Site Logistics Plan. Should the project limits change from what is included on the contract documents through no fault by the Owner, and the area needs impact additional parking spaces from what was previously anticipated or additional temporary fencing is required than what was anticipated on the Site Logistics Plan, the Contractor shall bear all costs associated without additional compensation.

B. Erosion and Sedimentation Control Plan: Show compliance with requirements of DEEP General Permit for the discharge of stormwater and dewatering wastewaters from construction activities or authorities having jurisdiction, whichever is more stringent.

C. Fire-Safety Program: Show compliance with requirements of NFPA 241 and authorities having jurisdiction. Indicate Contractor personnel responsible for management of fire-prevention program.

D. Moisture-Protection Plan: Describe procedures and controls for protecting materials and construction from water absorption and damage.

1. Describe delivery, handling, and storage provisions for materials subject to water absorption or water damage.
2. Indicate procedures for discarding water-damaged materials, protocols for mitigating water intrusion into completed Work, and replacing water-damaged Work.

E. Dust- and HVAC-Control Plan: Submit coordination drawing and narrative that indicates the dust and HVAC control measures proposed for use, proposed locations, and proposed time frame for their operation. Identify further options if proposed measures are later determined to be inadequate. Include the following:

1. Locations of dust-control partitions at each phase of work.
2. HVAC system isolation schematic drawing.
3. Location of proposed air-filtration system discharge Waste handling procedures.
4. Other dust-control measures.

1.5 QUALITY ASSURANCE

A. Regulations: Comply with industry standards and applicable laws and regulations and authorities having jurisdiction, including but not limited to:

1. Building Code requirements
2. Occupational Health and Safety regulations
3. Utilities regulations and requirements
4. Police, Fire Department and Rescue Squad requirements.
5. Environmental protection regulations.

B. Standards: Comply with NFPA Code 241, “Standard for Safeguarding Construction, Alteration, and Demolition Operations”, ANSI-A10 Series standards for “Safety Requirements for Construction and Demolition”, and NECA Electrical Design Library “Temporary Electrical Facilities.”

C. Electric Service: Comply with NECA, NEMA, and UL standards and regulations for temporary electric service. Install service to comply with National Electric Code (NFPA 70) and local provider requirements and officials having jurisdiction. Permit is required.

D. Tests and Inspections: Arrange for authorities having jurisdiction and service providers to observe installation, testing and inspection for each temporary utility before use. Obtain required certifications and permits.

1.6 PROJECT CONDITIONS

A. Temporary Utilities: Prepare a schedule indicating dates of implementation and termination of each temporary utility. At the earliest feasible time and when acceptable to the Owner, change over from use of temporary services to use of the permanent service.

B. Conditions of Use: Keep temporary services and facilities clean and neat in appearance. Operate in a safe and efficient manner. Take necessary fire preventative measures. Do not overload facilities, or permit them to interfere with progress of work. Do not allow hazardous dangerous or unsanitary conditions, or public nuisances to develop or persist on the site.

C. Construction Site Area: Keep area within and around the perimeter construction fence clean and neat in appearance.
   1. Fence system installation and appearance shall be regularly maintained including but not limited to grommets and ties associated with connecting and maintaining toughness of the scrim, fence fabric and/or rails, cleaning scrim, weed whacked,
   2. Roads and pathways are to be regularly swept clean of dirt and construction debris. Debris must be properly disposed of in a manner acceptable to the Owner.
   3. Completely remove from campus snow and ice on roads and pathways leading from and to the construction site. Stock piling of snow and ice or pushing snow outside the construction fence is not permitted.
   4. As growing seasons demand, lawn areas to be kept mowed, planting beds to be kept free of weeds and any tree or scrub trimming is to be performed by plant maintenance personnel.

   Maintaining outside the perimeter fence, mowing and plowing shall be maintained up to the transition area between the fence and area limit line where the Owner has mowed or plowed to.

   Always operate and conduct construction activity in a safe and efficient manner. Maintain emergency access and circulation to the facility(s) at all times.

D. Construction Fencing System: The temporary fencing system consists of the fence fabric, rails, poles, and scrim.
   1. The system shall be installed immediately as the first step for on-site mobilization. As each section of the fence installation is complete, immediate installation of the scrim shall follow. Fencing system installation shall not commence until all products that make up the system have been delivered to the site and confirmed as meeting the specification requirements. Fencing system shall not be left incomplete over a weekend or holiday. Leave fence system complete with associated scrim and/or banners for the portion of fencing system that has been installed. The Contractor shall not proceed with any other mobilization work until the entire perimeter construction fencing system is complete and in place including the project sign.
   2. Fence system shall not be moved or removed without prior authorization from the Owner.
   3. In cases where there are safety or environmental conditions, Owner shall direct the Contractor to relocate portions of the fence system at no additional cost to the Owner.
   4. Prior to fence system removal, the following conditions are required to be complete:
      a. All excess material and equipment shall be removed from the grounds.
      b. All vehicle parking immediately within the immediate grounds ceases.
      c. All hardscape work has been completed (where feasible).
      d. Complete washing of Owner supplied printed graphical scrim and/or banners.

5. Upon authorization from the Owner to remove the fence system, the Contractor shall perform the following not limited to:
   a. Careful removal, package neatly and secure Owner provide back to the Owner printed scrim and banners. Contractor shall deliver to Owner's designated facility for storage.
   b. Where work was impeded by the fencing system, immediate commence with required planting and grading work.

E. Project Signage: Project signage consist of the Project Construction Sign, the Project Banners and any safety and/or directional signage. All project signage shall be installed and complete within 24 hours of the fence system completion and before work can commence within the site fenced area. Any signage beyond those listed must be preapproved by the Owner prior to posting or installing.

F. Any other signage shall be prohibited on the fence system, site or temporarily attached to equipment or cranes.

PART 2 - PRODUCTS

2.1 MATERIALS

A. General: Provide new materials. Undamaged previously used materials in serviceable condition may be allowed but only at the Owner's acceptance. Costs borne by the Contractor to obtain acceptance from the Owner of used material is at the Contractor's expense. Provide materials suitable for the use intended.

A. Chain-Link Fencing: All fence components shall be new or in like new condition, deviations from those requirements must be preapproved by the Owner. No bent or deformed fence components will be acceptable and shall be replaced immediately upon request. All fence posts shall be driven, set plumb and cut off so that they do not protrude beyond top of fence.

Construction fencing system shall be engineered.
1. Fence Height: 8' Height; Fence Material and components: Galvanized Steel
2. Fence Fabric: 2 inch opening, 9 gauge, salvage knuckle
3. Line Posts: 2-3/8 inch OD minimum, however will be dependent on height of fence required.
4. Corner Posts: 2-7/8 inch OD, however will be dependent on height of fence required
5. Top and Bottom Rails: 1-5/8 inch OD, with boulevards.
6. Supporting Posts: Driven and reinforced as required
7. Post Caps: Acorn or loop, all post shall receive caps
8. Installation: All components shall be square, level, taught and properly secured.

B. Portable Panel Chain Link Fencing: All fence components shall be new or in like new condition. All panels shall be installed plumb horizontal (not perpendicular) and no bent or deformed fence components will be acceptable and will be replaced immediately upon request. Panels shall be attached to each other via heavy duty couplers to aid in support
1. Fence Height: 8' Height
2. Fence Material and components: Galvanized Steel

3. Fence Fabric: 4" x 2" opening, 11 gauge welded mesh,
4. Panel Frame: 1-5/8 inch OD
5. Portable Panel Fence Feet: Plastic or rubber black coated concrete filled feet suitable for proper security and safety of the fence system during any type of weather and/or vandalism events Contractor shall not rely on or assume the use of sand bags. If sand bags will be allowed, they can only be used behind the fence within the construction area and shall be all black in color. Support Stays: Shall be installed every 3 panels or as required by fence manufacturer at a minimum to provide extra stability and maximum strength, support shall have a weight of a minimum of 210 pounds. Contractor shall be responsible to obtain engineered support stays necessary to ensure fence stability in cases of any type weather event.
6. Installation: All components shall be square, level, taught and properly secured.

C. Scrim: If conditions allow for plain scrim, scrim shall be in new or like new condition. Torn scrim will not be acceptable and will be replaced immediately upon request.
1. Plain Woven Scrim
   a. Color: Dark Green
   b. Size: One piece, full height 8’
   c. Opacity: 75% minimum
   d. Edge Treatment: Reinforced sewn edges with grommets every 12” o.c
   e. Attachment: Zip ties color black at 12” o.c. along perimeter, Scrim shall be installed with consistent equal spacing on top and bottom of the fence height. Shall be taught with no ripples. For portable chain link fencing systems, the scrim shall be installed to cover the fence fabric and posts per portable panel.

2. Printed Graphical Scrim
   a. Attachment: Zip ties color black at 12” o.c. along perimeter, scrim must be continuously taught against each chain link panel.

D. Live Screening: If live screening is required, plantings are to be maintained and kept healthy throughout the course of the project including watering, mulch and trimming as needed.

E. Concrete Barricades: Barricades shall be in new or like new condition. Like new conditions shall be defined as having no paint, markings, cracks or gauges on the expose surface. Barricades shall meet CTDOT and Owner standards.
1. Height: 32 inches’ minimum
2. Length: 6-foot minimum
3. Width: 24 inches at the base and 6 inches at the top
4. Barricade shall be wrapped with scrim and be able to accept fencing.

F. Green Safety/Snow Fence: Green safety/snow fence may be utilized for work areas as approved by the Owner. Safety/Snow fence shall not be utilized to protect newly installed landscape areas.
1. Color: Dark Green
2. Size: 4’ Height
3. Openings: 3.5” x 1.75”
4. Posts: Steel Green 1” Min

G. Newly Landscape Area Controls: Stakes and rope shall be utilized for protecting newly seeded/sodded areas to restrict access to and to protect from pedestrian and vehicular traffic.

Once area has been determined to be accessible to pedestrian traffic, Contractor shall remove stakes and rope, wash clean and turn over to the Owner.

1. Stake: Eco-Step Stake or approved equal
2. Size: 32" height
3. Color: Green
4. Rope: ¼" diameter polypropylene braided rope, color green

H. Safety Controls: Safety or Traffic Cones shall be in new or like new condition. Like new conditions shall be defined as having no paint, markings, cracks or gauges on the expose surface. Cones shall meet the following standards:

1. Road traffic control cones or tubes shall be florescent orange or florescent yellow in color for CTDOT / MUTCD requirements.
2. Grounds Safety Cones shall be lime green in color per Owner requirements.

I. Dust-Control

1. Adhesive-Surface Walk-off Mats: Provide mats minimum 36 by 60 inches.
2. Polyethylene Sheet: Reinforced, fire-resistive sheet, 10-mil minimum thickness, with flame-spread rating of 15 or less per ASTM E 84 and passing NFPA 701 Test Method 2.
3. Gypsum or Plywood Wallboard: Provide gypsum wallboard complying with requirements of ASTM C 36 on interior walls of temporary partitions.
4. The use of calcium chloride or other chemicals for dust control shall be submitted for approval to the Owner prior to its use.

J. Insulation: Unfaced mineral-fiber blanket, manufactured from glass, slag wool, or rock wool; with maximum flame-spread and smoke-developed indexes of 25 and 50, respectively.

K. Water: Provide potable water approved by local health authorities.

2.2 TEMPORARY FACILITIES

A. Field Offices, General: Prefabricated or mobile units with serviceable finishes, temperature controls, and foundations adequate for normal loading.

B. Common-Use Field Office: Of sufficient size to accommodate needs of Owner, Architect and construction personnel office activities and to accommodate Project meetings specified in other Division 01 Sections. Keep office clean and orderly. Furnish and equip offices as follows:

1. Furniture required for Project-site documents including file cabinets, plan tables, plan racks, and bookcases.
2. Conference room of sufficient size to accommodate meetings of a minimum ten (10) individuals. Provide electrical power service and 120-V ac duplex receptacles, with no less than one (1) receptacle on each wall. Furnish room with conference table, chairs, and four (4) foot square tack and marker boards.
3. Drinking water and private toilet.
4. Heating and cooling equipment necessary to maintain a uniform indoor temperature of 68 to 75 deg F.
5. Lighting fixtures capable of maintaining average illumination of 20 fc at desk height.

C. Storage and Fabrication Sheds: Provide sheds sized, furnished, and equipped to accommodate materials and equipment for construction operations.

1. Store combustible materials apart from building.

2.3 EQUIPMENT

A. Fire Extinguishers: Portable, UL rated; comply with NFPA 10 and 241 for classification, extinguishing agent and size required by location and class of fire exposure.

B. HVAC Equipment: Unless Owner authorizes use of permanent HVAC system, provide vented, self-contained, liquid-propane-gas or fuel-oil heaters with individual space thermostatic control.

1. Use of gasoline-burning space heaters, open-flame heaters, or salamander-type heating units is prohibited.
2. Heating Units: Listed and labeled for type of fuel being consumed, by a qualified testing agency acceptable to authorities having jurisdiction, and marked for intended location and application.
3. Permanent HVAC System: If Owner authorizes use of permanent HVAC system for temporary use during construction, provide filter with MERV of 8 at each return-air grille in system and remove at end of construction.

C. Air-Filtration Units: Primary and secondary HEPA-filter-equipped portable units with four-stage filtration. Provide single switch for emergency shutoff. Configure to run continuously.

D. Electrical Outlets: Provide properly configured NEMA polarized outlets to prevent insertion of 110-120 volt plugs into higher voltage outlets. Provide receptacle outlets equipped with ground-fault circuit interrupters, reset button and pilot light, for connection of power tools and equipment.

E. Electrical Power Cords: Power cords shall never be subject to physical damage. Provide grounded extension cords; use “hard-service” cords where exposed to abrasion and traffic. Provide waterproof connectors to connect separate lengths of electric cords, if single lengths will not reach areas where construction activities are in progress.

F. Lamps and Light Fixtures: Provide general service LED lighting with wattage required for adequate illumination. Provide guard cages or tempered glass enclosures, where exposed to breakage. Provide exterior LED fixtures where exposed to moisture. Provide night lighting of temporary use walkways.

G. First Aid Supplies: Comply with governing regulations.

PART 3 - EXECUTION

3.1 INSTALLATION, GENERAL

A. Use qualified personnel for design and installation of temporary facilities. Locate facilities where they will serve Project adequately and result in minimum interference with performance of the Work. Relocate and modify facilities as required by progress of the Work.

1. Locate facilities to limit site disturbance as specified in Division 01 Section "Summary."

B. Provide each facility ready for use when needed to avoid delay. Maintain and modify as required. Do not remove until facilities are no longer needed or are replaced by authorized use of completed permanent facilities.

C. Temporary buildings (e.g., storage sheds, shops, offices) and utilities may be erected by the Contractor only with the approval of the Owner and shall be built with labor and materials furnished by the Contractor without expense to the Owner. The temporary buildings and utilities shall remain the property of the Contractor and shall be removed at its expense upon completion of the Work. With the advanced written consent of the Owner, the temporary buildings and utilities may be abandoned and need not be removed.

D. Noise Control: The Contractor shall make every effort to minimize noise disruption to occupants of buildings and adjacent buildings. Restrict use of noise making tools and equipment to hours that will minimize complaints from persons or firms near the site. No noise generating work that interferes with classroom operation shall be tolerated. No noise generating work shall be allowed during exam periods where the noise will impact classroom functions. Examples of noise generating work include, but are not limited to sawing, drilling and hammering and/or jackhammering.

1. Avoid use of tools and equipment, which produce harmful noise. No gasoline-powered equipment shall be used during times that the buildings are occupied. No gasoline-powered equipment may be used in the interior of buildings at any time.

2. Refer to 01-1000 Summary as well as 01-5719 Temporary Environmental Controls for more requirements on Noise, Vibration and Odors.

E. Collection and Disposal of Waste: Collect waste from construction areas and elsewhere daily. Comply with requirements of NFPA 241 for removal of combustible waste material and debris. Enforce requirements strictly. Do not hold materials more than 7 days during normal weather or 3 days when the temperature is expected to rise above 80 deg F (27 deg C). Handle hazardous, dangerous, or unsanitary waste materials separately from other waste by containerizing properly. Dispose of material in a lawful manner.

1. All removed materials that are salvageable are the property of the Contractor unless otherwise noted in the specifications.
2. All debris resulting from the performance of this contract will be the property of the Contractor and will be completely removed from the campus and disposed of in a legal manner.
3. Chutes shall be black in color and dumpster type containers designed to keep dust and spillage to a minimum will be used by the Contractor. Dumpsters will be completely

covered with a waterproof covering at all times when not in use. Remove from the site daily of all dumpsters that are full or over flowing.

F. Nuisance Dust Control: The following provisions shall apply during demolition or construction phases of work:

1. It is the intent of this specification to insure that nuisance dusts resulting from demolition or construction activities do not impact occupied areas of the building and surrounding the site. The Contractor shall take all measures necessary to accomplish this goal. These measures will include as minimum polyethylene sheeting or wet methods of fugitive dust control. Keep all adjacent roads free and clear of dust and debris.
2. The Contractor shall submit a plan prior to commencement of work that will detail all methods of dust control. This plan shall be approved by the Owner prior to commencement of work. Failure to comply shall result in immediate stoppage of work until effective dust control measures are employed.

3.2 TEMPORARY UTILITY INSTALLATION AND CONTROLS

A. General: Installation of temporary service or connecting to existing service.
1. Provide adequate capacity at each stage of construction. Prior to temporary utility availability, provide trucked-in services.
2. Arrange with appropriate local utility company to install temporary service or connect to existing service. Where the company provides only part of the service, provide the remainder with matching, compatible materials and equipment; comply with the company's recommendations.

3. Obtain easements to bring temporary utilities to the site, where the Owner's easements cannot be used for that purpose.

4. Arrange with utility company, Owner, and existing users for time when service can be interrupted, if necessary, to make connections for temporary services.

5. For temporary service or connection to existing or new service: The Owner must be notified at least four (4) weeks in advance of any proposed interruption in order that all affected departments may be advised and have time to adjust their schedules accordingly. For new service, there are limited times within a year that the services can be impacted for a total shut down. Arrange adequate time with the Owner in preparation for the shutdown connections. Construction schedule must allow for advanced notification. Failure to plan ahead and notify the Owner of a pending shut down shall not relieve the Contractor from lost time. Owner reserves the right to limit the down time to a specified number of net hours and to set the date for each occasion of complete shutdown.

6. Any service (steam, water, electricity, etc.) shutdown which will interrupt the continuity of an experiment or be detrimental to a research project or which, in the opinion of the Owner, is required for other valid reasons, shall be maintained by safe and adequate temporary means and such temporary piping, wiring and associated devices shall be removed when no longer required.

7. Sewers and Drainage: If sewers are available, provide temporary connection to remove effluent that can be discharged lawfully. If sewers are not available or cannot be used,

provide drainage ditches, dry wells, stabilization ponds and similar facilities. If neither sewers nor drainage facilities can be lawfully used for discharge of effluent, provide containers to remove and dispose of effluent off the site in a lawful manner.

8. Connect temporary sewers to the municipal system as directed by the sewer department officials.

9. Maintain temporary sewers and drainage facilities in a clean, sanitary condition. Following heavy use, restore normal conditions promptly.

10. Water Service: Install water service and distribution piping in sizes and pressures adequate for construction. Connect to Owner's existing water service facilities. Clean and maintain water service facilities in a condition acceptable to Owner. At Substantial Completion, restore these facilities to condition existing before initial use.

11. Sterilization: Sterilize temporary water piping in accordance with AWWA requirements prior to use.

B. General: Installation of any Utilities
1. Soils: Filter out soil of construction debris, chemicals, oils and similar contaminants that might clog sewers or pollute waterways before discharge.
   a. Existing soils shall be handled in the manner outlined within the University’s Contractor Environmental Health and Safety Manual.
   b. Residual soils shall be tested for contaminants prior to its removal from Owner’s contiguous property.
   c. Testing shall be incompliance with the residential direct exposure criteria and/or the applicable pollutant mobility criteria.
   d. Soils cannot be transported from one Owner property to another without testing and acceptance of the test results by the Owner.
   e. Residual soils shall not be saved and stock piled on any Owner property, without prior written approval from the Owner.

2. Sanitary Facilities: Provide temporary toilets, wash facilities, and drinking water for use of construction personnel. Comply with requirements of authorities having jurisdiction for type, number, location, operation, and maintenance of fixtures and facilities.
   a. Use of Owner's existing sanitary facilities will not be permitted.
   b. Toilets: Install self-contained toilet units. Shield toilets to ensure privacy. Use of pit-type privies will not be permitted.
   c. Provide toilet tissue, paper towels, paper cups and similar disposable materials for each facility. Provide covered waste containers for used materials.

3. Wash Facilities: Install wash facilities supplied with potable water at convenient locations for personnel involved in handling materials that require wash-up for a healthy and sanitary condition. Dispose of drainage properly. Supply cleaning compounds appropriate for each condition.

4. Provide safety showers, eyewash fountains and similar facilities for convenience, safety and sanitation of personnel

5. Drinking Water Facilities: Provide drinking water including paper supply.

6. Heating: Provide temporary heating required by construction activities for curing or drying of completed installations or for protecting installed construction from adverse effects of low temperatures or high humidity. Select equipment that will not have a harmful effect on completed installations or elements being installed.

7. Coordinate ventilation requirements to produce the ambient condition required and minimize consumption of energy.

8. Steam from the Owner's steam lines shall be provided at no cost to the Contractor. Contractor shall supply, install and maintain all temporary piping, radiators or unit heaters, reducing valves, steam traps and other necessary fittings and accessories. Traps shall be provided to prevent steam from entering main returns. The temporary heating plan shall meet the approval of the Architect/Engineer, Fire Marshall and Owner. Provide temporary heat required by construction activities, for curing or drying of completed installations or protection of installed construction from adverse effects of low temperature or high humidity. Select safe equipment that will not have a harmful effect on completed installations or elements being installed. Coordinate ventilation requirements to produce the ambient condition required and minimize consumption of energy.

9. The Contractor shall provide temporary heat during construction for interior areas included in the Contract, and any adjacent or nearby occupied areas, to counteract low temperatures or excessive dampness and in any event, between October 15th and May 15th, maintain during said period or periods until final completion of the Contract, unless otherwise approved by the Owner in writing. Provide heat and ventilation to maintain specified conditions for construction operations and to protect materials and finishes from damage by temperature or humidity. All installation and operating costs shall be paid by the Contractor. Unless otherwise specified in the Contract Documents, the temporary heating shall be sized to maintain the following conditions on a 24-hour-per-day basis:

   Occupied Dormitory or Living Areas: 68 degrees F

   Office Spaces/Laboratories/Classrooms: 68 degrees F

   Warehouses/Storage: 55 degrees F

   The areas listed above are for example only. The Owner shall have sole discretion to assign minimum heating criteria.

10. Electrical Power Service: Provide weatherproof, grounded electric power service and distribution system of sufficient size, capacity, and power characteristics during construction period. Include meters, transformers, overload protected disconnects, automatic ground-fault interrupters and main distribution switch gear.

11. Except where overhead service must be used, install electric power service underground.

12. Power Distribution System: Install wiring overhead, and rise vertically where least exposed to damage. Where permitted, wiring circuits not exceeding 125 volts, AC 20 ampere rating, and lighting circuits may be nonmetallic sheathed cable where overhead and exposed for surveillance

13. Lighting: Provide weatherproof, grounded LED lighting

14. Whenever overhead floor or roof deck has been installed, provide temporary lighting with local switching.

15. Install and operate temporary lighting that will fulfill security and protection requirements, without operating the entire system, and will provide adequate illumination for construction and traffic and safety conditions.

16. Install exterior yard and sign lights so that signs are visible when Work is being performed.

17. Security: Provide temporary security of the construction site to fulfill safety and security requirements. Protect all workers, stored and installed materials, equipment and property during and after working hours.

18. Telephones: Provide temporary or cellular telephone service for all personnel engaged in construction activities, throughout the construction period. Contractor shall arrange and pay for his own telephone service.

19. Distribute to the project Team and Post for public viewing a list of important telephone numbers.

    a. Police and fire departments.
    b. Ambulance service.
    c. Contractor's home office.
    d. Contractor's emergency after-hours telephone number.
    e. Architect's office.
    f. Engineers' offices.
    g. Owner’s office.
    h. Principal subcontractors' field and home offices.

C. Isolation of Work Areas in Occupied Facilities: Prevent dust, fumes, and odors from entering occupied areas.

1. Prior to commencing work, isolate the HVAC system in area where work is to be performed according to coordination drawings.

    a. Disconnect supply and return ductwork in work area from HVAC systems servicing occupied areas.
    b. Maintain negative air pressure within work area using HEPA-equipped air-filtration units, starting with commencement of temporary partition construction, and continuing until removal of temporary partitions is complete.

2. Maintain dust partitions during the Work. Use vacuum collection attachments on dust-producing equipment. Isolate limited work within occupied areas using portable dust-containment devices.
3. Perform daily construction cleanup and final cleanup using approved, filter-equipped vacuum equipment.

D. Ventilation and Humidity Control: Provide temporary ventilation required by construction activities for curing or drying of completed installations or for protecting installed construction from adverse effects of high humidity. Select equipment that will not have a harmful effect on

completed installations or elements being installed. Coordinate ventilation requirements to produce ambient condition required and minimize energy consumption.

1. Provide dehumidification systems when required to reduce substrate moisture levels to level required to allow installation or application of finishes.

2. Provide dehumidification as required to mitigate mold growth.

E. Fire Protection: Until fire protection needs are supplied by permanent facilities, install and maintain temporary fire protection facilities of the types needed to protect against reasonably predictable and controllable fire losses. Comply with NFPA 10 "Standard for Portable Fire Extinguishers," and NFPA 241 "Standard for Safeguarding Construction, Alterations and Demolition Operations."

1. Locate fire extinguishers where convenient and effective for their intended purpose, but not less than one extinguisher on each floor at or near each usable stairwell.
2. Store combustible materials in containers in fire-safe locations.
3. Maintain unobstructed access to fire extinguishers, fire hydrants, temporary fire protection facilities, stairways and other access routes for fighting fires. Prohibit smoking in hazardous fire exposure areas.
4. Provide supervision of all welding operations, combustion type temporary heating units, and similar sources of fire ignition.
5. No gasoline shall be stored in or close to the building at any time.
6. Facilitate fire department access and review.

3.3 SUPPORT FACILITIES INSTALLATION

A. General: Comply with the following:

1. Provide construction for temporary offices, shops, and sheds located within construction area or 30 feet of building lines that is noncombustible according to ASTM E 136. Comply with NFPA 241.
2. Maintain support facilities until Architect Schedules Substantial Completion inspection. Remove before Substantial Completion. Personnel remaining after Substantial Completion will be permitted to use permanent facilities, under conditions acceptable to Owner.
3. Locate field offices, storage sheds, sanitary facilities and other temporary construction and support facilities for easy access.
4. Ensure that any existing walkways, egress paths, exterior lighting or emergency phones impacted by the construction area are relocated.

B. Field Offices and Sheds: A field office is not required for this project, and will not be provided or accommodated

C. Temporary Roads and Paved Areas: Comply with the following:

1. The Contractor shall, under regulation prescribed by the Owner, use only established roadways, or use temporary roadways constructed by the Contractor when and as authorized by the Owner. When materials are transported in prosecuting the Work, vehicles shall not be loaded beyond the loading capacity recommended by the

manufacturer of the vehicle or prescribed by any Federal, State, or local law or regulation. When it is necessary to cross curbs or sidewalks, the Contractor shall protect them from damage and provide appropriate traffic markings and cross walks. The Contractor shall repair or pay for the repair of any damaged curbs, sidewalks, or roads.

2. Provide dust-control treatment that is non-polluting and non-tracking. Reapply treatment as required to minimize dust. The use of calcium chloride or other chemicals for dust control shall be submitted for approval to the Owner prior to its use.

3. Construct and maintain temporary roads and paving to adequately support the indicated loading and to withstand exposure to traffic during the construction period. Locate temporary paving for roads, storage areas and parking where the same permanent facilities will be located. Review proposed modifications to permanent paving with the Architect.

   a. Paving: Comply with Division-2 Section “Asphalt Concrete Paving” for construction and maintenance of temporary paving.
   b. Coordinate temporary paving development with subgrade grading, compaction, installation and stabilization of subbase, and installation of base and finish courses of permanent paving.
   c. Install temporary paving to minimize the need to rework the installations and to result in permanent roads and paved areas that are without damage or deterioration when occupied by the Owner
   d. Delay installation of the final course of permanent asphalt concrete paving until immediately before Substantial Completion, unless it adversely effects the site and access road. Coordinate with weather conditions to avoid unsatisfactory results.
   e. Extend temporary paving in and around the construction area as necessary to accommodate delivery and storage of materials, equipment usage, administration and supervision.
   f. Contractor shall sweep and remove all construction debris from all roads outside of construction zone daily or more frequently as is required by weather conditions and/or to the satisfaction of the Owner.
   g.

D. Temporary Use of Permanent Roads and Paved Areas: Locate temporary roads and paved areas in same location as permanent roads and paved areas. Construct and maintain temporary roads and paved areas adequate for construction operations. Extend temporary roads and paved areas, within construction limits indicated, as necessary for construction operations.

1. Coordinate elevations of temporary roads and paved areas with permanent roads and paved areas.
2. Prepare subgrade and install subbase and base for temporary roads and paved areas according to Division 31 Section "Earth Moving."
3. Recondition base after temporary use, including removing contaminated material, regrading, proof rolling, compacting, and testing.
4. Delay installation of final course of permanent hot-mix asphalt pavement until immediately before Substantial Completion. Repair hot-mix asphalt base-course pavement before installation of final course according to Division 32 Section "Asphalt Paving."
5. Maintain access for fire-fighting equipment and access to fire hydrants.

6. Contractor shall sweep and remove all construction debris from all roads outside of construction zone daily to the satisfaction of the Owner and those having jurisdiction at the Contractor's expense.

E. Use of Existing Roads: Contractor shall comply with Owner's requirements for use of existing roads within Owner's property and outside Owner's property. For details refer to the following weblink: http://updc.uconn.edu/

F. Temporary Use of Owner's Property: Use of the Owner's grounds for access and laydown shall be as outlined in the Site Logistics Guidance Plan. The protection of trees, planting beds, lawns and soil structure shall be the primary focus.

1. Install tree and plant protection prior to the installation of other site fencing

2. Limit vehicle traffic and staging to designated areas to prevent soil compaction. Employ surfaces that protect the underlying soil structure during construction

3. Maintain trees, lawn areas and planting beds during construction so green material is thriving at the conclusion of the project.

4. Submit restoration plan for these areas including decompaction, pruning, mowing, fertilizing, etc. prior to returning the campus grounds to the campus open space fabric.

G. Dewatering Facilities and Drains: Comply with requirements of authorities having jurisdiction. Maintain Project site, excavations, and construction free of water.

1. Dispose of rainwater in a lawful manner that will not result in flooding Project or adjoining properties or endanger permanent Work or temporary facilities.
2. Remove snow and ice to minimize accumulations within the construction site and shall not impact safe travel of University grounds outside the construction site.
    a. Remove from the construction site, haul and dispose outside of Owner property. Contractor shall not dispose on any Owner property under any condition.
    b. Approved de-icing products for all Owner campuses include:
        1) Rock salt treated with a pre-wetting agent containing a corrosion inhibitor with a minimum 30% magnesium chloride.
        2) Calcium chloride
        3) Magnesium chloride
    c. Sand is not permitted

H. Lifts and Hoists: Provide facilities necessary for hoisting materials and personnel.

1. Truck cranes and similar devices used for hoisting materials are considered "tools and equipment" and not temporary facilities.

I. Temporary Elevator Use: In an existing building with a freight elevator, the Contractor will be permitted to use the elevator for freight service and transportation of construction personnel during the construction period with prior approval from the Owner. This elevator must also be available to the Owner at all times; coordinate usage with the Owner. Reliance on the existing elevators by the Contractor is solely at the Contractors own risk. At the end of construction, restore the elevator to its original condition; replace worn cables, guide shoes and similar items of limited life. Use of other elevators by the Contractor will not be permitted.

1. Do not load elevators beyond their rated weight capacity.
2. Provide 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 Installer 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.

J. Temporary Stairs: Until permanent stairs are available, provide temporary stairs where ladders are not adequate.

K. Existing Stair Usage: Use of Owner's existing emergency stairs will be permitted, provided stairs are cleaned and maintained in a condition acceptable to Owner. At Substantial Completion, restore stairs to condition existing before initial use.

1. Provide protective coverings, barriers, devices, signs, or other procedures to protect stairs and to maintain means of egress. If stairs become damaged, restore damaged areas so no evidence remains of correction work.

L. Temporary Use of Permanent Stairs: Use of new stairs for construction traffic will be permitted, provided stairs are protected and finishes restored to new condition at time of Substantial Completion.

3.4 SECURITY AND PROTECTION FACILITIES INSTALLATION

A. Protection of Existing Facilities: Protect existing vegetation, equipment, structures, utilities systems and other improvements at Project site and on adjacent properties, except those indicated to be removed or altered. Repair damage to existing facilities at no cost to the Owner

B. Environmental Protection: Provide protection, operate temporary facilities, and conduct construction as required to comply with environmental regulations and that minimize possible air, waterway, and subsoil contamination or pollution or other undesirable effects.

1. Comply with work restrictions specified in Division 01 Section "Summary."

C. Temporary Erosion and Sedimentation Control: Comply with the latest requirements of DEEP General Permit for the discharge of stormwater and dewatering wastewaters from construction activities or authorities having jurisdiction, whichever is more stringent and requirements specified in Division 31 Section "Site Clearing."

D. Temporary Erosion and Sedimentation Control: Provide measures to prevent soil erosion and discharge of soil-bearing water runoff and airborne dust to undisturbed areas and to adjacent properties and walkways, according to requirements of the latest DEEP General Permit for the discharge of stormwater and dewatering wastewaters from construction activities or authorities having jurisdiction, whichever is more stringent.

1. Verify that flows of water redirected from construction areas or generated by construction activity do not enter or cross tree- or plant- protection zones.
2. Inspect, repair, and maintain erosion and sedimentation-control measures during construction until permanent vegetation has been established.

3. Clean, repair, and restore adjoining properties and roads affected by erosion and sedimentation from Project site during the course of Project.
4. Remove erosion and sedimentation controls and restore and stabilize areas disturbed during removal.

E. Stormwater Control: Comply with requirements of authorities having jurisdiction. Provide barriers in and around excavations and subgrade construction to prevent flooding by runoff of stormwater from heavy rains.

F. Tree and Plant Protection: Comply with requirements specified in Division 01 Section "Temporary Tree and Plant Protection."

1. Install temporary fencing located as indicated or outside the drip line of trees to protect vegetation from damage from construction operations. Protect tree root systems from damage, flooding, and erosion.

G. Pest Control: Engage pest-control service to recommend practices to minimize attraction and harboring of rodents, roaches, and other pests and to perform extermination and control procedures at regular intervals so Project will be free of pests and their residues at Substantial Completion. Perform control operations lawfully, using environmentally safe materials. With the exception of stinging insects.

H. Site Enclosure Fence: Prior to commencing any work or mobilization, furnish and install site enclosure fence in a manner that will prevent people and animals from easily entering the site except by entrance gates. All fencing to have reinforced scrim sheeting which will be provided by the Owner.

1. Extent of Fence: As required to enclose entire Project site or portion determined sufficient to accommodate construction operations or as indicated on Drawings and noted in the approved Site Logistics Plan.
   a. Prior to fence installation, a fence system submittal shall be submitted and approved by the Owner. A pre-installation conference shall be held with all sub-contractors and workers responsible for supplying and installing the fence to go over the plan and the expectations.
   b. All fence material, fence fabric, posts, panels, feet, scrim and banners shall all be on site prior to commencing installation.
   c. Site fence shall be installed in accordance with the following
      1) Fence Posts and the top and bottom rail shall be installed and cut to appropriate height/length.
      2) Chain link fence shall be installed. Fence posts shall not exceed the fabric installation by more than 50 feet.
      3) Reinforced scrim shall be installed. Chain link fence shall not exceed the scrim installation by more than 50 feet. Scrim shall be installed flush with the top of the fence so that the top salvage knuckle is not visible. Scrim shall then be stretched tight to cover the entire height of the fence. Horizontal joints shall not be permitted. The scrim shall be taught and free of wrinkles. Vertical scrim joints shall be overlapped to give the appearance of continuous piece of scrim.
      4) Contractor to install owner provided decorative banners on the exterior side of the site enclosure fencing as directed by Owner.

2. Phasing of work: As the work progresses, depending on safety and limitation conditions, the Contractor shall relocate or reduce the site fencing as required at no additional cost to the Owner.

I. Security Enclosure and Lockup: Install enclosure around partially completed areas of construction. Coordinate with Owner's Fire Marshall and install Owner provided lockable pad locks for entrances to prevent unauthorized entrance, vandalism, theft, and similar violations of security. Construction gates shall be closed at all times during the day to prohibit the general public from entering the site. Ensure no safety cones are left outside of the fence enclosure after deliveries. Lock entrances at end of each work day.

J. Barricades, Warning Signs, and Lights: Comply with requirements of authorities having jurisdiction and the Owner for erecting structurally adequate barricades, including warning signs and lighting.

K. Temporary Egress: Maintain temporary egress from existing occupied facilities at all times and as required by authorities having jurisdiction.

L. Covered Walkway: Erect protective, covered walkway for passage of individuals through or adjacent to Project site. Coordinate with entrance gates, other facilities, and obstructions. Comply with regulations of authorities having jurisdiction and requirements indicated on Drawings.

1. Construct covered walkways using scaffold or shoring framing.
2. Provide overhead decking, protective enclosure walls, handrails, barricades, warning signs, exit signs, lights, safe and well-drained walkways, and similar provisions for protection and safe passage.
3. Where required by OSHA regulations provide temporary lighting under covered walkways to satisfy requirements.
4. Covered walkways shall maintain a minimum clear height of 8ft above walking surface, and shall be designed to support all imposed loads and a minimum live load of 150 psf.

M. Temporary Enclosures: Provide temporary enclosures for protection of construction, in progress and completed, from exposure, foul weather, other construction operations, and similar activities. Provide temporary weathertight enclosure for building exterior.

1. Where heating or cooling is needed and permanent enclosure is incomplete, insulate temporary enclosures.

N. Temporary Partitions: Provide floor-to-ceiling dustproof partitions to limit dust and dirt migration and to separate areas occupied by Owner from fumes and noise.

1. Construct dustproof partitions with gypsum wallboard with joints taped on occupied side, and fire-retardant-treated plywood on construction operations side.
2. Construct dustproof partitions with two layers of 6-mil polyethylene sheet on each side. Cover floor with two layers of 6-mil polyethylene sheet, extending sheets 18 inches up the sidewalls. Overlap and tape full length of joints. Cover floor with fire-retardant-treated plywood.

a. Construct vestibule and airlock at each entrance through temporary partition with not less than 48 inches between doors. Maintain water-dampened foot mats in vestibule.

3. Where fire-resistance-rated temporary partitions are indicated or are required by authorities having jurisdiction, construct partitions according to the rated assemblies.
4. Insulate partitions to control noise transmission to occupied areas.
5. Seal joints and perimeter. Equip partitions with gasketed dustproof doors and security locks where openings are required.
6. Protect air-handling equipment.
7. Provide walk-off mats at each entrance through temporary partition.

O. Temporary Fire Protection: Install and maintain temporary fire-protection facilities of types needed to protect against reasonably predictable and controllable fire losses. Comply with NFPA 241; manage fire-prevention program.

1. Prohibit smoking in construction areas.
2. Supervise welding operations, combustion-type temporary heating units, and similar sources of fire ignition according to requirements of authorities having jurisdiction.
3. Develop and supervise an overall fire-prevention and -protection program for personnel at Project site. Review needs with Owner’s fire department and establish procedures to be followed. Instruct personnel in methods and procedures. Post warnings and information.
4. Provide temporary standpipes and hoses for fire protection. Hang hoses with a warning sign stating that hoses are for fire-protection purposes only and are not to be removed. Match hose size with outlet size and equip with suitable nozzles.

P. Temporary Lighting and Security Phones: Installation of temporary fencing, temporary egresses, temporary enclosures, covered walkways and the like shall take into consideration the affects to existing lighting, cameras and emergency code blue phones. Relocate any existing lights and/or code blue phones in order to maintain sufficient lighting and line of site of blue phones.

3.5 MOISTURE AND MOLD CONTROL

A. Contractor's Moisture-Protection Plan: Avoid trapping water in finished work. Document visible signs of mold that may appear during construction. Remove any materials that appear to have been affected by moisture as determined by testing and the Owner.

B. Exposed Construction Phase: Before installation of weather barriers, when materials are subject to wetting and exposure and to airborne mold spores, protect as follows:

1. Protect porous materials from water damage.
2. Protect stored and installed material from flowing or standing water.
3. Keep porous and organic materials from coming into prolonged contact with concrete.
4. Remove standing water from decks.
5. Keep deck openings covered or dammed.

C. Partially Enclosed Construction Phase: After installation of weather barriers but before full enclosure and conditioning of building, when installed materials are still subject to infiltration of moisture and ambient mold spores, protect as follows:

1. Do not load or install drywall or other porous materials or components, or items with high organic content, into partially enclosed building.
2. Keep interior spaces reasonably clean and protected from water damage.
3. Periodically collect and remove waste containing cellulose or other organic matter.
4. Discard or replace water-damaged material.
5. Do not install material that is wet.
6. Discard, replace, or clean stored or installed material that begins to grow mold.
7. Perform work in a sequence that allows any wet materials adequate time to dry before enclosing the material in drywall or other interior finishes.

D. Controlled Construction Phase of Construction: After completing and sealing of the building enclosure but prior to the full operation of permanent HVAC systems, maintain as follows:

1. Control moisture and humidity inside building by maintaining effective dry-in conditions.
2. Use permanent HVAC system to control humidity.
3. Comply with manufacturer's written instructions for temperature, relative humidity, and exposure to water limits.

    a. Hygroscopic materials that may support mold growth, including wood and gypsum-based products, that become wet during the course of construction and remain wet for 48 hours are considered defective.
    b. Measure moisture content of materials that have been exposed to moisture during construction operations or after installation. Record readings beginning at time of exposure and continuing daily for 48 hours. Identify materials containing moisture levels higher than allowed. Report findings in writing to Architect.
    c. Remove materials that cannot be completely restored to their manufactured moisture level within 48 hours.

3.6 TRAFFIC CONTROL

A. Due to the large volume of pedestrian and vehicular traffic within the campuses, it shall be the responsibility of the Contractor to provide traffic and pedestrian accessibility to all areas of the campus as applicable.

B. The Contractor shall comply with Connecticut Regulation13b-17-28, Safety to Traffic, which requires that "When portions of the traveled way are made dangerous for the movement of vehicles or pedestrians, a sufficient number of uniformed police officers, flagmen, or traffic men, shall be employed by the permittee to direct traffic safely through the area."

C. The requirement to maintain pedestrian and vehicular traffic is further defined in the Connecticut Department of Transportation Specifications Section 9.71, Form 814, which requirements are incorporated herein by reference.

D. The Contractor is required to contact the Owner’s Police Department to determine jurisdiction. Thereafter Contractor may contact the Town of Mansfield Police Department or other state or private sources directly to obtain the necessary manpower to comply with these regulations.

The Owner shall be informed by the Contractor of his traffic control procedures prior to the commencement of construction. Any traffic control performed other than by Contractor self-performance shall be considered subcontracted.

E. At all entrance gates a flag person shall be employed to coordinate project deliveries and manage pedestrian as well as vehicular traffic. This person shall also be responsible for closing the site access gates after each delivery.

3.7 PROJECT IDENTIFICATION AND SIGNS

A. Project Identification Signs:

1. Decorative banners for the site enclosure fencing shall be provided by the Owner and installed by the Contractor. Such banners shall be installed immediately following scrim installation. Utilize ties used for scrim.

2. Decorative scrim for the site enclosure fencing shall be provided by the Owner and installed by the Contractor. Non-decorative scrim shall be supplied and installed by the Contractor.

3. Construction Project Sign shall be provided and installed by the Contractor and shall simultaneously be installed with the installation of the temporary fencing. See details on the size and typical design layout of the sign and installation requirements located on the Owner's website: http://updc.uconn.edu.

B. Temporary Signs: Prepare signs to provide directional and safety information to construction personnel and visitors. Install signs where indicated to inform the public and persons seeking entrance to the Project. Support on posts or framing of preservative treated wood or steel. Do not permit installation of unauthorized signs, except those required by law.

1. All detour signs required by CTDOT shall be submitted to and approved by the Owner. The Owner reserves the right to adjust size, color and placement of signs.

C. Other directional and detour Signs: Other directional and/or detour signs not required by the CTDOT shall adhere to project specific specification requirements and be submitted to the Owner for approval.

3.8 OPERATION, TERMINATION, AND REMOVAL

A. Supervision: Enforce strict discipline in use of temporary facilities. To minimize waste and abuse, limit availability of temporary facilities to essential and intended uses directly related to the project.

B. Maintenance: Maintain facilities in good operating condition until removal.

1. Maintain operation of temporary enclosures, heating, cooling, humidity control, ventilation, and similar facilities on a 24-hour basis where required to achieve indicated results and to avoid possibility of damage.
2. Prevent water filled piping from freezing.
3. Maintain markers for underground lines. Protect from damage during excavation operations.

C. Temporary Facility Changeover: Do not change over from using temporary security and protection facilities to permanent facilities until Substantial Completion has been formally recognized.

D. Termination and Removal: Unless the Owner requests that it be maintained longer, remove immediately each temporary facility when need for its service has ended, when it has been replaced by authorized use of a permanent facility, or no later than Substantial Completion. Complete or, if necessary, restore permanent construction that may have been delayed because of interference with temporary facility. Repair damaged Work, clean exposed surfaces, and replace construction that cannot be satisfactorily repaired.

1. Materials and facilities that constitute temporary facilities are property of Contractor. Owner reserves right to take possession of Project identification signs.
2. Remove temporary roads and paved areas not intended for or acceptable for integration into permanent construction immediately when such temporary surface is no longer required.
3. Where area is intended for landscape development, remove soil and aggregate fill that do not comply with requirements for fill or subsoil. Remove materials contaminated with road oil, asphalt and other petrochemical compounds, and other substances that do not meet the material component requirements specified. Repair or replace street paving, curbs, and sidewalks at temporary entrances, as required by authorities having jurisdiction.
4. At Substantial Completion, repair, renovate, and clean permanent facilities used during construction period. Comply with final cleaning requirements specified in Division 01 Section "Closeout Procedures."

    a. Replace air filters and clean inside of ductwork and housings.
    b. Replace significantly worn parts and parts that have been subject to unusual operating conditions.
    c. Replace lamps that are burned out or noticeably dimmed by substantial hours of use.
    d. Restore all existing facilities and grounds used during construction to specified requirement or to original condition. Restoration shall include but not limited to:
        1) Removal of compacted grounds area due to equipment and vehicular access and movement to and within the site work area. Adding of compost and other nutrients to the soil to meet the Project standards for lawn/turf establishment.
        2) Pruning and mulching of existing planting beds that are within the construction fence area. Restore grass areas immediately surrounding and within the Construction fence area to blend with other surrounding plantings and grass areas maintained by the Owner. Should there be no Project standards for lawn/turf establishment, Contractor shall follow the Owner’s requirements for turf restoration.
    e. Remove completely from ground surfaces all “call before you dig” and other pavement markings made in support of the project. Covering over of markings is not acceptable.

END OF SECTION 01-5000

SECTION 01-5640 – TREE PROTECTION AND PRESERVATION

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. This Section includes the protection and stress reduction of existing trees and vegetation that interfere with, or are affected by, execution of the Work, whether temporary or permanent. Work is to be coordinated with the contract documents which shall include a tree preservation plan authored by a certified arborist.

B. The following specifications apply to work of the related to protection and stress reduction measures and coordination and oversight of the tree preservation Plan by the Owner. This work includes but is not limited to the following:

1. Coordination of Temporary Tree and Plant Protection
2. Selective tree removals for “Removal By Arborist” (RBA) (Contract Arborist) within Tree Protection Areas (TPAs)
3. Root Pruning
4. Temporary Site and Tree Protection Fencing and temporary sign installation referenced in Section 01-5000 Temporary Facilities and Controls
5. Composted Mulching
6. Liquid subsurface fertilization
7. Temporary Limb Guying or Clearance Pruning for construction access
8. Seasonal Supplemental Watering
9. Monitoring and Treatment of Tree Health
10. Supersonic Air Tool (SSAT) and Hand Excavation within the Critical Root Zones (CRZs)

1.3 DEFINITIONS

A. Certified Arborist: Credential of an individual arborist issued and administered by the International Society of Arboriculture. This credential must be current and valid to qualify to use the copyrighted designation of “Certified Arborist”. Refer to www.isa-arbor.com for additional information.

B. Contract Arborist: Arboricultural firm contracted to implement the approved tree preservation plans on site. All crews’ conduction arboricultural operations on site shall consist of at least one Certified Arborist who directly oversees all work by that crew. Arboricultural operations include, but are not limited to, pruning, tree protection device installation and maintenance (fence, matting, etc.), root pruning, air tool root excavation/exploration (SSAT), soil care activities, soil testing, mulch application, tree inspections, pesticide/chemical applications and

tree removal. Special qualifications submittal is required for review and approval below. Contract Arborist will be sub-contracted by the general contractor.

C. Tree Protection Area (TPA): Area indicated on Drawings surrounding individual trees or groups of trees to be protected during construction.

D. Supersonic Airtool (SSAT): Hand held tool designed to focus highly compressed air (90-125 psi) provided from a large air compressor (185-375 cfm) at speeds close to 1400 mph at the tip of the tool. Widely used by arboricultural firms and consultants for multiple purposes including but not limited to: root collar investigation, CRZ investigation, root pruning (especially large roots > 1.5" diameter or were existing underground cables or conduits are located, radial mulching and restoration of compacted soils, excavation for utilities within protected CRZs to minimize root damage from constriction.

E. Tree Removal by Arborist: Action whereby the Contract Arborist removes trees designated for "Removal by Arborist" selected from inside the TPAs. Trees shall be taken down by hand sectionally, or directionally felled to minimize damage to adjacent tree canopies, root systems, or adjacent structures. Work shall be completed by a qualified contract arborist.

F. Crown Pruning: Action by the Contract Arborist of pruning specific tree limbs to improve tree health, reduce hazard, and / or provide construction clearance.

G. Supportive Cabling: Installation of supportive cabling for designated tree branches due to weak branch attachments.

H. Root Pruning: Action indicated on Drawings to provide a more suitable cut for protected tree roots to minimize ripped or torn roots during excavations and grading with standard construction equipment. Various methods may be used.

I. Mulching of Trees: Application of a wood mulch product to areas surrounding designated trees. Mulch increases moisture-holding capacity, helps mitigate soil compaction, and increases needed soil organic composition.

J. Soil Amendments: Various product components applied to existing soil environment of protected trees, as indicated on Plan Notes.

K. Tree Growth Regulator (*Paclobutrazol)*: Products applied to designated trees used to regulate plant growth in such a way as to restrict canopy growth and free stored or produced energy for other uses in the tree. For highly impacted trees, more energy may be available for fibrous root growth (to combat root loss), thicker darker leaves (allowing for increased photosynthesis, and increased drought tolerance), and pest tolerance (often an issue with construction stressed trees); among other potential benefits.

L. Limits of Disturbance (LOD) (also called Limits of Construction): Specific outer limits of all construction activities for the entire project.

M. DBH (Diameter at Breast Height): Tree trunk diameter measured at 4.5 feet above grade.

1.4 SUBMITTALS

A. The Contract Arborist shall provide submittals as follows:

1. Product Data: For each type of product indicated

2. Certification: For each phase, the Contract Arborist shall certify for each tree designated to remain has been protected during construction according to recognized standards and that trees were promptly and properly treated and repaired when damaged.

3. Qualification Data: For Contract Arborist Firm Qualifications, submit firm and individual qualifications as follows:
   a. Submit a minimum of two resumes and detailed qualifications from staff or team individuals assigned to this project as detailed under Quality Assurance below. Due to the complexity of this project, standard arboricultural experience may not qualify.
   b. Provide references for above from a minimum of three commercial, non-governmental or governmental projects for whom similar tree preservation programs have been successfully implemented. Include the following information:
      1) Project Name, size and scope
      2) Number and species of trees involved
      3) Relevant photos or aerials
      4) Scope of services provided
      5) Name and contact for project owner, designer, or contractor.

4. Pedestrian / Property Protection Plan: Contract Arborist to submit a written plan describing all protective measures proposed to be used. Protection measures shall be required for all on-site tree care activities including but not limited to Supersonic Airtool excavation, root pruning, canopy pruning, etc. to minimize potential impact to pedestrians and property.

5. Maintenance Prescription: Contract Arborist shall submit for care and protection of trees as a result of construction, changes in weather patterns or events, and response in health from individual trees during and after completing the Work.

6. Soil Samples: Submit soil sample for analysis during site work phase of this project. Take representative soil samples from all areas of protected trees (landscape areas and street tree planting pits). Samples and procedures per local cooperative extension shall be followed. Forward reports to Engineer and Owner.

7. Soil Amendments: Contract Arborist shall submit specific fertilizer formulations, application rates and methods for review by Project Arborist. All fertilization and soil amendments shall be in conformance with soil test results.

8. Site Documentation: Submit weekly reports to the Owner containing complete documentation of all tree impacts and tree preservation activities including but not limited to: root pruning, tree protection fencing, excavation within critical root zones, tree fertilization or other treatments, etc. Documentation shall include tree numbers of trees impacted and / or treated. Complete daily photographic record is also required.

9. Existing Conditions: Documentation of existing trees and plantings indicated to remain, which establishes preconstruction conditions that might be misconstrued as damaged caused by construction activities.
   a. Use sufficiently detailed photographs or videotape.
   b. Include plans and notations to indicate specific wounds and damage conditions of each tree or other plants designated to remain.
10. Tree and shrub removal of additional plants not under base contract will require a "request to remove plantings" form to be submitted to the Owner for approval prior to starting the removal.

1.5 QUALITY ASSURANCE

A. Certified Arborist (individual) Qualifications: An arborist certified by the International Society of Arboriculture (ISA) and licensed in the jurisdiction where project is located. All work performed by Contract Arborist including any oversight and documentation work, shall be performed or directly supervised by at least one on-site arborist with these minimum qualifications.

B. Contract Arborist Firm Qualifications:

1. Contract Arborist Firm shall comply with the following:
   a. Established business with documented experience of at least five years.
   b. Experience working on a minimum of three commercial, nongovernmental or governmental projects where similar tree preservation programs have been successfully implemented.
   c. Properly licensed and insured to perform arboricultural work in the jurisdiction where the project is located.

2. Provide names of each individual to comply with the following:
   a. Minimum BS degrees in forestry, arboriculture, or related field and Certification in ISA.
   b. Resumes should reflect combined 10 years full time experience on similar tree preservation projects.
   c. Provide individual(s) names, certifications, and each anticipated role in this project. "Role(s)" shall be defined as one or more of the following:
      1) Project Manager
      2) Technical Oversight
      3) Field Arborist / Technician

3. For each staff member, list a minimum of three construction projects and a minimum three years' experience in the following technical applications:
   a. Soil amendment prescriptions and applications
   b. Supersonic Airtool Excavations for underground utilities exceeding 24" depth.
   c. Root Protection Matting or similar applications

C. Part of this work to extent referenced shall include but not be limited to the following:

1. ANSI A300 Standard Practices for Trees, Shrubs, and Other Woody Plant Maintenance.
2. Part 1-2001, Tree Pruning;
3. Part 2-3004, Fertilization;

4. Part 3-2000, Cabling, Bracing, Guying of Established Trees;
5. Part 4-2002, Lightning Protection Systems;
6. ANSI Z133.1 – 1994 and most recent updates, Tree Care Operations – Safety Requirements

D. Contractor shall be responsible for performing maintenance and care as advised by arborist in the Maintenance Prescription described in 1.4.5, and as required to maintain tree health throughout the construction period.

E. Fertilizer and pesticide will be applied in strict accordance with the manufacturers label instructions and applicable federal, state, and local requirements. Fertilizer, soil conditioners, and pesticide applications must be approved by the owner prior to application. Safety Data Sheets (SDS) will be available for fertilizers and pesticides in the Contract Arborists' possession while on the site.

F. Pre-Construction Meeting: Conduct meeting at the project site prior to commencement of construction related activities.

1. Contract Arborist, Project Arborist, Project Design Team, Owner and Contractors shall attend.

2. Review methods and procedures related to tree protection and preservation including, but not limited to, the following:
   a. Site Logistics Plan
   b. Construction schedule – verify availability of material, personnel, and equipment needed to make progress and avoid delays.
   c. Enforcement of requirements for tree protection areas.
   d. Responsibilities of all parties, including coordination, access and timing requirements.
   e. Field quality control

1.6 PROJECT CONDITIONS

A. The following practices are prohibited within all tree protection areas except as specifically indicated herein:

1. Storage or stockpiling of construction materials, chemicals, debris, or excavation materials.
2. Parking vehicles, trailers or equipment.
3. Foot traffic.
4. Erection of sheds or structures.
5. Impoundment or discharge of water.
6. Excavation or other hand or mechanical digging unless otherwise indicated.
7. Attachment of signs to or wrapping materials around trees or plants unless otherwise indicated.

B. Do not direct vehicle or equipment exhaust toward protection zones.

C. Prohibit heat sources, flames, ignition sources, and smoking within or near protection zones and organic mulch.

PART 2 - PRODUCTS

2.1 MATERIALS

A. Temporary Tree Protection Fence

1. Chain-Link Fence: Follow requirements on fencing outlined in 01-5000 Temporary Facilities and in 01-1000 Summary.

B. Wood Chip Mulch

1. Double ground hardwood, aged a minimum 6 months from production, free from deleterious materials. Green chips or mulch not aged at least 6 months shall not be used. No walnut mulch shall be used. Submittal shall include original material source(s), number and type of grindings / chippings, duration of aging, timing of turning / aeration.

C. Hardwood Destruction Borer / Beetle Control: Bifenthrin, such as Onyx or equivalent. Applied per label.

D. Tree Growth Regulator *(Paclobutrazol)*

1. Paclobutrazol is a compound used to regulate plant growth in such a way as to restrict canopy growth and free stored or produced energy for other uses in the tree. For highly impacted trees, this means more energy may be made available for fibrous root growth (to combat root loss), thicker darker leaves (allowing for increased photosynthesis, and increased drought tolerance), and pest suppression (often an issue with construction stressed trees); among countless other potential benefits. Trade name Cambistat® or equal.

E. Soil Care/Soil Amendments

1. Fertilizer and soil amendment selection shall be based upon soil test results and recommendations.

PART 3 - EXECUTION

3.1 TREE REMOVAL

A. See Section on Demolition for specifics on tree shrub or hedge removal.

3.2 TREE PROTECTION AND STRESS REDUCTION MEASURES

A. General

1. Installation/implementation of the following measures shall be performed in the field by and ISA Certified Arborist as provided by the Contract Arborist

2. All work, substitutions and /or modifications shall be subject to review and approval by the Owner.

3. All work shall conform to applicable federal, state and local regulations and industry standards.

4. The Contract Arborist shall be responsible for all items in this section.

B. Coordination of Tree preservation plan. The work of the Contract Arborist coordination to include but not limited to the following:

1. Existing underground utility marker conflicts brought to the attention of the Contractor for resolution as well uncovered underground utilities as a result of work.

2. Coordinate necessary survey layout of proposed construction elements in order to provide accurate locations for tree protection measures.

3. Layout location of designated tree protection based upon proposed construction and methods of construction for that area.

4. Site walk with Owner and Site Superintendent to verify location of all tree protection measures prior to execution.

5. Notify Site Superintendent and Owner if construction adjacent to tree protection does not appear to follow specifications or prior agreement or conflicts with tree protection seem eminent.

6. Coordinate with Site Superintendent and Owner, for access of deliveries, crews, equipment, start up, and cleanup of each item of work.

7. Provide “as built” of any change to location of tree protection.

8. Attend progress meetings as requested.

9. Provide submittals as required.

10. Notify Superintendent and Owner of any breach or damage to tree protection requiring attention.

C. Pruning and Supportive Cabling

1. Specific canopy pruning for tree health, risk reduction, and construction clearance per Contract documents

2. Size, health, species, and impact from proposed construction will be taken into consideration in determining pruning type for each designated tree. Risk Reduction Pruning will remove dead, dying, and declining limbs 2” diameter and larger. No interior green branching including sprouts will be removed unless approved by Contract Arborist.

3. Contractor, Contract Arborist, and Owner shall meet at site to determine overhead clearance conflicts between trees and construction equipment/activities to prevent breakage, impacts, or aesthetic concerns. All work shall conform to ANSI A-300

arboriculture standards. An aerial assessment shall be made for all trees climbed to report any structural weakness of concern to the Owner.

4. Prior to climbing any tree a risk assessment will be performed using visual, sounding, or basic drilling as needed by the Contract Arborist. Trees deemed high risk should not be climbed; alternate methods should be used and the tree reported to the Owner immediately.

5. Supportive Cabling of weak unions may be recommended by the Contract Arborist if the need is discovered during pruning operations. ANSI Standards apply. Cabling may be included only if submitted to the Engineer and approved by the Owner.

D. Root Prune

1. Purpose of the root pruning is to provide a more suitable cut so as to not rip or tear roots during excavations and grading with standard construction equipment. The exact location and depth along the LOD or edge of utility excavation will be determined during the layout by a Certified Arborist.

2. Root Pruning for urban sites with specimen trees or for transplanting requires the use of SSAT excavation for hand pruning. Refer to SSAT specifications in the section

3. Sufficient moisture is necessary for reducing the level of dust, increase work efficiency, and provide a hospitable environment of the tree roots and pedestrians.

4. At a pre-work site inspection by the Contract Arborist more than 72 hours in advance of work start, subsurface probing to 24-36” with a tile probe or similar method will determine if sufficient soil moisture exists. If sufficient moisture is not found, immediate coordination with the site managers shall be made to irrigate the proposed work areas. Methodology may be soaker hose, sprinklers, soaker cans with small drilled holes to release water slowly or other methods. A second follow up inspection shall be made to determine final sufficiency to begin.

5. All root pruning operations shall be performed by the Contract Arborist and directed in the field by and ISA Certified Arborist with documented experience in similar SSAT excavation and root pruning.

E. Temporary Tree Protection Fence

1. Type and placement of fence to be designated on the Preservation Plans and Details.

2. Attach tree protection area signs at30’ feet spacing, facing construction activity. For fence lower than 6’ feet in height, attach owner provided flagging as directed. Consult with the Owner for sign content.

3. Tree protection area signs shall be high visibility and all weather to last duration of the project / phase.

4. Install tree protection after root pruning if shown, and prior to all other mobilization such as demolition, clearing and/or excavation.

5. Install tree protection at 6" – 12" outside (construction side) of the Root Prune line or within the Root Prune Trench.

6. Silt fence will be outside (construction side) the tree protection fence, unless super silt fence is used in lieu of tree protection. Trenchless installation method shall be employed per Detail if Root Protection Matting is designated.

7. Exact placement of fence will be determined in walk-through with Contractor, Project Arborist, Contract Arborist, Engineer, and Owner.

8. Sequencing of the tree protection fence will be determined during the initial site walk. In any case, no construction activities shall occur in each phase or section until approved protection is installed.

F. Hand Excavation within Tree Protection Areas

1. For excavation within the critical root zone areas of trees to remain, the intent is to minimize tree and root damage from excavation activities.

2. Excavation shall be performed using SSAT, hand tools (shovels, etc.), or other approved non-damaging method. Roots shall not be damaged by the excavation except for approved root pruning.

3. Refer to "Supersonic Airtool Excavation" and "Construction Oversight by Arborist" specifications in this section for additional requirements.

4. All work shall be directly supervised by Contract Arborist in collaboration with the Owner's trades and subcontractors.

5. RPM (Root Protection Matting) shall be installed along trench sides to allow for temporary soil stockpile and access.

6. Excavate along the edge of the proposed trench closest to the trees to be protected as shown on the plans. Roots shall be uncovered and care taken to avoid damage to roots and bark.

7. Contract Arborist shall prune the exposed roots. Excavation shall not extend beyond the line where toots were pruned.

8. Contractor may proceed with conventional excavation methods or with hand excavation methods if clearance to the tree is inadequate for equipment access.

9. No roots shall be cut by the contractor.

G. Supersonic Airtool (SSAT) Excavation

1. Refer to "Hand Excavation within Tree Protection Areas" specification in this section for additional requirements

2. At a minimum, all SSAT work shall include the use of a barrier system such as temporary walls or tents to protect property and pedestrians from flying debris.

3. Excavate along the edge of the proposed trench closest to the trees to be protected as shown on the plans. Roots shall be uncovered and care taken to avoid damage to roots and bark.

4. Excavation shall proceed per the "Hand Excavation within Tree Protection Areas" specification in this section.

H. Wood Chip Mulch

1. Mulching for the duration of construction for protection and stress reduction. Mulching will increase moisture-holding capacity, minimize soil compaction, and increase needed organic composition. Mulch shall meet the specifications and shall be three (3) inches in depth.

2. For individual trees designated on the TPAK within the TPS or curvilinear TPA install mulch to a radius equal to trunk diameter inches equated to mulch ring diameter in feet (24" inch trunk diameter = 24' feet diameter mulch ring). Where planting pit areas are restricted by hardscape, mulch the greatest area possible.

3. For privately owned trees, any installation is contingent upon receipt of owner's permission. Owner may decline.

4. For linear TPAs along LOD Install mulch strips a minimum 10' feet wide the length of critical root zones along the outside of the LOD/Root Prune line (just inside the Tree Protection Zone) for designated significant trees impacted by proposed construction.

5. Motorized equipment shall not enter the Tree Protection Area (TPA) unless specifically approved by the Project Arborist and specific conditions met (RPM, AlturnaMATS, etc.). Any such motorized equipment shall be operated by a certified arborist while inside the TPA.

6. Do not allow mulch to contact trunk / roof flare.

7. Mulch depth shall be 3" inches.

I. Tree Growth Regulator *(Paclobutrazol)*

1. Paclobutrazol is a compound used to regulate plant growth in such a way as to restrict canopy growth and free stored or produced energy for other uses in the tree. For highly impacted trees, this means more energy may be made available for fibrous root growth (to combat root loss), thicker darker leaves allowing for increased photosynthesis, and increased drought tolerance.

2. Specific methods and dosages are contained on the label and are determined by size and species, and applied by a state licensed pesticide applicator. Designated trees are shown on the Tree Protection Action Key (TPAK).

J. Supplemental Watering

1. This action is for high impact trees of significance during seasonal drought times of project construction. Based upon the number and size of trees various strategies can be

considered to maintain adequate soil moisture during these times. These strategies may include but are not limited to the following:

a. Fire hydrant connection battery powered timer and drip irrigation hose/tubing;
b. Water tank trunk and hand applied as directed;
c. Temporary above grade poly tank with battery-powered timers for drip or soaker hoses at each TPA.
d. 30-50 gallon watering cans with 6 – 8 drilled holes in bottom to allow slow seeping of water; spacing and rotation to reach desired gallons. Equivalent means of affectively watering trees as approved by Engineer or Project Arborist.

2. Trees requiring this treatment are indicated in the TPAK. Other trees will not receive this treatment.

3. Drought times shall be defined as:
   a. Periods during the growing season of two weeks or longer, where daytime high temperatures reach 80 degrees Fahrenheit or higher and less that ¾" rainfall are recorded per week. Or,
   b. Periods during the growing season designated as "abnormally dry" or "drought" of any severity, by the U.S. Drought Monitor: http://droughtmonitor.unl.edu/ Or,
   c. Any period of extraordinary circumstance, as determined by the project arborist or engineer

4. A prescription for the number of gallons and strategy for watering designated trees will be developed. Large mature trees with impacts to root systems require as much as 100 – 250 gallons per week during 90 degree days during summer drought times.

5. Periodic inspections by an ISA Certified Arborist (provided by the Contract Arborist) as this time are critical. Depth of moisture in soils shall be determined by soil sample tube or other exploratory means.

6. Minimum watering shall be considered to be 6 applications per growing season typically July through October with the exact timing and duration to be determined by the ISA Arborist.

K. Overhead Clearance

1. Trees to remain shall be assessed prior to construction for overhead clearance for construction activities. Contract Arborist shall recommend either canopy pruning, temporary guying/tying of select limbs, or alternative construction methods.

2. Pruning for clearance shall not remove branches above 12' feet or over 6" inches diameter

3. All pruning proposed by the Contractor and / or Contract Arborist shall first be reviewed and approved by the Owner and Project Arborist.

4. Equipment exhaust should be directed away from trees as much as possible. Stationary equipment shall not exhaust directly under or toward trees.

5. Contractor shall use appropriate equipment near trees to ensure that trees are not damaged by construction. Contractor shall provide any specialized equipment needed at no additional cost to the owner.

6. Any pruning shall also conform to the pruning specifications in this section.

L. Soil Tests and Soil Care/Fertilization

1. Initial soil testing within tree protection areas is required. Conduct individual soil tests for separate tree protection areas (small adjacent areas may be tested together). Soil test shall be a representative sample from each area. Soil testing shall include a texture analysis (sand, silt, and clay percentages), soluble salts, and sodium tests.

2. Treatments to the tree protection areas for specified trees (see TPAK) shall be based on the results of the soil analysis. Fertilization should be consistent with the recommendations of the ANSI A-300 (Part 2) Tree, Shrub, and Other Woody Plant Maintenance – Standard Practices (Fertilization) 2004, except as described herein.

3. Application rates shall not exceed a rate of 1 pound of actual nitrogen per 1,000 square feet annually. Fertilizer used should include humic acids, soluble seaweed extracts and soil biological inoculants (mycorrhizae, etc.).

4. Applications to confined areas (i.e. street tree planting pits) should be made by soil injection. In areas where adequate application rates cannot be achieved, injection should be made to the point of refusal.

3.3 FIELD QUALITY CONTROL AND MONITORING

A. Tree Condition Monitoring

1. An ISA Certified Arborist (provided by the Contract Arborist) shall perform monitoring twice per month year round to monitor insects, disease, soil moisture levels, weather, and health changes on all trees designated on Tree Protection Action Key.

2. The monitoring will include a report that details problematic areas that have been addressed, treatments provided to reduce the problem, and anticipated treatments forecast for 30 days. This report will be forwarded to the Project Arborist, Engineer and Owner for documentation.

3. Any treatments recommended by the Contract Arborist not already included in the project scope shall be noted in the reports for review by the Project Arborist, Engineer and Owner. No additional work is to be performed unless approved in writing by the Owner.

B. Construction Oversight by Contract Arborist

1. Any work within CRZs of retained trees shall be directly supervised by the Contract Arborist.

2. If roots are encountered during excavation, work shall progress as directed by the Contract Arborist. Contract Arborist, in coordination with the construction and design teams, shall determine appropriate means and methods to address the roots. Options may include, but not be limited to, severing the roots, hand or SSAT excavation. Contractor shall not cut roots.

3. Refer to “Hand Excavation within Tree Protection Areas” specification in the section.

4. All work shall be documented thoroughly, including photo documentation. Refer to site documentation submittal requirements.

3.4 CONTRACTOR DAMAGE AND PENALTIES

A. Remedial Measures

1. Any damage caused to the trees by the work of this contract through negligence by the contractor shall be immediately remedied by the contractor. Contractor shall be responsible for any associated costs.

2. Remedial work may include pruning, cabling, or any other measures up to and including removal and replacement, as determined by the Project Arborist and Engineer.

3. Remedial work shall be performed by the Contract Arborist, as approved by the Project Arborist and Engineer.

4. All required remedial work shall be performed to the satisfaction of the Project Arborist and Engineer, at no additional cost to the owner.

B. Tree Replacement

1. If damage to any tree is severe, because of negligence by the contractor as determined by the Project Arborist and Engineer, it shall be replaced with a new tree of equal size caliper and species as that of the damaged tree.

2. If a replacement tree of equal size and caliper is not possible as determined by the Project Arborist and Engineer, it shall be replaced on and inch by inch basis with new trees of a minimum caliper size of 2”-3”.

3. Replacement trees shall be supplied and installed at no additional costs to the owner, including all incidental costs including the costs of inspection of the tree at the nursery and any other incidental costs associated with tree replacement.

END OF SECTION 01-5640

SECTION 01-5719 - TEMPORARY ENVIRONMENTAL CONTROLS

PART 1 - GENERAL

1.1 DESCRIPTION

A. This section specifies the control of environmental pollution and damage that the Contractor must consider for air, water, and land resources. It includes management of visual aesthetics, noise, solid waste, radiant energy, and radioactive materials, as well as other pollutants and resources encountered or generated by the Contractor. The Contractor is obligated to consider specified control measures with the costs included within the various contract items of work.

Environmental pollution and damage is defined as the presence of chemical, physical, or biological elements or agents which (human health and the environment):
Adversely affect human health or welfare,
Unfavorably alter ecological balances of importance to human life,
Effect other species of importance to humankind, or;
Degrade the utility of the environment for aesthetic, cultural, and historical purposes.

Definitions of Pollutants:
Air: The presence on the ambient air of one or more air pollutants (e.g., dust, fumes, mist, smoke, particulate matter) in such quantities as likely to be injurious to the environment, to health of human, plant or animal life or to property
Chemical Waste: Petroleum products, bituminous materials, salts, acids, alkalis, herbicides, pesticides, organic chemicals, and inorganic wastes.
Debris: Combustible and noncombustible wastes, such as leaves, tree trimmings, ashes, and waste materials resulting from construction or maintenance and repair work.
Sediment: Soil and other debris that has been eroded and transported by runoff water.
Solid Waste: Rubbish, debris, garbage, and other discarded solid materials resulting from industrial, commercial, and agricultural operations and from community activities.
Surface Discharge: The term "Surface Discharge" implies that the water is discharged with possible sheeting action and subsequent soil erosion may occur. Waters that are surface discharged may terminate in drainage ditches, storm sewers, creeks, and/or "water of the United States" and would require a permit to discharge water from the governing agency.
Rubbish: Combustible and noncombustible wastes such as paper, boxes, glass and crockery, metal and lumber scrap, tin cans, and bones.
Sanitary Wastes:

a. Sewage: Domestic sanitary sewage and human and animal waste.
b. Garbage: Refuse and scraps resulting from preparation, cooking, dispensing, and consumption of food.

1.2 QUALITY CONTROL

Establish and maintain quality control for the environmental protection of all items set forth herein.

Record on daily reports any problems in complying with laws, regulations, and ordinances. Note any corrective action taken.

1.3 SUBMITTALS

In accordance with Section, 3300, SUBMITTAL PROCEDURES, furnish the following:

A. Environmental Protection Plan: After the contract is awarded and prior to the commencement of the work, the Contractor shall meet with the Engineer and Owner to discuss the implementation of the sedimentation and erosion control plan found in the contract drawings and to develop mutual understanding relative to details of that plan. The Contractor shall prepare and submit to the Engineer and Owner for approval as outlined in section 3100 Project Management and Controls, a written and/or graphic Environmental Protection Plan including, but not limited to, the following:

a. Name(s) of person(s) within the Contractor's organization who is (are) responsible for ensuring adherence to the Environmental Protection Plan and the CT Department of Energy and Environmental Protections General Permit for the Discharge of Stormwater and Dewatering Wastewaters from Construction Activities (if applicable)

b. Name(s) and qualifications of person(s) responsible for manifesting hazardous waste to be removed from the site.

c. Name(s) and qualifications of person(s) responsible for training the Contractor's environmental protection personnel.

d. Name(s) and qualifications of person(s) responsible for conducting routine sedimentation and erosion control inspections, and their qualifications.

e. Description of the Contractor's environmental protection personnel training program.

f. Methods for protection of features to be preserved within authorized work areas including trees, shrubs, vines, grasses, ground cover, landscape features, air and water quality, fish and wildlife, soil, historical, and archeological and cultural resources.

g. Procedures to provide the environmental protection that comply with the applicable laws and regulations. Describe the procedures to correct pollution of the environment due to accident, natural causes, or failure to follow the procedures as described in the Environmental Protection Plan.

h. Permits, licenses, and the location of the solid waste disposal area and recycling centers, if applicable.

i. Any alterations to the sedimentation and erosion control drawings and/or Environmental Plan including but not limited to showing locations of any haul roads, stream crossings, material storage areas, structures, sanitary facilities, and stockpiles of excess or spoil materials.

Approval of the Contractor's Environmental Protection Plan will not relieve the Contractor of their responsibility for adequate and continued control of pollutants and other environmental protection measures.

1.4 PROTECTION OF ENVIRONMENTAL RESOURCES

Protect environmental resources within the project boundaries and those affected outside the limits of permanent work during the entire period of this contract. Confine activities to areas defined by the specifications and drawings.

A. Protection of Air Quality:

All Contractors,diesel powered on-road and off-road construction equipment used on site during the course of the project shall meet the following:

a. On-road and off-road construction vehicles shall not operate for more than three (3) consecutive minutes and no longer than five (5) total minutes in any 60-minute period when the vehicles are not in motion. Exceptions are made for weather extremes, health and safety and certain operational conditions set forth in Regulations of Connecticut State Agencies (RCSA) Section 22a-174-18(b)(3)(C).

b. Contractors shall implement and track a preventative maintenance plan for all equipment according to the engine manufactures specifications.

c. The use of ultra-low sulfur diesel fuel (less than or equal to 15 ppm sulfur content as defined by ASTM) shall be used for all diesel powered construction equipment.

d. 50 percent of all construction equipment runtime shall be based on using equipment that has an U.S. Environmental Protection Agency (EPA) compliance rating of Tier 2 or higher. All equipment shall have a minimum compliance rating of Tier 1. Contractors can retrofit older equipment with diesel oxidation catalysts or particulate filters to meet EPA Tier standards. In addition, all motor vehicles and/or construction equipment (both on-road and off-road) shall comply with all pertinent State and Federal regulations relative to exhaust emission controls and safety.

e. The Contractor or Construction Manager, in conjunction with the Subcontractors shall at least monthly record the following and provide upon request to the University representative the following:
   a) Make, Model and Year of all equipment
   b) Tier Rating of each piece of equipment
   c) Run Time of each piece of equipment
   d) Calculation of percentage of runtime per tier of equipment
   e) Fuel purchasing records
   f) Equipment maintained plan demonstrating equipment maintenance is per manufactures recommendations.
   g) Enforcement records of idle reduction policy.

f. All Work shall be conducted to ensure that no harmful effects are caused to adjacent Sensitive Receptor Sites. When placing heavy equipment and accepting deliveries, diesel powered engines shall be located away from fresh air intakes, air conditioners, entry ways and operative windows.

If any diesel powered on-road and off-road construction equipment is found to be in non-compliance with these provisions by the Owner's Project Manager, the Contractor or Construction Manager will be issued a notice with an immediate right to cure within five (5) minutes of receipt for idling vehicles and equipment, twelve (12) hour period of receipt for moving cranes and twenty four (24) hour of receipt in which to bring the equipment not retrofitted into compliance or remove it from the Project. The Contractor or Construction Manager failure to comply with

these provisions shall be reason to withhold payment or terminate the contract as prescribed within the contract documents.

Any costs associated with these provisions shall be included in the general cost of the contract. In addition, there shall be no time granted to the Contractor or Construction Manager for compliance with these provisions. The Contractor or Construction Manager compliance with these provisions and any associated regulations shall not be grounds for a Change Order.

The Contractor or Construction Manager may request a waiver to all or portions of these provisions with written justification to the University Project Manager as to why the Contractor, Construction Manager or Subcontractor cannot comply with these provisions. A waiver, to be effective, must be granted in writing by the University.

B. Equipment and Vehicles

Contractor shall review construction vehicle and equipment exhaust outlets in relationship to existing plant material with Owner. If exhaust is directed at existing plant material the placement of the equipment shall be altered or the exhaust outlet shall be altered by use of flexible exhaust pipe or other approved method. All efforts shall be made to protect plant material from direct exhaust outlets.

Engine braking or exhaust braking shall be prohibited on campus roads and surrounding state roads leading to any campus.

C. Protection of Land Resources:

Prior to construction, identify all land resources to be preserved within the work area. Do not remove, cut, deface, injure, or destroy land resources including trees, shrubs, vines, grasses, top soil, and land forms without permission from the Resident Engineer. Do not fasten or attach ropes, cables, or guys to trees for anchorage unless specifically authorized, or where special emergency use is permitted.

Work Area Limits: Include within the Site Logistics Plan and prior to any construction, mark the areas that require work to be performed under this contract. Mark or fence isolated areas within the general work area that are to be saved and protected. Protect monuments, works of art, and markers before construction operations begin. Convey to all personnel the purpose of marking and protecting all necessary objects.

Protection of Landscape: Protect trees, shrubs, vines, grasses, land forms, and other landscape features shown on the drawings to be preserved by marking, fencing, or using any other approved techniques.

a. Box and protect from damage existing trees and shrubs to remain on the construction site.
b. Immediately repair all damage to existing trees and shrubs by trimming, cleaning, and painting with antiseptic tree paint.
c. Do not store building materials or perform construction activities closer to existing trees or shrubs than the farthest extension of their limbs.

D. Protection of Water Resources:
Sedimentation and Erosion Control (E&S) measures are required for all University projects involving earthwork to prevent the movement of sediments off construction sites into nearby water bodies by implementing sedimentation and erosion controls. For projects greater than 1 acres of land disturbance, the University obtains a General Permit for the Discharge of Stormwater and Dewatering Wastewaters from Construction Activities.

Contractor must adhere to all requirements of any permit(s) under this project, including but not limited to General Permit for the Discharge of Stormwater and Dewatering Wastewaters from Construction Activities (Construction GP) Notable requirements include:

a. Follow the erosion control plan and stormwater pollution prevention plan (if applicable)contained in the project documents;
b. Inspect E&S per the requirements in the construction GP;
c. Perform turbidity sampling per the requirements in the construction GP and submit the results to the CTDEEP (if applicable);
d. Minimize dust;
e. Maintain all controls such as silt fence, anti-tracking pads, and catch basin silt sacks;
f. The dumping of liquids in the storm sewer is prohibited.
g. All post-construction stormwater structures shall be cleaned of sediments and any remaining silt fence and silt sacks shall be removed upon stabilization of the project's site soils.

E. Waste Disposal:
Handle and dispose of solid wastes in such a manner that will prevent contamination of the environment.

a. Place solid wastes (excluding clearing debris) in containers that are emptied on a regular schedule. Transport all solid waste off Government property and dispose of waste in compliance with Federal, State, and local requirements.
b. Store chemical waste away from the work areas in corrosion resistant containers and dispose of waste in accordance with Federal, State, and local regulations.
c. Handle discarded materials other than those included in the solid waste category as directed by the Resident Engineer.

F. Protection of Air Resources:
Keep construction activities under surveillance, management, and control to minimize pollution of air resources. Burning is not permitted on the job site. Keep activities, equipment, processes, and work operated or performed, in strict accordance with the State of Connecticut Department of Energy and Environmental Protection (CTDEEP) air regulations and Federal emission and performance laws and standards. Maintain ambient air quality standards set by the Environmental Protection Agency, for those construction operations and activities specified.

a. Control of Particulate Matter and Visible Emissions
(Regulations of Connecticut State Agencies (RCSA) § 22a-174-18):

b. Control dust particles, aerosols, and gaseous by-products from all construction activities, processing, and preparation of materials (such as from asphaltic batch plants) at all times, including weekends, holidays, and hours when work is not in progress.

c. Maintain all excavations, stockpiles, haul roads, permanent and temporary access roads, plant sites, spoil areas, borrow areas, and all other work areas within or outside the project boundaries free from particulates which would cause a hazard or a nuisance. Spraying chemical treatment of an approved type, light bituminous treatment, baghouse, scrubbers, electrostatic precipitators, or other methods are permitted to control particulates in the work area.

d. Control of Organic Compound Emissions (RCSA § 22a-174-20): Control organic compound emissions from equipment to applicable State allowable limits.

e. Control of Odors (RCSA § 22a-174-23): Control odors of construction activities and prevent obnoxious odors from occurring.

G. Reduction of Noise:

Minimize noise using every action possible. Perform noise-producing work in less sensitive hours of the day or week as directed by the Resident Engineer. Maintain noise-produced work at or below the decibel levels and within the time periods specified.

H. Perform construction activities involving repetitive, high-level impact noise only between 8:00 a.m. and 8:00 p.m unless otherwise permitted by local ordinance or the Owner. Repetitive impact noise on the property shall not exceed the following dB limitations:

Time Duration of Impact Noise	Sound Level in dB
More than 12 minutes in any hour	70
Less than 30 seconds of any hour	85
Less than three minutes of any hour	80
Less than 12 minutes of any hour	75

Provide sound-deadening devices on equipment and take noise abatement measures that are necessary to comply with the requirements of this contract, consisting of, but not limited to, the following:

d. Use shields or other physical barriers to restrict noise transmission.
e. Provide soundproof housings or enclosures for noise-producing machinery.
f. Use efficient silencers on equipment air intakes.
g. Use efficient intake and exhaust mufflers on internal combustion engines that are maintained so equipment performs below noise levels specified.
h. Line hoppers and storage bins with sound deadening material.
i. Conduct truck loading, unloading, and hauling operations so that noise is kept to a minimum.

3. Measure sound level for noise exposure due to the construction at least once every five successive days while work is being performed above 75 dB(A) noise level. Measure noise exposure at the property line or 15 m (50 feet) from the noise source, whichever is greater. Measure the sound levels on the A weighing network of a General Purpose sound level meter at slow response. To minimize the effect of reflective sound waves at buildings, take measurements at 900 to 1800 mm (three to six feet) in front of any building face. Submit the recorded information to the Resident Engineer noting any problems and the alternatives for mitigating actions.

Final Clean-up: On completion of project and after removal of all debris, rubbish, and temporary construction, Contractor shall leave the construction area in a clean condition satisfactory to Owner and Engineer requirements. Cleaning shall include off the station disposal of all items and materials not required to be salvaged, all debris and rubbish resulting from demolition and new work operations and removal of all "call before you dig markings" placed on behalf of the project, regardless if the Contractor marked or called to mark the location.

END OF SECTION 01-5719

SECTION 01-6000 - PRODUCT REQUIREMENTS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

A. Section includes administrative and procedural requirements for selection of products for use in Project; product delivery, storage, and handling; manufacturers' standard warranties on products; special warranties; and comparable products.

B. Related Requirements:

1. Division 01 Section "Allowances" for products selected under an allowance.
2. Division 01 Section "Alternates" for products selected under an alternate.
3. Division 01 Section "Substitution Procedures" for requests for substitutions.

1.3 DEFINITIONS

A. Products: Items obtained for incorporating into the Work, whether purchased for Project or taken from previously purchased stock. The term "product" includes the terms "material," "equipment," "system," and terms of similar intent.

1. Named Products: Items identified by manufacturer's product name, including make or model number or other designation shown or listed in manufacturer's published product literature that is current as of date of the Contract Documents.
2. New Products: Items that have not previously been incorporated into another project or facility. Products salvaged or recycled from other projects are not considered new products.
3. Comparable Product: Product that is demonstrated and approved through submittal process to have the indicated qualities related to type, function, dimension, in-service performance, physical properties, appearance, and other characteristics that equal or exceed those of specified product.

B. Basis-of-Design Product Specification: A specification in which a specific manufacturer's product is named and accompanied by the words "basis-of-design 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.

1.4 ACTION SUBMITTALS

A. Comparable Product Requests: Submit request for consideration of each comparable product. Identify product or fabrication or installation method to be replaced. Include Specification Section number and title and Drawing numbers and titles.

1. Include data to indicate compliance with the requirements specified in Division One Section "Substitutions".
2. Architect's Action: Review action shall follow all requirements specified in Division One Sections on "Substitutions" and "Submittals".

a. Form of Approval: As specified in Division 01 Section "Submittal Procedures."
b. Use product specified if Architect does not issue a decision on use of a comparable product request within time allocated.

B. Basis-of-Design Product Specification Submittal: Comply with requirements in Division 01 Section "Submittal Procedures." Show compliance with requirements.

1.5 QUALITY ASSURANCE

A. Compatibility of Options: If Contractor is given option of selecting between two or more products for use on Project, select product compatible with products previously selected, even if previously selected products were also options.

1. Each contractor is responsible for providing products and construction methods compatible with products and construction methods of other contractors.
2. If a dispute arises between contractors over concurrently selectable but incompatible products, Architect will determine which products shall be used.

1.6 PRODUCT DELIVERY, STORAGE, AND HANDLING

A. Deliver, store, and handle products using means and methods that will prevent damage, deterioration, and loss, including theft and vandalism. Comply with manufacturer's written instructions.

B. Delivery and Handling:

1. Schedule delivery to minimize long-term storage at Project site and to prevent overcrowding of construction spaces.
2. Coordinate delivery with installation time to ensure minimum holding time for items that are flammable, hazardous, easily damaged, or sensitive to deterioration, theft, and other losses.
3. Deliver products to Project site in an undamaged condition in manufacturer's original sealed container or other packaging system, complete with labels and instructions for handling, storing, unpacking, protecting, and installing.
4. Inspect products on delivery to determine compliance with the Contract Documents and to determine that products are undamaged and properly protected.

C. Storage:

1. Store products to allow for inspection and measurement of quantity or counting of units.
2. Store materials in a manner that will not endanger Project structure.
3. Store products that are subject to damage by the elements, under cover in a weathertight enclosure above ground, with ventilation adequate to prevent condensation.
4. Protect foam plastic from exposure to sunlight, except to extent necessary for period of installation and concealment.
5. Comply with product manufacturer's written instructions for temperature, humidity, ventilation, and weather-protection requirements for storage.
6. Protect stored products from damage and liquids from freezing.
7. Provide a secure location and enclosure at Project site for storage of materials and equipment by Owner's construction forces. Coordinate location with Owner.

1.7 PRODUCT WARRANTIES

A. Warranties specified in other Sections shall be in addition to, and run concurrent with, other warranties required by the Contract Documents. Manufacturer's disclaimers and limitations on product warranties do not relieve Contractor of obligations under requirements of the Contract Documents.

1. Manufacturer's Warranty: Written warranty furnished by individual manufacturer for a particular product and specifically endorsed by manufacturer to Owner.
2. Special Warranty: Written warranty required by the Contract Documents to provide specific rights for Owner.

B. Special Warranties: Prepare a written document that contains appropriate terms and identification, ready for execution.

1. Manufacturer's Standard Form: Modified to include Project-specific information and properly executed.
2. Specified Form: When specified forms are included with the Specifications, prepare a written document using indicated form properly executed.
3. See Divisions 02 through 33 Sections for specific content requirements and particular requirements for submitting special warranties.

C. Submittal Time: Comply with requirements in Division 01 Section "Closeout Procedures."

PART 2 - PRODUCTS

2.1 PRODUCT SELECTION PROCEDURES

A. General Product Requirements: Provide products that comply with the Contract Documents, are undamaged and, unless otherwise indicated, are new at time of installation.

1. Provide products complete with accessories, trim, finish, fasteners, and other items needed for a complete installation and indicated use and effect.
2. Standard Products: If available, and unless custom products or nonstandard options are specified, provide standard products of types that have been produced and used successfully in similar situations on other projects.

3. Owner reserves the right to limit selection to products with warranties not in conflict with requirements of the Contract Documents.
4. Where products are accompanied by the term "as selected," Architect will make selection.
5. Descriptive, performance, and reference standard requirements in the Specifications establish salient characteristics of products.
6. Or Equal: For products specified by name and accompanied by the term "or equal," or "or approved equal," or "or approved," comply with requirements in "Comparable Products" Article to obtain approval for use of an unnamed product.

B. Product Selection Procedures: Product selection is governed by the Contract Documents and governing regulations and not by previous Project experience. Procedures governing product selection include the following:

1. Proprietary Specification Requirements: Where Specifications name only a single manufacturer and product, provide the named product that complies with requirements. Comparable products or substitutions for Contractor's convenience will not be considered.

2. Semi proprietary Specification Requirements: Where Specifications name three or more products or manufacturers, provide one of the products indicated. Comparable products or substitutions for Contractor's convenience will not be considered.

    a. Where products or manufacturers are specified by name, accompanied by the term “or equal,” or “or approved equal” comply with the provisions concerning “substitutions” to obtain approval for use of an unnamed product.

3. Non-Proprietary Specifications: When the Specifications list products or manufacturers that are available and may be incorporated in the Work, but do not restrict the Contractor to use of these products only, the Contractor may propose any available product that complies with Contact requirements. Comply with provisions concerning “substitutions” to obtain approval for use of an unnamed product.

4. Descriptive Specification Requirements: Where Specifications describe a product or assembly, listing exact characteristics required, with or without use of a brand or trade name, provide a product or assembly that provides the characteristics and otherwise complies with Contract requirements.

5. Performance Specification Requirements: Where Specifications require compliance with performance requirements, provide products that comply with these requirements, and are recommended by the manufacturer for the application indicated. General overall performance of a product is implied where the product is specified for a specific application.

    a. Manufacture’s recommendations may be contained in published product literature, or by the manufacturer’s certification of performance.

6. Basis-of-Design Product: Where Specifications name a product, or refer to a product indicated on Drawings, and include a list of manufacturers, provide the specified or indicated product or a comparable product by one of the other named manufacturers. Drawings and Specifications indicate sizes, profiles, dimensions, and other characteristics

that are based on the product named. Comply with requirements in "Comparable Products" Article for consideration of an unnamed product by one of the other named manufacturers.

7. Visual Matching Specification: Where Specifications require "match Architect's sample", provide a product that complies with requirements and matches Architect's sample. Architect's decision will be final on whether a proposed product matches.

    a. If no product available within specified category matches and complies with other specified requirements, comply with requirements in Division 01 Section "Substitution Procedures" for proposal of product.

8. Visual Selection Specification: Where Specifications include the phrase "as selected by Architect from manufacturer's full range" or similar phrase, select a product that complies with requirements. Architect will select color, gloss, pattern, density, or texture from manufacturer's product line that includes both standard and premium items.

9. Allowances: Refer to individual Specification Sections and provisions in Section 01-2100, Allowances, for allowances that control product selection, and for procedures required for processing such selections.

2.2 COMPARABLE PRODUCTS

A. Conditions for Consideration: Architect will consider Contractor's request for comparable product when the following conditions are satisfied. If the following conditions are not satisfied, Architect may return requests without action, except to record noncompliance with these requirements:

1. Evidence that the proposed product does not require revisions to the Contract Documents 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. Proposed changes are in keeping with the intent of Contract Documents.
3. The request is timely, fully documented and properly submitted.
4. The request is directly related to an “or equal” clause or similar language in the Contract Documents.
5. The specified product or method of construction cannot be provided within the Contract Time.
    a. The request will not be considered if the product or method cannot be provided as a result of failure to pursue the Work promptly, coordinate activities properly or to adhere with the sequence of work within the contract schedule.
6. The specified product or method of construction cannot receive necessary approval by a governing authority.
7. A substantial advantage is offered the Owner, in terms of cost, time, energy conversation or other considerations of merit, after deduction offsetting responsibilities the Owner may be required to bear.
    a. Additional responsibilities for the Owner may include additional compensation to the Architect for redesign and evaluation services, increased cost of other construction by the Owner or separate Contractors, and similar considerations.

8. The specified product or method of construction cannot be provided in a manner that is compatible with other material, and where the Contractor certifies that the comparable product will overcome the incompatibility.
9. The specified product or method of construction cannot be coordinated with other materials, and where the Contractor certifies that the proposed comparable product can be coordinated.
10. The specified product or method of construction cannot provide a warranty required by the Contract Documents and where the Contractor certifies that the proposed comparable product provide the required warranty.
11. Detailed comparison of significant qualities of proposed product with those named in the Specifications. Significant qualities include attributes such as performance, weight, size, durability, visual effect, and specific features and requirements indicated.
12. List of similar installations for completed projects with project names and addresses and names and addresses of architects and owners, if requested.
13. Samples, if requested.

B. The Contractor's submittal and Architect's acceptance of Shop Drawings, Product Data or Samples that relate to construction activities not complying with the Contract Documents does not constitute an acceptable or valid submittal, nor does it constitute approval.

PART 3 - EXECUTION

3.1 INSTALLATION OF PRODUCTS:

A. Comply with manufacturer's instructions and recommendations for installation of products in the applications indicated. Anchor each product securely in place, accurately located and aligned with other work.

1. Clean exposed surfaces and protect as necessary to ensure freedom from damage and deterioration at time of Substantial Completion.

END OF SECTION 01-6000

SECTION 01-7300 - EXECUTION

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

A. Section includes general administrative and procedural requirements governing execution of the Work including, but not limited to, the following:

1. Construction layout.
2. Field engineering and surveying.
3. Installation of the Work.
4. Cutting and patching.
5. Coordination of Owner-installed products.
6. Progress cleaning.
7. Starting and adjusting.
8. Protection of installed construction.

B. Related Requirements:

1. Division 01 Section "Summary" for limits on use of Project site.
2. Division 01 Section "Submittal Procedures" for submitting surveys.
3. Division 01 Section "Closeout Procedures" for submitting final property survey with Project Record Documents, recording of Owner-accepted deviations from indicated lines and levels, and final cleaning.

1.3 DEFINITIONS

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

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

1.4 INFORMATIONAL SUBMITTALS

A. Certificates: Submit certificate signed by land surveyor certifying that location and elevation of improvements comply with requirements.

B. Cutting and Patching Plan: Submit plan describing procedures at least fourteen (14) days prior to the time cutting and patching will be performed. Include the following information:

1. Extent: Describe reason for and extent of each occurrence of cutting and patching.
2. Changes to In-Place Construction: Describe anticipated results. Include changes to structural elements and operating components as well as changes in building appearance and other significant visual elements.
3. Products: List products to be used for patching and firms or entities that will perform patching work.
4. Dates: Indicate when cutting and patching will be performed.
5. Utilities and Mechanical and Electrical Systems: List services and systems that cutting and patching procedures will disturb or affect. List services and systems that will be relocated and those that will be temporarily out of service. Indicate length of time permanent services and systems will be disrupted.

    a. Include description of provisions for temporary services and systems during interruption of permanent services and systems.

1.5 QUALITY ASSURANCE

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

B. Cutting and Patching: Comply with requirements for and limitations on cutting and patching of construction elements.

1. Structural Elements: When cutting and patching structural elements, notify Architect of locations and details of cutting and await directions from Architect before proceeding. Shore, brace, and support structural elements during cutting and patching. Do not cut and patch structural elements in a manner that could change their load-carrying capacity or increase deflection

2. Operational Elements: Do not cut and patch operating elements and related components in a manner that results in reducing their capacity to perform as intended or that results in increased maintenance or decreased operational life or safety.

3. Other Construction Elements: Do not cut and patch other construction elements or components in a manner that could change their load-carrying capacity, that results in reducing their capacity to perform as intended, or that results in increased maintenance or decreased operational life or safety

4. Visual Elements: Do not cut and patch construction in a manner that results in visual evidence of cutting and patching. Do not cut and patch exposed construction in a manner that would, in Architect's opinion, reduce the building's aesthetic qualities. Remove and replace construction that has been cut and patched in a visually unsatisfactory manner.

C. Cutting and Patching Conference: Before proceeding, meet at Project site with parties involved in cutting and patching, including mechanical and electrical trades for review of plan. Review areas of potential interference and conflict. Coordinate procedures and resolve potential conflicts before proceeding.

D. Manufacturer's Installation Instructions: Obtain and maintain on-site manufacturer's written recommendations and instructions for installation of products and equipment.

PART 2 - PRODUCTS

2.1 MATERIALS

A. General: Comply with requirements specified in other Sections.

1. For projects requiring compliance with sustainable design and construction practices and procedures, use products for patching that comply with requirements in sustainable design requirement Sections.

B. In-Place Materials: Use materials for patching identical to in-place materials. For exposed surfaces, use materials that visually match in-place adjacent surfaces to the fullest extent possible.

1. If identical materials are unavailable or cannot be used, use materials that, when installed, will provide a match acceptable to Architect for the visual and functional performance of in-place materials.

PART 3 - EXECUTION

3.1 EXAMINATION

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

1. Before construction, verify the location and invert elevation at points of connection of sanitary sewer, storm sewer, and water-service piping; underground electrical services, and other utilities.
2. Furnish location data for work related to Project that must be performed by public utilities serving Project site.

B. Examination and Acceptance of Conditions: Before proceeding with each component of the Work, examine substrates, areas, and conditions, with Installer or Applicator present where indicated, for compliance with requirements for installation tolerances and other conditions affecting performance. Record observations.

1. Examine roughing-in for mechanical and electrical systems to verify actual locations of connections before equipment and fixture installation.
2. Examine walls, floors, and roofs for suitable conditions where products and systems are to be installed.
3. Verify compatibility with and suitability of substrates, including compatibility with existing finishes or primers.

C. Written Report: Where a written report listing conditions detrimental to performance of the Work is required by other Sections, include the following:

1. Description of the Work.
2. List of detrimental conditions, including substrates.
3. List of unacceptable installation tolerances.
4. Recommended corrections.

D. Proceed with installation only after unsatisfactory conditions have been corrected. Proceeding with the Work indicates acceptance of surfaces and conditions.

3.2 PREPARATION

A. Existing Utility Information: Furnish information to Owner that is necessary to adjust, move, or relocate existing utility structures, utility poles, lines, services, or other utility appurtenances located in or affected by construction. And coordinate with authorities having jurisdiction.

B. Field Measurements: Take field measurements as required to fit the Work properly. Recheck measurements before installing each product. Where portions of the Work are indicated to fit to other construction, verify dimensions of other construction by field measurements before fabrication. Coordinate fabrication schedule with construction progress to avoid delaying the Work.

1. Verification of measurements and locations shall be performed by a licensed surveyor who will collect the GIS coordinates that will be included in the final as-built documentation.

C. Space Requirements: Verify space requirements and dimensions of items shown diagrammatically on Drawings.

D. Review of Contract Documents and Field Conditions: Immediately on discovery of the need for clarification of the Contract Documents caused by differing field conditions outside the control of Contractor, submit a request for information to Architect according to requirements in Division 01 Section "Project Management and Coordination."

3.3 CONSTRUCTION LAYOUT

A. Verification: Before proceeding to lay out the Work, verify layout information shown on Drawings, in relation to the property survey and existing benchmarks. If discrepancies are discovered, notify Architect promptly.

B. General: Engage a land surveyor to lay out the Work using accepted surveying practices.

1. Establish benchmarks and control points to set lines and levels at each story of construction and elsewhere as needed to locate each element of Project.
2. Establish limits on use of Project site.
3. Establish dimensions within tolerances indicated. Do not scale Drawings to obtain required dimensions.
4. Inform installers of lines and levels to which they must comply.
5. Check the location, level and plumb, of every major element as the Work progresses.

6. Notify Architect when deviations from required lines and levels exceed allowable tolerances.
7. Close site surveys with an error of closure equal to or less than the standard established by authorities having jurisdiction.

C. Site Improvements: Locate and lay out site improvements, including pavements, grading, fill and topsoil placement, utility slopes, and rim and invert elevations.

D. Building Lines and Levels: Locate and lay out control lines and levels for structures, building foundations, column grids, and floor levels, including those required for mechanical and electrical work. Transfer survey markings and elevations for use with control lines and levels. Level foundations and piers from two or more locations.

E. Record Log: Maintain a log of layout control work. Record deviations from required lines and levels. Include beginning and ending dates and times of surveys, weather conditions, name and duty of each survey party member, and types of instruments and tapes used. Make the log available for reference by Architect.

3.4 FIELD ENGINEERING

A. Reference Points: Locate existing permanent benchmarks, control points, and similar reference points before beginning the Work. Preserve and protect permanent benchmarks and control points during construction operations.

1. Do not change or relocate existing benchmarks or control points without prior written approval of Owner. Report lost or destroyed permanent benchmarks or control points promptly. Report the need to relocate permanent benchmarks or control points to Owner before proceeding.
2. Replace lost or destroyed permanent benchmarks and control points promptly. Base replacements on the original survey control points.

B. Benchmarks: Establish and maintain a minimum of two permanent benchmarks on Project site, referenced to data established by survey control points. Comply with authorities having jurisdiction for type and size of benchmark.

1. Record benchmark locations, with horizontal and vertical data, on Project Record Documents.
2. Where the actual location or elevation of layout points cannot be marked, provide temporary reference points sufficient to locate the Work.
3. Remove temporary reference points when no longer needed. Restore marked construction to its original condition.

C. Certified Survey: On completion of foundation walls, major site improvements, and other work requiring field-engineering services, prepare a certified survey showing dimensions, locations, angles, and elevations of construction and sitework.

3.5 INSTALLATION

A. General: Locate the Work and components of the Work accurately, in correct alignment and elevation, as indicated.

1. Make vertical work plumb and make horizontal work level.
2. Where space is limited, install components to maximize space available for maintenance and ease of removal for replacement.
3. Conceal pipes, ducts, and wiring in finished areas unless otherwise indicated.
4. Document slope and locations of material and product below and above ground on all utilities. Such documentation shall be performed by a licensed surveyor who will collect the GIS coordinates that will be included in the final as-built documentation.

B. Comply with manufacturer's written instructions and recommendations for installing products in applications indicated.

C. Install products at the time and under conditions that will ensure the best possible results. Maintain conditions required for product performance until Substantial Completion.

D. Conduct construction operations so no part of the Work is subjected to damaging operations or loading in excess of that expected during normal conditions of occupancy.

E. Sequence the Work and allow adequate clearances to accommodate movement of construction items on site and placement in permanent locations.

F. Tools and Equipment: Do not use tools or equipment that produce harmful noise levels or create high vibrations.

G. Templates: Obtain and distribute to the parties involved templates for work specified to be factory prepared and field installed. Check Shop Drawings of other work to confirm that adequate provisions are made for locating and installing products to comply with indicated requirements.

H. Attachment: Provide blocking and attachment plates and anchors and fasteners of adequate size and number to securely anchor each component in place, accurately located and aligned with other portions of the Work. Where size and type of attachments are not indicated, verify size and type required for load conditions.

1. Mounting Heights: Where mounting heights are not indicated, mount components at heights directed by Architect.
2. Allow for building movement, including thermal expansion and contraction.
3. Coordinate installation of anchorages. Furnish setting drawings, templates, and directions for installing anchorages, including sleeves, concrete inserts, anchor bolts, and items with integral anchors, that are to be embedded in concrete or masonry. Deliver such items to Project site in time for installation.

I. Joints: Make joints of uniform width. Where joint locations in exposed work are not indicated, arrange joints for the best visual effect as approved by the Architect. Fit exposed connections together to form hairline joints.

J. Hazardous Materials: Use products, cleaners, and installation materials that are not considered hazardous.

3.6 CUTTING AND PATCHING

A. Cutting and Patching, General: Employ skilled workers to perform cutting and patching. Proceed with cutting and patching at the earliest feasible time, and complete without delay.

1. Cut in-place construction to provide for installation of other components or performance of other construction, and subsequently patch as required to restore surfaces to their original condition.

B. Existing Warranties: Remove, replace, patch, and repair materials and surfaces cut or damaged during installation or cutting and patching operations, by methods and with materials so as not to void existing warranties.

C. Temporary Support: Provide temporary support of work to be cut.

D. Protection: Protect in-place construction during cutting and patching to prevent damage. Provide protection from adverse weather conditions for portions of Project that might be exposed during cutting and patching operations.

E. Adjacent Occupied Areas: Where interference with use of adjoining areas or interruption of free passage to adjoining areas is unavoidable, coordinate cutting and patching according to requirements in Division 01 Section "Summary."

F. Existing Utility Services and Mechanical/Electrical Systems: Where existing services/systems are required to be removed, relocated, or abandoned, bypass such services/systems before cutting to minimize interruption to occupied areas.

G. Cutting: Cut in-place construction by sawing, drilling, breaking, chipping, grinding, and similar operations, including excavation, using methods least likely to damage elements retained or adjoining construction. If possible, review proposed procedures with original Installer; comply with original Installer's written recommendations.

1. In general, use hand or small power tools designed for sawing and grinding, not hammering and chopping. Cut holes and slots neatly to minimum size required, and with minimum disturbance of adjacent surfaces. Temporarily cover openings when not in use.
2. Finished Surfaces: Cut or drill from the exposed or finished side into concealed surfaces.
3. Concrete and Masonry: Cut using a cutting machine, such as an abrasive saw or a diamond-core drill.
4. Excavating and Backfilling: Comply with requirements in applicable Division 31 Sections where required by cutting and patching operations.
5. Mechanical and Electrical Services: Cut off pipe or conduit in walls or partitions to be removed. Cap, valve, or plug and seal remaining portion of pipe or conduit to prevent entrance of moisture or other foreign matter after cutting.
6. Proceed with patching after construction operations requiring cutting are complete.

H. Patching: Patch construction by filling, repairing, refinishing, closing up, and similar operations following performance of other work. Patch with durable seams that are as invisible as

practicable. Provide materials and comply with installation requirements specified in other Sections, where applicable.

1. Inspection: Where feasible, test and inspect patched areas after completion to demonstrate physical integrity of installation.
2. Exposed Finishes: Restore exposed finishes of patched areas and extend finish restoration into retained adjoining construction in a manner that will eliminate evidence of patching and refinishing.

    a. Clean piping, conduit, and similar features before applying paint or other finishing materials.
    b. Restore damaged pipe covering to its original condition.

3. Floors and Walls: Where walls or partitions are removed extend one finished area into another, patch and repair floor and wall surfaces in the new space. Provide an even surface of uniform finish, color, texture, and appearance. Remove in-place floor and wall coverings and replace with new materials, if necessary, to achieve uniform color and appearance.

    a. Where patching occurs in a painted surface, prepare substrate and apply primer and intermediate paint coats appropriate for substrate over the patch, and apply final paint coat over entire unbroken surface containing the patch. Provide additional coats until patch blends with adjacent surfaces.

4. Ceilings: Patch, repair, or rehang in-place ceilings as necessary to provide an even-plane surface of uniform appearance.
5. Exterior Building Enclosure: Patch components in a manner that restores enclosure to a weathertight condition and ensures thermal and moisture integrity of building enclosure.

I. Cleaning: Clean areas and spaces where cutting and patching are performed. Remove paint, mortar, oils, putty, and similar materials from adjacent finished surfaces.

3.7 OWNER-INSTALLED PRODUCTS

A. Site Access: Provide access to Project site for Owner's construction personnel.

B. Coordination: Coordinate construction and operations of the Work with work performed by Owner's construction personnel.

1. Construction Schedule: Inform Owner of Contractor's preferred construction schedule for Owner's portion of the Work. Adjust construction schedule based on a mutually agreeable timetable. Notify Owner if changes to schedule are required due to differences in actual construction progress.
2. Preinstallation Conferences: Include Owner's construction personnel at preinstallation conferences covering portions of the Work that are to receive Owner's work. Attend preinstallation conferences conducted by Owner's construction personnel if portions of the Work depend on Owner's construction.

3.8 PROGRESS CLEANING

A. General: Clean Project site and work areas daily, including common areas. Enforce requirements strictly. Dispose of materials lawfully.

1. Comply with requirements in NFPA 241 for removal of combustible waste materials and debris.
2. Do not hold waste materials more than seven days during normal weather or three days if the temperature is expected to rise above 80 deg F.
3. Containerize hazardous and unsanitary waste materials separately from other waste. Mark containers appropriately and dispose of legally, according to regulations.

a. Use containers intended for holding waste materials of type to be stored.

4. Coordinate progress cleaning for joint-use areas where Contractor and other contractors are working concurrently.

5. Follow all Owner sustainable design requirements, not limited to LEED.

B. Site: Maintain Project site free of waste materials and debris.

C. Work Areas: Clean areas where work is in progress to the level of cleanliness necessary for proper execution of the Work.

1. Remove of non-hazardous liquid spills promptly.
2. Where dust would impair proper execution of the Work, broom-clean or vacuum the entire work area, as appropriate.

D. Installed Work: Keep installed work clean. Clean installed surfaces according to written instructions of manufacturer or fabricator of product installed, using only cleaning materials specifically recommended. If specific cleaning materials are not recommended, use cleaning materials that are not hazardous to health or property and that will not damage exposed surfaces.

E. Concealed Spaces: Remove debris from concealed spaces before enclosing the space.

F. Exposed Surfaces in Finished Areas: Clean exposed surfaces and protect as necessary to ensure freedom from damage and deterioration at time of Substantial Completion.

G. Waste Disposal: Do not bury or burn waste materials on-site. Do not wash waste materials down sewers or into waterways. Comply with waste disposal requirements in Construction Waste Management and Disposal.

H. During handling and installation, clean and protect construction in progress and adjoining materials already in place. Apply protective covering where required to ensure protection from damage or deterioration at Substantial Completion.

I. Clean and provide maintenance on completed construction as frequently as necessary through the remainder of the construction period. Adjust and lubricate operable components to ensure operability without damaging effects.

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

3.9 STARTING AND ADJUSTING

A. Coordinate startup and adjusting of equipment and operating components with requirements in "General Commissioning Requirements."

B. Start equipment and operating components to confirm proper operation. Remove malfunctioning units, replace with new units, and retest.

C. Adjust equipment for proper operation. Adjust operating components for proper operation without binding.

D. Test each piece of equipment to verify proper operation. Test and adjust controls and safeties. Replace damaged and malfunctioning controls and equipment.

E. Manufacturer's Field Service: Comply with qualification requirements in Division 01 Section "Quality Requirements."

3.10 PROTECTION OF INSTALLED CONSTRUCTION

A. Provide final protection and maintain conditions that ensure installed Work is without damage or deterioration at time of Substantial Completion.

B. Comply with manufacturer's written instructions for temperature and relative humidity.

END OF SECTION 01-7300

SECTION 01-7700 - CLOSEOUT PROCEDURES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

A. Section includes administrative and procedural requirements for contract closeout, including, but not limited to, the following:

1. Substantial Completion procedures.
2. Final completion procedures.
3. Warrantee Requirements
4. Submittal of Warranties.
5. Revenue Services Requirements
6. Final cleaning.
7. Repair of the Work.

B. Related Requirements:

1. Division 01 Section "Photographic Documentation" for submitting final completion construction photographic documentation.
2. Division 01 Section "Execution" for progress cleaning of Project site.
3. Division 01 Section "Operation and Maintenance Data" for operation and maintenance manual requirements.
4. Division 01 Section "Project Record Documents" for submitting record Drawings, record Specifications, and record Product Data.
5. Division 01 Section “Demonstration and Training” for requirements for instructing Owner’s personnel
6. Divisions 02 through 33 Sections for specific closeout and special cleaning requirements for the Work in those Sections.

1.3 ACTION SUBMITTALS

A. Product Data: For cleaning agents.

B. Contractor's List of Incomplete Items: Initial submittal at Substantial Completion.

C. Certified List of Incomplete Items: Final submittal at Final Completion.

1.4 CLOSEOUT SUBMITTALS

A. Review list of Owner requirements as conditions for meeting substantial completion. List is located at the following weblink: http://updc.uconn.edu

1.5 MAINTENANCE MATERIAL SUBMITTALS

A. Schedule of Maintenance Material Items: For maintenance material submittal items specified in other Sections.

1.6 SUBSTANTIAL COMPLETION PROCEDURES

A. Contractor's List of Incomplete Items: Prepare and submit a list of items to be completed and corrected (Contractor's punch list), indicating the value of each item on the list and reasons why the Work is incomplete.
   1. Contractor’s punch list shall be complete and shall cover the entire contract scope, unless previously identified within the contract documents that the project will be completed in phases.
   2. Upon receipt of Contractor’s punch list of incomplete items, depending on the amount of remaining finish work, Architect may begin generating their own punch list. If the Architect determines that the Contractor’s punch list is significantly deficient or contains a significant amount of unfinished work to meet substantial completion, Architect will formally notify the Contractor accordingly with no further action. Contractor shall continue to complete unfinished work until the Architect determines that Substantial Completion has been met.
   3. Any time and expenses incurred by the Architect to re-review completeness of Contractor’s work to determine Substantial Completion has been met, shall be at the Contractor’s expense,

B. Submittals Prior to Substantial Completion: Complete the following a minimum of 14 days prior to requesting inspection for determining date of Substantial Completion. List items below that are incomplete at time of request.

   1. Certificates of Release: Obtain and submit releases from authorities having jurisdiction permitting Owner unrestricted use of the Work and access to services and utilities. Include occupancy permits, operating certificates, and similar releases.
   2. Submit closeout submittals specified in other Division 01 Sections, including but not limited to project record documents, operation and maintenance manuals, final completion construction photographic documentation, damage or settlement surveys, property coordinate mapping surveys, and similar final record information.
   3. Submit closeout submittals specified in individual Divisions 02 through 33 Sections, including specific warranties, workmanship bonds, maintenance service agreements, final certifications, and similar documents.
   4. Submit maintenance material submittals specified in individual Divisions 02 through 33 Sections, including tools, spare parts, extra materials, and similar items, and deliver to location designated by Owner. Labels must clearly identify what the maintenance material is for what piece equipment, with manufacturer's name and model number where applicable.

a. Schedule of Maintenance Material Items: Prepare and submit schedule of maintenance material submittal items, including name and quantity of each item and name and number of related Specification Section. Obtain Owner signature for receipt of submittals.

5. Submit a statement that all air flush-out procedures were performed. Include process used and dates when flush-out was started and completed. Filtration media must be replaced after flush-out process was completed. If procedure was performed prior to dust creating work was complete, Contractor must perform an additional process.
6. Submit test/adjust/balance records.
7. Submit systems curves for air and water systems,
8. Submit sustainable design submittals required in Division 01 sustainable design requirements Section and in individual Division 02 through 33 Sections.
9. Submit changeover information related to Owner's occupancy, use, operation, and maintenance.

C. Procedures Prior to Substantial Completion: Complete the following a minimum of 14 days prior to requesting inspection for determining date of Substantial Completion. List items below that are incomplete at time of request.

1. Advise Owner of pending insurance changeover requirements.
2. Make final changeover of permanent locks and deliver keys to Owner. Advise Owner's personnel of changeover in security provisions.
3. Complete startup and testing of systems and equipment.
4. Perform air flush-out procedures and replace filtration media after flush-out of the building’s systems. Replace all filters.
5. Perform adjustments and balancing of systems, provide reports
6. Perform preventive maintenance on equipment and systems used prior to Substantial Completion, regardless if the equipment was existing. Advise Owner of changeover in heat and other utilities.
7. Conduct inspection and walkthrough with local authorities having jurisdiction.
8. Terminate and remove temporary facilities from Project site, along with mockups, construction tools, and similar elements.
9. Remove temporary fencing.
   a. Power wash all Owner supplied scrim. Let dry and neatly roll/fold scrim and deliver to Owner’s designated storage location.
10. Complete final cleaning requirements, including touchup painting.
11. Touch up and otherwise repair and restore marred exposed finishes to eliminate visual defects.
12. Provide as-built documentation of changes made in the field or in cases where no field changes occurred, certified statement from the trade contractor documenting such.
    a. Contractor shall remain responsible for costs that may occur should existing conditions be found that are not reflected within the as-built documents provided for closeout.
13. All surveys and survey information as outlined within quality control of Division One.
    a. Should the Contractor fail during the course of the work to have licensed survey of required coordinate points and document information outlined within the contract documents, Owner shall have such work performed by others, at the Contractors expense.

D. Inspection: Submit a written request for inspection to determine Substantial Completion a minimum of 14 days prior to date the work will be completed and ready for final inspection and tests. On receipt of request, Landscape Architect will either proceed with inspection or notify Contractor of unfulfilled requirements. Landscape Architect will prepare the Certificate of Substantial Completion after inspection or will notify Contractor of items, either on Contractor's list or additional items identified by Landscape Architect, that must be completed or corrected before certificate will be issued.

1. Reinspection: Request reinspection when the Work identified in previous inspections as incomplete is completed or corrected.
2. Results of completed inspection will form the basis of requirements for final completion.

1.7 FINAL COMPLETION PROCEDURES

A. Submittals Prior to Final Completion: Before requesting final inspection for determining final completion, complete the following:
1. Instruct Owner's personnel in operation, adjustment, and maintenance of products, equipment, and systems. Submit demonstration and training video recordings as specified in Division 01 Section "Demonstration and Training."

2. Submit a final Application for Payment request with releases and supporting documentation not previously submitted and accepted. Include certificates of insurance for products and completed operations where required.
3. Submit an updated final Application for Payment statement, accounting for final additional charges to the Contract Sum.
4. Certified List of Incomplete Items: Submit certified copy of Landscape Architect's Substantial Completion inspection list of items to be completed or corrected (punch list), endorsed and dated by Landscape Architect. Certified copy of the list shall state that each item has been completed or otherwise resolved for acceptance.
5. Certificate of Insurance: Submit evidence of final, continuing insurance coverage complying with insurance requirements.
6. Submit final meter readings for utilities, a measured record of stored fuel, and similar data as of the date of Substantial Completion, or when the Owner took possession of and responsibility for corresponding elements of the Work.
7. Submit consent of surety to final payment.
8. Submit a final liquidated damages settlement statement.
9. Any attic stock that has been outlined to be provided, shall be acknowledged as received by the Owner. Copy of transmittal listing the material/parts and quantities with Owner signature of acceptance.
10. Pest control inspections and warranty
11. Construction progress photographs

B. Inspection: Submit a written request for final inspection to determine acceptance a minimum of 14 days prior to date the work will be completed and ready for final inspection and tests. On receipt of request, Landscape Architect will either proceed with inspection or notify Contractor of unfulfilled requirements. Landscape Architect will prepare a final Certificate for Payment after inspection or will notify Contractor of construction that must be completed or corrected before certificate will be issued.

1. Reinspection: Request reinspection when all the Work identified in previous inspections as incomplete is completed or corrected.
2. Upon completion of re-inspection, the Owner with advice of the Landscape Architect will prepare a Certificate of Final Acceptance, or advise the Contractor of Work that is incomplete or of obligations that have not been fulfilled but are required for final acceptance.
3. If necessary, reinspection will be repeated at the Contractor's expense.

1.8 LIST OF INCOMPLETE ITEMS (PUNCH LIST)

A. Organization of List: Include name and identification of each space and area affected by construction operations for incomplete items and items needing correction including, if necessary, areas disturbed by Contractor that are outside the limits of construction.

1. Organize list of spaces in sequential order.
2. Organize items applying to each space by major element, including categories for ceiling, individual walls, floors, equipment, and building systems.
3. Include the following information at the top of each page:

    a. Project name.
    b. Date.
    c. Name of Landscape Architect.
    d. Name of Contractor.
    e. Page number.

4. Submit list of incomplete items in the following format or format approved by Owner:

    a. PDF electronic file. Landscape Architect will return annotated file.

1.9 WARRANTY RESPONSE REQUIREMENTS

A. Related Damages and Losses: When correcting warranted Work that has failed, 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.

B. 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.

C. 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.

D. Owner's Recourse: Written 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, nor shall warranty periods be interpreted as limitations on time in which the Owner can enforce such other duties, obligations, rights, or remedies. Rejection of Warranties: The Owner reserves

the right to reject warranties and to limit selections to products with warranties not in conflict with requirements of the Contract Documents.

E. The Owner reserves the right to refuse to accept Work for the Project where a special warranty, certification, or similar commitment is required on such Work or part of the Work, until evidence is presented that entities required to countersign such commitments are willing to do so.

1.10 SUBMITTAL OF PROJECT WARRANTIES

A. Time of Submittal: Submit written warranties on request of Landscape Architect for designated portions of the Work where commencement of warranties other than date of Substantial Completion is indicated, or when delay in submittal of warranties might limit Owner's rights under warranty.

B. All work shall be covered by the standard one (1) year guarantee as set forth in the General Conditions. The Contractor with his subcontractors shall visit the project site at 11 months into the guarantee period to determine with the Owner the scope of any required guarantee work. The Contractor shall contact the Owner and Landscape Architect for scheduling so that the Owner and Landscape Architect can attend.

C. Partial Occupancy: Submit properly executed warranties within 15 days of completion of designated portions of the Work that are completed and occupied or used by Owner during construction period by separate agreement with Contractor.

D. Specific requirements for warranties for the Work and products and installations that are specified to be warrantee are included in the individual Sections of Divisions 2 through 33.

E. 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.

F. Organize warranty documents into an orderly sequence based on the table of contents of Project Manual.

1. Organize based on the format outlined within the Owners closeout check list. Provide two hardcopies complete draft for AE reviews. Submit one final electronic document as final
2. Address to: Office of Planning, Architectural and Engineering Services, University of Connecticut Box Unit-3038, Storrs, Connecticut 06269-3038
3. Provide heavy paper dividers with plastic-covered tabs for each separate warranty. Mark tab to identify the product or installation. Provide a typed description of the product or installation, including the name of the product and the name, address, and telephone number of Installer.
4. Identify each binder on the front and spine with the typed or printed title "WARRANTIES," Project name and number, and name of Contractor.
5. Warranty Electronic File: Scan warranties and bonds and assemble complete warranty and bond submittal package into a single indexed electronic PDF file with links enabling navigation to each item. Provide bookmarked table of contents at beginning of document

and contact information for each warrantee including extended warrantees. Define distinct warrantee coverage and contact information for each warrantee.

6. All required guarantees/warranties will be by the respective company made out to the Owner.
7. All guarantees/warranties supplied by subcontractors or manufacturers shall be countersigned by the Contractor.
8.

G. Provide additional copies of each warranty to include in operation and maintenance manuals.

1.11 REVENUE SERVICES REQUIREMENTS

A. Upon receipt of the Certificate of Substantial Completion, the Contractor shall submit the following information required by the Connecticut Department of Revenue Services.

1. The identity and addresses of all subcontractors performing work on the project.

2. The Connecticut tax registration numbers of the Contractor and all subcontractors.

3. The Federal Social Security account numbers, or Federal Employer Identification numbers, or both, if applicable, for the General Contractor and all subcontractors.

4. Include a copy of the transmittal sent to the Department of Revenue on project contacts information that is to be included within the closeout manual.

PART 2 - PRODUCTS

2.1 MATERIALS

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

1. Use cleaning products that comply with Green Seal's GS-37, or if GS-37 is not applicable, use products that comply with the California Code of Regulations maximum allowable VOC levels.

PART 3 - EXECUTION

3.1 FINAL CLEANING

A. General: Perform final cleaning. Conduct cleaning and waste-removal operations to comply with local laws and ordinances and Federal and local environmental and antipollution regulations.

B. Cleaning: Employ experienced workers or professional cleaners for final cleaning. Clean each surface or unit to condition expected in an average commercial building cleaning and maintenance program. Comply with manufacturer's written instructions.

1. Complete the following cleaning operations before requesting inspection for certification of Substantial Completion for entire Project or for a designated portion of Project:

a. Clean Project site, yard, and grounds, in areas disturbed by construction activities, including landscape development areas, of rubbish, waste material, litter, and other foreign substances.
b. Clean catch basins affected by construction activities.
c. Sweep paved areas broom clean. Remove petrochemical spills, stains, and other foreign deposits.
d. Rake grounds that are neither planted nor paved to a smooth, even-textured surface.
e. Remove tools, construction equipment, machinery, and surplus material from Project site.
f. Remove snow and ice to provide safe access to building.
g. Clean exposed exterior and interior hard-surfaced finishes to a dirt-free condition, free of stains, films, and similar foreign substances. Avoid disturbing natural weathering of exterior surfaces. Restore reflective surfaces to their original condition.
h. Vacuum carpet and similar soft surfaces, removing debris and excess nap; clean according to manufacturer's recommendations if visible soil or stains remain.
i. Clean transparent materials, including mirrors and glass in doors and windows. Remove glazing compounds and other noticeable, vision-obscuring materials. Polish mirrors and glass, taking care not to scratch surfaces.
j. Remove labels that are not permanent.
k. Clean and polish tile and other glazed surfaces affected by construction activity.
l. Clean and polish finish hardware affected by construction activity.
m. Clean exposed surfaces of diffusers, registers, and grills affected by construction activity.
n. Replace all filters of equipment and systems used during construction.
o. Clean light fixtures, lamps, globes, and reflectors to function with full efficiency that were affected by construction activity.
p. Leave Project clean and ready for occupancy.
q. Remove all sediment control for catch basins and fully clean out catch basin.

C. Pest Control: Comply with pest control requirements in Division 01 Section "Temporary Facilities and Controls." Prepare written report.

D. Removal of Protection: Remove temporary protection and facilities installed for protection of the Work during construction.

E. Compliance: Comply with regulations of authorities having jurisdiction and safety standards for cleaning. Do not burn waste materials. Do not fury debris or excess materials on the Owner’s property. Do not discharge volatile, harmful or dangerous materials into drainage systems. Remove waste materials from the site and dispose of in a lawful manner.

1. Where extra materials of value remaining after completion of associated Work have become the Owner’s property, arrange for disposition of these materials as directed.

3.2 REPAIR OF THE WORK

A. Complete repair and restoration operations before requesting inspection for determination of Substantial Completion.

B. Repair or remove and replace defective construction. Repairing includes replacing defective parts, refinishing damaged surfaces, touching up with matching materials, and properly adjusting operating equipment. Where damaged or worn items cannot be repaired or restored, provide replacements. Remove and replace operating components that cannot be repaired. Restore damaged construction and permanent facilities used during construction to specified condition.

1. Remove and replace chipped, scratched, and broken glass, reflective surfaces, and other damaged transparent materials.
2. Touch up and otherwise repair and restore marred or exposed finishes and surfaces. Replace finishes and surfaces that that already show evidence of repair or restoration.

    a. Do not paint over "UL" and other required labels and identification, including mechanical and electrical nameplates. Remove paint applied to required labels and identification.

3. Replace parts subject to operating conditions during construction that may impede operation or reduce longevity.
4. Replace burned-out bulbs, bulbs noticeably dimmed by hours of use, and defective and noisy starters in fluorescent and mercury vapor fixtures to comply with requirements for new fixtures.

3.3 CERTIFICATIONS

A. The Contractor, at completion of construction, shall provide to the Owner on company letter head a “Certificate of Substantial Compliance” bearing original signatures of an officer of the company reflecting the following:
1. Address to: University of Connecticut c/o University Master Planner and Chief Architect, Planning Architectural and Engineering Services, 31 LeDoyt Road, Storrs, CT 06269-3038;
2. Identify the Project number and Project Name;
3. Project’s Description of work: As represented within Division 01 Section 1000 Summary.
4. Certification Statement:

    I, the undersigned, am the official authorized agent to execute contracts on behalf of (insert official legal name of contracting Company). I certify that (insert official legal name of contracting Company) pursuant to the statutory and contractual requirements applied to this Project, CERTIFY that, in my professional opinion, the complete structure/renovations described above is in substantial compliance with the approved construction documents on file with the University of Connecticut. Minor deviations and special stipulations are noted below (if any, list)”.

    The above statement is Sworn as True to the best of my knowledge and belief, subject to the penalties of false statement.

5. Print Name of the Authorized Agent:
6. Provide signature of the Authorized Agent:
7. Date:
8. Subscribed and acknowledged before me this day of , 20 .
9. Notary Seal and signature.

B. The Contractor, at completion of construction, shall provide to the Owner on company letter head bearing original signatures of an officer of the company certifying that they will maintain required insurance coverage. Such document shall reflect the following:

1. Address to: University of Connecticut c/o University Master Planner and Chief Architect, Planning Architectural and Engineering Services, 31 LeDoyt Road, Storrs, CT 06269-3038;
2. Identify the Project number and Project Name;
3. Project's Description of work: As represented within Division 01 Section 1000 Summary.
4. Certification Statement:

   I, the undersigned, am the official authorized agent to execute contracts on behalf of (insert official legal name of contracting Company). I certify that (insert official legal name of contracting Company) pursuant to the statutory and contractual requirements applied to this Project, shall maintain the contractually required insurance coverage and limits for a period of no less than three (3) years after final payment and final completion of the work.

   The above statement is Sworn as True to the best of my knowledge and belief, subject to the penalties of false statement.

5. Print Name of the Authorized Agent
6. Provide Signature of the Authorized Agent
7. Date:
8. Subscribed and acknowledged before me this day of , 20 .
9. Notary Seal and signature.

C. Prior to Owners' approval and acceptance, mechanical and electrical systems shall be fully commissioned by the Contractor and Commissioning Agent (when applicable) and is efficiently operational.

PART 4 - SCHEDULES

4.1 SCHEDULE OF WARRANTIES

A. Schedule: Provide warranties and bonds on products and installations as specified in the following Sections:

1. Section 32-9200, Turf and Grasses.
2. Section 32-9300, Plants

END OF SECTION 01-7700

SECTION 01-7823 - OPERATION AND MAINTENANCE DATA

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

A. Section includes administrative and procedural requirements for preparing operation and maintenance manuals, including the following:

1. Operation and maintenance documentation directory.
2. Emergency procedures and contacts.
3. Operation manuals for systems, subsystems, and equipment.
4. Product maintenance manuals.
5. Systems and equipment maintenance and warrantee manuals.

B. Related Requirements:

1. Division 01 Section "Submittal Procedures" for submitting copies of submittals for operation and maintenance manuals.

2. Divisions 02 through 33 Sections for specific operation and maintenance manual requirements for the Work in those Sections.

1.3 DEFINITIONS

A. System: An organized collection of parts, equipment, or subsystems united by regular interaction.

B. Subsystem: A portion of a system with characteristics similar to a system.

1.4 CLOSEOUT SUBMITTALS

A. Manual Content: Operations and maintenance manual content is specified in individual Specification Sections to be reviewed at the time of Section submittals. Submit reviewed manual content formatted and organized as required by this Section.

1. Architect will comment on whether content of operations and maintenance submittals are acceptable.
2. Where applicable, clarify and update reviewed manual content to correspond to revisions and field conditions.

B. Format: Submit operations and maintenance manuals in the following format:

1. PDF electronic file. Assemble each manual into a composite electronically indexed file. Submit on digital media acceptable to Architect.

a. Name each indexed document file in composite electronic index with applicable item name. Include a complete electronically linked operation and maintenance directory.
b. Enable inserted reviewer comments on draft submittals.

2. One paper copy, separately bound. Include a complete operation and maintenance directory. Enclose title pages and directories in clear plastic sleeves.

C. Initial Manual Submittal: Submit two draft copies of the manual at least 30 days before commencing demonstration and training. Architect and Owner will comment on whether general scope and content of manual are acceptable.

D. Final Manual Submittal: Submit manual in final form prior to requesting inspection for Substantial Completion and at least 15 days before commencing demonstration and training. Architect will return copy with comments.

1. Correct or revise the manual to comply with Architect's and Owner’s comments. Submit copy of corrected manual within 15 days of receipt of Architect's comments and prior to commencing demonstration and training.

PART 2 - PRODUCTS

2.1 OPERATION AND MAINTENANCE DOCUMENTATION DIRECTORY

A. Directory: Prepare a single, comprehensive directory of emergency, operation, and maintenance data and materials, listing items and their location to facilitate ready access to desired information. Include a section in the directory for each of the following:
1. Table of contents.

2. List of all Subcontractors and Suppliers – name, address, contact and federal identification numbers.

3. List of all drawings and their number and title, including all additions and deletions during the course of the project.

4. List of specification section numbers and title.

5. List all redlined as-built documents.
6. List of systems.
7. List of equipment.
8.

B. List of Systems and Subsystems: List systems alphabetically. Include references to operation and maintenance manuals that contain information about each system.

C. List of Equipment: List equipment for each system, organized alphabetically by system. For pieces of equipment not part of system, list alphabetically in separate list.

D. Tables of Contents: Include a table of contents for the emergency, operation, and maintenance manual.

E. Updated List of Subcontractors and Suppliers: List all contractors, subcontractors, sub-tier subcontractors and suppliers who worked on or supplied material to the Project. Include name of the firm, firm's address, firm's contact person, contact phone number, Connecticut registration number and Federal employer identification number (FEIN),

F. Identification: In the documentation directory and in the operation and maintenance manual, identify each system, subsystem, and piece of equipment with same designation used in the Contract Documents. If no designation exists, assign a designation according to ASHRAE Guideline 4, "Preparation of Operating and Maintenance Documentation for Building Systems."

2.2 REQUIREMENTS FOR EMERGENCY, OPERATION, AND MAINTENANCE MANUALS

A. Organization: Unless otherwise indicated, organize each manual into a separate section for each system and subsystem, and a separate section for each piece of equipment not part of a system. Each manual shall contain the following materials, in the order listed:

1. Title page.
2. Table of contents.
3. Manual contents.

B. Title Page: Include the following information:

1. Subject matter included in manual.
2. Name and address of Project.
3. Project Number
4. Name and address of Owner.
5. Date of submittal.
6. Name and contact information for Contractor.
7. Name and contact information for Architect.
8. Name and contact information for Commissioning Authority, (if applicable).
9. Names and contact information for major consultants to the Architect that designed the systems contained in the manuals.
10. Cross-reference to related systems in other operation and maintenance manuals.

C. Table of Contents: List each product included in manual, identified by product name, indexed to the content of the volume, and cross-referenced to Specification Section number in Project Manual.

1. If operation or maintenance documentation requires more than one volume to accommodate data, include comprehensive table of contents for all volumes in each volume of the set.

D. Manual Contents: Organize into sets of manageable size. Arrange contents alphabetically by system, subsystem, and equipment. If possible, assemble instructions for subsystems, equipment, and components of one system into a single binder.

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

1. Electronic Files: Use electronic files prepared by manufacturer where available. Where scanning of paper documents is required, scans shall be in color at 600dpi with searchable capabilities.
2. File Names and Bookmarks: Enable bookmarking of individual documents based on file names. Name document files to correspond to system, subsystem, and equipment names used in manual directory and table of contents. Group documents for each system and subsystem into individual composite bookmarked files, then create composite manual, so that resulting bookmarks reflect the system, subsystem, and equipment names in a readily navigated file tree. Configure electronic manual to display bookmark panel on opening file.

F. Manuals, Paper Copy: Submit manuals in the form of hard copy, bound and labeled volumes.

1. Binders: Heavy-duty, three-ring, vinyl-covered, loose-leaf binders, in thickness necessary to accommodate contents, sized to hold 8-1/2-by-11-inch paper; with clear plastic sleeve on spine to hold label describing contents and with pockets inside covers to hold folded oversize sheets.

    a. If two or more binders are necessary to accommodate data of a system, organize data in each binder into groupings by subsystem and related components. Cross-reference other binders if necessary to provide essential information for proper operation or maintenance of equipment or system.
    b. Identify each binder on front and spine, with printed title "OPERATION AND MAINTENANCE MANUAL," Project title or name, and subject matter of contents, and indicate Specification Section number on bottom of spine. Indicate volume number for multiple-volume sets.

2. Dividers: Heavy-paper dividers with plastic-covered tabs for each section of the manual. Mark each tab to indicate contents. Include typed list of products and major components of equipment included in the section on each divider, cross-referenced to Specification Section number and title of Project Manual.
3. Protective Plastic Sleeves: Transparent plastic sleeves designed to enclose diagnostic software storage media for computerized electronic equipment.
4. Supplementary Text: Prepared on 8-1/2-by-11-inch white bond paper.
5. Operations and Maintenance Drawings: Attach reinforced, punched binder tabs on drawings and bind with text.

    a. If oversize drawings are necessary, fold drawings to same size as text pages and use as foldouts.
    b. If drawings are too large to be used as foldouts, fold and place drawings in labeled envelopes and bind envelopes in rear of manual. At appropriate locations in manual, insert typewritten pages indicating drawing titles, descriptions of contents, and drawing locations.

2.3 EMERGENCY PROCEDURES TO BE INCLUDED IN O&M MANUALS

A. Content: Organize manual into a separate section for each of the following:

1. Type of emergency.
2. Emergency instructions.
3. Emergency procedures.

B. Type of Emergency: Where applicable for each type of emergency indicated below, include instructions and procedures for each system, subsystem, piece of equipment, and component:

1. Fire.
2. Flood.
3. Gas leak.
4. Water leak.
5. Power failure.
6. Water outage.
7. System, subsystem, or equipment failure.
8. Chemical release or spill.

C. Emergency Instructions: Describe and explain warnings, trouble indications, error messages, and similar codes and signals. Include responsibilities of Owner's operating personnel for notification of Installer, supplier, and manufacturer to maintain warranties.

D. Emergency Procedures: Include the following, as applicable:

1. Instructions on stopping.
2. Shutdown instructions for each type of emergency.
3. Operating instructions for conditions outside normal operating limits.
4. Required sequences for electric or electronic systems.
5. Special operating instructions and procedures.

2.4 OPERATION MANUALS

A. Content: In addition to requirements in this Section, include operation data required in individual Specification Sections and the following information:

1. System, subsystem, and equipment descriptions. Use designations for systems and equipment indicated on Contract Documents.
2. Performance and design criteria if Contractor has delegated design responsibility.
3. Operating standards.
4. Operating procedures.
5. Operating logs.
6. Wiring diagrams.
7. Control diagrams.
8. Piped system diagrams.
9. Precautions against improper use.
10. License requirements including inspection and renewal dates.

B. Descriptions: Include the following:

1. Product name and model number. Use designations for products indicated on Contract Documents.
2. Manufacturer's name.
3. Equipment identification with serial number of each component.
4. Equipment function.
5. Operating characteristics.
6. Limiting conditions.
7. Performance curves.
8. Engineering data and tests.
9. Complete nomenclature and number of replacement parts.

C. Operating Procedures: Include the following, as applicable:

1. Startup procedures.
2. Equipment or system break-in procedures.
3. Routine and normal operating instructions.
4. Regulation and control procedures.
5. Instructions on stopping.
6. Normal shutdown instructions.
7. Seasonal and weekend operating instructions.
8. Required sequences for electric or electronic systems.
9. Special operating instructions and procedures.

D. Systems and Equipment Controls: Describe the sequence of operation, and diagram controls as installed.

E. Piped Systems: Diagram piping as installed, and identify color-coding where required for identification.

2.5 PRODUCT MAINTENANCE MANUALS

A. Content: Organize manual into a separate section for each product, material, and finish. Include source information, product information, maintenance procedures, repair materials and sources, and warranties and bonds, as described below.

B. Source Information: List each product included in manual, identified by product name and arranged to match manual's table of contents. For each product, list name, address, and telephone number of Installer or supplier and maintenance service agent, and cross-reference Specification Section number and title in Project Manual and drawing or schedule designation or identifier where applicable.

C. Product Information: Include the following, as applicable:

1. Product name and model number.
2. Manufacturer's name.
3. Color, pattern, and texture.
4. Material and chemical composition.
5. Reordering information for specially manufactured products.

D. Maintenance Procedures: Include manufacturer's written recommendations and the following:

1. Inspection procedures.
2. Types of cleaning agents to be used and methods of cleaning.
3. List of cleaning agents and methods of cleaning detrimental to product.
4. Schedule for routine cleaning and maintenance.
5. Repair instructions.

E. Repair Materials and Sources: Include lists of materials and local sources of materials and related services.

F. Warranties and Bonds: Include copies of warranties and bonds and lists of circumstances and conditions that would affect validity of warranties or bonds.

1. Include procedures to follow and required notifications for warranty claims.

2.6 SYSTEMS AND EQUIPMENT MAINTENANCE MANUALS

A. Content: For each system, subsystem, and piece of equipment not part of a system, include source information, manufacturers' maintenance documentation, maintenance procedures, maintenance and service schedules, spare parts list and source information, maintenance service contracts, and warranty and bond information, as described below.

B. Source Information: List each system, subsystem, and piece of equipment included in manual, identified by product name and arranged to match manual's table of contents. For each product, list name, address, and telephone number of Installer or supplier and maintenance service agent, and cross-reference Specification Section number and title in Project Manual and drawing or schedule designation or identifier where applicable.

C. Manufacturers' Maintenance Documentation: Manufacturers' maintenance documentation including the following information for each component part or piece of equipment:

1. Standard maintenance instructions and bulletins.
2. Drawings, diagrams, and instructions required for maintenance, including disassembly and component removal, replacement, and assembly.
3. Identification and nomenclature of parts and components.
4. List of items recommended to be stocked as spare parts.

D. Maintenance Procedures: Include the following information and items that detail essential maintenance procedures:

1. Test and inspection instructions.
2. Troubleshooting guide.
3. Precautions against improper maintenance.
4. Disassembly; component removal, repair, and replacement; and reassembly instructions.
5. Aligning, adjusting, and checking instructions.
6. Demonstration and training video recording, if available.

E. Maintenance and Service Schedules: Include service and lubrication requirements, list of required lubricants for equipment, and separate schedules for preventive and routine maintenance and service with standard time allotment.

1. Scheduled Maintenance and Service: Tabulate actions for daily, weekly, monthly, quarterly, semiannual, and annual frequencies.
2. Maintenance and Service Record: Include manufacturers' forms for recording maintenance.

F. Spare Parts List and Source Information: Include lists of replacement and repair parts, with parts identified and cross-referenced to manufacturers' maintenance documentation and local sources of maintenance materials and related services.

G. Maintenance Service Contracts: Include copies of maintenance agreements with name and telephone number of service agent.

H. Warranties and Bonds: Include copies of warranties and bonds and lists of circumstances and conditions that would affect validity of warranties or bonds.

1. Include procedures to follow and required notifications for warranty claims.

PART 3 - EXECUTION

3.1 MANUAL PREPARATION

A. Operation and Maintenance Documentation Directory: Prepare a separate manual that provides an organized reference to emergency, operation, and maintenance manuals.

B. Emergency Manual: Assemble a complete set of emergency information indicating procedures for use by emergency personnel and by Owner's operating personnel for types of emergencies indicated.

C. Product Maintenance Manual: Assemble a complete set of maintenance data indicating care and maintenance of each product, material, and finish incorporated into the Work.

D. Operation and Maintenance Manuals: Assemble a complete set of operation and maintenance data indicating operation and maintenance of each system, subsystem, and piece of equipment not part of a system.

1. Engage a factory-authorized service representative to assemble and prepare information for each system, subsystem, and piece of equipment not part of a system.
2. Prepare a separate manual for each system and subsystem, in the form of an instructional manual for use by Owner's operating personnel.

E. Manufacturers' Data: Where manuals contain manufacturers' standard printed data, include only sheets pertinent to product or component installed. Mark each sheet to identify each product or component incorporated into the Work. If data include more than one item in a tabular format, identify each item using appropriate references from the Contract Documents. Identify data applicable to the Work and delete references to information not applicable.

1. Prepare supplementary text if manufacturers' standard printed data are not available and where the information is necessary for proper operation and maintenance of equipment or systems.

F. Drawings: Prepare drawings supplementing manufacturers' printed data to illustrate the relationship of component parts of equipment and systems and to illustrate control sequence and flow diagrams. Coordinate these drawings with information contained in record Drawings to ensure correct illustration of completed installation.

1. Project record documents shall only be used as a supplement to the manufacturer’s documentation as part of operation and maintenance manuals.
2. Comply with requirements of newly prepared record Drawings in Division 01 Section "Project Record Documents."

G. Comply with Division 01 Section "Closeout Procedures" for schedule for submitting operation and maintenance documentation.

END OF SECTION 01-7823

SECTION 01-7839 - PROJECT RECORDING DOCUMENTS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

A. Section includes administrative and procedural requirements for documenting changes to the project contract documents, including the following:

1. Redlined Drawings.
2. Redlined Specifications.
3. Redlined Product Data.
4. Miscellaneous redlined submittals.
5. Measured As-built Drawings

B. Related Requirements:

1. Division 01 Section "Closeout Procedures" for general closeout procedures.
2. Division 01 Section "Operation and Maintenance Data" for operation and maintenance manual requirements.
3. Divisions 02 through 33 Sections for specific requirements for project record documents of the Work in those Sections.

1.3 CLOSEOUT SUBMITTALS

A. Redlined Drawings: Comply with the following:

1. Number of Copies: Submit copies of Redlined Drawings as follows:

a. Initial Submittal:

1) Submit one (1) paper-copy set of marked-up redlined prints.
2) Architect will indicate whether general scope of changes, additional information recorded, and quality of drafting are acceptable.

b. Final Submittal:

1) Submit one (1) paper-copy set of marked-up redlined prints.
2) Print each drawing, whether or not changes and additional information were recorded.

B. Redlined Specifications: Submit one paper copy of Project's Specifications, including addenda and contract modifications.

C. Redlined Product Data: Submit one paper copy of each submittal.

1. Redlined Product Data is required as part of operation and maintenance manuals. , Submit duplicate marked-up Product Data as a component of the manuals.

D. Miscellaneous Redlined Submittals: See other Specification Sections for miscellaneous record-keeping requirements and submittals in connection with various construction activities. Submit one paper copy of each submittal.

E. Reports: Submit written reports indicating items incorporated into project redlined documents concurrent with progress of the Work, including revisions, concealed conditions, field changes, product selections, and other notations incorporated.

PART 2 - PRODUCTS

2.1 RECORDING CONTRACT DRAWING FIELD CHANGES

A. Field Set Prints Upon receipt of a conformance set of contract documents from the Architect, maintain one set of marked-up redlined paper copies of the Conformance Set. Drawings and Conformance Set Specifications as the Field Set. Changes occurring during construction shall be documented in a single paper Field Set maintained in good order at the project site.

1. Preparation: Mark field set prints to show where installation varies from that shown originally. Require individual or entity who document the change, whether installer, subcontractor, or similar entity, to provide information for corresponding marked-up redlined set of prints.

a. Give particular attention to information on concealed elements that would be difficult to identify or measure and record later.
b. Record information in an acceptable drawing technique.
c. Record data as soon as possible but not later than one (1) week after the change has been completed.
d. Record and check the markup before enclosing concealed installations.
e. Cross-reference redlined prints to corresponding archive photographic documentation.

2. Content: Types of items requiring redlined marking include, but are not limited to, the following:

a. Dimensional changes to Drawings.
b. Revisions to details shown on Drawings.
c. Depths of foundations below first floor.
d. Locations and depths of underground utilities.
e. Revisions to routing of piping and conduits.
f. Revisions to electrical circuitry.
g. Equipment locations.

h. Duct size and routing.
i. Locations of concealed internal utilities.
j. Diagrammatic flow changes and routings
k. Changes made by Change Order or Construction Change Directive.
l. Changes made following Architect's ASIs, PRs, and Bulletins.
m. Details not on the original Contract Drawings.
n. Changes made by coordination drawings
o. Updates to any schedules including but not limited to: equipment schedules, lighting schedules, hardware schedules, security controls schedules,
p. Field conditions for variable and concealed conditions.
q. Record information on the Work that is shown only schematically.

3. Mark the Field Set Drawings and Shop Drawings completely and accurately. Use personnel proficient at recording graphic information in production of redlined prints.
4. Mark field sets with erasable, red-colored pencil. Use other colors to distinguish between changes for different categories of the Work at same location, not limited to utilities.
5. Mark important additional information that was either shown schematically or omitted from original Drawings.
6. Note Construction Change Directive numbers, alternate numbers, Change Order numbers, and similar identification, where applicable.

B. Format: Identify and date each redline drawing; include the designation "PROJECT REDLINE DRAWING" in a prominent location.

1. Redline Prints: Organize redline prints into manageable sets. Bind each set with durable paper cover sheets. Include identification on cover sheets.
2. Identification: As follows:
   a. Project name.
   b. Date.
   c. Designation "PROJECT RECORD DRAWINGS."
   d. Name of Architect and or Construction Manager.
   e. Name of Contractor.

2.2 REDLINE SPECIFICATIONS

A. Preparation: Mark Specifications to indicate the actual product installation where installation varies from that indicated in Specifications, addenda, and contract modifications.

1. Give particular attention to information on concealed products and installations that cannot be readily identified and recorded later.
2. Mark copy with the name and model number of products, materials, and equipment furnished, including substitutions and product options selected.
3. Record the name of manufacturer, supplier, Installer, and other information necessary to provide a record of selections made.
4. For each principal product, indicate whether product data has been submitted in operation and maintenance manuals instead of submitted as redlined Product Data.
5. Note related Change Orders and record Drawings where applicable.

B. Format: Submit Redline Specifications as paper copy.

2.3 REDLINED PRODUCT DATA

A. Preparation: Mark Product Data to indicate the actual product installation where installation varies substantially from that indicated in Product Data submittal.

1. Give particular attention to information on concealed products and installations that cannot be readily identified and recorded later.
2. Include significant changes in the product delivered to Project site and changes in manufacturer's written instructions for installation.
3. Note related Change Orders] and Change Management Documents provided by the Architect where applicable.

B. Format: Submit redlined Product Data as paper copy.

2.4 AS-BUILT SURVEY RECORDING DOCUMENTATION FOR ABOVEGROUND AND UNDERGROUND UTILITIES.

A. Preparation: Provide field survey through the services of a surveyor licensed in the State of Connecticut of each newly installed utility and exposed existing utility while performing the work.
1. Maintain one complete electronic As-Built Set of actual field locations of newly installed utilities and exposed existing utility. Such As-Built Set is to be kept current and must be delivered to the Owner both in electronic format (Adobe Pro PDF) and hard print as a condition of reaching completion and final payment on the Project.
2. Updates shall be continuous with progress recorded within one (1) week of the installation. Upon request Contractor shall provide hard print of surveys documented to date of newly installed utilities with all information as required. Such submission shall be a condition for approving progress payments.

B. Format: As-Built Set shall be submitted in AutoCAD 2014 and in a format as follows:
1. All information added to the base AutoCAD drawing shall be on layers starting with AB-XXXX (example, as built gas shall be on a drawing layer titled AB-GAS)
2. Surveyor shall utilize survey equipment able to locate infrastructure to a Utility Quality Level A as defined in the ASCE 38-02 Standard Guideline for the Collection and Depiction of Existing Subsurface Utility Data.

C. Product Data: Utility measuring data to be provided shall be limited to the following data points:

1. Sanitary Sewer
   a. Manhole: Horizontal Location, Rim and Invert Elevation
   b. Pump Stations: Horizontal Location, Rim and Invert Elevation
   c. Cleanout: Horizontal Location, Rim and Invert Elevation
   d. Gravity Pipe: Size, Material, Elevation at all changes in direction vertical or horizontal
   e. Force Main: Size, Material, Elevation at all changes in direction vertical or horizontal and at every 50’.
   f. Building Invert: Size, Material, Horizontal Location and Invert at face of building

2. Storm Sewer

Commented [SC1]: The items that are highlighted in gray is information that the surveyor most times will not know; material, type, quantity and sometimes size. These pieces of information will not be included with the survey. The information will need to be data mined later by others other than the surveyor.

a. Inlet/Manhole: Horizontal Location, Rim and Invert Elevation
b. Cleanout: Horizontal Location, Rim and Invert Elevation
c. Gravity Pipe: Size, Material, Elevation at all changes in direction vertical or horizontal
d. Force Main: Size, Material, Elevation at all changes in direction vertical or horizontal and at every 50'.
e. Building Invert: Size, Material, Horizontal Location and Invert at face of building.

3. Water/Fire & Reclaimed Water
   a. Valves: Horizontal Location, Rim and Top of Valve (pipe) Elevation
   b. Hydrants: Horizontal Location, Base Elevation
   c. Piping: Size, Material, Elevation (Top of Pipe) at all changes in direction vertical or horizontal and at every 50'.
   d. Building Lateral: Size, Material, Horizontal Location and Elevation (Top of Pipe) at face of building.

4. Steam, Condensate (All types) & Chilled Water
   a. Valves: Type, Horizontal Location, Rim and Top of Valve (pipe) Elevation
   b. Vaults: Type, Horizontal Location, Rim & Bottom Structure Elevation, Location and Elevation of Outer Edges of Structure (Corners), Elevation of piping at face of vault (Top of Carrier Pipe)
   c. Piping: Type, Size, Material, Elevation (Top of Carrier Pipe) at all changes in direction vertical or horizontal and at every 50'.
   d. Building Lateral: Type, Size, Material, Horizontal Location and Elevation (Top of Carrier Pipe) at face of building.
   e. Vent Structures: Horizontal Location, Rim and Top of Pipe Elevation
   f. Vent Piping: Size, Material, Elevation (Top of Pipe) at all changes in direction vertical or horizontal.

5. Low Voltage & Medium Voltage Electrical (Including Site Lighting / BluePhones)
   a. Vaults/Manholes: Type, Horizontal Location, Rim & Bottom Structure Elevation, Location and Elevation of Outer Edges of Structure (Corners), Elevation and width of concrete and/or conduit at face of vault (Top of Concrete/Conduit(s))
   b. Ductbank/Conduits: Type, Size, Quantity, Material, Elevation (Top of Concrete for encased in concrete / Conduit for direct bury) at all changes in direction vertical or horizontal and at every 50'.
   c. Building Lateral: Type, Size, Quantity, Material, Elevation (Top of Concrete for encased in concrete / Conduit for direct bury) at face of building.
   d. Site Lighting/BluePhone: Type, Horizontal Location, Elevation of concrete base.

6. Gas
   a. Valves: Horizontal Location, Rim and Top of Valve (pipe) Elevation
   b. Piping: Size, Material, Elevation (Top of Pipe) at all changes in direction vertical or horizontal and at every 50'.
   c. Building Lateral: Size, Material, Horizontal Location and Elevation (Top of Pipe) at face of building.

2.5 MISCELLANEOUS CHANGE RECORDING SUBMITTALS

A. Assemble miscellaneous records required by other Specification Sections for miscellaneous record keeping and submittal in connection with actual performance of the Work. Bind or file miscellaneous records and identify each, ready for continued use and reference.

B. Format: Submit miscellaneous record submittals as paper copy.

PART 3 - EXECUTION

3.1 RECORDING AND MAINTENANCE

A. Recording: Maintain one copy of each submittal during the construction period for project reline document purposes. Post changes and revisions to project record documents as they occur; do not wait until end of Project.

B. Maintenance of Relined Documents and Samples: Store redlined documents and Samples in the field office apart from the Contract Documents used for construction. Do not use project relined documents for construction purposes. Maintain documents in good order and in a clean, dry, legible condition, protected from deterioration and loss. Provide access to project record documents for Architect's and Owner Representative's reference during normal working hours.

END OF SECTION 01-7839

SECTION 01-7900 - DEMONSTRATION AND TRAINING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

A. Section includes administrative and procedural requirements for instructing Owner's personnel, including the following:

1. Demonstration of operation of systems, subsystems, and equipment.
2. Training in operation and maintenance of systems, subsystems, and equipment.

B. Related Requirements:

1. Divisions 02 through 33 Sections for specific requirements for demonstration and training for products in those Sections.

1.3 INFORMATIONAL SUBMITTALS

A. Instruction Program: Submit outline of instructional program for demonstration and training, including a list of training modules and a schedule of proposed dates, times, length of instruction time, and instructors' names for each training module. Include learning objective and outline for each training module.

1. Indicate proposed training modules using manufacturer-produced demonstration and training video recordings for systems, equipment, and products in lieu of video recording of live instructional module.

B. Attendance Record: For each training module, submit list of participants and length of instruction time.

1.4 QUALITY ASSURANCE

A. Facilitator Qualifications: A firm or individual experienced in training or educating maintenance personnel in a training program similar in content and extent to that indicated for this Project, and whose work has resulted in training or education with a record of successful learning performance.

B. Instructor Qualifications: A factory-authorized service representative, complying with requirements in Division 01 Section "Quality Requirements," experienced in operation and maintenance procedures and training.

C. Pre-instruction Conference: Conduct conference at Project site to comply with requirements in Division 01 Section "Project Management and Coordination." Review methods and procedures related to demonstration and training including, but not limited to, the following:

1. Inspect and discuss locations and other facilities required for instruction.
2. Review and finalize instruction schedule and verify availability of educational materials, instructors' personnel, audiovisual equipment, and facilities needed to avoid delays.
3. Review required content of instruction.
4. For instruction that must occur outside, review weather and forecasted weather conditions and procedures to follow if conditions are unfavorable.

1.5 COORDINATION

A. Coordinate instruction schedule with Owner's operations. Adjust schedule as required to minimize disrupting Owner's operations and to ensure availability of Owner's personnel.

B. Coordinate instructors, including providing notification of dates, times, length of instruction time, and course content.

C. Coordinate content of training modules with content of approved emergency, operation, and maintenance manuals. Do not submit instruction program until operation and maintenance data has been reviewed and approved by Architect.

1.6 PRODUCTS

1.7 INSTRUCTION PROGRAM

A. Program Structure: Develop an instruction program that includes individual training modules for each system and for equipment not part of a system, as required by individual Specification Sections.

B. Training Modules: Develop a learning objective and teaching outline for each module. Include a description of specific skills and knowledge that participant is expected to master. For each module, include instruction for the following as applicable to the system, equipment, or component:

1. Basis of System Design, Operational Requirements, and Criteria: Include the following:

a. System, subsystem, and equipment descriptions.
b. Performance and design criteria if Contractor is delegated design responsibility.
c. Operating standards.
d. Regulatory requirements.
e. Equipment function.
f. Operating characteristics.
g. Limiting conditions.
h. Performance curves.

2. Documentation: Review the following items in detail:

a. Emergency manuals.
b. Operations manuals.
c. Maintenance manuals.
d. Project record documents.
e. Identification systems.
f. Warranties and bonds.
g. Maintenance service agreements and similar continuing commitments.

3. Emergencies: Include the following, as applicable:

a. Instructions on meaning of warnings, trouble indications, and error messages.
b. Instructions on stopping.
c. Shutdown instructions for each type of emergency.
d. Operating instructions for conditions outside of normal operating limits.
e. Sequences for electric or electronic systems.
f. Special operating instructions and procedures.

4. Operations: Include the following, as applicable:

a. Startup procedures.
b. Equipment or system break-in procedures.
c. Routine and normal operating instructions.
d. Regulation and control procedures.
e. Control sequences.
f. Safety procedures.
g. Instructions on stopping.
h. Normal shutdown instructions.
i. Operating procedures for emergencies.
j. Operating procedures for system, subsystem, or equipment failure.
k. Seasonal and weekend operating instructions.
l. Required sequences for electric or electronic systems.
m. Special operating instructions and procedures.

5. Adjustments: Include the following:

a. Alignments.
b. Checking adjustments.
c. Noise and vibration adjustments.
d. Economy and efficiency adjustments.

6. Troubleshooting: Include the following:

a. Diagnostic instructions.
b. Test and inspection procedures.

7. Maintenance: Include the following:

a. Inspection procedures.
b. Types of cleaning agents to be used and methods of cleaning.
c. List of cleaning agents and methods of cleaning detrimental to product.
d. Procedures for routine cleaning

e. Procedures for preventive maintenance.
f. Procedures for routine maintenance.
g. Instruction on use of special tools.

8. Repairs: Include the following:

a. Diagnosis instructions.
b. Repair instructions.
c. Disassembly; component removal, repair, and replacement; and reassembly instructions.
d. Instructions for identifying parts and components.
e. Review of spare parts needed for operation and maintenance.

PART 2 - EXECUTION

2.1 PREPARATION

A. Assemble educational materials necessary for instruction, including documentation and training module. Assemble training modules into a training manual organized in coordination with requirements in Division 01 Section "Operations and Maintenance Data."

B. Set up instructional equipment at instruction location.

2.2 INSTRUCTION

A. Facilitator: Engage a qualified facilitator to prepare instruction program and training modules, to coordinate instructors, and to coordinate between Contractor and Owner for number of participants, instruction times, and location.

B. Engage qualified instructors to instruct Owner's personnel to adjust, operate, and maintain systems, subsystems, and equipment not part of a system.

1. Owner will furnish Contractor with names and positions of participants.

C. Scheduling: Provide instruction at mutually agreed on times. For equipment that requires seasonal operation, provide similar instruction at start of each season.

1. Schedule training with Owner through Owners Representative with at least seven days' advance notice.

D. Training Location and Reference Material: Conduct training on-site in the completed and fully operational facility using the actual equipment in-place. Conduct training using final operation and maintenance data submittals.

E. Cleanup: Collect used and leftover educational materials and give to Owner. Remove instructional equipment. Restore systems and equipment to condition existing before initial training use.

END OF SECTION 01-7900

SECTION 02-4113 – SELECTIVE SITE DEMOLITION

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and General Provisions of Contract, including General and Supplementary Conditions and other Division 1 Specifications Sections, apply to this Section.

1.2 RELATED SECTIONS

A. Section 31 0000 – Earthwork

B. Section 31 1000 – Site Clearing

C. Section 32 0191 - Restoration

D. Section 31 2500 - Erosion and Sedimentation Controls

E. Contract Drawings: The Demolition drawings indicate in general the areas, items, and extent of work to be performed; however, Contractor shall examine all the Contract Documents carefully to determine the exact scope of work required to complete the Project.

1.3 SUMMARY

A. The work under this section consists of furnishing all labor, equipment, and materials necessary for the demolition, removal, and disposal of all existing pavements and slabs, curbing, removal of site furnishings and improvements, removal of light poles, piping, wiring, etc. (noted are to be reinstalled), removal of demolished materials from site and as indicated on the Contract Drawings. Also included is backfilling voids, disposing of surplus material, disposal of demolition material, installation of erosion controls such as hay bales and siltation fences as required or ordered by the Engineer and cleaning up the site. This work shall not include clearing, grubbing except where the Contract Drawings so indicate, be ordered by the Engineer, or required. Perform work in accordance with OSHA - CFR29, Part 1926 Subpart T and all State and local ordinances.

B. The work shall include the removal from the site of all rubbish, debris, concrete, block, wood, tanks and steel and other materials resulting from these demolition operations.

C. The work shall further include:

1. Filling or removal of underground piping, and appurtenances as indicated on the Contract Drawings.

2. Filling voids in subgrade created as a result of removals or demolition.

3. Removal and disposal of any sidewalks, fences, stairs, walls, debris, and rubbish in an approved offsite Landfill.

4. Hazardous material compliance.

5. Protection of work or improvements to remain.

6. Protection of trees to remain.

1.4 DEFINITIONS

A. Demolish: Completely remove and legally dispose of off-site.

B. Recycle: Recovery of demolition waste for subsequent processing in preparation for reuse.

C. Clean Crushed Concrete shall mean concrete obtained from structures and buildings on the property (i) that does not contain hazardous substances, and (ii) that has been crushed to 4-inch minus with all debris and rebar removed.

D. Salvage: Carefully detach from existing construction, in a manner to prevent damage, and deliver to Owner ready for reuse. Include fasteners or brackets needed for reattachment elsewhere.

1.5 MATERIAL OWNERSHIP

A. Unless otherwise indicated, demolition waste becomes the 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.

1.6 SUBMITTALS

A. Materials Salvage and Reuse Management Plan: Before the start of demolition, submit for the approval of Contracting Officer's Representative Materials Salvage and Reuse Management Plan for all materials designated to be salvaged or reused. The Plan shall indicate how the Contractor proposes to salvage and reuse demolition waste. Include a list of salvage and reuse outlets which indicated salvageable materials will be sent to.

B. Shop Drawings: Indicate areas for demolition, removal sequence, and location of salvageable items.

Indicate location and construction of barricades, temporary fences and other temporary work.

C. Proposed Protection Measures: Submit informational report, including drawings, that indicates the measures proposed for protecting individuals and property**,** for environmental protection, for dust control, noise control and vibration control and monitoring. Indicate proposed locations and construction of barriers.

1. Adjacent Buildings: Detail special measures proposed to protect adjacent buildings to remain.

D. Schedule of Demolition Activities: Indicate the following:

1. Detailed sequence of demolition work, with starting and ending dates for each activity.
2. Temporary interruption of utility services.
3. Shutoff and capping or re-routing of utility services.

E. Inventory: Submit a list of items to be removed and salvaged and deliver to Owner prior to start of demolition.

F. Predemolition Photographs or Video: Show existing conditions of adjoining construction and site improvements, including finish surfaces that might be misconstrued as damage caused by building demolition operations. Submit before the Work begins.

1.7 QUALITY ASSURANCE

A. Regulatory Requirements: Comply with all applicable requirements of the State of Connecticut and applicable local ordinances and regulations concerning management of demolition and land clearing and any and all subsequent modifications and amendments to same.

B. Pre-demolition Conference: Conduct conference at Project site to review methods and procedures related to building demolition including, but not limited to the following:

1. Inspect and discuss condition of construction to be demolished.
2. Review structural load limitation of existing structures.
3. Review and finalize protection requirements.
4. Review procedures for noise and dust control.
5. Review procedures for protection of adjacent buildings.
6. Review items to be salvaged and returned to Owner.

C. Pre-Construction Salvage and Reuse Management Conference:

Prior to the beginning of Work at the site, schedule and conduct a conference to review the Materials Salvage and Reuse Management Plan and discuss procedures, schedules and specific requirements for materials to salvage, reuse, recycle, or disposed. Discuss coordination and interface between the Contractor and other construction activities. Identify and resolve problems with compliance with plan and other requirements. Record minutes of the meeting, identifying all conclusions reached and matters requiring further discussion and resolution.

1. Attendees: The Contractor and related Contractor personnel associated with the work of this section, including personnel to be in charge of the materials to be salvaged and reused; the Construction Quality Manager; the Landscape Architect; and such additional Owner personnel as the Owner deems appropriate.

2. Plan Revisions: Make any revision to the Materials Salvage and Reuse Management Plan agreed upon during the meeting and incorporate resolutions agreed to be made subsequent to the meeting. Submit the revised plan to the Architect for approval.

D. Use adequate numbers of skilled workmen who are thoroughly trained and experienced in necessary crafts and who are completely familiar with specified requirements and methods needed for proper performance of work of the Section.

E. Design Criteria: Bracing & Shoring:

1. Contractor shall be solely responsible for design, construction, and maintenance of all bracing and shoring to safely support all loads, and permit safe removal of existing items and structural members.

2. Where only partial demolition occurs, bracing and shoring to remain in place until permanent new construction can safely assume loads previously borne by removed items/members.

1.8 REGULATORY REQUIREMENTS

A. Conform to applicable sections of the State of Connecticut, State Building Code for demolition work. Also conform to applicable local code for demolition of structures, safety of adjacent structures, dust control, and runoff control.

B. Obtain required permits and licenses from authorities. Pay associated fees including disposal charges.

C. Notify affected utility companies before starting work and comply with their requirements. Contact “Call Before You Dig” at 1-800-922-4455 for utility mark out and provide required mark out delineation for extent of disturbance and earthwork.

D. Do not disable or disrupt building fire or life safety systems without (3) three days prior written notice to Owner.

E. Do not close or obstruct roadways, sidewalks, or fire hydrants without appropriate permits.

F. Conform to applicable regulatory procedures when hazardous or contaminated materials are discovered.

1.9 JOB CONDITIONS

A. Owner assumes no responsibility for buildings and structures to be demolished.

1. Conditions existing at time of inspection for bidding purpose will be maintained by Owner as far as practical.

2. Before building demolition, Owner will remove the following items:

a. Site furniture and other loose site furnishings that they wish to retain.

B. Hazardous Materials: It is not expected that hazardous materials will be encountered in the Work.

1. If materials suspected of containing hazardous materials are encountered, do not disturb; immediately notify Architect and Owner. Hazardous materials will be removed by Owner under a separate contract.

E. Existing Conditions:

1. Coordinate any work in street right-of-way with governing agencies and comply with their requirements.

F. Protection:

1. Erect barriers, fences, guard rails, warning devices, enclosures, chutes, and shoring to protect personnel, existing work, structures to remain, and utilities remaining intact.
2. Adjoining Property: Adequately protect adjoining public and private property, structures, and improvements from damage due to Contract operations.
3. Security of Existing Work: Where only partial demolition is required, safeguard existing work from damage and/or vandalism. When work is not in progress, lock doors, gates, and windows, and barricade openings to prevent entrance. Review provisions with Architect and Owner's representative prior to commencing work.
4. Trees: See specification Section 01-5640 , "Tree Protection and Preservation".

H. Sequencing, Scheduling:

1. Coordinate this work with hazardous materials removal by others, new construction, and any removal work by Owner.
2. Coordinate "shut-down" of utility services with Owner Representative.

I. Asbestos: If at any time asbestos or other hazardous materials are encountered in existing work, Contractor shall cease work in that area immediately. Contractor shall accommodate other Contractors as directed under General Conditions.

1.10 ALTERNATIVES

A. Contractors Option: In lieu of protecting in-place, existing work to remain, Contractor may, at his option and expense, and if approved by Owner's Representative and Architect, temporarily remove and store items, and then reinstall them in their original location.

PART 2 - PRODUCTS

2.1 SOIL MATERIALS

A. Aggregate Fill materials as specified herein in in Section 31 00 00, Earthwork.

2.2 EXPLOSIVES

A. Use is not permitted.

PART 3 - EXECUTION

3.1 INSPECTION

A. Verify that work to be demolished is unoccupied and/or discontinued in use.

B. Verify that utilities have been disconnected and capped before starting demolition operations.

C. Review Project Record Documents of existing construction provided by Owner. Owner does not guarantee that existing conditions are same as those indicated in Project Record Documents.

D. Inventory and record the condition of items to be removed and salvaged. Provide photographs or video of conditions that might be misconstrued as damage caused by salvage operations.

F. Verify that hazardous materials have been remediated before proceeding with building demolition operations.

3.2 PREPARATION

A. Provide adequate protection of persons and property shall be executed in such a way as to avoid hazards to persons and property. All work shall be in accordance with the Manual of Accident Prevention in Construction, latest addition, published by the Associated General Contractors of America, the Connecticut State Building Code.

B. Existing Utilities: Locate, identify, disconnect, and seal or cap off indicated utilities serving building and structures to be demolished.

1. Owner will arrange to shut of indicated utilities when requested by Contractor.
2. Arrange to shut off indicated utilities with utility companies.
3. If removal, relocation, or abandonment of utility services will affect adjacent occupied buildings, then provide temporary utilities that bypass buildings and structures to be demolished and that maintain continuity of service to other buildings and structures.
4. Cut off pipe or conduit a minimum of 24 inches below grade. Cap, valve, or plug and seal remaining portion of pipe or conduit after bypassing according to requirements of authorities having jurisdiction.

C. Salvaged Items: Comply with the following:

1. Clean salvaged items of dirt and demolition debris.
2. Store items in a secure area until delivery to Owner.
3. Transport items to storage area designated by Owner.
4. Protect items from damage during transportation and storage.

D. The Contractor shall furnish and erect signs, lights, barricades, and other equipment as may be necessary for the safe prosecution of his work. All protection shall be removed when work is completed.

E. The Contractor shall provide, erect, and maintain erosion control devices as indicated on the plans and in accordance with Section 31 " Erosion and Sedimentation Controls" of these specifications. **These controls shall be installed prior to the commencement of any demolition work.**

F. The Contractor shall make the necessary arrangements with the various utility companies regarding disconnection, relocation, abandonment, and protection of utility lines. Where utilities serve both work to be demolished, work to remain, and new work, coordinate, schedule, terminate, and cap serving utilities at or near work to be demolished in a manner to maintain continuity of service to work to remain and to provide service to new work.

G. Coordinate all utility work with Electrical, Plumbing, and any other appropriate Specification Sections.

H. Layout: Where partial removal is indicated, accurately layout limits of work. By careful study of the Contract Documents, determine the location and extent of partial (selective) demolition to be performed. Visit the site and verify the extent and location of selective demolition required.

1. Carefully identify limits of selective demolition
2. Mark interface surfaces as required to enable workmen also to identify items to be removed, salvaged, and/or items to be left in place intact.
3. Verify location of existing landscape sprinkler system, drainage system, utilities, and ALL underground lines, and other appurtenances, before starting utilities, and ALL underground lines, and other appurtenances, before starting work and before any demolition; if to remain, protect as required.

3.3 PROTECTION

A. Existing Facilities: Protect adjacent walkways, loading docks, building entries, and other building facilities during demolition operations. Maintain exits from existing buildings.

B. Existing Utilities: Maintain utility services to remain and protect from damage during demolition operations.

1. Provide temporary services during interruptions to existing utilities, as acceptable to Owner and authorities having jurisdiction.

    a. Provide at least **72** hours' notice to occupants of affected buildings if shutdown of service is required during changeover.

C. Temporary Protection: Erect temporary protection, such as walks, fences, railings, canopies, and covered passageways, where required by authorities having jurisdiction and as indicated.

1. Protect adjacent buildings and facilities from damage due to demolition activities.
2. Protect existing site improvements, appurtenances, and landscaping to remain.
3. Provide temporary barricades and other protection required to prevent injury to people and damage to adjacent buildings and facilities to remain.

4. Provide protection to ensure safe passage of people around building demolition area and to and from occupied portions of adjacent buildings and structures.

5. Protect walls, windows, roofs, and other adjacent exterior construction that are to remain and that are exposed to building demolition operations.

6. Erect and maintain dustproof partitions and temporary enclosures to limit dust, noise, and dirt migration to occupied portions of adjacent buildings.

D. Remove temporary barriers and protections where hazards no longer exist. Where open excavations or other hazardous conditions remain, leave temporary barriers and protections in place.

3.4 PERFORMANCE

A. General: Prepare and follow an organized plan for demolition and removal of items,

1. Shut off, cap, and otherwise protect existing public utility lines in accordance with the requirements of the public agency or utility having jurisdiction.

2. Completely remove items scheduled to be demolished and removed, leaving surfaces clean, solid, and ready to receive new materials specified elsewhere.

3. In all activities, comply with pertinent regulations of governmental agencies having jurisdiction.

4. CAUTION! Take special care to not damage, modify, or move existing utilities, permanent field equipment, landscape sprinkler lines, site drainage, or any other items except as required in this Contract. Any damage to any existing items to remain shall be repaired according to the requirements of the appropriate Specification Section at NO cost to the Owner.

B. Demolition:

1. Within plan and depth limit lines for Earthwork (Section 31 00 00) remove all surface and underground site improvements. Cut or remove any remaining footings or basement walls encountered completely.

2. All removal operations shall be wet down thoroughly as required to prevent the spread of dust.

3. Utilities shall be removed and/ or capped as indicated on the Contract Drawings and in accordance with the University of Connecticut for public water and sewer services. Concrete slabs to be removed shall be sawcut. The Contractor shall be responsible for any and all demolition related damage to structures and facilities which are to remain. The Contractor shall contact the University and appropriate utility companies to fully understand the work obligation and fees which the Contractor is responsible for.

4. The Contractor shall clean up and remove the debris resulting from demolition as the work progresses and as ordered by the Engineer. All debris, including crushed stone bedding and any salvageable items, shall become the property of the Contractor, who is therefore responsible for its proper disposal, etc., unless otherwise indicated to be stored or retained for the Owners use.

5. Backfilling of voids resulting from the removal of slabs, footings, etc. shall include Structural Fill conforming to the following:

Structural Fill shall be obtained from an offsite source and shall consist of a clean bank run sand and gravel, free from organic material, snow, ice or other unsuitable materials, and shall be well graded within the following limits:

Sieve Size	Percent Passing by Weight
3-1/2"	100
¼"	30 - 65
No. 10	20 - 55
No. 40	5 - 30
No. 100	0 - 5

6. Slab removals shall be **complete** and shall be made to sufficient dimensions to permit construction of proposed buildings and utilities, building foundations and to provide adequate drainage. **All Concrete slabs shall be completely removed.** Excavation voids shall be backfilled. Excavated material suitable for the purpose shall be stored and later used for backfill.

    a. Except as otherwise ordered by the Engineer, or specified elsewhere in these specifications, if the demolition excavation is carried lower than the required grade, the extra void shall be filled up to the proper grade with well compacted selected borrow or approved suitable excavated material as approved by the Project Engineer and at no additional expense to the Owner.

7. Demolition excavation shall be accomplished with a minimum of inconvenience and danger to the public and all other parties. The area opened at any one time shall not exceed the space or spaces considered reasonable, necessary, and expedient by the Engineer.

    a. In determining the area of open excavation and space for equipment, materials, and supplies needed, the Engineer shall consider the nature of the street or Right-of-Way and site conditions, the width and depth of excavation, types and methods of construction and equipment being used, inconvenience to the public and private parties, possible dangers and other matters.
    b. Streets and premises near the work shall be free from unnecessary obstructions, debris, etc., which is laying outside reasonable limits of space, promptly removed, and should the Contractor fail to remove the same, the Engineer may cause any part or all of such materials to be removed by such persons as he may employ at the Contractor's expense, and may deduct the costs thereof from payments which may be or may become due to the Contractor under this Contract. In any case where public safety urgently demands it, the Engineer may cause such materials to be removed without prior notice. If required, any or all of the excavated material and demolition debris shall be satisfactorily disinfected and deodorized or immediately removed from the work.
    c. Materials of construction shall be so deposited, and the work shall be so conducted as to leave open and free for traffic all crosswalks and a space on each sidewalk not less than 1/3 the width of such sidewalk but not less than 5 feet in width.
    d. Remove from the site all debris, rubbish, and other materials resulting from demolition operations.

8. Street hydrants, water gates, fire alarm boxes shall be kept accessible for use. During the progress of work, the Contractor shall maintain such sidewalks, driveways and roadways in satisfactory condition, and the work shall at all times be so conducted as to cause a minimum of inconvenience to public travel and to permit safe access to University property throughout the campus.

9. Except when the plans specifically provide otherwise, excavated material may be stored along the line of the work in such a manner as to maintain traffic and provide access to abutting property. No material shall be stockpiled in Street Rights-of-Way.

10. The Contractor shall at all time during the progress of work keep the excavations free from water. The water from the excavations shall be disposed of in such a manner as will not cause injury to the public health, nor to public or private property, nor to the work completed or in progress, nor to the surface of the streets, nor cause any interference with the use of the same by the public. All sewers for disposal of water and waste during construction shall be acceptably cleaned.

11. All suitable material removed in making excavations shall be used for backfill. All surplus or unsuitable material shall be removed and disposed of as specified for surplus excavated material in the Section 31 00 00 “Earthwork”. Additional material required for backfilling must be of an approved quality and from a source approved by the Engineer.

    a. Backfill in excavated areas, walks, etc. shall be placed in layers 10 inches thick, and each layer shall be well compacted by mechanical tamping or similar methods, to the satisfaction of the Engineer, before the succeeding layer is placed thereon. The tools and equipment used for tamping shall be subject to approval by the Engineer. All voids along sides of the structure shall be completely and carefully filled tight, using such fine materials, and labor, and tools as may be necessary.
    b. If pneumatic tampers are used, they shall have a tamping face area of not less than 50 sq. in. in area and each complete assembly shall have a weight of not less than 2 pounds per square inch of tamping face area. When two or more tampers are joined together to form a multiple tamper, the area and weight requirements shall apply separately to each unit of the group. Hand tampers shall be used only upon written permission of the Engineer.
    c. If the above specified materials cannot be found on the job the Contractor shall furnish same at no additional cost to the Owner. Lumpy material or large stones or rock or pavement fragments shall not be used for backfill material.
    d. Backfill in streets and highways shall be compacted to a minimum dry density of 95 percent of the maximum dry density as determined by the ASTM D-1557.
    e. Rubbish, refuse, organic matter, odd bits of lumber, etc. shall not be buried in backfill. Frozen or other large lumps, large stone, rock, or masses of broken masonry shall not be embedded in the backfill.
    f. Backfilling in public streets and highways shall be done in accordance with the rules, regulations, laws, and ordinances of the Town of Mansfield and the University of Connecticut standards and specifications. It is the Contractors responsibility to ascertain and comply with these requirements.

g. No separate payment will be made for backfilling, and all costs in connection therewith shall be included in the Contract Lump Sum price.

3.5 DISPOSAL OF DEMOLISHED MATERIALS

A. Remove demolition waste materials from Project site and legally dispose of them in an EPA approved landfill acceptable to authorities having jurisdiction.

1. Do not allow demolished materials to accumulate on-site.

2. Remove and transport debris in a manner that will prevent spillage on adjacent surfaces and areas.

3.6 ADJUSTMENT AND CLEANING

A. Repair of Damaged Work: Where operations damage work to remain, replace, or restore work as directed by Architect using qualified workmen of respective trades at no additional cost to Owner.

1. Patching, repair and/or replacement shall match or be better than the existing work as to material, type, brand size, function, quality, texture, finish, workmanship, and other characteristics as approved by Architect.
2. Patching and repairs shall be aligned, in-plane, level, plumb, and have edges feathered to form smooth even transitions to existing work.
3. Work shall conform to the same standards as All-new work, and shall be performed by skilled workers of the appropriate trade.

B. Cleaning: Rake clean and/or broom clean as appropriate.

END OF SECTION 02-4113

SECTION 03 3000 - CAST-IN-PLACE CONCRETE

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

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

B. Related Requirements:

   1. Section 31 "Earth Moving" for drainage fill under slabs-on-grade.
   2. Section 32 "Concrete Paving" for concrete pavement and walks.

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, 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. Pre-installation 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.

   2. Review concrete finishes and finishing, cold- and hot-weather concreting procedures, curing procedures, construction contraction and isolation joints, and joint-filler strips,

forms and form removal limitations, steel reinforcement installation, and concrete protection.

1.5 ACTION SUBMITTALS

A. Product Data: For each type of product.

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. 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.

D. Construction Joint Layout: Indicate proposed construction joints required to construct the structure.

E. Shop drawings for Concrete Piers showing size and dimension, based on field conditions and coordinated with Segmental Retaining Wall and Fence shop drawings.

1.6 INFORMATIONAL SUBMITTALS

A. Qualification Data: For Installer.

B. Material Test Reports: For the following, from a qualified testing agency:

1. Aggregates: Include service record data indicating absence of deleterious expansion of concrete due to alkali aggregate reactivity

1.7 QUALITY ASSURANCE

A. Installer Qualifications: A qualified installer who employs on Project personnel qualified as ACI-certified Flatwork Technician and Finisher and a supervisor who is an ACI-certified Concrete Flatwork Technician.

B. Manufacturer Qualifications: A firm experienced in manufacturing ready-mixed concrete products and that complies with ASTM C 94/C 94M requirements for production facilities and equipment.

1. Manufacturer certified according to NRMCA's "Certification of Ready Mixed Concrete Production Facilities."

C. Mockups: Cast concrete slab-on-grade panels to demonstrate typical joints, surface finish, texture, tolerances, floor treatments, and standard of workmanship.

1. Build panel approximately [25 sq. ft. (2.32 sq. m) for slab-on-grade, and at the location indicated or, if not indicated, as directed by Architect.

2. Subject to compliance with requirements, approved mockups may become part of the completed Work if undisturbed at time of Substantial Completion.

1.8 PRECONSTRUCTION TESTING

A. Preconstruction Testing Service: Engage a qualified testing agency to perform preconstruction testing on concrete mixtures.

1.9 DELIVERY, STORAGE, AND HANDLING

A. Steel Reinforcement: Deliver, store, and handle steel reinforcement to prevent bending and damage. Avoid damaging coatings on steel reinforcement.

1.10 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 (4.4 deg C) for three successive days, maintain delivered concrete mixture temperature within the temperature range required by ACI 301 (ACI 301M).
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 (ACI 301M) and as follows:

1. Maintain concrete temperature below 90 deg F (32 deg C) 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 (ACI 301M).
2. ACI 117 (ACI 117M).

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. Medium-density overlay, Class 1 or better; mill-release agent treated and edge sealed.
    c. Structural 1, B-B or better; mill oiled and edge sealed.
    d. B-B (Concrete Form), Class 1 or better; mill oiled and edge sealed.

3. Overlaid Finnish birch plywood.

B. Rough-Formed Finished Concrete: Plywood, lumber, metal, or another approved material. Provide lumber dressed on at least two edges and one side for tight fit.

C. 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.

D. 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.

1. Furnish units that leave no corrodible metal closer than 1 inch (25 mm) to the plane of exposed concrete surface.
2. Furnish ties that, when removed, leave holes no larger than 1 inch (25 mm) in diameter in concrete surface.

2.3 STEEL REINFORCEMENT

A. Reinforcing Bars: ASTM A 615/A 615M, Grade 60 (Grade 420), deformed.

B. Plain-Steel Welded-Wire Reinforcement: ASTM A 1064/A 1064M, plain, fabricated from as-drawn steel wire into flat sheets.

2.4 REINFORCEMENT ACCESSORIES

A. Diamond Shaped Load Plate for construction joints:

1. Material:

    a. 3/8" thick plates to be saw cut from hot rolled steel plate meeting ASTM A 36.

2. Diamond shaped load plate thickness: 3/8” thick unless otherwise indicated.
3. Diamond shaped load plate size: 4½ inches square unless otherwise indicated.
4. Diamond shaped load plate spacing: 18 inches on center unless otherwise indicated.
5. Diamond shaped load plate finish: Plain.
6. Pocket former: High density plastic with internal collapsible fins and spacer that hold diamond shaped load plate in correct position and creates a void to its vertical faces. This void, in addition to its tapered shape, shall allow for differential movement and shall prevent horizontal stress accumulation at joint, thus reducing likelihood of random cracking.
7. Products: Subject to compliance with requirements, available product that may be incorporated into the Work includes, but is not limited to, the following:

    a. PNA Diamond Dowel® System by PNA Construction Technologies, www.pna-inc.com; 800-542-0214.

B. Zinc Repair Material: ASTM A 780/A 780M.

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 zinc-coated reinforcement, use galvanized wire or 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/C 150M, Type II. Only one brand of cement shall be used on the project.

C. Water: ASTM C 94/C 94M and potable.

2.6 CURING MATERIALS

A. Moisture-Retaining Cover: ASTM C 171, polyethylene film or white burlap-polyethylene sheet.

B. Water: Potable.

2.7 RELATED MATERIALS

A. Expansion- and Isolation-Joint-Filler Strips: STM D 1751, asphalt-saturated cellulosic fiber.

2.8 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 (ACI 301M).

1. Use a qualified independent testing agency for preparing and reporting proposed mixture designs based on laboratory trial mixtures.

B. Admixtures: Use admixtures according to manufacturer's written instructions.

1. Use plasticizing admixture in concrete, as required, for placement and workability.

2.9 CONCRETE MIXTURES FOR BUILDING ELEMENTS

A. Footings: Normal-weight concrete.

1. Minimum Compressive Strength: 4000 psi (27.6 MPa) at 28 days.
2. Maximum W/C Ratio: 0.45.
3. Slump Limit: 4 inches (100 mm) for concrete before adding high-range water-reducing admixture or plasticizing admixture, plus or minus 1 inch (25 mm). Slump shall not exceed 6 inches (152.4 mm) with admixtures
4. Air Content: 6 percent, plus or minus 1.5 percent at point of delivery for 3/4-inch (19-mm) nominal maximum aggregate size.

B. Slabs-on-Grade: Normal-weight concrete.

1. Minimum Compressive Strength: 4500 psi (31 MPa) at 28 days.
2. Maximum W/C Ratio: 0.45.
3. Minimum Cementitious Materials Content: 520 lb/cu. yd. (309 kg/cu. m).
4. Slump Limit: 4 inches (100 mm) for concrete before adding high-range water-reducing admixture or plasticizing admixture, plus or minus 1 inch (25 mm). Slump shall not exceed 6 inches (152.4 mm) with admixtures
5. Air Content: 6 percent, plus or minus 1.5 percent at point of delivery for 3/4-inch (19-mm) nominal maximum aggregate size.

2.10 FABRICATING REINFORCEMENT

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

2.11 CONCRETE MIXING

A. Ready-Mixed Concrete: Measure, batch, mix, and deliver concrete according to ASTM C 94/C 94M, and furnish batch ticket information.

1. When air temperature is between 85 and 90 deg F (30 and 32 deg C), reduce mixing and delivery time from 1-1/2 hours to 75 minutes; when air temperature is above 90 deg F (32 deg C), reduce mixing and delivery time to 60 minutes.

2.12 CONCRETE PIERS

A. Concrete Piers to be to dimensions shown on the drawings and coordinated with installation of Segmental Retaining Walls.

B. Sleeves to accept Fence posts to be galvanized steel

C. Grout: Pourable, quick setting, non-metallic and non-shrinking hydraulic cement grout such as “Por-Rok Cement” or approved equal.

PART 3 - EXECUTION

3.1 FORMWORK INSTALLATION

A. Design, erect, shore, brace, and maintain formwork, according to ACI 301 (ACI 301M), 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 (ACI 117M).

C. Limit concrete surface irregularities, designated by ACI 347 as abrupt or gradual, as follows:
1. Class B, 1/4 inch (6 mm) for rough-formed finished surfaces.

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.

3.3 REMOVING AND REUSING FORMS

A. General: Formwork for sides of beams, walls, columns, and similar parts of the Work that does not support weight of concrete may be removed after cumulatively curing at not less than 50 deg F (10 deg C) for 24 hours after placing concrete. Concrete has to be hard enough to not be damaged by form-removal operations, and curing and protection operations need to be maintained.

1. Leave formwork for beam soffits, joists, slabs, and other structural elements that support weight of concrete in place until concrete has achieved at least 70 percent of its 28-day design compressive strength.
2. Remove forms only if shores have been arranged to permit removal of forms without loosening or disturbing shores.

B. Clean and repair surfaces of forms to be reused in the Work. Split, frayed, delaminated, or otherwise damaged form-facing material are not acceptable for exposed surfaces. Apply new form-release agent.

C. When forms are reused, clean surfaces, remove fins and laitance, and tighten to close joints. Align and secure joints to avoid offsets. Do not use patched forms for exposed concrete surfaces unless approved by Architect.

3.4 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.

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 at a minimum of 18” o.c. 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.

3.5 JOINTS

A. General: Construct joints true to line with faces perpendicular to surface plane of concrete.

B. Construction Joints: Install so strength and appearance of concrete are not impaired, at locations indicated or as approved by Architect.

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. Locate horizontal joints in walls and columns at underside of floors, slabs, beams, and girders and at the top of footings or floor slabs.

C. Contraction Joints in Slabs-on-Grade: Form weakened-plane contraction joints, sectioning concrete into areas as indicated. Construct contraction joints for a depth equal to at least one-fourth of concrete thickness as follows:

1. Grooved Joints: Form contraction joints after initial floating by grooving and finishing each edge of joint to a radius of 1/8 inch (3.2 mm). Repeat grooving of contraction joints after applying surface finishes. Eliminate groover tool marks on concrete surfaces.

D. Isolation Joints in Slabs-on-Grade: After removing formwork, install joint-filler strips at slab junctions with vertical surfaces, such as column pedestals, foundation walls, grade beams, and other locations, as indicated.

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 (13 mm) or more than 1 inch (25 mm) 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.

E. Diamond Doweled Joints: Install diamond dowels and support assemblies at joints where indicated. Utilize manufactures sleeve system to prevent bonding to the diamond dowel.

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 Architect.

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 (ACI 301M).
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 (150 mm) 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. Vibratory 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. Rough-Formed Finish: As-cast concrete texture imparted by form-facing material with tie holes and defects repaired and patched. Remove fins and other projections that exceed specified limits on formed-surface irregularities.

1. Apply to concrete surfaces not exposed to public view.

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.

C. Formed Surfaces on Concrete Piers

1. Concrete Piers to have a rubbed finish

3.8 FINISHING FLOORS AND SLABS

A. General: Comply with ACI 302.1R recommendations for screeding, re-straightening, and finishing operations for concrete surfaces. Do not wet concrete surfaces.

B. Broom Finish: Apply a broom finish to exterior concrete platforms, steps, ramps, 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 Architect before application.

C. Perimeter Tooling: All edges of concrete slab shall receive 1½ inch tooled edge before and after broom finish.

3.9 CONCRETE PROTECTING AND CURING

A. General: Protect freshly placed concrete from premature drying and excessive cold or hot temperatures. Comply with ACI 306.1 for cold-weather protection and ACI 301 (ACI 301M) 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 (300-mm) 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 (300 mm), 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.

3.10 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 months. 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.

END OF SECTION 03 3000

SECTION 31-0000 - EARTHWORK

PART 1 - GENERAL

1.1 REFERENCES

A. Drawings and general provisions of Contract, including general provisions of Contract, including General Contract Conditions and Division 1 Specifications Sections apply to this Section.

B. The Contract Drawings indicate and show limits of construction for this project. These Specifications specify material and work requirements for this project. Both are complementary to each other, and both shall be followed to properly complete the work. Plans govern over technical specifications.

1.2 SECTION INCLUDES

A. Protection, modification, or installation of utilities as site work progresses with particular attention to grade changes and necessary staging or phasing of work.

B. Cutting, filling, and grading to required lines, dimensions, contours, and elevations for proposed improvements.

C. Scarifying, compacting, drying, dewatering and removal of unsuitable material to ensure proper preparation of areas for fills or proposed improvements.

D. Without limiting the generality thereof, furnish all labor and materials to complete all earthwork within the limits of work as shown on the contract drawings and/or herein specified including, but not necessarily limited to:

1. Construction stakeout performed by a licensed surveying firm provided by the contractor.

2. Excavation and backfilling to provide access to all work areas.

3. Excavation and stockpiling of materials suitable for reuse at an approved on-site location.

4. Excavation and legal off-site disposal of unsuitable or excess materials, including existing fill materials, peat, boulders, excess topsoil, boulders, and overburden soils.

5. Soil and rock excavation, fill, backfill, refill and subgrade preparation as indicated or required, using specified materials.

6. Soil and rock structure excavation, unsuitable soil excavation, placement of bedding and backfilling of utility trenches.

7. Furnishing and placing specified materials required to balance site cuts and fills as close as feasible.

8. Excavation, over excavation and backfills for foundations and slabs, and for utilities and drainage systems.

9. Preparation of subgrade for structures, slabs, pavements and landscaping.

10. Furnishing and installing sheeting, shoring and bracing for excavations as required by Federal, State and Local laws, regulations and ordinances.

11. Removal of unsuitable materials from beneath proposed building, drainage structures, utilities, light poles and pavement areas.

12. Furnishing and placing subbase and accessories for roadways, parking lots and sidewalks, as indicated on the site Drawings.

13. Furnishing and placing rip rap, various gradations of crushed stone and related materials in areas designated on the plan.

14. Removal of ledge, boulders, concrete, masonry and rubble as required for foundations and site excavation to the lines and grades indicated on the drawings.

15. Rough and fine grading including compaction for existing materials, backfills and refills, and crushed stone.

16. Dewatering, pumping, bailing and control of all groundwater and surface water for all work under this Contract.

17. Dust, erosion, siltation and environmental controls.

18. Subbase and base course for the sidewalks and pavements shall be furnished, placed and rough graded by the Contractor.

19. Removal and disposal of debris materials and surplus excavated soils.

20. Where/if called for in the drawings, providing geo-textile fabric for pavement subgrade.

E. Related Work Described Elsewhere:

1. Division 1 Section “Submittal Procedures”

2. Division 1 Section “Quality Requirements”

3. Division 2 Section “Selective Site Demolition”

4. Division 31 Section “Erosion and Sedimentation Controls”

5. Division 32 Section “Asphalt Paving”

6. Division 32 Section “Concrete Paving”

7. Division 32 Section “Topsoil”

8. Division 32 Section “Turf and Grasses” for (for lawns and slope/erosion control fabric)

F. Law and Regulations

1. All work shall be accomplished in accordance with regulations of local, county and state agencies and national or utility company standards as they apply.

2. Secure all necessary permits from municipal, county and state departments having jurisdiction prior to the start of construction and furnish proof of acceptance upon completion of the work.

1.3 QUALITY ASSURANCE

A. Comply with all the requirements of this section and with all applicable local, state and federal regulations having jurisdiction.

B. An independent testing laboratory, selected and paid by Owner, shall be retained to perform construction testing on site based the following:

1. Compaction requirements for all soils shall be in accordance with ASTM maximum dry density as determined by ASTM D-1557.

2. The in-place soil density shall be determined in accordance with ASTM Standard Method of Test for Density of Soil in Place by Nuclear Methods (shallow depth), Designation D-2922 or by the Sand-Cone Method, Designation D-1556.

3. Footing Subgrade: One compaction test of each soil stratum to verify design bearing capacities.

4. Area of Construction exclusive of Building Subgrade Areas: In cut areas, not less than 1 compaction test for every 2,000 sq. ft. In fill areas, same rate of testing for each 12-in lift, measured loose.

5 Trench Backfill: One in place field density test for each 150 feet of less of trench but no fewer than two tests, in each initial and final backfill layer.

6. Pavement base thickness tests - One per 20,000 square feet of surface area.

7. If compaction requirements are not complied with at any time during construction process, remove and recompact deficient areas until proper compaction is obtained at no additional expense to Owner.

8. The independent testing laboratory shall prepare test reports. Report shall consist of narrative and sketch and include as a minimum:

a. Date and job project number on each sheet
b. Testing Lab name, telephone number, technician name.
c. Location of each test on site sketch at location of test.
d. Elevation of test.
e. Date(s) of compaction.
f. Date(s) of testing.
g. Lab maximum densities and optimum moisture and field density at each location.
h. Outline of all foundation walls.

i. Outline of all underground piping and trenching.
j. Gradation and moisture density proctor report for all materials used on site.

In the event that test performed fails to meet Specifications, Owner and Contractor shall be notified immediately by the independent testing laboratory.

10. Costs related to retesting due to failure shall be paid for by the Contractor at no additional expense to Owner. Owner reserves right to employ an independent testing laboratory and to direct testing that is deemed necessary. Contractor shall provide free access to site for testing activities.

C. Costs for sampling, transporting and making all laboratory tests required to obtain characteristics of materials from on-site and off-site sources proposed to be used for fills, refills, surcharge fills and backfills including gradation tests and determination of moisture-density relationships, shall be borne by the Contractor.

1.4 USE OF EXPLOSIVES

A. Do not bring explosives onto site or use in work without prior written permission from the Owner and regulatory agencies which have jurisdiction. Contractor is solely responsible for handling, storage, and use of explosive materials when their use is permitted. For such use, obtain necessary permits and transmit copies to the Owner. Contractor shall present certificates of insurance, in a form acceptable to the Owner, showing evidence that Contractor's insurance includes coverage for blasting operations, in the amounts required by the Contract for construction before bringing explosives on site.

1.5 SUBMITTALS

A. Proposed Protection Measures: Submit informational report, including drawings, that indicates the measures proposed for protecting individuals and property, for environmental protection, for dust control, noise control and vibration control and monitoring. Indicate proposed locations and construction of barriers.

B. Test Reports: Submit in accordance with Division 1, General Conditions.

1. At least one (1) gradation test and one plasticity test per ASTM D 4318 report for each type of fill beneath structures, pavements and utilities. Report shall include name and location of sample tested.

2. Compaction Curves per ASTM D-1557 for each type of soil material used.

The Owner will retain a Geotechnical Engineering consultant who will perform various tests and observations to determine if the Contractor is using proper materials and construction methods, and is achieving the minimum amount of compaction as required by these specifications.

C. Fabric samples shall be submitted for approval by the Engineer.

D. Photographs of existing adjacent structures and site improvements.

E. Water handling and soils handling plan by the Contractor for dewatering and removal and disposal of peat soils.

1. 6 SITE INVESTIGATION

A. The Contractor acknowledges that he has satisfied himself as to the nature and location of the work, the general and local conditions, particularly those bearing upon transportation, disposal, handling and storage of materials, availability of labor, water, electric power, roads and uncertainties of weather, groundwater table or similar physical conditions at the site, the conformation of subsurface materials to be encountered, the character of equipment and facilities needed prior to and during the prosecution of the work and all other matters which can in any way affect the work or the cost thereof under this contract. Any failure by the Contractor to acquaint himself with all information concerning these conditions will not relieve him from responsibility for estimating properly the difficulty or cost of successfully performing the work.

1.7 PROTECTION OF EXISTING STRUCTURES

A. The Contractor shall protect building structures including perimeter walls and roof slab and water proofing systems. Equipment to be used shall be subject to limitations and characterizations shown on the drawings. At no time shall vehicular and mechanical earth moving equipment come in contact with the roof slab or water proofing system.

B. The Contractor shall protect existing underground utilities to remain, the location of which is shown approximately on the drawings or which are located in the field. Utilities whose location is not known shall be protected insofar as possible. All costs for repair of broken or damaged utilities will be the responsibility of the Contractor.

C. Visit the site to review all details of the work and working conditions and to verify dimensions in the field including headroom and interference's from adjacent structures. Notify the Owner in writing of any discrepancy before performing any work.

D. Protect existing above ground structures, landscaping, and appurtenances from movement or settlement. Provide bracing and shoring as needed.

E. Consult official records of existing utilities, both surface and subsurface, and their connections to be fully informed on all existing conditions and limitations as they apply to this work and its relation to other construction work. The Contractor shall contact **Call Before You Dig (800) 922-4455 or online at https://www.cbyd.com/#** to assist in locating utilities at least 3 working days prior to performing any earthwork operations on the site.

F. Make a personal inspection of the site to evaluate the conditions affecting the work. No claim for additional costs will be allowed because of lack of knowledge of any existing conditions discernible from observation of the site, adjoining properties, or other available sources of information.

1.8 APPLICABLE STANDARDS

A. ASTM D-422 - Method for sieve analysis of fine and coarse aggregates.

B. ASTM D-1140 - Method for determination of fine soil fraction.

C. ASTM D-1557 - Test meted for moisture - density relationships of soils and soil aggregate mixtures.

D. ASTM D-2167 - Test method for density of soil and soil aggregate in place by the balloon method.

E. ASTM D 4318 Test method for determination of Plasticity Index of soils.

F. ASTM D-5195 - Test method for density of soil and rock at depths below the surface by nuclear methods.

G. ASTM D-5220 - Test method for water content of soil and rock in-place by neutron depth probe method.

1.9 SITE PREPARATION

A. The Contractor shall verify existing grades prior to beginning general earthwork. If existing grades are at variance with the Drawings, notify the Owner and receive instructions prior to proceeding.

B. All bench marks and monuments shall be protected during construction. If disturbed or destroyed, replace in original position.

C. Construction stakeout shall be by a licensed surveying firm provided by the contractor. Exact locations and grade points are to be staked or fixed by the surveying firm prior to construction.

PART 2 – PRODUCTS

2.1 MATERIALS

A. Structural Fill shall be free from ice and snow, roots, stumps and other deleterious materials. Structural fill shall have a liquid limit and plasticity index not exceeding 40 and 10, respectively, and shall conform to the following gradation requirements:

Sieve Size	Percent Passing by Weight
3-1/2-inch	100
3/4-inch	50 to 100
No. 4	25 – 75

The fraction passing the No. 4 sieve shall have less than 15%, passing the No. 200 sieve.

B. Onsite Fill - This material shall consist of on-site excavated soil from the Fill stratum and is for use as an alternative to Structural Fill and Subbase. It shall consist of sand, gravel, rock fragments, or a mixture thereof. On-Site materials may be reused provided that rocks larger than 6 inches are removed and it is placed and compacted to create a stable subgrade. On-site Fill will need to be well-graded for compaction and structural support, and to maximize on-site reuse.

On-site excavated fill may not be used in areas sensitive to drainage and may need to be screened to segregate unsuitable materials.

C. Free Draining Sand and Gravel shall be free from ice and snow, roots, stumps, rubbish and other deleterious materials and should consist of hard durable sand and gravel conforming to the following gradation requirements:

Sieve Size	Percent Passing by Weight
Pass 1-1/2 inch	100
Pass 1 inch	45-80
1/4-inch	25 to 60
No. 10	15 - 45
No. 40	5 - 25
No. 100	0 - 10
No. 200	0 - 4

D. Satisfactory Fill Material shall be obtained from on or off-site and shall be free of ice, snow, roots, vegetation and other deleterious materials. When used under pavement areas this material shall have a plasticity index not exceeding 15 (20 when used below 2 foot of subgrade) and a liquid limit not exceeding 40. Clay soils shall not be placed under structures or in the pad preparation area.

E. Pavement Section Base Course (Processed Aggregate Base) shall consist of hard, durable processed gravel, free from ice snow, sand, clay, loam or other deleterious material, should be uniformly blended, conforming to the requirements of the Connecticut Department of Transportation Form 816, Section M.05.01 and the following gradation:

Sieve Size	Percent Passing by Weight
2-1/4-inch	100
2-inch	90 - 100
3/4-inch	50 - 75
1/4-inch	25 - 45
No. 40	5 - 20
No. 100	2 - 12

At least 70 percent of the materials retained on the 1-inch sieve should have a fractured face.

F. Pavement Section Gravel Subbase Material shall be free of ice, snow, roots, vegetation and other deleterious materials and conform to the requirements the Connecticut Department of Transportation Form 816, Section M.02.02 and M 02.06 gradation A and the following gradation:

Sieve Size	Percent Passing by Weight
3-1/2-inch	100
1-1/2-inch	55-100
1/4 inch	25 - 60
No. 10	15 - 45
No. 40	5 - 25
No. 100	0 - 10
No. 200	0 - 5

G. Foundation Stone shall be free of ice, snow, roots, vegetation and other deleterious materials and conform to the requirements of Foundation Stone shall be graded, crushed, broken or

processed stone, conforming to the grading requirements for 3/8 inch or 3/4 inch stone of Article M.01.01 of the Standard Specifications as ordered by the Engineer unless the Engineer orders processed aggregate in accordance with Article M.05.01 of the Standard Specifications.

H. Geotextile Filter Fabric where called for on drawings shall be a non-woven needle punched Geotextile such as "Mirafi N-Series" 140N or approved equal and meeting the following requirements:

Property	Test Method	Average Minimum Value
Ultimate Strength	ASTM D 4632	90 pounds
Grab Elongation	ASTM D 4632	40-60%
Trap. Tear Strn.	ASTM D 4355	35 pounds
Puncture Resist.	ASTM D 483	55 pounds
Permittivity	ASTM D 4491	2.0 sec^{-1}
Appar. Open Size	ASTM D 4751	70 (US Sieve)
U.V. Resistance	ASTM D 4355	70 (%Str. >500 Hrs)

I. Topsoil shall consist of suitable organic soil, free from ice and snow, clay, large stones, or debris conforming to the requirements of Division 32 of these specifications.

J. Corrugated Polyethylene Pipe Perforated smooth interior conforming to AASHTO M 294 and M 252.

L. Underdrains and Foundation Drains: shall be perforated, PVC or Flexible corrugated High Density Polyethylene (HDPE) pipe with "Sock" type flexible drain envelope (ADS Filter Sock Regular Sleeve) or approved equal as specified herein of the size indicated on the construction drawings.

2.2 USE OF MATERIALS

A. Structural Fill

Use this material in building areas such as beneath building footprint foundations floor slabs and in other soil bearing situations. This material may also be used for below pavements, for fill slopes, as sidewalk subbase, and where raises in grade are required.

B. On-site Fill

Shall consist of on-site, excavated fill and sand and is for use as backfill for the building and pavements, and where specified. These materials may be reused provided the soil is free of organic and other deleterious matter, materials and rocks larger than 6 inches are to be removed within 5 feet of subgrade and limited to less than 12" in size more than 5 feet below the subgrade or two-thirds the lift thickness, whichever is smaller.

On-site, excavated fill may not be used in areas sensitive to drainage and may need to be screened to segregate unsuitable materials.

C. Sand and Gravel

Use this material under the building concrete slab-on grade as a capillary moisture break. This material is also used for above and around subdrainage systems as outlined herein and for backfill against frost walls, retaining walls and foundation walls as outlined herein. The Contractor may also choose to use this material as a working mat in wet areas and to expedite dewatering and pumping and as a bedding for utility pipes.

This material may also be used under footings or building concrete slab-on grade and slabs on grade. This material is also used for above and around subdrainage systems as outlined herein and for backfill against frost walls, cast-in-place concrete retaining walls and foundation wall as outlined herein. The Contractor may also choose to use this material as a working mat in wet areas and to expedite dewatering and pumping and as a bedding for water mains and services.

D. Suitable Native Material

Use this material for fill slopes, outside the building footprint and under pavements subgrades. Place fine sand and silty sand in the upper 2 to 4 feet or greater below pavement grade in 12 inch minimum lifts at moisture contents within 2 percent of optimum. Place clay and silt in 8-inch minimum lifts 6 feet or more below pavement grade at moisture contents within 6 percent of optimum.

E. Processed Aggregate Base Course

Use this material as a base course below flexible and rigid pavements and sidewalks.

F. Gravel Subbase Course

Use this material below pavement base course.

G. Topsoil

Use topsoil for final grading of proposed grass areas

PART 3 - EXECUTION

3.1 EXAMINATION AND PREPARATION

A. Verify that survey benchmark and intended elevation for the work are as indicated.

B. Identify required lines, levels, contours, and datum,

C. Notify Owner in writing of unexpected subsurface conditions and discontinue affected work in area until notified to resume work.

D. Identify and flag known utility locations. Maintain and protect existing utilities to remain and which pass through the work areas. Do not assume that the absence of existing utilities on drawings ensures that they don't exist. Detection and identification with Call Before You Dig is required.

E. Verify fill material to be reused are acceptable.

F. Conduct test pit excavations where noted on drawings and where necessary to establish the subgrade conditions, particularly as they relate to buried site utilities. Routes for proposed utility modifications shall be sufficiently examined with test excavations as to verify the intended work as shown on the drawings, and to identify conflicts that might not otherwise be apparent.

3.2 PROTECTION OF ADJACENT WORK

A. Protect all adjacent structures which may be damaged by dewatering and excavation work, including service utilities and pipe chases. All damage caused by construction activities shall be repaired by the Contractor at no additional expense to the Owner.

B. Grade excavations and fills to prevent surface water runoff into the work area or to adjacent properties.

C. Protect benchmarks, property corners and all other survey monuments from damage or displacement. If a marker needs to be removed it shall be referenced by a licensed land surveyor and replaced, as necessary, by the same.

3.3 EXCAVATION AND REMOVAL OF TOPSOIL AND MISCELLANEOUS FILL AND MISCELLANEOUS MATERIAL

A. All topsoil, peat, subsoil, unsuitable fill and miscellaneous materials (i.e. structures, foundations, pavements) shall be stripped to their entire depths within the footing and slab bearing zones within building areas. All such unsuitable materials will be excavated to three feet below existing site grades within pavement areas. Materials suitable for reuse as determined by the Geotechnical Engineer shall be stored in designated locations that will not interfere with building operations. As previously specified, topsoil to be reused shall be free from clay, large stones and debris. All materials not suitable for reuse shall be legally disposed of off-site as specified elsewhere in the Contract Documents.

B. The Contractor shall excavate all topsoil, peat, unsuitable fill and any other unsuitable materials to firm natural ground below all spread footings and within the area as sloping downward and outward on a one horizontal to one vertical (1H:1V) line to firm natural ground or to ten (10) feet beyond structure or building lines, or as required by the Geotechnical Engineer. Unsuitable material is herein classified as existing fill, topsoil, organic silt, peat, branches, logs, stumps, boulders, bricks, cobbles, existing structures (i.e. footings, foundations, floor slabs, pavements, abandoned utilities, etc.) and any trash, (i.e., snow, roots, sod, rubbish or other deleterious or organic matter).

C. The Contractor shall excavate and remove topsoil, subsoil, peat, miscellaneous unsuitable fill and any other unsuitable materials to full depth of materials discovered below proposed pavement areas as indicated on the Contract Drawings then proof roll the sub-grades in the manner specified below.

D. Excavated topsoil, unusable boulders, unusable excavated rock and unsuitable materials shall be removed and stockpiled at a designated location or otherwise removed from the project at the Contractor’s expense.

E. Excavated rock consisting of on-site boulders, mechanically broken ledge, shall be stockpiled on site for preparation of primary and secondary crushing, as necessary, for reuse at locations

on site provided material gradations after any processing, screening and mixing operations meet those outlined in Section 2.01 herein. Alternatively, all excavated rock should be legally disposed of off-site. Boulders encountered on-site may be disposed of on-site at selected locations approved by the engineer outside building pad areas of influence.

3.4 SITE EXCAVATION

A. All areas within the limits of work shall be excavated or filled with suitable material to the sub-grade lines and elevations as shown on the plans and cross sections in accordance with these specifications

The Contractor shall not excavate below top of suitable in-place natural soil subgrades except for spread footing foundation construction and utility installation without the authorization of the Geotechnical Engineer. The Contractor shall follow a construction procedure which permits visual identification of firm natural ground.

All footing and foundation excavations shall be made to the proper depths with the proper allowance for forms, etc. All excavations shall be approximately level, and clear of loose material. Any debris or vegetable matter or unsuitable soil or material encountered in the excavation shall be removed as directed by the Geotechnical Engineer. All debris, not usable for rough grading below grass areas, excluding slope areas, shall be removed from the excavated material and shall be disposed of off-site.

Surplus material, if any, shall be disposed of off-site in a legal manner at the Contractor's expense.

B. The Contractor shall follow a construction procedure which permits visual identification of natural sub-grade soils.

In the event that groundwater is encountered, the Owner may require that the size of the open excavation be limited to that which can be handled by the Contractor's chosen method of dewatering and allow visual observation of the bottom and placement of all fill in the dry.

C. If sub-grade soils become loose and saturated, the Contractor shall be required to excavate such loose and saturated soils and replace them, at no additional cost to the Owner, with compacted sand-gravel fill in order to stabilize areas which may become disturbed due to surface runoff, construction disturbances by the Contractor, and subsurface seepage pressure and also to expedite pumping. Particular areas of concern are within new building areas and under all pavement areas.

D. Prior to placement of the initial layer of fill over the natural ground, proof rolling of the exposed sub-grades, if above the groundwater table, shall be performed as specified herein. This requirement may be waived by the Geotechnical Engineer based on actual conditions encountered.

E. Protect all sub-grade soils. Excavate sub-grade soils which become disturbed, and backfill in accordance with specifications at Contractor's expense.

F. Do not excavate to full depth when freezing temperatures may be expected unless sub-grade is protected from freezing, or footings or slabs can be placed immediately after excavation is completed and are protected from freezing.

G. Maintain safe and stable excavation walls in accordance with OSHA requirements.

H. Excavate in a manner that will not disturb existing foundations to remain. Plans for excavating near existing remaining foundations shall be submitted to the Project Engineer for approval prior to beginning such excavation.

I. Correct unauthorized excavation at no additional cost to the Owner.

3.5 TRENCH EXCAVATION

A. Excavate for sewer, water, and drainage piping and other utilities at locations indicated on the Drawings. Dewater trenches to permit work to be performed in dry conditions. Over excavate and remove unsuitable material and replace and compact with foundation stone or material approved by the Engineer.

B. Cut trenches sufficiently wide to enable installation and inspection of utilities. Cut trenches sufficiently wide to allow compaction of fills with a double-drum, walk-behind vibratory roller. Slope or shore trenches in accordance with OSHA standards.

C. Support pipe and conduit during placement and compaction of bedding fill.

D. Backfill trenches with specified material according to the specifications contained herein and the Contract Drawings to required contours and elevations.

E. Place and compact fill materials in accordance with specifications contained hereinafter.

F. Dispose of unsuitable materials, rock not to be used, etc. in a legal manner offsite.

3.6 PROOFROLLING

A. Proofroll existing natural soil sub-grade and fill sub-grades within building and pavement areas prior to placement of fill in all building and pavement areas or installation of utilities, in two perpendicular directions. Proofrolling shall consist of multiple passes over the subgrade using a smooth drum vibratory drum-roller (minimum 10-ton static drum weight) or heavily loaded tandem-axel dump truck to locate soft, yielding, loose or unstable subgrades. Any soft, weaving or deleterious areas shall be locally excavated and replaced with compacted Structural Fill or Suitable Onsite Fill to form a stable subgrade. This work shall be performed under the direct observation of the Engineer. The Engineer may elect to waive this work within wet areas, if excessive disturbance is being created.

B. Existing fill materials which may potentially remain in place below pavement areas shall be proofrolled with at least 15,000 pounds. Loose soils identified during proofrolling shall be excavated and replaced with compacted structural fill in loose lifts not to exceed 8 inches thick.

C. If the exposed sub-grade is wet or otherwise susceptible to disturbance, the Engineer may waive proofrolling requirements.

3.7 SHORING, SHEETING AND BRACING

A. Provide shoring, sheeting and/or bracing of excavations as required to assure complete safety against collapse of earth at side of excavations. Alternatively, lay back excavations to a stable slope.

B. Excavations shall be adequately sheeted, shored and brace as necessary to permit proper execution of the work and to protect all slopes and earth banks until new building walls are cured and acceptable for backfill. Sheet piling shall be installed if required to prevent cave-ins or settlement and to protect workmen and utilities. Shoring and bracing may be removed as the backfilling progresses, but only when banks are safe against caving, taking all necessary precautions to prevent collapse of excavation sides. Bracing of all foundation walls during backfilling and compaction is the responsibility of the Contractor.

C. Comply with OSHA and local safety regulations.

D. Remove sheeting or shoring, etc. as backfilling operations progress, taking all necessary precautions to prevent collapse of excavation sides. Where sheeting is required to be left in place, as determined by the Engineer, in areas not indicated on Contract Drawings, additional payment will be made as provided under Unit Prices or via change order.

E. Temporary bracing of all below-grade walls to eliminate movement during backfilling will be required except in cases where the wall have been integrated into the permanent superstructure and derive support there from. The design and proposed construction procedure for bracing systems shall be submitted to the Engineer for approval at least one week prior to commencing backfill operations.

3.8 PLACEMENT AND COMPACTION OF FILL

A. All areas within the limits of work shall be filled or excavated and filled with suitable materials to the sub-grade lines and elevations as shown on the plans as herein specified. The use of on-site materials shall be permitted only if such materials meet the respective requirements of the Section 2.1, MATERIALS section of these Specifications and only when authorized by the Engineer.

Off-site borrow material necessary to achieve design sub-grades shall be provided at the Contractor’s expense and shall also meet the requirements of the sub-part 2.1 section of these specifications. All fill materials, including existing suitable on-site materials and off-site borrow materials, shall be in conformance with the sub-part 2.1 section of these specifications. Do not place backfill or fill material on surfaces that are muddy, frozen or contain frost or ice. Remove and replace or scarify and air dry satisfactory soil materials that are too wet to compact to specified density.

B. The Engineer must be allowed sufficient time to make necessary observations and tests. A minimum of four working days shall be required by the Engineer for performing laboratory compaction and sieve tests.

Forty-eight hour notice shall be given by the Contractor to the Engineer when field observations and tests are required.

C. Grade and compact fill surface to readily shed water. Slope fill surfaces away from buildings a minimum of two inches in 10 feet, unless otherwise noted. Make grade changes gradual. Blend slope into level areas.

D. Where horizontal layers meet a naturally rising slope exceeding 1 vertical to 5 horizontal, key layer into slope by benching into the slope with minimum 4 foot high vertical steps.

E. At completion of work, leave site completely free of excess fill materials.

F. The degree of compaction shall be based on a maximum dry density as determined by ASTM D-1557. Compaction of silt and clays and of fine sand and silty sand shall be per materials at moisture contents within the percentages of acceptable optimum moisture contents. The degree of compaction for fill placed in various areas shall be as follows:

	Areas	Percent Compaction Required
1.	Free Draining Sand/Gravel Fill below foundations And retaining wall backfill	95%
2.	Structural Fill below foundations	95%
3.	Controlled Native Fill within 6 feet of pavement surface	95%
4.	Structural Fill or Controlled Native Fill deeper than 6 feet below pavements	92%
5.	Crushed Stone for under Building Slab And Pavement base courses	95%
6.	Sidewalk and related area base courses	95%
7.	Below pavement and sidewalk base courses	95%
8.	Trench backfill outside pavement areas	92%
9.	Trench backfill beneath pavement	95%
10.	All fill outside building and pavement bearing zones	92%
11.	All fill in slope areas at or steeper than 10 Horiz. to 1 Vert.	92%
12.	Free Draining Sand/Gravel fill around subdrains - Tamp into place with hand operated flat plate vibratory compactor to	95%

G. After all excavation has been completed, unless indicating otherwise herein, all new fill materials shall be deposited in loose lift thickness not exceeding eight (8) inches in depth over the areas to be filled. In exceptional cases, the Geotechnical Engineer may permit the first layer to be thicker than eight (8) inches.

1. The entire area of each layer shall be compacted with the specified equipment to the specified degree as outlined herein. No subsequent layer shall be deposited until the specified compaction is achieved for the previous layer. If necessary to obtain the required

compaction due to fill becoming too dry, water shall be added if authorized by the Geotechnical Engineer.

2. Compacted fills shall be prevented from freezing by use of approved admixtures or by use of approved protection on the surface, or both.

H. Excavated material containing rock or stone greater than 6" in largest dimension is unacceptable as fill to within 24 inches of subgrade elevation in the proposed building and paving area.

1. Rock or stone less than 6" in largest dimension is acceptable as fill to within 24" of surface of proposed subgrade when mixed with suitable material.

2. Rock or stone less than 2" in largest dimension and mixed with suitable material is acceptable as fill within the upper 2' of proposed subgrade.

I. Procedures

1. Protect both fill and cut areas by grading surface topography to promote drainage away from these areas and by providing smooth surfaces which readily shed water.

2. To the extent that it is practicable, each layer of fill shall be compacted to the specified density the same day it is placed.

3. Fill that is too wet for proper compaction shall be diced, harrowed, or otherwise dried to a proper moisture content for compaction to the required density. If the fill material cannot be dried within forty-eight (48) hours of placement, it shall be removed and replaced with drier fill.

New fill shall have a moisture content which is within 5% of the optimum moisture content per ASTM D-1557 for Clay and Silt placed greater than 6 feet below pavement or embankment grades. (Within 3% of the optimum moisture content within the top six feet below building and pavement sub-grades).

3.9 FILL PLACEMENT IN TRENCHES

A. As soon as practicable after the pipe has been placed and the pipe joints made in accordance with the appropriate Sections(s) of the Specification, and the pipe has been inspected and approved by the Geotechnical Engineer, backfilling shall be performed. The Contractor shall be held responsible for the satisfactory execution of pipe line construction. If subsequent testing shows defects in materials or workmanship, the necessary repairs and replacements shall be made by the Contractor at his own expense to the satisfaction of the Geotechnical Engineer

B. Bedding shall be as specified for the particular type of pipe installation and as shown on the Drawings. Backfill shall be placed simultaneously on either side of the pipe alignment. In placing material, care shall be taken that stones do not strike the pipe.

C. For applications requiring crushed stone bedding, the bedding shall be placed to the springline of the pipe and so shaped that the pipe shall be firmly supported across its diameter for the full length of the barrel. Particular care shall be taken to provide recesses in the bedding or trench bottom, as required, to relieve each bell of any load.

D. Placement of bedding shall be done manually by persons skilled in this operation and shall precede the laying of pipe by no more than a few feet.

E. From the bottom of the pipe in the trench to a minimum of 12 inches above the pipe crown, the trench shall be backfilled by placing and packing the specified materials by hand shovel. The filling shall be carried up evenly on both sides of the pipe, care being taken not to raise or otherwise dislodge the pipe. Backfill to this depth shall be thoroughly compacted with approved hand-operated devices.

F. No stone or rock fragment greater than 3 inches shall be placed into the trench. Large masses of backfilling materials shall not be dropped into the tamped layers of backfill until at least one foot of backfill has been placed over the top of the pipe. Backfilling shall be placed in 8 inch maximum loose lifts.

G. No compaction shall be done when the material is too wet to be compacted properly; at such times, the compaction work shall be suspended until the previously placed and new materials have dried out sufficiently to permit proper compaction, or such other precautions shall be taken as may be necessary to obtain proper compaction. Water jetting or flooding to attain compaction is not permitted.

H. An independent testing laboratory shall perform compaction test at intervals not exceeding 150'-0" of trench for the first and final eight-inch (8") lift of compacted trench backfill and furnish copies of test results as specified.

3.10 REUSE OF EXCAVATED MATERIALS

A. Inorganic on-site soils (i.e. portions of existing fill materials) and blast rock which are excavated during site grading and installation of utilities may be reused as fill materials providing that the excavated materials meet the requirements of sub-part 2.01 of these specifications and are of suitable moisture content. Rock which is excavated during site grading and installation of utilities may be reused as fill materials providing that the excavated materials meet the requirements of these specifications. To the extent possible, excavated rock may be used <u>without</u> crushing, provided that the specifications included herein are met to the satisfaction of the Geotechnical Engineer. Excavated rock which cannot substantially satisfy those gradation requirements specified herein will require crushing or screening.

3.11 DEWATERING

A. General

1. This section specifies the designing, furnishing, installing, maintaining, operating and removing of a complete temporary dewatering system as required to lower and control water levels, hydrostatic pressures during construction; disposing of pumped water; construction, maintaining, observing and, except where indicated or required to remain in place, removing or filling of dewatering tubing and observation well; and instrumentation for control of the system.

2. Design and provide dewatering system using accepted and professional methods consistent with current industry practice to eliminate water entering the excavation under hydrostatic head from the bottom and/or sides. Design system to prevent differential hydrostatic head, which would result in floating out soil particles in a manner, termed as a "quick" or

"boiling" condition. System shall not be dependent solely upon sumps and/or pumping water from within the excavation where differential head would result in a quick condition, which would continue to worsen the integrity of the excavation's stability.

a) Provide dewatering system of sufficient size and capacity to prevent ground and surface water flow into the excavation and to allow all Work to be installed in a dry condition.

b) Control, by acceptable means, all water regardless of source and the Contractor is fully responsible for disposal of the water.

c) Confine discharge piping and/or ditches to available easement or to additional easement obtained by Contractor. Provide necessary permits and/or additional easement at no additional cost to Owner.

d) Control groundwater in a manner that preserves strength of foundation soils, does not cause instability or raveling of excavation slopes, and does not result in damage to existing structures. Where necessary to these purposes, lower water level in advance of excavation, utilizing wells, wellpoints, jet educators, or similar positive methods. The water level as measured by piezometers shall be maintained a minimum of 3 feet below prevailing excavation level.

e) Commence dewatering prior to any appearance of water in excavation and continue until Work is complete to the extent that no damage results from hydrostatic pressure, flotation, or other causes.

f) Open pumping with sumps and ditches shall be allowed, provided it does not result in boils, loss of fines, softening of the ground, or instability of slopes.

g) Install wells and/or wellpoints, if required, with suitable screens and filters, so that continuous pumping of fines does not occur. Arrange discharge to facilitate collection of samples by the Owner. During normal pumping, and upon development of well(s), levels of fine sand or silt in the discharge water shall not exceed 5 ppm. Install sand tester on discharge of each pump during testing to verify that levels are not exceeded.

h) Control grading around excavations to prevent surface water from flowing into excavation areas.

i) No additional payment will be made for any supplemental measures to control seepage, groundwater, or artesian head.

3. The Contractor shall provide, at his own expense, adequate pumping and drainage facilities to keep the excavate areas sufficiently dry from groundwater and/or surface runoff so as not to adversely affect construction procedures or cause excessive disturbance of underlying natural ground. The drainage of all water resulting from pumping shall be arranged so as not to cause damage to adjacent property. All requirements of local environmental or conservation authorities shall be satisfied with respect to discharge of pumped water.
4. Dewatering includes lowering the water table and intercepting seepage which would otherwise emerge from the slopes or bottom of the excavation, thereby decreasing the stability of excavated slopes, causing loss of material from beneath the slopes or bottom of

the excavation and hauling characteristics of soil, and/or causing rupture or heaving of the bottom of an excavation.

B. Design Criteria

1. Contractor shall designate and obtain the services of a qualified dewatering specialist to provide dewatering plan as may be necessary to complete the Work.

2. Contractor shall be responsible for the accuracy of the drawings, design data, and operational records required.

   Contractor shall be solely responsible for the design, installation, operation, maintenance, and any failure of any component of the system.

3. Damages:

   a. Contractor shall be responsible for and shall repair without cost to the Owner any damage to work in place, or other contractor's equipment, utilities, residences, highways, roads, railroads, private and municipal well systems, adjacent structures, natural resources, habitat, existing wells, and the excavation. Including, damage to the bottom due to heave and including but not limited to, removal and pumping out of the excavated area that may result from Contractor's negligence, inadequate or improper design and operation of the dewatering system, and any mechanical or electrical failure of the dewatering system.

   b. Remove sub-grade materials rendered unsuitable by excessive wetting and replace with approved backfill material at no additional cost to the Owner.

4. Maintaining Excavation in Dewatering Condition:

   a. Dewatering shall be a continuous operation. Interruptions due to power outages, or any other reason will not be permitted.

   b. Continuously maintain excavation in a dry condition with positive dewatering methods during preparation of sub-grade, installation of pipe, and construction of structures until the critical period of construction and/or backfill is completed to prevent damage of sub-grade support, piping, structure, side slopes, or adjacent facilities from flotation or other hydrostatic pressure imbalance.

   c. Provide standby equipment on site, installed, wired, and available for immediate operation if required to maintain dewatering on a continuous basis in the event any part of the system becomes inadequate or fails. If dewatering requirements are not satisfied due to inadequacy or failure of dewatering system, perform such work as may be required to restore damaged structures and foundation soils at no additional cost to Owner.

   d. System maintenance shall include but not be limited to 24-hour supervision by personnel skilled in the operation, maintenance, and replacement of system components, and any other work required to maintain excavation in dewatered condition.

5. System Removal:

   a. Remove dewatering equipment from the site, including related temporary electrical service.

   b. Wells shall be removed or cut off a minimum of 3 feet below final ground surface, capped, and abandoned in accordance with regulations by agencies having jurisdiction.

6. Design of dewatering system which will:

   a. Develop a substantially dry and workable sub-grade for the execution of subsequent operations;

   b. Cause no damage due to the loss of ground from incompletely drained soils or removal of soil particles in the discharge.

   c. Relocate dewatering procedures which cause, or threaten to cause, damage to new or existing facilities. These modification will be at no additional expense to the Owner.

7. Modify dewatering procedures which cause, or threaten to cause, damage to new or existing facilities. These modifications will be at no additional expense to the Owner.

   a. Maintain the artificially lowered groundwater table at least 2 feet below the proposed excavation levels.

C. Execution

1. Surface Drainage

   a. Intercept and divert surface drainage away from the excavations and observation wells.

   b. Design surface drainage systems so that they do not cause erosion on or off the site or cause unwanted flow of water.

   c. Remove the surface drainage system when no longer required.

   d. Remove debris and restore the site or sites to original conditions.

   e. Surface drainage may be discharged into storm sewers provided that any necessary permits are obtained by the Contractor.

2. Drainage of Excavated Area

   a. Collect surface water and seepage which may enter the excavation, and divert the water into a sump so that it can be drained or pumped away from the work area.

b. Install settling basins or other approved apparatus as required to reduce the amount of soil fine particles which may be carried by water diverted or pumped during construction.

c. Dispose of water in a manner approved by the Owner and Geotechnical Engineer.

d. Backfill sumps and settling basins when no longer required with structural fill material, concrete or other material as approved by the Geotechnical Engineer.

3. Dewatering of Subsurface Water

a. Dispose of subsurface water collected in a manner approved by the Owner and Engineer in work areas.

b. Maintain continuous and complete effectiveness of the installation at all times.

c. Maintain water levels at such elevations that no damage to the structure can occur because of excessive or deficient hydrostatic pressure.

3.12 PAVEMENT BASE AND SUBBASE

A. Subbase preparation shall be carefully shaped to the required cross section and compacted as follows:

The entire area of each layer of the embankment and the subgrade in the excavated areas shall be uniformly compacted to at least the required minimum density by use of compaction equipment consisting of rollers, compactors or a combination thereof. Earth-moving and other equipment not specifically manufactured for compaction purposes shall not be considered as compaction equipment. Compact each lift by a minimum of six passes of a Bomag 210 vibratory roller or equivalent vibratory roller.

B. The dry density after compaction shall not be less than 95 percent of the dry density for that soil when tested in accordance with AASHTO T 180, Method D, except that the mold used in the test shall be 6.11 inches high. Correction for particles retained on the 3/4 inch sieve shall be as specified in AASHTO Method T-224.

C. Where underdrains and outlets are specified on the plans or ordered by the Engineer, they shall be in place and functioning before any subbase material is placed.

D. Spread subbase material uniformly upon the required grade, in courses not to exceed 6 inches in thickness after final compaction. However, if the required thickness of subbase does not exceed 8 inches, it may be placed in one course when compacted by heavy compaction equipment. If hand operated tampers are utilized, layers shall not exceed more than 4 inches in loose depth.

E. Compact after each course has been placed as specified above; its entire area shall be compacted with equipment specifically manufactured for that purpose. The sole use of hauling and spreading equipment shall not be considered as a substitute for compacting equipment.

1. Exception to the use of compacting equipment shall be allowed where subbase is made of gravel and used in conjunction with a traffic bound gravel surface in which case the work shall be as follows:

F. Spreading shall begin at the end of the project nearest the source of supply of the material in such a way that, as the work progresses, the material is trucked over that already in place so as to obtain as much compaction as possible during construction. No other compaction of the material will be required.

1. Should the foundation material beneath any sub-base become churned up and mixed with sub-base at any time, the Contractor shall, without additional compensation, remove the mixture and replace it with new sub-base material to the required thickness shown on the plans or as previously required by the Engineer. Such replaced sub-base material shall be compacted to the required minimum density placed upon the prepared sub-base to a depth which will not be less than the required depth after compaction. The sub-base shall be true to line and grade a minimum of 200 feet in advance of the work.

2. Maximum thickness of the course shall not exceed four (4) inches prior to compaction unless permitted by the Engineer.

G. Processed aggregate base preparation shall be uniformly placed upon the prepared sub-base to a depth which will not be less than the required depth after compaction. The sub-base shall be true to line and grade a minimum of 200 feet in advance of the work.

1. Maximum thickness of the course shall not exceed four (4) inches prior to compaction unless permitted by the Engineer.

H. The bottom course shall be spread uniformly upon the prepared sub-base. Only approved spreaders or stone boxes shall be used. Power graders shall not be used unless otherwise permitted by the Engineer.

1. After the aggregate is spread, it shall be thoroughly compacted and bound use of equipment specifically manufactured for that purpose. Rollers shall deliver a ground pressure of not less than 300 pounds per linear inch of contact width and shall weigh not less than 10 tons. Vibratory units shall have a static weight of not less than 4 tons.

2. Water may be used during the compaction and binding operation. Water shall be applied from an approved watering device. The direction and intensity of the stream shall be as ordered by the Engineer.

3. The compacting and binding operation shall begin at the outside edges, overlapping the shoulders for a distance of not less than 6 inches and progress towards the middle, parallel with the centerline of the pavement. The work shall cover the entire surface of the course with uniform overlapping of each preceding track or pass.

4. Areas of super-elevation and special cross slope shall be compacted by beginning at the lowest edge and proceeding towards the higher edge, unless otherwise directed by the Engineer.

5. The compacting and binding operation shall be continued until the voids in the aggregates have been reduced to provide a firm and uniform surface satisfactory to the Engineer.

6. The amount of compactive effort shall be as directed by the Engineer, but in no case shall be less than four (4) complete passes of the compacting equipment being used.

7. Any surface fines shall be distributed uniformly by use of brooms during the compacting and binding operations. All aggregate shall be completely compacted and bound at the end of each day's work or when traffic is to be permitted to operate on the road.

I. Construction methods for the top course shall be the same as described for the bottom course. Construction of the top course shall not commence until the bottom course has been approved by the Engineer and accepted. Final total thickness of the two courses shall equal the thickness as specified on the plans.

1. Any soft yielding or irregular areas which develop during or after work on either course shall be removed and replaced with suitable aggregate as required. The area shall then be rebound and re-compacted until it is brought to a uniform surface to match the adjacent base all as approved by the Engineer.

3.13 GRADING AND ELEVATIONS

A. Grading outside building lines shall consist of grading areas adjacent to building lines to drain away from structures and to prevent ponding. Finish ground surfaces shall be free from irregular surface changes, and meet the following requirements:

1. Grassed areas: Finish areas scheduled to receive topsoil to within not more than 2” above or below the required sub-grade elevations.
2. Walks: Shape surface of areas under walks to line, grade and cross-section, with finish surface not more than 1” above or below the required sub-grade elevation.
3. Pavements: Shape surface areas under pavement to line, grade and cross-section, with finish surface not more than 1” above or below the required sub-grade elevation.
4. Grading of building areas shall be checked by string line from grade stakes (blue tops) set at not more than 50’ centers. Tolerance of 0.10 feet, more or less, will be permitted. Contractor shall provide engineering and field staking necessary for verification of lines, grades, and elevations.

B. The Contract Drawings indicate, in general, the alignment and finished grade elevations of site structures. The Owner’s representative, however, may make such adjustments in grades and alignment as are found necessary in order to avoid interference and other special conditions encountered. Grading between indicated final grades shall provide smooth, even surfaces, except as otherwise required. Minimum cover over pipes shall, in any case, conform to requirements of local and state agencies having jurisdiction.

C. Modify dewatering procedures which cause, or threaten to cause, damage to new or existing facilities. These modifications will be at no additional expense to the Owner.

D. Maintain the artificially lowered groundwater table at least 2 feet below the proposed excavation levels.

3.14 REMOVAL OF SURPLUS MATERIALS

A. Remove all surplus earth, boulders, and rock materials including unsuitable miscellaneous fill materials and building debris, not needed to complete filling and grading to an approved area off-site and outside of the work limits. No on-site area shall be approved by the Owner. All surplus materials removed off-site and outside of the work limits shall become the property of

the Contractor. Costs for transportation and disposal of surplus on-site and off-site materials shall be included in the Contractor's Lump Sum Bid Price.

3.15 FIELD QUALITY CONTROL

A. Provide for observation by the Engineer of bottom excavation and of bearing surfaces.

B. Testing and analysis of fill materials will be performed in accordance with ASTM D-422, D-1140 and D-1557.

C. In-place compaction testing will be performed in accordance with ASTM D-1556, D-2167 or ASTM D-5195.

D. If tests indicate work does not meet specified requirements, remove work or re-compact where appropriate, replace and retest at no cost to Owner.

3.16 PROTECTION

A. Protect excavations to prevent cave-in or loose soil or debris from falling into excavation. Observe OSHA standards for trenching and excavation.

B. Protect bottom of excavation and soil adjacent to and beneath foundations from freezing. Do not place fill over frozen soil.

C. Re-compact fills subjected to vehicular traffic or other disturbances.

END OF SECTION 31-0000

SECTION 31-0000 – SITE CLEARING

PART 1 - GENERAL

1.1 SUMMARY

A. Clearing the land within the limits of construction and appurtenant designated areas which are a part of the contract, of trees, bushes, grass and other plant life, building debris, brush piles, wood piles, rubbish and all objectionable material as indicated or directed in strict accordance with the contract documents. Not included under this building demolition and removal and road pavement removal which shall be included under the appropriate items in this specification.

1. The limits of clearing and grubbing shall be staked in the field by the Contractor and the limits shall be approved by the Engineer prior to beginning clearing and grubbing operations.

B. Protection of existing structures, trees, or vegetation indicated on the Construction Documents to remain.

C. Installation of construction fence for tree and shrub protection.

D. Protection of existing trees and shrubs designated to remain.

E. Topsoil stripping.

F. Stakeout for site layout and grading.

G. Clearing, tree cutting: tree removal, grubbing and removal of other vegetation in areas so designated.

H. Disposal of existing site material not otherwise stockpiled, stored or salvaged.

I. Temporary erosion and sedimentation control measures in accordance with Section 31 2500.

1.2 RELATED SECTIONS

A. Section 31 2500, “Erosion and Sedimentation Controls”.

B. Section 31 4113, “Selective Site Demolition”.

C. Section 32 9113, “Topsoil” regarding soils for planting and turf areas.

1.3 SUBMITTALS

A. Test Reports: Submit the following reports directly to Engineer form Owners consultant testing service with copy to contractor

1. Test reports on topsoil suitability and corrective recommendations to make the top soil acceptable for use on the project and shall include both soil structure / mechanical analysis as well as chemical analysis for suitability of growing both turf and exterior plant materials.

2. Refer to Section 32 9113, “Topsoil” for pre-construction specific sampling and testing requirements for existing soils/topsoil.

B. Photographs or videotape, sufficiently detailed, of existing conditions of trees and plantings, adjoining construction, and site improvements that might be misconstrued as damaged caused by site clearing.

1.4 ENVIRONMENTAL REQUIREMENTS

A. Construct temporary erosion control systems as shown on Construction to protect adjacent properties and water resources from erosion and sedimentation.

B. Contractor shall not begin construction prior to the project’s Stormwater Pollution Control Plan (SWPCP) has been registered with the state of Connecticut Department of Energy and Environmental Protection. Contractor is obligated to install required controls prior to commencing any construction activities, and is responsible for maintenance of required controls throughout the construction period.

C. In the event that site work on this project will disturb 5 or more acres; Contractor shall not begin construction without “National Pollution Discharge Elimination System” (NPDES) permit governing discharge of storm water from site for entire construction period. NPDES permit requires SWPPP to be in place during construction.

D. Contractor shall be totally responsible for conducting storm water management practices in accordance with an NPDES permit and for enforcement action taken or imposed by Federal or State agencies, including cost of fines, construction delays, and remedial actions resulting from contractor’s failure to comply with provisions of NPDES permit.

1.5 MATERIAL OWNERSHIP

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

1.6 QUALITY ASSURANCE

A. Codes and Standards: Perform excavation work in compliance with applicable requirements of authorities having jurisdiction.

B. Testing and Inspection Service: Owner will employ and pay a qualified testing and inspection laboratory or a USDA Laboratory to perform topsoil testing and inspection service during earthwork operations.

C. Surveys: The contractor shall engage a licensed professional survey engineer to do the staking out of the work through the construction period.

1.7 DEFINITIONS

A. Topsoil: Topsoil is defined as friable loam surface soil found in a depth of not less than 3”. Satisfactory topsoil is reasonably free of subsoil, clay lumps, stones, and other objects over 2” in diameter, and without weeds, roots and other objectionable material.

1.8 PROJECT CONDITIONS

A. Traffic: Minimize interference with adjoining roads, streets, walks, and other adjacent occupied or used facilities during site-clearing operations.

1. Do not close or obstruct streets, walks, or other adjacent occupied or used facilities without permission from Owner and authorities having jurisdiction.

2. Provide alternate routes around closed or obstructed traffic ways if required by Owner or authorities having jurisdiction.

3. Salvable Improvements: Carefully remove items indicated to be salvaged and store on Owner's premises as indicated.

4. Utility Locator Service: Notify utility locator service for area where Project is located before site clearing.

5. Do not commence site clearing operations until temporary erosion and sedimentation control measures are in place.

PART 2 - PRODUCTS (not used)

PART 3 - EXECUTION

3.1 PREPARATION

A. Protect and maintain benchmarks and survey control points from disturbance during construction.

B. Locate and clearly identify trees, shrubs, and other vegetation to remain during construction.

C. Protect existing site improvements to remain from damage during construction.

1. Restore damaged improvements to their original condition, as acceptable to Owner.

3.2 TEMPORARY EROSION AND SEDIMENTATION CONTROL

A. Provide temporary erosion and sedimentation control measures to prevent soil erosion and discharge of soil bearing water runoff or airborne dust to adjacent properties and walkways, according to Sediment and Erosion Control Drawings and specification Section 31 2500 “Erosion and Sedimentation Controls” and Section 01-5719 “Temporary Environmental Controls”.

B. Inspect, repair and maintain erosion and sedimentation control measures during construction until permanent vegetation has been established.

C. Remove erosion and sedimentation controls and restore and stabilize areas disturbed during removal.

3.3 CLEARING AND GRUBBING

A. The Contractor shall provide and maintain staking throughout the construction period required for accurate construction for each stage of work, adequate for Engineer’s inspection.

1. Stake out limits of grading at 50-foot intervals and parking area limits, building corners and wall ends and angle points and changes in direction along roadways.

2. Stake-out locations of drainage structures and changes in direction of drainage lines, horizontal alignments, edges of gravel surfaced areas, and all other elements to be constructed or installed to dimensional requirements shown on Drawings.

3. Set top or base elevations as required for utility structures, and other improvements to be constructed or installed

4. At competition of the stake out the Engineer reserves the right to adjust the location of layouts to minimize damage to trees, shrubs or other features to remain and areas to be left undisturbed.

5. Prior to commencing clearing and grubbing operations, the Contractor shall walk the job with the Engineer and/or Owner in order to determine and mark the extent of clearing and grubbing to determine what specific trees are to be preserved. Tree protection fencing shall be installed as indicated on drawings as indicated on the drawings and as directed.

    a. For clearing activities in the vicinity of existing trees to remain, Contractor shall pay special attention to the measures as covered in Section with the 01-5640, " Tree Protection and Preservation".

B. Construction:

1. Remove within excavation and fill lines all trees, except otherwise noted on contract drawings, cut of trees, and remove stumps and root systems.

    a. Within embankment fill areas outside of road, parking areas or building limits, stumps to remain where fill depth is greater than 5 feet and stumps are cut to within 6 inches of existing ground surface.

2. Remove all debris and portions of crushed stone as necessary within limits of construction indicated.

3. Dispose of all timber, stumps, woodchips and vegetation off-site at Contractors expense or as directed by Engineer and/or Owner. Asphalt, concrete, etc. shall be disposed of off- site in satisfactory manner. Remove all rubbish and refuse to such a point off the site as may be directed. Secure off-site disposal permits from regulatory agencies at no expense to Owner. Do not allow vegetation, stumps, etc. to be consolidated within fill material.

4. Protect existing trees, shrubs, vegetation, fences etc. to remain outside the work area and within the work area not to be affected by road, building or earthwork construction activity. Protection shall include barricades, construction fencing, silt fences and any other means as order and approved by the Engineer and as specified herein or as indicated on the Construction Drawings. Remove protection devices once construction activity has terminated within work area. If trees and shrubs designated to remain are removed erroneously or damage beyond satisfactory repair, they shall be replaced with species approved and planted where directed.

5. Conduct operations with minimum interference to public or private accesses and facilities. Maintain ingress and egress at all times and clean or sweep roadways daily as required by

SWPCP or governing authority. Dust control shall be provided with sprinkling systems or equipment provided by Contractor.

3.4 TOPSOIL STRIPPING

A. Topsoil shall consist of organic surficial soil found in a depth of not less than 6-inches. Satisfactory topsoil shall be reasonably free of subsoil, clay lumps, stones and other objects over 2-inches in diameter.

B. Contractor to submit soil test results to Landscape Architect for approval.

C. Strip topsoil to full depth encountered in areas indicated to be graded in a manner to prevent intermingling with underlying subsoil or objectionable materials.

1. Remove heavy growths of grass from areas before stripping.

D. Due to the constraints of the site configuration, size and the on-going utilization of facilities adjacent to it, stockpiling of stripped topsoil on site is not permitted. Soil materials may be move from the site, and returned for reinstallation (provided it meets specifications).

3.5 SITE IMPROVEMENTS

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

B. Remove slabs, paving, curbs, gutters, and aggregate base as indicated.

1. Unless existing full-depth joints coincide with line of demolition, neatly saw-cut along line of existing pavement to remain before removing adjacent existing pavement. Saw-cut faces vertically.

2. Paint cut ends of steel reinforcement in concrete to remain to prevent corrosion.

3.6 DISPOSAL OF SURPLUS AND WASTE MATERIALS

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

1. Separate recyclable materials produced during site clearing from other non-recyclable materials. Store or stockpile without intermixing with other materials and transport them recycling facilities.

END OF SECTION 31-1000

SECTION 31-2500 - EROSION AND SEDIMENTATION CONTROLS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and General Provisions of Contract, including General and Supplementary Conditions and other Division 1 Specifications Sections, apply to this Section.

B. 2002 Guidelines for Soil Erosion and Sediment Control (Connecticut Department of Environmental Protection, Bulletin #34).

C. State of Connecticut Building Standard Guidelines –Section 16a-38k-3(h) Erosion and Sedimentation Control.

1.2 SUMMARY

A. The work under this section shall consist of any and all temporary and/or permanent measures to control water pollution and soil erosion as may be required, specified herein, shown on the Contract Drawings or directed by the Owner, during the construction of the work embraced under this contract and for such a length of time after the completion of the work embraced under this contract for such a length of time after the completion of work as determined by the Owner.

B. This work applies to, but is not limited to, any construction work resulting in water pollution or soil erosion.

C. The work shall consist of temporary erosion control protection measures to control water pollution and soil erosion through the use of berms, dikes, dams, sediment basins, temporary seeding, netting, gravel, mulches, grasses, slope drains, ditches, channels, riprap fabric fences, filter socks, ditch checks, compost blankets, geo-fabric, hay bales, silt sacks and grading to control surface runoff and other erosion control devices or methods. The work shall include the construction and maintenance of permanent or temporary sediment basins to the dimensions and details and at the locations shown on the contract drawings and as directed by the Owner.

D. Site Work Improvement construction shall not proceed until the erosion and sedimentation controls have been placed and have been approved by the Owner.

1.4 ENVIRONMENTAL REQUIREMENTS

A. Protect adjacent properties and water resources from erosion and sediment damage throughout life of contract.

B. Permanent Grass shall conform to that as specified in Section 32 92 00 “Turf and Grasses”.

C. Temporary Grass Seed shall be perennial rye-grass (Lolium perenne) or an improved variety thereof, such as Manhattan, having a minimum purity of 98 percent and a minimum germination of 90 percent. The seeding may be altered by the Owner if requested by the Contractor to suit special areas or conditions.

D. Hydroseeding shall be in conformance with Section 32 92 00 “Turf and Grasses”.

E. Fabrics shall consist of durable polypropylene, polyethylene or other material approved by the Owner or as shown on the Contract Drawings.

F. Hay bales shall be made of hay with 40 pounds minimum weight and 120 pounds maximum weight. Wood stakes shall be a minimum of 1-1/2 inch by 1-1/2-inch nominal size by a minimum of 3 feet long.

G. Silt Fence shall consist of 2.5-foot wide Geosynthetic fabric with prefabricated wood posts as manufactured by “Mirafi” or equal.

J. Silt Sacks shall be constructed of a woven polypropylene fabric and shown by a double needle machine using a high strength nylon thread. The Silt Sack seams shall have a certified average wide width strength per ASTM D-4884 standards of at least 165.0 lbs./in. Silt Sacks shall be as manufactured by "SILTSACK”, “Dandy Bag" or approved equal.

K. Sediment basins shall be constructed of materials conforming to applicable items as shown on the contract drawings.

PART 3 – EXECUTION

3.1 GENERAL

A. Prior to the commencement of any work, the Contractor shall submit to the Owner the proposed methods of water pollution and soil erosion control to be incorporated in the work.

B. The Owner has the authority to control the surface area of earth materials exposed by construction operations and to direct the Contractor to immediately provide permanent or temporary pollution control measures to prevent contamination of adjacent streams, watercourses, lakes, ponds, or other areas of water impoundment. Every effort shall be made by the Contractor to immediately provide permanent or temporary pollution control measures to prevent contamination of adjacent streams, watercourses, lakes, ponds, or other areas of water impoundment. Every effort shall be made by the Contractor to prevent erosion on the site and abutting property.

C. The Owner has the authority to direct the Contractor to divert surface water runoff away from exposed raw earth surfaces through the use of temporary berms, dikes, and diversion channels.

3.2 IMPLEMENTATION AND INSTALLATION OF CONTROL MEASURES

A. The erosion control features shall be installed and maintained by the Contractor, and shall be checked daily and after each severe rain storm for damage, until such features are no longer needed. All sediment traps and sediment basins shall have the accumulated sediment and/or clean water removed before it significantly reduces their storage volume or function, prior to the next rain storm forecast for the region.

B. All slopes of stockpile material and other disturbed areas shall be stabilized and protected by surrounding with silt fencing, mulching, seeding, or otherwise protected as the work progresses to comply with the intent of this specification. All damaged areas shall be repaired as soon as possible. The Owner shall limit the surface area of each material exposed if the Contractor fails to sufficiently protect the slopes to prevent pollution.

C. The Contractor shall at all times have on hand the necessary materials and equipment to provide for early slope stabilization and corrective measurements to damaged slopes.

D. Temporary channels, ditches and out-falls shall be protected prior to directing water into them to prevent erosion.

E. The erosion control features installed by the Contractor shall be maintained by the Contractor and they shall be removed if ordered by the Owner.

F. The Contractor shall operate all equipment and perform all construction operations so as to minimize pollution. The Contractor shall cease any of their operations which will increase pollution during rainstorms.

G. Hay Bales shall be placed as shown on the plans or as directed by the Owner. They shall be held in place by two wooden stakes in each bale. Bales shall be maintained or replaced as ordered by the Owner until they are no longer necessary for the purpose intended or are ordered removed by the Owner.

H. When filter fabric is used it shall be mounted on posts with or without fence backing as recommended by the fabric manufacturer. The bottom six inches of fabric shall be buried by either trenching or laying the six-inch section horizontally across the trench and burying or by laying the six inch section horizontally on the ground and burying by ramping the topsoil up to the control fence.

I. Filter fabric shall be non-rotting, acid and alkali resistant and have sufficient strength and permeability for the purpose intended, including handling and backfilling operations. Fibers shall be low water absorbent. The fiber network must be dimensionally stable and resistant to delamination. The fabric shall be free of any chemical treatment or coating that will reduce its permeability. The fabric shall also be free of any flaws or defects, which will alter its physical properties. Torn or punctured fabrics shall not be used. For each specific use, only commercially available fabric which is certified in writing by the manufacturer for the purpose intended shall be used. The Contractor shall submit a two-foot square sample of each type of fabric to be used along with, technical data sheets, certified test reports, materials, certificates and certificates of compliance. The Engineer reserves the right to reject any fabric which he deems unsatisfactory for a specific use. The brand name shall be labeled on the fabric or the fabric container. Fabrics, which are susceptible to damage from sunlight or heat, shall be so identified by suitable warning information on the packaging material.

Fabric susceptible to sunlight damage shall not be used in any installations where exposure to light will exceed 30 days, unless specifically authorized in writing by the Owner.

K. Compost Filter Socks will be placed at locations indicated on the contract plans as directed by the engineer. Socks should be installed parallel to the base of the slope or other affected area. In extreme conditions (i.e., 2:1 slopes), a second sock shall be constructed at the top of the slope.

1. If the Filter sock is to be left as a permanent filter or part of the natural landscape, it may be seeded at time of installation for establishment of permanent vegetation. The Engineer will specify seed requirements.
2. Filter Socks are not to be used in direct flow situations or in runoff channels.

3. The Contractor shall maintain the Filter Sock in a functional condition at all times and it shall be routinely inspected.

4. Where the Sock requires repair, it will be routinely repaired.

5. The contractor shall remove sediments collected at the base of the Sock when they reach 1/3 of the exposed height of the Sock, or as directed by the Engineer.

6. The Filter Sock will be dispersed on site when no longer required, as directed by the Engineer.

M. Compost Blankets will be placed at locations indicated on the contract plans as directed by the engineer. Unless otherwise specified, "Filtrexx" Compost Blankets should be installed at a minimum depth of 2". Depth requirements are indicated on the contract drawings.

1. Filtrexx Compost Blankets may be seeded at time of installation for establishment of permanent vegetation. The Engineer will specify seed requirements.

2. Filtrexx Compost Blankets are not to be used in direct flow situations or in runoff channels.

3. If required, combining Filtrexx Compost Blankets with Filtrexx Filter Socks or Filter Berms may off additional protection from slopes that have heavy run-off water. In these situations, Filtrexx Filter Shocks, Filter Berms and Compost Blankets may be used in combination.

4. The Contractor shall maintain the Filtrexx Compost Blanket in a functional condition at all times and it shall be routinely inspected.

5. Where the Compost Blanket fails, it will be routinely repaired.

6. The Filtrexx Compost Blanket will be seeded on site, at rates and seed types as determined by the Engineer. Once vegetation is established, final seeding is not required.

N. Silt Sacks shall be installed in existing or proposed catch basins. Remove the grate and place the sack in the opening. Hold out approximately 6 inches of the sack outside the frame. Replace the grate to hold the sack in place.

1. The Silt Sack is considered full and should be emptied when the restraint cord is no longer visible. To remove the Silt Sack, take two pieces of 1" diameter rebar and place through the lifting loops on each side of the sack to facilitate the lifting of the Silt Sack.

2. To empty the Silt Sack, place it where the contents will be collected. Place rebar through the lifting straps (connected to the bottom of the sack) and lift. This will turn the Silt Sack inside out and empty the contents. Clean out with a shovel and rinse. Return the Silt Sack to its original shape and place back in the basin.

O. Temporary Seeding shall be applied by any agronomically acceptable procedure. The rate of application shall be no less than 220 pounds per acre. Fertilizer may be either fluid or dry formulations of commercial carriers of available plant nutrients. Fertilizers shall be Type No. 3 10-6-4 (50% N/UF). 50% of total nitrogen shall be derived from ureaform furnishing a minimum of 3.5% water insoluble nitrogen (3.5% WIN). The balance of the nitrogen shall be present as methylene urea, water soluble urea, nitrate and ammoniacal compounds.

3.3 DURATION, REMOVAL AND CLEANUP

A. The installations shall be maintained or replaced until they are no longer necessary for the purpose intended or are ordered removed by the Owner.

B. The filter fabric fence systems will be completely removed from the project at the completion of the project, unless specifically authorized by the Owner to be left in place.

C. Hay bale systems will be allowed to remain in toe of slope areas unless ordered removed by the Owner.

D. Temporary erosion control systems installed by Contractor shall be maintained as directed by Owner to control siltation during life of contract. Contractor must respond to maintenance or additional work ordered by Owner within 24 hours.

E. Permanent Seeding shall be applied in accordance with Section 32 92 00 "Turf and Grasses"

F. Removal and Disposal of all erosion and sediment controls, temporary structures, haybales, filter fabric, silt fences, stakes, etc. as areas are accepted and stabilized and as approved by Owner and governing agencies.

END OF SECTION 31-2500

SECTION 32 1313 - CONCRETE PAVING

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. State of Connecticut, Department of Transportation, Form 816 Standard Specification of Roads, Bridges and Incidental Construction, 1995, and as amended.

1.2 SUMMARY

A. Section Includes Concrete Paving Including the Following:
   1. Walks.

B. Related Requirements:

   1. Division 03 Section "Cast-in-Place Concrete" for general building applications of concrete.
   2. Division 32 Section "Concrete Paving Joint Sealants" for joint sealants in expansion and contraction joints within concrete paving and in joints between concrete paving and asphalt paving or adjacent construction.
   3. Division 32 Section "Tactile Warning Surfacing" for detectable warning tiles.

1.3 DEFINITIONS

A. Cementitious Materials: Portland cement alone or in combination with one or more of blended hydraulic cement, fly ash, slag cement, and other pozzolans.

B. W/C Ratio: The ratio by weight of water to cementitious materials.

1.4 PREINSTALLATION MEETINGS

A. Pre-installation Conference: Conduct conference at Project site.

   1. Review methods and procedures related to concrete paving, including but not limited to, the following:

      a. Concrete mixture design.
      b. Quality control of concrete materials and concrete paving construction practices.
      c. Formwork precision.

   2. Require representatives of each entity directly concerned with concrete paving 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 paving Subcontractor.

1.5 ACTION SUBMITTALS

A. Product Data: For each type of product.

B. Design Mixtures: For each concrete paving mixture. Include alternate design mixtures when characteristics of materials, Project conditions, weather, test results, or other circumstances warrant adjustments.

1.6 INFORMATIONAL SUBMITTALS

A. Qualification Data: For qualified ready-mix concrete manufacturer.

B. Material Certificates: For the following, from manufacturer:

1. Cementitious materials.
2. Steel reinforcement and reinforcement accessories.
3. Admixtures.
4. Applied finish materials.

C. Material Test Reports: For each of the following:

1. Aggregates:

1.7 QUALITY ASSURANCE

A. Ready-Mix-Concrete Manufacturer Qualifications: A firm experienced in manufacturing ready-mixed concrete products and that complies with ASTM C 94/C 94M requirements for production facilities and equipment.

1. Manufacturer certified according to NRMCA's "Certification of Ready Mixed Concrete Production Facilities" (Quality Control Manual - Section 3, "Plant Certification Checklist").

B. Testing Agency Qualifications: Qualified according to ASTM C 1077 and ASTM E 329 for testing indicated.

1. Personnel conducting field tests shall be qualified as ACI Concrete Field Testing Technician, Grade 1, according to ACI CP-1 or an equivalent certification program.

C. Mockups: Build mockups to verify selections made under Sample submittals and to demonstrate aesthetic effects and set quality standards for materials and execution.

1. Build mockups of full-thickness sections of concrete paving to demonstrate typical joints; surface finish, texture, and color; curing; and standard of workmanship.

2. Build panel approximately [25 sq. ft. (2.32 sq. m) for slab-on-grade, and at the location indicated or, if not indicated, as directed by Architect.
3. Approval of mockups does not constitute approval of deviations from the Contract Documents contained in mockups unless Architect specifically approves such deviations in writing.
4. Subject to compliance with requirements, approved mockups may become part of the completed Work if undisturbed at time of Substantial Completion.

1.8 FIELD CONDITIONS

A. Traffic Control: Maintain access for vehicular and pedestrian traffic as required for other construction activities.

B. Cold-Weather Concrete Placement: Protect concrete work from physical damage or reduced strength that could be caused by frost, freezing, or low temperatures. Comply with ACI 306.1 and the following:

1. When air temperature has fallen to or is expected to fall below 40 deg F (4.4 deg C), uniformly heat water and aggregates before mixing to obtain a concrete mixture temperature of not less than 50 deg F (10 deg C) and not more than 80 deg F (27 deg C) at point of placement.
2. Do not use frozen materials or materials containing ice or snow.
3. Do not use calcium chloride, salt, or other materials containing antifreeze agents or chemical accelerators unless otherwise specified and approved in design mixtures.

C. Hot-Weather Concrete Placement: Comply with ACI 301 (ACI 301M) and as follows when hot-weather conditions exist:

1. Cool ingredients before mixing to maintain concrete temperature below 90 deg F (32 deg C) at time of placement. Chilled mixing water or chopped ice may be used to control temperature, provided water equivalent of ice is calculated in total amount of mixing water. Using liquid nitrogen to cool concrete is Contractor's option.
2. Cover steel reinforcement with water-soaked burlap, so steel temperature will not exceed ambient air temperature immediately before embedding in concrete.
3. Fog-spray forms and subgrade just before placing concrete. Keep subgrade moisture uniform without standing water, soft spots, or dry areas.

PART 2 - PRODUCTS

2.1 CONCRETE, GENERAL

A. ACI Publications: Comply with ACI 301 (ACI 301M) unless otherwise indicated.

2.2 FORMS

A. Form Materials: Plywood, metal, metal-framed plywood, or other approved panel-type materials to provide full-depth, continuous, straight, and smooth exposed surfaces.

1. Use new flexible or uniformly curved forms for curves with a radius of 100 feet (15.25 m) or less. Do not use notched and bent forms.

B. Form-Release Agent: Commercially formulated form-release agent that will not bond with, stain, or adversely affect concrete surfaces and that will not impair subsequent treatments of concrete surfaces.

2.3 STEEL REINFORCEMENT

A. Recycled Content: Postconsumer recycled content plus one-half of pre-consumer recycled content not less than Twenty Five [25] percent.

B. Plain-Steel Welded-Wire Reinforcement: ASTM A 1064/A 1064M, fabricated from as-drawn steel wire into flat sheets.

C. Reinforcing Bars: ASTM A 615/A 615M, Grade 60 (Grade 420); deformed.

D. Diamond Shaped Load Plate for construction joints:

1. Material:

a. 3/8" thick plates to be saw cut from hot rolled steel plate meeting ASTM A 36.

2. Diamond shaped load plate thickness: 3/8” thick unless otherwise indicated.
3. Diamond shaped load plate size: 4½ inches square unless otherwise indicated.
4. Diamond shaped load plate spacing: 18 inches on center unless otherwise indicated.
5. Diamond shaped load plate finish: Plain.
6. Pocket former: High density plastic with internal collapsible fins and spacer that hold diamond shaped load plate in correct position and creates a void to its vertical faces. This void, in addition to its tapered shape, shall allow for differential movement and shall prevent horizontal stress accumulation at joint, thus reducing likelihood of random cracking.
7. Products: Subject to compliance with requirements, available product that may be incorporated into the Work includes, but is not limited to, the following:

a. PNA Diamond Dowel® System by PNA Construction Technologies, www.pna-inc.com; 800-542-0214.

E. 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 zinc-coated reinforcement, use galvanized wire or dielectric-polymer-coated wire bar supports.

2.4 CONCRETE MATERIALS

A. Cementitious Material: Use the following cementitious materials, of the same type, brand, and source throughout the Project:

1. Portland Cement: ASTM C 150, Type I and II. Supplement with the following:

a. Fly Ash: ASTM C 618, Class C or F.
b. Ground Granulated Blast-Furnace Slag: ASTM C 989, Grade 100 or 120.

B. Aggregates: ASTM C 33, uniformly graded from a single source with coarse aggregate as follows:

1. Per governing jurisdictions as referenced in Section 1.1B.

C. Chemical Admixtures: Admixtures certified by manufacturer to be compatible with other admixtures and to contain no more than 0.1 percent water-soluble chloride ions by mass of cementitious material.

D. Water: Potable and complying with ASTM C 94/C 94M.

2.5 CURING MATERIALS

A. Absorptive Cover: AASHTO M 182, Class 3, burlap cloth made from jute or kenaf, weighing approximately 9 oz./sq. yd. (305 g/sq. m) dry.

B. Moisture-Retaining Cover: ASTM C 171, polyethylene film or white burlap-polyethylene sheet.

C. Water: Potable.

2.6 RELATED MATERIALS

A. Joint Fillers: ASTM D 1751, asphalt-saturated cellulosic fiber in preformed strips.

B. Penetrating Sealer: Sealer shall be Salt Guard by Prosoco

2.7 CONCRETE MIXTURES

A. Prepare design mixtures, proportioned according to ACI 301 (ACI 301M), for each type and strength of normal-weight concrete, and as determined by either laboratory trial mixtures or field experience.

1. Use a qualified independent testing agency for preparing and reporting proposed concrete design mixtures for the trial batch method.
2. When automatic machine placement is used, determine design mixtures and obtain laboratory test results that comply with or exceed requirements.

B. Add air-entraining admixture at manufacturer's prescribed rate to result in normal-weight concrete at point of placement having an air content as follows:

1. Air Content: 6 percent plus or minus 1-1/2 percent for 1-1/2-inch (38-mm) nominal maximum aggregate size.
2. Air Content: 6 percent plus or minus 1-1/2 percent for 1-inch (25-mm) nominal maximum aggregate size.
3. Air Content: 6 percent plus or minus 1-1/2 percent for 3/4-inch (19-mm) nominal maximum aggregate size.

C. Limit water-soluble, chloride-ion content in hardened concrete to 0.15 percent by weight of cement.

D. Chemical Admixtures: Use admixtures according to manufacturer's written instructions.

E. Concrete Mixtures: Normal-weight concrete.

1. Compressive Strength (28 Days): 4500 psi (31 MPa).
2. Maximum W/C Ratio at Point of Placement: 0.45.
3. Slump Limit: 4 inches (100 mm) plus or minus 1 inch (25 mm).

2.8 CONCRETE MIXING

A. Ready-Mixed Concrete: Measure, batch, and mix concrete materials and concrete according to ASTM C 94/C. Furnish batch certificates for each batch discharged and used in the Work.

1. When air temperature is between 85 and 90 deg F (30 and 32 deg C), reduce mixing and delivery time from 1-1/2 hours to 75 minutes; when air temperature is above 90 deg F (32 deg C), reduce mixing and delivery time to 60 minutes.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine exposed subgrades and subbase surfaces for compliance with requirements for dimensional, grading, and elevation tolerances.

B. Proof-roll prepared subbase surface below to identify soft pockets and areas of excess yielding.

1. Completely proof-roll subbase in one direction and repeat in perpendicular direction. Limit vehicle speed to 3 mph (5 km/h).
2. Proof-roll with a pneumatic-tired and loaded, 10-wheel, tandem-axle dump truck weighing not less than 15 tons (13.6 tonnes).
3. Correct subbase with soft spots and areas of pumping or rutting exceeding depth of 1/2 inch (13 mm) according to requirements in Section 312000 "Earth Moving."

C. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

A. Remove loose material from compacted subbase surface immediately before placing concrete.

3.3 EDGE FORMS AND SCREED CONSTRUCTION

A. Set, brace, and secure edge forms, bulkheads, and intermediate screed guides to required lines, grades, and elevations. Install forms to allow continuous progress of work and so forms can remain in place at least 24 hours after concrete placement.

B. Clean forms after each use and coat with form-release agent to ensure separation from concrete without damage.

C. Obtain Owner approval of form work prior to proceeding

3.4 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, or other bond-reducing materials.

C. Arrange, space, and securely tie bars and bar supports at 18 inches on center to hold reinforcement in position during concrete placement. Maintain minimum cover to reinforcement.

D. Install welded-wire reinforcement in lengths as long as practicable. Lap adjoining pieces at least one full mesh, and lace splices with wire. Offset laps of adjoining widths to prevent continuous laps in either direction.

E. Install fabricated bar mats in lengths as long as practicable. Handle units to keep them flat and free of distortions. Straighten bends, kinks, and other irregularities, or replace units as required before placement. Set mats for a minimum 2-inch (50-mm) overlap of adjacent mats.

3.5 JOINTS

A. General: Form construction, isolation, and contraction joints and tool edges true to line, with faces perpendicular to surface plane of concrete. Construct transverse joints at right angles to centerline unless otherwise indicated.

1. When joining existing paving, place transverse joints to align with previously placed joints unless otherwise indicated.

B. Construction Joints: Set construction joints at side and end terminations of paving and at locations where paving operations are stopped for more than one-half hour unless paving terminates at isolation joints.

1. Continue steel reinforcement across construction joints unless otherwise indicated. Do not continue reinforcement through sides of paving strips unless otherwise indicated.
2. Provide tie bars at sides of paving strips where indicated.
3. Diamond Doweled Joints: Install diamond dowels and support assemblies at joints where indicated. Utilize manufactures installation sleeves.

C. Contraction Joints: Form weakened-plane contraction joints, sectioning concrete into areas as indicated. Construct contraction joints for a depth equal to at least one-fourth of the concrete

thickness, as follows, to match jointing of existing adjacent concrete paving or as indicated on the plans:

1. Grooved Joints: Form contraction joints after initial floating by grooving and finishing each edge of joint with grooving tool to a 3/8-inch (10-mm) radius. Repeat grooving of contraction joints after applying surface finishes.

D. Edging: After initial floating, tool edges of paving, gutters, curbs, and joints in concrete with an edging tool to a 3/8-inch (10-mm) radius. Repeat tooling of edges after applying surface finishes.

3.6 CONCRETE PLACEMENT

A. Before placing concrete, inspect and complete formwork installation, steel reinforcement, and items to be embedded or cast-in.

B. Remove snow, ice, or frost from subbase surface and steel reinforcement before placing concrete. Do not place concrete on frozen surfaces.

C. Moisten subbase to provide a uniform dampened condition at time concrete is placed. Do not place concrete around manholes or other structures until they are at required finish elevation and alignment.

D. Comply with ACI 301 (ACI 301M) requirements for measuring, mixing, transporting, and placing concrete.

E. Do not add water to concrete during delivery or at Project site. Do not add water to fresh concrete after testing.

F. Deposit and spread concrete in a continuous operation between transverse joints. Do not push or drag concrete into place or use vibrators to move concrete into place.

G. Consolidate concrete according to ACI 301 (ACI 301M) by mechanical vibrating equipment supplemented by hand spading, rodding, or tamping.

1. Consolidate concrete along face of forms and adjacent to transverse joints with an internal vibrator. Keep vibrator away from joint assemblies or side forms. Use only square-faced shovels for hand spreading and consolidation. Consolidate with care to prevent dislocating reinforcement joint devices.

H. Screed paving surface with a vibratory screed and strike off.

I. Commence initial floating using bull floats or darbies to impart an open-textured and uniform surface plane before excess moisture or bleedwater appears on the surface. Do not further disturb concrete surfaces before beginning finishing operations or spreading surface treatments.

3.7 FLOAT FINISHING

A. General: Do not add water to concrete surfaces during finishing operations.

B. Float Finish: Begin the second floating operation when bleedwater sheen has disappeared and concrete surface has stiffened sufficiently to permit operations. Float surface with power-driven floats or by hand floating if area is small or inaccessible to power units. Finish surfaces to true

planes. Cut down high spots and fill low spots. Refloat surface immediately to uniform granular texture.

1. Medium-to-Coarse-Textured Broom Finish: Provide a coarse finish by striating float-finished concrete surface 1/16 to 1/8 inch (1.6 to 3 mm) deep with a stiff-bristled broom, perpendicular to line of traffic.

3.8 DETECTABLE WARNING INSTALLATION

A. Cast-in-Place Detectable Warning Tiles: Embed tiles in fresh concrete to comply with Section 321726 "Tactile Warning Surfacing" immediately after screeding concrete surface.

3.9 CONCRETE PROTECTION AND CURING

A. General: Protect freshly placed concrete from premature drying and excessive cold or hot temperatures.

B. Comply with ACI 306.1 for cold-weather protection.

C. Begin curing after finishing concrete but not before free water has disappeared from concrete surface.

D. Curing Methods: Cure concrete by moisture curing, moisture-retaining-cover curing, or a combination of these as follows:

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 (300-mm) lap over adjacent absorptive covers.

2. Moisture-Retaining-Cover Curing: Cover concrete surfaces with moisture-retaining cover, placed in widest practicable width, with sides and ends lapped at least 12 inches (300 mm), and sealed by waterproof tape or adhesive. Immediately repair any holes or tears occurring during installation or curing period, using cover material and waterproof tape.

3.10 PAVING TOLERANCES

A. Comply with tolerances in ACI 117 (ACI 117M) and as follows:

1. Elevation: 3/4 inch (19 mm).
2. Thickness: Plus 3/8 inch (10 mm), minus 1/4 inch (6 mm).
3. Surface: Gap below 10-feet-(3-m-) long; unleveled straightedge not to exceed 1/2 inch (13 mm).
4. Joint Spacing: 3 inches (75 mm).
5. Contraction Joint Depth: Plus 1/4 inch (6 mm), no minus.
6. Joint Width: Plus 1/8 inch (3 mm), no minus.

3.11 FIELD QUALITY CONTROL

A. Testing Agency: Owner will engage a qualified testing agency to perform tests and inspections.

B. Testing Services: Testing and inspecting of composite samples of fresh concrete obtained according to ASTM C 172/C 172M shall be performed according to the following requirements:

1. Testing Frequency: Obtain at least one composite sample for each [100 cu. yd. (76 cu. m)] [5000 sq. ft. (465 sq. m)] or fraction thereof of each concrete mixture placed each day.

    a. When frequency of testing will provide fewer than five compressive-strength tests for each concrete mixture, testing shall be conducted from at least five randomly selected batches or from each batch if fewer than five are used.

2. Slump: ASTM C 143/C 143M; 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/C 231M, pressure method; 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/C 1064M; one test hourly when air temperature is 40 deg F (4.4 deg C) and below and when it is 80 deg F (27 deg C) and above, and one test for each composite sample.
5. Compression Test Specimens: ASTM C 31/C 31M; cast and laboratory cure one set of three standard cylinder specimens for each composite sample.
6. Compressive-Strength Tests: ASTM C 39/C 39M; test one specimen at seven days and two specimens at 28 days.

    a. A compressive-strength test shall be the average compressive strength from two specimens obtained from same composite sample and tested at 28 days.

C. Strength of each concrete mixture will be satisfactory if 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 (3.4 MPa).

D. Test results shall be reported in writing to Architect, 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.

E. Nondestructive Testing: Impact hammer, sonoscope, or other nondestructive device may be permitted by Architect but will not be used as sole basis for approval or rejection of concrete.

F. Additional Tests: Testing and inspecting agency shall make additional tests of concrete when test results indicate that slump, air entrainment, compressive strengths, or other requirements have not been met, as directed by Architect.

G. Concrete paving will be considered defective if it does not pass tests and inspections.

H. Additional testing and inspecting, at Contractor's expense, will be performed to determine compliance of replaced or additional work with specified requirements.

I. Prepare test and inspection reports.

3.12 REPAIR AND PROTECTION

A. Remove and replace concrete paving that is broken, damaged, or defective or that does not comply with requirements in this Section. Remove work in complete sections from joint to joint unless otherwise approved by Architect.

B. Drill test cores, where directed by Architect, when necessary to determine magnitude of cracks or defective areas. Fill drilled core holes in satisfactory paving areas with portland cement concrete bonded to paving with epoxy adhesive.

C. Protect concrete paving from damage. Exclude traffic from paving for at least 14 days after placement. When construction traffic is permitted, maintain paving as clean as possible by removing surface stains and spillage of materials as they occur.

D. Maintain concrete paving free of stains, discoloration, dirt, and other foreign material. Sweep paving not more than two days before date scheduled for Substantial Completion inspections.

E. Apply Salt Guard to exposed concrete surfaces in accordance with manufactures requirements.

END OF SECTION 32 1313

SECTION 32-1373 – CONCRETE PAVING JOINT SEALANTS

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. Cold-applied joint sealants.

B. Related Sections:

1. Section 32 "Asphalt Paving" for constructing joints between concrete and asphalt pavement.
2. Section 32 "Concrete Paving" for constructing joints in concrete pavement.

1.3 ACTION SUBMITTALS

A. Product Data: For each joint-sealant product indicated.

B. Pavement-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.

1.4 INFORMATIONAL SUBMITTALS

A. Product Certificates: For each type of joint sealant and accessory, from manufacturer.

B. Product Test Reports: Based on evaluation of comprehensive tests performed by a qualified testing agency, for joint sealants.

C. Color Samples: Provide samples of cured joint sealants for approval by Landscape Architect or Owner.

1.5 QUALITY ASSURANCE

A. Installer Qualifications: Manufacturer's authorized representative who is trained and approved for installation of units required for this Project.

B. Source Limitations: Obtain each type of joint sealant from single source from single manufacturer.

1.6 PROJECT CONDITIONS

A. Do not proceed with installation of joint sealants under the following conditions:

1. When ambient and substrate temperature conditions are outside limits permitted by joint-sealant manufacturer.
2. When joint substrates are wet.
3. Where joint widths are less than those allowed by joint-sealant manufacturer for applications indicated.
4. Where contaminants capable of interfering with adhesion have not yet been removed from joint substrates.

PART 2 - PRODUCTS

2.1 MATERIALS

A. Compatibility: Provide joint sealants, backing materials, and other related materials that are compatible with one another and with joint substrates under conditions of service and application, as demonstrated by joint-sealant manufacturer based on testing and field experience.

B. Colors of Exposed Joint Sealants: As selected by Architect from manufacturer's full range.

2.2 COLD-APPLIED JOINT SEALANTS

A. Single-Component, Self-Leveling, Silicone Joint Sealant for Concrete: ASTM D 5893, Type SL.

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. Crafco Inc., an ERGON company; RoadSaver Silicone SL.
b. Dow Corning Corporation; 890-SL.
c. Pecora Corporation; 300 SL.

2.3 HOT-APPLIED JOINT SEALANTS

A. Hot-applied asphalt based sealant: ASTM D 6690.

B. Products: Subject to compliance with requirements, available products that may be incorporated into the Work include, but are not limited to, the following:

1. W.R Meadows, Hot-Applied Polymeric Joint Sealant – #3405
2. Crafco Inc., an ERGON company; RoadSaver 221.

2.4 JOINT-SEALANT BACKER MATERIALS

A. General: Provide joint-sealant backer materials that are non-staining; are compatible with joint substrates, sealants, primers, and other joint fillers; and are approved for applications indicated by joint-sealant manufacturer based on field experience and laboratory testing.

B. Round Backer Rods for Cold-Applied Joint Sealants: ASTM D 5249, Type 3, of diameter and density required to control joint-sealant depth and prevent bottom-side adhesion of sealant.

C. Backer Strips for Cold- and Hot-Applied Joint Sealants: ASTM D 5249; Type 2; of thickness and width required to control joint-sealant depth, prevent bottom-side adhesion of sealant, and fill remainder of joint opening under sealant.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine joints indicated to receive joint sealants, with Installer present, for compliance with requirements for joint configuration, installation tolerances, and other conditions affecting joint-sealant performance.

B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

A. Surface Cleaning of Joints: Clean out joints immediately before installing joint sealants to comply with joint-sealant manufacturer's written instructions.

3.3 INSTALLATION OF JOINT SEALANTS

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

B. Joint-Sealant Installation Standard: Comply with recommendations in ASTM C 1193 for use of joint sealants as applicable to materials, applications, and conditions indicated.

C. Install joint-sealant backings of kind indicated to support joint 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.

1. Do not leave gaps between ends of joint-sealant backings.
2. Do not stretch, twist, puncture, or tear joint-sealant backings.
3. Remove absorbent joint-sealant backings that have become wet before sealant application and replace them with dry materials.

D. Install joint sealants using proven techniques that comply with the following and at the same time backings are installed:

1. Place joint 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. Provide joint configuration to comply with joint-sealant manufacturer's written instructions unless otherwise indicated.

3.4 CLEANING

A. Clean off excess joint sealant or sealant smears adjacent to joints as the Work progresses, by methods and with cleaning materials approved in writing by manufacturers of joint sealants and of products in which joints occur.

3.5 PROTECTION

A. Protect joint sealants, during and after curing period, from contact with contaminating substances and from damage resulting from construction operations or other causes so sealants are without deterioration or damage at time of Substantial Completion. If, despite such protection, damage or deterioration occurs, cut out and remove damaged or deteriorated joint sealants immediately and replace with joint sealant so installations in repaired areas are indistinguishable from the original work.

3.6 PAVEMENT-JOINT-SEALANT SCHEDULE

A. Joint-Sealant Application: Joints within cement concrete pavement.

1. Joint Location:

a. Expansion and isolation joints in cast-in-place concrete pavement.

b. Contraction joints in cast-in-place concrete slabs.

c. Other joints as indicated.

d. Silicone Joint Sealant for Concrete: Single component, self-leveling.

e. Join-Sealant Color: As selected by Engineer from manufacturer’s full range.

B. Joint-Sealant Application: Joints between cement concrete and asphalt pavement.

1. Joint Location:

a. Joints between concrete and asphalt pavement.

b. Joints between concrete curbs and asphalt pavement.

c. Hot-Applied Joint Sealant for Concrete and Asphalt.

d. Joint-Sealant Color: As selected by Engineer from manufacturer’s full range.

END OF SECTION 32-1373

SECTION 321443 - PERMEABLE PAVEMENT

PART 1- GENERAL

1.1 DESCRIPTION OF WORK

A. Provide labor, materials, equipment, services and transportation to complete work.

1. Permeable clay brick pavers on Stone bedding material, over Open-graded base material and Open-graded sub base material with stone jointing material
2. Metal Edging at Unit Pavement

1.2 REFERENCES

A. American Society for Testing and Materials
1. ASTM C67 Standard Test Methods for Sampling and Testing Brick and Structural Clay Tile
2. ASTM C136 Standard Test Method for Sieve Analysis of Fine and Coarse Aggregates
3. ASTM C448 Standard Classification for Sizes of Aggregate for Road and Bridge Construction
4. ASTM C902 Standard Specification for Pedestrian and Light Traffic Paving Brick

1.3 SUBMITTALS

A. Permeable Clay Brick Pavers:
1. Submit manufacturer’s product literature and material safety data sheets.
2. Submit sample units of each paver type representative of size, shape, color and finish, indicating color variation and texture range expected in finished installation. Blend of colors from manufacturer’s standard color palette as shown on the drawings and in the specifications.
3. Submit test results from approved independent testing laboratory indicating ASTM C1272 compliance.
4. Submit manufacturer’s certification of compliance to appropriate ASTM standard.

B. Bedding material, Open-graded Base and Sub Base material
1. Submit sieve analysis results in accordance with ASTM C136 for jointing, bedding, base and sub-base material.
2. Provide supplier name, source and types of material used for jointing, bedding, base and sub base.
3. Provide color sample of joint filler for approval before delivery to site.

C. Paving Installer
    1. Job references from projects similar in size and design to this project. Provide Owner names, postal address, phone, fax and email address.

D. Sample Panels
    1. Install a 5 ft by 5 ft area of pavers on a prepared substrate including detail to illustrate component application including pattern and edge details.
    2. Use mock-up to determine pre-compaction setting bed level, joint sizes, lines, laying patterns and product color.
    3. Do not start work until mock-up has been approved by Owner.
    4. Approved mock-up is the standard by which appearance, workmanship, substrate preparation and material application will be judged.
    5. Approved field sample may be retained as part of finished work. Remove mock-up and dispose of materials when directed by Owner.

1.4 QUALITY ASSURANCE

A. Paving Installer Qualifications
    1. Three years experience with at least 25,000 feet of segmental permeable pavers installed.
    2. Successful completion of five permeable paver installations similar in design, material and extent indicated on this project.
    3. Successful completion of a permeable paving installation certificate course.

1.5 DELIVERY, STORAGE AND HANDLING

A. Procurement
    1. Allow adequate time for the production and delivery of specified paver. Consult local distributor for lead-time and delivery options.

B. Delivery
    1. Deliver materials in original, unopened, undamaged packaging with identification labels intact. Unload pavers with proper equipment so no damage occurs to pavers.

C. Storage
    1. Store materials so they are protected from contamination by foreign substances and excessive moisture.
    2. Store pavers to prevent damage and staining.

1.6 PROJECT CONDITIONS

A. Environmental Requirements
    1. Do not install in rain or snow.
    2. Do not install frozen bedding material.

PART 2 - PRODUCTS

2.1 PERMEABLE CLAY BRICK PAVERS

A. Permeable Paver Type
   1. 4x8x2 1/4" Permeable
      a. Manufactured by The Whitacre Greer Company, 1400 South Mahoning Ave, Alliance, OH 44601 Telephone: (800) 947-2837 Fax: (330) 823-5502 Email: info@wgpaver.com
      b. Or Approved Equal
   2. Material standard in accordance with ASTM C1272 as applicable.
   3. Classification: Specify weathering, traffic and application classifications.
      a. Specify Class: SX
      b. Specify Type: 1
      c. Specify Application: PX
   4. Color: Mix of 20% Chocolate (54), 40% Cimmerean (53) and 40% Majestic (52)
   5. Waterproofing: Pavers to have manufacturer sealant similar to Prosoco SaltGuard

2.2 AGGREGATE MATERIALS

A. Bedding Course and Joint Filler
   1. #9 or #89 Crushed stone conforming to ASTM D448
   2. Washed with less than 1% passing through the No. 200 sieve.

ASTM No. 9		ASTM No. 89	
Sieve Size	Percent Passing	Seive Size	Percent Passing
9.5 mm (3/8 in.)	100	12.5 mm (1/2 in.)	100
4.75 mm (No. 4)	85 to 100	9.5 mm (3/8 in.)	90 to 100
2.36 mm (No. 8)	10 to 40	4.75 mm (No. 4)	20 to 55
1.18 mm (No. 16)	0 to 10	2.36 mm (No. 8)	5 to 30
300 □m (No. 50)	0 to 5	1.18 mm (No. 16)	0 to 10
		300 □m (No. 50)	0 to 5

B. Base Course
   1. #57 Crushed stone conforming to ASTM D448
   2. Washed with less than 1% passing through the No. 200 sieve.

ASTM No. 57	
Sieve Size	Percent Passing

37.5 mm (1-1/2 in.)	100
25.0 mm (1 in.)	95 to 100
19.0 mm (3/4 in.)	
12.5 mm (1/2 in.)	25 to 60
9.5 mm (3/8 in.)	
4.75 mm (No. 4)	0 to 10
2.36 mm (No. 8)	0 to 5

C. Sub Base Course
   1. #2 Crushed stone conforming to ASTM D448
   2. Washed with less than 1% passing through the No. 200 sieve.

ASTM No. 2

Sieve Size	Percent Passing
75 mm (3 in.)	100
63 mm (2-1/2 in.)	90 to 100
50 mm (2 in.)	35 to 70
37.5 mm (1-1/2 in.)	0 to 15
25.0 mm (1 in.)	
19.0 mm (3/4 in.)	0 to 5

2.3 METAL EDGING AT UNIT PAVERS
A. Steel shapes, plates and bars: ASTM A36
B. Steel pipe: schedule 80 seamless steel ASTM A53 or A120.
C. Hardware: galvanized

2.4 DRAINAGE MATERIALS

A. High Density Polyethylene Pipe (HDPE) Smooth interior (Solid or Perforated): Only permitted when specifically indicated on Construction Drawings and shall conform to AASHTO Designation M 294 Type S. The pipe shall have annular corrugations. The self-locking integral bell portion shall be permanently affixed to the pipe and shall be polyethylene. The locking mechanism shall engage at 4 equally spaced locations around the pipe circumference.

   1. It shall be manufactured from high density polyethylene (HDPE) meeting the requirements of ASTM D3350 cell class 324420C; or the requirements of ASTM D1248: Type III, Category 4 Grade P33, Class C. Acceptable manufacturers: Advanced Drainage Systems, Inc. “ADS N-12”, or approved equal.

2. Underground detention pips shall be ADS N-12 WT in accordance with ASTM F2648 or approved equal.

B. The pipe shall be covered with a knitted or non-woven geotextile sock specifically designed to function as a filter.

PART 3 - EXECUTION

3.1 PREPARATION

A. Verify Site Conditions
    1. General contractor shall inspect and certify in writing to installer that site conditions meet the following prior to installation of permeable clay pavers.
        a. Remove organic, unstable or unconsolidated material from the site.
        b. Verify conformance of sub grade preparation and elevations to specified requirements. If CBR (California Bearing Ratio) is less than 5%, typically with clay soils, compaction of sub grade and geotextile may be required.
        c. Verify sub base and base conformance to specified requirements. Do not use setting bed material to correct deficiencies in base course surface.
        d. Verify written density test results for soil sub grade and sub base course.
        e. Verify type, location and elevations of edge restraints, utility structures and drainage inlets.
        f. Verify that the subbase course is ready to support bedding material, permeable pavers and imposed loads.
    2. Do not proceed with bedding course or paver installation until satisfactory sub base are verified by contractor.
    3. Verify that the area is free from standing water and certified by general contractor as meeting material, installation and grade specifications.
    4. Field measurements
        a. Determine actual paver dimensions (including tolerances) and coordinate with dimensions for pavement areas indicated on contract drawings prior to any pavement installation. Adjust pavement area dimensions to eliminate unnecessary paver cutting.
B. Aggregate Material
    1. Stockpile joint filler material, base and sub base material such that they are free from standing water, uniformly graded, free of organic mater or sediment, debris, and ready for placement.

3.2 INSTALLATION

A. General
    1. Keep area where pavement is to be constructed free from sediment during entire job. Contaminated sub base, base or bedding material shall be removed and replaced with clean material.
    2. Do not damage drainpipes, overflow pipes, observation wells or any inlets and other drainage elements during installation. Report damage to project engineer.
B. Sub Base Aggregate
    1. Spread and compact moistened No. 2 sub base in 4 to 6 inch lifts.
        a. Typical sub base thickness is 6 to 18 inches.
        b. Reduce the depth of each lift if plate tamper is used for compaction.
    2. Make at least two passes in the vibratory mode then at least two in the static mode for each lift. A minimum 10-ton vibratory roller should be used. Compact until there is no visible movement of the No. 2 stone.
        a. A plate tamper with 13,500 Lbf may be used for smaller installations.
    3. Surface tolerance of No. 2 sub base shale be +/-3/4 inches over a 10-foot straightedge.
    4. Install 4" HDPE Perforate Pipe as shown on the drawings.
C. Base Aggregate
    1. Spread and compact moistened No. 57 base in one 4-inch lift.
        a. Spread in multiple reduced-depth lifts if plate tamper is used for compaction.
    2. Make at least two passes in the vibratory mode then at least two in the static mode for each list. A minimum 10-ton vibratory roller should be used. Compact until there is no visible movement of the No. 57 stone.
        a. A plate tamper with 13,500 Lbf may be used for smaller installations.
    3. Surface tolerance of No. 57 base shale be +/-1/2 inch over a 10-foot straightedge.
D. Bedding Course Aggregate
    1. Spread and screed moistened No. [9][89] stone bedding material.
    2. Fill voids left by removing screed rails with No. [9][89] stone.
    3. Surface tolerance of No. [9][89] bedding course shall be +/-1/8 inch over a 10-foot straightedge.
    4. Do not compact bedding course.
    5. Keep pedestrian and vehicular traffic off screeded bedding course until paver installation begins.
E. Permeable Clay Pavers
    1. Install paving units in pattern(s) indicated on drawings. Maintain straight pattern lines using string and/or chalk lines.
        a. Maximum bond line variation shall be +/-3/8 inch over a 50-foot string line.

2. Fill gaps at the edges of the paved area with cut unites. Cut pavers subject to vehicular traffic shall be no smaller than 1/3 of a whole unit.

F. Joint Material
   1. Fill openings and joints between paver units with No. 9 or 89 stone.
   2. Joint Material Color to match brick color
   3. Sweep excess joint material from paved area.
   4. Compact pavers into bedding course using low-amplitude plate compactor capable of at least 5,000 lbs centrifugal compaction force. Make at least two passes with the plate compactor.
      a. Protect paver surface with mat attached to tamper or other approved method.
   5. Do not compact within 6 feet of an unrestrained edge.
   6. Apply additional No. 9 or 89 stone to joints as required to fill them completely.
   7. Pavers within 6 feet of the laying face shall be left fully compacted at the completion of each day.
   8. Surface tolerance of finished pavement shall be not more than +/-3/8 inch over a 10-foot straight edge.
   9. Surface elevation of finished pavement shall be 1/8 to 1/4 inches above adjacent drainage inlets.

3.3 FIELD QUALITY CONTROL

A. Sweep surface clean and verify conformance with drawings.
B. Verify that adjacent pavers have not more than 1/8 inch difference in height.
C. Verify final elevation of pavement to adjacent drainage inlets.
D. Verify straightness of bond lines.

3.4 PROTECTION

A. After work in this section is complete, General Contractor shale protect work from damage due to subsequent construction activity on site.

END OF SECTION 321443

SECTION 32-3223.13 - SEGMENTAL RETAINING WALL SYSTEMS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and General Provisions of Contract, including General and Supplementary Conditions and other Division 1 Specifications Sections, apply to this Section.

1.2 SUMMARY

A. Construction of segmental retaining wall (SRW) units, soil reinforcement, and all appurtenant materials in accordance with Manufacturers Specifications and in conformity to the lines, grades and dimensions shown on the Construction Drawings.

B. Providing the type of Segmental Retaining Wall System as specified herein and as called for on the Construction Drawings.

1.3 RELATED SECTIONS

A. Section 31 11 00 - Clearing and Grubbing

B. Section 31 00 00 - Earthwork

C. Construction Drawings

1.4 REFERENCE STANDARDS

The latest edition or revision of the Manufacturers Specifications for materials and installation shall apply. Where specifications and construction documents conflict, the more stringent shall apply.

1.5 DEFINITIONS

A. Soil Reinforcement: Structural geo-grid formed by a regular network of integrally connected tensile elements with apertures of sufficient size to allow interlocking with surrounding soil, rock or earth and function primarily as structural reinforcement.

1. Geosynthetic (extensible) Soil Reinforcement: Polymer product specifically manufactured as soil reinforcement element that meets requirements of this specification.

B. Segmental Concrete Facing Units: made from Portland Cement, water and mineral aggregates.

C. Cap Unit: segmental concrete cap unit made from Portland Cement, water and mineral aggregates.

D. Unit Fill: Free draining “open” aggregate fill which is within, between and extends minimum of 12" behind the segmental concrete facing units.

E. Reinforced Backfill: Compacted soil which is within the reinforced soil volume as outlined on Construction Drawings.

F. Drainage Aggregate: Drainage stone placed within a 12” zone behind the wall facing units

G. Foundation Soil: Compacted import or in-situ soil beneath entire wall.

H. Retained Soil: Compacted import or in-situ soil behind reinforced zone of retaining wall.

I. Leveling Pad: Level compacted Foundation Stone or unreinforced concrete footing upon which first course of segmental concrete facing units are placed.

1.6 SUBMITTALS

A. Samples of SRW units showing finish and color shall be provided to the Owner for selection prior to delivery of materials as required on Construction Drawings. Samples shall be left on site for review throughout the construction period. Contractor shall dispose of samples at the close out of the project.

B. Submittal Requirements For SRW Systems: Submittal packages shall include the following:

1. Proprietary product literature indicating specifically which segmental retaining wall units are proposed for use on project, including color, face style and texture.

2. Proprietary product specifications indicating compressive strength, unit weight, mix and percent absorption for the units proposed.

3. Two copies of the submittal package shall be provided to the project civil engineer of record for distribution for review as follows:

   a. 1 copies to the owner.
   b. 1 copy to be retained by the civil engineer of record.

4. Shop drawing design plans and structural calculations for each wall signed and sealed by licensed Connecticut Professional Engineer, showing wall profiles, reinforcement elevations, lengths, types; grades at top and bottom of wall; stationing and construction details. Shop drawings shall also include information on location of any relief drainage or weeps.

5. SRW Shear Capacity testing results.

C. Submittal packages shall include the following:

1. The General Contractor shall provide the SRW system design and supporting signed and sealed structural calculations to the Owner prior to the start of work. The design submitted shall be based on soil parameters, foundation conditions, and loading stated in documentation as outlined in the Construction Documents.

General Contractor's Engineer shall provide wall design and analyses utilizing SRWall computer software.

2. Proprietary product literature indicating specifically which segmental retaining wall units are proposed for use on project, including color, face style and texture.

3. Proprietary product specifications indicating compressive strength, unit weight, mix and percent absorption for the units proposed.

4. Retaining wall shop drawings showing complete wall profiles, reinforcement elevations, reinforcement lengths, reinforcement types, top of wall, bottom of wall, proposed grades at top of wall, proposed grades at bottom of wall, and stations showing beginning and end of wall as well as beginning and end of turns and radii. Shop drawings shall include detail drawings for facing connections, wall penetrations, guard rails, hand rails, leveling pad, drainage swales and typical sections and construction details.

5. Retaining wall shop drawings shall show design parameters for retaining wall, required bearing capacity of foundation soils along with provided factor safety against bearing capacity failures wall subgrade and construction details.

6. Retaining wall shop drawings shall be accompanied by a complete set of construction specifications which conform to the requirements of this section.

7. Retaining wall shop drawings and specifications shall be accompanied by engineer's design calculations and/or computer output addressing required design parameters according to NCMA recommendations.

8. Two copies of the submittal package shall be provided to the project civil engineer of record for review.

D. DESIGN

1.. Designs for SRW's using extensible (geosynthetic) reinforcement shall be prepared according to design methodology presented in NCMA's "Design Manual for Segmental Retaining Walls" and conform to the minimum safety factors as specified in this section. Design submittals not meeting this design criteria or technical/administrative criteria as specified will be rejected in their entirety until complete compliance is achieved. Owner reserves all rights in determining compliance for plan approval and may reject any submittals.

2. Only SRW systems with positive mechanical fascia connections will be considered. Connections shall provide uniform horizontal setback per course, which equates to uniform initial wall batter of between 3 and 12 degrees for installed units.

3. Soil design parameters shall be as provided in the Construction Documents. Wall Design Engineer of Record shall be responsible for selecting and specifying reinforced fill material. Reinforced fill material shall have minimum angle of internal friction of 30 degrees. General Contractor is responsible for ensuring and documenting the reinforced fill meets the specified parameters for both strength and compaction. Compacted retained soil shall meet the minimum requirements specified in 4.02.E

4. Design Criteria For Retaining Wall System

a. Unless otherwise indicated below, SRW design shall be performed in strict accordance with the procedures presented in the NCMA Design Manual for Segmental Retaining Walls.

1.7 QUALITY ASSURANCE

A. SRW system installer shall have minimum of the previous two years and minimum of 50,000 square feet of documentable experience installing SRW systems over eight feet in height on minimum of five projects.

B. Provide the Owner a project list with current references and telephone numbers for the proposed SRW Installer substantiating the required experience.

1.8 DELIVERY, STORAGE AND HANDLING

A. Segmental Concrete Facing Units:
1. Check the materials upon delivery to assure the specified type, grade, color and texture of units have been received.
2. Prevent excessive mud, wet concrete, epoxies, and like materials which may affix themselves, from coming in contact with the materials.
3. Protect the materials from damage. Damaged material shall not be incorporated into the SRW system.

B. Soil Reinforcement:

1. Check the soil reinforcement upon delivery to assure the proper grade and type of material been received. Provide a product certification with each shipment.
2. Store soil reinforcement material in accordance with manufacturer's recommendations.

C. Drainage Materials:

1. Store plastic pipe in accordance with the manufacturer's recommendations to prevent damage from deleterious materials becoming affixed.
2. Store drainage aggregate to prevent contamination with other materials.

PART 2 - PRODUCTS

2.1 SEGMENTAL CONCRETE FACING UNITS

A. Basis of Design Wall Facing units shall be the “Brandon” unit Techo-Bloc (877) 832-4625, https://www.techo-bloc.com/, Retaining Wall Units as manufactured by a licensed representative. Color shall be “Chestnut Brown” (contractor shall provide samples representative of color range for on-site approval prior to ordering the product for the project). Pattern as shown on the drawings.

B. Facing units shall meet the following structural requirements:

1. Concrete wall units including cap units shall have minimum 28-day compressive strength of 5,000 psi on the net area and have a maximum absorption rate of 8 percent.
2. Cementitious materials used in manufacture of units shall be Type I, Type II or Type III Portland cement in accordance with ASTM C150.
3. Other constituents - Air entraining agents, coloring pigments, integral water repellents, finely ground silica and other constituents shall be previously established as suitable for use in retaining wall units and shall conform to applicable ASTM Standards or shall be shown by test or experience not to be detrimental to the durability of segmental concrete facing units or to any material used in masonry construction.
4. Dimensional tolerances for exterior molded units shall be in accordance with ASTM C90-85. SRW concrete facing unit's molded dimensions shall not differ more than ± 1/8 inch from the manufacturer's published dimensions, except for height which must be ± 1/16. Maximum differential shall be no more than 1/16 inch in height from front to back of unit.
5. SRW units shall provide minimum effective, in-place weight equivalent to 100 pcf. Fill placed within dimensions of units may be considered as integral the effective unit weight. This in-place weight shall be determined by testing and used for all design calculations.
6. Only SRW Systems with positive mechanical fascia connections will be considered. Connections shall provide uniform horizontal setback per course, which equates to uniform initial wall batter of between 3 and 12 degrees for installed units.

C. Cap units shall be Brandon Cubing 3-9/16" as manufactured by a licensed representative. Color shall match approved wall units.

D. Material Acceptance:

1. All units shall be sound and free of cracks or other defects that would interfere with the proper placing of the unit or significantly impair the strength or permanence of the construction.
2. Only units meeting all physical and material properties specified herein shall be used. Units not meeting these specifications, specifically unit height tolerance, shall be rejected by the contractor. Materials incorporated into the Work and found to be non-compliant with the requirements of this specification shall be removed and replaced at no cost to the Owner.

E. Acceptable Manufacturers: Products substantially similar in modularity, pattern, color and texture to the Basis of Design materials specified herein may be proposed subject to submittal review and approval procedures.

2.2 BASE LEVELING PAD MATERIAL AND UNIT FILL FOR BLOCK

A. Provide base leveling pad material consisting of lean non-reinforced concrete; minimum of 8 inches thick or ¾-inch Foundation Stone minimum 6-inches thick.

B. Unit Fill: Free-draining crushed stone or crushed gravel, meeting requirements of Section 31 00 00 Earthwork and Manufacturers recommendations.

2.3 SOIL REINFORCEMENT

A. Geosynthetic Soil Reinforcement:

1. Properties: The geosynthetic soil reinforcement shall possess minimum strength and durability required by design as determined by product specific testing as defined in the NCMA Design Manual for Segmental Retaining Walls (Section 3.5), including provisions for minimum partial safety factors. Design submittal shall indicate the index tensile strength for each reinforcement type to be used in construction.
2. Geogrid manufacturers are:
   a. Stratagrid
   b. Nicolon/Mirafi
   c. Tensar (Black SB Series Geogrids Only)
   d. Approved equal

2.4 DRAINAGE MATERIALS

A. High Density Polyethylene Pipe (HDPE) Smooth interior (Solid or Perforated): Only permitted when specifically indicated on Construction Drawings and shall conform with AASHTO Designation M 294 Type S. The pipe shall have annular corrugations. The self-locking integral bell portion shall be permanently affixed to the pipe and shall be polyethylene. The locking mechanism shall engage at 4 equally spaced locations around the pipe circumference.

1. It shall be manufactured from high density polyethylene (HDPE) meeting the requirements of ASTM D3350 cell class 324420C; or the requirements of ASTM D1248: Type III, Category 4 Grade P33, Class C. Acceptable manufacturers: Advanced Drainage Systems, Inc. “ADS N-12”, or approved equal.

2. Underground detention pips shall be ADS N-12 WT in accordance with ASTM F2648 or approved equal.

3. The pipe shall be covered with a knitted or non-woven geotextile sock specifically designed to function as a filter.

B. Drainage aggregate shall be free draining material, relative to the surrounding soil, in order to prevent build up of hydrostatic pressure as specified in Section 31 00 00 and Manufacturers recommendations.

C. Drainage geotextile shall be Synthetic Industries 401 or Approved Equal.

D. Drainage composite (if required) shall be "Mirafi Miradrain G200N" or Approved Equal.

2.5 REINFORCED WALL BACKFILL

A. MSE Wall Back Fill – This material is for use as backfill SRW walls specified. It shall be free of ice, snow, roots, sod, or other organic matter, rubbish, or other deleterious matter. It should consist of a mixture of sand, gravel, silt, stone, rock fragments and shall confirm to the following gradation requirements:

Sieve Size	Percent Passing by Weight
3 inch Max	100
No. 4	40-85
No. 10	25-75
No. 40	15-50
No. 200	4-20

2.6 RETAINED BACKFILL OR COMMON BACKFILL

A. Soil placed behind the reinforced backfill shall be as specified in Section 02200, "Onsite Fill".

2.7 SOURCE QUALITY CONTROL

A. SRW Shear Capacity: Concrete units shall have a demonstrated shear capacity to withstand laterally applied shear loads as defined in the design calculations. Shear capacity shall be demonstrated through full-scale testing of SRW facing system according to NCMA SRWU-2 test method. Shear capacity shall be defined both with and without the soil reinforcement present at the interface. Results of this capacity testing shall be submitted, as required in sec. 1.6.

PART 3 - EXECUTION

3.1 PREPARATION

A. Include all means of subsoil improvement as required.

B. Comply with all federal, state and local requirements for execution of the work, including local building codes and current OSHA excavation regulations. The Contractor is responsible for stability of the area during excavation and wall construction. Any excavation support required to maintain/protect existing structures; utilities, landscape features or property shall be the responsibility of the Contractor.

C. Prior to undertaking any grading or excavation of the site, Contractor confirm the location of the retaining walls and all underground features, including utility locations within the area of construction. Ensure surrounding structures are protected from effects of wall excavation. Contractor shall provide staked out wall layout in the field for review by Owner and Landscape Architect. Staking shall include bottom and top of slope at each and corner, indications of proposed grade relationships, and edge of proposed adjacent pedestrian sidewalk.

D. Coordinate installation of underground utilities with wall installation.

E. Control surface water drainage and prevent inundation of the retaining wall area during construction.

3.2 EXCAVATION

A. Excavate to lines and grades shown on the Construction Drawings. Take precautions to minimize over-excavation. Over-excavation shall be filled with approved compacted material at no cost to the Owner.

B. Inspect excavation prior to placement of leveling pad material.

C. Excavation of unsuitable soils and replacement with approved compacted material shall be conducted in accordance with Section 31 00 00 – Earthwork.

D. Fill over-excavated areas in front of wall face with approved compacted material before wall construction reaches 4 feet in height.

E. In areas where soft, disturbed or otherwise unsuitable soils are encountered within the zone of the wall loading in the excavations, such unsuitable soils shall be over-excavated to the depths and extents required and replaced with select material and compacted per Section 31 00 00 – Earthwork.

3.3 LEVELING PAD CONSTRUCTION

A. Place leveling pad as shown on the Construction Drawings with minimum thickness of 6 inches for crushed stone dense aggregate base and 8 inches for unreinforced concrete. The leveling pad shall extend laterally a minimum distance of 6 inches from the toe and heel of the lower most SRW Unit in accordance with Manufacturers recommendations.

3.4 SRW UNIT INSTALLATION

A. Place first course of SRW units on the leveling pad. Level units side-to-side, front-to-rear and aligned with adjacent units.

B. Insure units are in full contact with base.

C. Place the front of the units side-by-side. Do not leave gaps between the front of adjacent units. Layout of curves and corners shall be in accordance with SRW manufacturer's installation guidelines.

D. Install mechanical fascia connections per SRW manufacturer’s recommendations.

E. Place and compact drainage fill within, between and behind units. Place and compact infill soil behind drainage fill.

F. Clean all excess debris from top of units.

G. Repeat procedure to the extent of wall height.

H. Stacking of segmental retaining wall units without placing core fill in the previous course of units will not be permitted.

3.5 SOIL REINFORCEMENT INSTALLATION

A. Soil reinforcement shall be oriented with the highest strength axis perpendicular to the wall alignment.

B. Install soil reinforcement at wall height, horizontal location, and to the extent as shown on Construction Drawings.

C. Lay the soil reinforcement horizontally on compacted backfill. Pull geogrid taut and connect to concrete SRW units according to connection detail shown on Construction Drawings or as recommended by manufacturer prior to backfill placement on geosynthetic reinforcement.

D. Soil reinforcements shall be continuous throughout their embedment lengths. Spliced connections between shorter pieces will not be allowed.

E. Do not operate tracked construction equipment directly upon soil reinforcement. A minimum fill thickness of 6 inches is required prior to operation of tracked equipment over soil reinforcement. Keep tracked vehicle turning to minimum to prevent tracks from displacing the fill and damaging soil reinforcement.

F. Rubber-tired equipment may pass over soil reinforcement at low speeds, less than 10 mph, if permitted by the manufacturer. Avoid sudden braking and sharp turning.

G. Changes to soil reinforcement layout, including, but not limited to, length, soil reinforcement type (strength), or elevation, shall be made subject to the RFI Process and Approval.

H. Verify orientation (Roll direction) of geosynthetic reinforcement.

I. Place segmental unit and fill in accordance with requirements of this specification section.

3.6 REINFORCED BACKFILL PLACEMENT

A. Place reinforced backfill, spread and compact in such a manner that will not develop slack in the soil reinforcement in accordance with Manufacturers recommendations.

B. Place and compact reinforced backfill in lifts not to exceed 10 inches, in compacted thickness to 95% density based on ASTM D-1557.

C. At the end of each day's operation, slope the last lift of reinforced backfill away from the wall facing to rapidly direct runoff away from the wall face. Do not allow surface runoff from adjacent areas to enter the wall construction site.

3.7 DRAINAGE SYSTEM

A. Drainage Collection Pipe:

1. Install the drainage collection pipe according to line, grades and sections shown in Construction Drawings.

2. Install drainage collection pipe to maintain gravity flow of water from reinforced soil zone. Daylight drainage collection pipe at storm sewer manhole or along slope at an elevation lower than lowest point of pipe within reinforced soil mass, every 40 feet minimum.
3. Main collection drain pipe just behind segmental units shall be minimum 4 inches in diameter. Secondary collection drain pipe shall gravity flow independently or tie into main collection drain pipe with laterals at maximum 40 foot spacing along wall face.

B. Drainage Aggregate:

1. Install drainage aggregate to line, grades and sections shown on Construction Drawings.
2. Place the drainage aggregate to minimum finished thickness and widths shown on Construction Drawings.
3. When blanket drain is installed, non-woven geotextile shall be installed prior to aggregate placement in accordance with Construction Drawings.

C. Drainage Composite (When Required):

1. Install drainage composite according to Construction Drawings.
2. Wrap upper ends of drainage composite with approved geotextile fabric.
3. Drainage composite, shall extend upwards minimum of 2/3 of height of backcut and be spaced on horizontal centers to give a minimum of 50% to 100% horizontal coverage as required.
4. Drainage composite shall terminate in a French Drain effectively connecting to a collector pipe wrapped in drainage aggregate and an approved geotextile fabric.

3.8 SRW CAP INSTALLATION

A. Place SRW Cap units per manufacturer's recommendations. Backfill and compact to finished grade.

B. Incorporate surface water drainage control (swale) into finished grading at top of wall, as shown on Construction Drawings.

C. Permanent mechanical connection of cap units to wall units shall be provided by construction epoxy Apply epoxy to bottom surface of cap unit and install on units below. Follow epoxy manufacturer's directions to ensure permanent bond.

3.9 CONSTRUCTION

A. SRW Tolerances: Installation of SRW face location shall be within all the following tolerances:

1. Vertical control from plan: ± 1.25 inches over a 10 ft. distance.
2. Horizontal location control from plan:
   Straight lines: ± 1.25 inches over a 10 ft. distance.
   Straight & radius corner locations: ± 1.0 ft.
   Curves and serpentine radius: ± 2.0 ft.
3. Rotation of the wall face during construction:
   Maximum 2.0 degrees from established wall plan batter.

Maximum, ± 10.0 % from total established horizontal setback.

4. Bulging: ± 1.25 inches over a 10.0 ft. distance.

B. Mechanical vibrating plate compactors shall not be used on top of the units. The Contractor shall compact fill between units and the backfill zone behind the units by running hand-operated compaction equipment just behind units. The Contractor shall perform compaction to Manufacturers Specifications.

3.10 FIELD QUALITY CONTROL

A. In accordance with provisions of Division 1, the Owner shall engage inspection and testing service agencies, including independent laboratories, to provide quality assurance and testing services during construction of the Project. This does not relieve the Contractor from providing the necessary construction quality control and testing.

B. Testing and inspection services will be performed only by trained and experienced technicians currently qualified for the work they are to perform.

C. The testing agency will submit written reports to the Owner and to Contractor of all inspections on weekly basis. Such reports shall include description of work performed, deficiencies noted in construction, and corrective action taken to resolve such deficiencies. Written reports will also include location, type and results of all tests taken on the Project. Testing agency will verify reinforcement type (strength); length, orientation and placement elevation are as shown on the Construction Drawings.

D. Soil and Backfill Testing: Unless otherwise directed by the Owner or required by this technical scope of work, type and minimum frequency of testing for soils related portions of construction shall be as follows.

1. Field density tests in accordance with ASTM (D2922):
   a. Subgrade Soils: One test for every 2,500 square feet per lift of material
   b. Base Leveling Pad: One test for every 100 lineal feet
   c. Reinforced Backfill: One test for every 2,500 square feet per lift. Every other lift shall be tested.
2. Laboratory moisture-density relationships, ASTM (D1557), a minimum of one test for every compacted material type.
3. Gradation Analysis in accordance with ASTM (D422):
   a. Unit Fill: One test for every 500 cubic yards of material
   b. Wall Backfill: One test for every 500 cubic yards of material or when material type changes.

END OF SECTION 32-3223.13

SECTION 32-4220 SITE IMPROVEMENTS

PART 1- GENERAL

1.1 SUMMARY

A. Provide labor, materials, equipment, services and transportation to complete work.

1. Solid Vinyl PVC Privacy Fence and Gates
2. Reset Light Fixtures
3. New Electrical Enclosure Cover

1.2 REFERENCES

A. Comply with applicable requirements of:

1. American Society for Testing and Materials (ASTM)
    a. ASTM A53/A53M - Standard Specification for Pipe, Steel, Black and Hot-Dipped, Zinc-Coated and Welded and Seamless.
    b. ASTM A366 - Standard Specification for Steel, Carbon, Cold-Rolled Sheet, Commercial Quality.
    c. ASTM A500 - Standard Specification for Cold-Formed Welded and Seamless Carbon Tubing in Rounds and Shapes.
    d. ASTM D1640 - Standard Test Methods for Drying, Curing, or Film Formation of Organic Coatings at Room Temperature.
    e. ASTM D5893 - Standard Specification for Cold Applied, Single Component, Chemically Curing Silicone Joint Sealant for Portland Cement Concrete Pavements.
2. United States General Services Administration, Federal Standards.
    a. Federal Standard No. 595 - Colors Used in Government Procurement.

1.3 PERFORMANCE REQUIREMENTS

A. Site Improvements install as a single unit with specified dimensions and is secured in the ground.

1.4 SUBMITTALS

A. Submit Shop Drawings, manufacturer’s literature, material certificates or other data indicating compliance with these Specifications.
B. Shop Drawings to include any adjacent material requiring coordination including segmental retaining walls and concrete piers.
C. Submit testing data for concrete as required by Section 03 - Site Cast-in-Place Concrete.
D. Color samples from paint manufacturer demonstrating available color to match those indicated on the Drawings or as specified herein.

1.5 DELIVERY, STORAGE AND HANDLING

A. Supply: Units of all types must be supplied by a single manufacturer having the resources to provide consistent quality in appearance and physical properties.
B. Materials shall be wrapped for shipment and storage, delivered to the jobsite in manufacturer's original packaging.

C. Store units to avoid damage from moisture, abrasion, and other construction activities.

PART 2 - MATERIALS

2.1 SOLID VINYL PVC PRIVACY FENCE AND GATES

A. Basis of Design: Board Fence with Lattice Topper Fence and Gates. Available from Walpole Outdoors: walpoleoutdoors.com 800-343-6948
B. Material: AZEK TM, Solid vinyl
C. Color: Functional Gray (SW 7024)
D. Fence Height: 5'-0" Board fence, 1'6" Lattice Topper. Total fence Height 6'-6"
E. Gate Height: 5'-0" Board Fence, 1'6" Lattice Topper with 6" reverse (convex) scallop, Total Height 7'-0"
F. Posts: 5-1/2" square extruded vinyl post, 0.250" wall
G. Gate Posts: 5-1/2" square extruded vinyl post, 0.250" wall, with steel frame and set in concrete
H. Posts set in concrete Piers: 5-1/2" square extruded vinyl post, 0.250" wall, with steel frame and set in concrete
I. Post Caps: Westport
J. Board Fence: Standard 5'-0" ht by 4'-0" width and 8'-0" width (See Plans). Top and bottom facias. Mid facia required on patio side only (frame side).
K. Lattice Topper: AZEK lattice, Pattern as shown on the drawings, 5/8" x 1-1/8" battens
L. Cleats: ¾" x 1-1/2" Glued to Board
M. Square donuts for securing embedded steel pipe: extruded vinyl post, 0.250" wall, sized to fit with 5-1/2" extruded posts.
N. Hardware:
    a. Devonshire P.C. Reversible Black Gate Hardware Strap, 24" Top and bottom, both gate leaves
    b. Cane Bolt, Black, 5/8" Diameter by 24", extended into ground 8"
    c. Ring Gate Latch (2) Decorative
    d. Gravity Latch with extension
    e. Stainless Deck Screws

2.2 RESET LIGHT FIXTURES

A. Concrete Footing as specified in Section 03 - Site-Cast-in-Place Concrete.

2.3 NEW ELECTRICAL ENCLOSURE COVER

A. Material: Polymer concrete
B. Dimensions: To match existing enclosure
C. Compliant for accessibility in sidewalk.

2.4 CONCRETE

A. Concrete shall be as specified in Section 03 - Site-Cast-in-Place Concrete.

2.5 JOINT FILLER

A. Gun grade, one-part, cold-applied silicone that cures to a durable, flexible, low modulus silicone rubber joint seal, ASTM D5893.

2.6.1 GROUT

A. Grout: Pourable, quick setting, non-metallic and non-shrinking hydraulic cement grout such as “Por-Rok Cement” or approved equal.

PART 3 – EXECUTION

3.1 INSTALLATION SOLID VINYL PVC PRIVACY FENCE AND GATES

A. Install fence at the locations indicated on the Drawings. Layout fence and coordinate with adjacent site improvements.
B. Install fence level and true as indicated on the Drawings.
C. Provide temporary bracing as required to maintain desired installation until concrete has cured.
D. Protect newly-installed fence from damage or movement.
E. Install concrete footings at Gates
F. Maintain top and Bottom of fence level. Stone mulch and steel edging at base of fence to be used to maintain level bottom of fence.

3.2 RESET LIGHT FIXTURES

A. Concrete Footing as specified in Section 03 - Site-Cast-in-Place Concrete.
B. Footing not to extend more than 1” above finish grade
C. Protect fixture during storage and relocation

END OF SECTION 32-4220

SECTION 32-9113 - TOPSOIL

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and General Provisions of Contract, including General and Supplementary Conditions and other Division 1 Specifications Sections, apply to this Section.

1.2 SUMMARY

A. Work Included: Providing, testing, placing and finish grading all stockpiled and borrow topsoil as shown on the Drawings and specified herein to properly complete all lawn and planting operations.

B. Spread all stockpiled topsoil to produce a uniform depth throughout proposed general lawn areas.

C. Supply and spread borrow topsoil to a uniform depth as shown or specified on the Drawings.

1.3 SUBMITTALS

A. Topsoil test results shall be submitted to the Engineer/Owner for review to determine acceptability.

1.4 QUALITY ASSURANCE

A. Topsoil:

1. Testing: Representative topsoil samples shall be tested to determine:

    a. Amendments necessary for good plant growth.

    b. Acidity.

    c. Organic content.

    d. Mechanical analysis - sand, silt, and clay. Analysis shall include 200 sieve hydrometer wash as per ASTM D 422 to isolate specific percentage of silt and clay.

    e. Presence and levels of contaminants as required to comply with residential exposure limits.

B. Before delivery of any borrow topsoil, furnish the Engineer/Owner with a 5 gallon sample of material and a written statement giving locations of properties from which topsoil is to be obtained, names and addresses of owners, depth to be stripped, and crops grown during the past two (2) years.

C. Both borrow and stockpiled topsoil shall be tested as per 1.4 A.1.

D. Topsoil testing costs shall be borne by the Contractor.

E. Testing laboratory shall be:

Soils Testing Laboratory
6 Sherman Place,
Unit 5102, Storrs, CT
06269-5102

860-486-4274
http://www.soiltest.uconn.edu/direction.php

Substitute laboratory may be used only if testing agency demonstrates to Engineers/Owner's satisfaction, based on evaluation of agency-submitted criteria conforming to ASTM E 699, that it has the experience and capability to satisfactorily conduct the testing indicated without delaying the Work.

1.5 PRODUCT HANDLING

A. Delivery of borrow topsoil to the site shall be coordinated such that it is placed as delivered and no stockpiling required.

PART 2 - PRODUCTS

2.1 BORROW TOPSOIL

A. Not to contain materials harmful to plant life, to be clean, fertile, friable, well draining, natural sandy loam. All topsoil to be free of any subsoil earth clods, sods, stones over 2" in any dimension, sticks, roots, weeds, litter and other deleterious material. Topsoil shall be uniform in quality and texture and contain organic matter and mineral elements necessary for sustaining healthy plant growth. Soil shall be free of high contaminants as outlined by residential exposure limits and free from weed and invasive seed material.

B. Topsoil shall have the following optimum ranges unless otherwise approved by the Engineer/Owner.

Organic Content: (by loss of ignition at 375 C method of testing)	6.0 - 20%
PH:	6.0 - 7.0

C. Nutrient levels shall be achieved by the Contractor's addition of amendments to the topsoil to meet the optimum nutrient levels specified in the testing laboratory report for each of crop/plant to be installed.

D. Proposed topsoil shall meet the USDA Soils Textural Classification percentages of sand, silt, and clay for "**sandy loam**" classification.

E. Topsoil shall be completely free of any toxic chemical, hazardous waste and any material or condition that would prevent the establishment of a suitable lawn.

2.2 STOCKPILED TOPSOIL (IF APPLICABLE)

A. Proposed for reuse shall conform to all requirements of paragraph 2.1 of this Section and shall be screened unless otherwise approved by the Engineer/Owner.

2.3 EXISTING TOPSOIL

A. Amend existing topsoil as required by topsoil tests. Supplement with imported topsoil when required.

2.4 WATER MANAGEMENT POLYMER

A. Terrasorb H6 as distributed by Industrial Services International, Bradenton, Florida, or approved equal.

PART 3 - EXECUTION

3.1 SHAPING AND GRADING OF SUBSOIL AT ALL LAWN AREAS

A. After shaping of lawn subgrades, remove all sticks, stones, or foreign material one and one half (1-1/2) inches or greater in dimension. Harrow or otherwise loosen the subgrade soil to a depth of six (6) inches if required to correct over compaction. Remove debris and stone off-site.

B. Do not apply topsoil to the scarified subgrade without approval by the Engineer/Owner. Topsoil will not be permitted to be spread until topsoil test reports have been submitted and approved. Topsoil shall not be delivered or worked in a frozen or muddy condition.

C. Uniformly distribute and spread stockpiled and borrow topsoil from over all graded lawn areas to conform smoothly to the lines, grades, and elevations shown or otherwise required. All lawn areas to have a minimum of six (6) inches of topsoil after compaction or as indicated on the Contract Drawings.

D. Manually supply topsoil around all trees and shrubs to remain. Avoid damage to root systems.

E. Topsoil shall be spread in (2) (stockpiled and borrow material) lifts, if applicable. Both lifts shall be thoroughly mixed with the previous subgrade by disking, harrowing, or other approved means. Install water management polymer to upper 2” of topsoil at 1 lb/300 SF or manufacturer’s recommendations.

F. Place topsoil only when it can be immediately followed by seeding or sodding operations.

G. Resupply and place topsoil to eroded, settled or damaged areas until all lawn areas are stabilized. Care shall be taken not to damage grass or pavement areas in the replacement to topsoil.

3.2 PROTECTION

A. Remove: weeds prior to lawn development operations. No weeds shall be allowed to go to seed.

B. Keep: heavy equipment, trucks, etc. off topsoiled areas. At no time will equipment other than light tractors be allowed on any topsoiled areas.

C. If compaction occurs, scarify to a depth of 6” and regrade grade.

3.3 EXCESS STOCKPILED TOPSOIL

A. Excess topsoil will remain the property of the Contractor who shall be responsible for disposal.

END OF SECTION 32-9113

SECTION 32-9200 - TURF AND GRASSES

PART 1 – GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and General Provisions of Contract, including General and Supplementary Conditions and other Division 1 Specifications Sections, apply to this Section.

1.2 SUMMARY

A. The scope of work includes furnishing all supervision, labor, materials, tools and equipment, and installation incidental to this Section. This Section includes the following, but not necessarily limited to:

1. Fine grading and preparing the seed/sod bed.
2. Providing and incorporating amendments necessary for good lawn growth.
3. Seeding or sodding all proposed lawn areas and disturbed areas not otherwise developed.
4. Providing and installing erosion control fabric or salt hay mulch as required or specified.
5. Mowing, watering, and maintaining the lawn until established and accepted.
6. Treating all lawn areas with crabgrass and broadleaf weed controls as required.

1.3. RELATED SECTIONS: The following Sections contain requirements that relate to this Section:

A. Division 1 Section 01-2200 “Unit Prices”

B. Division 1 Section 01-5000 “Temporary Facilities and Controls”

C. Division 32 Section 32-9200 “Topsoil”.

D. Division 32 Section 32-9300 “Plants”.

E. Division 32 Section 32-9353 “Landscape Maintenance”.

1.4 SUBMITTALS

A. General: Submit each item in this Article according to the Conditions of the Contract and Division 1 Specifications Sections.

B. Product certificates signed by manufacturers certifying that their products comply with specified requirements.

1. Manufacturer’s certified analysis for standard products.

2. Certifications of grass seed from seed vendor for each grass-seed mixture stating the botanical and common name and percentage by weight of each species and variety, and percentage of purity, germination, and weed seed. Include the year of production and date of packaging.

3. Certification of each seed mixture for sod (if applicable), identifying sod source, including name and telephone number of supplier.

C. Topsoil test reports in accordance with Division 32 Section “Topsoil”.

1.5 QUALITY ASSURANCE

A. Installer Qualifications: Engage an experienced Installer who has completed landscaping work similar in material, design, and extent to that indicated for this Project and with a record of successful landscape establishment who shall be present at all times during execution of this work and who shall direct all work performed under this Section.

B. Preventatives and controls: Prior to the application of the preventatives and controls specified, confirm that each of the materials is permitted in the State of Connecticut.

C. Sod: Harvest, delivery, store, and handle sod according to the requirements of the American Sod Products Association's (ASPA) "Specifications for Turfgrass Sod Materials and Transplanting/Installing."

1.6 PRODUCT HANDLING

A. Packaged Materials: Deliver packaged materials in containers showing weight, analysis, and name of manufacturer. Protect materials from deterioration during delivery and while stored at site.

B. Seed: Deliver seed in original sealed, labeled, and undamaged containers.

1.7 PROJECT CONDITIONS

A. Examine Work: To receive seeding and notify the Engineer of any defects. Specifically review the topsoil placement (depths, grades, and condition). Commencement of this work implies acceptance by Contractor of preparatory work by others.

1.8 COORDINATION AND SCHEDULING

A. Construct Seeded Lawns: Between April 15 and June 1 and between September 1 and October 15 unless otherwise permitted by the Owner.

B. Construct Sodded Lawns: Between April 15 and July 15 and between August 15 and November 1 unless otherwise permitted by the Owner.

1.9 GUARANTEE

A. Duration of Guarantee: Shall be 60 days for sodded lawns and 90 days for seeded lawns and until Owner’s final acceptance of lawn areas.

1.10 INSPECTION AND ACCEPTANCE OF SEEDED OR SODDED AREAS

A. Submit Written Notice: requesting inspection at least 10 days prior to the anticipated date.

B. Maintenance: responsibilities end with final acceptance which shall be a minimum of 60 days from the date of substantial completion of seeding. Typically, areas will not be accepted in "pieces" unless specifically agreed to by the Owner.

C. A Satisfactory Stand of grass which is acceptable is defined as:

1. Consisting of a uniform stand of at least 90% established permanent grass species, with a uniform count of at least 100 plants per square foot. Any part of the lawn that does not show a uniform dense lawn grass shall be reseeded.

D. Sod must be firmly rooted to the soil, be free of weeds, disease, and insects, and be of good color and uniform density.

E. Final Acceptance will not be made until all damaged areas, including areas outside the property limits have been restored to their original conditions by topsoiling, seeding, and other necessary operations.

F. Upon Stabilization of lawn areas remove all erosion control devices, unless otherwise specified, and protection fencing and dispose of off-site.

PART 2 - PRODUCTS

2.1 GRASS MATERIALS

A. Seed Mixture:

1. Provide fresh, clean, new-crop seed complying with the tolerance for purity and germination established by the Office of Seed Analysis of North America. The seed mixture shall have been tested for germination and purity by acceptable methods within a 9 month period prior to delivery.
2. Provide seed of the grass species, proportions and maximum percentages of weed seed as specified.
3. Provide seed in cleaned, sealed, properly labeled containers. Seed that is wet, moldy, or otherwise damaged will not be accepted.
4. Handle seed to manufacturer recommendations for exposure to extremes of heat, cold, or moisture.

B. Lawn Seed Quality

1. Weed Seed: Maximum of 0.50%, no noxious weed seed.
2. Purity: Minimum 97% pure.
3. Crop: Maximum 0.50%
4. Germination Rate: Minimum 85%

2.2 LAWN SEED MIX

A. To be used in all areas indicated as seeded lawn and any disturbed areas not otherwise developed. Seed mix and distribution rate shall be as shown on drawings.

1. Full Sun:

30% Creeping Red Fescue (2 - improved varieties)
30% Perennial Ryegrass (2 improved, grey leaf spot resistant varieties)
20% Kentucky bluegrass (1 improved, Mid Atlantic type)
20% Kentucky bluegrass (1 improved elite type)

2. Shade:

30% Hard fescue (2 - improved varieties)
20% Kentucky bluegrass (2-improved, shade tolerant varieties)**
20% Creeping Red Fescue (2 -improved varieties)
20% Chewings Fescue (2 - improved varieties)
10% Perennial Ryegrass (improved, grey leaf spot resistant varieties)

Seeding rate: 4.5 lbs per 1,000 s.f. (add 10% to quantity if hydroseeded).

2.3 SOD

A. To be used in all areas indicated as sodded lawn. Sod shall be 70/30 Blend sourced from Winding Brook Turf Farm, Wethersfield, CT http://www.windingbrookturf.net or approved equivalent. Sod shall all be sourced from a single location.

30% Lacrosse Chewings Fescue
20% Excursion Kentucky Bluegrass
20% Shamrock Kentucky Bluegrass
15% Diva Kentucky Bluegrass
15% Sudden Impact Kentucky Bluegrass

2.5 TEMPORARY SEEDING MIXTURE

A. To be used in all areas requiring temporary seeding.

TYPE OF SEED	PERCENT BY WEIGHT
Annual Ryegrass	50%
Perennial Ryegrass	50%

Seeding Rate 4 lbs per 1000 SF

Pure Live Seed: 95%
Application Rate: 4lbs/Msf
Fertilizer Type: 5-5-5
Fertilizer Application Rate: 1000 Lbs/ Acre
Liming Rate: 1 Ton/ Acre
Mulch Type: Straw
Mulch Rate: 3 Tons/Acre

2.4 EROSION CONTROL BLANKETS

A. Apply to 3:1 slopes or steeper where grading is so indicated on the Contract Drawings:

1. Erosion Control Blanket shall be “Bio-Net” biodegradable fabric by North American Green, (800) 772-2040; 5401 St. Wendel-Cynthiana Road, Poseyville, IN 47633; or approved equivalent.

2.6 TOPSOIL

A. As per Division 32 Section “Topsoil.”

2.7 SOIL AMENDMENTS

A. Lime: Natural dolomitic limestone containing not less than 85 percent of total carbonates with a minimum of 30 percent magnesium carbonates, ground so that not less than 90 percent passes a 10-mesh sieve and not less than 50 percent passes a 100-mesh sieve. Apply at the rate of 100 lbs/1,000 S.F.

2.8 CHEMICAL PREVENTIVES AND CONTROLS

A. General: Commercial materials for agricultural use, manufactured by Scotts, DuPont, or Ortho.

B. For Crabgrass: Siduron.

C. For Broadleaf Weeds: bromoxynil.

D. For Insects and Diseases: Material recommended by the Extension Service or the State Experiment Station.

2.9 FERTILIZER

A. Fertilizer: Provide commercial fertilizer with percentages as follows:

1. Nitrogen 10% (At least 50% of Nitrogen shall be from Organic sources)
2. Phosphoric Acid 6%
3. Potash 4%
4. Apply at the rate of 1000 lbs./acre.

2.10 HYDRO MULCHES

A. Bonded Fiber Matrix - Conwed Fibers 2500 BFM or equivalent by Landscape Architect. Materials:

1. Wood fiber, Polysaccharide crosslinked hydro-colloid polymer tackifier, dark green dye.
2. pH Range: 4.8 plus or minus 2.
3. Moisture Content: 12+-3% percent maximum.

4. Wood Fiber Content: 90 percent maximum.
5. Polysaccharide Crosslinked Hydro-colloid Polymer Tackifier: 10+-1%
6. Organic Content: 99 percent, plus or minus 1.
7. Ash Content: 1 percent, plus or minus 1.
8. Water Holding Capacity: 1,350 percent minimum.
9. Fiber Mulch Slurry Viscosity: Minimum 2.85 cps (Test Method: Falling Ball Viscometer)

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine areas to receive seeding for compliance with requirements and for conditions affecting performance of work of this Section. Do not proceed with installation until unsatisfactory conditions have been corrected.

3.2 RATES OF APPLICATION

Material	Application Rate
Lime	100 lbs./1000 S.F.
Fertilizer	1000 lbs./acre
Cellulose Pulp Fiber	32 lbs./1,000 S.F.
Crabgrass Preventative	As recommended by the manufacturer.
Lawn Pest/Disease Control	As recommended by the Extension Service or Experiment Station
Soil Insect Control	As recommended by the Extension Service or Experiment Station
Broad Leaf Weed Control	As recommended by the Extension Service or Experiment Station

3.3 TOPSOIL PREPARATION

A. Loosen topsoil to full depth by scarifying or other disking methods. Obtain a loose friable soil bed to a depth of 4". At no time will rubber tired loaders of graders having a greater compaction than a small farm tractor be allowed on topsoil. Keep all heavy equipment and trucks off prepared topsoil. Do not prepare while ground is frozen or wet. Limit preparation to areas which will be planted promptly after preparation.

B. Provide additional topsoil as required to properly meet all finished grades.

C. Remove any weeds, debris, foreign matter and stones having any dimension greater than 1-1/2". Remove from property.

D. Fine grade to a smooth uniform surface. The entire area shall present an even grade with no depressions where existing water will stand. Any protective fencing around existing trees shall be removed at this time. Topsoil shall be smoothly blended to existing finish grades around trees, erosion control devices and adjacent existing conditions. Maintain existing surface

drainage patterns. Round-off all top and toe of slopes. Reinstall erosion control devices and protective fencing as required.

E. Approval of surface shall be obtained before seeding operations begin. If requested, perform bulk density and compaction readings to monitor degree of soil compaction/seed bed friability.

F. Apply all lime, fertilizer, and other recommended conditioners at the rates recommended by the topsoil test report or as needed. Mix uniformly into top 1" of the topsoil. Lime and fertilizer may be applied in one step. Keep lime from contacting the roots of acid loving plants.

3.4 LAWN DEVELOPMENT

A. All disturbed areas not developed otherwise shall be developed as lawn and/or seeded as indicated on the drawings and in these Specifications.

B. All lawn shall be seeded unless specifically noted to be sodded.

3.5 PREPARATION OF UNCHANGED GRADES (IF APPLICABLE)

A. Where lawns are to be planted in areas that have not been altered or disturbed by excavating, grading, or stripping operations, prepare soil for lawn planting as follows: Till to a depth of not less than four (4) inches. Apply soil amendments and initial fertilizers as specified. Remove high areas and fill in depressions. Till soil to a homogenous mixture of fine texture, free of lumps, clods, stones, roots and other extraneous matter.

B. Prior to preparation of unchanged areas, remove existing grass, vegetation and turf. Dispose of such material outside of Owner's property. Do not turn existing vegetation over into soil being prepared for lawns.

C. Apply specified commercial fertilizer at rates specified and thoroughly mix into upper two (2) inches of topsoil. Delay application of fertilizer if lawn planting will not follow within a few days.

D. Moisten prepared lawn areas before planting if soil is dry. Water thoroughly and allow surface moisture to dry before planting lawns. Do not create a muddy soil condition.

E. Restore lawn areas to specified condition, if eroded or otherwise disturbed, after fine grading and prior to planting.

3.6 SEEDING PROCEDURE

A. Insure that the soil has been prepared in accordance with Part 3.3 and 3.5 of this Section.

B. Seeding shall be done when wind does not interfere with uniform distribution of hydroseeding mixture.

C. Apply fertilizer, seed and maximum 10% of mulch in one operation by the use of an approved spraying machine specifically designed for hydroseed application. Avoid spraying mix on adjacent surfaces, walks, building walls, and curbs. Apply remainder of mulch in a second application.

1. Mix materials with water. Keep in an agitated state so that the materials are uniformly suspended in the water and blended into a homogeneous slurry suitable for hydraulic application.

2. Spraying equipment shall be so designed that when the solutions are sprayed over an area, the mulch shall be equal, in quantity, to those specified in 3.2.

D. Quick Germinating Species: i.e., annual ryegrass or additional perennial ryegrass shall not be over seeded over lawn mix to accelerate lawn establishment unless specified.

E. Place Erosion Control Blankets on 3:1 Slopes and steeper and as indicated on the Contract Drawings in accordance with manufacturer's specifications.

3.7 RECONDITIONING EXISTING LAWNS

A. Recondition existing lawn areas damaged by Contractor’s operations including storage of materials and equipment and movement of vehicles. Also recondition existing lawn areas where minor regrading is required.

B. Provide fertilizer, seed, and soil amendments as specified for hydroseeded new lawns, and as required, to provide a satisfactorily reconditioned lawn.

C. Provide new topsoil, as required, to fill low spots and meet new finish grades.

D. Cultivate bare and compacted areas thoroughly to provide a satisfactory planting bed.

E. Remove diseased and unsatisfactory lawn areas; do not bury into soil. Remove topsoil containing foreign materials resulting from Contractor’s operations, including oil drippings, stone, gravel, and other loose building materials.

F. Where substantial lawn remains, but is thin, mow, rake, aerate if compacted, fill low spots, remove humps, and cultivate soil, fertilize, and seed. Remove weeds before seeding, or if extensive, apply selective chemical weed killers as required. Apply a seedbed mulch, if required, to maintain moist condition.

G. Water newly planted lawn areas and keep moist until new grass is established.

3.8 SODDING LAWN CONSTRUCTION

A. Insure: that the topsoil has been prepared in accordance with paragraph 3.03 of this Section.

B. The Prepared Soil: shall be watered within 12-24 hours prior to laying the sod. Sod should not be laid on soil that is dry and powdery.

C. Sod: shall be laid where indicated on the drawings in straight lines, with lateral joints staggered to promote more uniform growth and strength. Care should be exercised to insure that the sod is not stretched or overlapped and that all joints are butted tight. Provide full pieces of sod along all perimeter edges unless otherwise approved.

D. On Slopes Steeper: than 5:1, sod shall be laid with long axis of sod pieces parallel to slope contours secured with pegging.

E. Roll/tamp sodded areas to eliminate air pockets and insure firm contact between sod and prepared soil.

3.9 WATERING, PROTECTING, RESEEDING SEEDED AREAS

A. Maintain: a moist seed bed at all times. Water seed bed so that the topsoil is wet to a depth of 2". Apply one complete coverage to the seeded area as necessary to insure proper germination conditions.

B. Protect: all lawn areas with barricades, if necessary, to keep all traffic off the area. Repair all damage to lawn areas including topsoil replacement, at no additional cost to Owner. See Section 01-5000 "Temporary Facilities and Controls" for specific measures.

C. Reseed: all areas which have failed to show a uniform stand of grass after the initial plants have appeared. All areas disturbed/prepared for reseeding in spring or summer shall receive crabgrass preventative.

3.10 CRABGRASS CONTROL

A. General: Treat all lawn areas with crabgrass preventative in conformance with manufacturer's recommendations.

B. Time: Conform to the manufacturer's recommendations.

C. Rate: Conform to the manufacturer's recommendations.

3.11 BROADLEAF WEED CONTROL

A. General: Treat all lawn areas with broadleaf weed control in conformance with the manufacturer's recommendations.

B. Time: Conform to the manufacturer's recommendations.

C. Rate: Conform to the manufacturer's recommendations.

3.12 MAINTENANCE OF LAWN AREAS

A. Period Required:

1. Immediately after installation and shall continue until final acceptance, but in no case less than 60 days after substantial completion for sodded lawns, and 90 days after substantial completion for seeded lawns, and longer as required to establish an acceptable lawn at the discretion of a representative of the Owner.

2. If seeded in fall and not given full 90 days of maintenance, or if not considered acceptable at that time, continue maintenance the following spring until acceptable lawn is established.

B. Scope: All reseeding, replacement of sod, watering, mowing, trimming, weeding, insect or disease control, refertilizing, repair of washouts and other maintenance procedures, such as rolling, regrading, etc. which are necessary to establish a smooth, acceptable lawn, free of eroded or bare areas.

C. Mowing: shall remove no more that 1/3 of the grass height; maintain at a height of 2-2 1/2". Remove heavy clippings.

3.13 PROJECT CLEAN-UP

A. Upon completion of all lawn areas, remove all excess soil, debris, and other materials resulting from work operations of this Section. Restore all improvements to original condition. Broom clean all walks/pavements. All clean-up shall be completed at the end of each working day.

B. Upon stabilization of lawn areas, remove all erosion control devices. Reseed as required.

3.14 CLEAN-UP AND PROTECTION

A. During landscaping, keep pavements clean and work area in an orderly condition.

B. Protect landscaping from damage due to landscape operations, operations, by other contractors and trades, and trespassers. Maintain protection during installation and maintenance periods. Treat, repair, or replace damaged landscape work as directed.

3.15 DISPOSAL OF SURPLUS AND WASTE MATERIALS

A. Disposal: Remove surplus soil and waste material, including excess subsoil, unsuitable soil, trash, and debris, and legally dispose of it off the Owner's property.

END OF SECTION 32-9200

SECTION 32-9300 - PLANTS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and General Provisions of Contract, including General and Supplementary Conditions and other Division 1 Specifications Sections, apply to this Section.

1.2 DESCRIPTION

A. Work Includes providing and installing all plant materials as shown on the drawings and as specified herein including but not limited to:

B. Planting all trees, shrubs and perennials including finishing operations.

C. Plant pit and shrub bed excavation and backfill mixtures.

D. Mulch for all plant bed and saucer areas and other areas indicated.

E. Protection, maintenance and replacement of plant material and related items.

1.3 RELATED SECTIONS: The following Sections contain requirements that relate to this Section:

1. Division 32, Section “Topsoil”.
2. Division 32, Section “Turf and Grasses”.

1.4 SUBMITTALS

A. Product Literature:

1. Fertilizers/Lime
2. Tree anchors
3. Anti-transpirant
4. Peat moss
5. Weed Barrier
6. Plant Certificates
7. Root Anchor System – include typical assembly list/detail.

B. Maintenance Plan and Schedule

1. Prepare a maintenance plan for plants to be conducted during the warranty period. This plan shall describe activities and their schedule, and shall identify general manpower expected to perform maintenance. This submittal shall be provided in draft form prior to commencement of planting activities, and shall be provided in final form by the time of completion of installation.

C. Topsoil: Testing reports/analysis, as per Division 32 Section "Topsoil", must be submitted and approved prior to delivery of soil materials to the site and the preparation of planting mixtures.

D. Submit complete list of plant material growers 4 weeks prior to digging of plants. List is to include names of individuals to contact, phone numbers, addresses and latest possible date for completion of tagging.

E. Submit waterproof tags prior to tagging trip. Tags to contain following information:

1. Contractor’s name.
2. Plant genus, species and cultivar/variety.
3. Plant common name.
4. Name of nursery.
5. Size of plant.
6. Quantity of plant (i.e. 2 of 10)

F. Submit proposed planting schedule, indicating dates for each type of landscape work during normal seasons for such work in area of site. Correlate with specified maintenance periods to provide maintenance from date of substantial completion. Once accepted, revise dates only as approved in writing, after documentation of reasons of delay.

G. Submit schedule of arrival of plant material.

H. Submit instructions for continuing Owner maintenance. Include pruning and trimming methods and types, application frequency and recommended coverage of fertilizer; and water requirements for year-round care of installed plants. Document is to be in bound 8 ½" x 11" format. Submit prior to expiration of required maintenance period(s).

I. Submit for approval a proposed maintenance procedure and schedule of the storage of plant materials. Trees, shrubs, groundcover and perennials stored on and off site shall be maintained by watering, fertilizing, mulching, and spraying for infestation and disease to maintain these plants in a healthy condition. Plants stored off site shall be available for inspection by the Landscape Architect.

J. Samples:

1. Shredded Bark Mulch
2. Compost
3. 1.5 lb (2 kg) of mulch for each type required for the Project, in labeled plastic bags.

K. Qualification data for firms and persons specified in the “Quality Assurance” Article to demonstrate their capabilities and experience. Include lists of completed projects with project names and addresses, names and addresses of Landscape Architects and Owners, and other information specified.

1.5 QUALITY ASSURANCE

A. Standards:

1. All plants shall meet or exceed the specifications of Federal, State and County laws requiring inspection for plant disease and insect control.

2. Quality, size and ball size shall conform to the latest issue of ANSI Z60.1 “American Standard for Nursery Stock” by the American Association of Nurserymen, Inc. and its amendments.

3. All plants shall be certified true to name by the nursery source. Sealed certificates from the nursery source shall be submitted to Landscape Architect prior to any plant material installation. One plant of each species shall be tagged with the name and size of the plant in accordance with the standards of practice of the American Association of Nurserymen. Botanical names shall take precedence over common names.

B. Qualifications of Installers:

1. Provide at least one person who shall be thoroughly familiar with the type of materials being installed and shall direct all work performed under this Section.

2. The foreman shall be on site at all times during the planting installations and shall have a minimum of 5 years of experience with the installation of plant materials.

1.6 PRODUCT HANDLING

A. Delivery and Storage:

1. Deliver all items to the job site in their containers with all labels intact and legible at the time of inspection. Provide protective covering during delivery. Root balls shall not be cracked or broken. Notify Owner of delivery schedule at least two (2) days in advance so plant material may be inspected upon arrival at job site. Remove unacceptable plant material immediately from job site. Do not prune plants prior to delivery unless otherwise directed by Owner. Do not bend or bind-tie trees or shrubs in such a manner as to damage bark, break branches, or destroy natural shape.

2. Deliver trees, shrubs, ground covers, and plants after preparations for planting have been completed and install immediately. If planting is delayed more than six (6) hours after delivery, set planting materials in shade, protect from weather and mechanical damage, and keep roots moist by covering with mulch, burlap, or other acceptable means.

3. Use all means necessary to protect plant materials before, during, and after installation and to protect the work and materials of all other trades.

4. Deliver fertilizer to site in original unopened containers bearing manufacturer’s guaranteed chemical analysis, name, trade name, and conformance to state law.

B. Replacements: In the event of damage, immediately make all repairs and replacements necessary at no additional cost to the Owner.

1.7 PROJECT CONDITIONS

A. Examine: the areas and conditions under which work of this Section will be performed. When conditions detrimental to plant growth are encountered, such as rubble fill, adverse drainage conditions, or obstructions, notify Owner before planting. Correct conditions detrimental to the

proper and timely completion of the work. Do not proceed until unsatisfactory conditions have been corrected. Coordinate work with other related site work that is not included in this contract. Maintain proper sequencing of operations. Commencement of work implies acceptance by Contractor of preparatory work by others.

B. The Contract drawings show the approximate locations of utility structures in the area of proposed landscape development. Determine location of underground utilities and perform work in a manner that will avoid possible damage. Hand excavate as required. The Contractor is responsible for any damage that is the cause of the Contractor's operations and shall replace or repair any damage at the Contractor's expense. Changes in the locations of plant material due to utility obstructions shall not be cause for extra compensation.

C. Plant Locations: On the Drawings are approximate and are to be used only as a guide. Contractor shall provide all field engineering services to accurately stake out locations for all plants and outlines of plant beds. Do not begin excavation until Owner or Landscape Architect has approved specific layout. Relocate the planting, without extra compensation if directed prior to final installation.

D. Upon completion of planting: remove from the site all excess soil, mulch, materials, and debris resulting from work operations of this Section. Restore to original conditions all damaged pavements, structures and lawn areas resulting from landscaping operations. Broom clean all walks and pavements. Dispose of all debris off-site in a satisfactory legal manner.

E. Protect landscape work and materials from damage due to landscape operations, operations by other contractors and trades, and trespassers. Maintain protection during installation and maintenance periods. Treat, repair, or replace damaged landscape work as directed. Maintain the site area in a neat and clean condition at all times.

1.8 COORDINATION AND SCHEDULING

A. Progress with planting only under favorable weather conditions. Planting will not be permitted when ground is frozen or excessively moist. Coordinate installation of planting materials during normal planting seasons for each type of plant material required. Time of planting is at the discretion of the Contractor, except as noted or when otherwise directed by Owner, but shall be presented in the schedule of planting required by item 1.4.E above. Notify the Owner prior to planting.

1.9 GUARANTEE REQUIREMENTS

A. Period Required:

1. The guarantee period for all plants will begin upon Owner's certification of substantial completion of the planting.

2. Plant material is eligible to receive final acceptance eighteen (18) months from the date of the certification of substantial completion. Planting done in late fall (after November 1st), shall be maintained and guaranteed until the second spring's leafing.

B. Plants: shall be guaranteed true to botanical name and size, and be in vigorous, healthy growing condition at the end of the maintenance/guarantee period.

C. Replacements:

1. Replace any dead plant or any plant that is unhealthy or unsightly.

2. Make replacement immediately as seasonal conditions permit. Guarantee replacement for one full year from date of replacement.

3. Replacements shall be of the same variety and size specified in the plant list.

4. As required after the second spring leafing for plantings installed after November 1st.

1.10 FINAL INSPECTION AND ACCEPTANCE

A. Landscape work may be inspected for acceptance in portions as agreeable to the Owner, provided each portion of the work offered for inspection is complete, including maintenance.

B. Submit Written Notice: requesting inspection by the Owner at least 10 days prior to the end of the guarantee period.

C. Final Acceptance: will be made if all plants meet the guarantee requirements. A sum sufficient to cover the cost of possible replacement plantings will be withheld from the Contractor if plant material is not accepted.

D. All stakes, guying materials and wrapping shall be removed prior to acceptance, if directed by the Landscape Architect or Owner.

PART 2 - PRODUCTS

2.1 TREES, SHRUBS, GROUND COVER AND PERENNIALS

A. Nursery Grown: unless otherwise noted.

B. Hardy: under climatic conditions similar to those in the locality of the project.

C. Typical: of their species or variety, with a normal habit of growth. Sound, healthy and vigorous. Well-branched and densely foliated when in leaf, free of disease, insect pests, eggs or larvae. Shall have healthy well-developed root systems. All trees shall have straight single trunks with their main leader intact unless otherwise stated.

D. Substitutions: will be permitted only upon written approval by the Owner.

E. Sizes: shall conform to the measurement specified on the Drawings. Plants larger than specified on the Drawings may be used if approved. Use of such plants shall not increase the Contract price.

F. Quantities: If there is a discrepancy between plants shown on the drawings and quantities given, the greater number will prevail. Discrepancies will not entitle the Contractor to an extra.

2.2 PLANT PIT BACKFILL MIXTURES

A. General: Provide mixtures as required. Bulk mix on-site; no off-site mixing allowed.

B. Planting Mixture:

Lime as recommended by soil analysis
1 part peat moss or finished compost
3 parts topsoil
Roots, Inc. “Transplant 1-Step” fertilizer/biostimulant/mycorrhiza inoculant.

2.3 TOPSOIL

A. As per Division 32, Section “Topsoil”.

2.4 SOIL AMENDMENTS AND CONDITIONERS:

A. Install as recommended by soil test reports.

1. Lime: Natural dolomitic limestone containing not less than 85 percent of total carbonates with a minimum of 30 percent magnesium carbonates, ground so that not less than 90 percent passes a 10 mesh sieve and not less than 50 percent passes a 100-mesh sieve.

2. Peat: Finely shredded divided peat, so completely decomposed and free of fibers that its biological identity is lost. Provide in granular form, free of hard lumps and with a pH range suitable for intended use.

3. Compost: Stable, finished, screened compost free of biosolids.

4. Other Amendments: As recommended from topsoil test.

2.5 RELATED MATERIALS

A. Root Anchors

1. Basis of Design root anchor systems are as manufactured by Platipus Earth Anchoring Systems, 1902 Garner Station Boulevard, Raleigh, NC 27603; https://www.platipus.us/ or approved equivalents:

a. Full Earth Subsoil Conditions: The “Platimat” system consisting of cast aluminum anchors, stainless steel cables with ratcheting loading mechanism, and root ball protection mats.

B. Wood Staking with guying material is not allowed.

C. Mulch

1. Mulch shall be double shredded uncolored bark mulch free of debris and weeds and aged at least six months. Provide sample to be approved. Source shall be coordinated with the Owner to be consistent with campus wide use of a single mulch source.

D. Anti-transpirant

1. "Transfilm" as manufactured by PBI/Gordon Corporation or approved equivalent.

PART 3 - EXECUTION

3.1 PLANTING MIXTURE

A. Before mixing, clean topsoil of roots, plants, sods, stones, clay lumps, or other extraneous materials harmful to the health of plants.

B. Provide planting mixtures for specific plants, shrubs, groundcover, as specified. Thoroughly mix all amendments to topsoil prior to commencing planting operations.

C. For pit and trench type backfill, mix planting soil prior to backfilling, and stockpile at site.

3.2 PLANTING PROCEDURES

A. Balled and Burlapped and Container Planting:

1. Stake all plant locations in the field as per the planting plan. Obtain approval from Owner of all plant locations. Make minor adjustments as may be required. Note: Owner will not approve of staked planting locations unless utilities have been located by CBYD prior to plant stake out. Review CBYD requirements to ensure that the required 72 hour notice is provided.

2. Excavate plant pits as detailed, remove and spread excess excavated material to on-site areas acceptable to the Owner. Do not mix subsoil with planting soil or use as backfill. Scarify bottom and sides of each plant pit. In planting islands, as indicated on the drawings, continuously excavate to the minimum dimensions as detailed or greater if needed to remove materials compacted for parking area.

3. Fill excavations for trees and shrubs with water and allow water to percolate out prior to planting. All plant pits must be free draining. Notify the Owner if positive drainage does not exist.

4. Set all plants in the center of plant pits, plumb and straight with top of ball at same elevation as adjacent finished grades, and as detailed on the drawings.

5. Handle balled and burlapped plants from the ball only.

6. Face each plant to give best appearance.

7. Carefully remove only surplus bindings and synthetic materials that do not readily decompose. Remove burlap from upper portion of ball as detailed. Do not pull burlap away from the plant. Remove top one-third of wire baskets, if present.

8. When set, place additional backfill around base and sides of ball, and work each layer to settle backfill to eliminate voids and air pockets. Backfill all pits 2/3 their depth with prepared plant backfill mixture, water thoroughly and allow to settle, then tamp around to fill all voids and air pockets. Complete backfilling to conform to required elevations after settlement.

9. Install mulch over entire plant pit as detailed. In areas of mass planting mulch entire bed. Do not cover root flare with mulch.

3.3 FINISHING OPERATIONS

A. Root Ball Anchoring:

1. Confirm that depth of native or planting soil is adequate for anchor system components.

2. Tailor each anchor set specifically to the tree and the conditions in which it has been planted.

3. Install anchors according to manufacturer's installations instructions, taking care not to twist, fracture, distort or otherwise harm the root ball in the anchoring process.

B. Mulching:

1. Mulch all plant and shrub beds with a three (3) inch deep layer of bark mulch unless otherwise shown on the Contract Drawings.

C. Anti-Transpirant:

1. Spray all trees with one (1) application of anti-transpirant in accordance with manufacturer's directives.

2. Apply protective film over all parts of branches, twigs and foliage.

D. Watering Plants:

1. Thoroughly water all plants immediately after planting and as necessary to guarantee the plant material.

E. Topsoil Amendments:

1. Provide topsoil amendments to each planting area in accordance with manufacturer's recommendations at the rates established in each specific topsoil test. Obtain Landscape Architect's approval of specific materials and rates/quantities prior to application. Prevent lime from contacting the roots of acid loving plants.

F. Pruning:

1. Prune only broken and damaged limbs.

3.4 REPAIR OF LAWN AREAS

A. Repair all lawn areas damaged/disturbed during all planting operations. Materials and procedures to be approved prior to execution of work.

B. Provide sediment and erosion control as required to protect disturbed areas from erosion.

3.5 MAINTENANCE

A. Period Required: begins immediately after planting. Continue until the end of the warranty period.

B. Maintenance Requirements:

1. Provide inspection of all plant material with the Owner present. Two (2) inspections, one every six months, are required.

2. Maintenance responsibilities shall include cultivating, spraying, weeding, watering, adjusting guying and staking material, pruning, fertilizing, mulching, resetting trees and shrubs to proper grade or vertical position as required, and any other operations necessary to properly maintain plant viability.

3. Begin maintenance immediately after planting.

END OF SECTION 32-9300

SECTION 32-9353 LANDSCAPE MAINTENANCE

PART 1- GENERAL

1.1 SUMMARY

A. Provide labor, materials, equipment, services and transportation to complete work.

1. Plant and turf maintenance including pruning, watering, drainage, irrigation, fertilizing, weed and pest control, and adjusting tree guys.
2. Guaranty and replacement of unacceptable plants.
3. Providing Owner with Maintenance Manual.

1.2 REFERENCES

A. Comply with applicable requirements of:

1. State of Connecticut Department of Transportation (ConnDOT) Standard Specifications for Roads, Bridges and Incidental Construction, Form 817 or Latest addition
2. American Association of Nurserymen, American Standards for Nursery Stock, (ANSI Z60.1), latest edition, published by the American Association of Nurserymen, 1250 I Street, N.W., Suite 500 Washington, D.C. 20005.

1.3 DEFINITIONS

A. Maintenance: consists of keeping turf , woody, perennial and annual plants in healthy growing condition including watering, weeding, cultivating, remulching, tightening and repairing of guys, removal and replacement of dead plant material, resetting plants to proper grades or upright positions and maintaining saucer.

1.4 SUBMITTALS

A. Submittals: in accordance with Section 01 Submittal Procedures

B. Materials List: provide list of materials to be used in maintenance; materials shall be the same as approved in related sections:

1. Fertilizers, soil amendments, testing see Section 32 Topsoil
2. Plant materials, mulch, and related materials, see Section 32 Plants

C. Pest and Disease Treatment

1. Submit plan for pest and disease treatment; identify proposed materials and methods.
2. Explain why a problem does or may exist.

D. Maintenance Manual

1. Provide a maintenance manual to Owner describing the operations the landscape contractor will take for on-going upkeep of the installed plants. The manual shall address itself to specified types and uses of plants installed, and provide information for care of both newly installed plants and long-term maintenance.
2. Provide specific information on the following items:
    a. Watering: Watering season; diagnosis of watering need; frequency of watering; amount; time of day; methods and equipment; equipment maintenance.
    b. Fertilization: Fertilizing seasons; analysis for fertilizer selection; application rates and methods; preparation and conditions; application times; application equipment; post-application operations and care; precautions for fertilizer use.
    c. Liming: Liming season; analysis for liming; application rate; method and equipment for application.
    d. Pruning: Pruning goals and purposes; methods and techniques (relate to species); equipment; season; cleanup and disposal; precautions.
    e. Mulching of beds: Depths of mulch; refreshment and replacement of mulch.
    f. Miscellaneous plant maintenance: Weeding and weed control; pest and disease control; leaf and litter removal; bed edging; professional assistance for plant care; and plant replacement as necessary.
3. Include a month-by-month calendar of maintenance procedures, indicating operations listed above.
4. Include a developed Record Keeping document to be completed by the landscape contractor’s maintenance staff and submitted weekly to the Owner’s Representative during active maintenance period.
5. Submit a copy of maintenance manual to Owner’s Representative for approval. Submit prior to planting completion. Owner’s Representative may request revisions to manual to meet intent of project design.
6. Submit three copies of manual to Owner at acceptance meeting for planting work. Acceptance shall not be granted until manual has been submitted and approved.

1.5 QUALITY ASSURANCE

A. Qualifications: contractor shall have minimum five years experience in landscape maintenance.

B. Regulatory Requirements
1. Secure permits, licenses, and pay fees including traffic control.
2. Comply with laws, regulations, and quarantines for agricultural and horticultural products.

1.6 DELIVERY, STORAGE AND HANDLING

A. Packing and Shipping: deliver materials in unopened containers bearing the manufacturer's name. Transport materials without damage. Protect finishes from abrasion, dirt, oils, grease, and chemicals. Pack materials to protect from weather.

B. Acceptance at Site: verify in writing that delivered materials conform to specifications and approved submittals.

C. Storage and Protection:

1. The University will not provide areas of storage for the maintenance contractor.
2. Store materials in dry place, on pallets, off the ground; protect from sun.
3. Protect materials from theft, damage, weather, dirt, oils, grease, and construction.

1.7 PROJECT/SITE CONDITIONS

A. Environmental Requirements: do not work soils when dry, wet, or frozen.

1. Field Test

a. Form soil in palm of hand, if soil retains shape and crumbles upon touching, the soil may be worked.
b. If soil will not retain shape it is too dry and should not be worked.
c. If soil retains shape and will not crumble, it is too wet and should not be worked.

B. Planting Seasons: see Section 32 - Plants

1.8 SUBSTANTIAL COMPLETION

A. Upon completion of planting, request Owner's Representative's review to determine if work is substantially complete. If work is complete, Owner's Representative will issue a Letter of Substantial Completion that establishes the effective date of the start of the 18 month Maintenance Period for plantings.

1. If work is not substantially complete, Owner's Representative will make a list of outstanding work to be done on a timely schedule agreed upon by Contractor and Owner's Representative.
2. Contractor shall notify Owner's Representative when outstanding work is accomplished and ready for review. When outstanding work is complete, in the judgment of Owner's Representative, a Letter of Substantial Completion will be issued.

1.9 PRELIMINARY ACCEPTANCE

A. After the Letter of Substantial Completeness the work will be reviewed for completeness and of Preliminary Acceptance

B. Plantings and turf shall be in thriving and vigorous condition at the time of review for Preliminary Acceptance. If plantings and turf are acceptable, Owner's Representative will issue a Letter of Preliminary Acceptance establishing the effective date of the Guaranty Period (18 months for plants, 60 days for sod, 90 days for seed).

1. If plantings are not thriving, in the judgment of Owner's Representative, remedial actions by Contractor will be required to repair or replace plantings.
2. Remedial work shall be done immediately and in accordance with related work of other sections.
3. At the conclusion of remedial work, Owner's Representative will review work and extend the Guaranty Period to incorporate new plantings.

1.10 FINAL ACCEPTANCE

A. After the Maintenance and Guaranty Period, plantings will be reviewed.

B. Plantings and turf shall be in thriving and vigorous condition at the time of review for Final Acceptance. If plantings are acceptable, Owner's Representative will issue a Letter of Final Acceptance.

1. If plantings are not thriving, in the judgment of Owner's Representative, remedial actions by Contractor will be required to replace plantings.

2. Remedial work shall be done immediately and in accordance with related work of other sections.

3. At the conclusion of remedial work, Owner's Representative will review work and extend the Maintenance and Guaranty Period until plantings are deemed acceptable.

PART 2 - MATERIALS

2.1 MATERIALS

A. Materials utilized during the maintenance period shall be the same specified in the work of the related sections:

1. Fertilizers, soil amendments, testing, see Section 32 – Topsoil.

2. Sod and related materials, see Section 32– Turf and Grasses

3. Plants, mulch, and related materials, see Section 32 - Plants.

2.2 BIOLOGICAL, HORTICULTURAL, HERBICIDAL AND OTHER PEST CONTROL

A. Material Specification: shall be by a licensed pest control operator, with authority to purchase, utilize, and specify agricultural chemicals and agricultural products.

B. Use the least hazardous, least intrusive materials and methods.

2.3 EQUIPMENT

A. Vehicles: in good working order so oil and grease does not stain pavements and poison plantings. Signs identifying the vehicles shall be clearly displayed.

B. Machinery: in good working order so oil and grease does not stain pavements and poison plantings.

2.4 WATER

A. Water: Furnished by Contractor, suitable for irrigation and free from ingredients harmful to plant life.
B. Hoses and other watering equipment to be furnished by Contractor.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Verification of Conditions: in the event field conditions are not as shown on Drawings and outlined in the Specifications, notify Owner's Representative in writing.

3.2 PREPARATION

A. Protection:

1. Agricultural Chemicals: protect site improvements from contact with agricultural chemicals, soil amendments, and fertilizers.

3.3 PRUNING

A. Pruning: prune with approval of Owner's Representative.

1. Remove dead branches, rubbing branches, and branch work growing towards the center of the tree.

3.4 DRAINAGE

A. Observe drainage in plant pits with hand soil augur.

B. Verify plant pits are draining; plant pits not draining shall be identified on the plan and brought to the attention of Owner's Representative.

3.5 PLANTS

A. Maintain plants in vigorous condition throughout the Maintenance and Guaranty Periods.

B. Replace plants that are missing, dead, not true to name or size as specified, or not in satisfactory growth, as determined by Owner's Representative. Replace plants found unacceptable within one month or in first month of next growing season, whichever comes first.

C. Plants must show a minimum of 75% healthy head with obvious growth since planting. Signs of disease, injury, or damage shall have been successfully treated or plant shall be rejected as determined by Owner's Representative.

D. Replacements plants shall be same kind and size as specified in plant list. Furnish and plant. Cost of replacement borne by Contractor except where it can be shown loss resulted from vandalism, fire, theft, or other causes beyond Contractor's control. Restore areas damaged or disturbed by replacement operations to their original condition.

3.6 IRRIGATION

A. Water at a rate of one inch of water every five to seven days. Apply water such that it penetrates the soil to a depth of 6".
B. Trees require a minimum of ten gallons each and shrubs a minimum of five gallons each per week.
C. If spring or fall months experience below average rainfall, periodic watering could be extended as part of this contract and at no additional charge as requested by Owner's Representative.

D. If natural rainfall provides water to meet watering requirements, weekly watering could be reduced but only at the request of Owner's Representative.

3.7 PLANT BASINS

A. Keep foot tamped and shaped earth dikes around plantings.

3.8 ROOTBALL ANCHORS

A. Inspect for tension and for position of trees.

B. Adjust anchor cables as needed to maintain root ball security.

3.9 FINISH GRADE

A. Maintain finish grades around plantings, at pavement edges, and at irrigation fixtures.

3.10 MULCH

A. Maintain mulch at 2" depth in planting areas with the exception of at stems and trunks of plants where mulch to be placed to a 0" depth and increasing to a depth of 2" at edge of rootballs and beyond.

3.11 TREATMENT OF PEST AND DISEASES

A. Spray for both insect pests and diseases during maintenance period with notification and permission of Owner's Representative. Apply herbicides, insecticides and fungicides as prescribed by their manufacturer and in accordance with State laws. Contractor shall possess from the State of Connecticut the proper registrations and permits for application of materials or have applications made by approved, qualified firm holding registrations and permits. Furnish copies of permits in connection with materials to Owner's Representative. Spraying to be considered only after full consideration has been given to alternative pest control strategies. The least toxic approach to pest control shall be used.

3.12 FIELD QUALITY CONTROL

A. Post Plant Soil Tests: see Section 32 – Plants

3.13 ADJUSTING

A. Re-set settled plants to proper grade and position.

B. Restore planting saucer and adjacent material.

3.14 CLEANING

A. Clean up, remove and dispose off-site excess planting mixture, soil and debris generated under work of this section.

B. Remove and dispose of stakes, guys and other accessories at end of Guaranty Period.

C. Wash and sweep clean site improvements and building surfaces. Clean spills and oversprays immediately.

D. Repair damage caused by maintenance operations.

3.15 PROTECTION

A. Protect work of this section until Final Acceptance.

B Protect planted areas and soils from compaction by construction traffic and from contamination by construction materials.

END OF SECTION 32-9353

STATE OF CONNECTICUT
UNIVERSITY OF CONNECTICUT

SUSAN HERBST
PRESIDENT

Gelfenbien Patio Improvements
STORRS CAMPUS

PROJECT NO.: 300081

PREPARED FOR AND BY:

UNIVERSITY PLANNING, DESIGN & CONSTRUCTION
31 LEDOYT RD. UNIT 3038
STORRS, CT 06269
860-486-2776

MARCH 7, 2019 (ISSUED FOR BID)

PROJECT CONSULTANTS

DRAWING LIST

L-0.0 .DRAWING NOTES

L-1.0 EROSION & SEDIMENT CONTROL, LOGISTICS & DEMOLITION PLAN

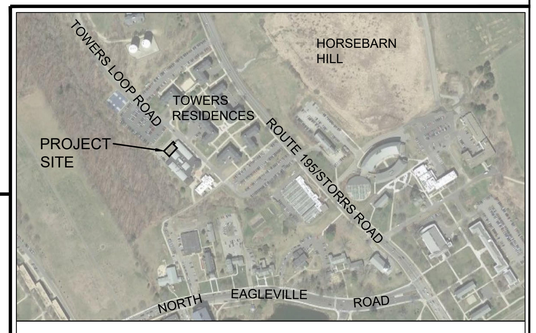
L-2.0 MATERIALS, LAYOUT, GRADING AND PLANTING PLANS

L-3.1 SITE DETAILS

L-3.2 SITE DETAILS

L-3.3 SITE DETAILS

L-3.4 SITE DETAILS



TRUE NORTH

PROJECT SITE LOCATION
NOT TO SCALE

EROSION AND SEDIMENT CONTROL NOTES

1. THE PROJECT SITE IS ADJACENT TO THE HEADWATERS OF EAGLEVILLE BROOK, AN IMPAIRED WATERWAY.
2. CONSTRUCTION EROSION SEDIMENTATION CONTROL MEASURES SHALL CONFORM TO THE APPLICABLE SECTIONS OF THE "2002 CONNECTICUT GUIDELINES FOR SOIL EROSION AND SEDIMENT CONTROL."
3. ALL TEMPORARY EROSION AND SEDIMENTATION CONTROL (E&S) MEASURES SHOWN ON THE EROSION & SEDIMENT CONTROL PLAN ARE SHOWN IN A GENERAL SIZE AND LOCATION ONLY. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ENSURING THAT ALL EROSION CONTROL MEASURES ARE CONFIGURED AND CONSTRUCTED IN A MANNER THAT WILL MINIMIZE EROSION OF SOILS AND PREVENT THE TRANSPORT OF SEDIMENTS AND OTHER POLLUTANTS TO THE RESOURCE AREAS AND PROPERTIES ADJACENT TO THE CONSTRUCTION SITE. ACTUAL SITE CONDITIONS OR SEASONAL AND CLIMATIC CONDITIONS MAY WARRANT ADDITIONAL CONTROLS OR CONFIGURATIONS AS DIRECTED BY THE OWNER
4. WEEKLY AND POST-RAIN (>0.1-INCH RAINFALL WITHIN 24 HOURS) INSPECTION SHALL BE CONDUCTED ON ALL E&S MEASURES BY THE CONTRACTOR.
5. AFTER EROSION AND SEDIMENTATION CONTROLS ARE IN PLACE, THE CONTRACTOR MAY STRIP SOILS AS REQUIRED. ALL STOCKPILED MATERIAL SHALL BE SUBJECT TO EROSION CONTROL DEVICES THAT SHALL INCLUDE A MINIMUM OF SILT FENCE WITH HAY BALE SUPPORT AND STOCKPILE COVERS. OTHER METHODS MAY INCLUDE MULCHING OR OTHER METHODS THAT PREVENT EROSIVE CONDITIONS.
6. TEMPORARY SEEDING OR NON-LIVING SOIL PROTECTION OF ALL EXPOSED SOILS SHALL BE INITIATED WITHIN THE FIRST 7 DAYS OF SUSPENDING WORK IN AREAS TO BE LEFT LONGER THAN 30 DAYS.
7. SEPARATE NON-LIVING SOIL PROTECTION MEASURES FOR AREAS THAT ARE SEEDED AND FOR AREAS THAT CANNOT BE SEEDED DUE TO WEATHER OR SEASONAL CONDITIONS.
8. ALL TEMPORARY SLOPES IN EXCESS OF 3 (HOR) TO 1 (VERT) SHALL BE STABILIZED WITH JUTE MATTING, OR APPROVED EQUIVALENT.
9. NO RUNOFF SHALL BE ALLOWED TO EXIT THE SITE PRIOR TO TREATMENT FOR SEDIMENT REMOVAL.
10. THE CONTRACTOR SHALL MAINTAIN A CLEAN CONSTRUCTION SITE AND SHALL NOT ALLOW THE ACCUMULATION OF RUBBISH OR CONSTRUCTION DEBRIS ON THE SITE. ALL TRASH SHALL BE CLEANED ON A DAILY BASIS AND THE JOB SITE SHALL BE LEFT IN A NEAT CONDITION AT THE END OF EACH DAY. PROPER SANITARY DEVICES SHALL BE MAINTAINED ON-SITE AT ALL TIMES. THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO AVOID THE SPILLAGE OF FUEL OR OTHER POLLUTANTS ON THE CONSTRUCTION SITE AND SHALL ADHERE TO ALL APPLICABLE POLICIES AND REGULATIONS RELATED TO SPILL PREVENTION AND RESPONSE.
11. FOR DUST CONTROL, PERIODICALLY MOISTEN EXPOSED SOIL SURFACES WITH WATER ON UNPAVED TRAVEL WAYS TO KEEP THE TRAVEL WAYS DAMP.
12. THE CONTRACTOR SHALL BE PREPARED AT ALL TIMES TO SWEEP ADJACENT ROADWAYS IF MUD OR SOIL IS TRACKED ON TO THEM, OR AS DIRECTED BY THE UNIVERSITY REPRESENTATIVE.
13. ALL EROSION CONTROL DEVICES SHALL BE MAINTAINED THROUGHOUT CONSTRUCTION.
14. CONSTRUCTION ENTRANCE TO BE LOCATED AS SHOWN ON THE PLANS, OR AS FIELD DIRECTED BY THE OWNER.
15. ALL EXISTING STORM STRUCTURES, INCLUDING TRENCH DRAINS, SHALL BE FITTED WITH CATCH BASIN SILT SACKS.
16. ALL HARDSCAPE (CURBING, CONCRETE, BITUMINOUS, ETC.) WITHIN THE LIMIT OF DEMOLITION SHALL BE REMOVED AND PROPERLY DISPOSED OF.

LEGEND

TC	Top of Curb
BC	Bottom of Curb
RIM	Catch Basin Rim
TF	Top of Frame
TW	Top of Wall
BW	Bottom of Wall
FF	Finish Floor Elevation
LOW	Limit of Work

SITE PREPARATION AND DEMOLITION NOTES

1. CONTRACTOR SHALL NOTIFY "CALL BEFORE YOU DIG" (WWW.CBYD.COM) AND VERIFY UTILITY MARK-OUT WITH THE UNIVERSITY PRIOR TO THE INITIATION OF ANY SITE DISTURBANCE.
2. PRIOR TO THE REMOVAL OF ANY UTILITY, VERIFY THAT APPLICABLE NOTIFICATIONS HAVE BEEN MADE TO THE UTILITY OWNER/OPERATOR AND THAT THE UTILITY HAS BEEN PROPERLY TERMINATED, CAPPED, OR PLUGGED AS REQUIRED.
3. UNMARKED UTILITIES ENCOUNTERED DURING EXCAVATION ARE TO HAVE THEIR LOCATION SURVEYED AND RECORDED ON THE AS-BUILT. AS BUILT INFORMATION TO BE PROVIDED IN GIS SURVEY AS DOCUMENTED IN DIVISION ONE PROJECT MANAGEMENT AND COORDINATION.
4. ALL FENCING TO BE INSTALLED PRIOR TO ANY SITE DISTURBANCE. BANNERS, PROVIDED BY THE OWNER ARE TO BE INSTALLED IMMEDIATELY ON THE FENCE AND NO LONGER THAN ONE WORKING DAY AFTER FENCE INSTALLATION.
5. CONSTRUCTION FENCE WITH UNIVERSITY BANNERS ARE TO BE KEPT UPRIGHT AND TIDY THROUGHOUT THE ENTIRE PROJECT.
6. CONTRACTOR SHALL VERIFY ALL ITEMS TO BE REMOVED AND TO REMAIN BEFORE COMMENCING ANY DEMOLITION WORK.
7. THE CONTRACTOR SHALL NOTIFY THE OWNER OF ANY AND ALL DISCREPANCIES BETWEEN EXISTING CONDITIONS AND THE CONTRACT DOCUMENTS BEFORE PROCEEDING WITH THAT PORTION OF THE WORK.
8. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR VERIFICATION OF THE LOCATION AND NATURE OF ALL SUBSURFACE UTILITIES AT THE PROJECT WHICH MAY BE AFFECTED BY THE WORK. COORDINATE WITH RESPECTIVE UTILITY OWNERS AND PERFORM VERIFICATION OF TYPE, LOCATION AND INVERTS AS REQUIRED. ALL EXISTING SURFACE AND SUBSURFACE UTILITIES, STRUCTURES AND SITE ELEMENTS TO REMAIN SHALL BE PROTECTED FROM DAMAGE. ANY DAMAGE TO EXISTING SITE ELEMENTS SHALL BE REPAIRED OR REPLACED AT NO ADDITIONAL COST TO THE OWNER.
9. CONTRACTOR IS RESPONSI9BLE FOR ALL DAMAGE INSIDE AND OUTSIDE THE LIMIT OF WORK. CONTRACTOR SHALL RESTORE DAMAGED AREAS INCLUDING VEGETATIVE AREAS TO REMAIN AND INCLUDING THE REPLACEMENT OF DAMAGED TREES BASED ON THE LANDSCAPE ARCHITECT'S ASSESSMENT OF THE DAMAGE.

LAYOUT NOTES

1. EXISTING CONDITION INFORMATION WAS TAKEN FROM AS-BUILT DOCUMENTATION FROM PROJECT 2012, NORTH TOWERS CENTRAL DINING FACILITY, 1-15-2004 AND IS NOT BASED ON RECENT SURVEYS. CONTRACTOR TO VERIFY LOCATION OF ALL SITE FEATURES
2. EMPLOY LICENSED SURVEYOR TO VERIFY AND LAYOUT BASELINES, DIMENSIONS AND ELEVATIONS. REPORT DISCREPANCIES TO OWNER'S REPRESENTATIVE.
3. LAYOUT PLAN PROVIDES LAYOUT OF SITE ELEMENTS AND THEIR FOUNDATIONS.
4. LINES ARE PARALLEL OR PERPENDICULAR TO LINES FROM WHICH THEY ARE MEASURED, UNLESS OTHERWISE NOTED.
5. DIMENSIONS ARE TO WALL FACE, CURB FACE, PAVEMENT EDGE, EDGE OR CENTERLINE OF IMPROVEMENT OR AS OTHERWISE NOTED.
6. PROVIDE CONTINUOUS CAULKED CONSTRUCTION JOINTS WHEREVER EXTERIOR CONCRETE PAVING ABUTS BUILDING, CURBS, WALLS AND OTHER SITE IMPROVEMENTS.
7. STAKE PROPOSED CURBS, WALLS AND SITE ELEMENT LOCATIONS AND ELEVATIONS FOR OWNER'S REPRESENTATIVE APPROVAL PRIOR TO INSTALLATION OF FOUNDATIONS.
8. FOR PLANT LAYOUT SEE ENLARGEMENTS

GRADING NOTES

1. REVIEW DRAWINGS AND SPECIFICATIONS TO DETERMINE THE TOTAL SCOPE AND COORDINATION OF WORK. VERIFY EXISTING GRADES AND ELEVATIONS OF ADJACENT SITE CONDITIONS WITH ELEVATIONS ON PLAN PRIOR TO BEGINNING WORK AND REPORT DISCREPANCIES TO OWNER'S REPRESENTATIVE.
2. CONTRACTOR RESPONSIBLE FOR A THOROUGH SITE EXAMINATION TO SATISFY THEMSELVES AS TO THE ACTUAL SITE CONDITIONS.
3. EMPLOY A LICENSED SURVEYOR OR REGISTERED CIVIL ENGINEER TO VERIFY AND LAY OUT GRADES, LINES AND DIMENSIONS AS SHOWN ON DRAWINGS. SITE CONDITIONS TO BE VERIFIED IN THE FIELD. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO REPORT DISCREPANCIES TO THE OWNER'S REPRESENTATIVE IMMEDIATELY AND RECEIVE INSTRUCTIONS PRIOR TO PROCEEDING WITH CONSTRUCTION.
4. GRADE EVENLY BETWEEN SPOT GRADES AS NOTED.
5. THE CONTRACTOR IS RESPONSIBLE FOR DAMAGE INSIDE OR OUTSIDE OF THE PROPERTY LINE AND LIMIT OF WORK LINE DUE TO THEIR CONSTRUCTION OPERATIONS.
6. USE ONE SINGLE BENCHMARK FOR WORK.
7. THE CONTRACTOR SHALL VERIFY EXISTING UTILITY LOCATIONS PRIOR TO EXCAVATION.
8. RIM ELEVATIONS OF DRAINAGE AND UTILITY STRUCTURES SHALL BE FLUSH WITH FINAL SURROUNDING GRADES SO NOT TO CAUSE A TRIP EDGE. CONTRACTOR TO RAISE OR LOWER COVER AS NECESSARY TO MATCH PROPOSED GRADES.
9. EXCAVATE BY HAND IN PROXIMITY TO EXISTING UTILITIES AND EXISTING STRUCTURES.
10. FINAL SHAPING OF EARTHWORK SHALL BE APPROVED IN THE FIELD BY OWNER'S REPRESENTATIVE.
11. PROPOSED GRADES INDICATE INTENT. VERIFY ELEVATIONS AND MAKE ADJUSTMENTS TO MEET FIELD CONDITIONS AS APPROVED BY OWNER'S REPRESENTATIVE. PROVIDE POSITIVE DRAINAGE.
12. PITCH PAVEMENT TO PROVIDE POSITIVE DRAINAGE. NOTIFY OWNER'S REPRESENTATIVE BEFORE PLACING PAVEMENT WITH A PITCH OF 5% OR GREATER; AND/OR A SIDEWALK PAVEMENT CROSSPITCH GREATER THAN 2% OR LESS THAN .75%.

PLANTING NOTES

1. TREES TO BE PRE-SELECTED AND PURCHASED AT NURSERY. TREE SIZE SHOWN ON PLANTING SCHEDULE ANTICIPATES THE SIZE OF TREES AT THE TIME OF DIGGING AND INSTALLATION.
2. OWNER'S REPRESENTATIVE TO APPROVE PLANT MATERIAL PRIOR TO DELIVERY TO SITE AND AGAIN AT SITE PRIOR TO PLANTING.
3. PLANT MATERIAL SHALL CONFORM TO "THE AMERICAN STANDARD FOR NURSERY STOCK", PUBLISHED BY THE AMERICAN HORT.
4. NO SUBSTITUTION OF PLANT SPECIES OR VARIETIES WILL BE ACCEPTABLE WITHOUT OWNER'S REPRESENTATIVE'S WRITTEN APPROVAL.
5. LOCATE AND VERIFY ALL UTILITY LINE LOCATIONS PRIOR TO STAKING AND REPORT CONFLICTS TO OWNER'S REPRESENTATIVE.
6. STAKE OUT PLANTS IN THEIR APPROXIMATE LOCATION. FRESH UTILITY MARKOUTS ARE REQUIRED FOR OWNER'S REPRESENTATIVE TO APPROVE LOCATIONS.
7. ADJUST LOCATIONS OF STAKES AS DIRECTED BY OWNER'S REPRESENTATIVE TO ACCOUNT FOR UTILITIES AND OTHER FIELD CONDITIONS. OWNER'S REPRESENTATIVE TO APPROVE FINAL STAKE LOCATIONS PRIOR TO PLANTING.
8. NO PLANTING SHALL BE INSTALLED BEFORE ACCEPTANCE OF FINAL GRADING.
9. COMPLETE QUANTITIES OF PLANTS FOR EACH AREA TO BE AVAILABLE ON SITE AT THE TIME OF PLANTING FOR FIELD LAYOUT BY OWNER'S REPRESENTATIVE. NO PARTIAL LAYOUT AND PLANTING OF AREAS WILL BE ACCEPTABLE.
10. INSTALL PLANTS WITH ROOT FLARES FLUSH WITH GRADE. IMMEDIATELY REPLANT PLANTS WHICH SETTLE OUT OF PLUMB OR BELOW FINISH GRADE.
11. PLANT UNDER FULL SUPERVISION OF CERTIFIED ARBORIST, NURSERYMAN, OR LICENSED LANDSCAPE ARCHITECT. PROVIDE WRITTEN VERIFICATION OF CERTIFICATION AND/OR LICENSE FOR OWNER'S REPRESENTATIVE'S APPROVAL.
12. LOOSE OR CRACKED ROOTBALLS ARE UNACCEPTABLE.
13. DO NOT USE TREE WRAP.
14. REMOVE TOP 2/3 OF WIRE BASKETS. REMOVE TOP 1/3 OF BURLAP. SYNTHETIC BURLAP WILL NOT BE ACCEPTED. FOR CONTAINER PLANTS, REMOVE CONTAINER AND SCARIFY EDGES OF ROOTBALL 1/2" DEEP IN A MINIMUM OF FOUR LOCATIONS.
15. WATER PLANTS THOROUGHLY AFTER INSTALLATION, A MINIMUM OF TWICE WITHIN THE FIRST 24 HOURS.

CERTIFICATION:

STATUS:
ISSUED FOR BID

CONSULTANT:

UNIVERSITY
PLANNING DESIGN
AND CONSTRUCTION
UNIVERSITY OF
CONNECTICUT
31 Ledoyt Road, Unit 3038
Storrs, Connecticut 06269

REVISIONS:

MARK	DATE	DESCRIPTION
1	--	--

UNIVERSITY OF CONNECTICUT
UNIVERSITY PLANNING DESIGN & CONSTRUCTION
31 LEDOYT ROAD UNIT 3038
STORRS, CONNECTICUT 06269-3038
TELEPHONE (860) 486-2776
FACSIMILE (860) 486-3177

PROJECT:

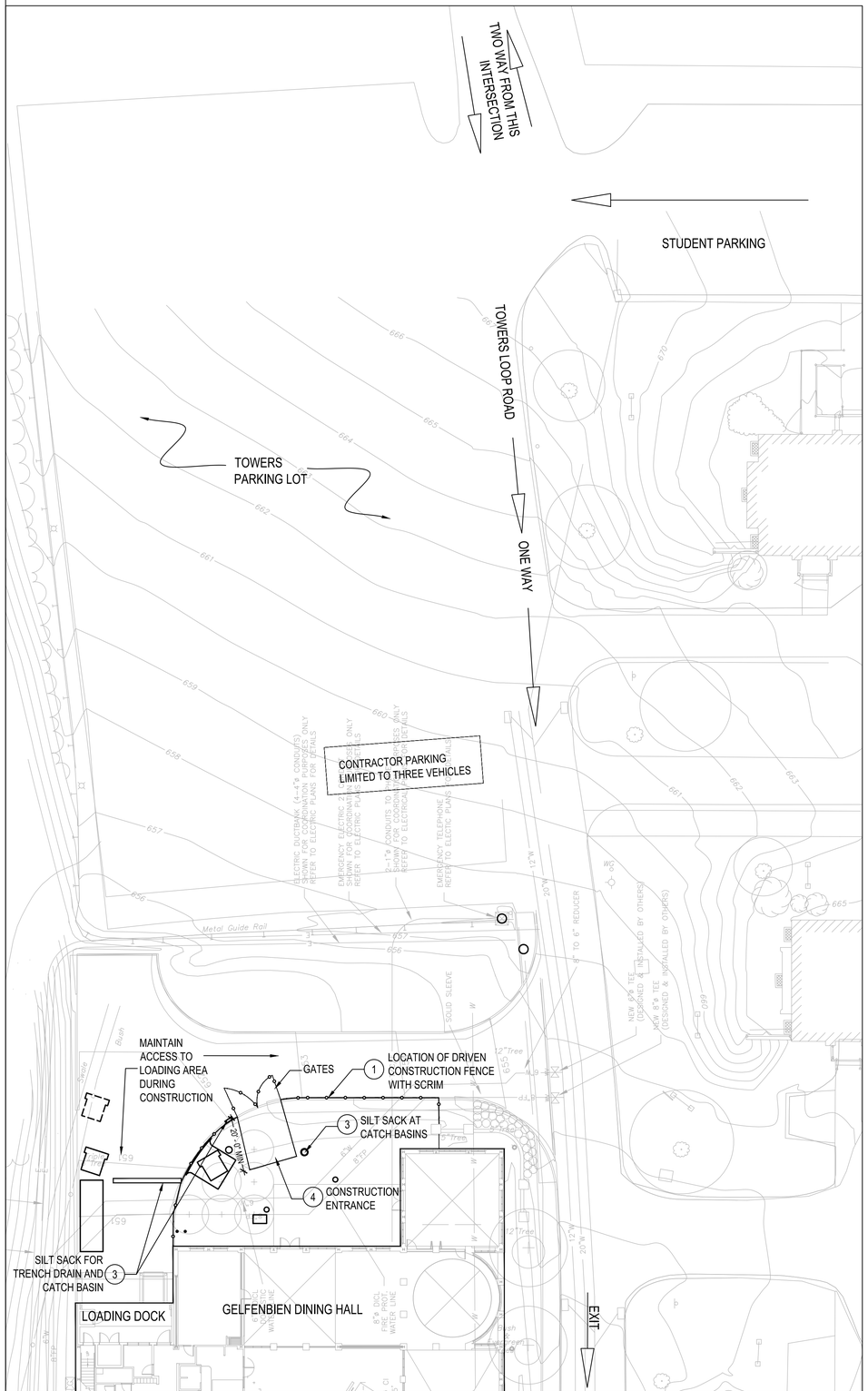
GELFENBIEN PATIO IMPROVEMENTS
Storrs CT. 06269-3038

PROJECT NO: 300081
WORK ORDER NO:
FILE NAME:

AUTHOR: ELM
DRAFTER: ELM
SCALE: AS SHOWN
PRINT DATE: 03-07-2019
SHEET TITLE:
DRAWING NOTES

SHEET:
L0.0

SHEET: 1 of 7



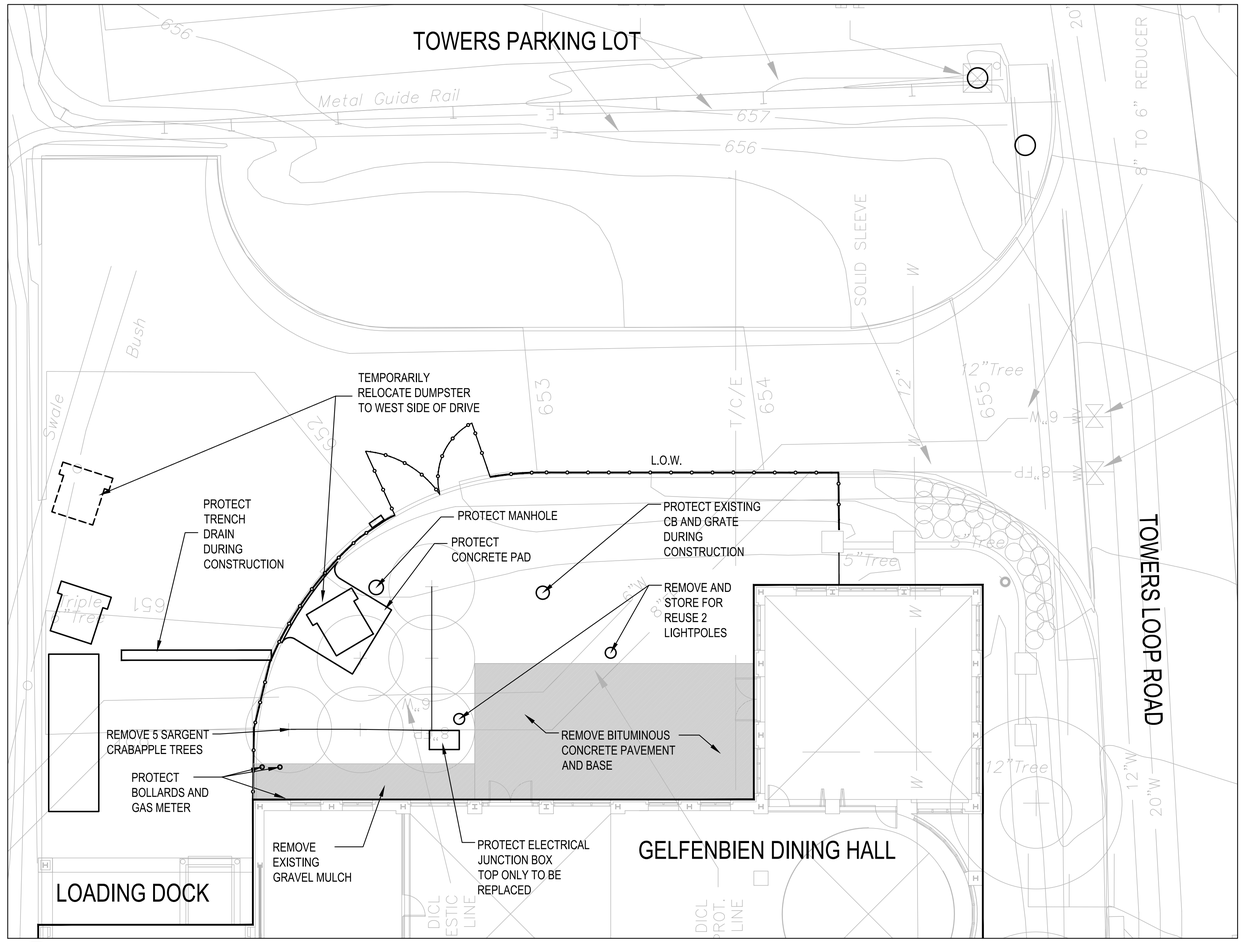
1 EROSION AND SEDIMENT CONTROL AND GUIDING LOGISTICS PLAN

Scale: 1" = 20'-0"

CALLOUT NUMBER	DESCRIPTION	DETAIL NUMBER	DETAIL SHEET	SYMBOL
1	Temporary Construction Fence	7	L-3.2	
2	Silt Fence/Hay bale Barrier	1, 4	L-3.2	
3	Catch Basin Silt Sack	2	L-3.2	
4	Construction Entrance	5	L-3.2	
5	Concrete Sidewalk	1	L-3.1	
6	Permeable Pavement	2, 3, 4	L-3.1	
7	Permeable Pavement Underdrain	2	L-3.1	
8	Segmental Unit Retaining Wall	2	L-3.4	
9	Segmental Unit Retaining Wall Underdrain	2	L-3.4	
10	Concrete Pier and Fence Post	3	L-3.4	
11	Light Pole Base	6	L-3.1	
12	New Utility Box Cover	See Specs		
13	Door Opener Bollard	By Others		
14	Privacy Fence	1	L-3.3	
15	Privacy Gate	1	L-3.3	
16	Elevation at Wall and Fence	1	L-3.4	
17	Stone Surfacing	5	L-3.1	
18	Lawn	10	L-3.2	
19	Planting Bed	See Specs		
20	Steel Edging	4	L-3.1	
21	Tree Planting	3	L-3.2	
22	Tree Staking	6	L-3.2	
23	Shrub Planting	8	L-3.2	
24	Ground Cover and Perennial Planting	9	L-3.2	

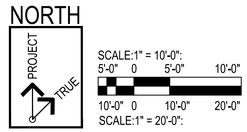
2 DETAIL LIST AND DETAIL LOCATION

NTS



3 DEMOLITION PLAN

Scale: 1" = 10'-0"



CERTIFICATION:

STATUS:
ISSUED FOR BID

CONSULTANT:

UNIVERSITY
PLANNING DESIGN
AND CONSTRUCTION
UNIVERSITY OF
CONNECTICUT
31 Ledoyt Road, Unit 3038
Storrs, Connecticut 06269

REVISIONS:

MARK	DATE	DESCRIPTION
1	--	--

UNIVERSITY OF CONNECTICUT
UNIVERSITY PLANNING DESIGN & CONSTRUCTION
31 LEDOYT ROAD UNIT 3038
STORRS, CONNECTICUT 06269-3038
TELEPHONE (860) 486-2776
FACSIMILE (860) 486-3177

PROJECT:

GELFENBIEN PATIO IMPROVEMENTS
Storrs CT. 06269-3038

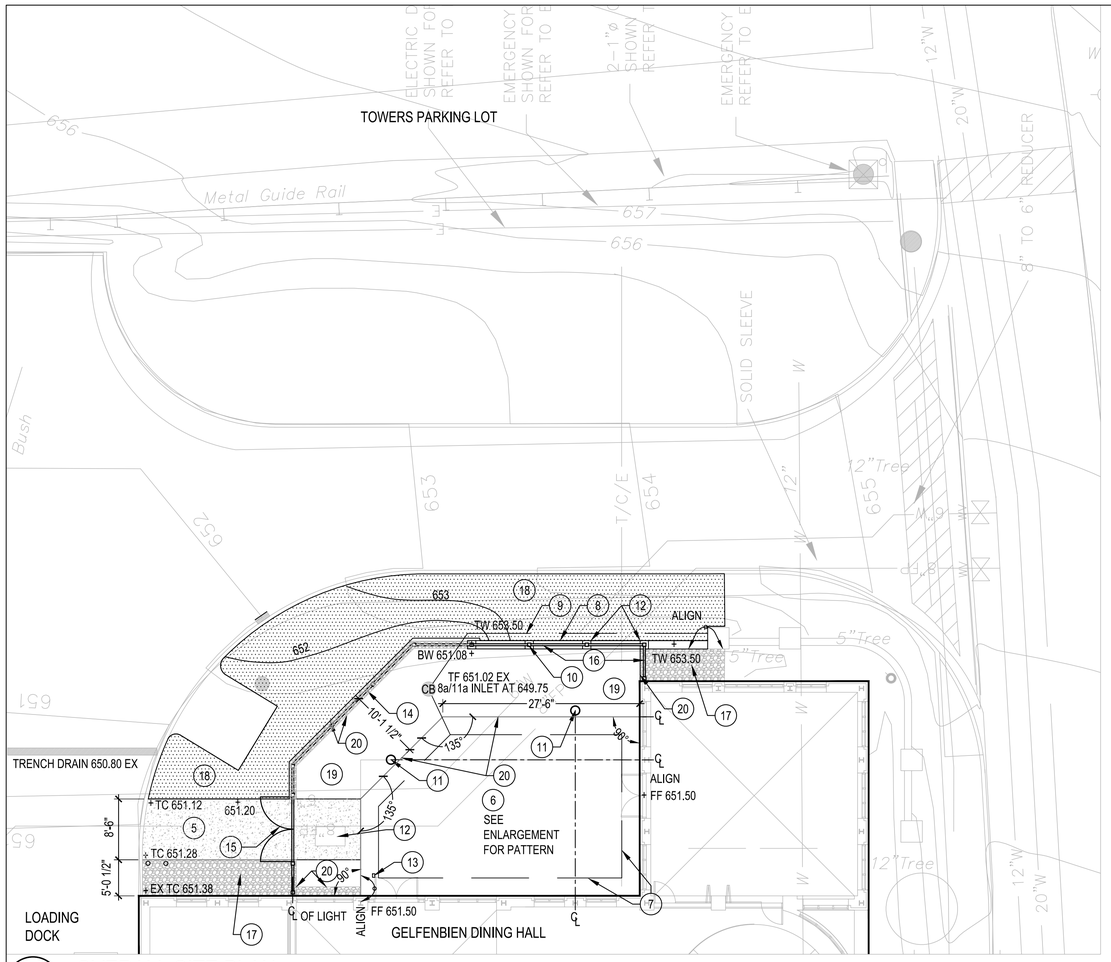
PROJECT NO: 300081
WORK ORDER NO:
FILE NAME:

AUTHOR: ELM
DRAFTER: ELM
SCALE: AS SHOWN
PRINT DATE: 03-07-2019
SHEET TITLE:

EROSION & SEDIMENT CONTROL, LOGISTICS & DEMOLITION PLANS

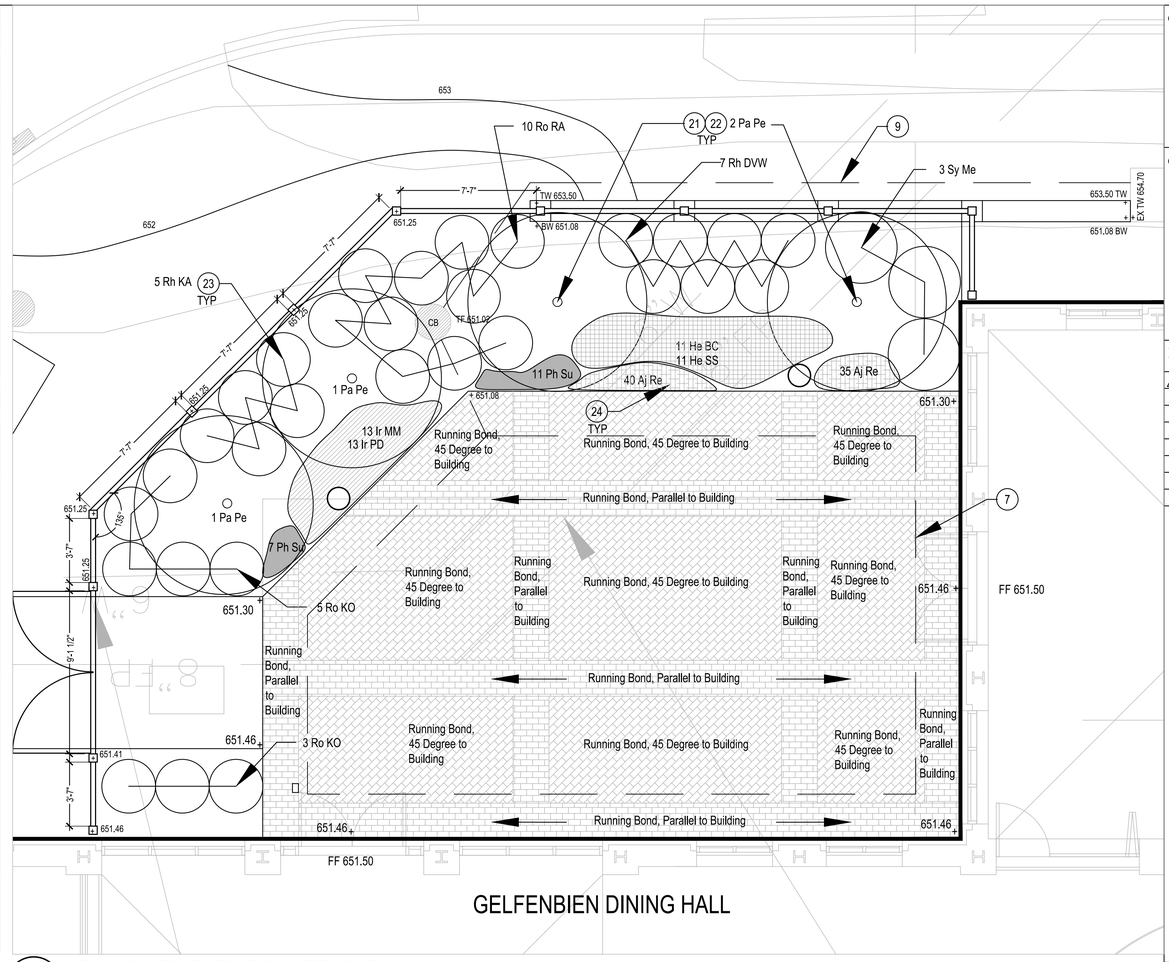
SHEET:

L1.0



1 OVERALL SITE PLAN

Scale: 1'=10'-0"



2 ENLARGEMENT AT PAVER PATIO

Scale: 1/4" = 1'-0"

CALLOUT NUMBER	DESCRIPTION	DETAIL NUMBER	DETAIL SHEET	SYMBOL
1	Temporary Construction Fence	7	L-3.2	
2	Silt Fence/Hay bale Barrier	1, 4	L-3.2	
3	Catch Basin Silt Sack	2	L-3.2	
4	Construction Entrance	5	L-3.2	
5	Concrete Sidewalk	1	L-3.1	
6	Permeable Pavement	2, 3, 4	L-3.1	
7	Permeable Pavement Underdrain	2	L-3.1	
8	Segmental Unit Retaining Wall	2	L-3.4	
9	Segmental Unit Retaining Wall Underdrain	2	L-3.4	
10	Concrete Pier and Fence Post	3	L-3.4	
11	Light Pole Base	6	L-3.1	
12	New Utility Box Cover	See Specs		
13	Door Opener Bollard	By Others		
14	Privacy Fence	1	L-3.3	
15	Privacy Gate	1	L-3.3	
16	Elevation at Wall and Fence	1	L-3.4	
17	Stone Surfacing	5	L-3.1	
18	Lawn	10	L-3.2	
19	Planting Bed	See Specs		
20	Steel Edging	4	L-3.1	
21	Tree Planting	3	L-3.2	
22	Tree Staking	6	L-3.2	
23	Shrub Planting	8	L-3.2	
24	Ground Cover and Perennial Planting	9	L-3.2	

3 DETAIL LIST AND DETAIL LOCATION

NTS

SYMBOL	QUANTITY	GENUS	SPECIES	CULTIVAR	COMMON NAME	SIZE	NOTES
TREES							
Pa Pa	4	Parrotia	persica		Parrotia	3-3 1/2" cal	B&B, Matched, Branching at 3'-0"
SHRUBS							
Rh DVW	7	Rhododendron		Delaware Valley White	Delaware Valley White Azalea	2'-6" ht. & spr	
Rh KA	5	Rhododendron		Karen	Karen Azalea	2'-6" ht. & spr	
Ro KO	18	Rosa		Rainbow	Rainbow Knock-out Rose	5 gallon	
Sy Me	3	Syringa	meyeri	Palibin	Dwarf Korean Lilac	2'-6" ht. & spr	
PERENNIALS							
Aj Re	75	Ajuga	reptans		Bugleweed	pint	6 inches on center
He BC	11	Hemerocallis		Never Ending Butter Cream	Butter Cream Daylily	2 gallon	18 inches on center
He SS	11	Hemerocallis		Never Ending Strawberry Swirl	Strawberry Swirl Daylily	2 gallon	18 inches on center
Ir PD	13	Iris		Pagan Dance	Pagan Dance Bearded Iris	1 gallon	15 inches on center
Ir MM	13	Iris		Mr. Moonlight	Mr. Moonlight Bearded Iris	1 gallon	15 inches on center
Ph St	18	Phlox	stolonifera	Pink Ridge	Pink Ridge Creeping Phlox	1 gallon	10 inches on center

4 PLANT LIST

NTS

NORTH

PROJECT TRUE

SCALE:1" = 10'-0":
5'-0" 0 5'-0" 10'-0"
2'-0" 0 2'-0" 4'-0"
SCALE:1/4" = 1'-0":

CERTIFICATION:

STATUS:
ISSUED FOR BID

CONSULTANT:

UNIVERSITY
PLANNING DESIGN
AND CONSTRUCTION
UNIVERSITY OF
CONNECTICUT
31 Ledoyt Road, Unit 3038
Storrs, Connecticut 06269

REVISIONS:

MARK	DATE	DESCRIPTION
1	--	--

UNIVERSITY OF CONNECTICUT
UNIVERSITY PLANNING DESIGN & CONSTRUCTION
31 LEDOYT ROAD UNIT 3038
STORRS, CONNECTICUT 06269-3038
TELEPHONE (860) 486-2776
FACSIMILE (860) 486-3177

PROJECT:

GELFENBIEN PATIO IMPROVEMENTS
Storrs CT. 06269-3038

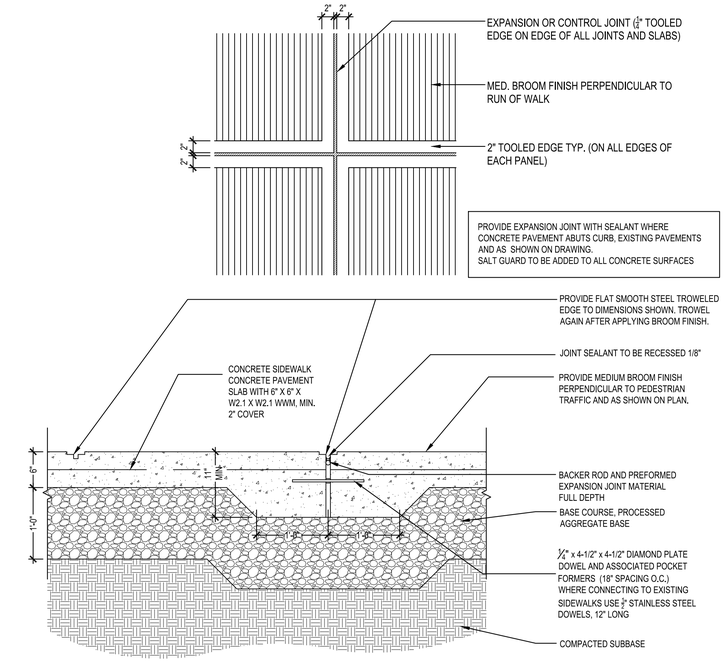
PROJECT NO: 300081
WORK ORDER NO:
FILE NAME:

AUTHOR: ELM
DRAFTER: ELM
SCALE: AS SHOWN
PRINT DATE: 03-07-2019

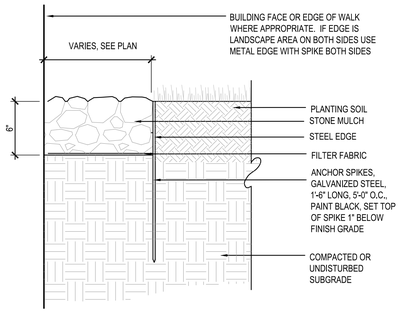
SHEET TITLE:
MATERIALS, LAYOUT, GRADING AND PLANTING PLANS

SHEET:
L2.0

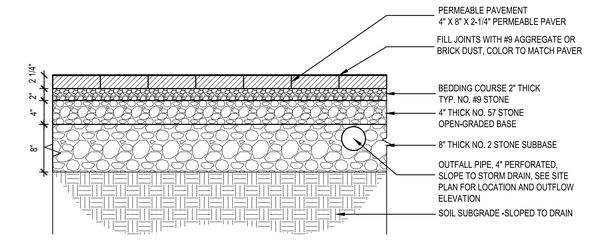
SHEET: 3 of 7



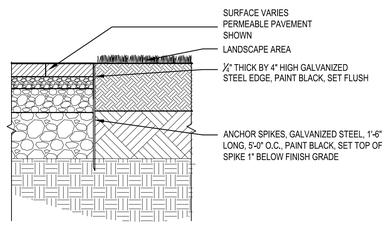
1 CONCRETE SIDEWALK AND EXPANSION JOINT
Scale: 1"=1'-0"



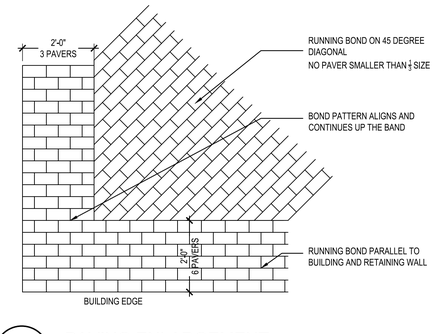
5 STONE SURFACING
Scale: 1"=8"



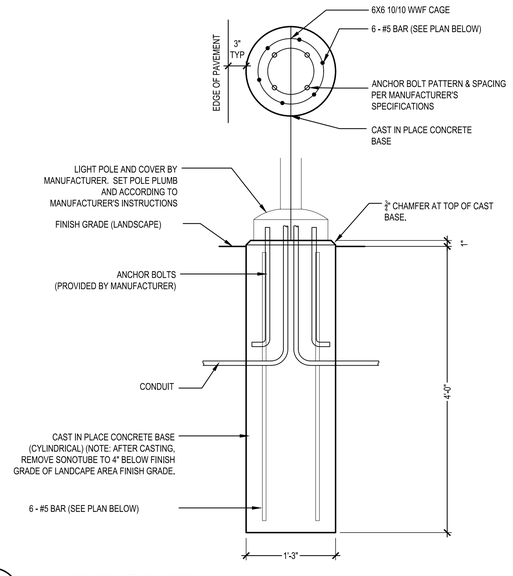
2 PERMEABLE PAVEMENT
Scale: 1"=1'-0"



4 STEEL EDGING
Scale: 1" = 1'-0"



3 PAVING ENLARGEMENT
Scale: 1/2"=1'-0"



6 LIGHT POLE BASE
Scale: 1"=1'-0"

CERTIFICATION:

STATUS:
ISSUED FOR BID

CONSULTANT:

UNIVERSITY
PLANNING DESIGN
AND CONSTRUCTION
UNIVERSITY OF
CONNECTICUT
31 Ledoyt Road, Unit 3038
Storrs, Connecticut 06269

REVISIONS:

MARK	DATE	DESCRIPTION
1	--	--

UNIVERSITY OF CONNECTICUT
UNIVERSITY PLANNING DESIGN & CONSTRUCTION
31 LEDOYT ROAD UNIT 3038
STORRS, CONNECTICUT 06269-3038
TELEPHONE (860) 486-2776
FACSIMILE (860) 486-3177

PROJECT:

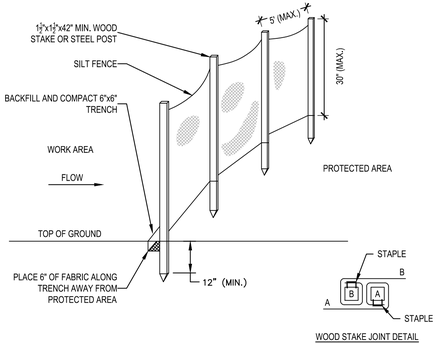
GELFENBIEN PATIO IMPROVEMENTS
Storrs CT. 06269-3038

PROJECT NO: 300081
WORK ORDER NO:
FILE NAME:

AUTHOR: ELM
DRAFTER: ELM
SCALE: AS SHOWN
PRINT DATE: 03-07-2019
SHEET TITLE:
SITE DETAILS

SHEET:
L3.1

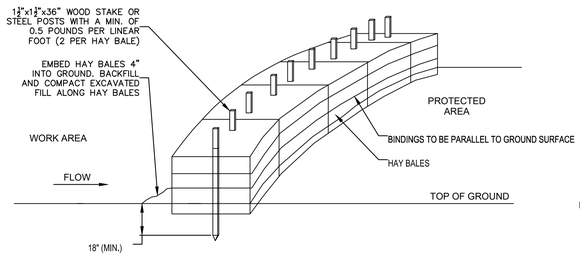
SHEET: 4 of 7



GENERAL NOTES

1. FOR SLOPE & SWALE INSTALLATIONS, EXTEND FENCE OP SLOPE SUCH THAT BOTTOM ENDS OF FENCE WILL BE HIGHER THAN THE TOP OF THE LOWEST PORTION OF FENCE.
2. FOR FENCE INSTALLED ON LEVEL TERRAIN INSTALL WING SECTIONS PERPENDICULAR TO MAIN BARRIER AT 50'-100' INTERVALS.

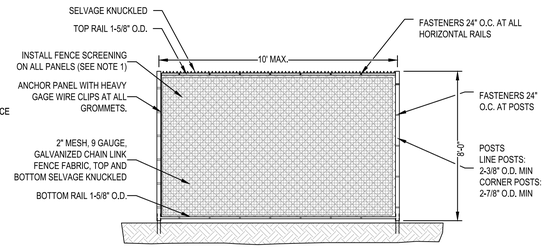
1 SILT FENCE BARRIER
Scale: NTS



GENERAL NOTES

1. HAY BALES SHALL BE MADE OF HAY OR STRAW WITH 40 POUND MIN. WEIGHT AND 120 POUND MAX. WEIGHT HELD TOGETHER BY TWINE OR WIRE.
2. PLACE HAY BALES ON CONTOUR AND WING THE LAST HAY BALES UP SLOPE SO THAT THE TOP OF THE LAST SEVERAL HAY BALES ARE HIGHER THAN THE LINE OF HAY BALES.
3. DRIVE FIRST STAKE IN EACH BALE TOWARD THE PREVIOUSLY LAID BALE TO FORCE THEM TOGETHER.
4. PUT ONE HAY BALE PERPENDICULAR ALONG HAY BALE BARRIER EVERY 100 FEET.

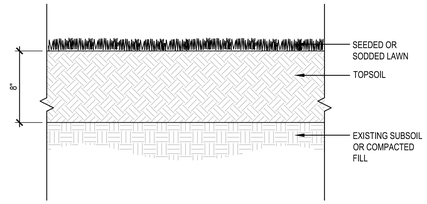
4 HAY BALE BARRIER
Scale: NTS



NOTES:

1. FENCE SCREENING PER SPECIFICATION SECTION 01 5000.
2. POSTS TO BE DRIVEN IN ALL AREAS, EXCEPT WHERE PEDESTAL FENCE IS INDICATED. PEDESTAL FENCE, WHERE SHOWN ON THE PLAN, REQUIRE STABILIZERS. EACH STABILIZER BRACKET SHALL BE SECURED WITH 2 BLACK WEIGHTS, MIN. 50 POUNDS EACH.
3. PEDESTAL CONSTRUCTION FENCE SHALL ONLY BE USED AT CONSTRUCTION SITE ENTRANCE AREAS, AREAS REQUIRING FREQUENT RELOCATION OF FENCING, OR WHERE PAVED AREAS PROHIBIT INSTALLATION OF EMBEDDED FENCE POSTS.
4. BANNERS WILL BE PROVIDED BY THE UNIVERSITY TO THE CONTRACTOR FOR INSTALLATION. BANNERS TO REMAIN FIRMLY ATTACHED AT ALL TIMES.

7 TEMPORARY CONSTRUCTION FENCE
Scale: NTS



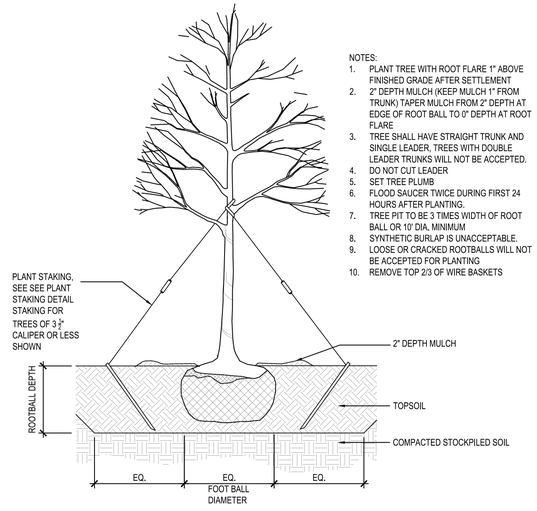
10 LAWN
Scale: N. T. S.

NOTE: USE A COMMERCIAL GEOTEXTILE FILTER SUCH AS THE SILTSACK OR THE BEAVER DAM OR DANDY BAG MANUFACTURED BY DANDY PRODUCTS OR AN APPROVED EQUAL.

2 CATCH BASIN SILT SACK
Scale: NTS

5 CONSTRUCTION ENTRANCE
Scale: NTS

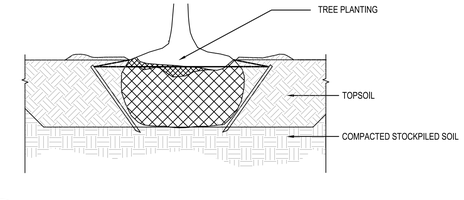
8 SHRUB PLANTING
Scale: NTS



NOTES:

1. PLANT TREE WITH ROOT FLARE 1" ABOVE FINISHED GRADE AFTER SETTLEMENT
2. 2" DEPTH MULCH (KEEP MULCH 1" FROM TRUNK) TAPER MULCH FROM 2" DEPTH AT EDGE OF ROOT BALL TO 0" DEPTH AT ROOT FLARE
3. TREE SHALL HAVE STRAIGHT TRUNK AND SINGLE LEADER, TREES WITH DOUBLE LEADER TRUNKS WILL NOT BE ACCEPTED.
4. DO NOT CUT LEADER
5. SET TREE PLUMB
6. FLOOD SAUCER TWICE DURING FIRST 24 HOURS AFTER PLANTING.
7. TREE PIT TO BE 3 TIMES WIDTH OF ROOT BALL OR 10' DIA. MINIMUM
8. SYNTHETIC BURLAP IS UNACCEPTABLE.
9. LOOSE OR CRACKED ROOTBALLS WILL NOT BE ACCEPTED FOR PLANTING
10. REMOVE TOP 2/3 OF WIRE BASKETS

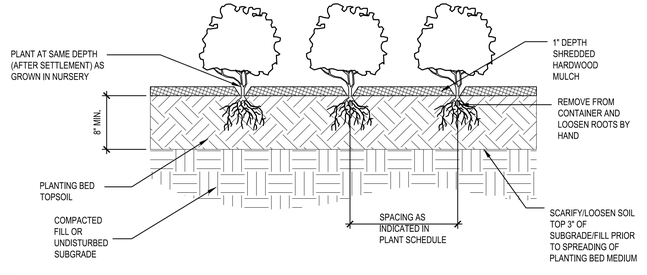
3 TREE PLANTING
Scale: 3/8"=1'-0"



NOTES:

1. PLANT STAKING SYSTEMS INDICATED ARE SHOWN DIAGRAMMATICALLY. CONTRACTOR IS RESPONSIBLE FOR MAINTAINING STAKING SYSTEM AT THEIR DISCRETION TO MAINTAIN PLANTS IN A PLUMB CONDITION AND TO ASSURE TREES ARE INSTALLED IN A WAY THAT ENSURES SAFETY FOR USERS.
2. WOODEN STAKES ARE NOT PERMITTED.
3. IN AREAS WHERE THE STAKES WILL NOT INTERFERE WITH USE OF THE AREAS AND WHERE TREES ARE 3½" CALIPER OR LESS, ABOVE GROUND GUY WIRES CAN BE USED. BELOW GROUND ANCHORING OF THE WIRES IS REQUIRED.
4. TREES ALONG WALKWAYS AND/OR WITH A GREATER THAN 3½" CALIPER MUST BE SECURED WITH ROOT BALL ANCHORING SYSTEM.
5. STAKE MAINTENANCE AS DEFINED IN SPECIFICATIONS
6. REMOVE ALL STAKING AT FINAL ACCEPTANCE.

6 TREE STAKING, ROOT BALL ANCHOR SYSTEM
Scale: 3/8"=1'-0"



9 GROUNDCOVER AND PERENNIAL PLANTING
Scale : N.T.S.

CERTIFICATION:

STATUS:
ISSUED FOR BID

CONSULTANT:

UNIVERSITY
PLANNING DESIGN
AND CONSTRUCTION
UNIVERSITY OF
CONNECTICUT
31 Ledoyt Road, Unit 3038
Storrs, Connecticut 06269

REVISIONS:

MARK	DATE	DESCRIPTION
1	--	--

UNIVERSITY OF CONNECTICUT
UNIVERSITY PLANNING DESIGN &
CONSTRUCTION
31 LEDOYT ROAD UNIT 3038
STORRS, CONNECTICUT 06269-3038
TELEPHONE (860) 486-2776
FACSIMILE (860) 486-3177

PROJECT:

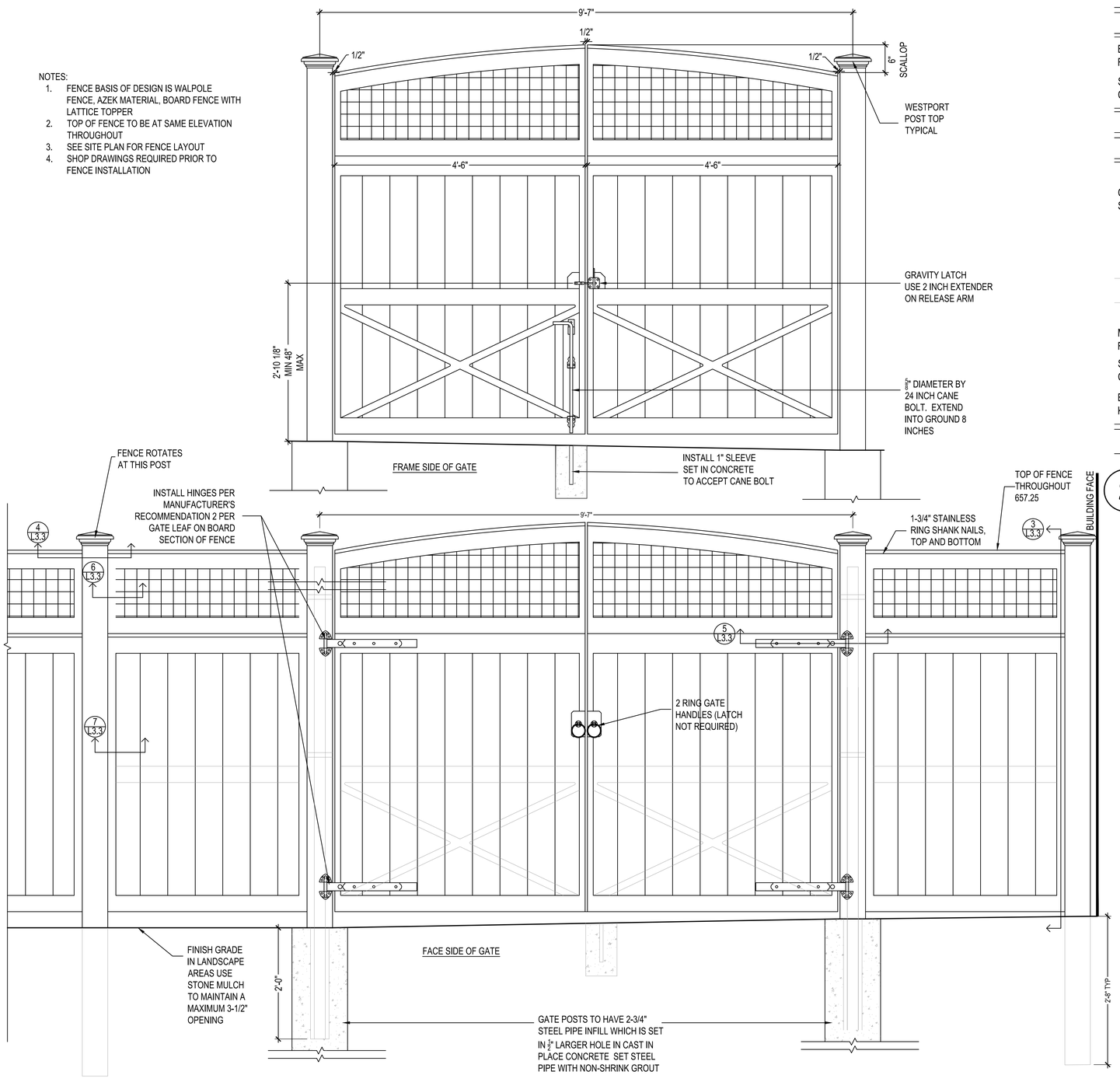
GELFENBIEN PATIO IMPROVEMENTS
Storrs CT. 06269-3038

PROJECT NO: 300081
WORK ORDER NO:
FILE NAME:

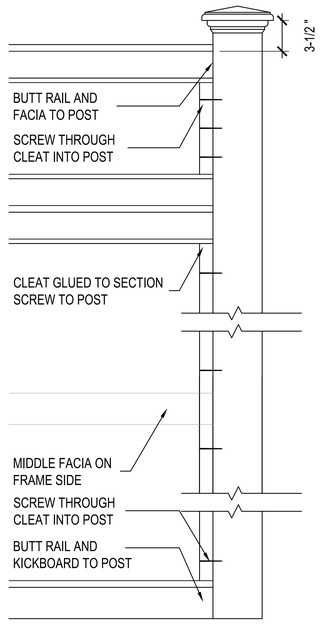
AUTHOR: ELM
DRAFTER: ELM
SCALE: AS SHOWN
PRINT DATE: 03-07-2019
SHEET TITLE:
SITE DETAILS

SHEET:
L3.2

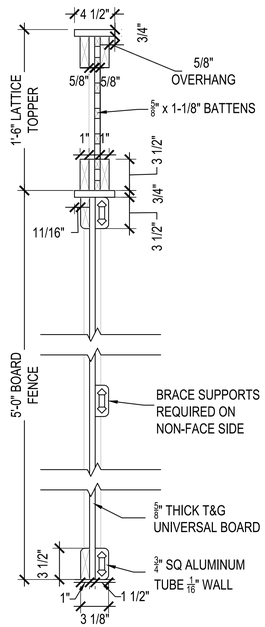
NOTES:
1. FENCE BASIS OF DESIGN IS WALPOLE FENCE, AZEK MATERIAL, BOARD FENCE WITH LATTICE TOPPER
2. TOP OF FENCE TO BE AT SAME ELEVATION THROUGHOUT
3. SEE SITE PLAN FOR FENCE LAYOUT
4. SHOP DRAWINGS REQUIRED PRIOR TO FENCE INSTALLATION



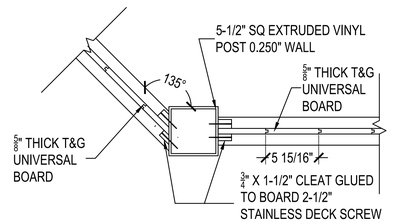
1 PRIVACY FENCE AND PRIVACY GATE ELEVATION
Scale: 1"=1'-0"



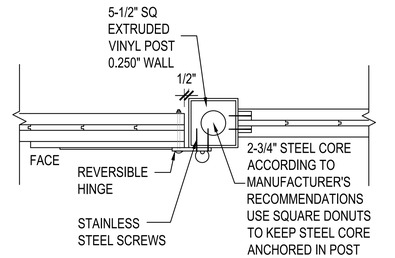
2 FASTENING TO POST
Scale: 1/8"=1'-0"



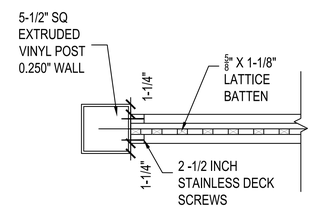
3 CROSS SECTION AT FENCE
Scale: 1/8"=1'-0"



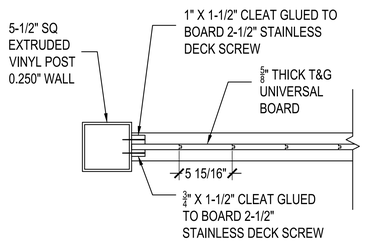
4 SECTION AT FENCE ANGLE
Scale: 1/8"=1'-0"



5 SECTION AT GATE HINGE
Scale: 1/8"=1'-0"



6 POST ATTACHMENT AT LATTICE TOPPER
Scale: 1/8"=1'-0"



7 POST ATTACHMENT AT BOARD FENCE
Scale: 1/8"=1'-0"

CERTIFICATION:

STATUS:
ISSUED FOR BID

CONSULTANT:

UNIVERSITY
PLANNING DESIGN
AND CONSTRUCTION
UNIVERSITY OF
CONNECTICUT
31 Ledoyt Road, Unit 3038
Storrs, Connecticut 06269

REVISIONS:

MARK	DATE	DESCRIPTION
1	--	--

UNIVERSITY OF CONNECTICUT
UNIVERSITY PLANNING DESIGN & CONSTRUCTION
31 LEDOYT ROAD UNIT 3038
STORRS, CONNECTICUT 06269-3038
TELEPHONE (860) 486-2776
FACSIMILE (860) 486-3177

PROJECT:

GELFENBIEN PATIO IMPROVEMENTS
Storrs CT. 06269-3038

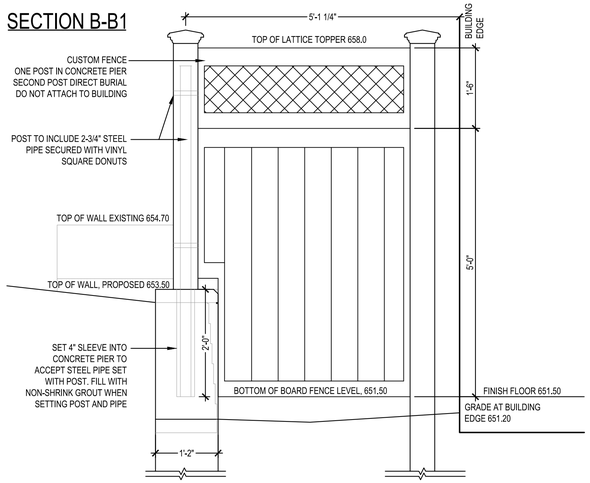
PROJECT NO: 300081
WORK ORDER NO:
FILE NAME:

AUTHOR: ELM
DRAFTER: ELM
SCALE: AS SHOWN
PRINT DATE: 03-07-2019
SHEET TITLE:
SITE DETAILS

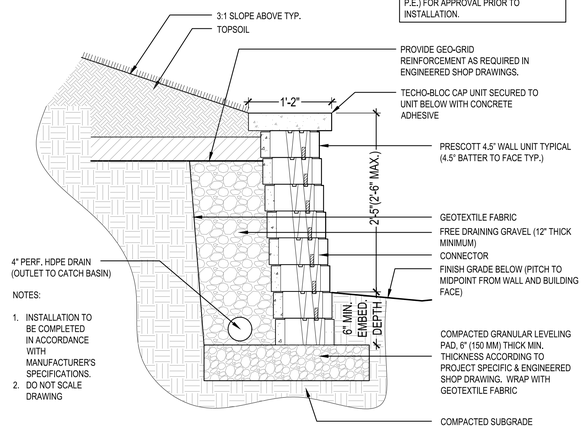
SHEET:
L3.3

SHEET: 6 of 7

SECTION B-B1



NOTE: SUBMIT ENGINEERED SHOP DRAWING (BY LICENSED CONNECTICUT P.E.) FOR APPROVAL PRIOR TO INSTALLATION.

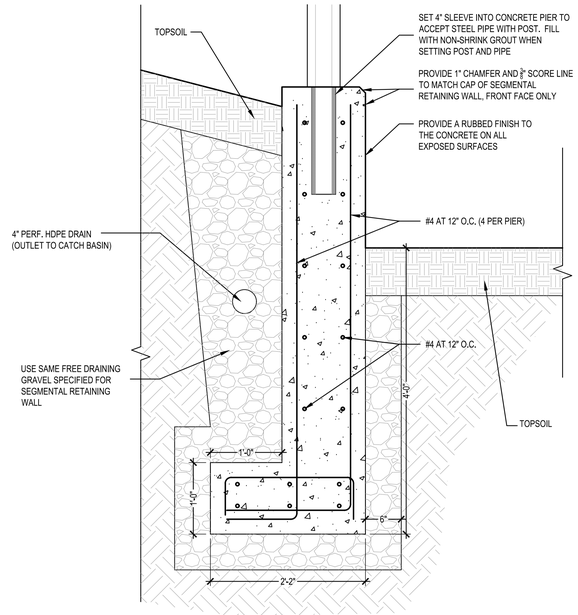


NOTES:

1. INSTALLATION TO BE COMPLETED IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS.
2. DO NOT SCALE DRAWING

2 SEGMENTAL UNIT RETAINING WALL

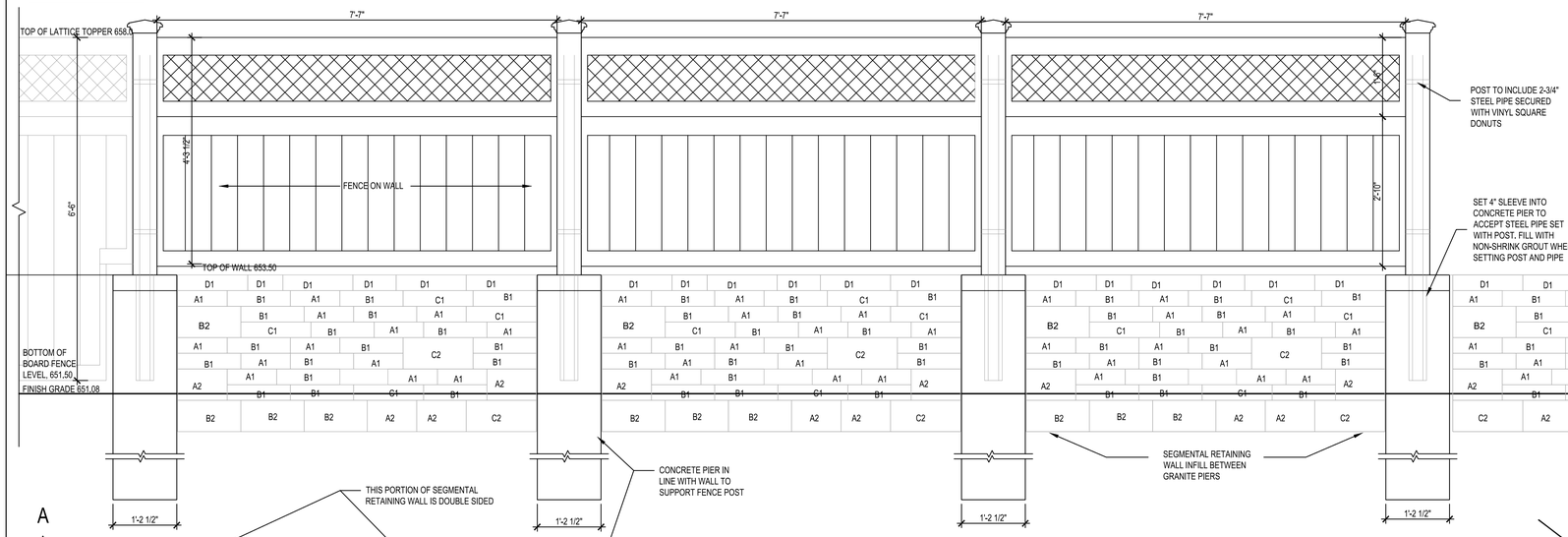
Scale: 1"=1'-0"



3 CONCRETE PIER AND FENCE POST

Scale: 1"=1'-0"

SECTION A-A1



BRANDON SEGMENTAL RETAINING WALL STANDARD SIZES SEE ELEVATION FOR SUGGESTED PATTERN	A1	B1	C1	A2	B2	C2	D1 SOLID
	Height 3 5/8"	Height 3 5/8"	Height 3 5/8"	Height 7 1/4"	Height 7 1/4"	Height 7 1/4"	Height 3 5/8"
	Depth 9 1/16"	Depth 9 1/16"	Depth 9 1/16"	Depth 9 1/16"	Depth 9 1/16"	Depth 9 1/16"	Depth 9 1/16"
	Length 11 1/2"	Length 14 3/4"	Length 15 15/16"	Length 11 1/2"	Length 14 3/4"	Length 15 15/16"	Length 14 3/4"

1 ELEVATION AT WALL AND FENCE

Scale: 3/4"=1'-0"

CERTIFICATION:

STATUS:
ISSUED FOR BID

CONSULTANT:

UNIVERSITY
PLANNING DESIGN
AND CONSTRUCTION
UNIVERSITY OF
CONNECTICUT
31 Ledoyt Road, Unit 3038
Storrs, Connecticut 06269

REVISIONS:

MARK	DATE	DESCRIPTION
1	--	--

UNIVERSITY OF CONNECTICUT
UNIVERSITY PLANNING DESIGN &
CONSTRUCTION
31 LEDOYT ROAD UNIT 3038
STORRS, CONNECTICUT 06269-3038
TELEPHONE: (860) 486-2776
FACSIMILE: (860) 486-3177

PROJECT:

GELFENBIEN PATIO IMPROVEMENTS
Storrs CT. 06269-3038

PROJECT NO: 300081
WORK ORDER NO:
FILE NAME:

AUTHOR: ELM
DRAFTER: ELM
SCALE: AS SHOWN
PRINT DATE: 03-07-2019
SHEET TITLE:
SITE DETAILS

SHEET:
L3.4

SHEET: 7 of 7

UCONN | UNIVERSITY OF CONNECTICUT

Capital Projects and Contract Administration
Planning, Architectural and Engineering Services

HOURLY LABOR RATE WORKSHEET

This worksheet is to be completed by the contractor or the subcontractor to calculate the hourly labor rate to be included in the contract documents for change order work (refer to 'Change Orders' in contract General Conditions for further information). All fields highlighted in pale yellow require completion, and fields highlighted in pale blue will automatically populate. Refer to tab "Instructions" for additional guidance on how to complete the form.

PROJECT NAME:		**PROJECT NO.:**	
CONTRACTOR / SUBCONTRACTOR:		**DATE:**	
TRADE:		**CLASSIFICATION:**	

Item	Benefit Paid Cash	Benefit Provided	Percent Rate	Wage Rate Calculation: Regular Time	Overtime	Double Time	Notes
	(put X in appropriate box)						
Base Labor Rate					$ -	$ -	*Use certified payroll to verify, if applicable*
Fringe Benefits: [1]							
Medical / Health [1]					-	-	
Pension / Ret [1]					-	-	
Life Insurance [1]					-	-	
Disability [1]					-	-	
Vacation/Holiday [1]					-	-	
Union Fund Costs [1]					-	-	
OT Fringe Cost [1]							
Fringe Benefits Subtotal				$ -	$ -	$ -	
Total Wage Hourly Rate				$ -	$ -	$ -	*= Base Labor Rate + Fringe Benefit Subtotal*
Benefits Paid Cash				$ -	$ -	$ -	
Total Cash Hourly Rate				$ -	$ -	$ -	*= Base Labor Rate + Benefits Paid Cash*
Burden: Taxes & Insurance [2]							
Social Security			6.20%	-	-	-	*Rate verified annually*
Medicare			1.45%	-	-	-	*Rate verified annually*
Federal Unemployment (FUTA) [3]				-	-	-	*See Instructions for Sample Calculation*
State Unemployment (SUTA) [3]				-	-	-	*See Instructions for Sample Calculation*
Workers Compensation [3]				-	-	-	*See Instructions for Sample Calculation*
Burden Subtotal				$ -	$ -	$ -	
Other (GL insurance, travel, safety, indirect labor, small tools, parking, training, non-hourly union expense, etc.)				N/A	N/A	N/A	*Included in OH&P per AIA 201*
TOTAL HOURLY RATE (Total Hourly Rate + Burden):				$ -	$ -	$ -	

Note: For change order work, mark-ups for overhead and profit shall be applied to the Total Hourly Rate above in accordance with the provisions within AIA 201 General Conditions, under 'Change in the Work'. The Total Hourly Rate, including the various components, are subject to audit and may be adjusted, with due process, based on the outcome of these procedures.

[1] Fringe Benefits must be exclusive of overhead and profit, and must be supportable by certified payroll, if applicable. Place an "X" in column "Benefit Paid Cash" if appropriate. Union jobs may have certain allowable costs on an hourly basis in excess of standard employee benefits; utilize "Union Fund Costs" for these instances. On rare occasions, certain unions have increased fringe costs when overtime / double time are incurred; utilize "OT Fringe Cost" to capture these situations; otherwise leave these cells blank.

[2] Tax & Insurance Burden is applied to the Total Cash Hourly Rate, which includes Base Labor Rate plus Benefits Paid Cash. Refer to instructions for additional information and assistance with completing this section.

[3] SUTA, FUTA & WCI rates which received an adjustment within the instruction page require justification; the adjustment and justification are reiterated below:

Adjustment to Rate: **SUTA 0.00%** **FUTA 0.00%** **WCI -**

By signing below, the submitter certifies and declares under penalty of perjury under the laws of the State of Connecticut that the foregoing is true and correct.

Rates certified by: _____ (print name) Company Name: _____

Signature: _____

HOURLY LABOR RATE WORKSHEET INSTRUCTIONS

UCONN | UNIVERSITY OF CONNECTICUT

Capital Projects and Contract Administration
Planning, Architectural and Engineering Services

The following instructions provide guidance and assistance in completing the Hourly Labor Rate Worksheet (HLRW). Where practical, additional instruction and drop-down lists have been included in the HLRW in specific fields. Data should be entered into all fields highlighted in pale yellow; all fields highlighted in pale blue will automatically populate and are locked for editing. Required fields in these instructions are indicated by "**" and are highlighted in pale red. Once accepted by the University, the resulting Total Hourly Rates at the bottom of the HLRW are the labor rates that should be used on all change order requests when labor hours are broken out.

These instructions contain sample calculations to assist in the determination of acceptable rates for FUTA, SUTA and Workers' Compensation Insurance (WCI). These calculations are *not* to be submitted with the HLRW, and the HLRW is *not* linked to the rate determined by the sample calculation; however a brief rationale to document a departure from the sample calculation is required within the relevant section below (refer to pale red fields). The rationale and the amount of departure from the sample calculation *is* included on the HLRW via electronic linking, and is attested to by the signor.

General Information Section:
Complete the basic information requested, noting the following: a) the form may be completed by the contractor or sub-contractor, if applicable; however the company and individual signing the document are responsible for the content provided, including errors and / or omissions; b) the trade selected should agree with the contractor's workers' compensation policy; c) if multiple worker classifications are applicable to this project, select the classification that best describes the labor rate from the options provided and prepare additional rate sheets for the other classifications. General Foreman classification is intentionally excluded from the listing as this management position is included within overhead and profit.

Wage Rate Calculation Section: Comprised of Base Labor Rate, Fringe Benefits and Burden on these costs. Refer to the following sections for further detail.

Base Labor Rate: This rate **should agree with the certified payroll**, if applicable, and is often the prevailing wage or union wage rate. For non-rate / non-union projects, the rate must be a reasonable blend of the workers performing the trade work.

Fringe Benefits: The total of the Fringe Benefit column should match the total of the fringe benefits from the prevailing wage or union wage agreements, **should agree with certified payroll**, and often can come directly from the Collective Bargaining Agreement, if applicable. The categories listed in the HLRW detail the various types of benefits and are consistent with the certified payroll form; however the fringe category 'other' is narrowly defined on the HLRW as certain hourly union related costs. This line would include amounts that, combined with the other fringe categories, comprise the total package for the union agreement. Other costs commonly identified as 'other', such as training and/or safety, are components of overhead and profit, and are excluded from the hourly labor rate.

Burden: Burden includes Taxes and Workers' Compensation Insurance (WCI).

Taxes: Taxes are comprised of FICA, SUTA and FUTA (described in greater detail below). The employer portion of FICA taxes (combination of Social Security and Medicare taxes) are hardcoded into the form and contractors are reimbursed 100% for this tax burden. The rates for SUTA and FUTA are to be entered by the contractor utilizing the following information / calculation:

SUTA (a.k.a. State Unemployment Tax): Paid by the employer; imposed on the first $15K of annual earnings only, at a variable rate determined by the Department of Labor for each employer.

FUTA (a.k.a. Federal Unemployment Tax): Paid by the employer; imposed on the first $7K of annual earnings only, at a constant rate for all employers nationally, plus a potential incremental rate linked to State borrowings from the Federal Unemployment Fund (a.k.a. Credit Reduction).

The calculations below are based on an averaging methodology, which is an allowable technique to determine an appropriate tax rate for the burden of SUTA and FUTA taxes. Due to the timing of the tax burden, where the majority of the cost is typically incurred in the first quarter of a calendar year, and special SUTA assessments, which are periodically issued from the Department of Labor, an adjustment field has been included to tailor the average rate to the specific needs of the contractor. Any adjustments must be supportable and the total tax rate can not exceed the statutory maximum rate. All adjustments require a rationale to be provided on these instructions, and the adjustment and the rationale are included on the HLRW automatically, which are being attested to by the signor. For convenience, the most common rationales can be selected from a drop down list. The Total Rate for both SUTA and FUTA will need to be populated in the appropriate cell in the HLRW - the HLRW will not automatically update based on the calculations below.

	SUTA		FUTA	
Total Payroll:			-	
Tax Paid:				
Average Rate:	0.00%		0.00%	
Adjustment to Rate:**				
Total Rate:	0.00%	Manually populate this rate on HLRW	0.00%	Manually populate this rate on HLRW
Rationale for Adjustment:**				

Workers' Compensation Insurance: WCI is based upon several factors, and is primarily composed of the Trade Rate, based on the type of work the Contractor performs, and the firm's Experience Modification Rating (EMR), which is based on the Contractor's specific claim history. The Trade Rate is statutorily mandated and can be derived directly from the WCI policy premium calculation provided by the insurance company. To reward Contractors with a low EMR or that have earned other discounts on their WCI policy, the Trade Rate used on the HLRW will not be adjusted lower than the rate incurred by the Contractor, which would effectively reduce the labor rate for these earned discounts. However, to properly compensate Contractors that incur additional WCI premiums for higher EMR's, or pay other adjustments to their premiums, an adjustment field has been provided to capture these increases in WCI cost. *This adjustment field should only be used if the net of all adjustments to the policy premium results in higher premium charges.* Once the combined WCI rate has been determined, populate the appropriate cell in the HLRW - the HLRW will not automatically update based on the calculations below.

WCI Trade Rate:			
Adjustment to Rate:**		**Rationale for Adiustment**:**	
Combined WCI Rate:	0.00%	Manually populate this rate on HLRW	